

CRITICAL SUCCESS FACTORS
FOR
AFFORDABLE HOUSING DEVELOPMENT

by

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ABSTRACT

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Critical Success Factors for Affordable Housing Development

Thesis directed by Associate Professor Paul S. Chinowsky

The passage of the Housing Act of 1949 gave birth to the American Dream that envisioned decent housing for every American family. Sixty two years after its passage, the act's vision still lives. Yet for many American families, this dream is just a dream. Current literature suggests that the “number one housing problem is the lack of affordable housing for extremely low-income households” (Sirmans and Macpherson 2003). While attempts to address the affordable housing gap have been substantial and ongoing, this thesis questions what the current obstacles are that prohibit the American Dream from becoming a reality and how to overcome these challenges.

This report explores the barriers facing affordable housing throughout the development process by conducting a series of personal interviews with local individuals in the affordable housing industry in Boulder, CO. The various social, political, and financial issues that often hinder the development of affordable housing, as well as the key factors in successful project implementation are identified and used to develop a list of issues prevalent to affordable housing. The culmination of this study results in the development of seven critical success factors (CSFs) for affordable housing development. The findings of this report will provide guidance to the affordable housing industry as it continues to develop affordable housing solutions in an attempt to narrow the affordable housing gap.

DEDICATION

This thesis is dedicated to my advisor, Paul Chinowsky, who inadvertently led me to one of Life's noble truths and in turn, the process of self-discovery.

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First and foremost, I would like to thank my Heavenly Father for giving me the strength, courage and conviction to carry on, even when this process seemed dark and gloomy. Thank you Lord for directing me through this path, You have humbled me through this experience, and taught me that I truly can do anything through You.

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CHAPTER 1

INTRODUCTION AND PROBLEM STATEMENT

1.1 Introduction

Sixty-two years after the passage of the Housing Act of 1949, the American Dream of providing ‘decent housing for every American family’ still lives. Yet for many American families, this dream has become just a dream, and in many cases, a bleak fantasy. Numerous housing acts have been passed in the United States to promote homeownership (Sirmans and Macpherson, 2003), yet this nation is far from making these acts’ visions a reality. Affordable housing is one of many of social epidemics facing this country; as the economy continues to flounder, family household incomes are dropping while housing prices are increasing and thus the housing problem expands with little relief, despite efforts from both the nonprofit and private sectors.

The challenge in providing affordable housing is similar to defining the term. While an explicit definition for affordable housing has not been defined, a widely accepted implicit definition is that monthly housing costs need not exceed 30% of a family’s household income (Wallace 1995). Other definitions are commonly used, such as “housing targeted to the middle- and lower-income markets” (Linstokin and Listokin, 2001), approximately 80% to 120% of the Area Median Income (AMI). However, for the sake of this report the implicit definition from Wallace will be used. Additionally, mention of “low-income” and “very low-income” households should be defined for the sake of this report. The U.S. Department of Housing and Urban Development (HUD) considers low-income households as those earning incomes at or

below 80% of the AMI, and very low-income households as those earning incomes at or below 50% of the AMI. These definitions serve as supplemental information; henceforth the term ‘affordable housing’ will imply housing designated for both low- and very low-income families.

Arguments can be made whether or not homeownership is a right or a freedom, but these disputes prove unreal when discussing the need for housing. Every family, person and child needs a home as a form of basic shelter. While the need may be less intense for some families and individuals, others find themselves struggling to provide such a basic necessity. According to HUD’s *Worst Case Housing Needs 2009: Report to Congress*, the extent of the nation’s “worst case needs” in 2009 increased 20% since 2007, increasing from 5.91 to 7.1 million (HUD 2009). The term “worst case needs,” as defined by HUD, is the “very low-income renters who do not receive government housing assistance and either paid more than one-half of their income for rent or live in severely inadequate conditions” (HUD 2009). The report suggests that the lack of affordable housing is a major motive of these high rents (HUD 2009). While the available stock has remained rather consistent, competition for affordable units plays a significant role in the worst case needs increase.

Meeting the affordable housing need has become a pressing issue for this country. In the article *The State of Affordable Housing*, Stacy Sirmans and David Macpherson review the current literature on the topic and suggest that the “number one housing problem is the lack of affordable housing for extremely low-income households” (Sirmans and Macpherson, 2003). In their review, it is apparent that efforts to address the affordable housing issue are substantial and continue to be tackled. The current body of affordable housing literature is diverse and includes such issues as housing policy, housing acts, affordable housing supply, barriers to homeownership, housing affordability and housing goals, among others. Yet a disturbing

conclusion upon examining the housing goals literature that was found is that the national goal of affordable housing is no longer a consensus (Sirmans and Macpherson, 2003). Across political parties, state and local governments, the affordable housing issue, as well as housing goals vary. This raises the following rhetorical questions: What happened to the vision of the Housing Act of 1949? How does this nation once again regain consensus and focus on addressing the affordable housing issue? Who is left to deal with the problem? And what are the obstacles that prevent the American Dream from becoming reality? In a minute attempt to address the last question, this report will explore the current barriers to affordable housing.

This research project attempts to identify barriers that affordable housing developers may encounter during the development process. These issues will be illustrated by developing an understanding for the development process through the views of organizations currently engaged in the affordable housing industry. Individuals of these organizations who have a prior experience with the development process and affordable housing issues will be sought for an interview to determine the issues that are most pressing. This will aid in determining the challenges and obstacles an affordable housing provider may be facing or how one can overcome these difficulties when developing affordable housing.

1.2 Purpose Statement

The purpose of this study is to further explore the barriers affordable housing faces during the development process. The key project management tools that companies believe are necessary to overcome these challenges will also be discussed. The results of this study will assist in developing a list of Critical Success Factors for Affordable Housing Development that will serve as a guide for other development teams seeking to develop future affordable housing projects.

1.3 Research Questions

The research questions posed for this study are as follows:

Primary

- What are the critical success factors for affordable housing development?

Secondary

- What are the greatest challenges during the development process that companies must overcome to provide affordable housing?

1.4 Research Methodology

For this investigation a qualitative approach was taken to accomplish the purpose of this study, which is to explore the barriers affordable housing faces during the development process and determine a list of critical success factors for affordable housing development. A quantitative approach would not have fit this study because the term “success” is abstract and cannot be determined numerically. Meanwhile, a case study approach may have achieved the purpose of this study, but a broad perspective of the affordable housing development process was desired and thus would have been limited with a few specific cases. The following sections describe the methodology framework for this study.

Company Selection

The initial step in the research methodology framework was the selection of companies to be included in the study. An initial core group consisting of three executives of various local, non-profit affordable housing developers served as guest lecturers presenting on various topics, such as affordable housing, multi-family housing development and project management. These three individuals were selected based upon their extensive experience and willingness to participate in this study, as well as their respective organizations' current operations in the

affordable housing industry. Additionally, the companies were selected due to their close proximity that allowed for interview to be conducted in person.

Interview Participants

Having a diverse pool of interview subjects was important to this study in order to gain a broad perspective of affordable housing development. This was accomplished by having a total of 15 interview participants, ranging from project level to executive positions, included in this study. Additionally, the interviewees span the spectrum of