

**INNOVATION-DIFFUSION PROCESSES IN URBAN DESIGN MOVEMENTS:
APPLICATION OF THE MODEL-PROTOTYPE-ADAPTATION FRAMEWORK TO
NEW URBANISM AND NEIGHBORHOOD DEVELOPMENT PRACTICES IN
ATLANTA**

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The Academic Faculty

By

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LIST OF ABBREVIATIONS

AG	Agricultural (zoning)
ARC	Atlanta Regional Commission
CHA	Chattahoochee Hill Country Alliance
CHC	City Housing Corporation
CHC	Chattahoochee Hill Country Community
CIAM	Congrès Internationaux d'Architecture Moderne
CNU	Congress for the New Urbanism
CUP	Community Unit Plan (zoning)
GCA	Garden City Association
HOA	Home Owners Association
IPNA	Inman Park Neighborhood Association
IRB	Institutional Review Board
ITE	Institute of Transportation Engineers
LCI	Livable Centers Initiative
LEED	Leadership in Energy and Environmental Design
MPA	Model-Prototype-Adaptation
PCID	Perimeter Community Improvement District
PDMU	Planned Development Mixed Use (zoning)
PUD	Planned Unit Development (zoning)
RG	Residential General (zoning)
RPAA	Regional Planning Association of America
TDR	Transfer of Development Rights
TND	Traditional Neighborhood Development

TOD Transit Oriented Development
ULI Urban Land Institute

SUMMARY

This dissertation investigates the transitions of urban design models in practice: the ways in which practitioners have adopted the urban design models and the factors that have influenced such adoption. In particular, this dissertation focused on the unexpected consequences of the adaptations of urban design models and distinguished these effects from those stemming from the inherent limitations of urban design models themselves.

The major goal of this dissertation is to clarify the patterns of the transitions associated with urban design models in practice (particularly adaptation) to ensure a better understanding their impact on the urban environment. However, the transitions of urban design models in practice are complex phenomena that multiple actors with diverse interests have participated in and implemented numerous principles of the models over a long period of time and in diverse contexts. Therefore, to minimize such complexities while capturing important elements of the diffusion and adaptation processes, this dissertation presented a theoretical framework, the Model-Prototype-Adaptation (MPA) framework, based on recurring patterns of urban design movements.

In the MPA framework, a “model” refers to an integrated set of urban design principles derived from a consensus of opinion of the enthusiastic proponents of an urban design movement; “prototypes” are projects developed by enthusiastic proponents who have strong commitment to the model and the movement; and “adaptations” are projects developed by eclectic followers who have weak commitment to the model and the movement and take advantage of the model for their interests and concerns. With these three key elements, the MPA framework hypothesizes two distinct transitions of urban

design models in practice: “evolution,” the developmental transition from old prototypes to new prototypes by enthusiastic proponents seeking to more effectively embody the model; and “divergence,” a “watered down” application of the model in practice by eclectic followers responding to external factors such as market forces.

This dissertation fleshed out the proposed basic MPA framework with historical reviews of the three urban design movements (Garden City, City Beautiful, and Modern) and a literature review of innovation-diffusion theories. In particular, the literature review focused on theories that present major factors influencing the adoption of innovations. The theories suggested that the ways in which adopters, who have different innovativeness and roles, perceive the attributes of innovations influence their decisions to adopt the innovations.

In addition to the theoretical construction of the MPA framework, this dissertation presented a comparative case study with New Urbanist practices to test the MPA framework in a real world context. In particular, “divergence” of New Urbanism principles was examined specifically through a comparison of the six matched prototype-adaptation pairs of neighborhood developments in the Atlanta area.

The case study first hypothesized three predictions about the perceptions and implementation of New Urbanism principles based on the MPA framework, that is, 1) enthusiastic proponents of New Urbanism perceive New Urbanism principles more positively than eclectic followers; 2) prototypes developed by enthusiastic proponents incorporate more New Urbanism principles and do so more thoroughly than adaptations developed by eclectic followers; and 3) New Urbanism principles that actors perceive more positively are implemented more often and more thoroughly. Data for the case

study have been collected through interviews, surveys, field observations, planning documents, and local periodicals. The methods of analysis that were used in this study were pattern matching between predictions and observations, the explanation-building for the findings from pattern matching based on detailed contextual information derived from each case, and finally, cross-case synthesis.

The comparative analysis showed that the case observations generally confirmed the three predictions. For example, among the New Urbanism principles, the “creation of an identifiable neighborhood” was perceived the most positively and also implemented the most often and thoroughly by both the enthusiastic proponents and the eclectic followers while “access to public transit” was perceived the least positively and implemented least often by both groups.

In addition to the general confirmation of the three predictions, the analysis also revealed numerous unexpected findings, and efforts to build explanations for such findings based on the detailed contexts of each case yielded several important insights: the issue of compatibility between the thorough implementation of the New Urbanism model and the supply of affordable housing; the possibility of positive externalities from the proximity of prototypes to adaptations; two distinct flexibility arguments—flexibility for incremental accomplishment and that for contexts; the extent of public-private partnerships that broaden the influence of the New Urbanism principles beyond project boundaries; and communication problems between enthusiastic proponents and eclectic followers.

CHAPTER 1. INTRODUCTION

1.1. Background of the Dissertation—Questions, Importance and Approaches

Social reformers (in many cases, planners, architects and urban designers) have proposed numerous urban design models for mitigating diverse social problems of the times. Urban design models that have garnered support from a critical mass of proponents have precipitated urban design movements that have significantly influenced the urban environment. Influential urban design models include Garden City, City Beautiful, Modern, and more recently, New Urbanism (Hall, 2002; Talen, 2005; Ward, 2002). This dissertation examines how urban design principles proposed in the original models diffuse into the mainstream of development practice and the factors that explain these processes.

Often, the progeny of urban design models have deviated significantly from what initial proponents have intended. For examples, applications of the Garden City model have produced sometimes resulted disordered and disconnected suburban development patterns. Similarly, Modernist urban design ideas led to many failed public housing projects throughout the United States. Such repeated discrepancies between the original models of urban design movements and their outcomes have been the result of not only inherent limitations of the models themselves but also changes in the models made by those who only partially adopted the model in practice, thereby adapting it to meet their needs. As an illustration, while the problems of Chandigarh, India (which was designed by Le Corbusier and which fully embodied most principles of the Modernism city model) such as “the great highways ... empty of traffic” and “a group of almost isolated villages”

(Fishman, 1982, p. 254) resulting from the ignorance of the preindustrial Indian situation may directly indicate the fundamental limitations of the Modernist model emphasizing “total decontextualization” (Hall, 2002, p. 232), problems with US public housing projects such as poor construction and maintenance due to cost saving (ibid., p. 256) more likely reflect the compromised adaptations made to original ideas than the ideas themselves.

Until now, most critics of urban design models have not distinguished between characteristics that arise directly from the models and those that come from compromised adaptations that change the models over time. Instead, researchers and practitioners have often attributed failures to inherent faults in the models. As a result, the history of urban design movements is a history of entire models being rejected and replaced with completely new ones, even though the new model will also be susceptible to compromised adaptation.

While these compromised adaptations in practice have caused the failure of many urban design models, they represent a long-standing conundrum in the urban design field. The models do not anticipate future transitions, and proponents are not well positioned to guide either the positive evolutions or compromised adaptations that inevitably follow. As existing urban literature has scarcely examined the transitions of urban design models, the major goal of this dissertation is to explore the manner in which transitions of urban design models take place—that is, how models are propagated into general design culture and how urban designers adapt those models to meet their own needs—and to identify the causes of such transitions.

This dissertation is not arguing that the adaptations of urban design models are more important than the inherent characteristics of the models, but that they are completely distinct factors and therefore, adaptation processes of urban design models require separate study. In addition, by clarifying these patterns, this research may help to identify inherent problems associated with sweeping urban design models and promote more useful ways to manage such models for the purpose of incremental change. Therefore, the major goal of this dissertation is to clarify the patterns of transitions associated with urban design models to ensure a better understanding of their impact on the urban environment.

The evolutions and adaptations of urban design models in practice are very complex phenomena. After all, in the process of the application of the model, multiple actors with different motivations and goals have participated and implemented numerous principles of the model throughout a long period of time and in diverse contexts. Therefore, capturing all the details and the nature of such transitions poses a considerable challenge. To meet this challenge, we need a framework that minimizes the complexities yet captures important elements of the transition processes of urban design models.

1.2. Overview of the Dissertation

For this purpose, the first half of this dissertation aims to construct a theoretical framework as a tool with which one examines the transitions of urban design models. The construction of the theoretical framework begins by identifying the general patterns of urban design movements. Throughout the history of urban design several conspicuous patterns have recurred: 1) the articulation of an urban design model as a design solution

to social problems of the time, 2) the demonstration and examination of the model through real exemplary projects by enthusiastic proponents of the model, and 3) the mass production of follow-on projects by eclectic followers who adapt the principles of the model for their varying contexts and interests. Based on such recurring diffusion patterns of urban design models, this dissertation suggests a new framework: the Model-Prototype-Adaption (MPA) framework. The MPA framework can function as a guide for those who wish to understand the complex transition processes of urban design models in practice.

As manifested in its name, models, prototypes, and adaptations are the key elements of the MPA framework, which defines these key elements as follows: An urban design “model” is composed of a set of urban design principles that enthusiastic proponents of the model agree on; “prototypes” are exemplary projects that enthusiastic proponents of the model design and develop while attempting to embody all the principles of the model; and “adaptations” are follow-on projects that followers of the model design and develop but only partially adopt or adapt the model in light of the follower’s interests and concerns. In addition to these three elements, the MPA framework includes two hypothetical transitions of urban design models: “evolution” and “divergence.” “Evolution” refers to a developmental transition from earlier to later prototypes instigated by enthusiastic proponents in their efforts to improve the model in practice; and “divergence” refers to a “watered down” process of an urban design model in practice resulting from the partial adoption or adaptation of the model by followers. The MPA framework captures “divergence” by comparing the degrees to which the prototypes and the adaptations have implemented the model.

This dissertation tests and confirms the validity of the suggested MPA framework through a historical review of urban design movements, and complements the framework through a focused literature review of innovation-diffusion theories. The historical review of urban design movements fleshes out the MPA framework to explain how urban design models have changed over time in their principles and in practice while the literature review of innovation-diffusion theories informs the MPA framework to explain why such transitions have occurred. First, historical reviews of three major urban design movements (Garden City, City Beautiful, and Modern) confirms the existence of recurring diffusion and adaptation patterns in urban design movements, and provides more detailed information about the manner in which transitions of urban design models have occurred within the MPA framework. The models for the three movements were a set of integrated urban design principles that have often been iterated as a written or drawn consensus of the proponents; prototypes have been among the most powerful tools of enthusiastic proponents for advertising the model; and partial adoptions or adaptations of the original models have been found in all three movements. In addition, enthusiastic proponents of most urban design models have made efforts to build organizations to strengthen their influence.

Second, the review of innovation-diffusion theories focuses on theories that present the factors that may have influenced the rates and patterns of the diffusion of innovations. These theories suggest that the characteristics of actors, innovations, and communication channels are the primary influences on the diffusion patterns of innovations, that is, “who” communicate “what kinds of innovations” through “which communication channels.” In particular, the theories suggest that the way that actors

perceive attributes of innovations influences their decisions to adopt or adapt the innovations. Innovations that are widely adopted are perceived as offering significant advantages relative to current practice (relative advantage), relatively simple to understand and implement (complexity), compatible with current customs and the culture (compatibility), dividable, and verifiable/testable on a partial basis (trialability), and producing outcomes that can be easily observed by other potential users of the innovation (observability). In the MPA framework, this dissertation hypothesizes that the differences between the perceptions of these attributes by enthusiastic proponents of urban design models (or design principles of the model) and those by eclectic followers play the key role in the transitions of the models, particularly in the “divergence” of the model.

The second part of the dissertation presents a comparative case study on New Urbanism practices in the Atlanta area. The case study aims to test the usefulness of the MPA framework as a tool for understanding the transition of an urban design model. New Urbanism, an ongoing urban design movement, arose to mitigate the effects of disordered suburban sprawl. While the early projects that would come to be associated with new urbanism began in the early 1980s and meetings of proponents took place in the late 1980s, the official founding of the Congress for the New Urbanism (CNU) did not occur until 1993. Since then, the movement has become more and more popular through the organization’s annual congresses, active listservs, evolving techniques and the growing number of built and published works by its members. In 1996, enthusiastic proponents of New Urbanism created and ratified the Charter of the New Urbanism as the

official “model” of the movement.¹ Contributing to the formation of the content of the Charter were earlier “prototypes” of the movement such as Seaside, Kentlands, and Laguna West, the first two of which continue to serve as influential illustrations of New Urbanism. Based on the Charter and these early prototypes, enthusiastic proponents have developed a number of “prototypes.”² On the other hand, “adaptations,” in which followers only partially adopted or adapted New Urbanism principles, have also been observed throughout the United States.³ Over all, the history of the New Urbanism movement is consistent with the recurring pattern of model-prototypes-adaptations found in earlier movements.

In particular, the case study investigated the neighborhood-scale design principles in the Charter of the New Urbanism and six pairs of prototypes and adaptations selected from neighborhood developments in the Atlanta area. Based on the MPA framework, the case study began with three hypotheses about the actors’ perceptions and the degree of implementation of New Urbanism principles: 1) Enthusiastic proponents of New Urbanism perceive and assess all New Urbanism design principles more positively than eclectic followers; 2) prototypes developed by enthusiastic proponents, incorporate more New Urbanism design principles and they do so more thoroughly than adaptations

¹ Besides the Charter of the New Urbanism, enthusiastic proponents of New Urbanism developed a number of “sub-models,” such as Peter Calthorpe’s Transit-Oriented Development (TOD) model (Calthorpe, 1993) and Andres Duany’s Traditional Neighborhood (TND) model, Transect Plan and the SmartCode (Duany & Talen, 2002; Duany Plater-Zyberk & Company, 2002, 2008).

² Since 2001, every year, CNU’s Charter Awards has recognized prototypical New Urbanist projects. Until 2009, 147 projects have been awarded (Congress for the New Urbanism, 2010).

³ New Urbanists called such projects “that adopt some principles of New Urbanism but remain largely conventional in design” “hybrids.” There has been long debate about hybrids among New Urbanists. Some of them consider hybrids as a serious threat to the movement while others think hybrids as an incremental advance from conventional developments (Steuteville, 2004b, p. 107).

developed by eclectic followers; and 3) New Urbanism design principles whose attributes actors perceive more positively are implemented more often and more thoroughly than those whose attributes actors perceive less positively. The primary sources of data for the case study were semi-structured interviews and supplementary surveys with key actors; observations of the sites; and analyses of planning documents. The study relied on the following analytical methods: 1) pattern matching between the predictions and the observations, 2) explanation-building for the expected and unexpected results from the pattern matching, and 3) cross-case synthesis of the findings from individual cases (Yin, 2009)⁴. In particular, the cross-case synthesis approaches were applied to the entire case study analysis.

Findings from the case study analysis showed that the observations generally matched the predictions based on the MPA framework. For example, design principles such as access to public transit, whose attributes actors perceived less positively than those of others, were less implemented while design principles such as the creation of identifiable neighborhoods, whose attributes actors perceived the most positively, were implemented more often and more thoroughly than others.⁵ In addition, efforts to explain the unexpected results found in the pattern-matching processes revealed several important findings, such as conflict between enthusiastic proponents' efforts to achieve architectural authenticity and the need for affordable housing, positive externalities (i.e.,

⁴ These three analytical methods are explained further in Section 5.7. Analysis of the Data.

⁵ The analyzed attributes of New Urbanism principles were social, economic relative advantages; compatibility; ease; testability; and observability. With regard to access to public transit, most actors considered the implementation of this principle is beyond their control although the interviewees, particularly proponents, agreed on the contribution of the principle to the community quality and the market appeal of the projects.

synergies) between a prototype and an adaptation in close proximity, divergence among eclectic followers as to how they would implement the model, some arguing for changes to suit their own convenience and others for flexibility because the context of the project differs from conditions anticipated in the model (thereby leading to new innovations), the needs of public-private partnership for the implementation of principles beyond project boundaries, and the impact of ill-connected communication networks between enthusiastic proponents and eclectic followers.

Finally, based on the findings from the case study, this dissertation suggests the following: First, New Urbanists might be able to strike a balance in their efforts to implement the New Urbanism model as a comprehensive model by understanding the incentives for eclectic followers and patterns of innovation diffusion. In doing so, they would have to more vigorously promote relative advantages (community value and market value), clarify compatibility with current custom and culture, simplify process of implementation, promote more effective systems for testing the model, and provide more opportunities for eclectic followers to observe the examples of successful New Urbanism practices. Such changes might necessitate public policy supports, education, research, and citizen participation. In addition, New Urbanists may need to be more flexible for context-sensitive implementation of the principles, while guarding against changes made simply for convenience such as cost savings. Finally, enthusiastic proponents and eclectic followers of New Urbanism could contribute more positively to the evolution of the New Urbanism model if they established stronger communication networks.

CHAPTER 2. MODEL-PROTOTYPE-ADAPTATION FRAMEWORK

The aim of the first half of this dissertation is to construct a theoretical framework as a tool to explain the transitions of urban design models in practice. As a first step toward attaining this goal, it proposes a new conceptual framework, the Model-Prototype-Adaptation (MPA) framework, based on recurring patterns in urban design movements. The MPA framework forms the basic structure on which this dissertation builds further explanations about ways in which urban design models in practice have changed over time and the factors that have influenced such changes.

2.1. Recurring Patterns of Urban Design Movements

Throughout the history of urban design movements, we have observed the recurrence of several conspicuous patterns. First, either one leader or a small group of leaders have been responsible for developing urban design models in an effort to address social problems of the time in physical terms. Once an urban design model has garnered support from a critical mass of enthusiastic proponents, it has precipitated an urban design movement. For example, Ebenezer Howard proposed the Garden City model to solve urban problems caused by industrialization in the late 19th century, and the Congrès Internationaux d'Architecture Moderne (CIAM), led by Le Corbusier and others formalized the design principles of the modernist model as a physical solution for social problems faced by cities.

Another pattern that characterizes urban design movements is that their enthusiastic proponents have developed exemplary projects to demonstrate and examine

the models in the real world context. Projects such as Letchworth and Welwyn for the Garden City movement and Brasilia and Chandigarh for the Modern movement have played key roles in familiarizing the public about the essence of urban models.

In addition, as urban design models have diffused through time and space, follow-on projects in which eclectic followers have adapted the models have prevailed.

Numerous suburban developments that have sprung from the Garden City models and European and American public housing projects influenced by the modernist model are well-known examples of the adaptation of urban design models (Hall, 2002).

In general, the recurring patterns in urban design movements can be summarized as follows (Figure 1). :

1. Articulation of an urban design model as a physical solution to urban problems of the time
2. Demonstration and examination of the model through real exemplary projects by enthusiastic proponents of the model
3. Mass production of follow-on projects by followers who partially adopt or adapt the principles of the model in light of their interests and concerns.

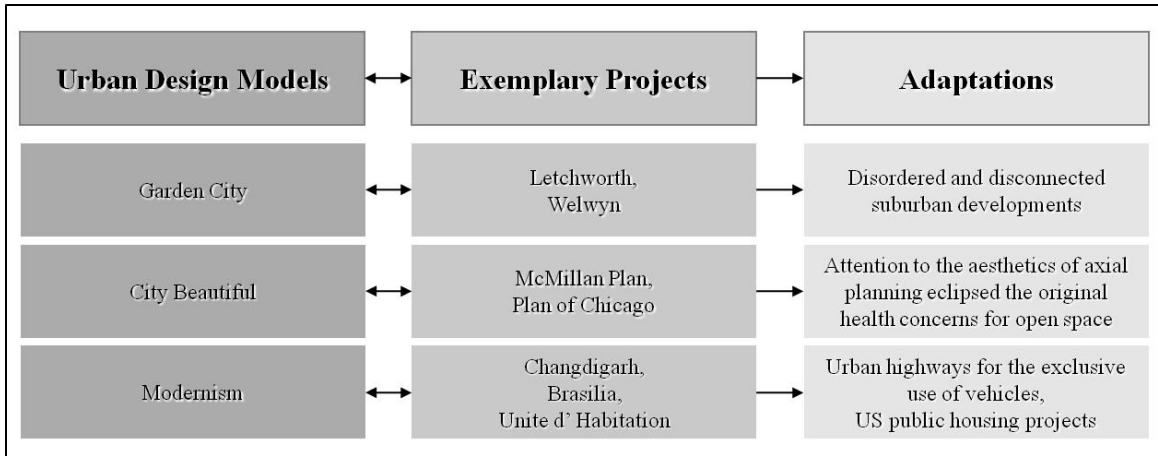


Figure 1 Recurring Patterns in Urban Design Movements

2.2. Model-Prototype-Adaptation Framework

2.2.1. Synopsis

The Model-Prototype-Adaptation (MPA) framework, based on the described recurring patterns in urban design movements, specifically focuses on concrete products made by diverse actors during the recurring processes in urban design movements: that is, urban design “models” articulated by inventors, “prototypes (exemplary projects)” built by enthusiastic proponents, and “adaptations (follow-on projects)” developed by eclectic followers.

The MPA framework describes the relationships and the mutual influences among a model, its prototypes, and its adaptations (Figure 2): The first one is the reciprocal influencing relationship between an urban design model and the prototypes of the model. That is, enthusiastic proponents of an urban design model design and develop prototypes that embody the model in the real world. Therefore, a model influences its prototypes by contributing the principles for their design. The prototypes also influence the maturation

of the model by testing it in practice and providing it with feedback. This developmental process between an urban design model and its prototypes is elaborated in detail in a later part of this chapter.

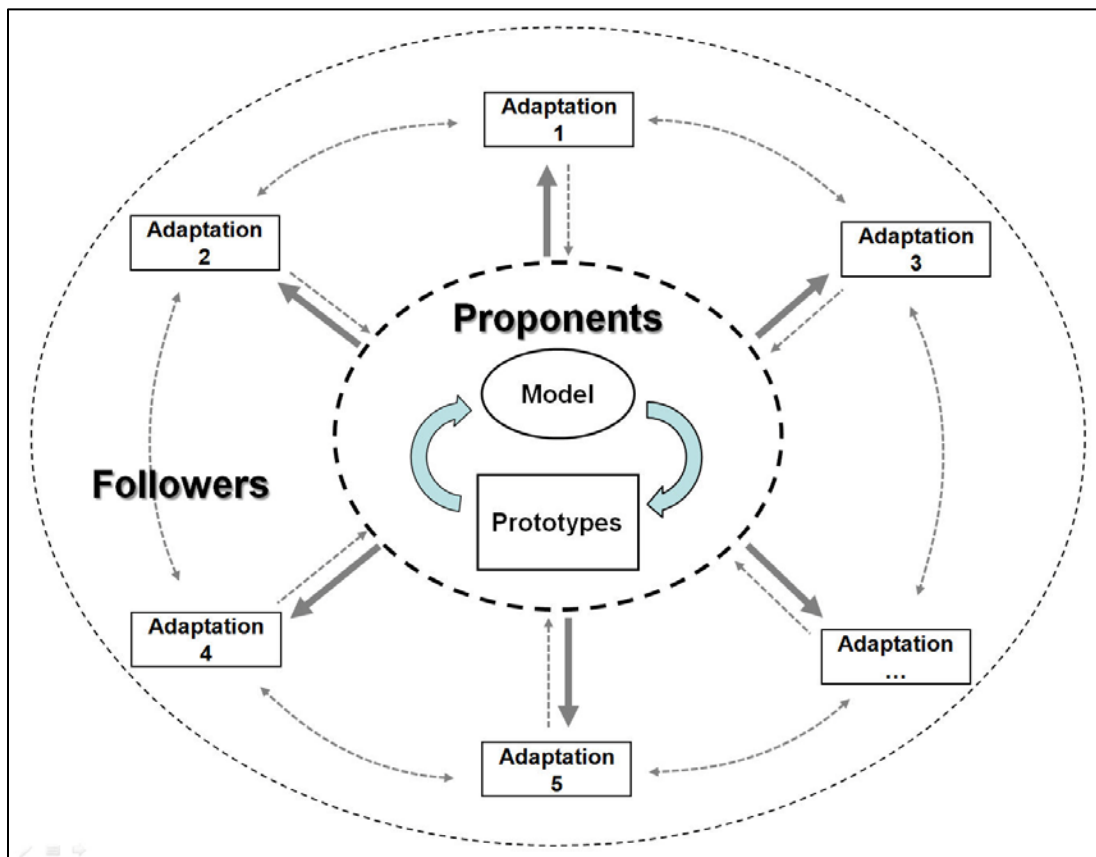


Figure 2 Influencing Relationships among Model, Prototypes, and Adaptations in Urban Design Movements

The second relationship depicts the influence of an urban design model and prototypes on adaptations. Both give rise to a number of adaptations developed by a larger population of eclectic followers who have less loyalty to the model than enthusiastic proponents. Although enthusiastic proponents receive indirect feedback from the adaptations, it is limited compared to the influence of a model and prototypes on

the adaptations. During this process, unlike the enthusiastic proponents of an urban design model, eclectic followers are less willing to take the risk of adopting new and untested design principles and more susceptible to practical constraints such as market conditions, existing zoning codes, and neighborhood resistance. Therefore, their implementations of the model are partial and limited. This “watering down” process of a model from prototypes to adaptations is also discussed in detail in a later part of this chapter.

2.2.2. Definitions of the Key Elements of the MPA Framework

This section defines the key elements of the MPA framework (a model, prototypes, and adaptations) more precisely.

- **Model:** An urban design “model” in the MPA framework refers to an integrated set of urban design principles derived from a consensus of opinion among the “enthusiastic proponents” of an urban design movement. It does not represent one ideal physical urban form but instead a set of conceptual rules that guide the formation of an urban environment.
- **Prototypes** are projects whose developments are led by “enthusiastic proponents” of an urban design model and, therefore, are expected to best embody and advance the design principles of the model.
- **Enthusiastic proponents** are those who have strong commitment to the model and the movement, emphasize the integrative application of the model, and actively participate in the ongoing intellectual definition of the movement.

- **Adaptations** are projects whose developments are led by “eclectic followers” of an urban design model and, therefore, are expected to only partially incorporate the design principles of the model.
- **Eclectic followers** are those who are less committed to the model and the movement than enthusiastic proponents, take advantage of the model and the movement for their own interests and concerns, and less actively participate in the movement.

In this dissertation, the key criterion that distinguishes prototypes from adaptations is who design and develop the projects—that is, whether they are enthusiastic proponents or eclectic followers—rather than the extent to which they actually incorporate the model. In addition, the distinction between enthusiastic proponents and eclectic followers is a relative rather than definite concept.

2.2.3. Characteristics of the MPA Framework

The MPA framework, developed to provide a better understanding of the transitions of urban design models, is characterized by the following: First, it presents a project-centered view of the diffusion and adaptation process because a project might be the most appropriate unit by which the adoption of an urban design model can be observed and the decision of such adoption is made by a transitory group of stakeholders involved in the project in urban design field rather than an individual, which is the most

common unit of analysis in general diffusion studies dealing with industry.⁶ Second, the distinction made between prototypes and adaptations in the MPA framework, which is not a definite but relative concept, is not made by individual observation but by comparative observation on a continuous spectrum. The MPA framework may not be a panacea, but it is still a strong tool that can be used to explain much of the diffusion of urban design models, especially in cases in which the diffusion of models relies heavily on the market and on receiving local entitlements. Finally, the MPA framework contributes to an understanding of the major processes through which an urban design model influences the real world, provides a better prediction of its impact, and thus develops or improves the model.

2.3. Hypothetical Transitions in the MPA Framework: “Evolution” vs. “Divergence”

The MPA framework focuses on dynamic processes in the urban design movement such as changes in the practical application of urban design models. This study proposes two types of transitions of the model that encompass the dynamics of the movement: 1) “evolution” from early prototypes to later ones, and 2) “divergence” of adaptations from prototypes.

⁶ In urban design field, besides development projects standards and regulations have played as much important role for the formation of the urban environment and the MPA framework could be also applied to the diffusion and adaptation of such standards and regulations with modification. For example, the major agents of decision making for the adoption of new standards or regulations are more likely to be organizations rather than transitory groups of stakeholders involved in projects. However, this dissertation leaves the analysis of standards and regulations for future studies and focus on development projects.

2.3.1. Evolution

In the MPA framework, evolution is a developmental change from earlier prototypes to later prototypes in implementing an urban design model in practice. As suggested previously, enthusiastic proponents of an urban design model demonstrate and test it in the real world context through the construction of prototypes. First, such constructions of prototypes promote the public acceptance of the model. Second, moreover, their successes and failures in implementing the model in earlier prototypes provide feedback that enthusiastic proponents learn from and apply to new prototypes to accomplish their goals more effectively (Figure 3).

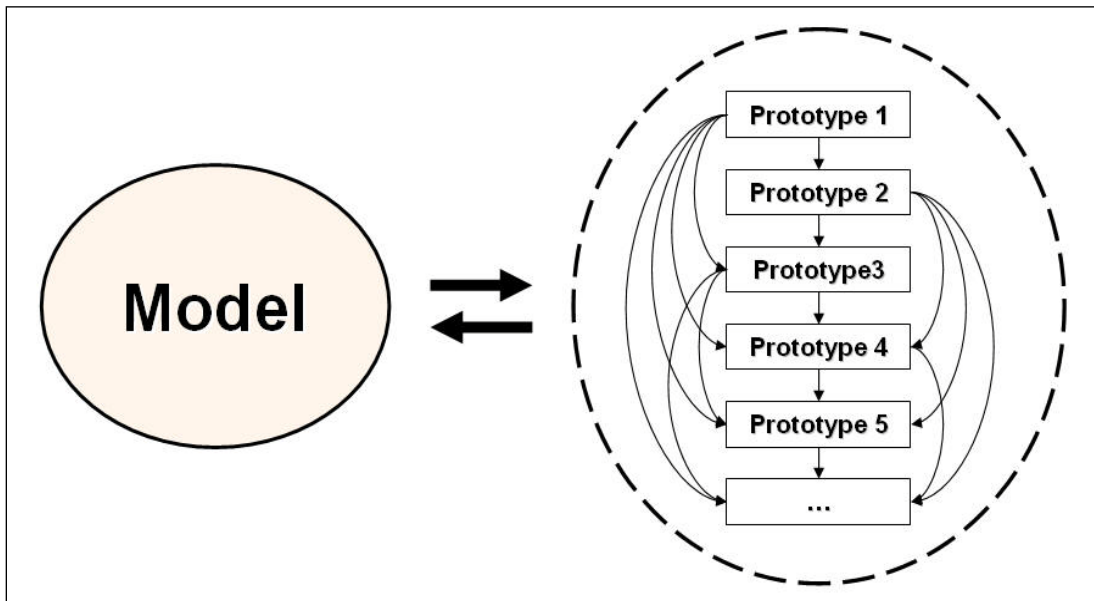


Figure 3 Evolution from Early Prototypes to Later Prototypes

Feedback information from the experiences with early prototypes includes technical, cultural, political and regulatory ones. Such an evolution can be observed through a comparison of earlier and later prototypes.

As an illustration, in the case of New Urbanism, the Congress for the New Urbanism (CNU) has harnessed the information from this process of learning from early prototypes to systematically improve later prototypes. The CNU has composed the Charter, established an annual awards program and publication of exemplary projects, built a database, held annual congresses where members share strategies and techniques and debate improvements, organized several very active listservs, supported the *New Urban News* newsletter, and established a number of task forces that have worked on specific issues including the environment, transportation, the community, social equity, and implementation (Ellis, 2002). Many of the changes of the changes to the model have come through the new prototypes produced by individual CNU members in their professional work.⁷ In short, the evolution of an urban design model in practice is generated by enthusiastic proponents and can be observed through a comparison between earlier and later prototypes.

⁷ Besides the developments of prototypes, as volunteers with the organization, CNU members have also produced policy changes and tools that have evolved the model in partnership with other organizations. These include model zoning codes, the design guidelines for HOPE VI public housing, the criteria for LEED-ND, and the new ITE recommended practice for street design, *Designing Walkable Urban Thoroughfares*. However, as mentioned previously (page 16), this dissertation focuses on projects to reduce the complexity in analysis, leaving the analysis of such changes in policies and regulations for future studies.

2.3.2. Divergence

In the MPA framework, divergence refers to the “watered down” application of an urban design model in practice (particularly from the perspective of enthusiastic proponents) executed by eclectic followers of the model who differ from enthusiastic proponents with regard to aspects such as motivations, knowledge about the model, and commitment to the model (Figure 4). In divergence, eclectic followers, who are pursuing goals that differ from those of proponents (e.g., profit maximization) or who are less knowledgeable about the model or less committed to the movement than enthusiastic proponents, may be more susceptible to outside influences such as the current condition of the market, difficulty obtaining financing from lenders who are not used to the model, lack of information about the movement and existing regulations, and opposition from the neighborhood or community. Therefore, eclectic followers may change or refrain from applying urban design principles that are more difficult to implement or less marketable and profitable and more likely adopt those that are easier to implement or more marketable. In short, the divergence of an urban design model in practice results from the diverse applications of its principles by enthusiastic proponents and opportunistic eclectic followers due to their distinctly different attitudes and knowledge about the model. This divergence can be perceived through observation of the differences between urban design prototypes and their adaptations.

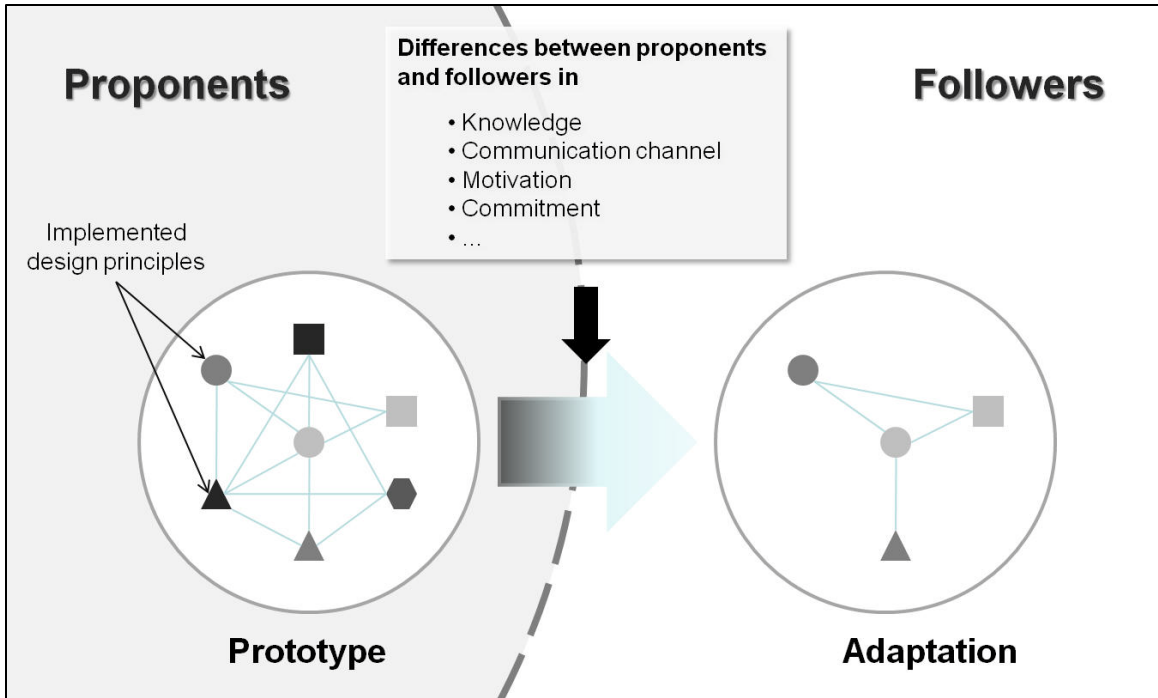


Figure 4 Divergence of Adaptations from Prototypes

This chapter introduced the MPA framework as an analytical tool to observe the transitions of urban design models and provided abstract, hypothetical definitions and concepts of the MPA framework such as model, prototypes, adaptations, evolution and divergence. The following Chapter 4 fleshes out the abstract MPA framework with the real world contexts through the historical review of three major urban design movement processes.

CHAPTER 3. HISTORICAL REVIEW OF URBAN DESIGN MOVEMENTS

In the previous chapter, this dissertation introduced a new theoretical framework, the MPA framework, as a basic structure on which this dissertation builds further explanations about the transitions of urban design models in practice. In this chapter, a historical review of urban design movements elaborates on the MPA framework by discussing how urban design models have changed over time in their principles and in practice. Specifically, this dissertation reviews the following three major urban design movements from the perspective of the MPA framework: 1) the Garden City movement, 2) the City Beautiful movement, and 3) the Modern movement. These movements represent three major traditions in the urban design field: the naturalistic, formalistic, and functional traditions, respectively, in which Lynch describes a “city” as an organism, a cosmos, and a machine (Dobbins, 2009; Lynch, 1984), respectively. Therefore, the review of these three movements may provide a clearer overall picture of the diffusion and adaptation processes in the urban design field.

The review of the three movements from the perspective of the MPA framework focuses particularly on models, prototypes, and adaptations of the movements. First, the review of each movement starts with the origin of a model, or the genesis of each movement. In an urban design movement, the fundamental ideas that distinguish an urban design movement from other movements have not been conceived by one individual but by a group of individuals who have acknowledged, sympathized, and participated in the application of the ideas. Even if one person first suggests a major idea or ideas, the ideas become a movement only after a larger group of people have come to

know, agree on, and adopt the ideas. Second, the review covers the developments of prototypes, that is, proponents' efforts to bring their ideas to fruition by putting them into practice. Prototypical projects developed by enthusiastic proponents play an important role in spreading their ideas, especially in the urban design field, where the visual presentation of ideas has been one of the most powerful tools of communication. Urban design movements have gained momentum through real exemplary projects. Finally, the review describes the adaptations of the models, that is, the "watered down" processes of the models by a larger population of planners and developers who are not among the enthusiastic proponents. In fact, these groups comprise a larger portion of urban environment practitioners than that the proponent group.

3.1. Garden City Movement

3.1.1. Origin of the Garden City Movement

The modern Garden City movement began with Ebenezer Howard's famous book, *Tomorrow: A Peaceful Path to Real Reform*, published in 1898. In this book, Howard introduced a model of "garden cities," that is, an interrelated network of decentralized garden cities as an alternative to the overcrowded industrial cities and underdeveloped countryside, a network that exploits the benefits of both cities and the countryside (Figure 5) (Ward, 1992). The following formal definition of "garden city" was established some years later by the Town and Country Planning Association (originally called the Garden City Association), which Howard founded in 1899: "A garden city is a town designed for healthy living and industry; of a size that makes possible a full measure of social life, but

not larger; surrounded by a rural belt; the whole of the land being in the public ownership or held in trust for the community” (Christensen, 1986, p. 47).

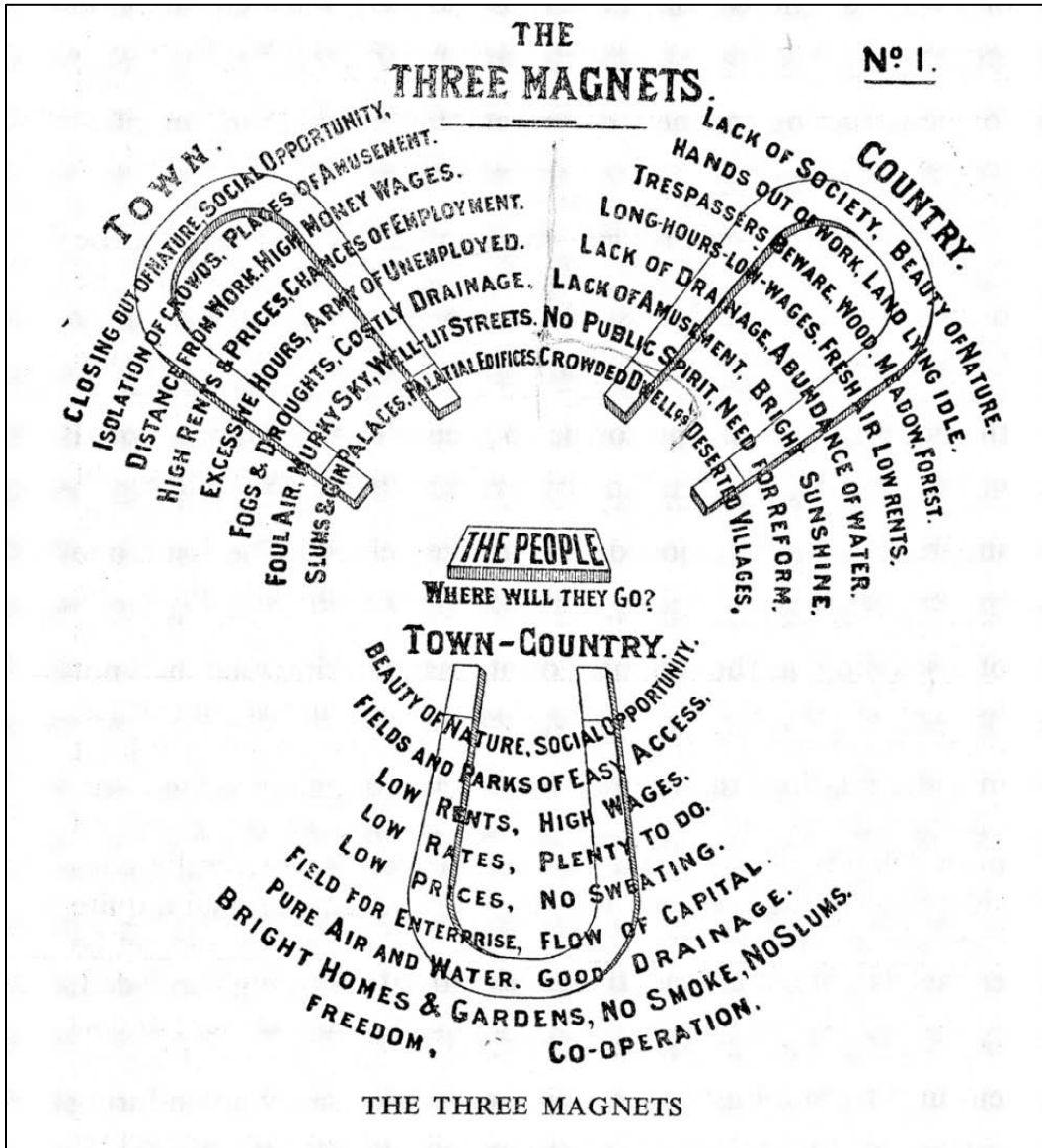


Figure 5 The Three Magnets in the Garden City Model (Howard, 1965)

Individual elements of the Garden City model described in this definition came from other schemes already well known at the time such as the construction of model

communities, the control of town size and population, and land reform (Ward, 1992). What Howard had created was not only a unique but also practically applicable combination of such existing ideas (Christensen, 1986; Fishman, 1982; Ward, 1992).

Howard's original Garden City scheme consisted of social programs and physical design principles. The core of the social programs was collective land ownership and a cooperative community that enforced the implementation of the physical design principles (especially, the boundary between town and country) and to manage all the interest from increases in land values from urbanization for public use such as the improvement of urban amenities and services (Ward, 1992). The physical design principles of the Garden City model included a public park at the center of a city, self-standing settlements with mixed uses, a link between different uses by broad boulevards and a transportation system, green belts that would separate the town from the country, and a population of 32,000 people on a site of 6,000 acres (city: 1,000 acres, agricultural land: 5,000 acres). However, as Howard clarified in his diagram, it was not a specific physical plan but a set of general design principles guiding the physical plan (Figure 6). In Howard's Garden City model, social programs and design principles were closely interrelated. For example, green belts limiting town size would be difficult to maintain if land was owned by private individuals pursuing their own interests.

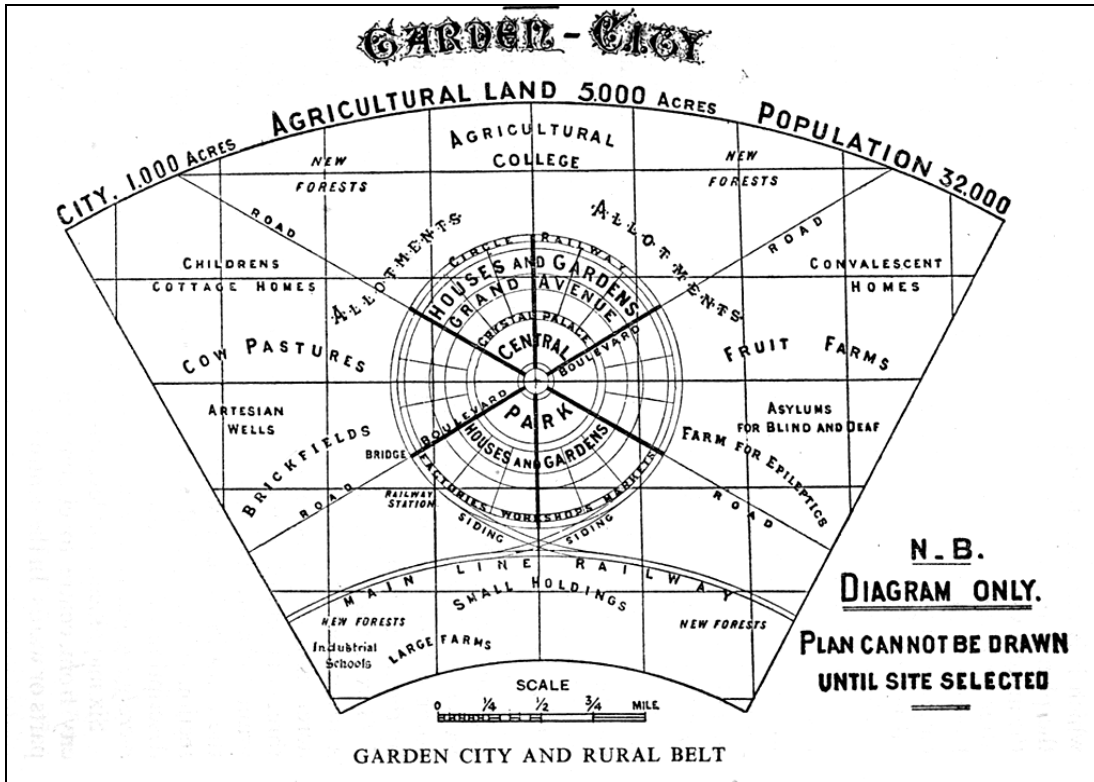


Figure 6 Garden City and Rural Belt (Howard, 1946)

3.1.2. Prototypes of the Garden City Movement: Letchworth and Radburn

The first garden city, Letchworth, established in 1903 and situated 35 miles north of London, remains closest to Howard’s original physical and social schemes although it did not entirely fulfill all the garden city principles (Figure 7). Forty years after its construction, Frederick J. Osborn praised the fulfillment of Howard’s principles in Letchworth in his preface for Howard’s book (Howard, 1946, p. 13), saying “It has today a wide range of prosperous industries, it is a town of homes and gardens with ample open spaces and a spirited community life, virtually all its people find their employment locally, it is girdled by an inviolate agricultural belt, and the principles of single ownership, limited profit, and the earmarking of any surplus revenue for the benefit of the

town have been fully maintained. The permitted maximum dividend on the share capital has been declared ... Its health record is better than that of any other industrial town except the Second Garden City at Welwyn.”

Even today, a hundred years later, Letchworth is still owned and managed by an effective trust (the Letchworth Garden City Heritage Foundation) and all earnings of the Foundation are reinvested in improvements that enhance the quality of life in the Letchworth community. For this purpose, the Foundation set out “Charitable Objects” that include the “preservation of the buildings and other environmental features,” the “provision of recreation and leisure,” the “advancement of education and learning,” the “relief of poverty and sickness,” and “supporting charitable organizations.”⁸

⁸ See the Letchworth Garden City Heritage Foundation website for more information (<http://www.lgchf.com/>).

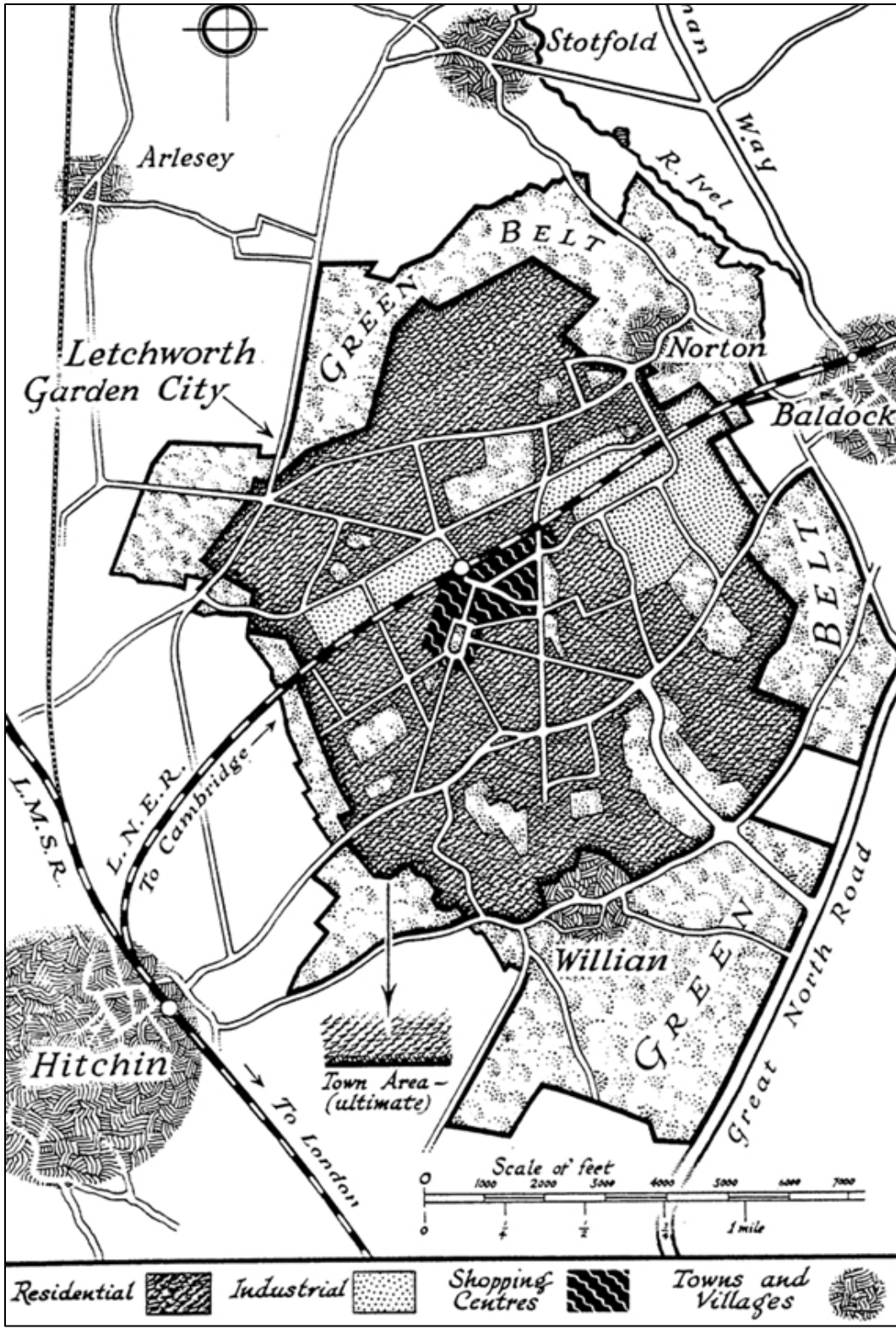


Figure 7 A Prototype of the Garden City Model: The Letchworth Plan (Miller, 1989)

Another important prototype in the history of the Garden City movement is Radburn, New Jersey, a prototype specifically of the American Garden City model, which evolved from the original to accommodate the motor age (Ward, 1992). The Radburn Plan was conceived and developed by members of the Regional Planning Association of America (RPAA) under the sponsorship of the City Housing Corporation (CHC). While developing Radburn, the RPAA and the CHC reinvented the Garden City model to fit the situation in the United States at that time (Birch, 1980).

The aim of the original Radburn Plan (Figure 8) was the creation of a complete town providing housing, work, commercial, and communal services for the population of 30,000, as Howard suggested. However, no greenbelt was included in the plan because of the lack of available land, and collective ownership was not considered from the beginning. Besides the principles from the original Garden City model, the following elements were added to the Radburn Plan to separate automobile and pedestrian circulation and to promote communal life: a hierarchical street network, including cul-de-sacs; a superbblock; high density and mixed housing types; large recreational park areas with inside pedestrian paths; houses facing the inside park; and communal facilities, including elementary schools. However, the original plan was never completely implemented because the sponsor, the CHC, went bankrupt during the Great Depression, just after construction began. In fact, less than a third of the original plan was realized, and no industry was established (Christensen, 1986). Nevertheless, the Radburn Plan significantly influenced new town developments in America such as Reston, Virginia, Greenbelt and Columbia, Maryland, Jonathon, Minnesota, and Irvine, California (Birch, 1980). Therefore, the Radburn Plan is considered not only an adaptation of the British

Garden City model but also a model and a prototype of the American Garden City movement.



Figure 8 Original Radburn Plan for a Population of 30,000 (Birch, 1980)

3.1.3. Adaptations of the Garden City Model

Dennis Hardy provides an example of an adaptation in the initial practice of the Garden City movement by comparing Letchworth, the first garden city, with Welwyn and Wythenshawe, the second and the third garden cities. Unlike in Letchworth, homes and workplaces in Welwyn were not balanced, for working-class housing was segregated from more elite housing; profits from the land were not shared collectively among the population but instead reaped by investors, and the population limit was far exceeded (Hardy, 2005). The case of Wythenshawe deviated even more markedly. The proposed population of Wythenshawe was 107,000, three times as large as that which Howard recommended; the planned industrial area did not provide enough jobs for working-class residents; and retail and public services were lacking (Hall, 2002; Hardy, 2005). Thus, referring to these three early garden cities, Hardy remarked that “Letchworth, Welwyn, and Wythenshawe were progressively distanced from the original principles of the garden city” (Hardy, 2005, p. 39).

Jill Grant (2006) viewed the transition in the early garden cities in a similar way. Specifically, comparing Letchworth with the Hampstead Garden Suburb, built in 1905, he focused on Raymond Unwin and Barry Parker’s modifications of the original Garden City model based on market interest. He argued that they compromised on the social objectives of the original model and reduced the complexity of the model by focusing on design principles that appealed to the market (Figure 9). He asserted that the “gently curved streets and cul-de-sac became their hallmarks (Grant, 2006, pp. 39-40).” He also argued that their incremental approach facilitated only partial application of the Garden City model (rather than the full-blown model) into smaller development projects, and

consequently, contributed to the dominance of garden suburbs in the twentieth century (Grant, 2006).

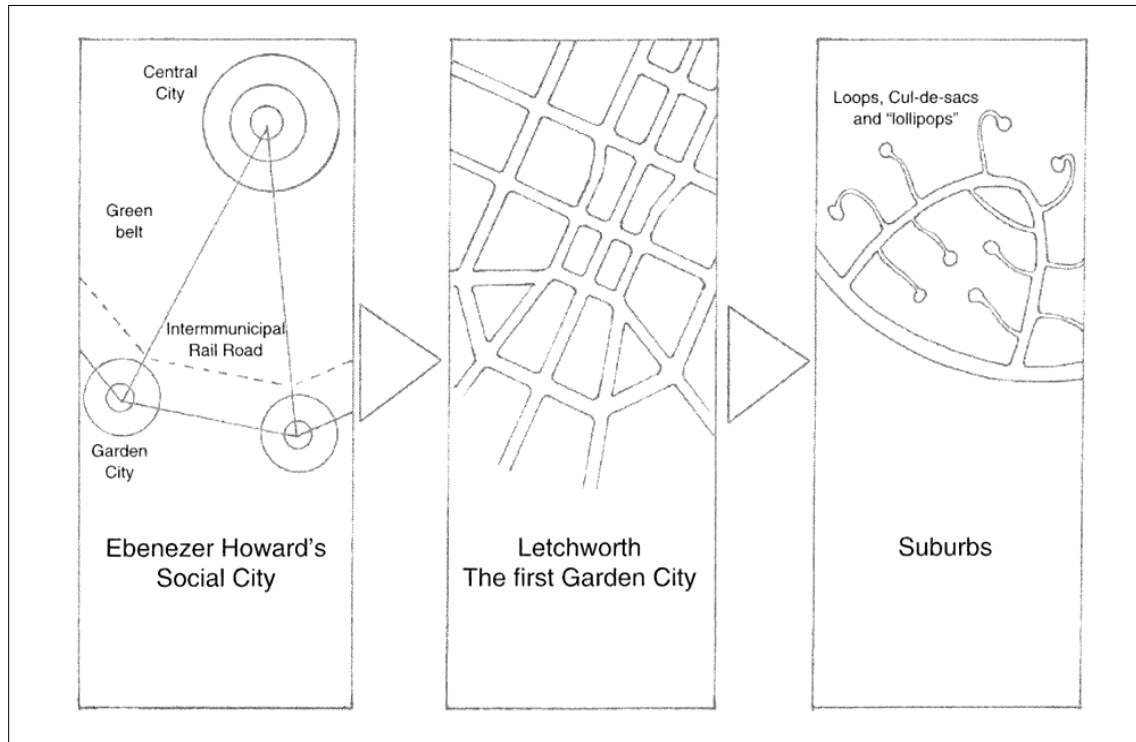


Figure 9 The Garden City Reduced (Grant, 2006)

Chang-Moo Lee and Barbara Stabin-Nesmith provided a micro-scale example of divergence in the American Garden City movement by comparing the street layouts of Radburn and its surroundings (Lee & Stabin-Nesmith, 2001). Figure 10 shows that the southwest areas, most of which were developed before the construction of Radburn, mostly preserve the early 1900s grid street layout even though it is spotted with several cul-de-sacs, curvilinear streets, and loops of later infill developments. The street layouts of the northeastern areas surrounding Radburn, most of which were developed after the

construction of Radburn, deviated from both the strict grid system of the early 1990s and the street system of Radburn. Lee and Stabin-Nesmith describe the divergence of street layouts with variations of the “warped parallel” or “loops and lollipops.” The block sizes became larger and the lengths of street segments became longer, both of which made the streets compromised walkability—one of the key principles of Radburn and the Garden City model. Here, the practice in the northeastern area could be seen as adaptations.

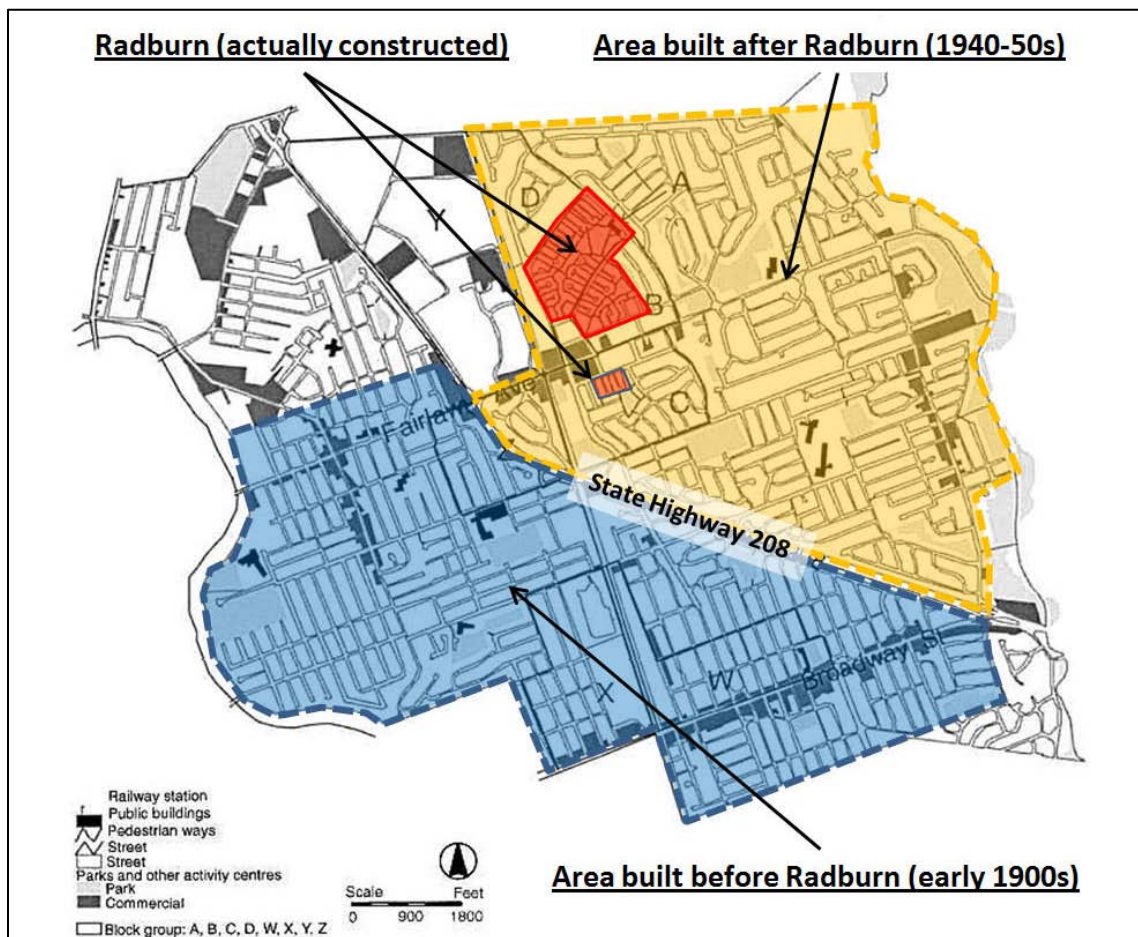


Figure 10 The Street System of Radburn and Its Surroundings (Modified from Lee and Stabin-Nesmith 2001)

Other examples of divergence from the Radburn scheme as a prototype are 1960s' New Town projects (adaptations) such as Reston, Virginia, Columbia, Maryland, Jonathon, Minnesota, and Irvine, California (Birch, 1980). For example, Columbia, Maryland selectively adopted the design principles of superblocks and pedestrian networks, but it did not adopt those of "reversed" house orientation and a hierarchical street system (Figure 11) (Christensen, 1986; Martin, 2003). Those who developed Columbia might have attempted to reduce the complexity of the original Radburn scheme by excluding design principles whose relative advantages were controversial.

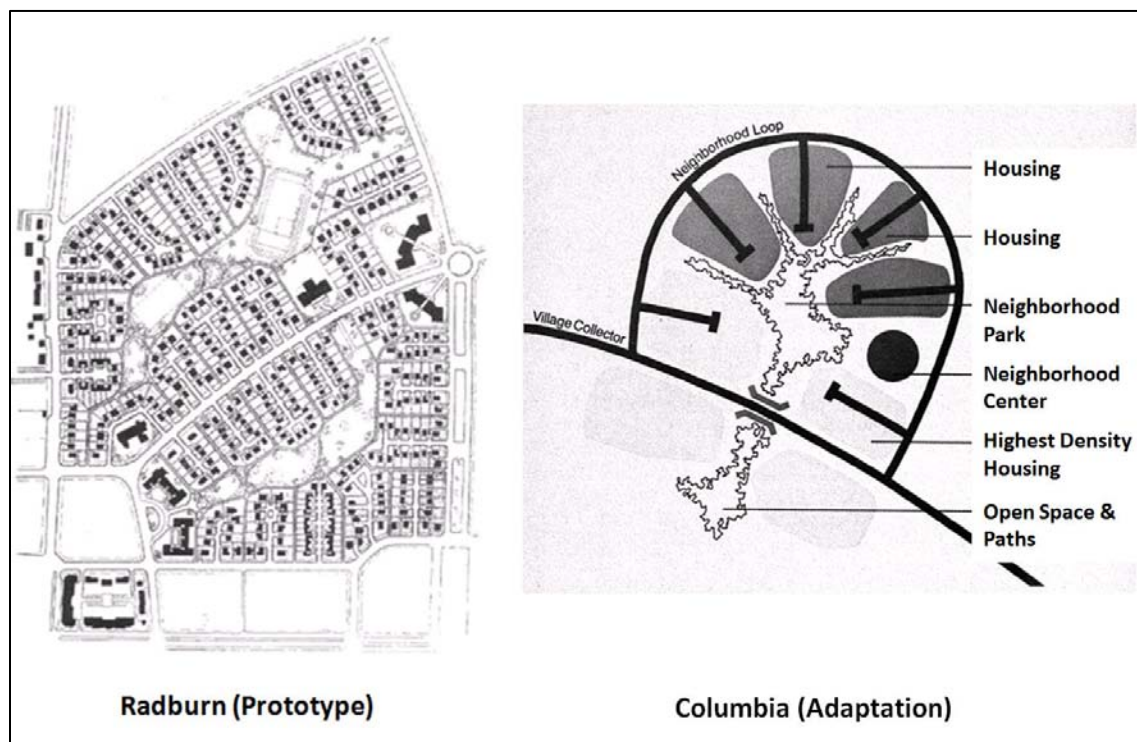


Figure 11 Divergence of Design Principles from Radburn to Columbia (Modified from Christensen 1986)

3.2. City Beautiful Movement

3.2.1. Origins of the City Beautiful Movement: Haussmann's Reconstruction of Paris and Olmsted's Work

The fundamental ideology of the City Beautiful movement—to establish social order through the design of an urban form—dates back to the beginning of cities. Lynch suggested that the first cities arose as religious centers (Lynch, 1984). However, Hall suggested that the direct origin of the movement in modern terms, which we refer to as the “City Beautiful” is “the boulevards and promenades of the great European capitals,” Haussmann’s reconstruction of Paris being an important influence on the City Beautiful movement (Hall, 2002, p. 175).

Another root of the movement, particularly with regard to the American City Beautiful movement, is Frederick Law Olmsted’s work in the nineteenth century. His influences on the American City Beautiful movement are twofold: 1) the physical design of the park and boulevard system as systems, not just individual moments; and 2) more importantly, the intellectual belief that beautification of the environment can positively influence human thought and behavior (Wilson, 1989).

Unlike other urban design movements, the City Beautiful movement was not accompanied by any written or drawn model before the construction of the first prototype, but only abstract and general principles broadly accepted as elements of a City Beautiful model: 1) an architectural style that followed Beaux Arts principles; 2) an environmentalist belief that beauty could shape human thought and behavior; 3) the use of beauty and monumental grandeur to create moral and civic virtue in urban populations and to bring a social order that would improve the lives of the inner-city poor; 4) axial

tree-lined streets and open spaces as a healthy alternative to crowded and unsanitary tenement districts; and 5) a comprehensive approach to city planning (Stelter, 2000; Wilson, 1989). Instead, the first large-scale prototype, the World's Columbian Exposition, held in Chicago in 1893, played the role of a "model" for the American City Beautiful movement.

3.2.2. Major Prototypes: the World's Columbian Exposition, the McMillan Plan and the Chicago Plan

The first large-scale prototype of the American City Beautiful movement, the 1893 World's Columbian Exposition in Chicago (Figure 12), had a significant impact on the urban design field. The fair worked as a "three-dimensional architectural pattern book" that included "courts, palaces, arches, colonnades, domes, towers, ponds, and botanical displays" (Rubin, 1979, p. 344). Specifically with regard to the City Beautiful movement, which did not have a written or drawn model, the fair played an important role as a concrete and definite model as well as an early prototype. Wilson argued that the fair was simultaneously the source and the effect of the movement (Wilson, 1989). Therefore, although the fair was just a transient event lasting only half a year, it is a clear presentation of a City Beautiful model that lent significant momentum to the movement, particularly in the United States, whose cities were suffering from shapelessness and ugliness largely resulting from the extraordinarily rapid growth of the late 19th century.

In addition, as a result of the fair, Daniel Burnham, who was responsible for the fair's construction, collaborating with Olmsted who was responsible for the Fair's

landscape, became one of the most important leading proponents of the movement and designed several major urban plans and interventions subsequent to the fair.



Figure 12 The World's Columbian Exhibition in 1893 (Library of Congress Geography and Map Division, 1893)

Another prototype of the City Beautiful model was the 1901 McMillan Plan in Washington D.C. (the Washington Plan), one of the earliest efforts to realize the City Beautiful ideal of creating social order through beautification of the environment. It was the first enduring demonstration of the movement's approach. The Senate Park Commission, which included Daniel Burnham, Frederick Law Olmsted, Jr., and Charles Follen McKim, created the Washington Plan to commemorate the centennial of the city.

The commission, after visiting several of the great cities of Europe, including Paris and London, created the plan based on Pierre L'Enfant's original Baroque Plan of 1791. The core of the plan was the Mall and Burnham's Union Station. In addition, the plan called for the construction of monumental government buildings surrounding the Mall, replacing slums (Figure 13). The plan focused on parks and public buildings rather than on housing. Upon the construction of the Lincoln Memorial in 1922, the implementation of the plan was complete (Stelter, 2000; Tunnard, 1968).

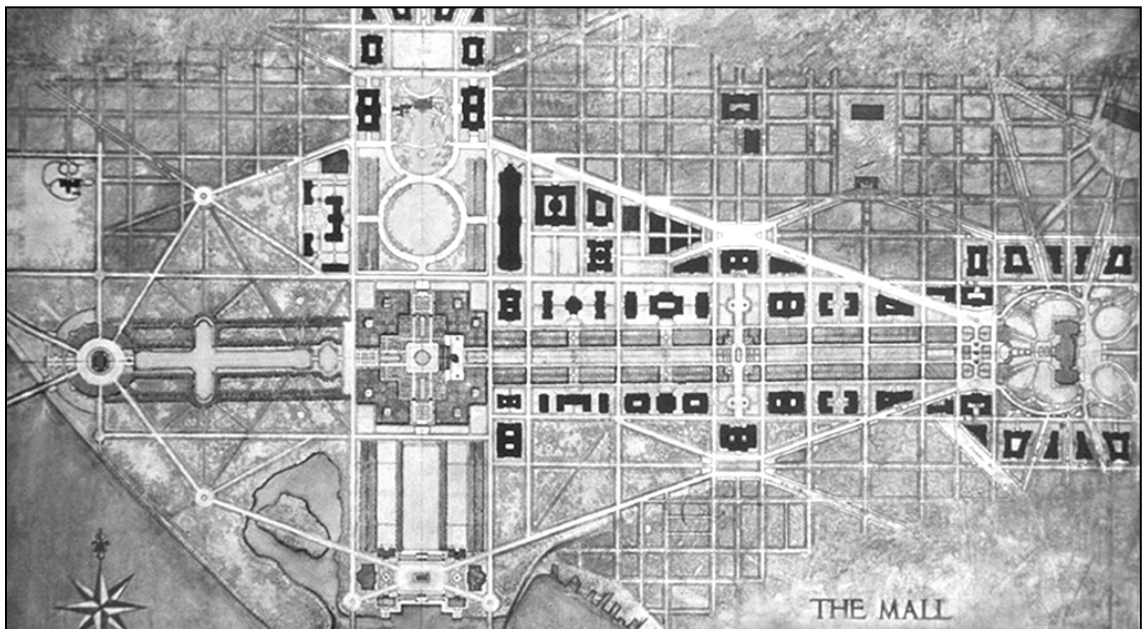


Figure 13 McMillan Plan 1901 (Source: The National Capital Planning Commission⁹)

⁹ The web site was visited on May 10, 2010 (<http://www.ncpc.gov/Images/Maps>)

Considered the most extraordinary of later prototypes of the City Beautiful movement was Burnham and Bennett's Plan of Chicago in 1909 (Figure 14) because of "its comprehensiveness, and its evocative paintings and drawings of a sublime City Beautiful" (Wilson, 1989, p. 285). Generously funded by Chicago's business elite, the Chicago Plan was the first comprehensive regional plan, covering a radius of sixty miles of Chicago, "including new arteries, the cutting of new streets, regulation of traffic, the relocation of railroad terminals near a magnificent new civic center, the development of an outer park and boulevard system, and even forest preserves throughout the county" (Tunnard, 1968, p. 66). In particular, as response to the criticism about the lack of practicality of the City Beautiful approach, the Chicago Plan paid more attention to practical matters such as transit and transportation than earlier prototypes, although the plan omitted "the consideration of the automobile" (Talen, 2008, pp. 122, 126)

Thus, the transition of the movement from the World's Columbian Exposition, which was the first large-scale effort to accommodate a variety of nineteenth-century advances (e.g., sanitation, aesthetics, urban reform, building design, artistic collaboration, architectural professionalism, and civic spirit), to the Washington Plan, which was the first creation of a complex and comprehensive plan for a real city that accounted for every issue related to the city, and then to the Chicago Plan, which was the first comprehensive plan pursuing both aesthetics and practicality on a regional scale, depicts a particular evolutionary process of the City Beautiful model through practice.

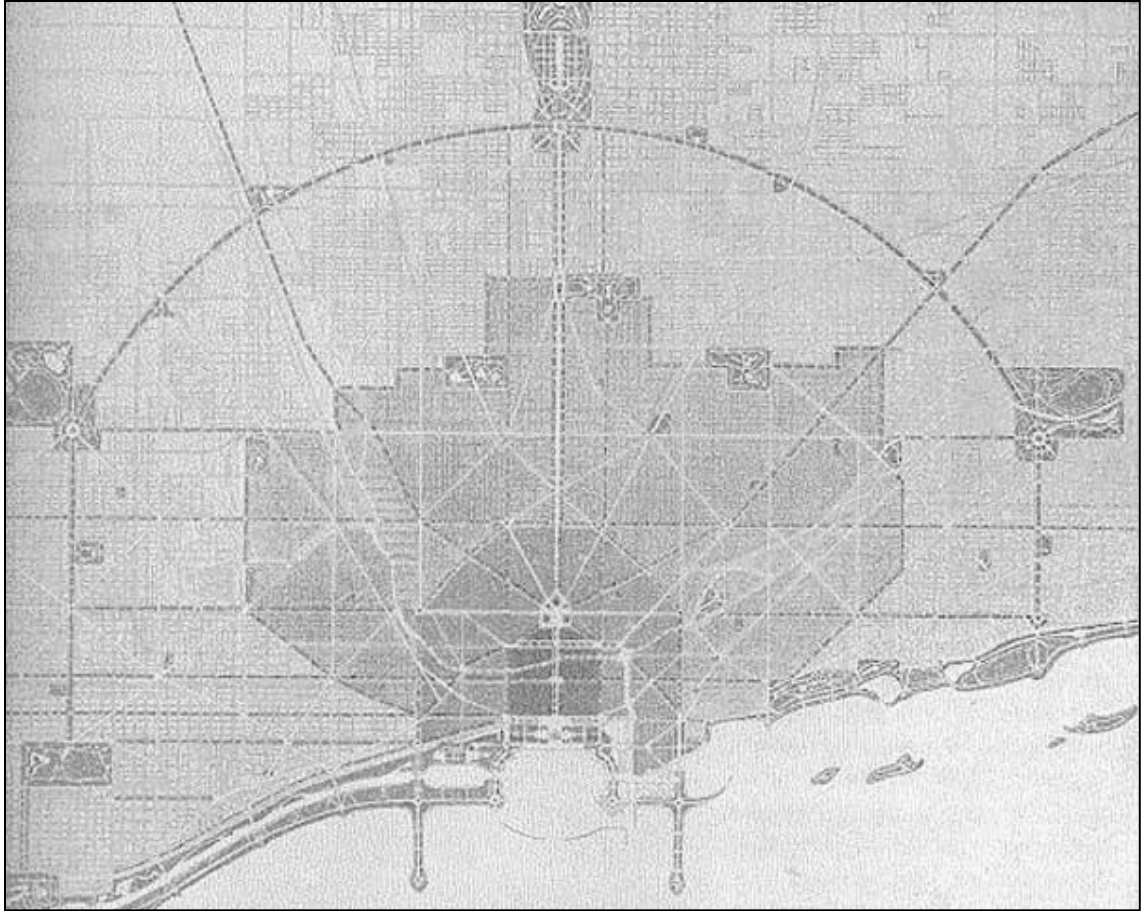


Figure 14 Plan of Chicago, 1909 (Wilson, 1989)

3.2.3. Adaptation of the City Beautiful Movement

The American City Beautiful movement, supported by the business elite, lasted about fifteen years, but then it encountered opposition for various reasons, including required colossal investment, too much emphasis on aesthetic qualities, and an ignorance of important urban problems such as poverty and housing supply. Regard to required colossal investment, large-scale comprehensive master plans like the Chicago Plan not only required huge investment but also considerable implementation time. So their designs inevitably became out of date before construction was complete. For such reason,

in the case of Burnham's Chicago Plan, only parts of the plan were implemented along the waterfront in the two decades following the beginning of the Great Depression in 1929 and the rest of the plan was never realized. With regard to the domination of aesthetic concerns over practical urban problems in the City Beautiful movement, Lewis Mumford pointed out its falling such as "no concern for the neighborhood as an integral unit, no regard for family housing, no sufficient conception of the ordering of business and industry themselves as a necessary part of any larger achievement of urban order" (L. Mumford, 1961, p. 401).

Facing such oppositions, since the Chicago Plan of 1909, no project in the United States has implemented the City Beautiful model as a comprehensive city plan to the degree to which the three plans above did (Freestone, 2007).

However, even after the decline of the movement, it has broadly influenced the general approach to altering human thought and behavior through the beautification of the environment, but it has done so on a less dramatic scale or only partially; and focusing more on functionality than aesthetics. For examples, in the current urban environment, such partial adoptions of the City Beautiful principles are easily observed in the form of landmark public buildings (Figure 15 & Figure 16), tree-lined boulevards (Figure 17), civic spaces, and park systems in the classical style (Freestone 2007).

Another well-known example of the adaptation of the City Beautiful model is the skyline design efforts in numerous cities all over the world today. The urban skyline, a city's "collective vista" comprised of individual skyscrapers (Spreiregen, 1965, p. 63), arose from the mixture of the City Beautiful tradition and the Modernism tradition,

emphasizing the aesthetic qualities of a city and the functionality of modern technology (skyscrapers) (Heilbrun, 2000).



Figure 15 Partial Adoption of the City Beautiful Model: Union Station, Kansas City(Source: Wikimedia Common¹⁰)



Figure 16 Adaptation of the City Beautiful Model on a Less Dramatic Scale: City Hall, Buford, Georgia

¹⁰ The web site was visited on April 7, 2010 (<http://commons.wikimedia.org>)



Figure 17 Tree Lined Boulevard in San Francisco (Source: Wikimedia Common¹¹)

3.3. Modern Urban Design Movement

3.3.1. Formation of the Modern Urban Design Model: CIAM, the Athens Charter, and the Radiant City

The urban design model of Modern movement in architecture and planning was led by CIAM (the Congrès Internationaux d'Architecture Moderne), an international

¹¹ The web site was visited on May 10, 2010 (<http://commons.wikimedia.org>)

organization of modern architects and their congresses lasting from 1928 to 1959 (Baghdadi, 1999; E. Mumford, 2000). During their fourth conference, CIAM IV: the Functional City in 1933, the architects reached a consensus on a set of urban design principles that served as a comprehensive solution to urban problems based on a comparative analysis of 33 European towns (Frampton, 2007). However, the outcomes of this conference were not publicized until a decade later, when they were published after extensive revision by Le Corbusier as the Athens Charter in 1943 (Le Corbusier, 1973). Even though the Charter was heavily influenced by only one individual, Le Corbusier and the early spirit of the movement emphasizing radical political demands was diluted, the result of Le Corbusier and his disciples' efforts to publicize their model was that the public considered it the most representative model of the modernist urban design movement (Frampton, 2007; E. Mumford, 1992). That is, the publicized written principles became the basis on which later debates developed in the movement. The Athens Charter and its influence on the entire movement illustrate the lasting power of a formalized written "model" of the urban design movements.

The Athens Charter, which was a written comprehensive model, asserted the priority of public over private interests and defined functional city planning based on four basic functions: habitation, leisure, work, and traffic. The Charter suggested that "residential areas, designed for maximum light and air in each unit, must be sited in the most favorable parts of the city ... Workplaces should be located so as to allow the shortest possible commuting distances, yet should remain separated from residences by greenbelts ... Parks should be distributed throughout the city, and high-rise buildings could be used to free more ground area for recreation. Pedestrian, local and high-speed

traffic channels should be separated ... through the use of superblocks and multiple-level crossings” (E. Mumford, 1992, p. 392).

Shortly after the CIAM IV, Le Corbusier also publicized the Radiant City in 1933 (Figure 18), which contained a more detailed illustration of the model essentially described by the principles later listed in the Athens Charter. In the Radiant City, Le Corbusier depicted the integration of numerous design principles, including the clearing of the historic landscape and rebuilding by modern methods of production such as the use of vertical streets (elevators), the complete separation of automobile and pedestrian circulation using five-meter-high decks, the separation of uses into specific zones or sectors and *les unites*, pre-fabricated apartment units (Le Corbusier, 1967).

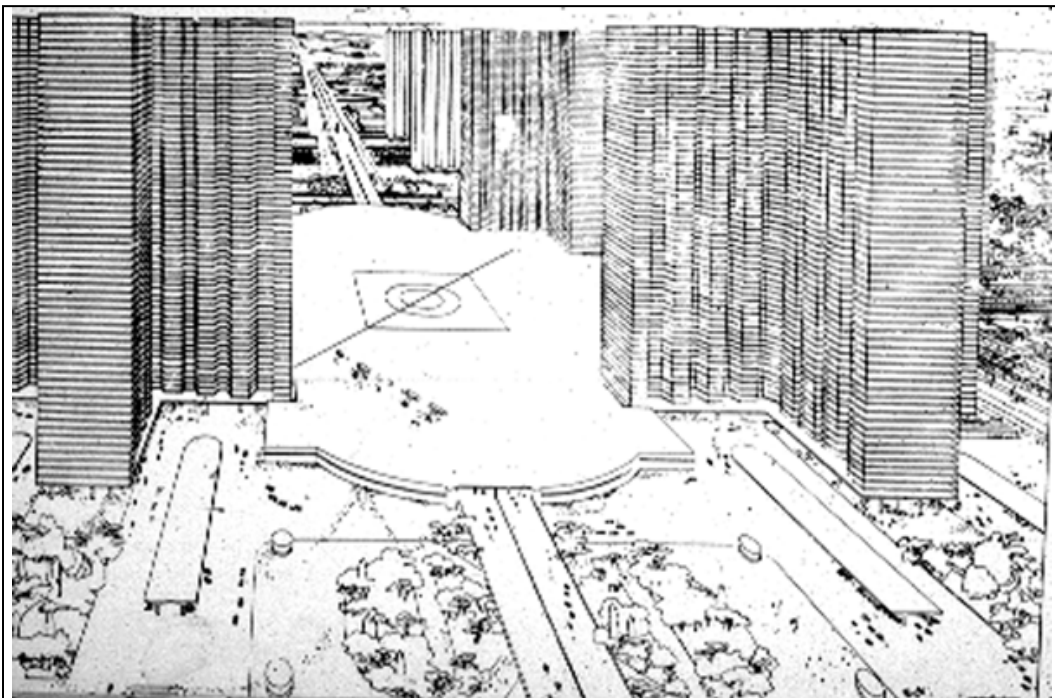


Figure 18 The Radiant City (Le Corbusier, 1967)

3.3.2. Exemplary Prototypes of the Modern Urban Design Model

Although CIAM lasted for decades, proponents of the modern urban design model had little opportunity to put their city model into practice. Aspects of their model continue to influence automobile-oriented transportation systems and zoning codes that enforce the separation of uses, but there are relatively few built examples of entire cities constructed according to the modern urban design model. CIAM's proponents produced many unrealized but influential plans such as the Antwerp Plan, Plan Voisin, and the Nemours Plan (Mumford 1992). Among the few exceptions in which they realized prototype projects are the Macià Plan in Barcelona (Figure 19), the Unité d'Habitation projects in France (Figure 20), and Chandigarh in India (Figure 21) (Fishman 1982; Mumford 1992).

The Macià Plan, designed by Le Corbusier and a group of Catalan architects including José Torres Clavé and José Luis Sert, followed the principles of the Athens Charter for the four functions (habitation, leisure, work, and traffic), calling for “residential, industrial, and commercial zones linked by highways to a new ‘Leisure City’ on the Mediterranean coast.” Although the project was popular and implemented vigorously, it was interrupted by the Spanish Civil War (E. Mumford, 1992, p. 395).

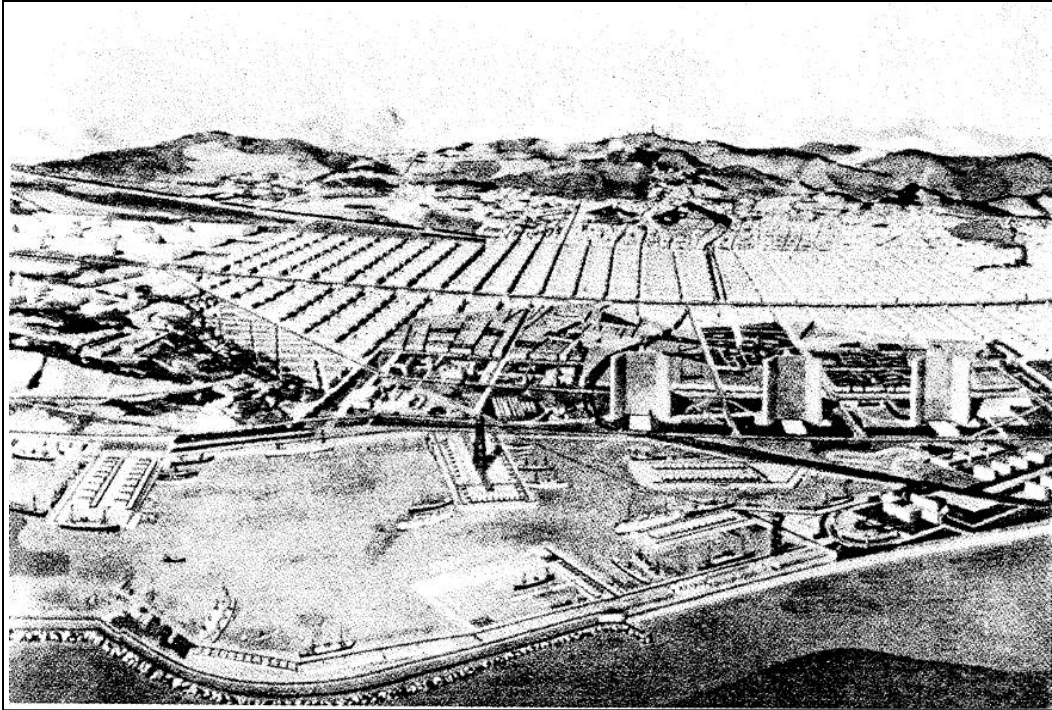


Figure 19 The Macia Plan for Barcelona, 1931 (E. Mumford, 1992)

Le Corbusier's Unité d'Habitation projects were important prototypes of the modernist city model, particularly of the Radiant City model (Fishman, 1982). They were high-rise collective housing projects designed almost identically but built in five different locations between 1947 and 1965. The design of the Unités strictly followed the principles of the Radiant City, such as "the interior street" for pedestrians, "vertical traffic (elevator)," "the whole city on pilotis," and "extended dwellings with collective mechanical services and social amenities" (e.g., a nursing school, a day-care center, a gymnasium, and shops) (Jenkins, 1993; Le Corbusier, 1967). They also epitomized the image of the modern city as "towers in the park"—a healthy alternative to the crowd, poorly ventilated tenement housing of the 19th century city. Instead, the Unités promised abundant access to fresh air and green parks on super blocks (even if in many cases this

model diverged to produce “towers in the parking lots”). Le Corbusier called the Unité a “vertical garden city,” regarding it as a self-supportive community (Jenkins, 1993).

Similar design principles were applied to the five Unités, and specifically the Marseilles Unité, was the first and most representative one. Although the Unité projects were not comprehensive city developments but instead residential projects, they represented the best embodiment of the Radiant City model and had a considerable impact on the post-war urban environment, especially on large-scale public housing projects in Europe and the United States (Jenkins, 1993).

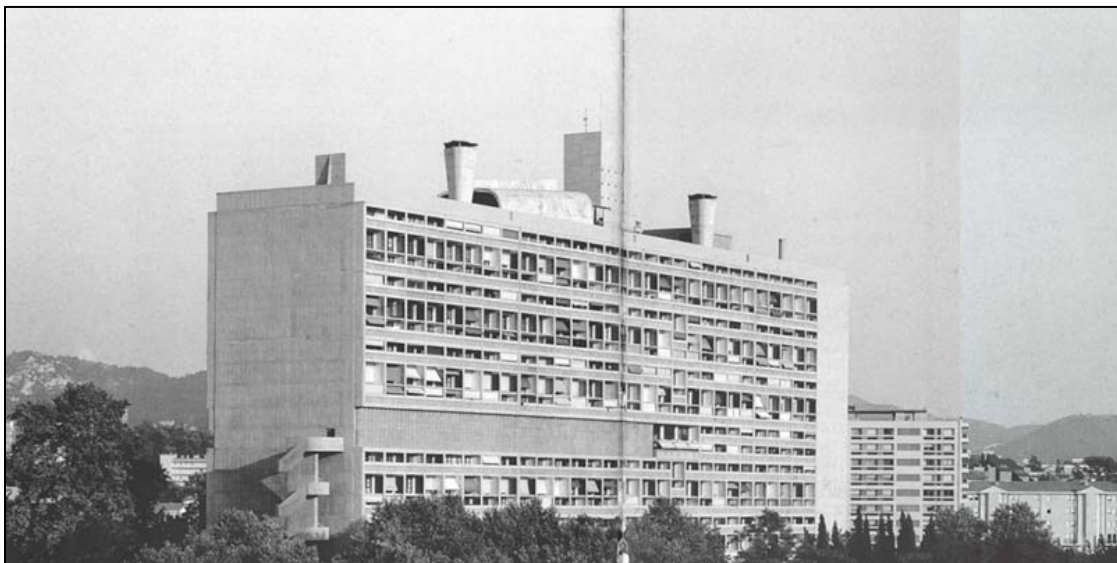


Figure 20 Unité d'Habitation, Marseilles, France (Jenkins, 1993)

The last well-known example of a practical application of the Modern city model, Chandigarh was built in 1950 outside of Europe, in India (Figure 21). The initial master plan was prepared by Albert Mayor, but later on, Le Corbusier took control over the plan,

changing it extensively. Chandigarh, as a later prototype, was designed and developed according to the all of the design principles of the modernist model that had been maturing for decades, including superblocks, called “sectors,” a straight, grid, and hierarchical street system, and a complete separation of automobile from pedestrian traffic (especially optimized for automobiles) (Prakash, 2002).

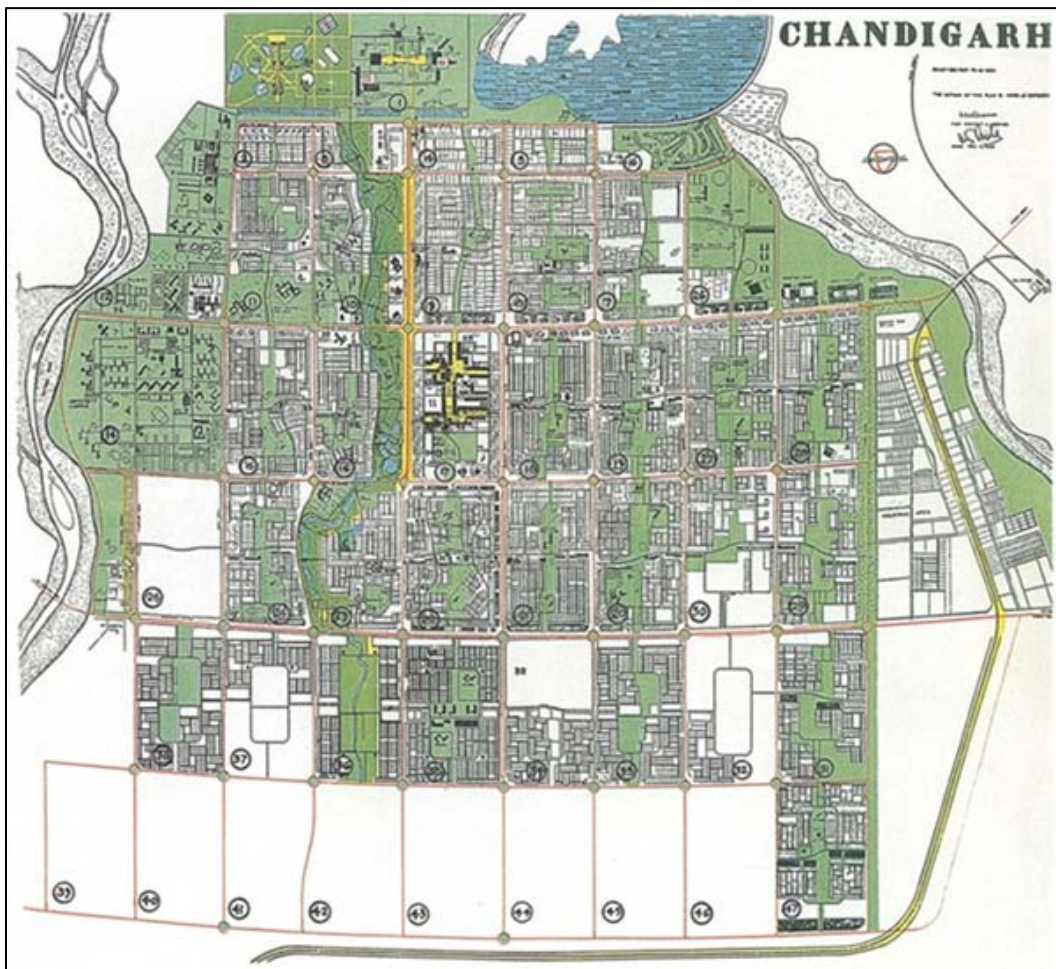


Figure 21 The Chandigarh Plan, 1960 (Prakash, 2002)

However, in spite of its fulfillment of the principles, Chandigarh has been regarded as a masterpiece of the Radiant City model, only constructed in the wrong place (Fishman, 1982). That is, the principles embodied by the Radiant City were meant to be applied to projects in the most advanced of industrial societies, not in pre-industrial India. Referring to this mismatch, Fishman asserted that the “great highways of Chandigarh are empty of traffic; the city itself has become a group of almost isolated villages which occupy odd corners in the ground plan. Only the government center ... functions as planned” (ibid., p. 254).

3.3.3. Adaptation of the Modernist City Model

The modern urban design movement led by CIAM lasting to 1959¹², had an enormous influence on urban design practice. However, similar to the City Beautiful movement, it was not adopted as an integrated system, but as individual design principles selectively or fused with the principles of other urban design models such as the Garden City and City Beautiful models. Examples of widely-adopted design principles were the separation of uses into distinct zones, high-rise skyscrapers for commercial uses, public housing projects, and highways for exclusive use of automobiles (Grant, 2006).

The original modernist model suggested high-rise buildings in an effort to “recover the open land necessary for communications and for leisure spaces” (Le Corbusier, 1973, pp. 98-99). However, serving their own interests in maximizing profits,

¹² The last CIAM congress held at Otterlo, The Netherlands in 1959. After the dissolution of CIAM, Team X, which younger CIAM members created in 1954 led the movement. Team 10 moved their focus from rigid functionalism developed earlier by CIAM to “urban life for the collective good,” using concepts like “human association,” “cluster,” and “mobility.” (E. Mumford, 2000, p. 7)

speculative developers built numerous skyscrapers, creating high-rise, high-density environments within limited spaces that did not conform to the original model, for they did not provide sufficient open space for collective interest (Figure 22).



Figure 22 High-Rise and Dense Urban Environment: New York, NY (Source: Famous Wonders¹³)

The original model suggested “a radical separation of pedestrians from mechanized vehicles” not only to accommodate “unseen speeds” of vehicles but also to provide pedestrians safe and pleasant circulations (Le Corbusier, 1973, p. 84). However,

¹³ The web site was visited on June 25, 2010 (<http://famouswonders.com/new-york-skyscrapers-and-its-marvelous-skyline/>)

in practice, the pedestrian circulation systems have often not been built while the construction of highways exclusively used by vehicles has been a dominant phenomenon in most modern cities (Figure 23).



Figure 23 Highways for Exclusive Use of Vehicles vs. No Sidewalks for Pedestrians¹⁴

Finally, the failure of public housing projects of the 1960s, such as Pruitt-Igoe in St. Louis, Missouri (Figure 24), or Ronan Point, at the East End of London, illustrates the deviation and degradation of urban design models through adaptation in practice. The failure of these public housing projects might have been caused by the inferior implementation of the model (e.g., the concentration of the poor in one place, poor security and maintenance, inadequate communal amenities such as the pools and gardens

¹⁴ Sources: Left figure - a blog web site, visited on June 11, 2010 (<http://daithaic.blogspot.com/2009/04/birmingham-centre-of-england.html>); Right figure - Pilgrimage for Immigrants web site, visited on June 11, 2010 (<http://pilgrimageforimmigrants.wordpress.com/>)

that are typically provided in successful private versions of either garden apartment complexes or high-rise condo towers) no less than by the problems inherent in the model itself (such as the way the superblocks isolated residents from other neighborhoods, limited the ability of parents to supervise children’s activities outside the home, and created “no man’s lands” where criminal activities could take hold), particularly when the relative successes of the prototypes, the Unité d’Habitation projects, were considered. According to one observer, Sam Webb, “To blame Le Corbusier for Ronan Point is like blaming Mozart for Muzak” (Jenkins, 1993, p. 51).



Figure 24 Demolition of Pruitt-Igoe Complex in St. Louis, Missouri (Source: Wikimedia Common¹⁵)

¹⁵ The web site was visited on May 10, 2010 (<http://commons.wikimedia.org>)

3.4. Conclusions: Urban Design Movements from the Perspective of the MPA

Framework

The historical reviews of the three major urban design movements—Garden City, City Beautiful, and Modernism—confirms the existence of recurring diffusion and adaptation patterns in urban design movements: 1) the articulation of an urban design model as a design solution to social problems of the time, 2) the demonstration and examination of the model through real exemplary projects by enthusiastic proponents of the model, and 3) the mass production of follow-on projects by eclectic followers who adapt the principles of the model for their varying contexts and interests.

In addition to the general confirmation of such recurring patterns in urban design movements, the review provides more detailed information about the manner in which transitions of urban design models have occurred within the MPA framework such as 1) characteristics of urban design model as innovations; 2) organization building efforts of enthusiastic proponents for the promotion of the model; 3) importance of prototypes as a communication tool of enthusiastic proponents for advertising the model; and partial adoptions or adaptations of the original models have been found in all three movements. In addition, enthusiastic proponents of most urban design models have made efforts to build organizations to strengthen their influence.

3.4.1. Characteristics of Urban Design Models

The urban design models discussed above have the following characteristics in common: 1) They are an integrated set of design principles; 2) they are models, some of which are formalized, written models, that are defined and acknowledged by the public

rather than devised by one individual; and 3) they are physical planning models for diverse social goals.

With regard to the first, urban design models in the three movements did not represent a single instance of a new idea but a set of individual but interrelated urban design principles designed to work in unison. In theory, the concept of innovation diffusion, discussed later in more detail, refers to a “technology cluster” that “consists of one or more distinguishable elements of technology that are perceived as being closely interrelated” (Rogers, 2003, p. 14). As the principles are intended to work together, the partial adaptation of any one or several of the principles may yield results that differ from the aims of the entire model. Although these kinds of technology clusters are not uncommon in most innovations, the urban design model as a technology cluster differs because urban models, developed by proponents whose aim is social reform through the model, are usually an integration of innovations for public and private interests. However, practitioners that are more strongly influenced by market demands may lean toward satisfying private interests. That is, the difference between the motivations of those who develop the model and those who adopt it in the urban design field may be greater than the difference between the motivations of these two groups in industry. Therefore, partial adoption of a model (an innovation) may be observed more frequently in urban design movements.

The second common aspect of urban design models is that the public acknowledges them as representing the movement. In particular, formalized written models of the Garden City movement (Ebenezer Howard’s book, *To-morrow: A Peaceful Path to Real Reform*) and of Modernism (the Athens Charter) have had a stronger

influence on such public acknowledgement processes than the implicit model of the City Beautiful movement because urban design models are composed of abstract and intangible design principles and therefore, the manifestation of the models through documentation and formalization becomes more important.

The third characteristic that urban design models have in common is that they represent physical solutions to social economic problems, but they alone are not able to solve social problems. Even in the case in which the original model includes social programs, such as Howard's original Garden City model, such social programs disappear quickly in practice (Grant, 2006). After all, the remaining physical design principles and social goals are only loosely or indirectly connected. As an extreme case, although the proponents of the City Beautiful movement argued that beauty would inspire moral and civic virtue in urban populations and bring a harmonious social order to urban spaces, they did not provide a clear, logical explanation for how it would actually achieve this goal.

3.4.2. Organization Building Efforts for the Promotion of the Movement

In many urban design movements, the proponents of each urban design model have made similar organization-building efforts to promote their movement. Examples are the Garden City Association (GCA) for the Garden City movement, the Congrès Internationaux d'Architecture Moderne (CIAM) for the Modern movement, and the Congress for the New Urbanism (CNU) for the New Urbanism movement. In the case of the New Urbanism movement, the founders of the CNU studied and followed the CIAM, specifically their organization process (Thompson-Fawcett, 2003). These organizations,

by promoting their movements through diverse activities, have played key roles in their movements.¹⁶

3.4.3. Prototypes as a Diffusion Tool for the Model

Although urban design ideas are also transmitted through diverse channels, one of the most powerful channels is the physical presentation to the realized prototype project. This phenomenon has been clearly demonstrated in the response to real projects such as Letchworth, Radburn and the Chicago world's fair. The constructions of such projects "immensely strengthened, quickened and encouraged" the movement (Talen, 2005, p. 75). Realized projects have strongly impacted the urban design movement because urban environments, expected to satisfy numerous and inseparable needs of diverse groups of individuals, application of a new urban design model would generate not only expected outcomes but also outcomes that may never have been predicted nor imagined without realized projects. In addition, realized projects illustrate the inherent value of an urban environment in a concrete, visible way to those who are either too familiar or unfamiliar with their surroundings (Hester, 1985).

It often takes considerable time for the public to perceive the objective effects of the implementation of urban design models. After all, new ideas in the urban design field cannot be experienced before they are implemented, the collective decision making process at every stage of the adoption process (knowledge, persuasion, implementation,

¹⁶ A detailed illustration of organizations' efforts to promote the movements was described with the case of New Urbanism was presented in Section 2.3.1. (p 18).

and confirmation) is time consuming, and the physical construction of a project takes longer than that of other innovations or products in industry. Therefore, subjective impressions derived from observations or perceptions or short-term successes indicated by market responses (e.g., initial sales) are more likely to influence the diffusion of urban design models.

3.4.4. Evolution and Divergence of Urban Design Models

Both transitions of urban design models proposed in the MPA framework, evolution and divergence, have been observed through the three urban design movements. The review of the prototypes of each movement illustrated the evolution of urban design models: for example, the Radburn Plan evolved from the original Garden City model to accommodate the motor age in the Garden City movement; the Chicago Plan evolved from the “White City” to provide regional vision in the City Beautiful movement; and the Chandigarh Plan evolved from the Macià Plan, reflecting the maturation of the modernist model over time. However, the review of adaptations showed that the divergence of the models has also been observed through the urban design history. As discussed before, such divergence of the models in practice may be due to the difference between the motivations of those who develop the model and those who adopt it.

3.4.5. Similar Design Principles for Different Urban Design Models

Although the focus of each urban design model was unique (e.g., cooperative ownership and harmony between the urban setting and the natural environment in the Garden City; architectural order and authority in City Beautiful; function, health, and

rationality in Modernism), the models have included many of the same design principles. For example, a number of principles in the Garden City model are similar to those of the modernist model. For example, access to nature is a principle in both models. The differences between the two models derive from the details, the means, and the scale of application. For example, in the modernist model, access to the nature is achieved through high-rise buildings and preserved spaces, while it is achieved through green belts and the control of city growth in the Garden City model.

CHAPTER 4. AN URBAN DESIGN MOVEMENT AS AN INNOVATION-DIFFUSION PROCESS

4.1. Complement of the MPA Framework with Innovation-Diffusion Theory to Explain “Why”

The proposed MPA framework includes two hypothetical transitions of urban design models in practice: that is, evolution and divergence. “Evolution” refers to the process of the development of an urban design model in practice resulting from the efforts of enthusiastic proponents to more effectively embody the model, and “divergence” refers to a process in which an urban design model becomes “watered down” in practice, due to adaptation of the model by eclectic followers who take advantage of the model for their own interests. In addition, the MPA framework provides operational definitions of these two hypotheses for observation in the real world: “Evolution” is defined as the difference between earlier and later prototypes, and “divergence” as the difference between prototypes and adaptations. Based on these definitions, in the previous chapter, the historical review of the three major urban design movements confirmed the existence of both evolution and divergence and illustrated the way in which they have occurred in the real world contexts.

However, so far, the proposed MPA framework and the historical review of the three urban design movements have not established the factors that have influenced evolution and divergence of the models in practice. The MPA framework simply assumes that the driving force behind evolution is enthusiastic proponents whose efforts are geared toward improving the model and that the cause of divergence is eclectic

followers whose attitude toward and level of knowledge of the model deviates from that of proponents. Therefore, to explain why the transition of an urban design model occurs, the MPA framework necessitates a further theoretical complement.

To explain the process of urban design and planning movements, urban design literature has frequently adopted both innovation-diffusion theory and paradigm shift theory (Forsyth, 2007; Garde, 2008; Neuman, 1998; Symes & Pauwels, 1999; Tait & Jensen, 2007; Taylor, 1999; Thompson-Fawcett, 2003). Although both theories are among the most influential schools of thought that explain the way in which new ideas change the world, the assumptions on which their explanations are based are quite distinct.

According to innovation-diffusion theory, an “innovation” is a new, better way of doing something within a given system, and “diffusion” means “the process by which an innovation is communicated through certain channels over time among the members of a social system (Rogers, 2003, p. 6).” In paradigm shift theory, the simplest definition of a “paradigm” is that it represents a “world view,” so a paradigm shift is a fundamental change in the way people view the world (Kuhn, 1996). The former pertains more to changes within a given system while the latter pertains more to changes of the system itself. Rogers describes the diffusion of innovation as a process “among the members of a social system,” while a Kuhnian paradigm shift requires “thinking outside of the box.”

Most urban design movements, especially their market adaptation processes, may be better explained by the innovation-diffusion framework than by the paradigm shift framework in that: 1) urban design models are practiced and evaluated within a given socio-economic and cultural value system such as a market or a community, and 2) they

are focused more on perceivable and relatively small-scale changes of the human environment rather than invisible, structural changes in the society, and 3) they are more focused on “how to do” something (action) rather than “how to see” something (knowledge or value).

An urban design model, which is a new set of design principles that improve the urban environment, can be seen as an innovation that refers to a new product or a new system that would improve existing practice (Rogers, 2003). For more than a century, innovation-diffusion theories have dealt with diverse aspects of innovations such as the generation and the diffusion of the innovation, and the impact of innovation diffusion (Brown, 1981). Therefore, the literature review of innovation-diffusion theories, particularly of those that explain the factors that influence the rate and patterns of innovation diffusion, should provide a robust theoretical foundation as a complement to the MPA framework to explain why the transition of the model occurred.

The following sections of this dissertation will first discuss innovation-diffusion theories that have dealt with major factors influencing the adoption of innovations in the diffusion process and then apply those factors to explain the transition processes of urban design models in the MPA framework.

4.2. Major Factors Influencing Diffusion of Innovations: Actors, Innovations, and Communication Channels

The rates and patterns of innovation adoption vary significantly according to “who” communicates “what kind of innovations” though “which communication channels” (Agnew, 1980; Brown, 1981; Fagerberg, Mowery, & Nelson, 2005; Rogers,

2003). Similarly, in the MPA framework, the rates and patterns of the adoption of an urban design model (or individual design principles) may vary according to the characteristics of actors (whether they are enthusiastic proponents or eclectic followers), the attributes of the design principles, and the types of communication channels because an urban design model and its design principles can be seen as a type of innovations in that they also a new way to do something better like other innovations (Rogers, 2003). Therefore, this section discusses the general characteristics of the basic elements of innovation-diffusion theories—actors, perceived attributes of innovations and communication channels—and applies the theories to the MPA framework.

4.2.1. Classification of Actors

Diffusion processes, which involve diverse types of *actors*, have been classified in numerous ways in the literature: individuals and organizations; individuals, communities, and regions; early and later adopters; change agents, opinion leaders, and general adopters; and so on. Here, among these classifications, two classifications are strongly represented in the literature and thus more relevant to the dissertation: classification according to the “innovativeness” of adopters and classification according to the “roles” of actors in the diffusion process (Agnew, 1980; Brown, 1981; Fagerberg, et al., 2005; Rogers, 2003).

The first criterion, the “innovativeness” of adopters, is “the degree to which an individual or other unit of adoption is relatively earlier in adopting new ideas than the other members of a system” (Rogers, 2003, p. 22). That is, the innovativeness of an adopter is measured by the relative time of one’s adoption of an innovation. Rogers

suggested five adopter categories according to their innovativeness: that is, innovators, early adopters, early majority, late majority, and laggards. On one extreme, innovators are active and adventuresome in seeking information about new ideas, and “this interest in new ideas leads them out of a local circle of peer network” (ibid., p. 282). On the other extreme, laggards are “the last in a social system to adopt an innovation,” lack leadership in lending their opinions, and “the most localite” (ibid., p. 284). This classification, based on innovativeness, often uses two statistic parameters of the mean and its standard deviation to create exhaustive, mutually exclusive categories for research purposes (Figure 25).

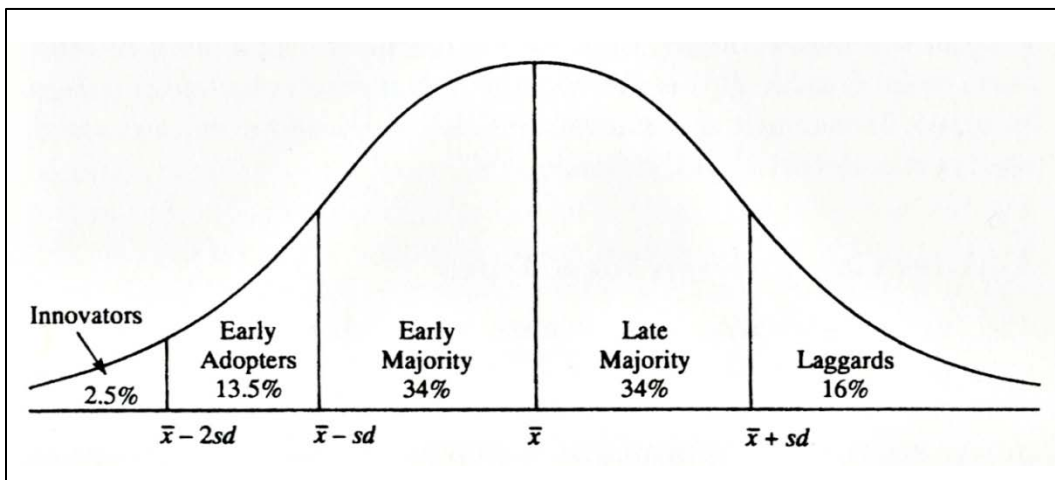


Figure 25 Classification of Adopters According to the "Innovativeness" (Rogers, 2003)

Based on Rogers’ five classifications of adopters, Moore (1991) argued in his study about high-tech marketing that between early adopters and early majority was a large chasm that was a “gulf between two distinct marketplaces for technology

products—the first, an early market dominated by early adopters and insiders who are quick to appreciate the nature and benefits of the new development, and the second a mainstream market representing ‘the rest of us,’ people who want the benefits of new technology, but who do not want to ‘experience’ it in all its gory details” (Moore, 1991, p. xiv). The assumption underlying Moore’s argument is that adopters of the early and mainstream markets have different needs and desires, and that they do not communicate (Goldenberg, Libai, Muller, & Peres, 2006). This chasm has been verified empirically (Slater & Mohr, 2006). Moore’s classification of the two markets by the chasm is similar to the classification of actors in the MPA framework: enthusiastic proponents and eclectic followers.

The second criterion, the roles of adopters in the diffusion process, distinguishes change agents and opinion leaders from other group of adopters. A change agent is “an individual who influences clients’ innovation-decisions in a direction deemed desirable by a change agency” (Rogers, 2003, p. 27). The core model proponents of urban design movements could be well categorized into this group. Opinion leaders are individuals who informally influence other individuals’ attitudes or behavior. Unlike change agents, who distinctly differ from typical adopters, opinion leaders are at the center of the adopters’ interpersonal communication network. Change agents often use opinion leaders to promote the diffusion of innovations (Rogers, 2003). Classification according to the role of actors is related to classification according to innovativeness. For instance, innovators are the core of change agent groups, and early adopters usually show the highest level of opinion leadership among the adopter groups (Rogers, 2003).

In the MPA framework, enthusiastic proponents and eclectic followers are distinct in their innovativeness and roles in the diffusion process of urban design models. Enthusiastic proponents may be classified into the group of innovators and early adopters (adopters in early markets) with a high level of innovativeness and classified into the group of change agents according to their roles. Eclectic followers may be classified into the group of early and late majority, and laggards (adopters in mainstream markets) with a relatively low level of innovativeness into the group of opinion leaders and general adopters according to their roles.

4.2.2. Perceived Attributes of Innovations

The attributes of an innovation, particularly those that an individual perceives, are another important factor that explains an individual's innovation adoption behavior. According to Rogers, for more than 50 years, the most commonly used approaches in diffusion studies on innovation attributes are the following five *perceived attributes of an innovation*: “relative advantage,” “compatibility,” “complexity,” “trialability,” and “observability” (Rogers, 2003). The present section discusses these five perceived attributes of an innovation in detail.

First, “relative advantage” is “the degree to which an innovation is perceived as better than the idea it supersedes,” and “the relative advantage of an innovation” is “positively related to the rate of its adoption” (Rogers, 2003, pp. 229, 233). Such relative advantages could be economic (e.g., the initial cost of an innovation), social (e.g., the desire to gain social status), or others, depending on the characteristics of the innovation and the potential adopters (Rogers, 2003). In urban design movements, the relative

advantages of an urban design model may be perceived differently by enthusiastic proponents and eclectic followers, The former may perceive the social goals that the model pursues for public interest as more important while the latter may regard the economic factors of the model that influence private interest as more important. Therefore, this dissertation investigates these two social and economic sub-dimensions of relative advantages separately: “community quality” and “market appeal.”

Second, “compatibility” is “the degree to which an innovation is perceived as being consistent with the existing values, past experiences, and needs of potential adopters,” and “the compatibility of an innovation” is “positively related with the rate of its adoption” (Rogers, 2003, pp. 240, 249). Tornatzky and Klen (1982) interpreted this compatibility from two different perspectives: compatibility “with the values and norms of the potential adopters” and compatibility “with the existing practices of the adopters.” The former is cultural or normative “compatibility with what people feel or think about” an innovation, and the latter is practical or operational “compatibility with what people do” (Tornatzky & Klein, 1982, p. 33). As an illustration, in the New Urbanism movement, neighborhood fear of compact development might be more related to cultural compatibility while problems with supplying non-standardized materials and finding a workforce that is sufficiently skilled in a new approach might be more related with practical compatibility. Diffusion theories have suggested that both types of compatibility are positively related to the implementation of an innovation but that they are often difficult to distinguish (Tornatzky & Klein, 1982). For example, New Urbanists’ conflict with existing zoning regulations that reflect previous development practice might

be related with both cultural and practical compatibility. Therefore, the dissertation investigates both forms of compatibility together.

Third, “complexity” is “the degree to which an innovation is perceived as difficult to understand and use,” which often becomes an important barrier to adoption and therefore, is “negatively related with the rate of its adoption” (Rogers, 2003, p. 257). Compared with other attributes, complexity is a relatively easy concept. For example, in the urban design field, the provision of sidewalks and street trees may be an easier, clearer design concept for one to understand than the creation of human-scale street spaces. Instead of complexity, this dissertation uses simplicity (ease of understanding and use), which refers to the same attribute of an innovation but is positively related to its adoption.

Fourth, “trialability” is “the degree to which an innovation may be experimented with on a limited basis” and “the trialability of an innovation” is “positively related to the rate of its adoption” (Rogers, 2003, p. 258). A trialable innovation may be a “relatively small, easily reversible, non-radical” or “divisible” innovation; in particular, highly divisible innovations are often highly trialable (Tornatzky & Klein, 1982, p. 37). For example, in a New Urbanism neighborhood development, the design principle of mixed use may be tried on a small scale by the addition of only a few small retail shops while the design principle of interconnected streets may require a full-scale site plan.

Finally, “observability” is “the degree to which the results of an innovation are visible to others” and “the observability of an innovation” is “positively related with the rate of its adoption” (Rogers, 2003, p. 258). For example, in the Garden City model, the social programs that Howard suggested such as collective land ownership were less visible than the physical design principles such as a public park at the center of a city,

linkage between different uses by broad boulevards and a transportation system, and green belts that would separate town and country.

These five perceived attributes of an innovation influence potential adopters' knowledge of and attitudes toward an innovation, and therefore behavior toward their adoption. That is, less complex and more observable innovations are more apt to be known to potential adopters; and more advantageous and more triable innovations are more apt to be adopted. These attributes of innovations work in conjunction with the characteristics of adopters. That is, the perception of the attributes of an innovation varies according to the adopters. These five perceived attributes of an innovation are used to explain the transitions of urban design models in the MPA framework.

4.2.3. Communication Channels

Finally, Rogers defines *a communication channel* as “the means by which messages get from one individual to another” (Rogers, 2003, p. 18). He described two of the most influential channels: mass media channels and interpersonal channels. The former (one-way, but rapidly influencing a large, widespread audience) are more effective at increasing potential adopters' awareness of the innovation while the latter (two-way, but influencing a local audience) are more effective at persuading them to change their attitudes and adopt the innovation. In addition to the mass media and interpersonal channels that Rogers describes, conferences, email listserv, and recent internet blogs are also common communication channels (Rogers, 2003).

In addition, the communication channels are closely related with the first element, the types of actors in the diffusion process. Actors in the diffusion process, representing

a variety of groups, may show different communication behaviors. That is, communication behavior may be considered one of the characteristics peculiar to each group of actors that has different innovativeness and roles. As an illustration, early adopters “have more social participation,” “are more highly interconnected through interpersonal networks,” “are more cosmopolite,” “have more contact with change agents,” “have greater exposure to mass media communication channels,” “have greater exposure to interpersonal communication channels,” “seek information about innovation more actively,” “have greater knowledge of innovations,” and “have a higher degree of opinion leadership” than later adopters (ibid., pp. 290-291). Change agents have more formalized communication channels such as conferences, newsletters, and email listserv to develop and propagate the innovation, opinion leaders have more chance to use mass media and better local interpersonal networks, and many laggards have limited interpersonal networks.

4.3. Diffusion and Adaptation Process in the MPA Framework

4.3.1. Actors, Innovations, and Communication Channels in the MPA Framework

In the previous section, this dissertation reviewed the major factors that influence the diffusion and adaptation of general innovations. In this section, these factors are applied to the MPA framework that this study invented to explain the transitions of urban design model in practice. Actors in the MPA framework are classified into the two groups of enthusiastic proponents and eclectic followers. With regard to the innovativeness in adopting an urban design model, enthusiastic proponents are the group

of innovators and early adopters with a high level of innovativeness while eclectic followers are the group of early majority, late majority, and laggards. With regard to the roles of actors in the diffusion process of an urban design model, enthusiastic proponents are change agents while eclectic followers are opinion leaders and general adopters. Based on the distribution of adopters suggested by innovation-diffusion theories (Moore, 1991; Rogers, 2003), we can presume the distribution of enthusiastic proponents and eclectic followers in an urban design movement (Figure 26). The presumed distribution of adopters in an urban design movement implies that the influence of adaptations on the environment by eclectic followers might be much greater than that of prototypes by enthusiastic proponents.

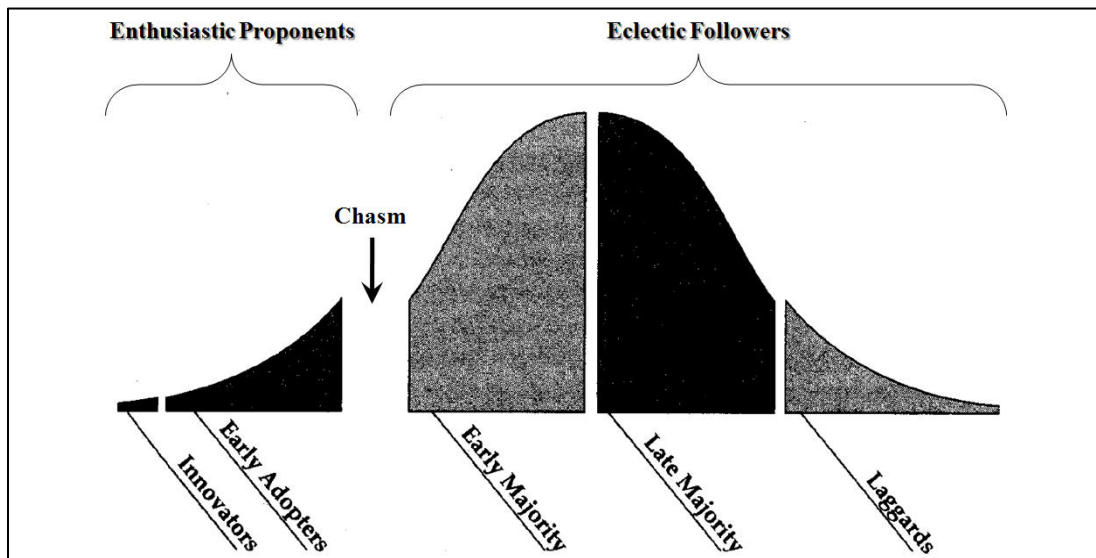


Figure 26 Distribution of Enthusiastic Proponents and Eclectic Followers in an Urban Design Movement (Modified from (Moore, 1991))

With regard to an urban design model as an innovation, as we reviewed historically, an urban design model is an innovation cluster composed of multiple urban

design principles with distinct characteristics. Therefore, for the analysis of an entire urban design model, this dissertation regards each design principle as an individual innovation. To examine how the characteristics of an individual urban design principle influence its process of adoption, this dissertation uses the five representative perceived attributes of an innovation that Rogers suggests (relative advantage, compatibility, complexity, trialability and observability). In particular, the sub-dimensions of relative advantage, that is, social and economic relative advantages (e.g., community quality and market appeal) are considered separate attributes of an urban design model. Urban design movements generally involve numerous actors with diverse motivations from social reformers who promote the public interest to speculative developers pursuing profit maximization. Therefore, the distinction between such sub-dimensions of relative advantage becomes more important in urban design movements than in industry. The social and economic relative advantages of an urban design model may be perceived differently by enthusiastic proponents and by eclectic followers. The former may regard the social relative advantage of an urban design model as more important while the latter may perceive the economic benefit as more important. Therefore, instead of five, this dissertation uses six perceived attributes of an urban design model (or an individual design principle): social relative advantage (for public interest), economic relative advantage (for private interest), compatibility, complexity (or simplicity), trialability, and observability.

With regard to communication channels, this dissertation assumes that enthusiastic proponents and eclectic followers exhibit different types of communication behaviors and channels based on the close relationship between actor types and

communication behaviors explained in Section 4.2.3. Enthusiastic proponents, as early adopters, may establish more highly interpersonal networks and be more active in social participation, more cosmopolitan, and more exposed to the mass media and interpersonal communication channels (Rogers, 2003) than eclectic followers, as later adopters. In addition, enthusiastic proponents, as change agents, may have more formalized communication channels such as conferences, newsletters, and email listserv to develop and promote the model than eclectic followers, as general adopters. As Moore argued (Moore, 1991), the two may also not establish strong communication ties.

4.3.2. An Integrated View of the Innovation-Adoption Process in the MPA

Framework

The characteristics of the three elements—actors, innovations, and communication channels—simultaneously influence the innovation-adoption process (the rates and patterns of diffusion). In addition, the ways in which the three elements influence the adoption process vary according to the innovation-design stages: *knowledge, persuasion, decision, implementation, and confirmation*. In the *knowledge* stage, one is “exposed to an innovation’s existence and gains an understanding of how it functions”; in the *persuasion* stage, one “forms a favorable or an unfavorable attitude towards the innovation”; during the *decision* stage, one “engages in activities that lead to a choice to adopt or reject the innovation”; during the *implementation* stage, one “puts a new idea into use”; and during the *confirmation* stage, one “seeks reinforcement of an innovation-decision already made, but he or she may reverse this previous decision if exposed to conflicting messages about the innovation” (Rogers, 2003, p. 169).

Based on Rogers' five adoption-decision stages, this dissertation develops a diagram that hypothesizes the ways that the three factors (the types of actors, the perceived attributes of an urban design model (and its design principles), and communication channels) influence the actors' adoption behavior of an urban design model (or an individual design principle) in the different innovation-decision stages (Figure 27).

First, in the knowledge stage, with regard to the types of actors, enthusiastic proponents of an urban design model may more actively seek information about the model. They are more exposed to mass media and interpersonal communication channels, and they possess greater knowledge of the model (and its individual design principles) than the eclectic followers. Therefore, they may have more opportunities to perceive and understand the model and its individual principles than the eclectic followers. With regard to the perceived attributes of an urban design model and its individual design principles, particularly among the six perceived attributes of the individual design principles of the model, complexity and observability may influence the adoption of the design principles more than other attributes in this stage. That is, potential adopters may better perceive and understand design principles that are simpler and more visible than those that are not. With regard to communication channels, mass media communication channels are more influential than interpersonal communication channels in this stage.

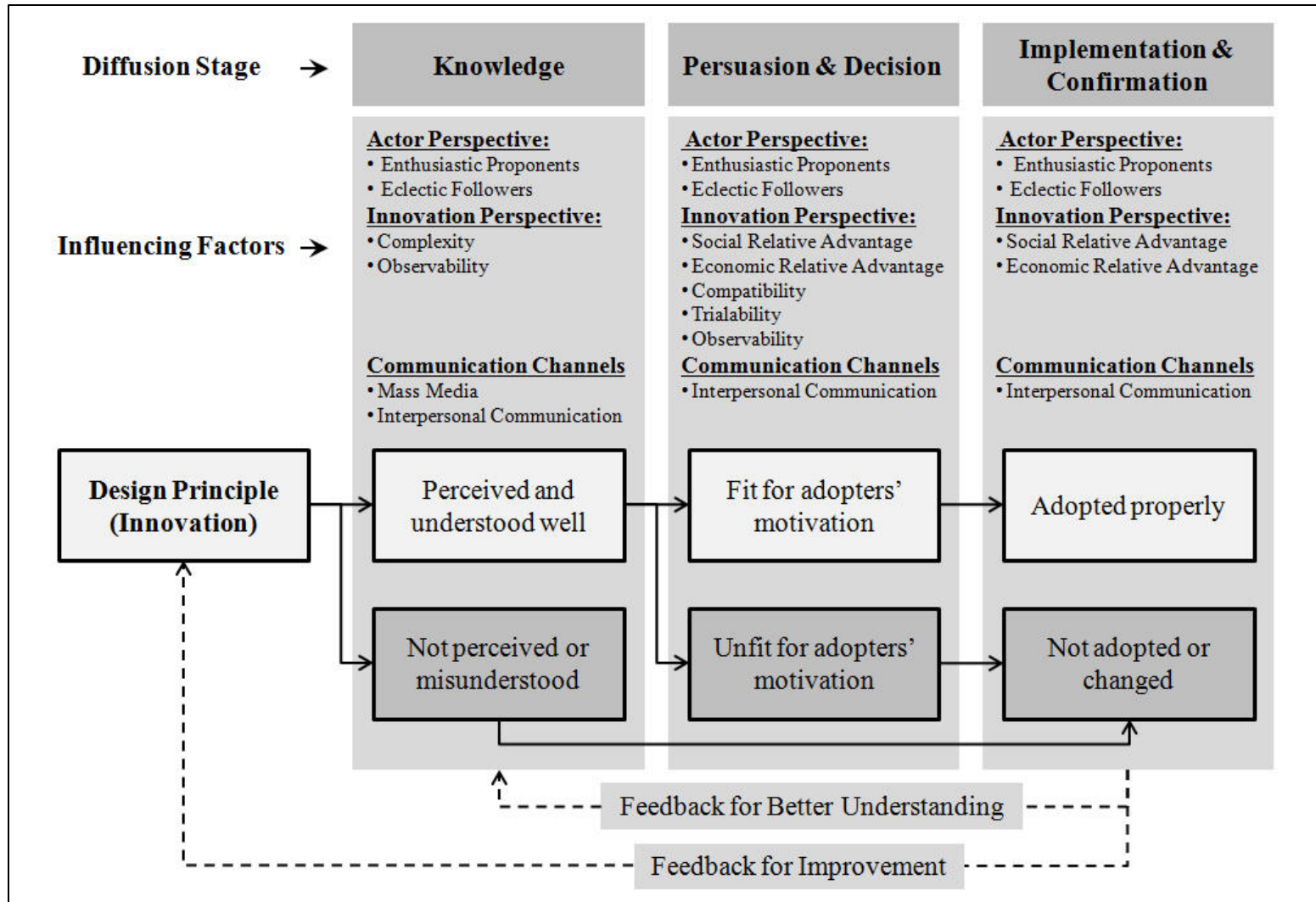


Figure 27 An Integrated View of the Adoption Process of an Urban Design Principle

Second, during the persuasion and decision stages, with regard to actors, the enthusiastic proponents and the eclectic followers of an urban design model may have different motivations for implementing the model and level of commitment to it. That is, the social goals that many design principles of the model are intended to achieve may be more congruent with the motivations of enthusiastic proponents than with those of eclectic followers and the former may be more committed to the model than the latter. Therefore, enthusiastic proponents may decide to implement the urban design principles more thoroughly than the eclectic followers. With regard to the perceived attributes of the model and its design principles, most attributes such as social or economic relative advantages, compatibility, trialability, and observability may have more influence on an actor's adoption decision. In particular with regard to observability, the more often a potential adopter observes the successful implementation of a specific design principle, the more likely he or she is to adopt it. With regard to communication channels, interpersonal communication channels may influence the adoption decision at more at these stages than mass media communication channels (Rogers, 2003).

Finally, in the implementation and confirmation stages, with regard to the types of actors, enthusiastic proponents and eclectic followers of an urban design model may evaluate and respond to the results of the design principles they implemented differently according to their motivations and commitment to the model. Enthusiastic proponents may evaluate the accomplishment of social goals as high as the economic success of the project while eclectic followers may evaluate the latter much higher than the former. Such diverse evaluations of the two groups may also reinforce the difference in their perceptions of the model. Enthusiastic proponents may communicate feedback

information from implementation for the improvement and implementation of the model in future prototypes while eclectic followers may use the information from their implementation practice only as a basis for their future adoption decisions. With regard to the perceived attributes of the model and its design principles, social and economic relative advantages in particular may become more important than other attributes at these stages. The social and economic relative advantages at the implementation and confirmation stages are the only ones realized by the individual adopters while those at the persuasion and decision stages are simply benefits that have been predicted.

Therefore, their influence on the evaluation of the principles might be much greater in the former stages than in the latter stages. With regard to communication channels, detailed feedback from implementation is more likely to be communicated through interpersonal networks than through the mass media.

CHAPTER 5. EMPIRICAL CASE STUDY DESIGN

5.1. Purpose and Scope of the Case Study

In the previous chapters (Chapters 2~4), this dissertation proposed the Model-Prototype-Adaptation (MPA) framework as a tool for understanding the transition of an urban design model. This MPA framework focuses the influencing relationships within an urban design “model” (a set of design principles that its enthusiastic proponents agree on), “prototypes” (exemplary projects that the enthusiastic proponents develop), and “adaptations” (follow-on projects that the eclectic followers of the model develop), and hypothesizes two types of transitions of the urban design model in practice: “evolution,” developmental changes from earlier prototypes to later prototypes, and “divergence,” watered-down transitions from prototypes to adaptations. In addition, the MPA framework explains the transitions with the following three elements based on innovation-diffusion theories: the types of actors (enthusiastic proponents vs. eclectic followers), the perceived attributes of an urban design model and its design principles (social or economic relative advantages, compatibility, complexity, trialability, and observability), and the types of communication channels.

The rest of this dissertation presents an empirical case study that tests the theoretical MPA framework on real world cases. The empirical case study should not only demonstrate how the MPA framework can be used to explain the diffusion and adaptation processes of urban design models but also provide a wealth of feedback and insights for improving the framework.

For this purpose, this dissertation has chosen New Urbanism, one of the most influential movements in the contemporary urban design field, as the urban design model for this case study. The case study covers only neighborhood-scale principles of the New Urbanism model. Because of the comprehensive nature of the model, which ranges from principles for the design of buildings and streets to those for neighborhoods and entire regions, it is neither possible nor appropriate to cover the New Urbanism movement in its entirety. Thus, this study analyzes the neighborhood, with its degree of variation, because it may be a more identifiable and comparable unit of analysis than a region or a building. The case study also examines New Urbanism projects in the Atlanta area. Atlanta, which has earned a bad reputation due to its unplanned, rapid growth (Bullard, Johnson, & Torres, 2000), has recently made a significant effort to cope with problems caused by sprawl through projects such as the Livable Centers Initiatives¹⁷ and the BeltLine project.¹⁸ The New Urbanism movement has also become more popular in the Atlanta area since the first prototype, Post Riverside, was introduced to the area in 1998. Moreover, the 18th CNU Conference was held in Atlanta in May 2010. Therefore, Atlanta is a reasonable venue in which to study New Urbanism projects and to forecast the results.

Of the two major hypothetical transitions in the MPA framework, evolution and divergence, introduced in Chapter 2, the case study focuses on divergence because of its

¹⁷“The Livable Centers Initiative (LCI) is a program offered by the Atlanta Regional Commission, which encourages local jurisdictions to plan and implement strategies that link transportation improvements with land use development strategies to create sustainable, livable communities consistent with regional development policies” (<http://www.atlantaregional.com/land-use/livable-centers-initiative>).

¹⁸The BeltLine is a \$2.8 billion redevelopment project of the City of Atlanta to provide “a network of public parks, multi-use trails, and transit along a historic 22-mile railroad corridor circling downtown and directly connecting 45 neighborhoods” (<http://www.beltline.org/>).

greater potential impact on an urban environment., Divergent examples of new urbanism may be applied by a larger population of eclectic followers outside the movement group (see Figure 26 of p. 70), and might have undesirable consequences particularly if they are led by speculative practitioners mainly motivated by market interests.

Before beginning the full-fledged case study, the following section reviews the history of the New Urbanism movement, focusing on the model, the prototypes, and the adaptations. This review confirms that urban design movements are characterized by recurring patterns suggested by the MPA framework and provides background information about the New Urbanism movement for a better understanding of the case study.

5.2. History of the New Urbanism Movement

5.2.1. New Urbanism and the Charter of the New Urbanism

New Urbanism is an urban design movement that emerged mainly in response to problems resulting from modernist, auto-oriented development such as disinvestment in inner cities, urban sprawl, increasing segregation by race and income, deterioration of the environment, loss of agricultural lands and wilderness, and an erosion of built heritage (from the Preamble in “Charter of the New Urbanism”).

Even though “New Urban” thought emerged around the late 1960s (e.g., Jane Jacobs), the first New Urbanism project similar to those of today was Seaside, Florida whose development began in 1980 (Brooke, 2005; Garvin, 2002; Thompson-Fawcett, 2003), which preceded the formal coining of the concept “New Urbanism” in 1993. From this project, Andres Duany and Elizabeth Plater-Zyberk, the master planners of

Seaside, developed their concept of the Traditional Neighborhood Development (TND) model, which is the “successor of the Neighborhood Unit” suggested by Clarence Perry in the 1920s (Duany Plater-Zyberk & Company, 2002). Counter to suburbia’s separation of uses and emphasis on the object building, the TND emphasizes community building through the coercion of private buildings to attractively frame public spaces and streets that are conducive to social interaction and walking to a mix of uses. In the West in the early 1990s, Peter Calthorpe presented the Transit-Oriented Development (TOD) model also as a neighborhood-scaled alternative to suburban sprawl but focused on the environmental rather than social benefits of clustering activities around transit stations. Calthorpe designed Laguna West as a master planned TOD in 1993. The coming together of the TND and TOD models represent the foundation for New Urbanism.

The 1990s witnessed two efforts to develop a written consensus of the New Urbanism model and to unite the previous efforts of individuals to promote similar new urban ideas— the Ahwahnee Principles in 1991 and the Charter of the New Urbanism in 1996. In 1991, the Local Government Commission invited a group of leading architects,¹⁹ including Andres Duany and Peter Calthorpe, and asked them to reach a consensus about what the new directions for community design and regional planning

¹⁹Peter Calthorpe, Michael Corbett, Andres Duany, Elizabeth Moule, Elizabeth Plater-Zyberk, Stefanos Polyzoides, and Daniel Solomon participated. Peter Katz, the author of *The New Urbanism: Toward An Architecture of Community* (2000), was a staff member of the commission, and he urged the commission to invite them (Corbett & Velasquez, 2008).

would be. The results were announced to the public as a set of principles for urban design and land use planning, the Ahwahnee Principles²⁰ (Appendix B.1.).

After announcing the establishment of the Ahwahnee Principles, the architects who developed the principles reunited and founded the Congress for the New Urbanism (CNU) in 1993.²¹ Later that year, they held their first Congress in Alexandria, Virginia, attended by 170 invited participants, including a number of practitioners and several leading designers. Three years later, in 1996, members of the CNU adopted the Charter of the New Urbanism as their written consensus (Appendix B.2.).

While the Ahwahnee Principles, developed by a small number of architects, focused on community design strategies, the Charter of the New Urbanism, developed through discussions and consensus-building processes by diverse participants, presents a more comprehensive set of urban design principles covering urban issues from the scale of the building to the region. After the official announcement of the Charter of the New Urbanism, the New Urbanism movement gained momentum with press coverage in the *New York Times* (Muschamp, 1996) and a consensus of agreement among the CNU group, which currently boasts more than 3,000 members.

5.2.2. Prototypes of New Urbanism

As discussed briefly in the previous section (5.2.1.), one of the most well-known, early New Urbanism projects was developed before the New Urbanism movement

²⁰The principles were presented to more than 100 locally-elected officials at a conference held at the Ahwahnee Hotel in Yosemite National Park.

²¹All the architects who had participated in the development of the Ahwahnee Principles, except for Michael Corbett, participated again in founding the Congress for the New Urbanism.

acquired its own name: Seaside, Florida. Other early prototypes quickly followed: Kentlands, Maryland, and Laguna West, California. These projects contributed to the formation of the New Urbanism movement by clarifying for the public what “New Urbanist” ideas would be “on the ground,” thus broadening public awareness of New Urbanism.

The development of Seaside began in 1980 (Figure 28). Robert Davis developed the 80-acre plot of land he had inherited on the northwestern Gulf Coast of Florida with Duany and Plater-Zyberk as a master-planned, mixed-use community. Davis was interested in re-creating a small, walkable, southern town rather than another time-share high-rise on the beach. Duany’s fundamental concept was that “people would walk if walking were convenient and pleasant and if the range of life’s daily requirements were close at hand” (Brooke, 2005, p. 18). To design such a community, Duany and Plater-Zyberk developed building codes based on “basic rules for designing Southern vernacular, residential architecture” that he found from “data-gathering journeys” throughout the South with Davis (Brooke, 2005, pp. 17-18). The graphic building codes linked to street sections and planning principles developed for Seaside became the protocols for later Traditional Neighborhood Development (TND) projects. Although Seaside eventually became an expensive resort town rather than a real neighborhood, it had a huge impact on the New Urbanism movement because it was the first project to demonstrate how the movement could influence the appearance of a neighborhood in the real world and, as a resort, it was easy for people to experience and learn from. Andes Duany, who was the master planner of Seaside, later became a leading figure in of the New Urbanism movement.



Figure 28 Seaside in 1992 (Brooke, 2005, p. 26)

Based on the success of Seaside, Andres Duany has designed several hundred New Urbanist projects, including Kentlands, Maryland, which became an exemplary New Urbanist community not for seasonal visitors but for residents. Kentlands, a 352-acre, mixed-use development located about 25 miles from Washington D.C., was developed by Joseph Alfandre (Figure 29). Alfandre became interested in the development of traditional style neighborhoods after meeting Duany and Plater-Zyberk, the best known neo-traditional architects at that time because of the success of Seaside. In 1988, they developed the master plan for Kentlands through a week-long charrette process that included architects, local government officials, other planners, and the public.

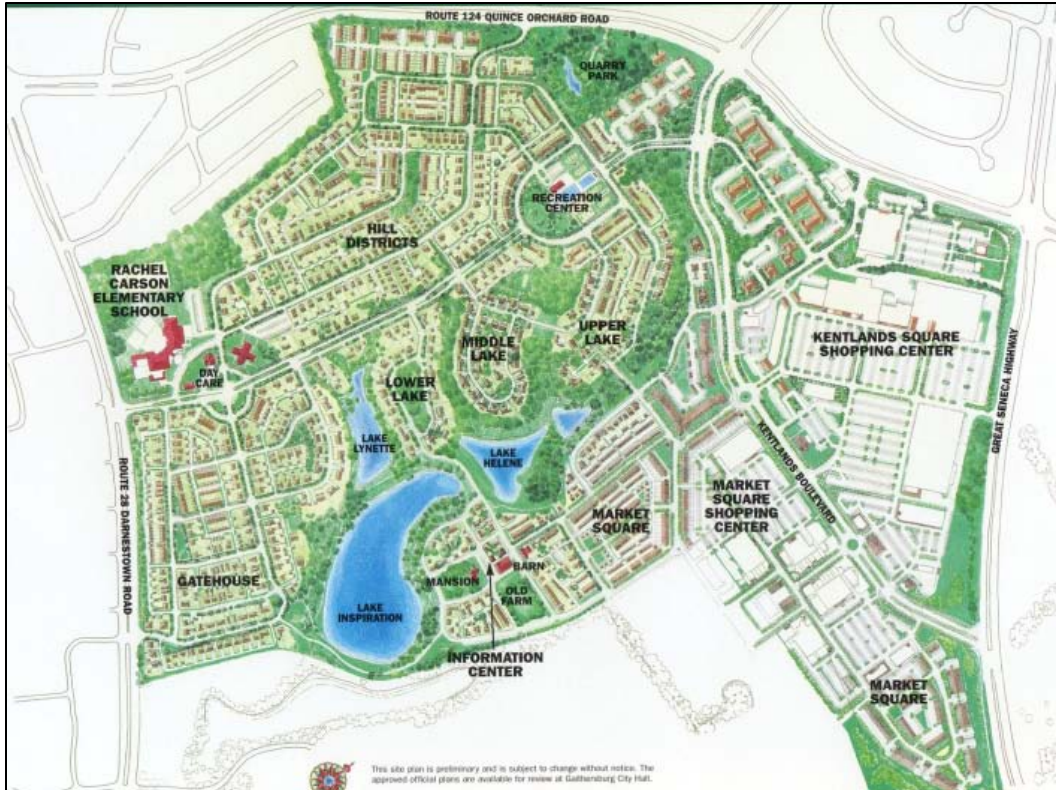


Figure 29 Kentlands, Maryland (Source: Kentlands Information Center, DPZ Architects & Planners)

Besides Duany’s Seaside and Kentlands, in 1989, Peter Calthorpe, another leading figure of the New Urbanism movement, designed a 1,033-acre, mixed-use community, Laguna West, California (Figure 30). Here, Peter Calthorpe introduced another important model that fell under the umbrella of New Urbanism referred to as “Transit-Oriented Development (TOD)” (Calthorpe, 1993). The key concept of a TOD is that “clustering jobs, services, and housing in areas served by transit would give people several convenient alternatives to the car: walking, biking, carpooling, buses, and rail” (Calthorpe & Fulton, 2001, p. 110). Laguna West was the first project in which the TOD model was proposed. Although the original plans remain influential, the transit stations

were never built, the pedestrian-oriented retail failed, there is not as broad an array of housing types as planned and the majority of homes were built with conventional front-loaded garages. It proved that New Urbanists still had a lot to learn about seeing their plans successfully implemented—and in terms of making retail successful.



Figure 30 Laguna West, California (Sources: Bing Map)

These early efforts at realizing diverse “new urban” ideas established a foundation for the New Urbanism movement. Since the formation of the CNU and the announcement of the Charter, the movement has grown rapidly. In 2008, more than 511 New Urbanism projects had been built or were currently under construction in the United States (Figure 31) (Steuteville, 2008). Of these, the CNU selected exemplary projects and designated them as CNU Charter Awards projects (147 projects were awarded until

2009).²² Three recipients of this honor are located in Georgia: the neighborhood developments of Glenwood Park (2003) and Woodstock Downtown (2008), and Beall’s Hill Urban Design and Architectural Guidelines (2005) (Figure 32).

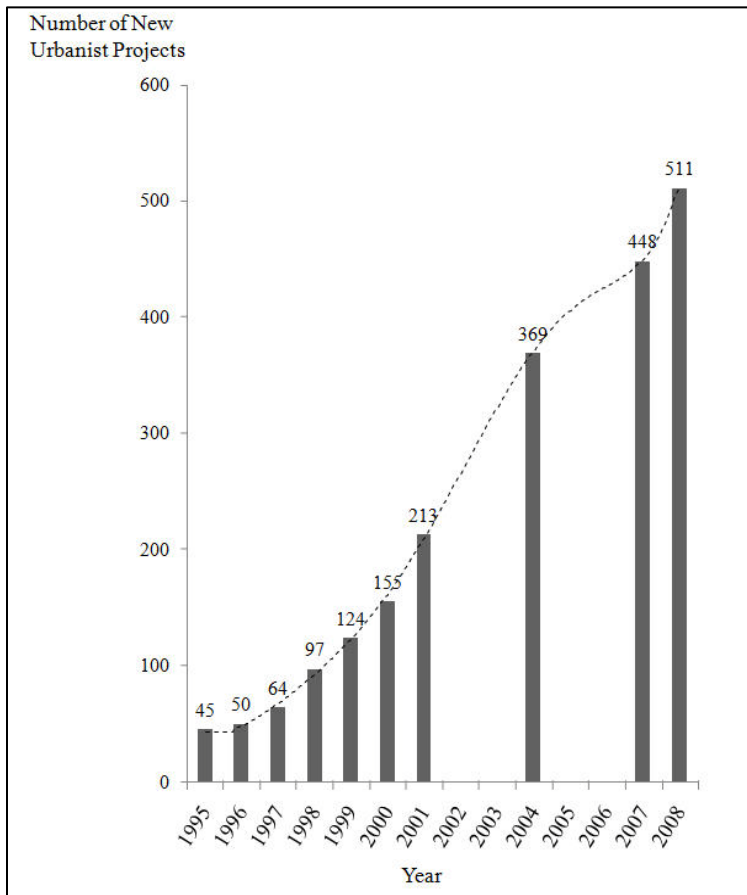


Figure 31 New Urbanism Projects Completed or Under Construction in the U.S.²³

²² “Each year, CNU's Charter Awards recognize projects across the world that best embody and advance the principles of the Charter of the New Urbanism. As selected by a jury of leading New Urbanists, honorees set the gold standard for urban design and development and serve as powerful examples for future development” (<http://www.cnu.org/awards>).

²³ Sources: New Urban News ("New urbanist project construction starts soar," 2001; Steuteville, 2004a, 2007, 2008). The data for the years of 2002, 2003, 2005 and 2006 could not be collected because the New Urban News has not kept the data for these years. However, the already collected data show the rapid growth of New Urbanist projects clearly. Projects that are smaller than 15 acres are not included in these data.



Figure 32 2003 CNU Charter Awards Project: Glenwood Park, Georgia (Source: The Green Street Properties)

5.2.3. Criticism of New Urbanism and Adaptations

Although New Urbanism has gained in popularity since its inception, it has also been criticized for various reasons, including its conflicts with regulations, issues of regional impacts, affordability, limitations of physical planning, development “project” focus, lack of flexibility, and limitations of applicability to developed towns and cities (Alberti, 1996; Bohl, 2000, 2003; Dobbins, 2009; Ford, 1999; Fulton, 1996; Talen, 2008). With regard to regulations, critics have argued that New Urbanism has not been able to adequately overcome existing regulatory and administrative obstacles (Fulton, 1996). Critics also expressed concern about its lack of regional concerns, stating that “Failure to base the New Urbanism in regional and environmental thinking could result in hundreds of... Seaside look-alikes springing up across the American landscape wherever large

landowner and developers happen to own a suitable piece of land” (Fulton, 1996, p. 22); and impacts of higher density entitlements on land speculation and infrastructure demands on less developed jurisdictions (Dobbins, 2009). Another group of important critics of New Urbanism point to its lack of affordability, asserting that the “problem with Seaside is that it became so popular it was effectively gentrified even as it was being built” (Bohl, 2003, p. 218). Bohl comprehensively pointed out the limitations of New Urbanism as a physical urban design model at solving social problems, saying:

“New Urbanism should not be viewed as the magic wand for reversing the larger forces ... It cannot defy the dynamics of real estate markets nor ensure that affordable housing units will be provided without public sector involvement ... It will not provide job training or start-up capital ... A walkable neighborhood will not provide day care and affordable health care for impoverished families ... New Urbanism is subject to the limitations of place-based initiatives which do a poor job of addressing problems that originate outside the local community, such as racism; inequality; spatial mismatches ... New Urbanism is not immune to the adversity and distrust experienced in participatory forums, particularly those involving disadvantaged populations ... The potential for design to encourage and support social and civic interaction should not be confused with causing neighboring and civic engagement” (Bohl, 2000, pp. 791-793).

Similarly, Talen criticized its limitation as a physical approach to accommodating the issue of social equity (Talen, 2008). It was also the target of criticism that it was “frozen in time” (lack of flexibility), it exhibited unauthentic and inappropriate architecture and layout, it was disconnected from existing urban fabric, it left open the

possibility of the further segregation of the urban population, and it represented a form of architectural determinism (Ford, 1999). Dobbins noted that its development “project” origins and orientation impose problems with its necessarily incremental implementation in already developed towns and cities (Dobbins, 2009).

Many of these concerns with New Urbanism remain valid. However, one should not form any hasty conclusions about it yet, for the movement is still ongoing: Both evolution and divergence of New Urbanism are actively occurring in practice “in real-time.” That is, New Urbanists have been facilitating the evolution of the movement by responding to the criticisms while eclectic followers have fostered the divergence of New Urbanism principles.

Examples of the evolution include the “Smart-Code” in response to regulatory obstacles and “Transect Planning” in response to the lack of regional differentiation. Led by Duany, New Urbanists developed the Smart-Code, a new form-based coding system reflecting New Urbanism principles as an alternative to existing use-based code regulations. It is a standardized template that can be calibrated according to the needs and conditions of local municipalities (Duany Plater-Zyberk & Company, 2008). They also developed Transect Planning, which classifies appropriate form-based code zones along the rural-to-urban “transect,” from an urban core (T6) to a rural hamlet (T1) and suggests proper design standards (including density, street types, housing types, and land uses) according to the classifications (Figure 33) (Duany & Talen, 2002).

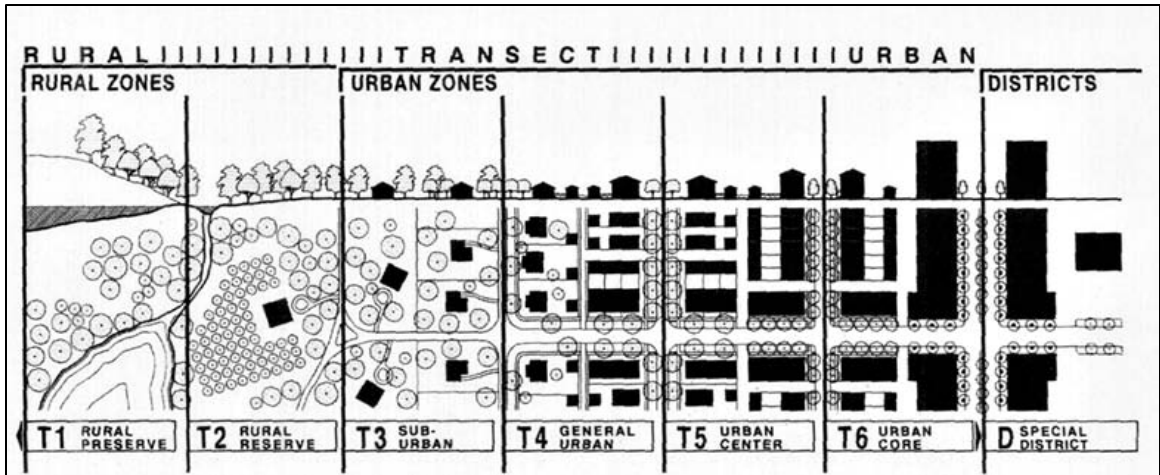


Figure 33 Transect Planning (Duany & Talen, 2002)

The divergence of the New Urbanism model by eclectic followers has also been frequently observed in practice. In Atlanta, for example, Glenwood Green was developed as a compact residential development with some front porches, but it is a gated community without any connection to its surroundings (Figure 34). Perimeter Place is a compact, mixed-use development with slightly pedestrian-friendly commercial streets (with sidewalks, store fronts, and some trees), but its stores and residential buildings face huge parking lots (Figure 35).



Figure 34 Adaptation of New Urbanism: Glenwood Green, Georgia



Figure 35 Adaptations of New Urbanism: Perimeter Place, Georgia

5.3. Urban Design Model for Case Study: Neighborhood Scale New Urbanism

Principles

The most representative “model” of the New Urbanism movement may be the Charter of the New Urbanism itself, ratified by members of the Congress for the New Urbanism in 1996. The Charter is composed of 27 principles classified into three distinct categories according to the scale of the applied objects: the region—a metropolis, a city, or a town; a neighborhood, a district, or a corridor; and a block, a street, or a building. Nine principles are presented as a set for each category (Appendix B.2.).

In the case study, among the three distinct scales of the Charter of the New Urbanism, the set of nine neighborhood scale principles, in particular, are analyzed as an urban design model because a neighborhood, with its degree of variation, may be a more identifiable unit of analysis than a region or a building. Moreover, New Urbanism has originated from neighborhood models such the TND and the TOD models.

Second, the principle statements in the charter are mixed with their strategies and goals. For example, the principle statement that “Many activities of daily living should occur within walking distance, allowing independence to those who do not drive, especially the elderly and the young” includes the strategy of providing diverse uses for daily life within walking distance and the goal of improving the mobility of disadvantaged people such as the elderly and the young (Figure 36). For the analysis, the strategies are separated from the goals because the study pertains more to the implementation of strategies than to the accomplishment of the goals.

In addition, some design strategies are repeated in the nine principle statements. For example, the second principle statement that “Neighborhoods should be compact,

pedestrian-friendly, and mixed use ...”, the third principle statement that “Many activities of daily living should occur within walking distance, allowing independence to those who do not drive, especially the elderly and the young ...”, and the seventh principle statement that “Concentrations of civic, institutional, and commercial activity should be embedded in neighborhoods and districts, not isolated in remote, single-use complexes ...” include the design strategy of mixed uses within walking distance. The second principle statement that “Neighborhoods should be compact, pedestrian-friendly, and mixed use ...” and the sixth principle statement that “Appropriate building densities and land uses should be found within walking distance of transit stops ...” include the design strategy of compact development. Such repeated strategies are combined for this analysis: that is, the creation of an identifiable neighborhood; compact development; pedestrian-friendly street design; mixed uses within walking distance; interconnected street networks; a broad range of housing types; a broad range of housing prices; access to the transit system; schools within walking distance; maintenance of community quality through graphic urban design codes; and diverse types of neighborhood parks (Figure 36).

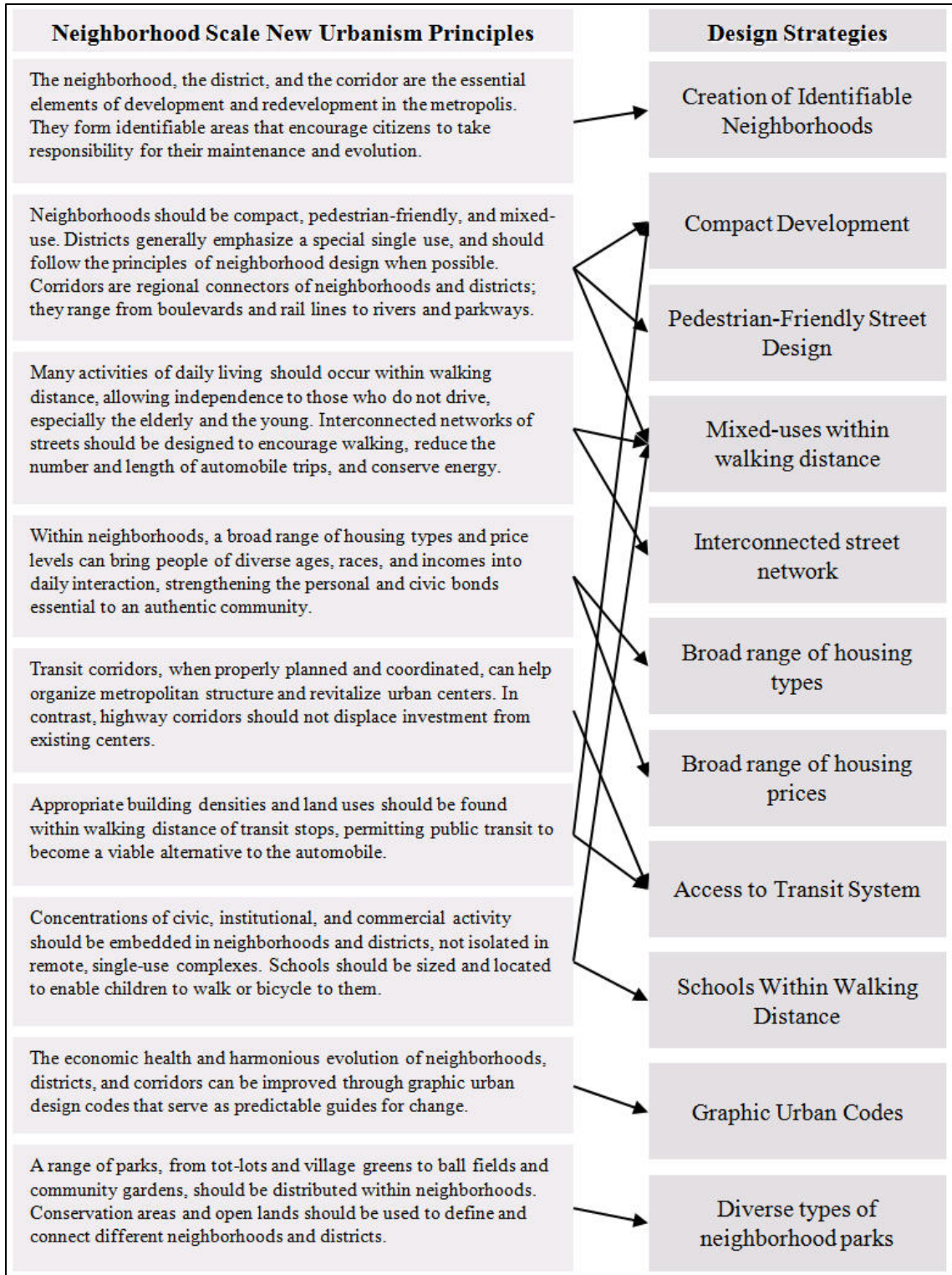


Figure 36 Model: New Urbanism Principles for Neighborhood Development

5.4. Case Selection: Matched Prototype-Adaptation Pair Cases

Basically, the case study compares prototypes and adaptations to assess the degree of adoption of the New Urbanism design principles. For such a comparative analysis between prototypes and adaptations, multiple, matched prototype-adaptation pair cases are selected to strengthen the arguments and findings of the study (Cervero & Gorham, 1995; Yin, 2009). The rationale for multiple cases is replication logic used in experimental research, not sampling logic used in statistical research (Yin, 2009). That is, as findings from an experiment are strengthened when they are replicated by additional experiments, findings from a single case may be strengthened when the findings are replicated in other cases. Prototype-adaptation pairs that are matched according to project types, sizes, and locations reduce the influences of other factors on the case study analysis. By comparing a prototype and an adaptation with similar characteristics except for the types of actors (whether they are developed by enthusiastic proponents or by eclectic followers), the case study is able to focus on the core argument of the study: the relationship between actors' perception and implementation of New Urbanism principles.

The matched prototype-adaptation pairs selected for the case study consisted of six prototypes and six adaptations in the Atlanta area. Because cases must be chosen from projects already built in the real world, the selection of cases for the case study inevitably required a certain degree of discretion and judgment, and unlike an ideal experiment in a laboratory, all environmental conditions could not be controlled (Amaratunga & Baldry, 2001). Moreover, selection of matched prototype-adaptation pairs proved to be one of the trickiest parts in this case study because by definition (Section 2.2.2), prototypes of a model are the projects developed by enthusiastic

proponents of the model and adaptations of the model are the projects developed by eclectic followers; however, only after we selected the cases and collected and analyzed the data were we able to determine whether those who developed each project were enthusiastic proponents or eclectic followers.

To overcome these problems, case selection in this case study was conducted through the following three steps that included a type of filtering processes. The first step involved the preliminary selection of candidates for prototype and adaptation cases from a New Urbanism project list published by New Urbanists (Table 1). In the next step, the candidates were preliminarily matched as prototype-adaptation pairs according to their project types, sizes, and locations. The preliminary classification of the candidates into prototypes and adaptations primarily reflected the opinions of local experts (planners) who were well informed about development projects in the Atlanta area.²⁴ During this process, five more projects were added to the list of candidates based on the opinions of these local experts. Finally, based on the degree of involvement of the key decision-makers of each project in the New Urbanism movement, the six matched prototype-adaptation pairs were finalized. Information about the degree of involvement of the key decision-makers in the New Urbanism movement was collected during interviews with the key participants on each project. The following sections present more details about the case selection process.

²⁴ Local experts who helped the case selection process include Michael Elliott, Michael Dobbins, and Ellen Dunham-Jones. In addition, practitioners interviewed during the case study provided information about other local projects for the case selection.

5.4.1.Preliminary Selection of Candidates for Prototypes and Adaptations

First, candidates for the prototype and adaptation cases were selected from the *Directory of the New Urbanism*, an annual publication of *New Urban News*, one of the major periodicals of New Urbanists. The 2008 directory includes eleven New Urbanism projects in the Metro Atlanta area (Table 1).²⁵ Although all of these projects are listed as New Urbanism projects, they vary in their degrees of implementation of New Urbanism principles. Different characteristics of stakeholders, times, and locations may influence such variance in implementation of the model. For example, in Atlantic Station (1999 ~ present) a regional scale project in which not only New Urbanists but also numerous other groups of stakeholders participated, the implementation of New Urbanism principles was limited. Post Riverside (1996 ~ 1998), the first private New Urbanism development in the Metro Atlanta area, was the first to show the potential of a public square, small shops that served its residents, and a pedestrian-friendly streetscape, but implementation of the principles was limited, partially because of the low level of public acceptance of New Urbanism at the time and partially because of its unique topography that isolates the site from its surroundings with steep slopes. A later project, Glenwood Park (2003~present), went a little bit further by including more comprehensive design features such as an inter-connected street network, narrow streets, and mixed housing types. Another project, Serenbe (2003~present), attempted to integrate more environmentally sound features and tested a new location in a rural area.

²⁵The area refers to the 18-County Metropolitan Planning Organization boundary, the largest among the administrative boundaries that represent the Metro Atlanta region. This boundary is used because it provides the largest pool of candidates from which the prototype and adaptation cases for the study can be selected.

Table 1 New Urbanist Projects in the Metro Atlanta Area (Steuteville, 2008)

Projects	Project Characteristics	Area (acres)	Location
Atlantic Station, Atlanta, Georgia	Urban infill, brownfield	138	Urban
Capitol Gateway, Atlanta, Georgia	Public housing (HOPEVI)	34	Urban
Clark's Grove, Covington, Georgia	Urban infill, historic area	68	Urban
Glenwood Park, Atlanta, Georgia	Urban infill, brownfield, CNU Charter Awards winner (2003)	28	Urban
Inman Park Village, Atlanta, Georgia	Urban infill, historic area	21	Urban
Lindbergh City Center, Atlanta, Georgia	Urban infill, TOD, business district	48	Urban
Post Riverside, Atlanta, Georgia	Green field	80	Urban
Serenbe, Chattahoochee Hills Country, Georgia	2ne home community, greenfield	900	Rural
Smyrna Town Center, Smyrna, Georgia	Town center	29	Suburban
Vickery, Forsyth County, Georgia	Green field	214	Exurban
Woodstock Downtown, Woodstock, Georgia	Town center, CNU Charter Awards winner (2008)	37	Suburban

5.4.2. Preliminary Prototype-Adaptation Pair Matching

This preliminary prototype-adaptation pair matching aimed not to be perfect but to be the best in the given conditions because it did not involve an ideal laboratory experiment, as discussed previously. To achieved such a purpose, the study set up the following primary criteria for the pair matching: 1) A prototype and an adaptation in a matched pair should be developed by different groups of actors (that is, enthusiastic proponents and eclectic followers of New Urbanism); 2) a prototype and an adaptation in a matched pair should be similar in project type, scale, and location; and 3) the matched pairs should be selected evenly from diverse locations (from urban centers to rural

hamlets) to test the MPA framework in diverse contexts. The matching process took all these criteria into consideration together, not separately.

In this preliminary matching process, the study relied on the local experts²⁶, who had established a close interpersonal network with architects, planners, and developers in Georgia and therefore, possessed a more thorough knowledge of the major development projects in the area and the participants in the projects. In particular, among the local experts, Ellen Dunham-Jones is a board member of the CNU, who provided more accurate information about New Urbanists and New Urbanism projects in the Metro Atlanta area. Through several discussions about the pair matching, these local experts reviewed the projects on the Directory of New Urbanism (Table 1), shared the information about the characteristics of the projects and the key actors in the projects, and lent their opinions about the classification of prototypes and adaptations.

As the first step of preliminary matching, the projects were classified as prototypes and adaptations according to the first criterion: whether enthusiastic proponents or eclectic followers of New Urbanism developed the project. The local experts considered that the key decision-makers of Clark's Grove, Glenwood Park, Post Riverside, Serenbe, Smyrna Town Center and Vickery were enthusiastic proponents who are actively participating in the New Urbanism movements and that those of the rest of the developments were not. Therefore, the former projects were preliminarily classified as prototypes and the rest as adaptations (Table 2).

²⁶ Like the preliminary case selection, Michael Elliott, Michael Dobbins, and Ellen Dunham-Jones helped the preliminary matching process, too.

Table 2 Preliminary Classification of the Candidates from 2008 Directory of New Urbanism

Prototypes	Adaptations
<ul style="list-style-type: none"> • Clark’s Grove (Urban Infill / Historic Area) • Glenwood Park (Urban Infill / Brownfield) • Post Riverside (Urban Infill) • Serenbe (Rural Hamlet) • Smyrna Town Center (Town Center / Main Street) • Woodstock Downtown (Town Center) • Vickery (Greenfield) 	<ul style="list-style-type: none"> • Atlantic Station (Large Scale / Brownfield) • Capitol Gateway (HOPE VI) • Inman Park Village (Urban Infill / Historic Area) • Lindberg City Center (TOD)

However, except for Clark’s Grove and Inman Park Village, both of which are similar urban infill residential developments in historic areas, the classified prototypes and adaptations were not well matched in their locations and project characteristics. Therefore, as a second step, the local experts suggested five more adaptation candidates that were not included on the New Urbanist list but that were considered to incorporate some New Urbanism principles and therefore to be relevant to the study. The five suggested adaptation candidates were matched with specific prototype candidates on the New Urbanist list according to their locations and project characteristics. Glenwood Green is located across Glenwood Avenue Southeast from Glenwood Park, and both are urban infill/brownfield developments. The Suwanee Town Center and Woodstock Downtown are located in suburban areas and were developed as town centers for local communities. Perimeter Place and the Smyrna Town Center are located in suburban

areas and include a main street as a key element of their site plans. Tributary and Vickery are located in exurban areas, and both are greenfield developments. Gorham’s Bluff and Serenbe are located in rural hamlet areas and were developed as second-home communities (Table 3).

Table 3 Additional Candidates for Adaptations Suggested By Local Experts

Projects	Project Characteristics	Area (acres)	Location	Matched Prototypes
Glenwood Green, Atlanta, Georgia	Urban infill, brownfield	11	Urban	Glenwood Park
Suwanee Town Center, Suwanee, Georgia	Town center	63	Suburban	Woodstock Downtown
Perimeter Place, Atlanta, Georgia	Commercial center, main street	42	Suburban	Smyrna Town Center
Tributary, Douglasville, Georgia	Green field	1,475	Exurban	Vickery
Gorham’s Bluff, Pisgah, Alabama	2 nd home community, greenfield	186	Rural	Serenbe

In this process, Atlantic Station, Capitol Gateway, Lindbergh Center, and Post Riverside were not matched for the following reasons. Atlantic Station was not matched mainly due to its development scale, a large, mixed-use development that includes about 5,000 residential units, 2,000,000 square feet of retail space (including a movie theatre), and 6,000,000 square feet of office space. The Metro Atlanta area has no other similar-scale project that incorporates New Urbanism design principles. Capitol Gateway was not included due to its project type, which is distinct from that of the other cases. Capitol

Gateway is a HOPE VI project²⁷ that includes 913 multi-family housing units. Although New Urbanists have been deeply involved in the HOPE VI program (Elliott, et al., 2004), these public housing projects differ from most of the other cases, which were neighborhood projects established by private developers or through public-private partnerships, whose process of decision making and goals differed from those of the HOPE VI developers. Therefore, future study might focus solely on HOPE VI projects. Like the case of Capitol Gateway, the Lindberg City Center was not matched due to its project type being distinct from the others. This project was a full-scale Transit Oriented Development (TOD). The Metro Atlanta area has no other similar-scale TOD project. Post Riverside was not matched because it was developed much earlier than the other cases and it is topographically unique. Its steep slope and roadway access isolates the site from the surrounding areas. Due to these temporal and location contexts that differ from those of other cases, it was difficult to match.

The process of preliminary matching generated the following six prototype-adaptation pairs (Table 4). The first prototype-adaptation pair, Glenwood Park (prototype) and Glenwood Green (adaptation), consists of urban infill and brownfield neighborhood developments. These developments are next to each other on Glenwood Avenue S.E. Such spatial proximity provides an ideal environment for a prototype-adaptation comparison. Clark's Grove (prototypes) and Inman Park Village (adaptation),

²⁷HOPE VI is a U.S. Department of Housing and Urban Development (HUD) redevelopment program the purpose of which is to revitalize severely distressed public housing. The program includes "physical improvement, management improvement, and social and community services" (Source: HUD web site, visited on July 3, 2010 (<http://www.hud.gov/offices/pih/programs/ph/hope6/>)). New Urbanists were involved in the development of formal design guidelines for HOPE VI projects (Elliott, Gotham, & Milligan, 2004).

the second pair, are urban infill neighborhood developments in historic areas. Clark's Grove is located a half mile away from the historic Covington downtown, and Inman Park Village is located in the historic Inman Park neighborhood. Woodstock Downtown (prototype) and the Suwanee Town Center (adaptation), the third pair, are suburban town center projects developed through public-private partnership. The fourth matched pair is the Smyrna Town Center (prototype) and Perimeter Place (adaptation). These projects are similar in scale and location but distinct in project type. The former is a town center development while the latter is a commercial center development. However, these two projects were matched because both included a main street as a key element in their plans. Therefore, the comparison of this pair focused on their different approaches to the main street design. The fifth pair, Vickery (prototype) and Tributary (adaptation), consists of exurban greenfield neighborhood developments. Serenbe (prototype) and Gorham's Bluff (adaptation), the sixth matched pair, are second-home communities developed in rural areas. Because New Urbanism developments in rural areas such as Serenbe are not common, the development of an adaptation, Gorham's Bluff, was located farther away, in Alabama but still draws principally on Atlanta for its residents. The developer is also based in Atlanta. As shown in Table 4, these preliminary matched prototype-adaptation pairs are located in diverse spatial contexts, and within the Metro Atlanta area (with the exception of the pair that includes Gorham's Bluff), satisfying the third criterion for the prototype-adaptation pair matching (see p 98).

Table 4 Preliminary Matched Prototype-Adaptation Pairs

	Prototype	Adaptation
Urban Infill/Brownfield	Glenwood Park, Atlanta, Georgia	Glenwood Green, Atlanta, Georgia
Urban Infill/Historic area	Clark's Grove, Covington, Georgia	Inman Park Village, Atlanta, Georgia
Suburban/Town center	Woodstock Downtown, Woodstock, Georgia	Suwanee Town Center, Suwanee, Georgia
Suburban/Main street	Smyrna Town Center, Smyrna, Georgia	Perimeter Place, Dunwoody, Georgia
Exurban/Greenfield	Vickery, Forsyth County, Georgia	Tributary, Douglasville, Georgia
Rural Hamlet/2 nd home community	Serenbe, Chattahoochee Hill Country, Georgia	Gorham's Bluff, Pisgah, Alabama

5.4.3. Finalization of Prototype-Adaptation Pairs

The preliminary prototype-adaptation pair matching conducted in the previous section, particularly the classification of prototypes and adaptations, inevitably relied on the discretion and judgment of both the author and local experts. Therefore, the prototype-adaptation pairs need to be confirmed through the examination of the real actors of each project. However, such confirmation was possible only after collection of the data, particularly those from interviews with the key actors of each project, was completed because the basis to differentiate prototypes from adaptations whether the key actors (particularly key decision-makers) of the projects are enthusiastic proponents or eclectic followers. During the interviews, I questioned the key actors in each project about their involvement in the New Urbanism movement to decide whether they are enthusiastic proponents or eclectic followers by inquiring about which of the following activities related to the New Urbanism movement they participated in (Appendix A.2):

1. Attending local conferences lectures, or workshops on the local level
2. Reading articles and books about New Urbanism regularly
3. Subscribing to CNU membership
4. Attending New Urbanism conferences, lectures, or workshops on the national level
5. Visiting other New Urbanism projects
6. Participating in New Urbanism projects
7. Joining a local chapter of the CNU
8. Giving presentations, or lectures on New Urbanism
9. Writing articles or books that promote New Urbanism

In addition to these questions, the author questioned them about their self-identification as proponents of New Urbanism by asking them the questions “Do you think you’re a New Urbanism proponent?” and “To what extent do you agree with the whole New Urbanism scheme in general? Are there any specific principles with which you do not agree?”

Based on the responses to these questions, Serenbe, which was initially designated a prototype, was reclassified as an adaptation, and Gorham’s Bluff, which was initially designated an adaptation, was reclassified as a prototype because the key actors of Serenbe showed a much lower level of participation in the New Urbanism movement than those of Gorham’s Bluff (Table 5).

Table 5 Finalized Six Prototype-Adaptation Pairs for the Case Study

Location	Prototype	Adaptation
Urban Infill/Brownfield	Glenwood Park, Atlanta, Georgia	Glenwood Green, Atlanta, Georgia
Urban Infill/Historic area	Clark's Grove, Covington, Georgia	Inman Park Village, Atlanta, Georgia
Suburban/Town center	Woodstock Downtown, Woodstock, Georgia	Suwanee Town Center, Suwanee, Georgia
Suburban/Main street	Smyrna Town Center, Smyrna, Georgia	Perimeter Place, Dunwoody, Georgia
Exurban/Greenfield	Vickery, Forsyth County, Georgia	Tributary, Douglasville, Georgia
Rural Hamlet/2 nd home community	Gorham's Bluff, Pisgah, Alabama	Serenbe, Chattahoochee Hill Country, Georgia

5.5. Research Questions, Propositions and Hypotheses

5.5.1. Research Questions

As described at the beginning of this chapter, the main objectives of the case study are to test the theoretical MPA framework with real world cases, to demonstrate how the MPA framework can be used to explain the transition of an urban design model, particularly the divergence of the New Urbanism model, and to build a more complete explanation of how the divergence of the model occurred and why it occurred, the ultimate research questions that this case study addresses.

In the MPA framework, the distinction of prototypes and adaptations is made according to who design and developed the projects and observations of the divergence of an urban design model are made through a comparison of prototypes and adaptations in their degrees of the implementation of its design principles. In addition, based on diffusion theories, the MPA framework suggests that actors' (those who plan, design, and develop the projects) perception and assessment of each design principle are key factors

that influence their implementation of the principle, and that the types of the actors (whether they are enthusiastic proponents or eclectic followers) and the attributes of the principles (such as social and economic relative advantages, compatibility, complexity, trialability and observability)²⁸ are assumed to simultaneously influence the perception and assessment of the principles.

Overall, the MPA framework suggests the following hypothesis about the divergence of an urban design model: that the difference between enthusiastic proponents and eclectic followers of an urban design model in their perception of the design principles of the model influences the difference in the degree to which each implements the design principles in practice and thus the extent of the divergence of the model. From this hypothesis, this dissertation has formulated the following three research sub-questions for the case study:

- **Question 1:** How is each New Urbanism design principle perceived and assessed by enthusiastic proponents and eclectic followers of the New Urbanism model?
- **Question 2:** Which design principles of the New Urbanism model are implemented in prototypes developed by enthusiastic proponents of the model and in adaptations developed by eclectic followers of the model? Do the prototypes and adaptations exhibit consistent differences in their adoption of the design principles?
- **Question 3:** Are the perceptions of the design principles of the New Urbanism model of enthusiastic proponents that differ from those of eclectic followers associated with

²⁸These attributes of a design principle (an innovation) were explained in Section 4.2.2. and Section 4.3.1.

their different approaches to implementing the design principles in prototypes and adaptations, respectively?

The case study of the New Urbanism model in this dissertation addresses these three questions to test the MPA framework.

5.5.2. Propositions

To develop the hypotheses for the actors' perception and implementation of each New Urbanism principle, this case study suggests the following basic propositions, which derive mostly from the diffusion theories that we discussed (Chapter 4). The propositions all relate to how both the characteristics of actors and the attributes of the principles simultaneously influence the degree of adoption or adaptation.

- **Proposition 1:** Enthusiastic proponents (i.e., innovators and early adopters) and eclectic followers (i.e., early majority, late majority and laggards) differ in their motivation, knowledge, and innovativeness related to the design principles of an urban design model.

1-1: Enthusiastic proponents are more socially motivated than eclectic followers.

Therefore, social goals, such as community, common goods, and social equity, are more important to enthusiastic proponents when they judge the relative advantages of each principle than they are to eclectic followers.

1-2: Enthusiastic proponents have a more thorough understanding of each principle and more opportunities to observe its implementation than eclectic followers because the former have better communication channels through their organizations (e.g., CNU) than the latter.

1-3: Enthusiastic proponents are more adventuresome and therefore, more willing to adopt new ideas than eclectic followers.

- **Proposition 2:** The perceived attributes of each design principle (innovation) influence its degree of implementation.

2-1: Principles with greater social relative advantages are more likely to be adopted.

2-2: Principles with greater economic relative advantages are more likely to be adopted.

2-3: Complex principles that are difficult to implement are less likely to be adopted.

2-4: Principles that are more compatible with existing practice (or more familiar to the public) are more likely to be adopted.

2-5: Principles that are more easily observable are more likely to be adopted.

2-6: Principles that are more trialable (partially applicable) are more likely to be adopted.

5.5.3.Hypotheses

Based on the propositions suggested above, enthusiastic proponents and eclectic followers' perception and implementation of the principles in prototypes and in adaptations, respectively, are hypothesized. These hypotheses are tested through this case study and will become the bases on which the case study will build a stronger explanation for the divergence of an urban design model and improve the MPA framework.

- **Hypothesis 1:** Enthusiastic proponents of the New Urbanism model perceive and assess all New Urbanism design principles more positively than eclectic followers.

1-1: Enthusiastic proponents agree more strongly that the adoption of each New Urbanism principle would improve the quality of the community than eclectic followers (social relative advantage).

1-2: Enthusiastic proponents agree more strongly that the adoption of each New Urbanism principle would improve the project's property value and market appeal than eclectic followers (economic relative advantage).

1-3: Enthusiastic proponents agree more strongly that each New Urbanism principle is compatible with the conventional neighborhood development practices in the United States than eclectic followers (compatibility).

1-4: Enthusiastic proponents agree more strongly that each New Urbanism principle is simple to understand and use than eclectic followers (complexity).

1-5: Enthusiastic proponents agree more strongly that each New Urbanism principle would bring desirable results even if implemented partially than eclectic followers (trialability).

1-6: Enthusiastic proponents are familiar with more projects that incorporate each New Urbanism principle than eclectic followers (observability).

- **Hypothesis 2:** All New Urbanism design principles are implemented more often and more thoroughly in prototypes than they are in adaptations.
- **Hypothesis 3:** New Urbanism design principles whose six attributes (social or economic relative advantages, compatibility, complexity, trialability, and observability) are perceived more positively by actors are implemented more thoroughly by the actors than New Urbanism principles whose attributes are perceived less positively by actors.

The following diagram (Figure 37) illustrates a simplified version of the hypotheses suggested above, particularly those about the actors' perceptions of urban design principles of the New Urbanism model. The diagram may be over-simplified. For instance, actors' perceptions are continuous rather than dichotomous, and a principle may be perceived differently according to the attributes (i.e., social and economic relative advantages). However, the diagram still illustrates the most important aspects of the proposed hypotheses: 1) enthusiastic proponents' more positive attitude toward New Urbanism principles than eclectic followers' attitude; and 2) the differences of New Urbanism design principles in actors' perceptions and evaluation.

The diagram shows that some of the principles (e.g., Principles 1 and 2) are perceived positively by more actors than other principles (e.g., Principles 5 and 6), and enthusiastic proponents perceive more principles (Principles 1~4) positively than eclectic followers (Principles 1~2)—Prediction 1; thus, *if only the principles perceived positively are implemented by actors*, prototypes developed by enthusiastic proponents will incorporate more principles (Principles 1~4) than adaptations developed by eclectic followers (Principles 1 and 2)—Prediction 2; and the principles perceived positively by more actors (Principles 1 and 2) will be implemented more often than others (Principles 3~6)—Prediction 3. In the above illustration, the italicized clause, “*if only the principles perceived positively are implemented by actors*,” is an exaggerated assumption for this simplified illustration. Instead of this exaggerated assumption, in the case study, a more realistic assumption, that is, “*if actors' perceptions of a principle are a determinant factor influencing its implementation*,” was used as a basic explanation for the pattern matching process.

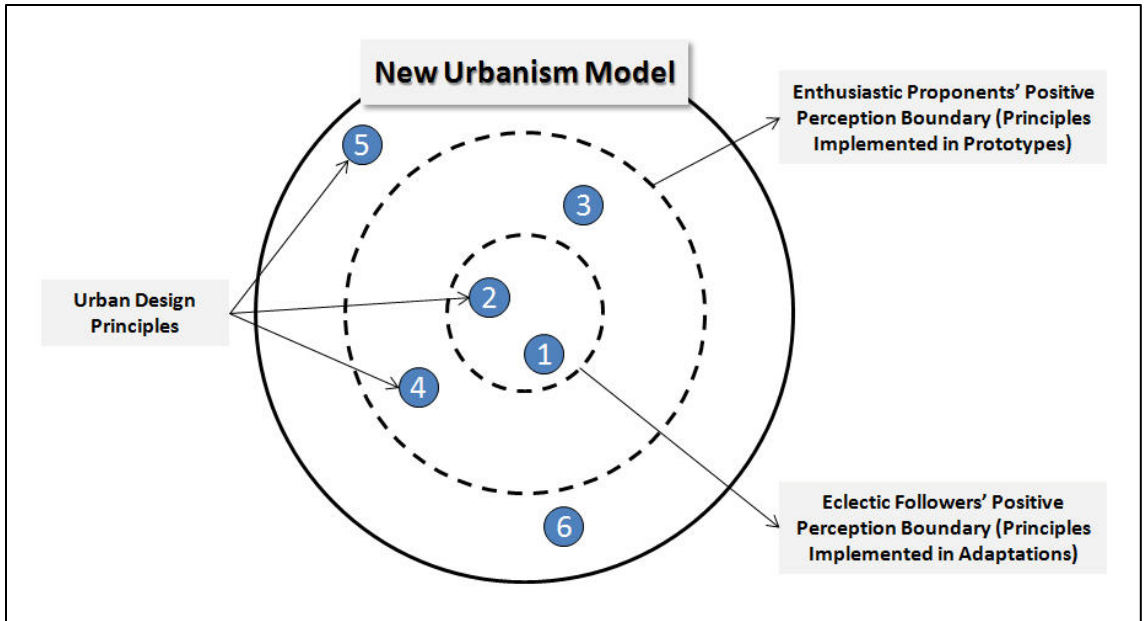


Figure 37 Proponents' More Positive Perception of the Attributes of New Urbanism Principles than Followers'; and Differences of New Urbanism Principles in Actors' Perception

5.6. Data Collection

Most of the data for the case study pertained to the degree of implementation of New Urbanism principles in each project and the factors influencing such implementation, such as the characteristics of the actors, their perception of the principles, and their channels of communication. The following sections describe in detail the data collection processes for information about implementation and those about influencing factors. In both cases, the data were collected from multiple data sources, which enhanced the construct validity through triangulation (Yin, 2009).

5.6.1. Data Collection about the Implementation of New Urbanism Principles:
Planning Documents and Site Observations

- *Data Sources*

Data pertaining to the implementation of New Urbanism principles in each project were collected mainly from planning documents and site observations. Planning documents are “stable—can be reviewed repeatedly,” “unobtrusive—not created as a result of the case study,” “exact—contain exact names, references, and details of an event,” but may be biased by authors or difficult to find. Site observations “cover events in real time” (for example, in this case study, the site observation could provide information about the current status of each case) and “cover the context of a ‘case’ (Yin, 2009, p. 102). Containing strengths and weaknesses, these two data sources may supplement each other.

The planning documents, which included site plans, zoning maps, and architectural and urban design standards of each project, were collected mainly from the key actors of each project and related websites. The site observations of case projects focused on their physical design features and supplemented information from the planning documents with more detailed and up- to-date information. During the site observations, important design features such as architectural styles were photographed for further analysis. All cases were visited for observation one or more times during the research period.

- *Detailed Information Criteria for Each Principle Implementation*

An investigation of the degree of implementation of New Urbanism principles focused on the eleven strategic design principles extracted from the statements in the Charter of the New Urbanism combined with strategies and goals (see Figure 36, p. 94). Detailed information for such investigations was collected according to the criteria developed for the eleven strategic design principles (see Table 6). These criteria were developed based on statements in the charter. However, the charter describes the design strategies with many abstract concepts such as compactness and pedestrian-friendliness. Thus, the criteria have been refined based on an examination of supplemental essays in the Charter of the New Urbanism (Leccese & McCormick, 2000), written by leading New Urbanists.

For the principle of creating an identifiable neighborhood, Christopher Alexander's seven criteria were used (Alexander, Ishikawa, & Silverstein, 1977): small population (500 households),²⁹ small area, no major road passing through, main gateways, neighborhood boundary, visible center (a green or a square), and house cluster. Alexander suggested these criteria, based on empirical studies in anthropological literature, to create "an identifiable spatial unit to belong to" (ibid., p. 81).

For the principle of compact development, the following two indicators were used:

1) housing density (number of the housing units per acre), especially relative housing

²⁹Christopher Alexander suggests that based on empirical studies in anthropological literature, 500 people (and not above 1,500) is an appropriate number of members of a neighborhood that could come to agreement on decisions about communal interests (Alexander, et al., 1977). However, this criterion is too idealistic in current development practices, particularly in urban areas. Therefore, assuming that a household represents a basic unit with members who have the same interests, the study loosed this criterion to 500 households, not individuals, for the creation of an identifiable neighborhood.

density (in comparison with housing density in surrounding areas); and 2) lot sizes of single family dwellings.; The lot sizes of single-family dwellings are a micro indicator of the compactness of residential areas while housing density shows the intensity of the overall development of a project. In each case, these two indicators should supplement each other for a more precise observation of compactness. For example, information about only housing density cannot distinguish between a project that is designed with small lots and large park areas from a project that has large lots with small park areas, and information about only lot sizes cannot determine the overall development intensity of a project.

For the principle of pedestrian-friendly street design, two types of street design elements for pedestrians—basic and advanced—were used. Basic design elements for pedestrians include sidewalks, on-street parking, street trees, and street lights, which can be implemented individually without a large-scale plan (e.g., site plans). Advanced design elements for pedestrians include narrower streets, interconnected streets, street-alley system, and hidden parking lots, which require entire site-level consideration.

For the principle of interconnected street design, internal and external connectivity were investigated. The internal connectivity of each project is measured by the number of intersections within a given area (e.g., 0.25x0.25 miles) and for the evaluation of the connectivity of the project with surrounding areas, the external connectivity is measured by the number of entrances per acre

For the principle of mixed uses within walking distance, the following two indicators were used: 1) the proportion of housing units located within one-fourth mile from the service center of each project; and 2) the sizes of the services provided. The

purpose of the former is to determine the extent to which the services provided in each project are accessible to the residents by walking or biking and that of the latter is to determine whether the services can sufficiently support everyday activities.

For the principles of a broad range of housing types and housing prices, the compositions of housing types and housing price ranges are compared at the same time because housing prices are closely related to housing types and sizes. People with different needs and budgets typically seek different housing types. For example, a family with children may desire a single-family home with a back yard; in this case, a condominium at the same or even a slightly lower price might not be a practical option for the family. In addition to housing types and price ranges, for the comparison of housing affordability, prices of similar types and sizes of housing of the prototypes are compared with those of adaptations.

For the principle of access to public transit, types of public transit (e.g., bus stops, light rail stations, and subway stations) that are accessible by walking or bicycling from the projects were investigated. For the principle of location of schools, the existence of schools within walking or bicycling distance from the projects was investigated. In addition, the qualities of pedestrian connections (e.g., the provision of pedestrian paths or trails, conflicts with auto traffic) between the projects and schools were investigated.

For the principle of maintenance of the quality of a neighborhood through graphic urban design codes, the existence of the architectural standards and urban design codes that control the architecture of the private buildings to maintain the quality of public spaces of the projects was investigated. Finally, for the principle of diverse types of neighborhood parks, the arrangements, the types, and the functions of the neighborhood parks within each project were investigated.

Table 6 Criteria for the Investigation of the Implementation of New Urbanism Principles

Design Principles	Criteria for Comparison
Creation of an identifiable neighborhood	- Seven criteria: small population, small area, no major road passing through, main gateways, neighborhood boundary; visible center; and house cluster (Alexander, et al., 1977)
Compact development	- Housing densities (Relative Housing Density) - Lot sizes
Pedestrian-friendly street design	- Basic street design elements: sidewalks, street trees and lights, on street parking - Advanced street design elements: narrower streets, interconnected streets, and alley systems
Interconnected street design	- Internal connectivity: number of intersections within the project - External connectivity: number of connections with the surroundings
Mixed uses within walking distance	- Proportion of housing units within walking distance from the retail center - Types and sizes of services for everyday life
A broad range of housing types	- Compositions of housing types
A broad range of housing prices	- Price ranges (for income diversity) - Comparison of sales data of similar residential units (for housing affordability)
Access to public transit	- Types of transits accessible by walking or bicycling
School located within walking distance	- Existences of schools within walking or bicycling distance - Quality of pedestrian connections to schools
Maintenance of the quality of a neighborhood through graphic urban design codes	- Existences of architectural standards and urban design codes
Diverse types of neighborhood parks within a neighborhood	- Arrangements, types and functions of neighborhood parks

5.6.2. Data Collection about the Factors Influencing Principle Implementation:
Semi-Structured Interviews and Supplemental Surveys with Key Actors

- *Data Sources*

Data about the factors that influence the implementation of New Urbanism principles in each project (actors' characteristics, perceptions of New Urbanism principles, and communication channels) were collected mainly through semi-structured interviews (or focused interviews) and supplemental surveys with the key participants of each project, and documentation (i.e., local newspapers, community newsletters, and rezoning approval documents). For the analysis, interviews that "focus directly on case study topics" and "provide perceived causal inferences and explanations" (Yin, 2009, p. 102) may be appropriate approaches to this kind of information. However, interviews as data sources have potential weaknesses such as an interviewer's or interviewee's "bias, poor recall, and poor or inaccurate articulation" (ibid., pp. 108-109). Semi-structured interviews with a prepared set of questions and with multiple actors for each project may relieve such potential weaknesses. Supplemental surveys producing quantifiable data and documentation with information about the contexts of each project may also complement the interviews.

- *Semi-Structured Interviews (Focused Interviews)*

Interviews for the case study were conducted between April 2009 and May 2010 after the Institutional Review Board (IRB) approval on April 2009. A total of 32 key participants in the twelve cases were interviewed. The participants included developers, urban designers, public planners, and neighborhood groups of each project. Each interview, which took about an hour, was recorded.

For each project, multiple key actors (a developer, an urban designer, and a public planner) were interviewed to get balanced information from multiple sources. Therefore, three or more actors were interviewed for most cases.³⁰ Some interviewees participated in multiple case projects. If so, the actors were asked about all the case projects in which they participated in at the same time. The key participants of each case were identified based on information from local experts and project information available to the public such as the project websites. In addition, interviewees were asked about other key participants of a project to confirm the appropriateness of the selection of other interviewees for the project (see Appendix A.2.).

The interviews were semi-structured interviews with a prepared set of questions that guided the interviews but still allowed the interviewees to talk more freely and extensively about the case project. Prior to beginning the interviews, an instrument used for the interviews that included a set of questions was prepared (Appendix A.2.). The questions covered the following three topics: 1) an interviewee's roles in a case project and experience in neighborhood developments, 2) one's exposure to and attitude toward New Urbanism, and 3) the detailed development process of the project.

With regard to an interviewee's roles in the case project and experience in neighborhood developments, interviewees were asked about their roles, degree of involvement and period of participation in the case projects, and their general experience in other neighborhood developments prior to the case projects. With regard to their

³⁰In the cases of Clark's Grove, Glenwood Green, and Gorham's Bluff, two interviewees were interviewed due to availability. However, even in these cases, the key decision-makers of each project were interviewed.

exposure to and attitude toward New Urbanism, interviewees were asked about their first exposure to the concept of New Urbanism, commitment to the New Urbanism movement, communication channels (media and interpersonal networks) through which they share information about New Urbanism, overall evaluation of New Urbanism principles, and degree of participation in the movement.

Specifically with regard to the interviewee's degree of participation in the movement, the interviewees were asked to select the activities that they had actually participated in from the nine given examples illustrating different degrees of participation in the movement (Appendix A.2.). The interviewees' responses to this question were used as a determinant criterion in the case study to distinguish enthusiastic proponents of New Urbanism from eclectic followers.

With regard to the detailed development process of the case project, interviewees were asked about the site selection, the selection of a master planner for the case, other projects that influenced the case project, major obstacles during the development process, the decision making process, the key participants, including the key decision markers, and overall assessment of the case project from both community and market perspectives.

- *Supplemental Surveys*

Supplemental surveys were also conducted during each interview. In the surveys, the interviewees were asked to evaluate the degrees of implementation of the eleven New Urbanism principles in their own projects and to score how they perceived the six attributes of the eleven New Urbanism principles—social relative advantage (community quality), economic relative advantage (market appeal), compatibility, ease, trialability,

and observability. In both evaluations about the implementation and perception of New Urbanism principles, the interviewees were asked to use the five-point Likert scale (5 points: strongly agree, 4 points: agree, 3 points: neutral, 2 points: disagree, and 1 point: strongly disagree) (Appendix A.3.).

5.7. Analysis of the Data

The main purpose of the case study is to build a better explanation about how and why the divergence of the design principles of the New Urbanism model occurred, based on the MPA framework. For the purpose of better explanation-building, the study used three major analytical techniques relevant to case study research: 1) pattern matching; 2) explanation-building; and 3) cross-case synthesis (Amaratunga & Baldry, 2001; Yin, 2009).

Pattern matching is an analysis technique comparing predicted patterns (hypotheses) with empirically observed patterns. Coincidence between the two patterns can strengthen the internal validity of the case study (Yin, 2009, p. 136). This case study yielded three predictions about actors' perception and implementation of the New Urbanism principles: 1) enthusiastic proponents of the New Urbanism model perceive and assess all New Urbanism design principles more positively than eclectic followers; 2) New Urbanism design principles whose six attributes (social or economic relative advantages, compatibility, complexity, trialability, and observability) are perceived more positively by actors are implemented more thoroughly by them than New Urbanism principles whose attributes are perceived less positively by actors; 3) all New Urbanism design principles are implemented more often and more thoroughly in prototypes

developed by enthusiastic proponents than they are in adaptations developed by eclectic followers. These three hypotheses were used as the predicted patterns for pattern matching and compared with the observed patterns from the data collected through planning documents and site observations (for the implementation of the New Urbanism principles in each project) and through semi-structured interviews and supplemental surveys (for the actors' perceptions of New Urbanism principles).

Explanation-building can be seen as an iteration of pattern matching and a revision of the explanation. The results from the initial pattern matching are used as feedback for the revision of the initial explanation (i.e., hypothesis) (Yin, 2009, p. 143). To build better explanations for the result, this research reinterpreted the expected and unexpected findings from a comparison of the three predictions and the observations from the data collected in this case study based on more detailed information about the context in which such results occurred. In particular, the explanation-building processes focused on unexpected findings. Detailed information about the contexts of each case required for this analysis were collected mainly from the interviews and supplemented by documentation gathered from local newspapers, community newsletters, and zoning approvals.

Cross-case synthesis specifically applies to multiple-case analysis. When large numbers of individual cases are available, quantitative approaches are commonly used for synthesis. However, if only a moderate number of individual cases are available, qualitative approaches such as word tables are generally used (Yin, 2009, p. 156). The case study of this dissertation includes only six pairs of cases (i.e., twelve individual cases). Thus, in this case study, cross-case syntheses using word tables or comparative

illustrations comparing multiple cases simultaneously are mainly qualitative. Table 7 illustrates an example of a qualitative cross-case synthesis using a word table. This example word table compared the co-location patterns of 7 intervention centers and their organizational partners, which had received programmatic support, with those of the other 7 comparison centers and their partners (*ibid.*, pp. 158-159). With regard to this kind of use of word tables for qualitative cross-case synthesis, Yin suggests that “the examination of word tables for cross-case patterns will rely strongly on argumentative interpretation, not numeric tallies (*ibid.*, p. 160).” As Yin suggested, many cross-case synthesis in this dissertation rely on argumentative interpretation rather than numeric tallies.

Table 7 Co-location Patterns of 14 Organizational Centers and Their Organizational Partners (Yin, 2009, p. 159)

CENTERS	Characteristics of Co-Location
Intervention Centers:	
1	Partnering staff are located in the same facility as Center 1 and follow Center 1's policies that were in place prior to the partnership. Center 1 receives \$25,000 annually from the partnership budget for software and peripherals, and communication and supplies.
2	As a business unit of Center 2, the partnering staff are housed within Center 2's offices. Center 2's parent organization contributes \$2,500 for space and \$23,375 for indirect expenses annually to the partnership budget.
3	Five partnership offices are co-located with Center 3's staff.
4	Center 4 and its partner share office space.
5	Center 5 staff and the partnering staff are located in the same building, but do not share office space.
6	The two organizations are not co-located.
7	Partnering staff are located in Center 7's offices.
Comparison Centers:	
8	Center 8 and its partner share office space in eight locations statewide.
9	Some sites are co-located.
10	Center 10 and its partner are not co-located.
11	The partnering and center staff share office space.
12	Center 12 and its partner's staff are located in the same building.
13	Center 13 and its partner's staff are located in the same office.
14	Center 14 shares office space with three regional partners.

CHAPTER 6. ANALYSIS OF CASE STUDY RESULTS

The major goal of this dissertation is to provide a better explanation about how and why the diffusion and adaptation of New Urbanism principles occur in practice. The previous chapter presented a hypothetical explanation for such transitions based on innovation-diffusion theory: the model-prototype-adaptation (MPA) framework. The case study analyzed in this chapter aims to test the MPA framework in real world contexts.

The analysis of the case study data will mainly entail the use of the analytical methods of 1) pattern matching, 2) explanation-building, and 3) cross-case synthesis (Yin, 2009). With respect to the first, predictions about the transition patterns of New Urbanism principles in practice are made on the basis of the MPA framework, and the predicted transition patterns are compared and contrasted with observations of transition patterns in practice that are made through the investigation of interviews, documents, and site observations. Regarding the second, explanation-building, both the expected and unexpected findings from the pattern matching analysis are further examined within the contexts of the cases. In particular, the process of explaining unexpected findings often leads to interesting conclusions. Regarding the third, during the explanation-building process, the findings from multiple cases within different contexts are compared and analyzed concurrently for the purpose of generalization.

6.1. Three Predictions about the Divergence of the New Urbanism Principles

The case study for the dissertation focuses on “divergence”—the watered down transition of an original urban design model in practice by eclectic followers. Using this definition, this study intends to observe “divergence” by comparing prototypes and adaptations. The divergence processes are hypothesized in the following three steps of perception and implementation processes for pattern matching.

1. Enthusiastic proponents of New Urbanism perceive the New Urbanism principles more positively than eclectic followers of New Urbanism.
2. Prototypes that enthusiastic proponents develop incorporate more New Urbanism principles more thoroughly than adaptations that eclectic followers develop.
3. New Urbanism principles that actors (particularly, key decision-makers) perceive more positively are implemented more often and more thoroughly.

As this case study does not just intend to verify the existence of but to more thoroughly explain the divergence of New Urbanism principles in practice, the three predictions about the divergence patterns are not end targets whose proof becomes the ultimate goal of the study but a tool and a framework within which the collected data can be organized and interpreted to build a better explanation for the transition of the model in the real world.

The case analyses are based on a comparison of these three predictions and the observations of the cases. Before the main analysis is presented, the next section reviews the contexts of the six matched pair cases to provide background information for the following analysis.

6.2. Contexts of the Six Matched Pair Cases

This section introduces the general background and distinct context of each matched pair. Each of the six pairs of cases investigated for this study represents a unique context that influences the actors' perception and implementation of each New Urbanism principle. For example, the principle of compact development may have different meanings depending on time and place. That is, compact development might have been more easily accepted in the 2000s than in the 1990s and in urban neighborhoods than in rural hamlet neighborhoods. Therefore, before beginning the main analysis, this dissertation will explain both the general and distinct contexts of each pair of cases, which form the basis for the analysis in the following sections, particularly for the explanation-building processes. The information was collected from diverse sources including interviews, planning documents, and project information available to the public (e.g., project websites).

6.2.1. Urban Infill/Brownfield: Glenwood Park and Glenwood Green

- *Glenwood Park (Prototype)*

Glenwood Park (Figure 38 and Table 8) is a 28-acre brownfield redevelopment in an infill location of East Atlanta adjacent to I-20, two miles away from Downtown Atlanta. It is a mixed-use residential neighborhood development consisting of a mix of housing types and retail and office spaces. The project includes about 240 housing units, 50,000 square feet of retail space, and 20,000 square feet of office space.



Figure 38 Glenwood Park, Georgia (Source: The Green Street Properties)

Glenwood Park was developed by a private development company, Green Street Properties and the master plan was designed by Dover Kohl & Partners and Tunnell-

Spangler-Walsh and Associates. During the development process, the developers emphasized environmental sustainability as a principle influencing their decision making of site selection for the project. Glenwood Park was built on a former industrial site (a concrete recycling factory) that was heavily contaminated by concrete and wood chips. This contamination dramatically increased the time and cost of preparing the land for development. The site was re-zoned from an industrial zoning district to a planned development mixed use (PDMU) zoning district for the construction of a traditional neighborhood development. In addition, the project was a winner of a 2003 CNU Charter award. Planning for the project began in late 2001, and construction started in early 2003, and the project is approximately 80 percent complete (May 2010) (Appendix C.2—Table 26).

- *Glenwood Green (Adaptation)*

Glenwood Green (Figure 39 and Table 8) is an 11.2-acre brownfield, an urban infill residential redevelopment project across Glenwood Avenue Southeast from Glenwood Park. Glenwood Green is a gated townhome community, including 188 housing units. Glenwood Green was developed by Moats & Associates and the site plan was designed by Niles Bolton Associates.

The developer selected this site not for environmental sustainability but for affordability. Although the site was also a former industrial site (a former waffle cone production plant), it was not as contaminated as the Glenwood Park site, and therefore, the developer of Glenwood Green did not need to invest as much money in preparing the land. The major goal of the developer of Glenwood Green, who had been building

“starter homes” in in-town Atlanta since 1992, was to supply affordable housing in the in-town areas without any public subsidies from the government.



Figure 39 Glenwood Green, Georgia (Source: Google Map)

The site was re-zoned from an industrial zoning district to a residential zoning (RG-3C)³¹ district with several conditions, including 90% owner-occupancy. The project, which began in 2000, was sold out in the year of completion, 2003 (Moats & Associates, 2009) (Appendix C.2—Table 26).

Both Glenwood Park and Glenwood Green are located amongst century-old, in-town, single-family neighborhoods such as Grant Park, Ormewood Park, and East Atlanta that are racially and economically diverse. In addition, a BeltLine station (a light rail station) is planned a block away from these two projects.³²

- *Distinct Contexts of the Matched Pair*

Of the six pairs, these two projects, adjoined on Glenwood Avenue, are in closest proximity. Because of their proximity, they can be compared in the same contexts and under minimal influence of other factors. In addition, the key decision-makers of both projects are developers who are poles apart in their devotion to New Urbanism. That is, whereas the developers of Glenwood Park are active enthusiastic proponents of New Urbanism (i.e., one of them is an active board member of the CNU), the developer of Glenwood Green is a skeptic about New Urbanism. Because of their proximity and the extreme viewpoints of their key decision-makers toward New Urbanism, Glenwood Park and Glenwood Green exhibited the most striking difference in the perceptions and implementation of New Urbanism principles of the six pairs.

³¹Residential General-Sector 3-Conditional: a residential zoning category that allows multi-family housing developments only in compliance with the required conditions.

³²Terrain.org: UnSprawl Case Study website, visited on June 10, 2010 (<http://www.terrain.org/unsprawl/17/>)

Table 8 Overviews of the Urban Infill/Brownfield Pair: Glenwood Park and Glenwood Green

Glenwood Park (Prototype)	Glenwood Green (Adaptation)
<ul style="list-style-type: none"> · Urban infill/brownfield (concrete recycling factory) · Mixed uses (residential, retail, and office) · Private driven development · Project area: 28 acres · Rezoned as PDMU · 2003 CNU Charter Award Winner 	<ul style="list-style-type: none"> · Urban infill / brownfield (waffle cone factory) · Single use (residential—townhomes) · Private driven development · Project area: 11.2 acres · Rezoned as RG-3C

6.2.2. Urban Infill/Historic Area: Clark’s Grove and Inman Park Village

- *Clark’s Grove (Prototype)*

Clark’s Grove (Figure 40 and Table 9) is a 68-acre urban infill development in the City of Covington, Georgia. It is a mixed-use residential community consisting of 314 housing units, 14 live/work units, and a Montessori school. The school and live/work units front a formal square at the center of the community. Clark’s Grove is located within a half mile from historic downtown Covington.

Clark’s Grove was developed by Clark’s Grove LLC, a for-profit company formed by the Arnold Fund that is a local family foundation that gives grants to fund diverse Newton County projects (Grillo, 2003). The development of Clark’s Grove began in 2000, when Andres Duany, in collaboration with a local design firm, Tunnell-Spangler-Walsh & Associates, designed the master plan of Clark’s Grove. The site was re-zoned as a planned unit development (PUD) zoning district because the existing zoning at that time did not allow the implementation of New Urbanism principles.

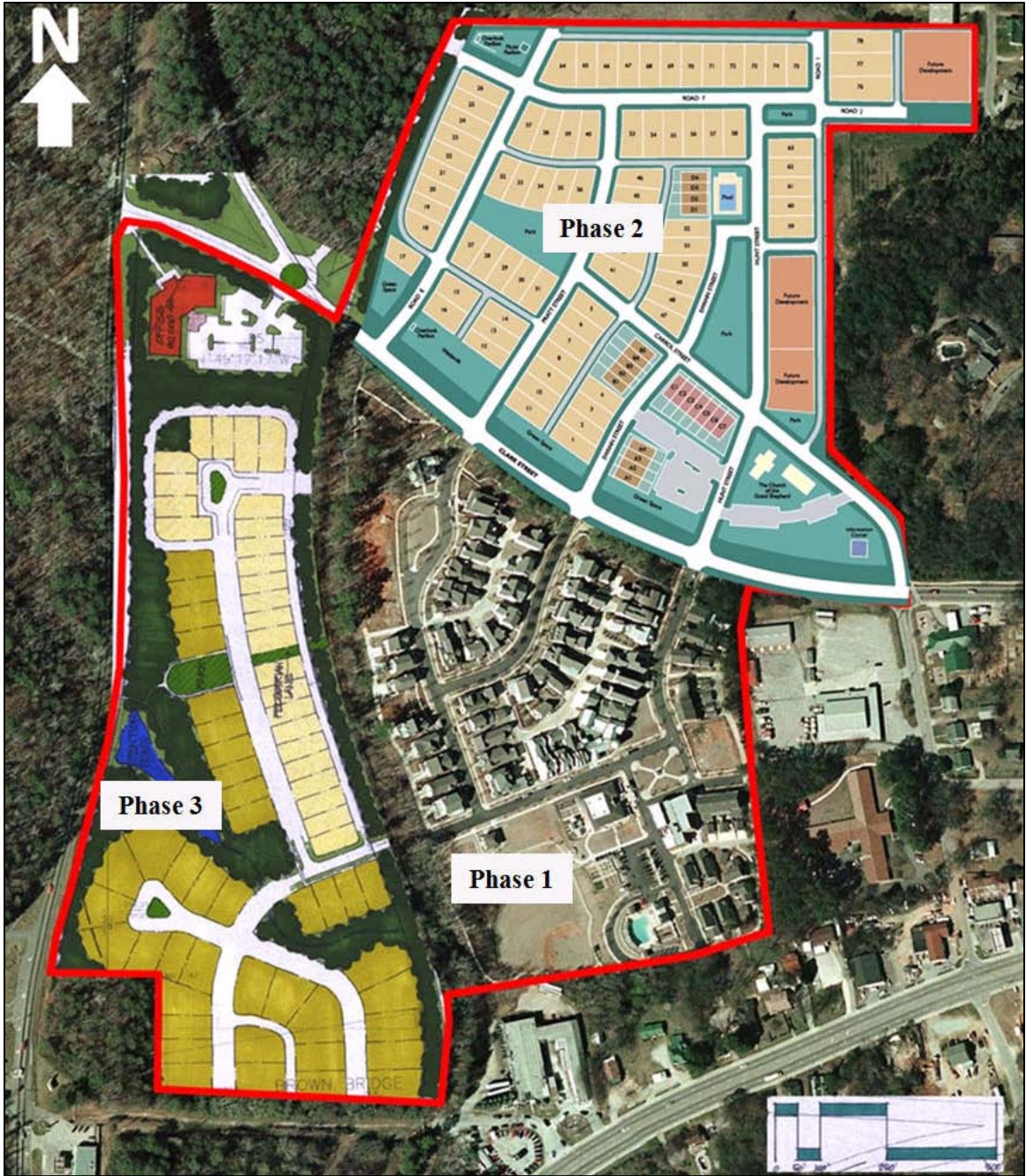


Figure 40 Clark's Grove, Georgia (Sources: Google Map and Clark's Grove, LLC)

Clark's Grove served as an example of the New Urbanism approach for the city, and later, the City of Covington amended the entire zoning ordinance to implement New

Urbanism principles city wide. In addition, the developer of Clark's Grove now serves the community as the planning director of Covington. The entire master plan of Clark's Grove was composed of three phases: Phase 1 is nearly complete; Phase 2 began in 2008; and Phase 3 is in conceptual planning status (Appendix C.2—Table 27).

The City of Covington, in which Clark's Grove is located, is a historic city in Newton County, Georgia, which was incorporated in 1822. In particular, its downtown square, surrounded by retail and governmental buildings, has served as the communal and commercial center of the city. In 2000, the City of Covington announced the Covington Master Plan, in which Andres Duany participated, to rehabilitate and preserve its historic downtown (Smart Growth Leadership Institute, 2008).

- *Inman Park Village (Adaptation)*

Inman Park Village (Figure 41 and Table 9) is a 21-acre urban infill redevelopment of a paper company site located within the historic Inman Park neighborhood in Atlanta. The project is composed of 520 housing units (including apartments), 20,000 square feet of retail space, and 29,000 square feet of office space. The company building has been renovated into office condominiums. In addition, it faces several new mixed-use buildings on the site of a former steel mill to reinvigorate several blocks of Highland Avenue.

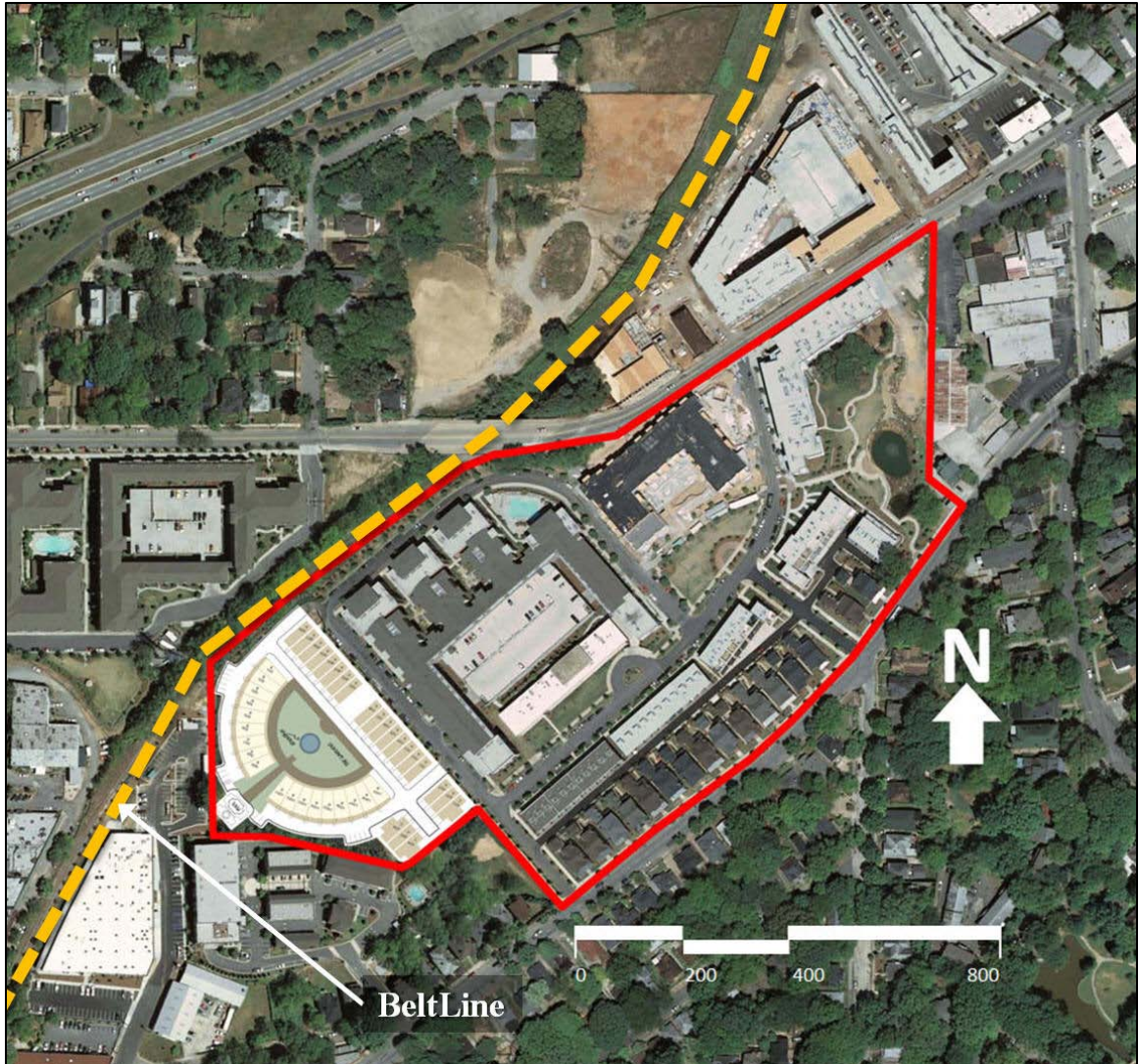


Figure 41 Inman Park Village, Georgia (Sources: Google Map and Inman Park Village³³)

The development of Inman Park Village began in 2001. When the paper company announced its disposal plan in 2001, the Inman Park Neighborhood Association (IPNA) was concerned about the potential impact of the redevelopment of the site on their

³³ The web site was visited on May 3, 2010 (<http://www.inmanparkvillage.com>)

historic neighborhood, and therefore, prepared a set of design guidelines that reflected their interest in preserving the historic characteristics, even before the site was actually sold. They permitted a broker to inform prospective buyers about the guidelines. After all, Wood Partners purchased and developed the land with a group of developers (i.e., Parkside Partner, Inc., Ultima Holdings, and Brunning & Stang). Surber Barber Choate & Hertlein Architects Inc. participated in the project as a master planner.

In addition, in response to the request of the neighborhood, the city of Atlanta designated the neighborhood as an Inman Park historic district and developed regulations for the historic district in collaboration with the neighborhood association. Such collaboration among the community, the developers, and the city minimized the potential conflicts likely to have occurred in neighborhood development processes and benefited all of those involved. Most of Inman Park Village has been completed (May 2010) (Appendix C.2—Table 27).

The surrounding Inman Park neighborhood was the first planned single-family community developed in Atlanta in the 1880s. Although the neighborhood had declined during the suburban flight period, it has been revitalized since the 1970s and become one of the most desired neighborhoods in Atlanta. The BeltLine runs through Inman Park and a station is planned to be built on the site.³⁴

- *Distinct Contexts of the Matched Pair*

³⁴Inman Park Neighborhood Association website, visited on June 10, 2010 (<http://www.inmanpark.org/ipna.html>)

First of all, historic context is a significant consideration in both Clark’s Grove and Inman Park Village developments. For example, both projects developed architectural standards that preserved the historic characteristics based on the local architectural styles of their surrounding communities.

Moreover, the neighborhoods where both projects are located were similar: compact, walkable, mixed-use communities. Thus, the neighborhoods were in favor of New Urbanism projects. In particular, the development process of Inman Park Village was heavily influenced by the larger Inman Park community (the Inman Park Neighborhood Association) which happens to be home to a high number of architects.

Clark’s Grove and Inman Park Village differ significantly in one way: location. The city of Covington, where Clark’s Grove is located, is a small local town with a population of only 11,547, 35 miles away from downtown Atlanta, while Inman Park, where Inman Park Village is located, was originally a street car suburb 1.5 miles away from downtown Atlanta. Therefore, this difference was taken into consideration in the analysis.

Table 9 Overviews of the Urban Infill/Historic Area Pair: Clark’s Grove and Inman Park Village

Clark’s Grove (Prototype)	Inman Park Village (Adaptation)
<ul style="list-style-type: none"> · Urban infill (Covington) · Historic area · Mixed uses (residential, live/work, and a school) · Private driven development · 0.5 mile away from downtown Covington · Project area: 68 acres · Rezoned as PUD/TND 	<ul style="list-style-type: none"> · Urban infill (Atlanta) · Historic neighborhood · Mixed-use residential · Public-community-private partnership · 2 miles away from downtown Atlanta · Project area: 21 acres · Inman Park Historic District

6.2.3. Suburban/Town Center: Woodstock Downtown and Suwanee Town Center

- *Woodstock Downtown (prototype)*

Woodstock Downtown (Figure 42 and Table 10) is a 64-acre suburban town center development at the center of the City of Woodstock in Cherokee County, Georgia. The project includes 346 housing units, 85,000 square feet of retail and restaurant space and 22,000 square feet of office space. In addition, a new city hall is included in the concept plan (Phase II).

The City of Woodstock LCI study that the city had conducted for the rehabilitation of the historic core of Woodstock and the surrounding areas influenced the Woodstock Downtown project. The study developed policies and programs specifically to promote pedestrian-oriented developments and identified economic opportunities of the city (Atlanta Regional Commission, 2010).

Hedgewood Properties developed Woodstock Downtown and Tunnell-Spangler-Walsh & Associates designed the master plan. Hedgewood Properties also developed Vickery. After the success of Vickery, Hedgewood Properties were looking for a site to develop a New Urbanism project in an urban infill location. They selected this site because it was an LCI study area, so they expected support from the city for a New Urbanism project. Actually, during the development process, the city and the developers closely collaborated on the Woodstock Downtown project. The project is a winner of 2008 CNU Charter Awards.



Figure 42 Woodstock Downtown, Georgia (Source: The Hedgewood Homes)

The entire plan of Woodstock Downtown is composed of two phases: Phase I on the east side of Main Street and Phase II on the west side of Main Street. Phase I began construction in 2005, but it has not yet been completed. Phase II is still in the conceptual planning status. In 2008, the developers lost parts of the Woodstock Downtown project to foreclosure (Appendix C.2—Table 28).

The city of Woodstock, in which Woodstock Downtown is located, became an official city in 1897. A white, homeowner-dominated small town developed around a railroad station, Woodstock now functions as a suburb of Atlanta and is the fastest growing city in Cherokee County.³⁵

- *Suwanee Town Center (Adaptation)*

The Suwanee Town Center (Figure 43 and Table 10) is a 63-acre suburban town center development at the center of the City of Suwanee in Gwinnett County, Georgia. The project includes 232 housing units, 82,970 square feet of retail and restaurant space, 63,500 square feet of office space, and 23,600 square feet of civic building space (i.e., a city hall).

The Suwanee Town Center was developed through a public-private partnership: the city of Suwanee led the project and several private developers including Bowen Family Homes and Madison Retail participated in the project. The master plan was prepared by Urban Collage.

³⁵City of Woodstock website, visited on June 10, 2010 (<http://www.woodstockga.gov>)



Figure 43 Suwanee Town Center, Georgia (Sources: Google Map and City of Suwanee)

The Suwanee Town Center was initiated as a result of the 2000 Comprehensive Plan that the City of Suwanee developed for the creation of “places,” the revitalization of the old downtown, and the promotion of recreational opportunities for citizens. The comprehensive plan originally included an old downtown revitalization plan. However,

the city decided to develop a new town center instead of build on the old downtown because the latter was not only unable to accommodate the needs of the infrastructure but also was not visible from the major streets. The city of Suwanee also conducted an LCI study for the plan, but their proposal for implementation funding was declined by the Atlanta Regional Commission. However, the Suwanee Town Center Plan remained in compliance with the standards and requirements developed through the LCI study. The project is composed of a 23-acre mixed-use district comprised of a large community park, the city hall, and condominiums with street-level retail shops that the city developed, and a 40-acre traditional neighborhood district that a private developer built. The city constructed the community park first as an anchor to attract private developers (Appendix C.2—Table 28).

Similar to Woodstock, Suwanee is a suburban, white, homeowner-dominated town established around a railroad station that now serves primarily as a suburb of Atlanta. Even though it became an official city in 1949, it remained a small agricultural community until the highway system, including I-85, was developed in the 1970s.³⁶

- *Distinct Contexts of the Matched Pair*

Woodstock Downtown and the Suwanee Town Center are similar in that 1) they are town center developments intended to rehabilitate the civic centers and serve the citizens' needs, 2) they were influenced by the Livable Centers Initiatives (LCI) program, and 3) public and private sectors collaborated closely during their development processes.

³⁶City of Suwanee website, visited July 9, 2010 (<http://www.suwanee.com>)

However, the two cases differ 1) in the ways in which the public and private sectors collaborated, and 2) the primary goals of the developments. With regard to the first, while in the case of Woodstock Downtown, the private developer led the project, and the public planner facilitated the process, in the case of the Suwanee Town Center, the city of Suwanee led the project and recruited private developers who expressed an interest in their plan. With regard to the second, while one of the primary goals of Woodstock Downtown development was to preserve the historic characteristics of the downtown area, that of the Suwanee Town Center development was to provide a recreational park area that serves all Suwanee citizens.

Table 10 General Information of the Suburban/Town Center Pair: Woodstock Downtown and the Suwanee Town Center

Woodstock Downtown (Prototype)	Suwanee Town Center (Adaptation)
<ul style="list-style-type: none"> · Suburban/town center development · Mixed uses (residential, retail, and office) · Public-private partnership · LCI study area · Project area: 64 acres · 2008 CNU Charter Award Winner 	<ul style="list-style-type: none"> · Suburban/town center development · Mixed-use development (residential, retail, and office) · Public-private partnership · LCI study area · Project area: 63 acres

6.2.4. Suburban/Main Street: Smyrna Town Center and Perimeter Place

- *Smyrna Town Center (Prototype)*

The Smyrna Town Center (Figure 44 and Table 11) is a 29-acre suburban town center development in Cobb County, Georgia. The project, a civic use-centered, mixed use development that serves all Smyrna citizens, includes 37 housing units, 46,000 square

feet of retail space, 58,000 square feet of office space, 4 restaurants, and civic buildings (i.e., a city hall, a public library, and a community center).

In particular, the project included a “main street” as the face of the city to promote the community identity, the “Smyrna Market Village,” which was built in 2002. It consists of a boulevard with two lanes of on-street parking, lined with three-story condominium buildings with store-front shops. The boulevard ends at the city hall.

The intent of the development of the Smyrna Town Center, which began in 1988, was to revitalize the downtown area and develop an anchor to attract further development throughout the city. The city, which needed a breakthrough that would help it rebound from the decay it was experiencing, hired Michael Sizemore, an urban designer who was an enthusiastic New Urbanist, and entrusted him with a large part of the design of the town center. John Wieland Homes & Neighborhoods and GKJ Development participated in the project as developers.

During the development process, the city acted as a mediator, settling the conflicts between the urban designer and the developers. For example, to persuade the developers to build compact, cottage-type housing units suggested by the designer, the city allowed them to postpone payment for the land until they had sold some of the housing units. The project, completed in 2004, was very successful from both community and economic perspectives and attracted further development, the original intent of the city (Appendix C.2—Table 29).

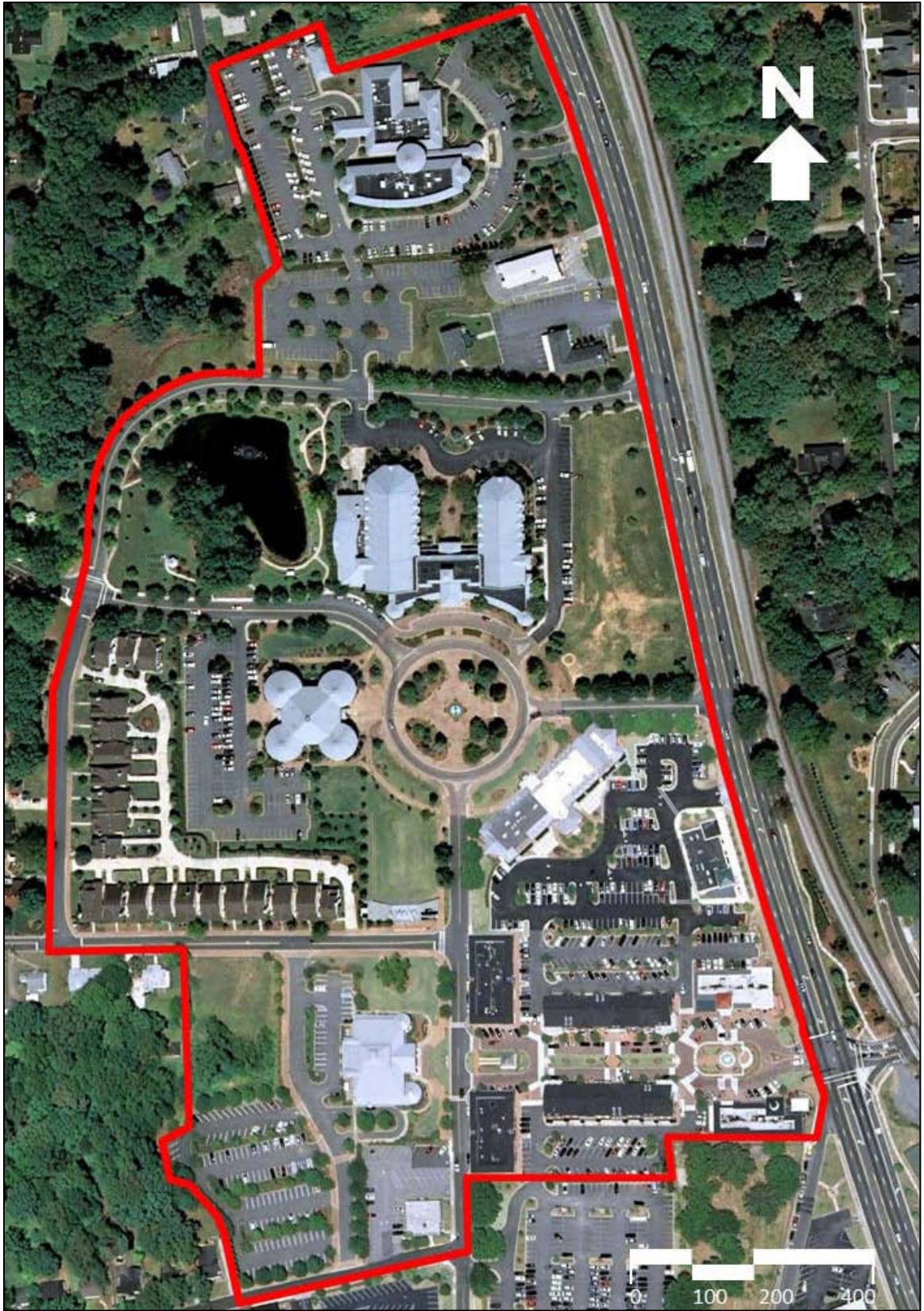


Figure 44 Smyrna Town Center, Georgia (Source: Google Map)

The city of Smyrna, which was incorporated as a municipality in 1872, is a racially diverse suburban town. Like in other suburban cases, the railroad played a significant role in the development of the city. The ratio of homeowners to renters are similar in this area (City of Smyrna, 2003).

- *Perimeter Place (Adaptation)*

Perimeter Place (Figure 45 and Table 11), a 42-acre commercial center development at Perimeter Center, a suburban edge city adjacent to the City of Atlanta, is a retail-centered, mixed-use development that includes a Super Target. The project includes 550 housing units, 452,000 square feet of retail and restaurant space. Perimeter Place also includes a “main street,” an amenity that attracts people to the site. The street, a boulevard with four lanes of angled parking, is lined with retail shops and an apartment building with store-front shops. The main street ends at a 27-story condominium tower.

The development of Perimeter Place began in 2002, when Bell South moved from the site (Appendix C.2—Table 29). At that time, Sembler, a development company that had developed the Edgewood Retail District, which consisted of a mixture of several New Urbanism design features (such as main streets with store-front shops) with big-box retail stores, began to look for a site on which to establish this kind of development in the Perimeter market. The developers selected the site because of its ease of land acquisition and visibility. Pieper O’Brien Herr developed the master plan for the project. Initially, the developers did not plan to include much residential use, but the community groups,

such as the Perimeter Community Improvement District (PCID)³⁷ and the Dunwoody Homeowners Association, requested to incorporate more housing, and after considerable debate, the developers changed their plan to incorporate more housing (Dunham-Jones & Williamson, 2009).

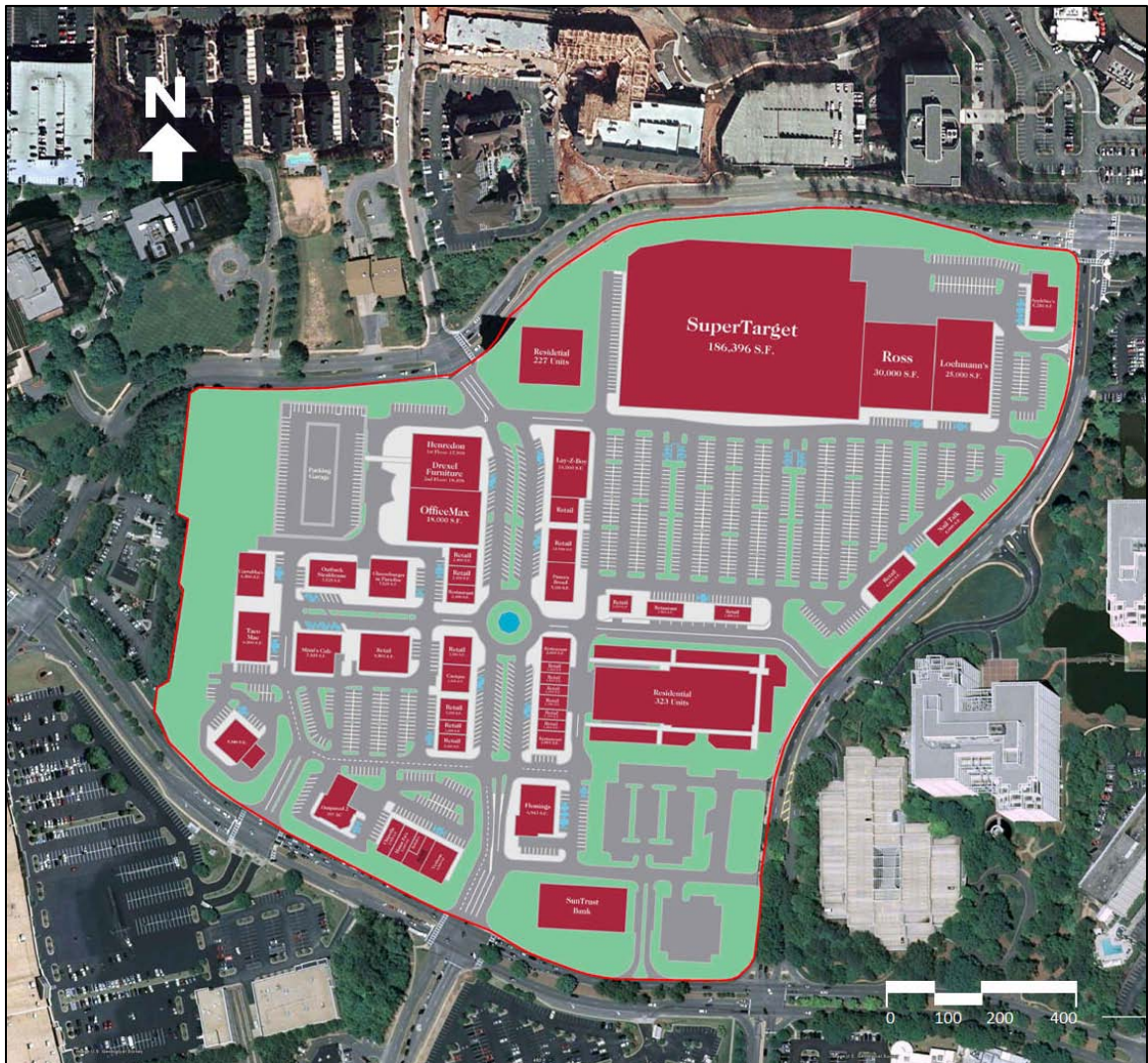


Figure 45 Perimeter Place, Georgia (Sources: Google Map and Sembler)

³⁷PCID conducted an LCI study for the area in 2001.

Perimeter Center, a suburban edge city in which Perimeter Place is located, is a regional-scale business and shopping center with two subway stations located within walking distance from Perimeter Place. It is a part of the City of Dunwoody, which is a suburban, white, homeowner-dominated town incorporated as a city in 2008.

- *Distinct Contexts of the Matched Pair*

In both the Smyrna Town Center and Perimeter Place, main streets with retail were designed as key design elements for the entire developments. However, the purposes of the two main streets differ significantly. The main street of the Smyrna Town Center is a communal center developed by the city, primarily aimed to promote community interests and a more positive identity for the city. That of Perimeter Place, a regional scale commercial center developed by the private developer, is primarily for pursuing profit maximization. For instance, the former aimed to promote community identity by providing a community focal point while the latter aimed to create an urban-looking street as an attraction to allure potential homebuyers and shoppers. While the Smyrna Town Center includes a park with a memorial to veterans, the only even seemingly occupiable public space at Perimeter Place is a traffic circle.

Because of the distinct motivations of the actors (the city and the private developer), their approaches to the main street design clearly contrasted even though they were attempting to implement the same New Urbanism principles, particularly pedestrian-friendly street design.

Table 11 General Information of the Suburban/Main Street Pair: Smyrna Town Center and Perimeter Place

Smyrna Town Center (Prototype)	Perimeter Place (Adaptation)
<ul style="list-style-type: none"> · Suburban town center development · Civic uses-centered mixed uses · Main street as the face of the city · Public-private partnership · Project Area: 29 acres 	<ul style="list-style-type: none"> · Suburban commercial center · Retail-centered mixed uses · Main street as an attraction to allure shoppers and tenants · Private development · Project area: 42 acres

6.2.5. Exurban/Greenfield: Vickery and Tributary

- *Vickery (Prototype)*

Vickery (Figure 46 and Table 12) is a 214-acre exurban greenfield development in Forsyth County, Georgia. The project includes 568 housing units, 70,000 square feet of retail space and 80,000 square feet of office space, and 50,000 square feet of YMCA.

Hedgewood Properties began the development of Vickery in 2000. Andres Duany, in collaboration with Tunnell-Spangler-Walsh & Associates, designed the master plan of Vickery as he did for Clark’s Grove. However, unlike Covington, the Forsyth community was not familiar with New Urbanism ideas at that time, leading to conflicts between the developer and the community, particularly regarding the issue of density. For example, during the re-zoning process, the proposed density was reduced and an affordable housing component was eliminated by the Forsyth County Commission (Squires, 2002).

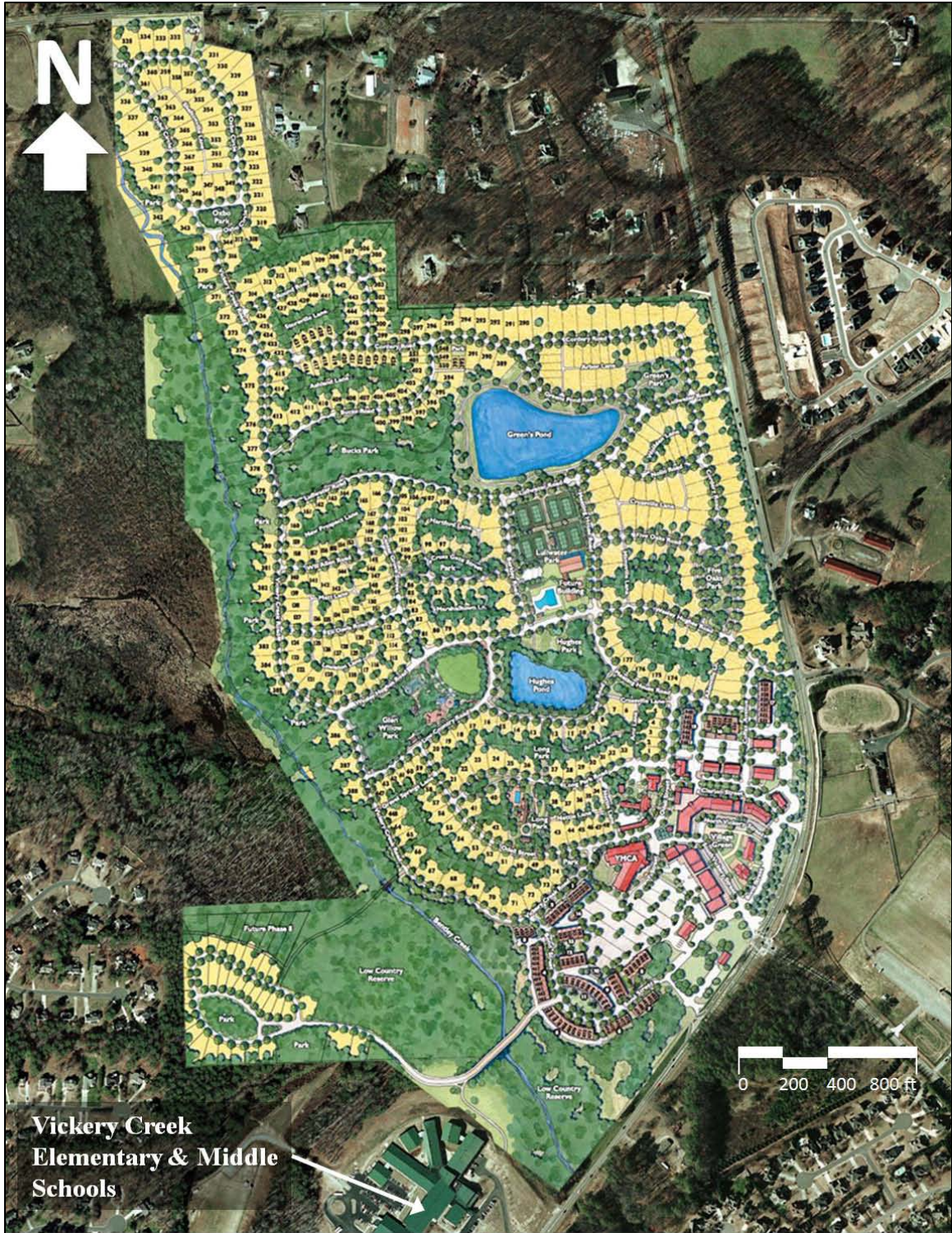


Figure 46 Vickery, Georgia (Source: Hedgewood Homes)

However, since the construction of Vickery, the community's attitude toward New Urbanism developments has become more favorable and similar mixed-use compact developments are currently being planned in Forsyth County. The development of Vickery was initially very successful, but due to the downturn in the real estate market, Hedgewood Properties lost part of Vickery to foreclosure in 2008 (Appendix C.2—Table 30).

Forsyth County, the location of Vickery, is an exurban, white, homeowner-dominated community created in 1832 from parts of Cherokee Country. It became a bedroom community for Atlanta with the construction of Georgia State Route 400 from 1971 to 1981.³⁸

- *Tributary (Adaptation)*

Tributary (Figure 47 and Table 12) is a 1,475-acre exurban greenfield development in Douglas County, Georgia. The project is composed of a New Urbanism neighborhood (Urban Village), a conventional suburban neighborhood (River Bank), a retail center (Village Center), and an office park. In total, the project includes 3,000 housing units, 205,582 square feet of retail space, 32,441 square feet of space for offices and fitness/social services. However, until now (May 2010), other than residential, only one retail building has been constructed.

The development of Tributary began in 1998 with the initial New Manchester Plan, in which Peter Calthorpe participated. However, the developer who initiated the project abandoned the development for financial reasons and sold the site to the current

³⁸Georgia.gov website, visited on July 5, 2010 (<http://forsythcounty.georgia.gov>)

developer, Tributary Realty, in 2003, which resulted in a dramatic change in the initial plan. For example, the current developer greatly reduced the density of the project because he expected higher density would significantly increase construction costs due to the hilly topography of the site. The new master plan was prepared by Canin Associates. The site was re-zoned for the development as a planned unit development (PUD) in 2004 (Appendix C.2—Table 30). Initially, the project was very successful, but the economic downturn impeded its development; thus, a large portion of the site has not yet been constructed.

Tributary is located in the city of Douglasville, an exurban town 20 miles from downtown Atlanta. Although established in 1875, the city has only recently experienced rapid growth as a racially diverse bedroom community with a similar homeowner to renter ratio (homeowners/renters ratio: 50/50)³⁹.

³⁹ Source: U.S. Census Bureau, 2006-2008 American Community Survey



Figure 47 Tributary (Urban Village and Village Center), Georgia (Sources: Google Map and Tributary Realty, LLC)

- *Distinct Contexts of the Matched Pair*

The two suburban greenfield developments of Vickery and Tributary (originally, New Manchester) represent a prototype-adaptation pair that best fits the definition of the MPA framework among the six pairs of cases. That is, the developer and the designer of Vickery are core members of the Congress for the New Urbanism while the developer and the designer of Tributary are typical eclectic followers who are flexible in implementing New Urbanism principles according to their own needs. In the case of Vickery, Andres Duany, one of the core founders of the Congress for the New Urbanism, designed the master plan. In the case of Tributary, the developer hired Canin Associates, a practical urban design firm experienced in New Urbanism projects and interested in design that works for developers, and as a result, intentionally compromised some New Urbanism principles for his own purpose. They focused on the New Urbanism principles that they believed would appeal to members of the so-called “Generation X,” who pursue authenticity but who have financially marginal budgets. A *New York Times* article listed the principles that Tributary incorporated, such as “high-quality architecture with high-tech touches, a neighborhood feeling, hiking trails nearby, and a diverse population with whom they could be connected” (*New York Times*, May 7, 2006).

Table 12 General Information of the Exurban/Greenfield Pair: Vickery and Tributary

Vickery (Prototype)	Tributary (Adaptation)
<ul style="list-style-type: none"> • Exurban greenfield development • Mixed uses (residential, retail, and office) • Private-driven development • Project area: 214 acres 	<ul style="list-style-type: none"> • Exurban greenfield development • Mixed uses (residential, retail, and office) • Private-driven development • Project area: 1,474 acres (Urban Village: 500 acres)

6.2.6. Rural Hamlet/2nd Home Community: Gorham's Bluff and Serenbe

- *Gorham's Bluff (Prototype)*

Gorham's Bluff (Figure 48 and Table 13) is a 186-acre second home community developed at the edge of a bluff overlooking the Tennessee River in Alabama. The plan for Gorham's Bluff includes 638 housing units, 108,200 square feet of retail and office space, and 52 live/work units.

The development of Gorham's Bluff began in 1993. It was not developed by a professional developer, but by the McGriffs, a family that owned the site, which had been a gathering place for their extended family. In the initial stages of its development, it was heavily influenced by Seaside. To the developers (i.e., the family), Gorham's Bluff, perched on a cliff edge with spectacular views overlooking the Tennessee River was analogous to Seaside, facing the ocean, and thus, collaborated closely with Christ Kent, a New Urbanist developer of Seaside, on their project. The master planner for the initial plan was Lloyd Vogt, a New Orleans-based architect and planner, who was introduced to the McGriffs by Chris Kent.⁴⁰

⁴⁰ Source: Gorham's Bluff web page, visited August 10, 2010
(<http://www.gorhamsbluff.com/about/history.php>)



Figure 48 Gorham's Bluff, Alabama (Source: The Gorham's Bluff Institute)

However, the development of Gorham's Bluff was sluggish, and only twenty-five housing units had been built by 2001. To boost activity, the developers, seeking new ideas for the project, hired a new urban designer, Steve Mouzon, and invited a group of experts comprised of architects, planners, and developers, and held a design charrette. The ideas that emerged from the charrette were discussed at a conference roundtable during the ninth CNU conference. As a result, the plan was revised to include more compact housing units on smaller lots and to move the older residences closer to the center of the project. However, despite such efforts, the pace of development at Gorham's Bluff has not markedly increased (Appendix C.2—Table 31).

Gorham's Bluff is located in Pisgah, a small rural town in Jackson County, Alabama, with a population of only about 700. Due to the low level of development activity in this area, the municipality has minimal planning regulations.

- *Serenbe (Adaptation)*

Serenbe (Figure 49 and Table 13) is a 900-acre second home community located in Chattahoochee Hill Country, 30 miles away from downtown Atlanta. The project includes 408 housing units, 69 live/work units, and 121,950 square feet of retail and office space. In particular, the project has reserved 70 percent of the site for green space.

The development of Serenbe began in 2003. Like Gorham's Bluff, it was developed not by a professional developer but by the landowners of the site, Marie and Steve Nygren who were concerned about sprawl that was encroaching on their land. As a master planner for the project, the Nygrens hired Phillip Tabb, a professor in and director

of the department of Architecture at Texas A&M University, who specializes in sustainable community design.

Prior to the development of Serenbe, the Nygrens gathered other larger landowners to discuss ways to preserve the rural characteristics of the area while accommodating development. Such discussions led to the formation of the Chattahoochee Hill Country Alliance (CHA), a successful campaign to allow the use of Transfer of Development Rights (TDR) in the state of Georgia and the development of the Chattahoochee Hill Country Community (CHC) Plan for 40,000 acres of land. The CHC Plan calls for preservation of at least 70 percent of the area for green space and use of TDR to promote compact developments in designated three village centers (Appendix C.2—Table 31).

The plan was specifically incorporated into Fulton County's comprehensive plan and the Chattahoochee Hill Country Overlay District Ordinance for the area. In addition to the comprehensive plan and overlay district ordinance, Fulton County developed the Transfer of Development Rights (TDR) Ordinance, which "set up the legal framework for the transferring of development rights from the rural agricultural areas into the proposed village sites" (Macauley, 2009). Serenbe was developed as the first hamlet under the new Overlay District and serves as an exemplary project for the rest of Chattahoochee Hill Country. However, it was not a village development and therefore, no TDR were involved.

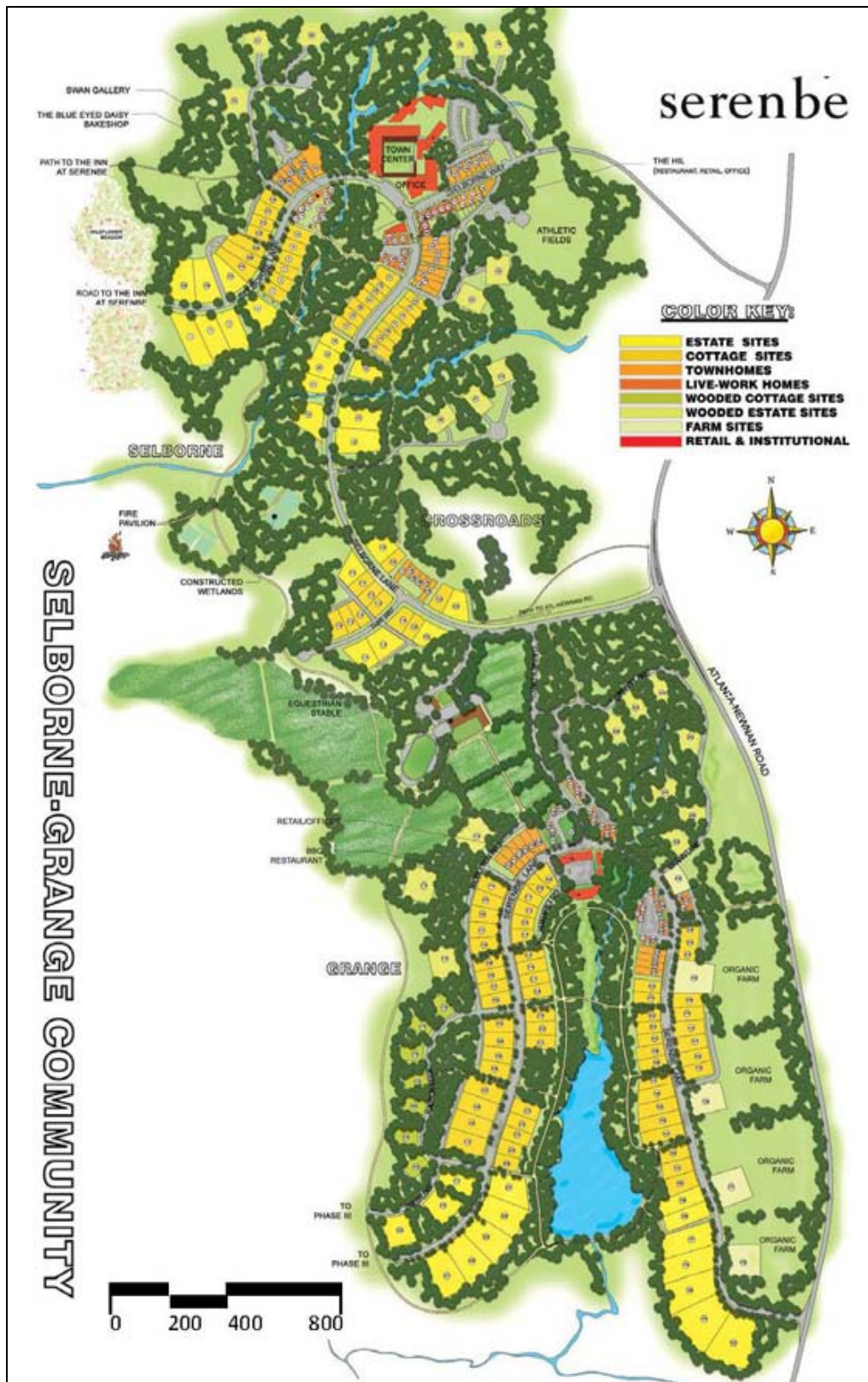


Figure 49 Serenbe, Georgia (Source: The Serenbe Institute)

The entire development of Serenbe is composed of three hamlets that have different functions: Selborne Hamlet, oriented to the arts, Grange Hamlet, oriented to agriculture, and Mado Hamlet, oriented to health and wellness. Currently, Selborne Hamlet is almost complete, Grange Hamlet is under construction, and Mado Hamlet is in the conceptual planning stage (May 2010).⁴¹

Chattahoochee Hills (formerly, Chattahoochee Hill Country), a white, homeowner-dominated community, was incorporated as a city in 2007. Unlike the rest of metro Atlanta, most of the area remains undeveloped and maintains rural characteristics although it is zoned for one-acre residential unless the TDR is used.

- *Distinct Contexts of the Matched Pair*

Gorham's Bluff and Serenbe, cases of rural hamlet developments, were difficult to classify into a prototype and an adaptation according to the operational definitions used in this study (e.g., "How much have the actors of the project participated in the New Urbanism movement?"; "Do they think of themselves as New Urbanists?"). That is, the actors of Serenbe (the developer and the urban designer), reluctant to define themselves as New Urbanists, understand most New Urbanism principles no less than but perhaps better than the actors of Gorham's Bluff, who were willing to define themselves as New Urbanists. However, the former had participated in the New Urbanism movement less actively than the latter. Certainly, because of the discrepancy between the high-level knowledge yet low-level commitment to the New Urbanism model of the actors of

⁴¹Serenbe Community website, visited on April 23, 2010 (<http://www.serenbecommunity.com/home.html>)

Serenbe, the classification of the cases became more difficult. However, it has also provided an opportunity to observe how such eclectic followers, who understand the model well and share the goals of the model but are more flexible in practice, actually implement the principles.

Table 13 General Information of the Rural Hamlet/2nd Home Community Pair: Gorham’s Bluff and Serenbe

Gorham’s Bluff (Prototype)	Serenbe (Adaptation)
<ul style="list-style-type: none"> · Rural hamlet development · 2nd home community · Mixed uses (residential, retail, and lodging) · Private-driven development · Project area: 186 acres 	<ul style="list-style-type: none"> · Rural hamlet development · 2nd home community · Mixed uses (residential, retail, lodging, and a school) · Private-driven development · Project area: 900 acres

6.3. Perceptions of New Urbanism Principles

In this section, the first prediction (or hypothesis), saying that enthusiastic proponents of the New Urbanism perceive the New Urbanism principles more positively than eclectic followers of the New Urbanism, are compared with the case observation. Data about the actor’s perceptions of the New Urbanism principles were collected mainly through interviews and supplemental surveys completed during the interviews. The interviewees were asked about their overall evaluation of the New Urbanism movement and its principles. Then, using supplemental questionnaires, the interviewees scored eleven neighborhood scale New Urbanism principles for six attributes, that is, community quality (social relative advantage), market appeal (economic relative advantage), compatibility, ease (a contrary concept to complexity), trialability, and observability, on a

five-point Likert scale (5: strongly agree, 4: agree, 3: neutral, 2: disagree, 1: strongly disagree).

In addition, decision processes and key decision-makers of each project were identified during the interviews. To get this specific information, interviewees were asked how they made final decisions about design and how was in charge of such decisions (Appendix A.2). The key decision-makers on the project were typically developers, but in some cases, a local municipality (Suwanee Town Center and Smyrna Town Center) or a master planner (Serenbe) was the key decision-maker. In the case of Serenbe, both the landowner and the master planner were considered as the key decision-makers. In the analysis of the relationship between the perception and the implementation of New Urbanism principles, the perceptions of key decision-makers are important because they are expected to influence the implementation of the principles more directly than others.

Figure 50 compares the perceptions of key decision-makers and all the actors (including the key decision-makers) of the eleven New Urbanism principles, the information of which was collected from the supplemental surveys. The t-test about the difference of means between the responses of the proponents and those of the followers showed that the difference between them is statistically significant at 95 % confidence level.⁴² Generally, the perceptions of key decision-makers and all actors show similar patterns, but the differences between enthusiastic proponents and eclectic followers are a little greater among key decision-makers than they are among all actors. In particular, among the enthusiastic proponents who were the key decision-makers, perceptions were

⁴² In the case of all actors, the p-value from the t-test (one-tailed—assuming that proponents response more positively than followers) is 0.035 and in the case of key decision-makers, the p-value is 0.015.

more positive than those who were actors; by contrast, among the eclectic followers, the difference was negligible.

In the analysis of this case study, I focused on the perceptions of key decision-makers because as already mentioned, their perceptions might be more closely related to implementation than those of all actors. The key decision-makers' overall perceptions of the eleven New Urbanism principles were analyzed from their responses in the supplemental surveys with a five-point Likert scale, and then, the results were further explained by detailed answers given by actors during the interviews.

With regard to the key decision-makers' overall perception of the New Urbanism Principles, Figure 50 (Left graph) shows 1) that both the enthusiastic proponents and the eclectic followers scored the New Urbanism principles positively (over 3.0 points out of the 5.0 point scale); and 2) that the enthusiastic proponents and the eclectic followers show the biggest difference for the principle of interconnected street design (Street Connectivity).

With regard to their detailed perception for the six attributes of the New Urbanism Principles, community quality, market appeal (Figure 51), compatibility, ease (Figure 52), trialability and observability (Figure 53), the first finding is that the enthusiastic proponents scored most attributes of New Urbanism principles (except compatibility) more positively than the eclectic followers, like the first prediction of the case study.

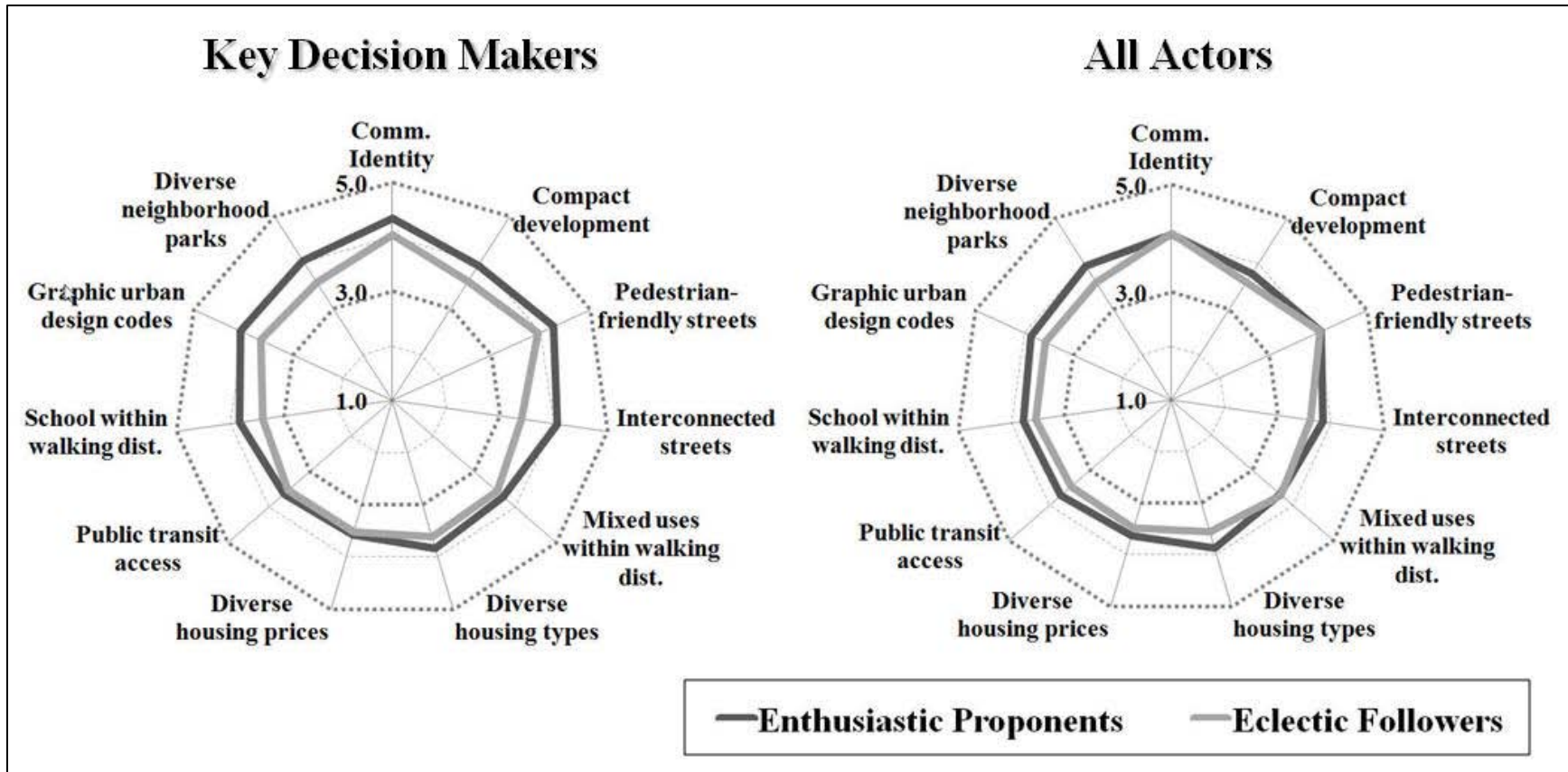


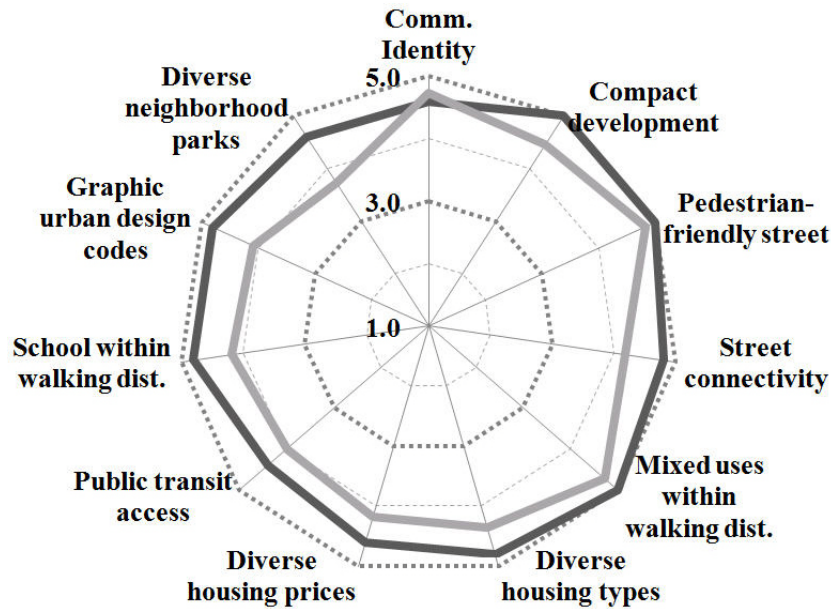
Figure 50 Perceptions of New Urbanism Principles: Key Decision Markers vs. All Actors

Regarding the compatibility of the New Urbanism principles with conventional neighborhood development practice, both the enthusiastic proponents and the eclectic followers responded negatively (lower than 3.0 points out of 5.0 point scale). In particular, the enthusiastic proponents scored even lower than the eclectic followers for six out of the eleven New Urbanism principles (Figure 52), which is contrary to the predicted pattern that enthusiastic proponents score all attributes of all New Urbanism principles higher than eclectic followers. Such responses could be explained by the enthusiastic proponents' more critical attitude against conventional neighborhood development practices that have led to the current disordered state of sprawl in the United States.

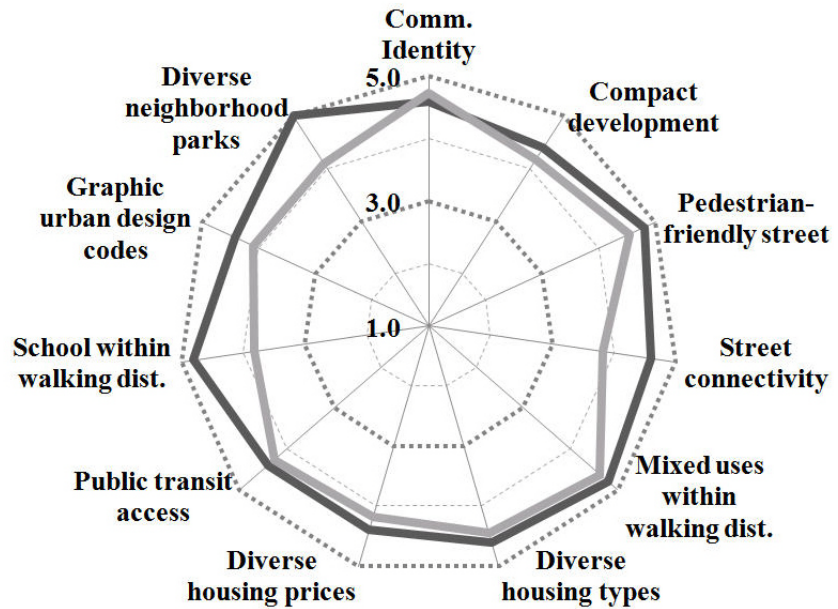
The second finding is that both groups scored higher the attributes related with values or goals of the New Urbanism principles such as community quality and market appeal than other instrumental attributes such as compatibility, ease, trialability, and observability (Figure 51, Figure 52 and Figure 53). This finding suggests that both groups agree on the potential contributions of the New Urbanism principles, but they perceived the feasibility of the implementation of the principles relatively low.

The third finding is that the enthusiastic proponents and the eclectic followers show the biggest difference for the ease of the New Urbanism principles, particularly, interconnected streets and graphic urban design codes (Figure 52). This finding suggests that the enthusiastic proponents may be more knowledgeable about the New Urbanism principles than the eclectic followers.

Community Quality



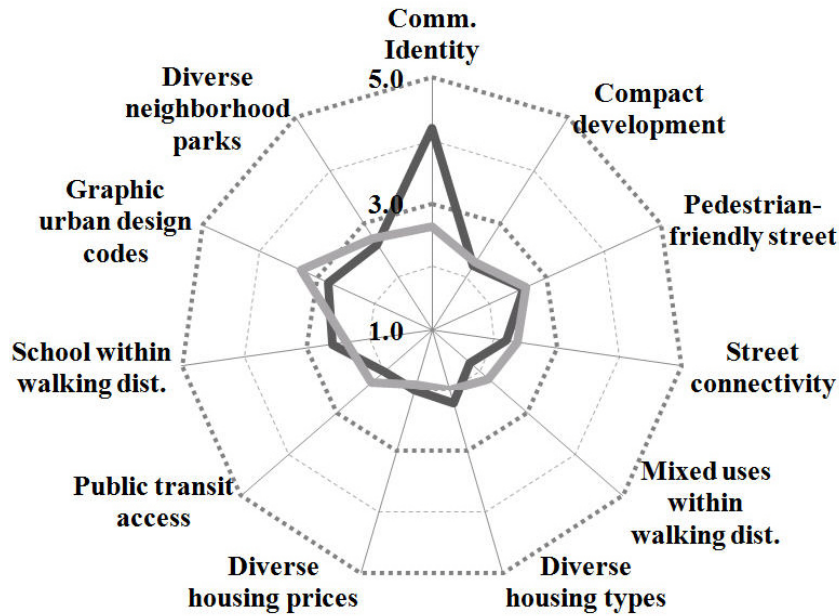
Market Appeal



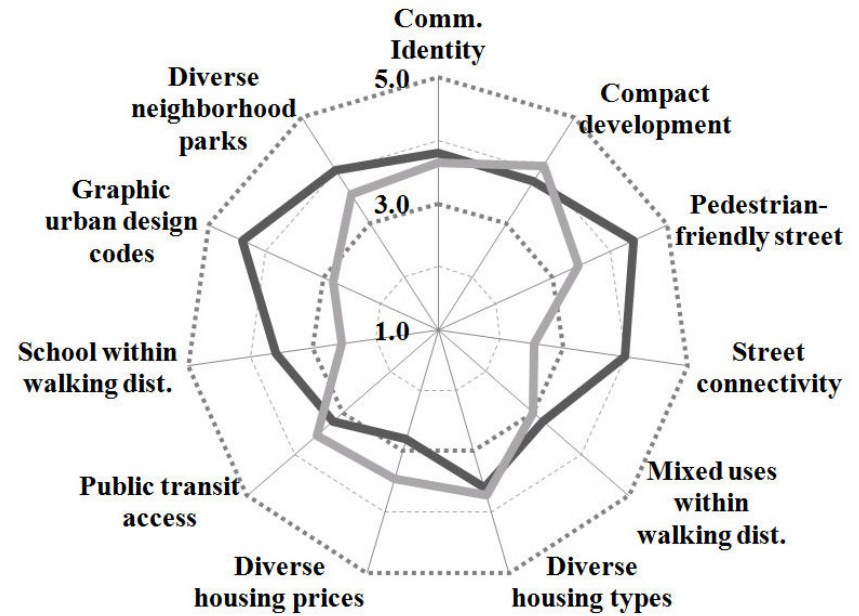
— Enthusiastic Proponents — Eclectic Followers

Figure 51 Key Decision-makers' Perceived Attributes of New Urbanism Principles: Community Quality and Market Appeal

Compatibility



Ease



— Enthusiastic Proponents — Eclectic Followers

Figure 52 Key Decision-makers' Perceived Attributes of New Urbanism Principles: Community Compatibility and Ease

Trialability

Observability

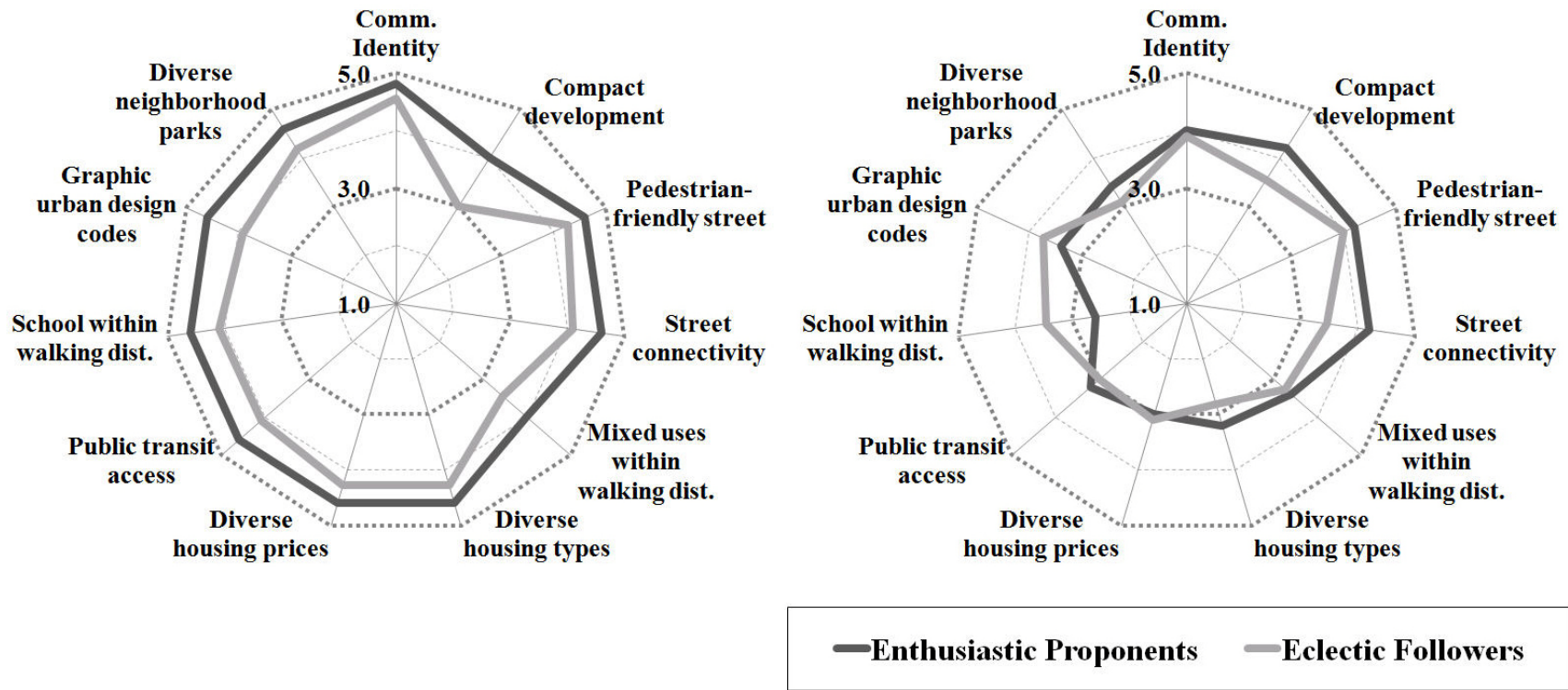


Figure 53 Key Decision-makers' Perceived Attributes of New Urbanism Principles: Trialability and Observability

The actors' detailed responses to the interview questions also support the above findings from the supplemental questionnaires. First of all, most of the enthusiastic proponents and the eclectic followers generally agreed with the New Urbanism movement as an ideal, if not in practice. Some eclectic followers pointed out that the principles of the New Urbanism are not new, but no one disputed the desirability of the principles.

However, on the issue of how to implement New Urbanism principles in practice, the enthusiastic proponents and the eclectic followers expressed differing opinions. That is, most enthusiastic proponents argued that all New Urbanism principles should be used in an integrated fashion because they are intended to work in conjunction; thus compromising some principles might ruin an entire project. By contrast, most eclectic followers argued that New Urbanists should broaden their impact by becoming more flexible in applying their principles to real world projects. Most eclectic followers basically believe that little is better than nothing. In addition, some eclectic followers emphasized the contexts in which the principles are applied and argued for flexibility to achieve better results in given contexts, such as economy, location, and topography. Such disagreement between the enthusiastic proponents and the eclectic followers on how to implement the New Urbanism principles is noticeable from the actors' responses against compatibility in the questionnaires. That is, enthusiastic proponents pursue integrity in implementing the New Urbanism principles because they believe the principles are not very compatible with conventional forms of developments while eclectic followers argue for flexible implementation because they believe the principles still function even if they are combined with conventional development practice.

As the eclectic followers scored this principle much lower in the questionnaires, they expressed objections against the principle of interconnected street design. According to their answers during the interviews, they objected to the principle for several reasons. In the Glenwood Green case, the developer argued against interconnected street design for safety reasons. He said that interconnected street design is not appropriate, particularly in projects in urban core areas such as Glenwood Green because a project is more vulnerable to crime. Therefore, such design negatively impacts the market appeal of the project. In another case, Serenbe, the developer argued against the interconnected grid street system for vehicle circulation, specifically, emphasizing contextual consideration in the implementation of the principle. He said that it is not an appropriate approach for a project in rural hamlet areas like Serenbe, where the importance of topography and pedestrian connections supersedes that of vehicle circulation.

6.4. Implementation of New Urbanism Principles

In this section, the approaches to the implementations of the eleven New Urbanism principles of the six matched pair cases are analyzed in detail. For each principle, the analyses were conducted, and the observations of the implementation patterns derived from the interviews, document analysis, and site visits were compared with the second predicted pattern: prototypes developed by enthusiastic proponents incorporate more New Urbanism principles and do so more thoroughly than adaptations developed by eclectic followers. The third predicted pattern, saying that the New Urbanism principles that actors perceive more positively are implemented more often and more thoroughly than those that actors perceive less positively, is discussed later in the

next section, which shows the link between perception and implementation of New Urbanism principles.

6.4.1. Creation of an Identifiable Community

The degrees of implementation of the principle are compared by the seven criteria for an identifiable neighborhood suggested by Christopher Alexander (Alexander, et al., 1977): small population; ⁴³ small area; no major road passing through; main gateways; neighborhood boundary; visible center (a green or a square); and house cluster. Alexander suggested these criteria based on empirical studies in anthropological literature. An investigation using these criteria shows that the creation of an identifiable neighborhood was accomplished to some degree by both of the prototypes and the adaptations. Most of the cases except Inman Park Village satisfy at least five out of the seven criteria, and no noticeable superiority of the prototypes to the adaptations in implementation is observed (Table 14). In the case of Inman Park Village, the actors regarded the identity of the larger Inman Park neighborhood more important than that of the individual project, and therefore, emphasized the seamless integration of the project into the surrounding Inman Park neighborhood. In practical terms, actors' respect for the identity of the larger Inman Park neighborhood was reflected in the design of Inman Park Village. For example, buildings located on the boundary of the project follow the form and mass of the existing buildings of the adjoined surrounding areas.

⁴³ Christopher Alexander suggests a population of 500 as the appropriate limit that the members of a neighborhood could reach a consensus on decisions related with communal interests based on empirical studies in anthropological literature (Alexander, et al., 1977). In the analysis, I used 500 households, instead of 500 persons, as one of the criteria for the creation of an identifiable neighborhood.

Table 14 Implementation of Creation of an Identifiable Neighborhood / Seven Criteria for an Identifiable Neighborhood

7 Criteria for an Identifiable Neighborhood	Urban Infill / Brownfield		Urban Infill / Historic Area		Suburban / Town Center		Suburban / Main Street		Exurban / Greenfield		Rural Hamlet / 2 nd Home Comm.	
	Prototype	Adaptation	Prototype	Adaptation	Prototype	Adaptation	Prototype	Adaptation	Prototype	Adaptation	Prototype	Adaptation
	Glenwood Park	Glenwood Green	Clark's Grove	Inman Park Village	Woodstock Downtown	Suwanee Town Center	Smyrna Town Center	Perimeter Place	Vickery	Tributary	Gorham's Bluff	Serenbe
	7	5	6	4	5	7	7	7	6	5	5	7
Small population (500 households)	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓
Small area (300 yard radius)	✓	✓	✓	✓	✓	✓	✓	✓				✓
No major road passing through	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓
Main gateways	✓	✓				✓	✓	✓	✓	✓		✓
Neighborhood boundary	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓
Visible center	✓		✓		✓	✓	✓	✓	✓	✓	✓	✓
House cluster	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

In addition to satisfying these criteria, the enthusiastic proponents made further efforts in most prototypes to create architectural authenticity to preserve the historic characteristics of the projects by strictly applying traditional architectural standards to each building. By contrast, in most cases of the adaptations, eclectic followers did not strictly apply traditional architectural standards to their projects because they thought they were too costly and thus not amenable to affordable housing (e.g. Glenwood Green, Suwanee Town Center, and Tributary) or because they were not appropriate to their given contexts (e.g. Inman Park Village and Serenbe).

6.4.2. Compact Development

A comparison of the degree of implementation of this principle in the cases used the following two indicators: 1) housing density (number of the housing units per acre), especially, relative housing density (in comparison with the surrounding area housing density⁴⁴) for a fair comparison of cases in the different locations and 2) lot sizes of single family dwellings. In particular, lot sizes of single family dwellings are a micro indicator describing the compactness of residential areas while housing density shows the intensity of the overall development of a project. These two indicators are expected to supplement each other for more precise observation of compactness in each case. For

⁴⁴ The 2000 census data were used for the housing density of the surrounding areas except for Serenbe case. In the case of Serenbe, the 2000 census data about the number of housing units for the surrounding area (the City of Chattahoochee Hills) is not available because the city was newly incorporated in 2008. However, information about the population density in 2000 was available from the city web site and was used for analysis. The comparison could show that the housing density of Serenbe is over 12 times larger than the city average population density. This comparison for Serenbe is valid because population density is larger than housing density in general.

example, with only housing density, we cannot tell a project that is designed with small lots and large park areas from a project that has large lots with small park areas. On the other hand, with only lot sizes, we cannot see the overall development intensity of a project.

The comparison of housing densities, shown in Table 15, indicates that most of the projects developed land more intensively than the surrounding areas excepting for two projects: Smyrna Town Center (Suburban / Main Street—Prototype) and Tributary (Exurban / Greenfield—Adaptation). The Smyrna Town Center was developed as a communal center in which civic and commercial uses, not residential use, are dominant. It is zoned as a Central Business District that serves the entire city of Smyrna. Therefore, in the Smyrna case, housing density might not be a good measure of compactness. In addition, the public acceptance of compact development mattered at the time of development. The Smyrna Town Center development began in 1988 when New Urbanism ideas, specifically compact development, were too new for the Smyrna citizens to readily accept. Even developers participated in the project were skeptical about how much demand the Smyrna area would have for compact development. Therefore, the portion of residential use in the whole project was limited. However, the residential portion of the project was still designed in compact form, as shown in Table 16.

Table 15 Implementation of Compact Development / Housing Density (Housing Unit per Acre)

Housing Density	Urban Infill / Brownfield		Urban Infill / Historic Area		Suburban / Town Center		Suburban / Main Street		Exurban / Greenfield		Rural Hamlet / 2 nd Home Comm.	
	Prototype	Adaptation	Prototype	Adaptation	Prototype	Adaptation	Prototype	Adaptation	Prototype	Adaptation	Prototype	Adaptation
	Glenwood Park	Glenwood Green	Clark's Grove	Inman Park Village	Woodstock Downtown	Suwanee Town Center	Smyrna Town Center	Perimeter Place	Vickery	Tributary	Gorham's Bluff	Serenbe
Site (units / acre)	13.0	16.8	4.89	29	12.7	3.7	1.32	13.1	2.40	2.03	3.43	0.85
Surroundings (units / acre)	1.57	1.57	0.51	2.67	0.73	0.50	4.00	4.27	1.18	2.36	0.11	0.07
Relative Housing Density (Site/Surroundings)	8.3	10.7	9.6	10.8	17.4	7.4	0.3	3.1	2.0	0.9	31.2	12.1

Table 16 Implementation of Compact Development / Lot Size (Square Feet)

Urban Infill / Brownfield		Urban Infill / Historic Area		Suburban / Town Center		Suburban / Main Street		Exurban / Greenfield		Rural Hamlet / 2 nd Home Comm.	
Prototype	Adaptation	Prototype	Adaptation	Prototype	Adaptation	Prototype	Adaptation	Prototype	Adaptation	Prototype	Adaptation
Glenwood Park	Glenwood Green	Clark's Grove	Inman Park Village	Woodstock Downtown	Suwanee Town Center	Smyrna Town Center	Perimeter Place	Vickery	Tributary	Gorham's Bluff	Serenbe
2,500 ~ 6,600	N/A (townhomes only)	3,000 ~ 11,000	4,500 ~ 6,500	3,000 ~ 5,500	3,500 ~ 5,100	5,000 ~ 5,400	N/A (apartments & condos only)	3,500 ~ 16,000	4,000 ~ 83,000	1,700 ~ 33,000	2,300 ~ 23,000

After completion of this project, the Smyrna Town Center project changed people's views on compact development, and now even denser developments are being developed in the area. In the case of Tributary, the developer said that uneven topography of the site made it more difficult to develop the project more compactly. Another reason for the low housing density in Tributary was that the developer included conventional types of developments in the project such as an office park and a conventional single family subdivision. The developer, as an eclectic follower, had less confidence about the success of the compact New Urbanism community and therefore, diversified his investments in the project.

The comparison of single family lot sizes in Table 16 shows that most of the prototypes and the adaptations (except Tributary) were developed in compact form. The largest single family lot size in urban and suburban projects is smaller than 0.25 acres and the largest, even in exurban and rural hamlet projects, is much smaller than one acre. However, in the case of Tributary, the developer, as already described, was very cautious in fully implementing the New Urbanism principle. Therefore, he mixed small lots (less than 0.5 acres) with large lots (up to two acres) to hedge the potential risk of compact development (Table 16).

6.4.3. Pedestrian-Friendly Street Design

The degrees of implementation of this principle are compared by the types of street design features for pedestrians implemented in each project. Figure 54 shows the streetscapes of the twelve cases. First of all, both the prototypes and the adaptations incorporated basic street design elements for pedestrians, such as sidewalks, on-street

parking, street trees, and street lights, with one exception, Glenwood Green, which does not have sidewalks but only one pedestrian path separated from the streets. Therefore, if they are walking, residents have to share the roadways with vehicles. However, pedestrians are not disturbed much by vehicles because Glenwood Green is a gated community with a low volume of pass-through vehicle traffic.

However, advanced design features for pedestrians such as narrower streets (Figure 54), interconnected streets, a street-alley system, and hidden parking lots (Figure 56), are implemented more thoroughly in the prototypes than in the adaptations. For example, the main streets of the Suwanee Town Center and Perimeter Place are much wider than those of their prototype pairs because they add more angled on-street parking on the main streets to satisfy the desires of potential tenants of the commercial spaces, who want more parking spaces in front of their shops. The advanced design features listed above may cause inconvenience in vehicle use for the sake of pedestrians while the influence of the basic elements on vehicle traffic is minimal (except on-street parking). For example, pedestrians feel safer and more comfortable on narrow streets because the speed of vehicle traffic on narrow streets tends to be lower. When there are such conflicts between pedestrians and vehicles, most adaptations favor vehicles over pedestrians. One exception is Serenbe, which not only incorporated most basic elements and advanced design features for pedestrians (except interconnected streets) but also developed dense pedestrian path network elaborately.

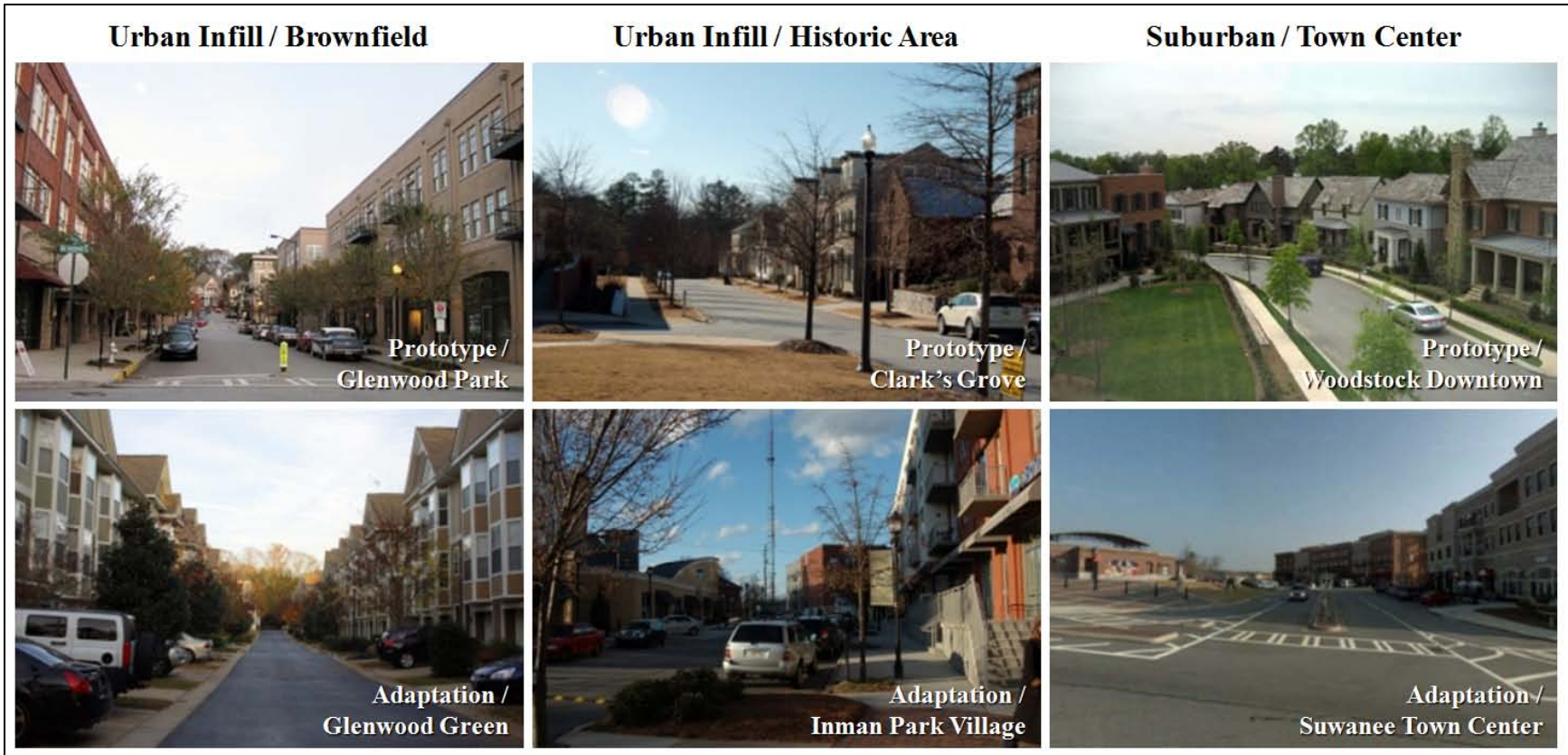


Figure 54 Implementation of Pedestrian-Friendly Street Design I / Sidewalks, Trees and Street Lights, and Street Widths



Figure 55 Implementation of Pedestrian-Friendly Street Design II / Sidewalks, Trees and Street Lights, and Street Widths

6.4.4. Interconnected Street Design

The degrees of implementation of this principle are compared in two different ways: internal and external connectivity. Internal connectivity of each project is compared by the number of intersections within a given area (e.g. 0.25x0.25 miles) (Figure 56), and external connectivity is compared by the number of entrances per acre to evaluate the connectivity of the projects with the surrounding areas (Table 17).

As for internal connectivity, when the numbers of intersections are simply compared, the prototypes show higher internal connectivity than the adaptations in four of the six pairs (Figure 56). The first pair that does not follow the predicted pattern is the Smyrna Town Center and Perimeter Place. In this pair, although the Smyrna Town Center, the prototype, has slightly better internal connectivity than Perimeter Place, the adaptation, the difference is negligible. The same reason given for the low housing density of the Smyrna Town Center—the lower level of public acceptance of New Urbanism in Smyrna during the early 1990s—may be applicable here as well. Another pair that does not follow the predicted pattern is Vickery and Tributary. In this pair, Tributary, the adaptation, shows higher internal connectivity than Vickery, the prototype because Vickery preserves a larger area of natural land than Tributary. When only the residential areas without park areas are compared, they show similar intersection density.

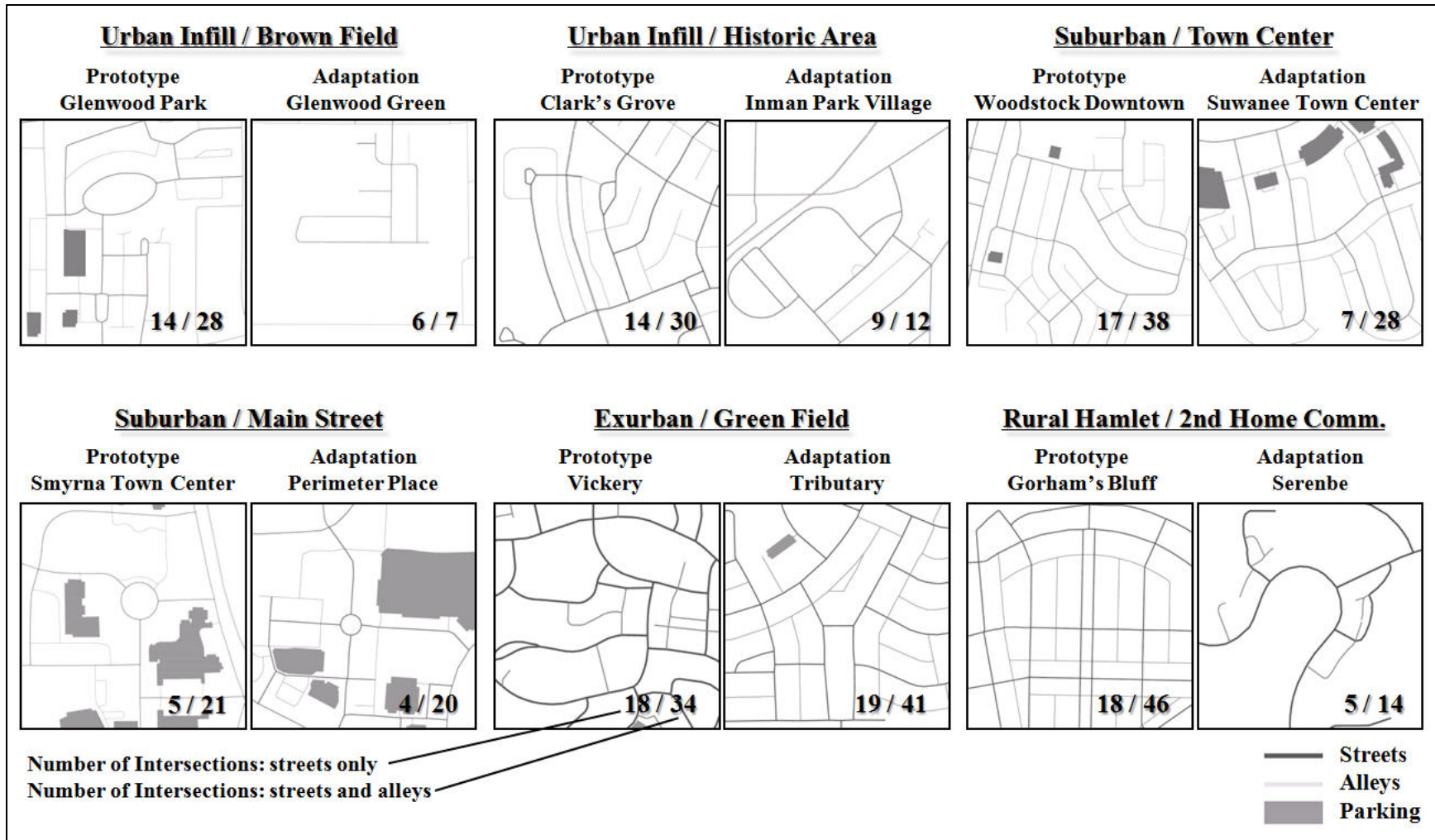


Figure 56 Implementation of Internal Connectivity / Number of Intersections within 0.25x0.25 Miles

Besides these two exceptions, one more pair that follows the predicted patterns but requires further discussion is Gorham's Bluff and Serenbe. The internal connectivity of Gorham's Bluff is over three times as high as that of Serenbe, and even higher than any other prototypes. However, because it is located in an extremely rural area, such higher internal street connectivity (especially for vehicles) might not be appropriate for Gorham's Bluff. Moreover, with its small number of destinations within the site and its extremely low external connectivity, the dense internal street network of Gorham's Bluff might be too much (Table 17). In the case of Serenbe, internal connectivity for vehicles is the lowest among the cases. However, its well-designed pedestrian paths and the omega-shaped street pattern compensate for the low internal street connectivity and provide better access to the nature with much less damage on it (Figure 57).

As for external connectivity, most pairs follow the predicted pattern except the urban infill / historic area pair and the rural / hamlet pair: that is, the prototypes show higher external connectivity than the adaptations. The first exception is Clark's Grove and Inman Park Village, which show the same external connectivity. However, when their locations are considered, Clark's Grove may implement external connectivity more thoroughly than Inman Park Village in their given contexts. That is, the former is located in a small city (Covington), and the latter is located in a large city (Atlanta). Moreover, Clark's Grove has lower housing density than Inman Park Village. This means the entrances of the latter might be more congested than those of the former. The second exception is Gorham's Bluff and Serenbe. Gorham's Bluff has the lowest external connectivity among the cases but the highest internal connectivity. However, Serenbe also shows low level of external connectivity (but still higher than Gorham's Bluff),

which is balanced with its low level of internal connectivity (Figure 56, Figure 57, and Table 17).

Table 17 Implementation of External Connectivity / Number of Entrances per Acre

Urban Infill / Brownfield		Urban Infill / Historic Area		Suburban / Town Center	
Prototype	Adaptation	Prototype	Adaptation	Prototype	Adaptation
Glenwood Park	Glenwood Green	Clark's Grove	Inman Park Village	Woodstock Downtown	Suwanee Town Center
6/28 = 0.21	1/11 = 0.09	9/68 = 0.13	3/21 = 0.14	11/64 = 0.17	4/63 = 0.06
Suburban / Main Street		Exurban / Greenfield		Rural Hamlet / 2nd Home Comm.	
Prototype	Adaptation	Prototype	Adaptation	Prototype	Adaptation
Smyrna Town Center	Perimeter Place	Vickery	Tributary	Gorham's Bluff	Serenbe
8/33 = 0.24	9 / 42 = 0.21	6/214 = 0.03	7/565 = 0.01	2/186 = 0.01	4/224 = 0.02

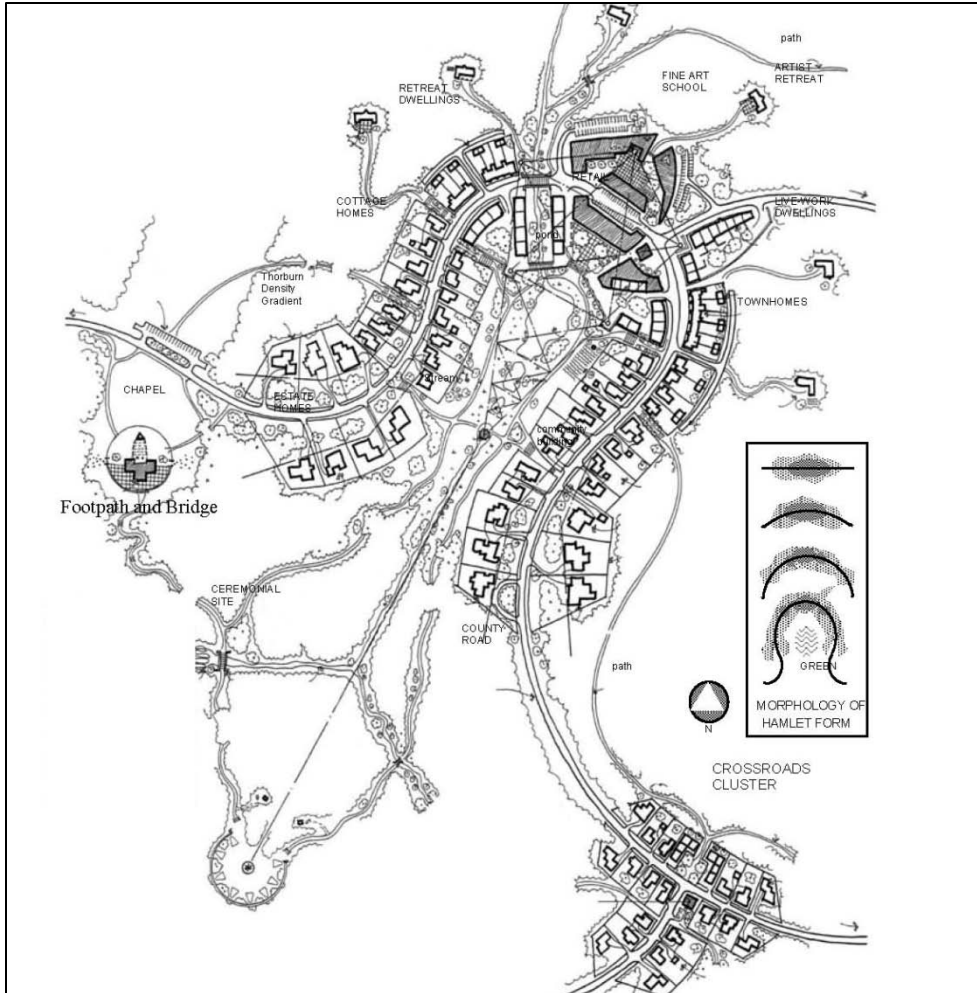


Figure 57 Omega-Shaped Streets and Pedestrian Path System in Serenbe (Tabb & Deviren, 2005)

6.4.5. Mixed Uses within Walking Distance

The degrees of implementation of this principle are compared by the following two indicators to see, first, whether the services provided in each project are accessible to the residents by walking or biking, and second, whether the services are sufficient to support everyday activities: 1) the proportion of housing units located within one-fourth mile from the service center of each project; and 2) the sizes and the types of the services provided.

The comparison using the first indicator shows that in most cases (both the prototypes and the adaptations), except Glenwood Green and the exurban pair, the service centers are located within one-fourth mile from most residential units (Figure 58 and Figure 59). First, Glenwood Green is a single use (residential) development with no commercial uses for the residents within the project. However, it is still within one-fourth mile from the commercial center of Glenwood Park. Such adaptations' sharing the service area of the prototype benefits both of them. It may relieve the lack of patrons that most commercial areas of prototypes have suffered as well as it provide services that may lack in adaptations. Actually, the developer of Glenwood Park was pleased that Glenwood Green residents patronize the Glenwood Park commercial district and Glenwood Green advertized its proximity to the commercial district in its sales pamphlets. Many other developers of the prototypes also expressed more difficulties in selling the commercial spaces than their residential units.

Second, in the case of the exurban pair, more than half of the residential units are beyond walking distance (one-fourth mile) from their commercial centers in both Vickery (prototype) and Tributary (adaptation). Here, the comparison of this exurban pair with the rural hamlet pair suggests an interesting implication about their different contexts. In exurban settings, a New Urbanism project often has difficulties in developing the project densely due to neighborhood opposition from the surrounding areas or limited housing demand. Therefore, the project needs to attract outsiders and make up for the lack of inside patrons by locating its commercial center on the project boundary that adjoins a major thoroughfare. These two contextual decisions (developing less densely and locating its commercial center on the project boundary) might increase the distance from

a home to the service area in exurban projects. By contrast, in rural hamlets, services, such as retail and restaurants could be located at the center of the projects because they are located away from any major thoroughfare, and few outsiders are expected to use the services. Both of the rural hamlet cases have multiple service centers that are located within walking distance from most residential units (Figure 59).

The comparison of implementation using the second indicator, types and sizes of provided services, shows that most cases, except Clark's Grove (prototype) and Glenwood Green (adaptation), include considerable service area. While Clark's Grove, a new project a half mile away from historic downtown Covington, has only one coffee shop and one salon within the project until now (May 2010), its adaptation pair, Inman Park Village, located inside the historic Inman Park neighborhood close to downtown Atlanta, has access to plentiful existing retail and restaurants as well as its own service area. As mentioned above, Glenwood Green does not include any service use within the project.

The comparisons based on the above two indicators altogether show that the observations are not consistent with the second prediction. That is, the prototypes do not show consistent superiority over the adaptations in implementing this principle. As shown in the discussion for the urban infill / historic area pair of Clark's Grove and Inman Park Village, the exurban pair of Vickery and Tributary, and the rural hamlet pair of Gorham's Bluff and Serenbe, their various locations seem to have a greater influence on the degrees of implementation of this principle than the difference between attitudes of enthusiastic proponents and those of the eclectic followers (Figure 58, Figure 59 and Table 18).

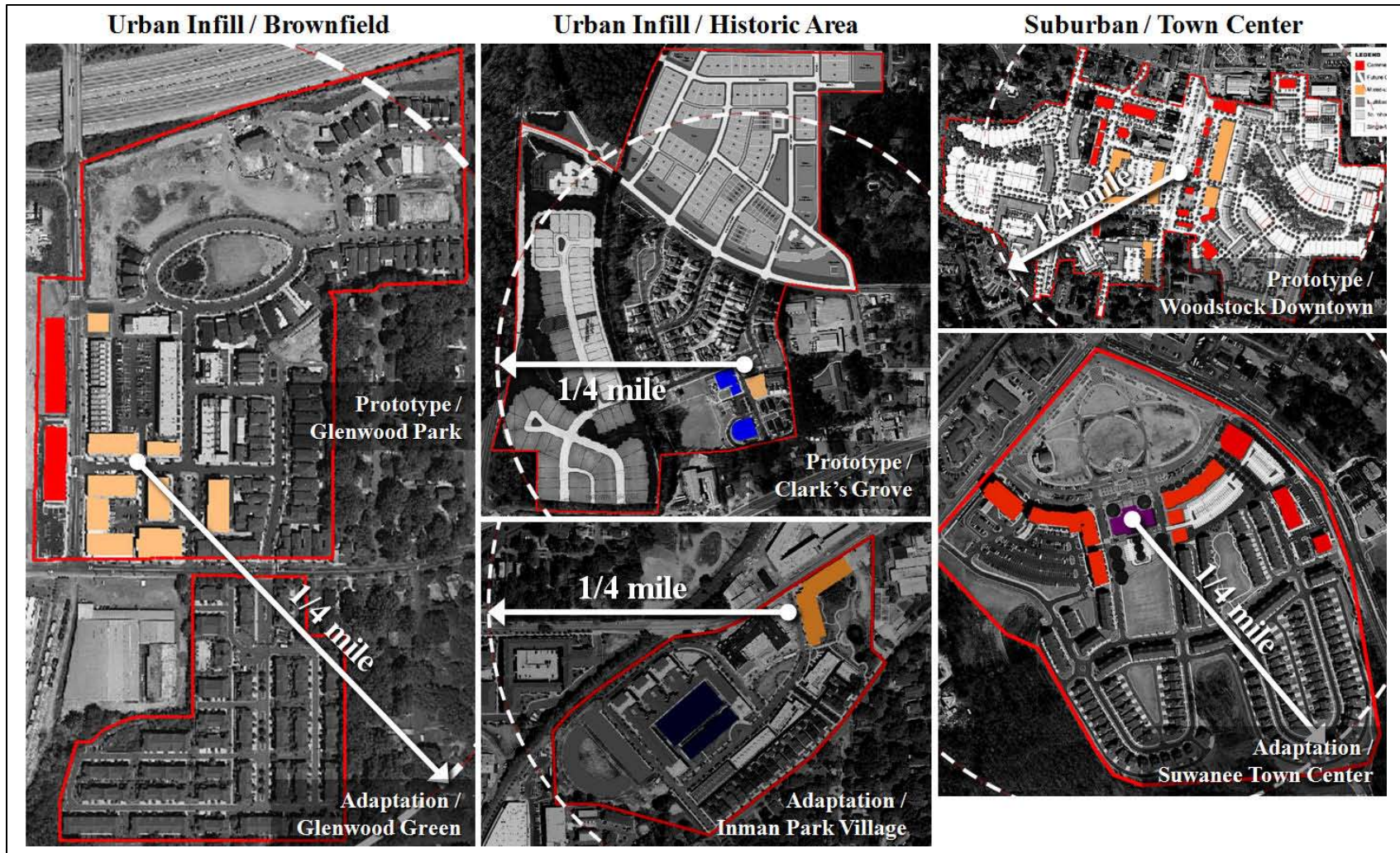


Figure 58 Implementation of Mixed Uses within Walking Distance I / Proportion of the Residential Area within One-Fourth Mile from the Service Center

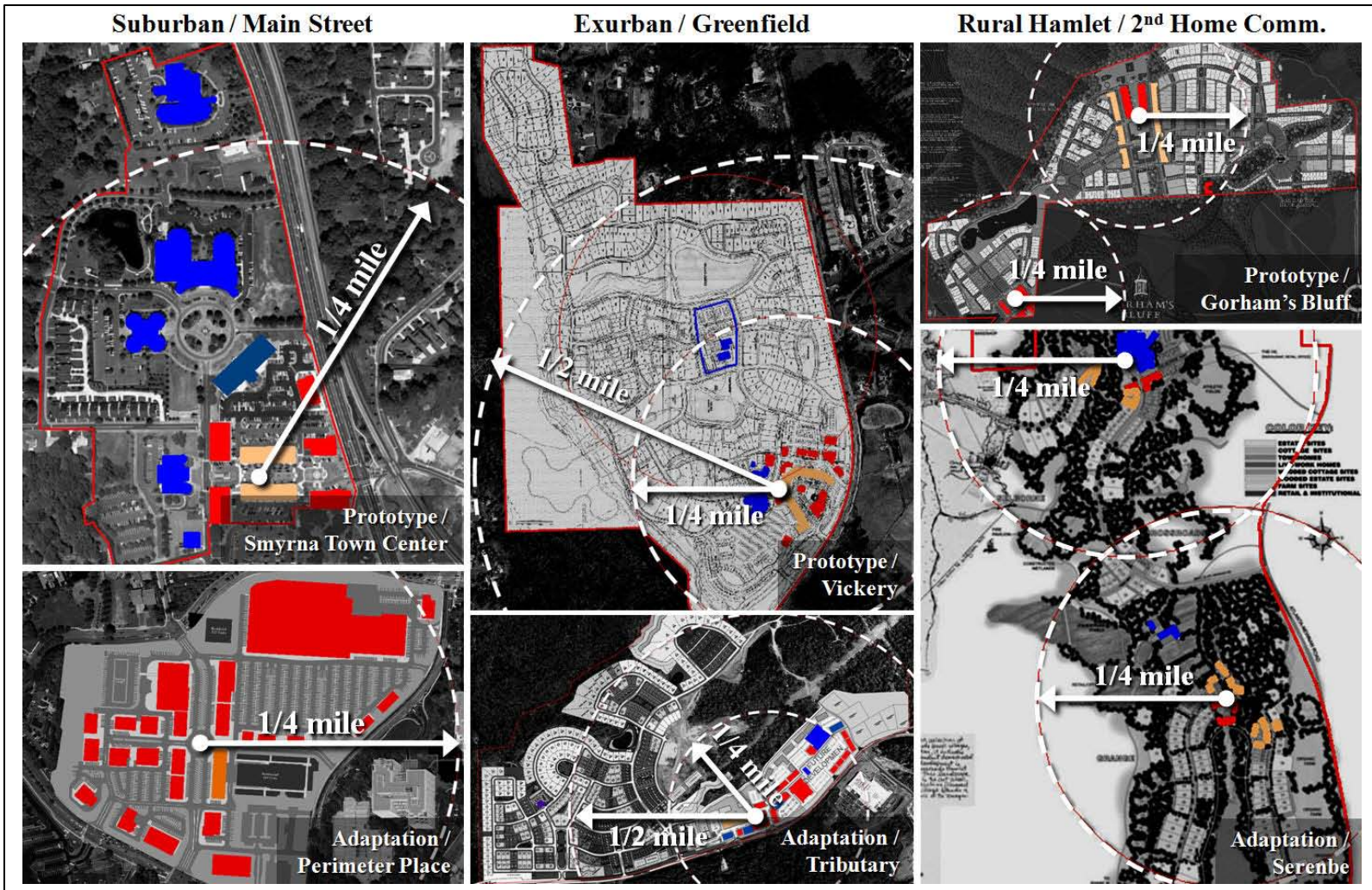


Figure 59 Implementation of Mixed Uses within Walking Distance II / Proportion of the Residential Area within One-Fourth Mile from the Service Center

Table 18 Implementation of Mixed uses within Walking Distance / Types and Sizes of the Services

Urban Infill / Brownfield		Urban Infill / Historic Area		Suburban / Town Center	
Prototype	Adaptation	Prototype	Adaptation	Prototype	Adaptation
Glenwood Park	Glenwood Green	Clark’s Grove	Inman Park Village	Woodstock Downtown	Suwanee Town Center
Retails: 50,000 SF Offices: 20,000 SF	Accessible to the services of Glenwood Park (1/4 mile distance)	A coffee shop & a salon Live/Works are planned (10+ units)	Retail & restaurants: 24,500 SF Offices: 29,000 SF Dozens of retail and restaurants in the existing neighborhood within walking distance	Retail & restaurants: 85,000 SF Offices: 22,000 SF Existing retail & restaurants in the historic district (20,000 SF) Civic uses are planned in the future plan	Retail & restaurants: 82,970 SF Offices: 63,500 SF City Hall: 23,600 SF
Suburban / Main Street		Exurban / Greenfield		Rural Hamlet / 2nd Home Comm.	
Prototype	Adaptation	Prototype	Adaptation	Prototype	Adaptation
Smyrna Town Center	Perimeter Place	Vickery	Tributary	Gorham’s Bluff	Serenbe
Retails: 46,000 SF Offices: 58,000 SF 4 restaurants Civic buildings (a city hall, a public library, and a community center)	Retail & restaurants (including Super Target): 452,000 SF	Retails: 70,000 SF Offices: 80,000 SF YMCA: 50,000 SF	Retails: 205,582 SF Offices: 32,441 SF Fitness & social services: 65,530 SF Only 1 retail building has been constructed	Retail & offices: 108,200 SF 52 Live/Work units None has been constructed	Retail & offices: 121,950 SF 69 Live/Work units

6.4.6. Diverse Housing Types and a Broad Range of Prices

The degrees of implementation of these two principles are compared at the same time because housing prices are closely related with housing types. People with different needs and budgets may seek housing of various sizes and types. For example, a family with children may need a single family home with a back yard, and in this case, a small

size condominium at the same or a cheaper price might not be a practical option for the family.

First of all, the comparison of housing type composition does not present consistent difference between the prototypes and the adaptations. Most cases include three or more housing types except Glenwood Green and the suburban / main street pair (Figure 60). Glenwood Green provides one housing type, townhomes. However, by providing townhomes in the area where single family homes are dominant, it increased the housing diversity of the larger community. In the suburban / main street pair, the Smyrna Town Center was developed as a community center that provides communal and commercial services for all Smyrna citizens while Perimeter Place was developed as a metropolitan scale shopping center. Residential use is not a main but supplementary use in both projects.

Although the simple comparison of the numbers of housing types incorporated by the prototypes and the adaptations exhibits no consistent difference, a further comparison of housing type details reveals several interesting findings. For one, the prototypes incorporated traditional architectural styles more thoroughly with more details and expensive construction standards than the adaptations (Figure 61).

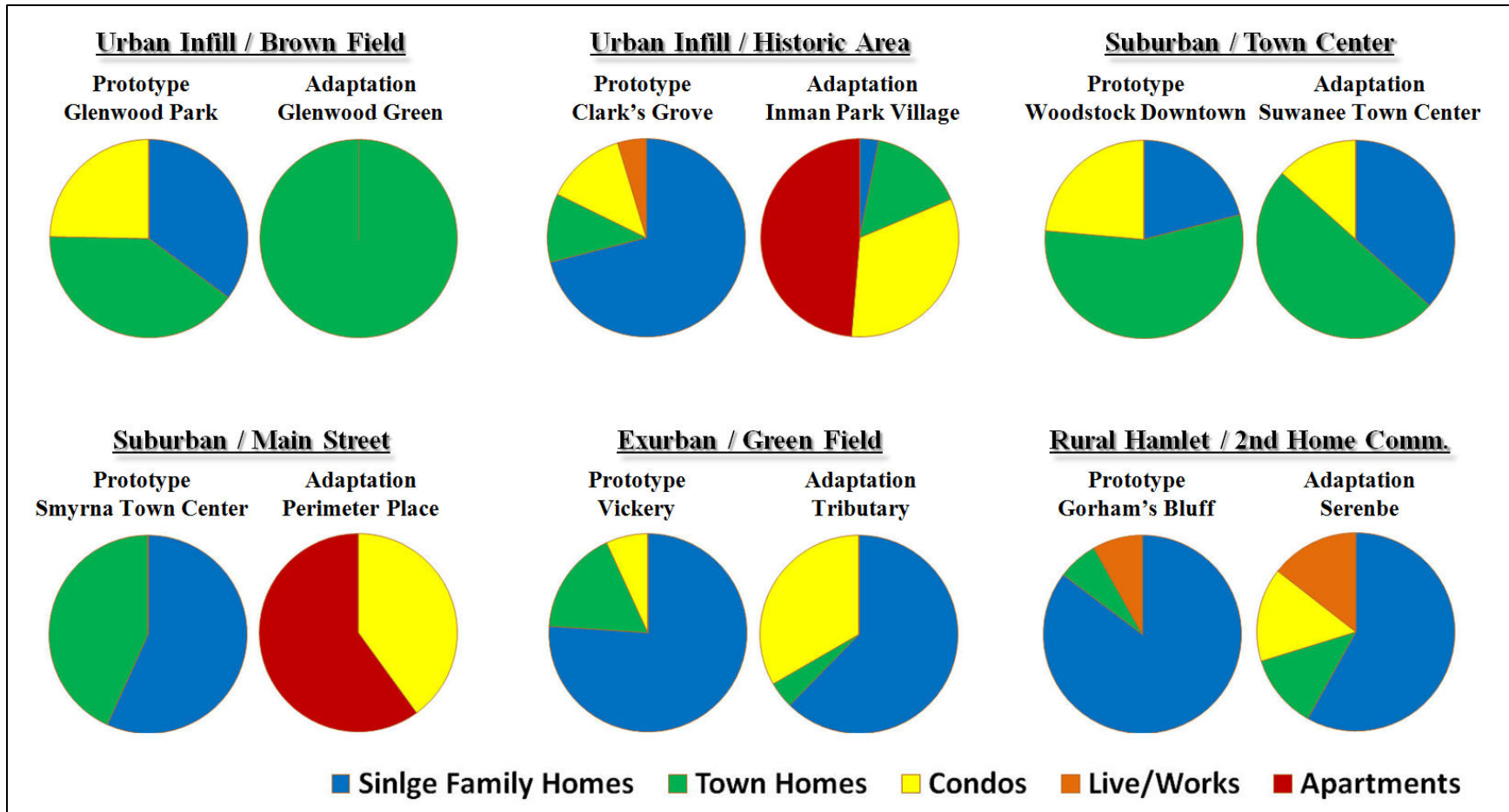


Figure 60 Implementation of Diverse Housing Types / Composition of Housing Types

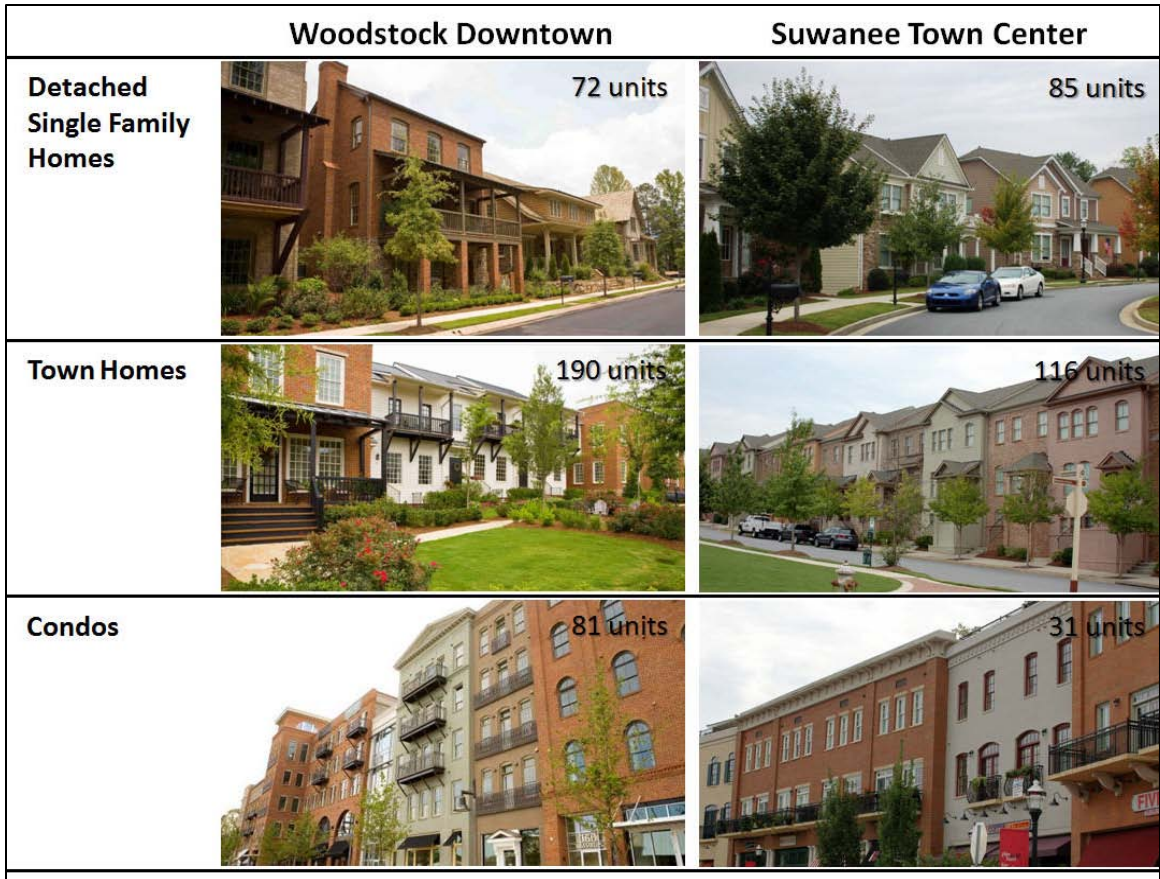


Figure 61 An Example of Differences between Prototypes and Adaptations in Architectural Styles (e.g., more diverse styles in prototypes than in adaptations)

According to the urban designer of Woodstock Downtown, “even the best plans need good architecture to make them work.” In addition, most projects (especially the prototypes) did not include apartments as a housing option, and only two adaptations located near universities (Inman Park Village) or office areas (Perimeter Place) include apartments (Figure 60). It might be because the actors, particularly, the enthusiastic proponents, think the inclusion of a large number of rental housing units would not be suitable for the fundamental goal of the New Urbanism, which is community building. For example, the actors of the Smyrna Town Center said that an increase in

homeownership was one of the most important design strategies that led to the success of the city's entire revitalization project (including the Town Center project).

The comparison of the housing price ranges⁴⁵ shows that the prototypes generally provided a broader range of housing prices than the adaptations, as predicted (Table 19). However, this simple comparison of housing price range does not show to whom such diverse housing price options are available. That is, the comparison does not cover the affordability issue.

For a fair comparison of housing affordability, in addition to the price range of each project, the prices of similar housing types of the prototypes and the adaptations are compared with the median housing values of the surrounding areas (Table 20). The comparison shows that, when similar housing types are compared, the adaptations generally provide more affordable housing units than the prototypes. For example, in 2006, a townhome in Glenwood Park was sold for about \$170,000 more than the price at which a same-size townhome in Glenwood Green was sold for in 2004.

Most prototypes targeted high-end markets while many adaptations targeted the relatively affordable housing market. For example, the developer of Glenwood Green targeted individuals seeking starter homes in the urban area, and he provided affordable housing by using inexpensive materials and a simplified building design. The developer of Tributary also targeted "Generation X," younger individuals who prefer authentic architectural styles but who cannot afford high-end New Urbanism projects yet. To some degree, the developer compromised on architectural styles in order to provide affordable

⁴⁵ Housing price information was collected from the tax assessors' web site of each municipality and sales center of each project.

but still authentic housing. The urban designer of Vickery and Woodstock Downtown (prototypes), however, emphasized the importance of thorough implementation of the architectural styles for the success of the projects.

Table 19 Implementation of a Broad Range of Housing Prices—Diversity / Price Ranges according to Housing Types

Urban Infill / Brownfield		Urban Infill / Historic Area		Suburban / Town Center	
Prototype	Adaptation	Prototype	Adaptation	Prototype	Adaptation
Glenwood Park	Glenwood Green	Clark’s Grove	Inman Park Village	Woodstock Downtown	Suwanee Town Center
Single family: \$490’s ~ 950’s Townhome: \$390’s ~ 540’s Condo: \$150’s ~ 260’s	Townhome: \$140’s ~ 260’s	Single family: \$210’s ~ 1,500’s Cottages: \$190’s ~ 250’s Townhome: \$150’s ~ 250’s Condo: \$180’s ~ 300’s	Single family: \$800’s Townhome: \$450’s ~ 600’s Condo: \$170’s ~ 230’s	Single family: \$400’s ~ 600’s Townhome: the high \$300’s + Condos: the low \$200’s	Single family: \$250’s ~ 280’s Townhome: \$180’s ~ 240’s Condo: \$280’s ~ 570’s
Suburban / Main Street		Exurban / Greenfield		Rural Hamlet / 2nd Home Comm.	
Prototype	Adaptation	Prototype	Adaptation	Prototype	Adaptation
Smyrna Town Center	Perimeter Place	Vickery	Tributary	Gorham’s Bluff	Serenbe
Single family: \$220 ~ 250’s Townhome: \$285 ~ 330’s	Condo: \$200 ~ 650’s Apartment (Rent/Month): \$1,200 ~ 1,800	Single family: \$370’s ~ 730’s Townhome: \$300’s ~ 360’s Condo: \$170’s ~ 260’s	Single family: \$220’s ~ 870’s Townhome: \$180’s ~ 220’s	Single family: \$250’s ~ 800’s	Single family: \$480’s ~ 1,000’s Townhome: \$290’s ~ 400’s Condo: \$150’s ~ 350’s

* In the case of the suburban/main street pair, the housing types of the two projects are not comparable because Smyrna Town Center includes only single family housings (detached and attached), while Perimeter Place includes only multi-family housings (condominiums and apartments).

Table 20 Implementation of a Broad Range of Housing Prices—Housing Affordability / Example Sales Prices of Similar Types and Sizes of Housing Units *

Urban Infill / Brownfield		Urban Infill / Historic Area		Suburban / Town Center	
Prototype	Adaptation	Prototype	Adaptation	Prototype	Adaptation
Glenwood Park	Glenwood Green	Clark's Grove	Inman Park Village	Woodstock Downtown	Suwanee Town Center
Townhome (2 beds / 2.5 baths / 1,900 SF / 2006): \$390's	Townhome (3 beds / 2.5 baths / 1,858 SF / 2004): \$220's	Single family (4 beds / 4 baths / 3,518 SF / 2007): \$400's Condo (2 beds / 1bath / 2010): \$220's	Single family (4 beds / 4 baths / 3,553 SF / 2007): \$800's Condo (2 beds / 2 baths / 1,289 SF / 2008): \$250's	Single family (4 beds / 4.5 baths / 2008): \$680's Townhome (3 beds / 4 baths / 2005): \$310's	Single family (4 beds / 3 baths / 2,775 SF / 2008): \$280's Townhome (3 beds / 3.5 baths / 2,224 SF / 2005): 220's
Median Housing Values of the Surrounding Areas**					
Zip code 30316: \$91,100	Zip code 30316: \$91,100	Zip code 30014: \$94,900	Zip code 30307: \$280,200	Woodstock City: \$135,300	Suwanee City: \$208,900
Suburban / Main Street		Exurban / Greenfield		Rural Hamlet / 2 nd Home Comm.	
Prototype	Adaptation	Prototype	Adaptation	Prototype	Adaptation
Smyrna Town Center	Perimeter Place	Vickery	Tributary	Gorham's Bluff	Serenbe
N/A	N/A	Single family (5 beds / 3.5 baths / 3,445 SF / 2005): \$510's Townhome (3 beds / 3 baths / 2,080 SF / 2007): \$360's	Single family (5 beds / 4 baths / 3,252 SF / 2006): \$360's Townhome (3 beds / 3 baths / 2,126 SF / 2007): \$240's	Single family (3 beds / 3 baths / for sale): \$449,000	Single family (3 beds / 3.5 baths / for sale): \$525,000
Median Housing Values of the Surrounding Areas**					
		Forsyth County: \$184,600	Douglas County: \$102,700	Zip code 35765: \$61,200	Zip code 30268: \$94,600

* Sales prices are collected from the tax assessor's offices of each municipality.

** The median housing values of the surroundings are collected from the 2000 census data.

6.4.7. Access to Public Transit

A comparison of the types of public transit accessible by walking shows that more adaptations have access to public transit than prototypes, contrary to the predicted pattern. Whereas only one prototype has access to public transit within walking distance, three adaptations do (Table 21). However, such a result does not necessarily mean that the eclectic followers made a greater effort to implement this principle than the enthusiastic proponents. That is, both the enthusiastic proponents and the eclectic followers expressed that access to public transit was beyond their control. In addition, even for site selection, most of the enthusiastic proponents and the eclectic followers considered access to public transit less of a priority than issues such as ease of land acquisition or popularity of surrounding areas in housing market. Only one prototype (Glenwood Park) and one adaptation (Inman Park Village) considered public transit stops in their site plan that included the location of commercial centers and arrangements of housing types.

Table 21 Implementation of Access to Public Transit / Types of Transit Accessible by Walking

Urban Infill / Brownfield		Urban Infill / Historic Area		Suburban / Town Center	
Prototype	Adaptation	Prototype	Adaptation	Prototype	Adaptation
Glenwood Park	Glenwood Green	Clark’s Grove	Inman Park Village	Woodstock Downtown	Suwanee Town Center
Bus stops Light rail stop (planned)		None	Bus stops Light rail stop (planned)	None	None
Suburban / Main Street		Exurban / Greenfield		Rural Hamlet / 2nd Home Comm.	
Prototype	Adaptation	Prototype	Adaptation	Prototype	Adaptation
Smyrna Town Center	Perimeter Place	Vickery	Tributary	Gorham’s Bluff	Serenbe
None	Bus stops Subway stations	None	None	None	None

6.4.8.A School within Walking Distance

To implement this principle, the actors could take the following three approaches: to select a site near existing schools; to include a new school in their projects; and to improve the pedestrian connections between their projects and existing schools. Therefore, the prototypes and the adaptations are compared with regard to 1) distance to the nearest schools (elementary, middle, and high schools), determined by the site selection; 2) whether or not the project includes a school development; 3) and the qualities of pedestrian routes (Table 22).

A comparison of the distance from the project to the nearest school shows that the prototypes are superior to the adaptations to some degree as predicted: While three prototypes have at least one school within walking distance, only one adaptation has one school within walking distance. However, similar to the case of access to public transit, the distance to the nearest school alone may not reflect actors' conscious efforts to implement this principle because the distance to the nearest school is decided at the site selection stage, even before practical site planning and the development process; furthermore, during the interviews, no one stated that having a school within walking distance was a serious consideration during the site selection. The second and the third criteria mentioned above may be useful for a comparison of actors' conscious efforts to implement this principle: efforts to include a school within the project and those to improve the pedestrian connections between the project and existing schools. First, two prototypes (Glenwood Park and Clark's Grove) made conscious efforts to attract a private school within their projects, but in the end, only one (Clark's Grove) succeeded. As for the adaptations, one adaptation (Serenbe) developed a private school for the project, but it

is 0.8 mile away from the project. Second, one prototype (Vickery) and one adaptation (Suwanee Town Center) made pedestrian paths connecting their projects and the nearest schools. Except for the three projects (Clark’s Grove, Vickery and Suwanee Town Center), the routes between all other projects and schools require street crossings. In particular, in the case of the Suwanee Town Center, such efforts beyond the project boundary could be made relatively easily because the municipal government (the City of Suwanee) spearheaded the project.

Table 22 Implementation of a School within Walking Distance / Distance to the Nearest School

Urban Infill / Brownfield		Urban Infill / Historic Area		Suburban / Town Center	
Prototype	Adaptation	Prototype	Adaptation	Prototype	Adaptation
Glenwood Park	Glenwood Green	Clark’s Grove	Inman Park Village	Woodstock Downtown	Suwanee Town Center
Elementary: 1.1 miles Middle: 1.8 miles High: next to the site		A private school on the site Elementary: 2.3 miles Middle: 4.6 miles High: 2.8 miles	Elementary: 1.8 mile Middle: 2.3 miles High: 2.2 miles	Elementary: 0.7 mile Middle & high: 3 miles	Elementary: 0.6 mile / pedestrian trail connection Middle: 3.9 miles High: 2.0 miles
Suburban / Main Street		Exurban / Greenfield		Rural Hamlet / 2nd Home Comm.	
Prototype	Adaptation	Prototype	Adaptation	Prototype	Adaptation
Smyrna Town Center	Perimeter Place	Vickery	Tributary	Gorham’s Bluff	Serenbe
N/A	N/A	Elementary & middle: 0.3 mile / next to the site / with pedestrian path connection High: 1.8 miles	Elementary: 0.5 mile / no pedestrian connection Middle: 2.5 miles High: 5.2 miles	Elementary: 4.8 miles Middle: 9.2 mile High: 3.2 miles	A private school near the site: 0.8 mile Elementary: 3.9 miles Middle: 6.0 miles High: 5.6 miles

However, private developers said that implementing this principle, like the case of access to public transit, is beyond the capacity of neighborhood-scale projects.

6.4.9. Graphic Urban Design Codes for the Quality of the Public Spaces

The degrees of implementation of this principle are compared by the existence of the architectural standards and the urban design codes that control the architecture of the buildings to maintain consistency of design in the community. The architectural standards address the architectural details of the buildings that face public spaces (streets, parks, and squares) such as style, materials, and construction techniques. The urban design codes controls the arrangement and mass of buildings, such as building footprints and heights (Table 23).

In most prototypes, buildings are strictly regulated by both the architectural standards and the urban design codes. In particular, the prototypes emphasize traditional architectural styles in their design standards. In addition, in most prototypes, the enthusiastic proponents wished to wield influence beyond the projects themselves through active legislation of municipal codes that reflected New Urbanism principles through the collaboration with the local governments. On the other hand, in the cases of the adaptations, the application of architectural standards and urban design codes is very flexible and varied by projects. For examples, in Inman Park Village, historic architectural styles are required only in the design of the single family homes that face existing historic neighborhoods. In Serenbe, only the urban design codes that regulate the placement and mass of buildings were applied to the buildings and allowed more diverse architectural styles.

Table 23 Implementation of Graphic Urban Design Codes to Maintain Community Quality / Types of Private and Public Regulations

Urban Infill / Brownfield		Urban Infill / Historic Area		Suburban / Town Center	
Prototype	Adaptation	Prototype	Adaptation	Prototype	Adaptation
Glenwood Park	Glenwood Green	Clark's Grove	Inman Park Village	Woodstock Downtown	Suwanee Town Center
Private Regulations for the Project					
Architectural standards & graphic urban design codes Town architect	HOA's covenants for minimum level maintenance*	Architectural standards & graphic urban design codes Town architect	N/A	Architectural standards & graphic urban design codes Town architect	HOA's covenants for minimum level maintenance
Public Regulations for the Project and the Surrounding Areas					
TND street design guidelines	N/A	TND zoning ordinance	Historic District Regulations & graphic design guideline	Design Based Codes	N/A
Suburban / Main Street		Exurban / Greenfield		Rural Hamlet / 2nd Home Comm.	
Prototype	Adaptation	Prototype	Adaptation	Prototype	Adaptation
Smyrna Town Center	Perimeter Place	Vickery	Tributary	Gorham's Bluff	Serenbe
Private Regulations for the Project					
N/A	N/A	Architectural standards & graphic urban design codes Town architect	Town architect	Architectural standards & urban standards Town architect	Town architect
Public Regulations for the Project and the Surrounding Areas					
Urban Design District regulations	N/A	N/A	N/A	N/A	City Master Plan Overlay District Ordinances TDR

* HOA: Homeowners' Association

In addition, most adaptations control the quality of public spaces through private community covenants that are forced by private contracts and applied only to the project. Two exceptions among the adaptations are Inman Park Village and Serenbe. In the case of Inman Park Village, even before the project began, members of the larger Inman Park

community collaborated with the City of Atlanta to develop regulations that would protect the historic characteristics of the area that included Inman Park Village. The regulations include architectural standards and urban design codes. In the case of Serenbe, the developer made the same kind of efforts as the Inman Park community. The developer of Serenbe mobilized the local land owners to protect the nature of the Chattahoochee Hill Country area from disordered developments and collaborated with the Fulton County to develop the master plan for the Chattahoochee Hill Country area, which includes the project (Appendix C.2—Table 31)

6.4.10.Diverse Types of Neighborhood Parks

The degrees of implementation of this principle are compared by the arrangements, types and functions of the parks in each project. As shown in Figure 62, all prototypes and most adaptations except Perimeter Place include neighborhood parks within their projects. However, the volume and quality of the parks vary widely from project to project. In particular, the parks of the prototypes are generally more diverse with regard to size, type, and function than those of the adaptations (Figure 62, Figure 64 and Appendix C.1.). One exception is the rural hamlet pair, Gorham’s Bluff (prototype) and Serenbe (adaptation) in which the types and functions of parks of the latter are more diverse than those of the former. For example, the omega-shaped street and well-developed pedestrian paths of Serenbe provide better access to the natural surroundings than the grid street system of Gorham’s Bluff, which does not match the surrounding nature well (Figure 62 and Appendix C.1.).

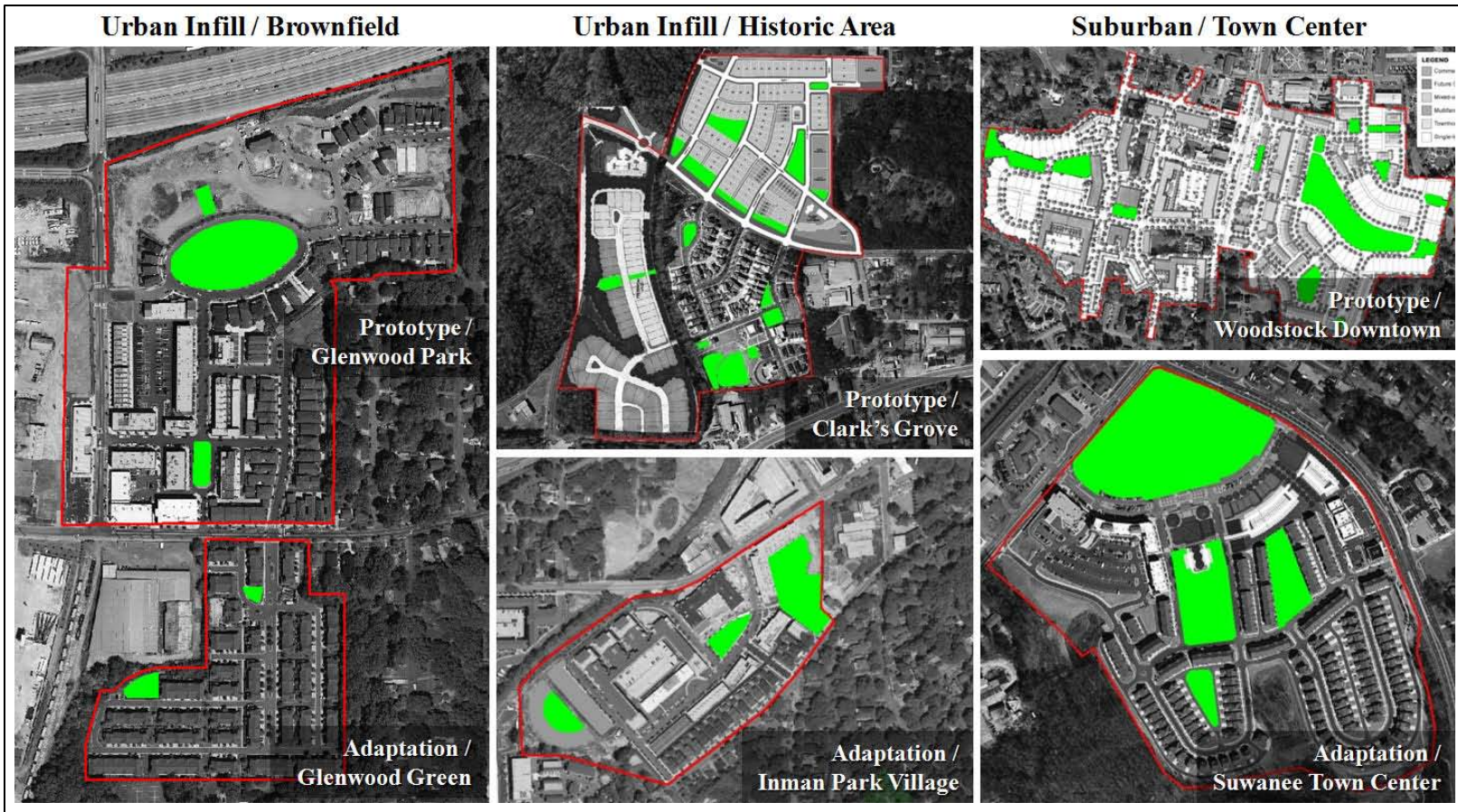


Figure 62 Implementation of Diverse Types of Neighborhood Parks I / Arrangements of Parks

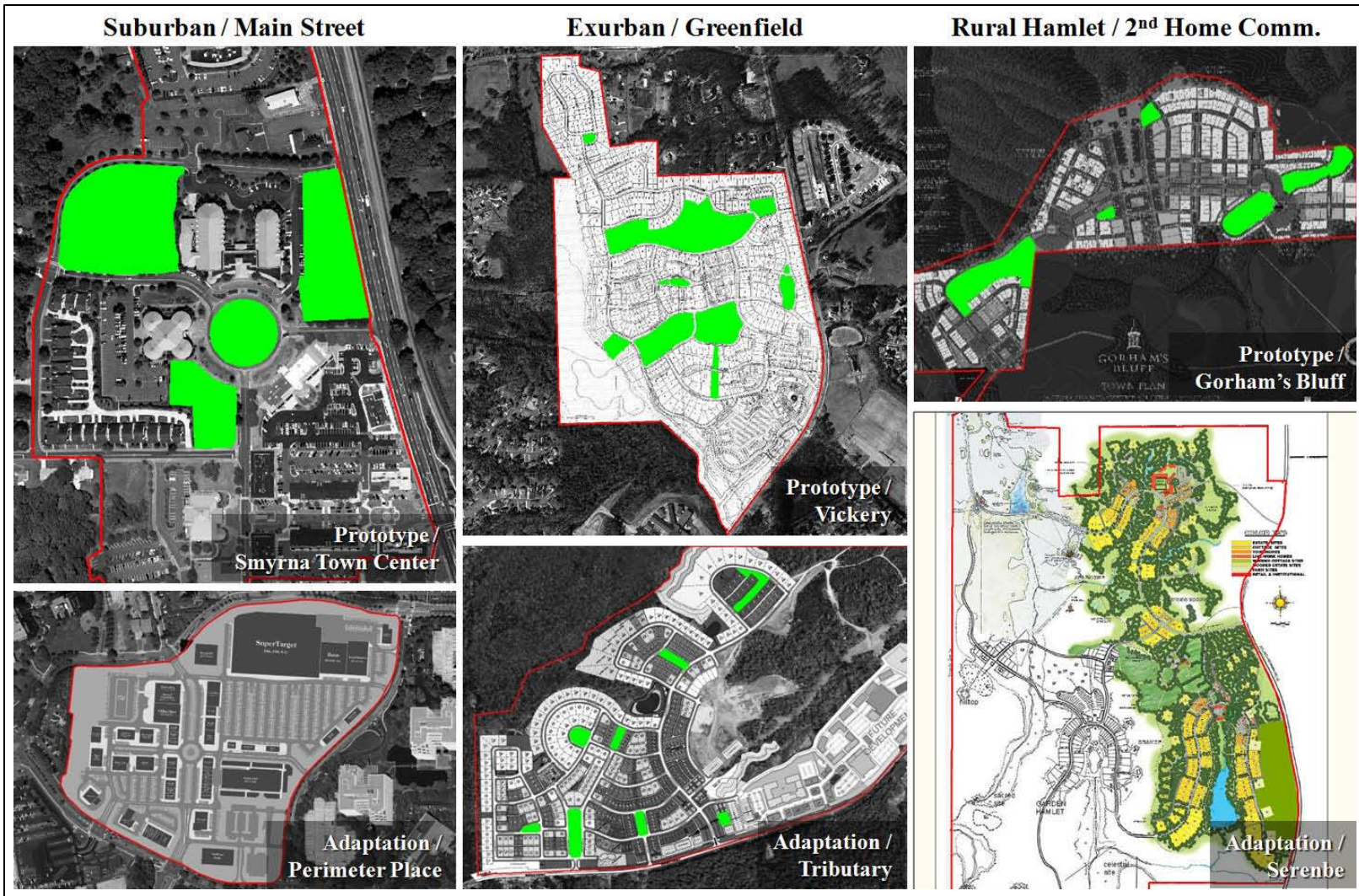


Figure 63 Implementation of Diverse Types of Neighborhood Parks II / Arrangements of Parks

Urban Infill / Brown Field

Prototype—Glenwood Park



1) Passive park for community events 2) Playground for kids 3) Urban square 4) Retain pond with a fountain

Adaptation—Glenwood Green



1) Putting green 2) Dog park

Figure 64 Implementation of Diverse Types of Neighborhood Parks / Types and Functions of Neighborhood Parks (e.g., Glenwood Park vs. Glenwood Green)

Table 24 Summary: Implementation of the 11 New Urbanism Principles

New Urbanism Principles (Indicators)	General Patterns of Implementation	Unexpected Findings
Creation of an Identifiable Neighborhood (7 criteria for an identifiable neighborhood from <i>A Pattern Language</i> (Alexander, et al., 1977))	Both the prototypes and adaptations satisfied more than five criteria. No consistent difference between the two was observed.	The prototypes emphasized traditional architectural styles for community identity more often than the adaptations. Inman Park Village emphasized integration with the surroundings rather than the identity of the project itself.
Compact Development (Housing density/lot size)	Most of the prototypes and adaptations were developed more compactly than the surroundings. No consistent difference between the two was observed.	To ensure profitability in housing sales, Tributary compromised this principle by building housing on both small and large lots so that the units would appeal to all interests.
Interconnected Streets (Internal connectivity: # of intersections per 0.25x0.25 miles/external connectivity: # of entrances per acre)	Streets in the prototypes were more interconnected internally and externally than those in the adaptations.	Streets in Serenbe were not well interconnected, but its pedestrian trail systems were well developed.
Pedestrian-Friendly Streets (Basic elements: sidewalks, trees, street lights; advanced elements: narrow streets, interconnected streets, an alley system)	Both the prototypes and adaptations incorporated basic design elements for pedestrians. The prototypes incorporated advanced design elements for pedestrians more often and more thoroughly than the adaptations.	Glenwood Green did not implement even basic elements for pedestrians. Serenbe implemented this principle in an innovative way (i.e., an omega-shaped street and well-developed pedestrian path system)
Mixed Uses Within Walking Distance (Proportion of residential units within walking distance from the retail center/types and functions of the services)	Most of the prototypes and the adaptations included commercial uses to some degree. No consistent difference between the two was observed.	Glenwood Green has access to the commercial center of Glenwood Park. Location contexts significantly influenced the poor implementation of the exurban pair (Vickery and Tributary)
Diverse Housing Types (Composition of housing types)	Most of the prototypes and the adaptations included two or more housing types. No consistent difference between the two was observed.	Glenwood Green has only one type of housing (townhomes). However, it contributed to enhanced housing options in surrounding areas by locating in a single-family-dominant neighborhood.
A Broad Range of Housing Prices (Diversity: price ranges; affordability: sales prices of similar types of housing units)	The prototypes provided more diverse but less affordable housing prices than the adaptations.	The prototypes served a relatively high-end housing market while the adaptations provided more affordable housing by compromising some New Urbanism principles.
Access to Public Transit (Types of accessible public transit)	The adaptations (three adaptations) had access to public transit within walking distance more often than the prototypes (one prototype)	Both the enthusiastic proponents and the eclectic followers considered this principle beyond the capabilities of an individual project. Public transit was not considered an important factor in most the cases.
School Within Walking Distance (Distance to the nearest school/quality of pedestrian connections)	The prototypes were located within walking distance from schools more often than the adaptations.	Two prototypes attempted to include a school in their projects, but only one of them succeeded. The Suwanee Town Center, a city-driven adaptation, made a pedestrian trail connecting the project to the nearest elementary school.
Graphic Urban Design Codes (Private and public regulations)	The prototypes applied architectural standards and urban design codes more strictly than the adaptations. Most of the developers of the prototypes collaborated with local municipalities to establish public regulations expanding the private regulations they developed for their projects while most of the adaptations controlled the properties through private, minimal covenants.	Inman Park Village applied architectural standards in a flexible manner according to the contexts of the surroundings. Among the adaptations, Inman Park Village and Serenbe collaborated with local municipalities to develop public regulations that preserved the historic and natural characteristics of the surrounding areas.
Diverse Types of Neighborhood Parks (Arrangements, types, and functions of parks)	The prototypes had more diverse types and sizes of parks with diverse functions than the adaptations.	Serenbe provided better access to natural surroundings with its unique omega-shaped street and well-developed pedestrian path system.

6.5. Linking Perception and Implementation of New Urbanism Principles

This section analyzes the perceptions of key decision-makers of the eleven New Urbanism principles in relation to the observed implementation patterns discussed in the previous section and then attempts to link perception and implementation. Specifically, the third prediction—that those New Urbanism principles that the actors (particularly key decision-makers) perceive more positively are implemented more often and more thoroughly—is compared with the results of the observations. However, due to limitations inherent in the data and the influence of many external contexts, establishing a clear link between perception and implementation for all of the principles was difficult. Therefore, efforts to link perception to implementation of the principles focused on the most conspicuous cases, which included 1) the principle that both the enthusiastic proponents and the eclectic followers scored the highest, 2) the principle that the two scored the most differently, and 3) the principle that both scored the lowest.

Table 25 ranks the 11 New Urbanism principles according to the key decision-makers' perceptions (Figure 50) and compares their rankings with their degrees of implementation. Both the enthusiastic proponents and the eclectic followers scored the principle of the creation of an identifiable community the highest, but the former scored it slightly higher than the latter. While the enthusiastic proponents scored the principle positively for all six attributes, the eclectic followers scored it positively for all the attributes except compatibility (Figure 65). Such a positive evaluation of this principle by the actors coincides with the degree of its observed implementation. Most of the prototypes and the adaptations satisfy more than five out of the seven criteria for an identifiable neighborhood (Table 14, p. 172). In addition to satisfying the criteria, the

prototypes usually emphasized a traditional architecture that preserved the characteristic style of the community. However, during the interviews, many eclectic followers argued that enthusiastic proponents overly emphasized a traditional style, and this approach did not work for all cases. Therefore, the relatively low scores assessed by the eclectic followers in relation to the compatibility of this principle may have resulted from their antipathy to enthusiastic proponents' emphasis on traditional architecture.

Regarding the principle of interconnected streets, the enthusiastic proponents and the eclectic followers scored it the most differently, with the enthusiastic proponents scoring it more positively than the eclectic followers. Such different evaluations of this principle coincide with the degree of its observed implementation. Streets in the prototypes were more interconnected both internally and externally than those in the adaptations. The difference in scores was the greatest for the attribute of ease (Figure 65), implying that the difference between the enthusiastic proponents' knowledge of the principle and the eclectic followers' might have influenced their implementation the most. They also exhibited large differences for the attributes of community quality and market appeal, which may indicate that eclectic followers do not value the social and economic relative advantages of this principle as much as enthusiastic proponents do. The differences between perception and implementation by the enthusiastic proponents and those by the eclectic followers are also evident for the principle of diverse types of neighborhood parks.

With regard to the principles of a broad range of housing prices and public transit access, both the enthusiastic proponents and the eclectic followers scored them the lowest. Their scoring patterns for the six attributes of these principles are quite similar. Both

scored its trialability relatively higher and its compatibility relatively lower than other attributes. The low score assessed by the actors for these attributes generally coincides with the degree of the principle's observed implementation (in the case of a broad range of housing prices, particularly housing affordability), which matches with the third hypothesis.

However, regarding public transit access, a closer investigation of the four cases that implemented this principle showed that more adaptations had access to multiple public transit modes (e.g., bus, light rail, or subway) within walking distance than prototypes (i.e., one prototype vs. three adaptations). This finding conflicts with the second prediction pertaining to the superiority of prototypes over adaptations in implementation. Actually, during the interviews, both the enthusiastic proponents and the eclectic followers stated that the implementation of this principle was beyond the capacity of a neighborhood development project and that they did not consider access to public transit as important a reason for site selection as other reasons such as ease of land acquisition or desirability of the surrounding areas in the local housing markets.

In short, the overall comparisons of perception and implementation in the three most conspicuous cases show that the second prediction coincides with the observations to some degree; that is, the New Urbanism principles that the actors (particularly the key decision-makers) perceive more positively are implemented more often and more thoroughly. For example, the principle of the creation of an identifiable neighborhood, which actors perceived more positively, was implemented more often and more thoroughly than the principle of access to public transit, when they perceived less positively.

Table 25 Relationship between Key Decision-makers' Perceptions and Implementation of the 11 New Urbanism Principles

Principles	Perception Ranking		Implementation Degree	
	Proponents	Followers	Prototypes	Adaptations
Identifiable neighborhood	1	1	***	***
Compact development	4	5	***	***
Pedestrian-friendly streets (Basic / Advanced elements)	2	2	***	***
			***	**
Interconnected streets	3	11	***	**
Mixed uses within walking distance	9	6	**	**
Diverse housing types	8	4	**	**
A broad range of housing prices (Diversity / Affordability)	11	10	***	**
			*	**
Public transit access	10	9	*	**
Schools within walking distance	7	6	**	*
Graphic urban design codes	6	3	***	*
Diverse types of neighborhood parks	4	6	***	**

Notes: 1. The implementation degrees of “pedestrian-friendly streets” and “a broad range of housing prices” were analyzed by sub-categories of “basic elements and advanced elements” and “diversity” and “affordability,” respectively. 2. Implementation degrees are classified into the following three categories— *** (implemented a lot), ** (implemented somewhat) and * (implemented not much or not at all).

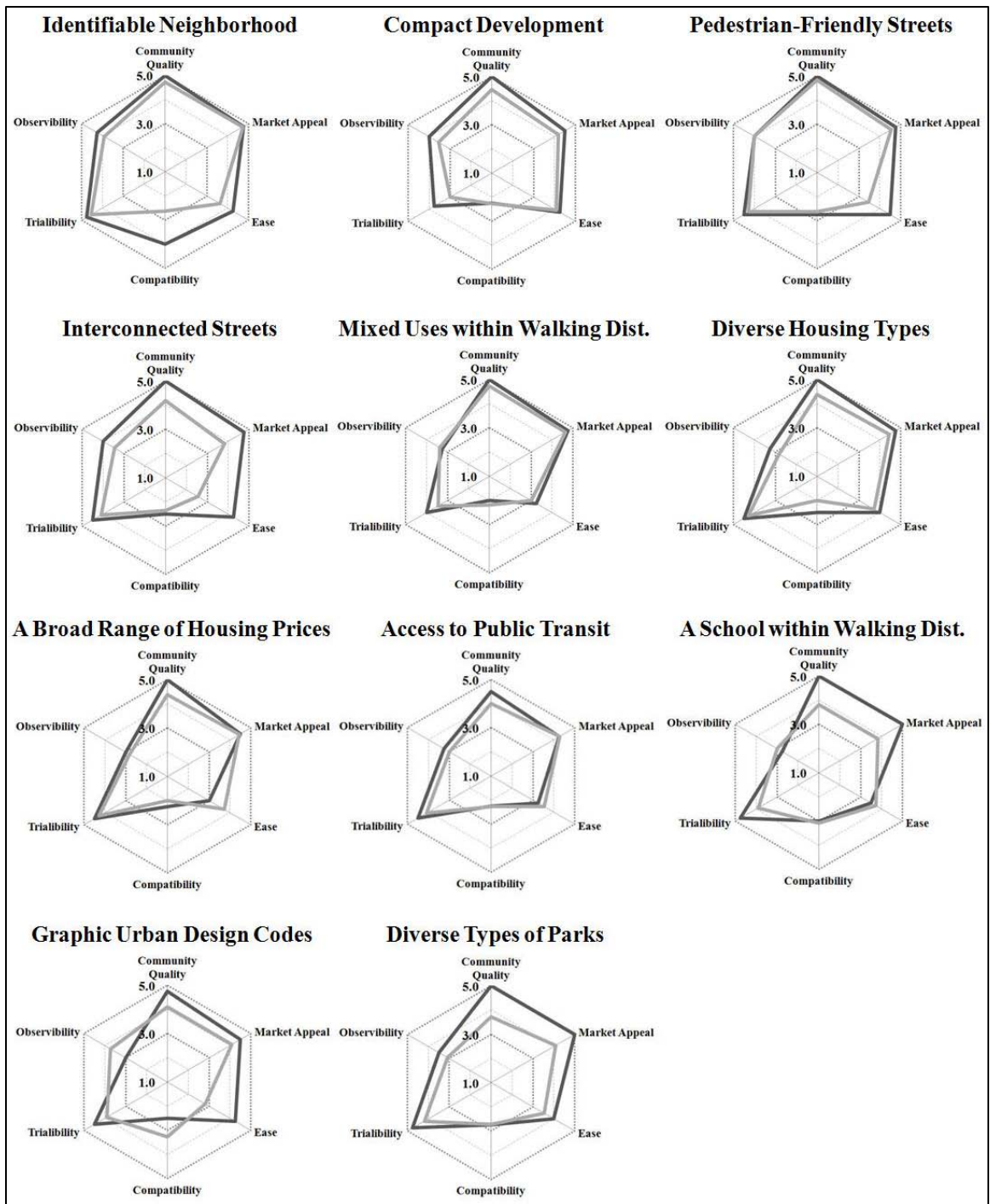


Figure 65 Key Decision-makers' Perceptions of the New Urbanism Principles

In addition, Table 25 shows that the followers' perceptions and implementation are matched better than the proponents' perceptions and implementation. This finding

might be because the six attributes used to measure the actors' perceptions of New Urbanism principles come from innovation-diffusion research—traditionally conducted in situations such as the diffusion and adoption of new technology among individual consumers. Followers may have more similar characteristics to such consumers in general innovation-diffusion research than proponents.

Besides the general confirmation of the three predictions, the comparisons revealed unexpected findings such as the differences between enthusiastic proponents' and eclectic followers' perceptions of traditional architecture and levels of knowledge about interconnected street design, and their similar passive attitude toward the principle of access to public transit. Based on the contexts in which they occurred, these unexpected findings are discussed in detail in the following section.

6.6. Explanation-building for the Unexpected Findings

In the previous sections, the following three predicted patterns about perception and implementation of the New Urbanism principles were compared with the results of the observations of the twelve cases: 1) Enthusiastic proponents of New Urbanism perceive the New Urbanism principles more positively than eclectic followers of New Urbanism; 2) prototypes that enthusiastic proponents develop incorporate more New Urbanism principles more thoroughly than adaptations that eclectic followers develop; and 3) New Urbanism principles that actors (particularly, key decision-makers) perceive more positively are implemented more often and more thoroughly. In particular, the analysis examined the relationship between the perceptions of the different actors (enthusiastic proponents and eclectic followers) about the six attributes that this study

assigned to each New Urbanism principle (social or economic relative advantages, compatibility, complexity, trialability, and observability) and their degrees of implementation of the principle.

While the comparative analyses of the six pairs of cases led to the conclusion that the case observations generally coincided with predicted outcomes, many unexpected patterns in perception and implementation of the principles were also observed. As mentioned at the beginning of this chapter, as the next step of the pattern matching, this section discusses the unexpected findings revealed from the pattern matching processes and attempts to explain them further based on the detailed contexts in which exceptions occurred. The discussions about unexpected findings are composed of the three parts categorized according to the key elements in diffusion processes: actors, perceived attributes of the principles, and communication channels.

6.6.1. Discussions in Relation to Actors

- *Limitations of Private Actors and the Roles of Public Intervention*

In the dissertation, the hypothetical classification of actors into enthusiastic proponents and eclectic followers is mainly based on the characteristics of individual actors such as innovativeness and roles in the diffusion process (i.e., whether one is a change agent or a general adopter). However, depending on their characteristics, implementation of certain New Urbanism principles may be beyond the capability of individual actors (particularly private actors), and thus it requires that they collaborate with the public sector.

In the cases presented in this research, the New Urbanism principles of a school accessible within walking distance and graphic urban design codes that maintain the quality of the community were implemented more thoroughly when the public intervened in favor of the implementation of the principles. For instance, with regard to the principle of accessibility to a school within walking distance, in the development of the Suwannee Town Center, the city created better pedestrian connection to the nearest elementary school by constructing pedestrian trails that were not crossed by vehicle traffic. Lacking such power, private developers cannot be expected to actively implement such a principle beyond the project boundary.

With regard to the principle of graphic urban design codes that maintain the quality of the community, collaboration between private developers (or community members) and local governments during the development of official design guidelines or ordinances based on the urban design standards applied to the projects can have a broader impact on surrounding neighborhoods in several cases (e.g., the TND Street Design Guidelines of Glenwood Park, the TND Ordinances of Clark's Grove, the Historic District Regulations of Inman Park, and the Chattahoochee Hills Country Master Plan of Serenbe). Although such collaborations were more often observed in the prototypes developed by enthusiastic proponents, they were also observed in several adaptations developed by eclectic followers (i.e., Inman Park Village and Serenbe).

- *Positive Externalities between Enthusiastic Proponents and Eclectic Followers*

The classification of enthusiastic proponents and eclectic followers in this dissertation underscores the differences between the two groups and tends not to acknowledge the possibility of a “symbiotic” relationship between the two, which was

observed in the urban infill/brownfield pair of Glenwood Park and Glenwood Green. Among the six pairs of cases, this pair is unique in terms of spatial proximity and dissimilarity in degree of devotion to New Urbanism. While Glenwood Park is a 2003 CNU Charter Awards winner, Glenwood Green is an adaptation that incorporated New Urbanism principles most minimally among the twelve cases.

Both Glenwood Park and Glenwood Green have positive externalities that stem from their spatial proximity, particularly in relation to the implementation of the principles of mixed uses within walking distance and a broad range of housing prices. Regarding mixed uses within walking distance, while the commercial center of Glenwood Park is pedestrian accessible to the residents of Glenwood Green, the commercial center of Glenwood Park benefits from the increase in the number of local patrons. Regarding a broad range of housing prices, the previous comparative analysis showed that the prototypes provide a broader range of housing prices but less affordable housing than the adaptations. Therefore, because they are located side by side, both Glenwood Park and Glenwood Green provide more diverse and affordable housing options in the area.

6.6.2. Discussions in Relation to the Perceived Attributes of New Urbanism

Principles

- *Conflicting Relative Advantages: Architectural Authenticity vs. Housing Affordability*

The dissertation hypothesized that enthusiastic proponents perceive the relative social and economic advantages of each New Urbanism principle more positively than eclectic followers. However, this hypothesized prediction did not take into account cases

in which different relative advantages conflict. This case study observed such conflicts, particularly between architectural authenticity and housing affordability.

For instance, the enthusiastic proponents emphasized traditional architectural styles and architectural details in the prototypes for the promulgation of neighborhood characteristics and architectural authenticity. They also suggested that the traditional approach to style reduces community fear (Dunham-Jones & Williamson, 2009). Some of them argued that because the traditional style homes they were building resembled those built for the working class in the early 1900s, they did not need to be expensive. However, a finding that emerged from the observations was that relatively few architects are capable of designing traditional style homes, and current home builders are not familiar with traditional building construction. Moreover, because materials and building technologies are not standardized, they are more costly. Therefore, the prototypes offered limited housing affordability. By comparison, the eclectic followers were flexible in implementing traditional and authentic architectural styles and often compromised on architectural style to save on cost and to supply affordable housing. A good example of such a compromise is Glenwood Green.

- *Negative Relationship between Compatibility with Existing Practice and Implementation of New Urbanism Principles*

The dissertation hypothesized that New Urbanism principles that actors perceive as more compatible with existing practice are implemented more often and more thoroughly. However, the cases revealed that although the actors (particularly, the enthusiastic proponents) scored the compatibility of the New Urbanism principles low,

the low evaluations did not result in low-level implementation of the principles. Such a discrepancy between perceived compatibility and implementation of New Urbanism principles suggests a fundamental distinction between New Urbanism principles and other innovations in industry in their goals. That is, the ultimate goal that enthusiastic proponents of New Urbanism pursue is social reform through the change of physical environment for the purpose of addressing the problems that plague the existing system. This goal is more normative rather than rational. What New Urbanism principles aim to overcome is conventional development practice. Thus, the negative evaluations of the compatibility of New Urbanism principles with conventional development practice may be a natural response by New Urbanists. A similar example of such a reverse relationship between compatibility of an innovation and its adoption is found in the diffusion of artwork, which must be radical to some degree if it is to be diffused rapidly (Lievrouw & Pope, 1994).

- *Incompatibility of Mixed Uses within Walking Distance with Exurban Contexts*

In hypothesizing the compatibility of New Urbanism principles, the dissertation neglected the compatibility with existing location contexts. However, the case study showed that compatibility with location contexts matters in the implementation of a certain principle. For instance, the previous analysis of the implementation of mixed uses in walking distance showed that location contexts rather than actor characteristics (whether they are enthusiastic proponents or eclectic followers) were at play in the design of the exurban pair of Vickery and Tributary. While most of the residential units of the other cases are located within a one-fourth mile radius of their commercial centers, more

than half of the residential areas of Vickery and Tributary are located beyond a one-fourth mile radius. Such a finding stems from compatibility with existing location contexts rather than the differences in actor characteristics. Located in the exurban areas, both projects are relatively low density because of neighborhood opposition to dense development (Vickery) or topography (Tributary). With such low density, the commercial centers of both projects were built on the project boundaries that adjoin major thoroughfares, attracting patrons from the outside as well as the inside. This design limited the residents' pedestrian access to the commercial centers. Although the developers tried to mitigate the problem by building multi-family homes and townhomes near the commercial centers, numerous housing units are still located far away because detached single family homes are the dominant housing type in both projects (Figure 58 and Figure 60).

- *Complexity—Basic and Advanced Design Features for Pedestrian-Friendly Streets*

The dissertation hypothesized that the New Urbanism principles that actors perceive as less complex are implemented more often and more thoroughly than those that actors perceive as more complex. However, the hypothesis disregarded the different characteristics of sub-design features within specific New Urbanism principles. However, the case study showed that while simple and basic design features for pedestrian-friendly streets, such as sidewalks, street lights, and trees, were broadly implemented in both the prototypes and the adaptations, more complicated and advanced design features such as narrower and interconnected streets, alley systems, and hidden parking lots were more likely to be implemented in the prototypes than in the adaptations.

Such partial implementation of pedestrian-friendly street design features in the adaptations seems to be related to the eclectic followers' low-level knowledge of this principle. Although the eclectic followers scored the principle low for the attribute of ease (or simplicity), they scored the relative social and economic advantages of the principle as high as the enthusiastic proponents did.

- *Flexibility for Incremental Accomplishment and Context Sensitive Design*

The dissertation did not include flexibility as an important attribute of New Urbanism principles, but the case study revealed that eclectic followers, in particular, considered flexibility as an important attribute in implementing New Urbanism principles. To illustrate this finding, during the interviews, most of the eclectic followers criticized enthusiastic proponents' strictness in applying the New Urbanism principles, and argued for a more flexible application of the principles. The eclectic followers' arguments for the flexible application of the principles are largely classified as follows: arguments for incremental accomplishment and those for context-sensitive implementation. The former argument presents the general view that a little is better than nothing, and some compromise in implementation of the principles is needed to meet market conditions. Those who argue for such flexibility say that through compromise, they can make some progress in situations in which otherwise nothing would happen. By contrast, the latter argument presents the view that the embodiment of New Urbanism ideas requires more than just strict or literal implementation of the principles. Their argument for flexibility claims that each project has unique contexts (e.g., location, topography, and community) and New Urbanism principles should be implemented in a flexible way that reflects such unique contexts.

Although both arguments for flexibility make sense ideally, the argument for incremental accomplishment is apt to lead to degenerative adaptation of the principles in practice, while the argument for context-sensitive application is more likely to lead to innovation. For example, the mixture of small and large lots in Tributary might be a degenerative adaptation resulting from the flexible implementation of compact development, and the integration of omega-shaped streets and a well-connected pedestrian path network in Serenbe might be an innovation (or evolution) stemming from the flexible implementation of interconnected streets.

6.6.3. Discussions in Relation to Communication Channels

- *Different New Urbanism Communication Channels of Enthusiastic Proponents and Eclectic Followers*

The hypothesis pertaining to New Urbanist communication channels focused on the differences between enthusiastic proponents and eclectic followers of New Urbanism. As hypothesized in the dissertation, the observations revealed several differences among the characteristics of the communication channels of the two groups. The enthusiastic proponents have typically established close interpersonal networks with other local CNU members, and they regularly attend CNU annual conferences to share opinions with other CNU members in other states and keep up with recent information on the movement. On the other hand, the eclectic followers typically obtain information on the New Urbanism movement indirectly through other major conferences such as the AIA, APA, ULI, and Association of Home Builders which are related with architecture, development, and planning.

- *Disconnection between Enthusiastic Proponents and Eclectic Followers*

In addition to uncovering differences in the channels of communication of enthusiastic proponents and eclectic followers, the case study revealed that direct and close interpersonal communication between enthusiastic proponents and eclectic followers is relatively sparse. For instance, the efforts of enthusiastic proponents to communicate with eclectic followers are typically for preaching purposes rather than serious feedback. In fact, they appear to ignore the feedback that they receive from followers for better implementation of New Urbanism principles. As an illustration, even though Serenbe (an adaptation) is considered one of the most representative New Urbanism projects in Georgia, the master planner of Serenbe submitted a paper for a presentation at a CNU conference,⁴⁶ but the paper was rejected. He was not given a reason for the rejection. While this situation represents just one episode, it could indicate poor communication between the two groups.

⁴⁶ The 16th Congress for the New Urbanism, Austin TX, 2008

CHAPTER 7. CONCLUSIONS AND SUGGESTIONS: TOWARD AN EVOLVING CONCEPT OF URBANISM

7.1. Theory Building: Model-Prototype-Adaptation Framework

This dissertation has investigated the transitions of urban design models in urban design movements: the ways in which practitioners have adopted these models and the factors that have influenced such adoption. In particular, this dissertation has paid attention to unexpected consequences of the adaptation of urban design models, and distinguished them from the problems reflected by the inherent limitations of urban design models. Therefore, to ensure a better understanding of the impact of urban design models on the urban environment, this dissertation has aimed to clarify the patterns of transitions associated with urban design models, which are complex phenomena in which multiple actors with diverse interests have participated and implemented numerous principles of the models over a long period of time and in diverse contexts.

To minimize such complexities but capture important elements of the transitions of urban design models, this dissertation has presented a theoretical framework, the Model-Prototype-Adaptation (MPA) framework, based on recurring patterns of urban design movements: 1) the articulation of an urban design model as a physical solution to social problems of the time, 2) the demonstration and examination of the model through real exemplary projects by enthusiastic proponents of the model, and 3) the mass production of follow-on projects by followers who only partially apply principles of the model to satisfy their interests. In the MPA framework, a “model” refers to an integrated set of urban design principles derived from a consensus of the opinions of the

“enthusiastic proponents” of an the urban design movement; “prototypes” are the projects developed by enthusiastic proponents of an urban design model to demonstrate and examine the model; and “adaptations” are projects developed by eclectic followers of an urban design model who take advantage of the model and the movement for their own purposes and adopt limited aspects of the movement for their convenience (Figure 2, p. 13). With these three key elements, the MPA framework hypothesizes two types of transitions of an urban design model in practice: “evolution,” the developmental transition from old prototypes to new prototypes by proponents seeking to more effectively embody the model (Figure 3, p. 17); and “divergence,” the differentiation of adaptations from prototypes by eclectic followers responding to other factors such as market forces (Figure 4, p. 20).

This dissertation has fleshed out the proposed basic MPA framework with historical reviews of the three urban design movements (Garden City, City Beautiful, and Modern) and the literature review of innovation-diffusion theories to explain how urban design models have changed over time in their principles and in practice and to explain why such transitions have occurred.

The historical reviews of the urban design movements that have focused on their models, prototypes, and adaptations have confirmed the recurring patterns of a model-prototypes-adaptations in urban design movements and have presented more details for the MPA framework as follows: 1) urban design models that comprise a set of multiple, interrelated urban design principles have become more influential when they have been formalized into a written model agreed upon by consensus and subsequently publicly acknowledged; 2) enthusiastic proponents have engaged in organization-building efforts

to promote the movements; 3) a physical presentation through realized prototypes has been one of the most powerful tools for the diffusion of an urban design model; and 4) several urban design principles have been repeatedly applied in different urban design models.

The review of innovation-diffusion theories, which explains why transitions of urban design models occur, focused on theories that present major factors influencing the adoption of innovations: the characteristics of actors, the perceived attributes of innovations, and channels of communication. The theories suggest that the ways that actors, who have different innovativeness and roles, perceive the attributes of innovations influence their decisions to adopt the innovations. In particular, the relative advantages (i.e., social and economic), compatibility, complexity, trialability, and observability have been studied and are considered important attributes of innovations that influence adoption behaviors. Within the MPA framework, this dissertation has hypothesized that the differences between enthusiastic proponents' perceptions of these attributes of an urban design model (or urban design principles of the model) and eclectic followers' perceptions play a key role in the transitions of the models, particularly, in the divergence of the model.

7.2. Empirical Case Study: New Urbanism Practice in the Metro Atlanta Area

In addition to the construction of a theoretical framework—the MPA framework to explain the transitions of urban design models—this dissertation presented a comparative case study with New Urbanism and its practice in Atlanta region to test the MPA framework. “Divergence” of adaptations from prototypes in their implementation

of New Urbanism principles was examined specifically through a comparison of the six prototype-adaptation pairs of neighborhood developments in the Atlanta area.

For this examination, the case study first developed three predictions about perception and implementation of New Urbanism principles based on the assumption that the distinct perceptions of these principles by enthusiastic proponents and eclectic followers influence how they implement the principles; that is, 1) enthusiastic proponents of New Urbanism perceive New Urbanism principles more positively than eclectic followers; 2) prototypes that enthusiastic proponents develop incorporate more New Urbanism principles and do so more thoroughly than adaptations that eclectic followers develop; and 3) New Urbanism principles that the actors (particularly, the key decision-makers) perceive more positively are implemented more often and more thoroughly. These three predictions are used to analyze the principles as a frame of reference for observation rather than fixed hypotheses that must be verified. Data for the case study have been collected through interviews, surveys, field observations, planning documents, and local periodicals. The methods of analysis—the matching of patterns based on predictions and observations, the building of explanations for the findings from the matching of patterns based on detailed contextual information derived from each case, and finally, cross-case synthesis.

The general comparative analysis showed that the case observations generally confirmed the three predictions about actors' perceptions and implementation of New Urbanism principles but also revealed numerous unexpected findings. A further analysis of the unexpected results based on details and contexts yielded more findings.

7.3. Perceptions and Implementation of New Urbanism Design Principles

7.3.1. Proponents' and Followers' Perceptions of New Urbanism Principles

The first hypothesis of the case study that enthusiastic proponents of New Urbanism perceive the six attributes of New Urbanism principles more positively than do eclectic followers of New Urbanism generally coincided with the case study observations. While both groups generally evaluated most attributes of the principles positively, the enthusiastic proponents evaluated those attributes more positively than did the eclectic followers.

One exception among the six attributes was compatibility. Regarding the compatibility of New Urbanism principles with conventional development practice, the enthusiastic proponents evaluated the principles more negatively than the eclectic followers did. This finding reflects the proponents' more critical attitude toward conventional development practices resulting in the current disordered sprawl in the United States. This result suggests that proponents who are committed to an urban design movement that pursues both social ideals and economic efficiency may have some difference with early adopters who are classified mainly by innovativeness in general innovation-diffusion theory. By comparison, followers may have less difference with late adopters in their characteristics.

In addition, the enthusiastic proponents and the eclectic followers showed the biggest difference in their perceptions of the ease of the New Urbanism principles, particularly interconnected streets and graphic urban design codes. This finding suggests that different levels of understanding about New Urbanism principles might be one of the

most important factors that influence the differences between enthusiastic proponents and eclectic followers.

7.3.2. Implementation of New Urbanism Design Principles in Prototypes and Adaptations

The second hypothesis that prototypes incorporate more New Urbanism principles and do so more thoroughly than adaptations generally coincided with the case study observations. In particular, the prototypes incorporated the principles of interconnected streets, graphic urban design codes and diverse types of neighborhood parks more thoroughly than the adaptations.

One important exception was the implementation of housing affordability. Adaptations generally provided more affordable housing than prototypes. This exception suggests that proponents might favor architectural quality over housing affordability when these two relative advantages conflict with each other.

In addition, the New Urbanism principles whose implementation requires consideration beyond a project's boundaries, such as public transit access and schools within walking distance, were not incorporated well in either the prototypes or the adaptations. The problems in implementing these principles might be more related with the inherent characteristics of the principles themselves than the differences between the proponents and the followers who designed and developed the projects. Therefore, the better implementation of these principles may require certain changes in basic strategies such as closer public-private partnerships.

7.3.3. Relationship between Actors' Perceptions of New Urbanism Principles and Implementation of the Principles

Compared to the other two hypotheses, the third hypothesis of the case study, that the New Urbanism principles perceived more positively are implemented more often and more thoroughly, coincided less with the observations and showed mixed results.

However, regarding the most conspicuous cases (i.e., the principle that both the proponents and the followers scored the highest, the principle that the two scored the most differently, and the principle that both scored the lowest), the observed degree of implementation generally confirmed the hypothesis. For example, the principle of an identifiable neighborhood, which was perceived the most positively, was implemented thoroughly in both the prototypes and the adaptations, while the principles of a broad range of housing prices (particularly affordability) and public transit access, which were perceived the least positively, were not implemented well in either of them.

In addition, when the cases of the proponents and the followers are compared separately, the followers' perceptions and implementation of the principles showed closer relationships than those of the proponents. This finding suggests that the six attributes derived from innovation-diffusion theory might explain better the followers' adoption behavior than the proponents'.

7.4. Utilities of the MPA Framework as an Explainer of Transition of Urban Design Models in Practice

The MPA framework's main contributions are the classifications it provides between enthusiastic proponents and eclectic followers and between prototypes and adaptations and from its provision of an operational framework for such classifications. In the MPA framework, enthusiastic proponents and eclectic followers are classified according to their degree of involvement in an urban design movement, and prototypes and adaptations are classified according to whether the projects are designed and developed by enthusiastic proponents or by eclectic followers.

7.4.1. Forecasting the Public Acceptability of an Urban Design Model

The MPA framework may help proponents of an urban design model and urban design researchers to understand how the model would be perceived by general practitioners who are not enthusiastic proponents. Considering that a much larger portion of the urban environment has been formed by general practitioners, the public acceptability of an urban design model is one of the most important factors that influence the consequences of the model.

The dissertation showed that the six attributes of social relative advantages, economic relative advantages, compatibility, complexity, trialability, and observability could be used to explain adoption patterns of urban design principles, particularly those of eclectic followers. Therefore, the clear distinctions between enthusiastic proponents and eclectic followers and the proposed six attributes in the MPA framework would be useful tools in understanding the public acceptability of an urban design model. Such

understanding would help the proponents improve their model, making it more realistic and influential.

7.4.2. Identifying the Inherent Problems of an Urban Design Model in Realization

The MPA framework may help proponents of an urban design model and urban design researchers to identify inherent problems of the model that impede its realization. This dissertation has shown that some New Urbanism design principles were not implemented even in the prototypes designed and developed by enthusiastic proponents who are committed to the model. Compared with that in adaptations, the poor implementation of certain design principles in prototypes might be related to the characteristics of the principles themselves. By identifying such principles, the proponents might be able to improve their strategies for realizing the principles.

7.4.3. A Coherent Analytical Framework for the Understanding of Past Urban Design Movements

The MPA framework provides urban design researchers a systematic framework for understanding complex urban design movements based on recurrent patterns. As a coherent analytical framework, the MPA framework may enable urban design researchers to compare different urban design models and their influences in systematic ways and understand the similarities and differences among different urban design movements. In this dissertation, the historical review of three urban design movements based on the MPA framework identified the common characteristics of past urban design movements,

such as the powerful influences of prototypes in the diffusion of urban design models and proponents' efforts to build organizations to promote their models.

7.4.4. Provision of an Operational Framework for the Observation of the Dynamics in a Living Urban Design Movement

The MPA framework also provides operational tools for observing the current dynamics in the diffusion process of a living urban design model like New Urbanism. The practical and operational definitions in the MPA framework such as prototypes, adaptations, enthusiastic proponents, and eclectic followers, enable urban design researchers to observe the dynamics in a living urban design movement in real time and at the micro level. For example, the divergence of an urban design model in the MPA framework is defined as the different implementation of the model in prototypes and adaptations. In a living urban design movement, both enthusiastic proponents and eclectic followers continue to implement the model but with different commitments to the model and in different ways. In this dissertation, the divergence of the New Urbanism model was observed through the comparison of the prototypes and the adaptations both of which were developed in a similar time period.

The main purpose of the MPA framework is not to make a final assessment of an urban design model and movement but to provide feedback that may be useful for the improvement of the model and movement and contribute to the construction of evolutionary urbanism.

7.4.5. Contribution to General Innovation-Diffusion Research

In addition to the contributions to the urban design field, the MPA framework may contribute to the general innovation-diffusion research by demonstrating how an innovation-diffusion approach could be applied effectively to the diffusion of innovations (urban design models) that have more than one goal (e.g., equity, health, amenity, and efficiency). Generally, existing innovation-diffusion studies examine the diffusion of the innovations whose adoption is largely influenced by a single criterion, efficiency. For example, the adoption decision of a new medicine for AIDS might be made according to how the new medicine is effective in curing AIDS. However, in urban design movements, enthusiastic proponents of an urban design model pursue both social and economic goals (e.g., equity, health, amenity, and efficiency) while general practitioners (particularly speculative developers) to whom the enthusiastic proponents want to diffuse their model might pay more attention to efficiency in sales. The MPA framework of my study in which actors were classified according to their commitment to the model and involvement in the movement might be a more appropriate approach to explaining the diffusion of innovations that pursue social ideal and economic efficiency at the same time than would be general innovation-diffusion approaches that premise the homogeneity of adopter populations and rely mainly on innovativeness for the classification of adopters.

7.5. Suggestions for Practice

Although the entire dissertation discusses general urban design models and is not confined to New Urbanism, this section will propose several approaches to achieving better practice of New Urbanism principles based on the findings from the case study of

the practices of New Urbanism. More importantly, as New Urbanism has been and continues to be a major urban design movement, the ultimate goal of this dissertation is to contribute to the evolution of this movement. Therefore, these suggestions aim to improve the current practice of New Urbanism.

7.5.1. Efforts for the Balanced Implementation of New Urbanism

As shown in the results of the case study, the degree to which the cases implement each New Urbanism principle is distinct from the others. In most cases, the “creation of an identifiable neighborhood,” “compact development,” and “mix of diverse housing types (though affordable mostly for higher income families)” are implemented well in most of the cases; “interconnected streets” and “diverse types of neighborhood parks” are implemented more thoroughly in the prototypes than in the adaptations; and “access to public transit” and “schools within walking distance” are less implemented in both the prototypes and the adaptations. Based on the above results, we might draw a rough picture, if not a more precise one, of what kind of neighborhoods might prevail in the future if the trends revealed by the findings continue: neighborhoods that are identifiable, compact, and characterized by several housing types but that are not well connected, serve mostly upper-income families, have limited types of parks, and lack access to public transit and schools. That is, the divergence from an original urban design model in practice—a repeated trend in urban design history—might be recurring in the New Urbanism movement.

At this moment, I am not arguing that the New Urbanism model guarantees desirable communities if all of its design principles are fully implemented, as New

Urbanists believe. After all, this dissertation has not analyzed whether full implementation of New Urbanism principles actually improves people's lives but only whether the principles have been implemented fully in practice, as New Urbanists have expected.

Nevertheless, it would not be a drawback but actually an advantage to know what might be expected in the future. Moreover, if we generally agree on the need to adhere to the principles that have not always been implemented well nor at all (e.g., access to public transit, affordable housing), the contribution of this study might be that it at least suggests the need for improvement in the practice of such principles.

7.5.2. Public-Private Partnership for a Comprehensive and Broader Impact

Besides actors' perceptions of New Urbanism principles, the case study showed that the relationship between the public and private sectors represents another important factor that influences the degree of implementation of New Urbanism principles in several ways. First of all, for the principles that require consideration beyond the boundary of a project, such as "access to public transit," "schools within walking distance" (e.g., pedestrian connection through trails in Suwanee Town Center), and "graphic urban design codes to maintain the quality of a community"—particularly when attempting to broaden the influence of the codes through legislation such as municipal codes (e.g., the TND street design guidelines of Glenwood Park)—close collaboration between private and public sectors would bring more desirable results.

In small suburban towns or counties, public-private collaboration is even more important to the future of local municipalities because New Urbanist projects, whether

they are prototypes or adaptations, might have a stronger impact and significance to the surrounding communities because a project is a practical way of demonstrating to local government officials and local practitioners, including developers, what New Urbanism is and how it can be realized in a local context. For example, after the success of Clark's Grove in Newton County, more mixed-use projects were established (Southerland, 2007), and a similar phenomenon is taking place in Forsyth County, where Vickery was built (Sami, 2007).

In addition, state or federal government support for local municipalities through initiative programs such as Livable Centers Initiative (LCI) have played an important role by providing seed money that allows local planners to begin plans for change, even in cases in which general support from local communities has not been garnered.

7.5.3. Flexibility not for Convenience but for Goals

As discussed previously in the last part of Chapter 6—Analysis of Case Study Results—flexibility in the implementation of an urban design model is an important factor that could influence both the evolution and the divergence of the urban design model. That is, actors could begin by taking an innovative approach in implementing an urban design model to ensure that within a given context, the model more thoroughly achieves its ultimate goals. In this case, flexibility could lead to evolution of the model (e.g., Serenbe's omega-shaped streets and well-developed pedestrian path system for a connectivity fit in the rural hamlet context). Many principles of New Urbanism do not represent the final goals but intermediate and instrumental goals that serve the higher, fundamental goals. For example, compact development and interconnected streets

themselves might not be ultimate goals that New Urbanists pursue but strategies that they use to pursue more fundamental goals such as the conservation of energy, preservation of the environmental resources, and community building. Therefore, we should clearly and carefully ascertain what the ultimate goal is and which goals are simply stepping stones to that goal.

On the other hand, actors could decide to implement an urban design model partially due to cost savings or just for the convenience in implementation (e.g., Tributary's mix of small and large lots to hedge the potential risk in sales). In this case, flexibility might lead to degenerative divergence of the model. Although people who argue for flexibility for convenience say, "A little is better than nothing," if such choices are repeated in each project, it would eventually lead to degenerative divergence of the model in practice. Moreover, New Urbanism design principles are interrelated. For example, if a community provides sidewalks but does not have enough services or amenities within walking distance, people will not walk very much. In other words, if certain principles are omitted, the entire model could malfunction.

7.5.4. Better Communication between Enthusiastic Proponents and Eclectic

Followers for Evolutionary Urbanism

As discussed in the case study in Chapter 6, the communication channels that enthusiastic proponents use for acquiring up-to-date information and sharing opinions about New Urbanism differ from those that eclectic followers use. As revealed in the results of the interviews, communications between these two groups are apt to be sporadic, indirect, and superficial. Diffusion theories suggest that indirect

communication channels, such as the mass media, are more effective during the stage in which public awareness is broadened, while direct communication channels, such as interpersonal networks, are more effective during the stage of persuasion and implementation pertaining to detail information about an innovation (Rogers, 2003). Therefore, improving interpersonal communication channels between the two groups might contribute to reducing degenerative divergence from the model in practice.

Moreover, better communication between enthusiastic proponents and eclectic followers becomes more important in light of the flexibility issue—particularly, flexibility about goals and contexts. That is, eclectic followers generally tend to be less bound to the principles and more willing to try something that deviates from the principles than enthusiastic proponents. Therefore, eclectic followers, in the case where they aim toward the same goals as enthusiastic proponents, are more likely to use innovative approaches. Here, I am not minimizing the efforts within the enthusiastic proponent group, such as CNU, to improve New Urbanism practice. However, “thinking outside the box” could make unique contributions to the practice, unlike the efforts made within the proponent group.

For these reasons, close, two-way communication between enthusiastic proponents, who provide a centripetal force in the movement, and eclectic followers, who are more flexible in implementation of the model and thus try diverse approaches to New Urbanism design, may be paving the way for evolutionary urbanism.

7.6. Limitations of the Study and Directions for Future Works

7.6.1. Examination of the Evolution of New Urbanism

Besides the divergence of an urban design model, the MPA framework also includes evolution as a hypothetical transition of an urban design model, which is defined as a developmental process of an urban design model established by proponents of the model and observed through a comparison of early prototypes with later prototypes. Such evolution of an urban design model in practice has been argued by enthusiastic proponents. However, the case study presented in this dissertation focused on only the divergence from New Urbanism principles in their implementation, and the evolution suggested in the MPA framework was not tested systematically because of limited time and resources. An investigation of the evolution of New Urbanism principles in practice will be a topic for future study.

A study of how the practical use of New Urbanism principles evolves would require a chronological approach to New Urbanism projects. In addition, although the MPA framework assumes that evolution occurs mainly through the cumulative efforts of enthusiastic proponents, this case study also showed the potential of adaptations, developed by eclectic followers, to spark the evolution of New Urbanism principles that exhibit a more flexible application of the model while still pursuing the same community goals (e.g., the Serenbe case). Therefore, in future studies, the definition of evolution should include such pursuits by eclectic followers.

7.6.2. Examination of Different Scale New Urbanism Principles

New Urbanism includes not only neighborhood scale but also regional, block, street and building scale principles (Appendix B.2.). These various-scale principles are interrelated. For example, “architecture and landscape design grown from local climate, topography, history, and building practice” (a building scale principle) is closely related to “creation of an identifiable community” (a neighborhood scale principle). Therefore, only after the full examination of the other two scale principles could we predict how the entire movement might unfold. In the case study for this dissertation, I focused on neighborhood scale principles and their implementation because the original success of New Urbanism was in neighborhood-scale development models such as the Traditional Neighborhood Development (TND) or the Transit Oriented Development (TOD) model. However, as the Charter shows, from the beginning New Urbanists have recognized the need to connect neighborhood-scale development models to those on the larger and smaller scales. They have continuously developed new tools for this purpose (e.g., Transect Planning and Smart Codes), therefore; development models on other scales deserve to be investigated as well.

7.6.3. Examination of Other Urban Design Models and Programs

Although the case study in this dissertation examined only New Urbanism neighborhood development practices, the MPA framework is a more general theoretical framework that explains the transition of urban design models (e.g., the Garden City model or the Modern model) and any urban design policies or regulations (e.g., the HOPE VI program or Smart Codes). If we were to further examine other urban design

models and programs, the initial findings and implications of this dissertation could be further generalized and enriched.

7.6.4. Examination of Influence on People's Lives

It is important to note that this study is not about whether the principles are actually ideal but about whether they have been implemented as the proponents intended. Therefore, with only the results from this study, we cannot determine whether better implementation of the principles would promote better community building as intended by the proponents. That is, this study mainly addresses the influence of the model on the built environment rather than on people's lives. Because the latter presents significant research opportunities, future research should address how the transition from urban design models in practice actually influences the quality of life of the residents of a community.

The MPA framework proposed in this dissertation could be applied to the future research about the model's influence on people's lives, with some modification. For instance, future studies about the model's influence on people's lives should classify prototypes and adaptations according to the extent to which they incorporate the model rather than according to who designed and developed the project, and should examine how the prototypes that fully incorporated the most principles of a model influence people's lives.

APPENDIX A: INTERVIEW INSTRUMENTS

A.1. Interview Request Mail

Dear _____,

I am a Ph.D. candidate in the City and Regional Program at Georgia Tech, writing a dissertation addressing the question of how urban design models, particularly New Urbanism model, are implemented in practice. I am writing to request an interview with you for this research. Professors Michael Elliott, Michael Dobbins, and Ellen Dunham-Jones at Georgia Tech guide this research and they recommended that I incorporate your project, _____ into this study.

As a part of the dissertation, a comparative case study of development projects in Atlanta is conducted for the purpose of identifying the key principles used by developers, architects and planners in designing and implementing these projects. Interviews with key persons of each project will serve as the most important resource for the case study analysis. The Interview will focus on principles developed by the Congress for New Urbanism and will examine how key actors in each project perceive and assess these principles and to what degree each principle is implemented in the project. The interview will most likely take 30 minutes to an hour to conduct.

Your input will help to more effectively connect theory and practice in urban design field. Please contact me via phone or email, to confirm your willingness to be interviewed or if you have any questions or concerns. I look forward to hearing from you and thank you for considering this request.

Sincerely,

Jaecheol Kim

Ph.D. Candidate
City and Regional Planning, College of Architecture
Georgia Institute of Technology
Phone: (770) 329 – 2241
Email: jaecheol.kim@gatech.edu

A.2. Case Study Interview Form

Case Study Interview Form

Institutions:

Interviewee (Name and Title):

Interviewer:

Interview time and location:

Section Completed:

- 1. Interviewee Background
- 2. Participation in the New Urbanism Movement
- 3. Assessment of the New Urbanism Model
- 4. Implementation of the New Urbanism Principles in the Project
- 5. Other topics to discuss:

Documents obtained:

Post Interview Comments or Leads:

Introduction

“Before we begin the interview, I will introduce the case study. My research aims to analyze the relationship between the way practitioners perceive and assess New Urbanism principles and the degree to which each principle is implemented in the project. Your project is included in 12 cases for the research.

This interview will focus on your assessment of the neighborhood scale New Urbanism principles; and the details of the project development process.”

1. General Information of the Interviewee

- a. Period within which the interviewee participated in the project

Q 1-1: When and how did you participate in this project?

- b. Interviewee’s roles in the project

Q 1-2: What were your roles in this project?

- c. Other neighborhood development projects in which the interviewee participated

Q 1-3: Have you had an experience with neighborhood scale development before this project? If so, which other neighborhood development projects did you participate in? When did you participate in the projects and what were your roles in those projects?

2. Participation in the New Urbanism Movement

Q 1: Are you familiar with the New Urbanism? (If yes, go to Q 2. If no, skip Section 2)

Q 2-1: How did you come to know about the New Urbanism first time?

Q 2-2: Do you get up-to-date news or information about the New Urbanism regularly? If so, how do you get?

Q 2-3: Do you share opinions and information about the New Urbanism with others? How?

Q 2-4: Do you think you are a New Urbanism proponent?

Q 2-5: To what extent do you agree on the whole New Urbanism scheme in general? Are there any specific principles you do not agree?

Q 2-6: What kinds of activities are you doing related with the New Urbanism?

- *Attend local conferences lectures, or workshops in local level*
- *Read articles and books about New Urbanism regularly*
- *Subscribe for the CNU membership*
- *Attend New Urbanism conferences, lectures, or workshops in national level*
- *Visit other New Urbanism projects*
- *Participate in New Urbanism projects*
- *Join a local chapter of the CNU*
- *Give speeches, or lectures for New Urbanism*
- *Write articles or books to promote New Urbanism*

3. Interviewee's Opinions about the New Urbanism Principles

- a. Hand out the questionnaire to the interviewee and if needed, introduce the neighborhood scale principles from the Charter of New Urbanism briefly.
- b. Ask if the interviewee understand the meanings of each principle clearly.

Q 3-1: These are the neighborhood scale New Urbanism principles from the Charter of the New Urbanism. Are you familiar with the Charter? It is the Charter officially announced by the CNU. Are the meanings of the principles clear to you? If not, please let me know.

- c. Ask the interviewee to assess the principles for the following perceived attributes of the principles.

Q 3-2: Please read the questions or statements in the questionnaire and mark your answers on appropriate spaces.

- i. Relative advantage: the degree to which a principle is perceived as better than the idea it supersedes [Questions 7-a and 7-b in the questionnaire]*
- ii. Compatibility: the degree to which a principle is perceived as being consistent with the existing values, past experiences, and needs of potential adopters [Question 7-c]*
- iii. Complexity: the degree to which a principle is perceived as difficult to understand and use [Question 7-d] Is it simple or Complex?*
- iv. Trialability: the degree to which a principle may be experimented with on a limited basis [Question 7-e]*

v. *Observability: the degree to which the results of the implementation of a principle are visible to others [Question 7-f]*

4. Implementation of the New Urbanism Principles into the Projects

a. The reason for the site selection

Q 4-1: Why did you select this site for the project?

b. The reason for the selection of the design firm

Q 4-2: Who is the master planner of this project? How did you select the design firm for the project?

c. Influences of other New Urbanism projects

Q 4-3: Are there any other development projects that influenced you while you developed this project? If so, which projects are they?

i. How did you get the information about these other projects?

- Have you visited the sites?*
- Have you contacted with anyone involved in the projects?*
- Or did you study the plans of the projects*

ii. How do you assess such other projects that influenced your project

iii. How did these other projects influence your project? Were any specific design features, development processes, or financial techniques adopted?

- d. Major obstacles in implementing the New Urbanism principles and responses to overcome the obstacles

Q 4-4: you answered in the survey form that some design principles were not incorporated to the project, although they would be desirable for the quality of the community or the market appeal of the project.

iv. Were there any obstacles or conflicts in implementing such principles in the project?

v. If so, were there any efforts to overcome such obstacles?

- e. Decision making processes

Q 4-5: Who were other key actors that participated in decision making for the design of the project?

Q 4-6: How were the important decisions for the design of the project made during the development? Do you remember any example of such decisions? If so, please describe them in details.

- f. Assessments

Q 4-7: How do you evaluate the project? Does the project affect your attitude toward the New Urbanism model? If so, how does it?

Q 4-8: in recession like now, do you think New Urbanism approach still works better than conventional approach? Why?

A.3. Supplemental Survey Form

Your Opinions about the Neighborhood Scale New Urbanism Principles

<u>Project Name:</u>	Is this principle incorporated into the project?					Whether the principle is incorporated into the project or not, in your opinion,										
						Incorporating the principle into the project would improve the quality of the community.					Incorporating the principle into the project would improve its property value or broaden its market appeal.					
	<u>Interviewee:</u>	A lot	Quite a bit	Somewhat	Not very much	Not at all	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
Creation of an identifiable neighborhood																
Compact development																
Pedestrian-friendly street design																
Interconnected street design																
Mixed uses within walking distance																
A broad range of housing types																
A broad range of housing prices																
Access to public transit																
School located within walking distance																
Maintenance of the quality of a neighborhood through graphic urban design codes																
Diverse types of neighborhood parks within a neighborhood																

Your Opinions about the Neighborhood Scale New Urbanism Principles

Project Name: Vickery Interviewee:	Implementing the principle fits well with the conventional neighborhood development practices in the US.					The principle is simple to understand and use.					The principle would bring desirable results even if implemented only partially.					I know many projects in which the principle was implemented successfully.				
	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
	10	7-9	3-5	1-2	0	10	7-9	3-5	1-2	0	10	7-9	3-5	1-2	0	10	7-9	3-5	1-2	0
Creation of an identifiable neighborhood																				
Compact development																				
Pedestrian-friendly street design																				
Interconnected street design																				
Mixed uses within walking distance																				
A broad range of housing types																				
A broad range of housing prices																				
Access to public transit																				
School located within walking distance																				
Maintenance of the quality of a neighborhood through graphic urban design codes																				
Diverse types of neighborhood parks within a neighborhood																				

APPENDIX B. MODELS OF NEW URBANISM

B.1. Ahwahnee Principles, 1991 (Corbett & Velasquez, 2008)

Community Principles

1. All planning should be in the form of complete and integrated communities containing housing, shops, work places, schools, parks and civic facilities essential to the daily life of the residents.
2. Community size should be designed so that housing, jobs, daily needs and other activities are within easy walking distance of each other.
3. As many activities as possible should be located within easy walking distance of transit stops.
4. A community should contain a diversity of housing types to enable citizens from a wide range of economic levels and age groups to live within its boundaries.
5. Businesses within the community should provide a range of job types for the community's residents.
6. The location and character of the community should be consistent with a larger transit network.
7. The community should have a center focus that combines commercial, civic, cultural and recreational uses.
8. The community should contain an ample supply of specialized open space in the form of squares, greens and parks whose frequent use is encouraged through placement and design.
9. Public spaces should be designed to encourage the attention and presence of people at all hours of the day and night.
10. Each community or cluster of communities should have a well-defined edge, such as agricultural greenbelts or wildlife corridors, permanently protected from development.
11. Streets, pedestrian paths and bike paths should contribute to a system of fully-connected and interesting routes to all destinations. Their design should encourage pedestrian and bicycle use by being small and spatially defined by buildings, trees and lighting; and by discouraging high speed traffic.
12. Wherever possible, the natural terrain, drainage and vegetation of the community should be preserved with superior examples contained within parks or greenbelts.
13. The community design should help conserve resources and minimize waste.
14. Communities should provide for the efficient use of water through the use of natural drainage, drought tolerant landscaping and recycling.

15. The street orientation, the placement of buildings and the use of shading should contribute to the energy efficiency of the community.

Regional Principles

1. The regional land-use planning structure should be integrated within a larger transportation network built around transit rather than freeways.
2. Regions should be bounded by and provide a continuous system of greenbelt/wildlife corridors to be determined by natural conditions.
3. Regional institutions and services (government, stadiums, museums, etc.) should be located in the urban core.
4. Materials and methods of construction should be specific to the region, exhibiting a continuity of history and culture and compatibility with the climate to encourage the development of local character and community identity.

Implementation Principles

1. The general plan should be updated to incorporate the above principles.
2. Rather than allowing developer-initiated, piecemeal development, local governments should take charge of the planning process. General plans should designate where new growth, infill or redevelopment will be allowed to occur.
3. Prior to any development, a specific plan should be prepared based on these planning principles.
4. Plans should be developed through an open process and participants in the process should be provided visual models of all planning proposals.

B.2. Charter of New Urbanism (Leccese & McCormick, 2000)

The region: Metropolis, city, and town

1. Metropolitan regions are finite places with geographic boundaries derived from topography, watersheds, coastlines, farmlands, regional parks, and river basins. The metropolis is made of multiple centers that are cities, towns, and villages, each with its own identifiable center and edges.
2. The metropolitan region is a fundamental economic unit of the contemporary world. Governmental cooperation, public policy, physical planning, and economic strategies must reflect this new reality.
3. The metropolis has a necessary and fragile relationship to its agrarian hinterland and natural landscapes. The relationship is environmental, economic, and cultural. Farmland and nature are as important to the metropolis as the garden is to the house.
4. Development patterns should not blur or eradicate the edges of the metropolis. Infill development within existing urban areas conserves environmental resources, economic investment, and social fabric, while reclaiming marginal and abandoned areas. Metropolitan regions should develop strategies to encourage such infill development over peripheral expansion.
5. Where appropriate, new development contiguous to urban boundaries should be organized as neighborhoods and districts, and be integrated with the existing urban pattern. Noncontiguous development should be organized as towns and villages with their own urban edges, and planned for a jobs/housing balance, not as bedroom suburbs.
6. The development and redevelopment of towns and cities should respect historical patterns, precedents, and boundaries.
7. Cities and towns should bring into proximity a broad spectrum of public and private uses to support a regional economy that benefits people of all incomes. Affordable housing should be distributed throughout the region to match job opportunities and to avoid concentrations of poverty.
8. The physical organization of the region should be supported by a framework of transportation alternatives. Transit, pedestrian, and bicycle systems should maximize access and mobility throughout the region while reducing dependence upon the automobile.
9. Revenues and resources can be shared more cooperatively among the municipalities and centers within regions to avoid destructive competition for tax base and to promote rational coordination of transportation, recreation, public services, housing, and community institutions.

The neighborhood, the district, and the corridor

1. The neighborhood, the district, and the corridor are the essential elements of development and redevelopment in the metropolis. They form identifiable areas that encourage citizens to take responsibility for their maintenance and evolution.
2. Neighborhoods should be compact, pedestrian-friendly, and mixed-use. Districts generally emphasize a special single use, and should follow the principles of neighborhood design when possible. Corridors are regional connectors of neighborhoods and districts; they range from boulevards and rail lines to rivers and parkways.
3. Many activities of daily living should occur within walking distance, allowing independence to those who do not drive, especially, the elderly and the young. Interconnected networks of streets should be designed to encourage walking, reduce the number and length of automobile trips, and conserve energy.
4. Within neighborhoods, a broad range of housing types and price levels can bring people of diverse ages, races, and incomes into daily interaction, strengthening the personal and civic bonds essential to an authentic community.
5. Transit corridors, when properly planned and coordinated, can help organize metropolitan structure and revitalize urban centers. In contrast, highway corridors should not displace investment from existing centers.
6. Appropriate building densities and land uses should be within walking distance of transit stops, permitting public transit to become a viable alternative to the automobile.
7. Concentrations of civic, institutional, and commercial activity should be embedded in neighborhoods and districts, not isolated in remote, single-use complexes. Schools should be sized and located to enable children to walk or bicycle to them.
8. The economic health and harmonious evolution of neighborhoods, districts, and corridors can be improved through graphic urban design codes that serve as predictable guides for change.
9. A range of parks, from tot-lots and village greens to ballfields and community gardens, should be distributed within neighborhoods. Conservation areas and open lands should be used to define and connect different neighborhoods and districts.

The block, the street, and the building

1. A primary task of all urban architecture and landscape design is the physical definition of streets and public spaces as places of shared use.
2. Individual architectural projects should be seamlessly linked to their surroundings. This issue transcends style.

3. The revitalization of urban places depends on safety and security. The design of streets and buildings should reinforce safe environments, but not at the expense of accessibility and openness.
4. In the contemporary metropolis, development must adequately accommodate automobiles. It should do so in ways that respect the pedestrian and the form of public space.
5. Streets and squares should be safe, comfortable, and interesting to the pedestrian. Properly configured, they encourage walking and enable neighbors to know each other and protect their communities.
6. Architecture and landscape design should grow from local climate, topography, history, and building practice.
7. Civic buildings and public gathering places require important sites to reinforce community identity and the culture of democracy. They deserve distinctive form, because their role is different from that of other buildings and places that constitute the fabric of the city.
8. All buildings should provide their inhabitants with a clear sense of location, weather and time. Natural methods of heating and cooling can be more resource-efficient than mechanical systems.
9. Preservation and renewal of historic buildings, districts, and landscapes affirm the continuity and evolution of urban society.

APPENDIX C. CASE DATA

C.1. Site Visits—Diverse Types of Neighborhood Parks

C.1.1. Urban Infill/Historic Area

- **Prototype – Clark’s Grove:** 1) a large ball field where community events are also held; 2) a community garden where families can grow vegetables; 3) a playground for kids; 4) walking trails through preserved wetlands; 5) a community square with a monument; 6) a pavilion for family gathering; and 7) small pocket parks in front of homes.



Figure 66 Neighborhood Parks of Clark's Grove

- **Adaptation – Inman Park Village:** 1) a landscaped park with a retain pond; 2) a passive park; and 3) a small park for small events with a fountain.



Figure 67 Neighborhood Parks of Inman Park Village

C.1.2. Suburban (Town Center)

- **Prototype – Woodstock Downtown:** 1) a playground with a stage for community events; 2) several small gardens in front of homes; 3) a playground for kids; 4) fire places; and 5) a preserved park.



Figure 68 Neighborhood Parks of Woodstock Downtown

- **Adaptation – Suwanee Town Center:** The Suwanee Town Center has 1) a large landscaped park with an amphitheatre and a fountain in front of the city hall; a large passive park behind the city hall; 3) a small park in townhome area.



Figure 69 Neighborhood Parks of the Suwanee Town Center

C.1.3. Suburban (Main Street)

- **Prototype – Smyrna Town Center:** 1) a landscaped street park with a fountain and pavilion; 2) a rotary square with a fountain; 3) a veteran memorial park with statues; and 4) a landscaped park with a large pond.



Figure 70 Neighborhood Parks of the Smyrna Town Center

- **Adaptation – Perimeter Place:** no public park space.

C.1.4. Exurban (Greenfield)

- **Prototype – Vickery:** 1) a large passive park; 2) a fire place; 3) a preserved pond; 4) a dog park; 5) an urban square in the commercial area; 6) a playground for kids; and 7) several basket ball courts.



Figure 71 Neighborhood Parks of Vickery

- **Adaptation – Tributary:** 1) a large passive park; 2) a retain pond; 3) a playground for kids; 4) a landscaped park with a fountain; 5) several small parks.



Figure 72 Neighborhood Parks of Tributary

C.1.5. Rural Hamlet (2nd Home Community)

- **Prototype – Gorham’s Bluff:** 1) a park overlooking the Tennessee River Valley; 2) a small pavilion for events; 3) a tree house for kids; and 4) open spaces for future development.



Figure 73 Neighborhood Parks of Gorham’s Bluff

- **Adaptation – Serenbe:** Parks in Serenbe are more natural and integrated with the community life: 1) open spaces near the road are used for community events. Serenbe

also has 2) pedestrian trails; 3) a preserved lake, 4) horse riding roads and a stable; 5) preserved open spaces; and 6) organic farms.



Figure 74 Neighborhood Parks of Serenbe

C.2. Chronology of Main Events in the Twelve Cases

Table 26 Chronology of Main Events in Glenwood Park (Prototype) and Glenwood Green (Adaptation)

Cases	Events
Glenwood Park	2001 Design charrette (Dover, Kohl & Partners led with the assistance from Tunnel-Spangler-Walsh & Associates) 2002 Completion of the construction plan & permission process 2003 Construction of the infrastructure 2003 CNU Charter Awards 2004 Construction of the first houses 2004 Moving of Glenwood park's first resident
Glenwood Green	2000 Rezoning from I2 to RG-3C 2001 Construction of the first home 2003 Completion of the last homes 2003 Completion of final sell out

Table 27 Chronology of Main Events in Clark’s Grove (Prototype) and Inman Park Village (Adaptation)

Cases	Events
Clark’s Grove	<p>2000 Design charrette for downtown Covington (led by DPZ)</p> <p>2000 Covington Master Plan & Clark’s Grove Plan</p> <p>2001 Rezoning Approval (PUD / TND)</p> <p>2002 Beginning of the Phase I Construction</p> <p>2008 Beginning of the Phase II Construction</p>
Inman Park Village	<p>2001 The IPNA vote to seek historic district status for the neighborhood with the city</p> <p>2001 Mead Corp.’s announcement of closing and selling the property</p> <p>2002 Designation of the Inman Park Historic District</p> <p>2002 Collaboration of the Wood Partners (developer) and IPNA for rezoning and developing the master plan for the site</p> <p>2003 Construction of the Alta Inman Park Apartments</p> <p>2004 Construction of the Lofts</p> <p>2005 Construction of the Detached Homes, Row Houses, and Town Homes</p> <p>2007 Construction of the Inman Park Condominiums</p>

Table 28 Chronology of Main Events in Woodstock Downtown (Prototype) and the Suwanee Town Center (Adaptation)

Cases	Events
Woodstock Downtown	2002 Woodstock Livable Centers Initiative Plan 2003 Woodstock Downtown Plan 2005 Self-imposed moratorium by the city during the master planning process 2005 Beginning of the construction of Phase I 2008 CNU Charter Awards 2008 Lost to foreclosure the 26,000 sq. ft. ground floor of a four story mixed use building
Suwanee Town Center	2000 Comprehensive Plan 2001 Old Downtown Master Plan 2001 Open Space & Recreation Needs Assessment 2002 New Town Center Plan 2002 Suwanee Town Center Livable Centers Initiative Study (Declined) 2003 Opening of the Town Center Park 2004 TND residential development (40 acres, 85 single-family homes & 116 townhomes) 2006 Opening of the businesses at the mixed use buildings 2009 Construction of the City Hall

Table 29 Chronology of Main Events in the Smyrna Town Center (Prototype) and Perimeter Place (Adaptation)

Cases	Events
Smyrna Market Village	1988 Establishment of Smyrna Town Center Plan 1991 Construction of the Community Center & the Library 1996 First residential and commercial redevelopment 1996 Construction of Downtown infrastructure & City Hall 1997 Construction of the Public Safety Building 1999 Construction of the Welcome Center & Museum and the Fire Station 2002 Construction of Market Village & Veterans Memorial Park 2003 Smyrna Livable Centers Initiative Study 2004 Construction of additional retail space
Perimeter Place	2001 Perimeter Livable Center Initiative 2002 Bellsouth’s move out 2003 Having the parcels under contract 2003 Beginning rezoning process for the higher density, mixed use, pedestrian-oriented usage 2004 Completion of the Rezoning process 2004 Closure of the deal for the parcels (former BellSouth Corp. headquarter site and Equity Office sites) 2006 Completion of the project 2006 Livable Centers Initiative Achievement Award

Table 30 Chronology of Main Events in Vickery (Prototype) and Tributary (Adaptation)

Cases	Events
Vickery	<p>2000 Development of a conceptual master plan through charrette</p> <p>2000 Forsyth County’s approval for the plan (9 months taken) after debates about density</p> <p>2002 Beginning of sales and construction</p> <p>2003 Opening of the community</p> <p>2006 ULI’s Development of Excellence Award</p> <p>2008 Lost to foreclosure 200 vacant residential lots and the entire commercial village.</p>
Tributary	<p>1998 Initial New Manchester Master Plan</p> <p>2000 Douglasville Livable Centers Initiative</p> <p>2003 Beginning of the development</p> <p>2004 Rezoning</p> <p>2005 Beginning of sales</p>

Table 31 Chronology of Main Events in Gorham’s Bluff (Prototype) and Serenbe (Adaptation)

Cases	Events
Gorham’s Bluff	<p>1992 Establishment of the initial town plan</p> <p>1993 Construction of the first home (25 homes were built by 2001)</p> <p>1994 Construction of the Lodge</p> <p>1995 Opening of the Lodge</p> <p>1998 Move of the old Pisgah School building</p> <p>2001 Community-charrette for the Phase II (75 practitioners - architects, planners, developers, writers, and educators)</p> <p>2001 Presentation of the charrette results at the 9th CNU congress (Replacement of large estate homes with small two-story homes along main street / move the elder residences closer to the center / hardwood forest and a play area for kids / building viable arts facilities)</p> <p>2001 Completion of the Gorham’s Bluff Meeting Place</p>
Serenbe	<p>1995 Development of Serenbe Bed & Breakfast</p> <p>2000 Creation of Chattahoochee Hill Country Alliance</p> <p>2002 Adoption of Chattahoochee Hill Country Plan (including Overlay District)</p> <p>2003 Chattahoochee Hill Country Livable Centers Initiative Study</p> <p>2003 Rezoning for Phase I (Selborne Community) from AG-1 to CUP/CHC</p> <p>2004 Construction of Phase I</p>

Table 31 (continued)

	2006 Rezoning for Phase II (Grange Community) from CUP/CHC & AG-1 to CUP/CHC 2006 Rezoning for private school construction 2008 Construction of Phase II
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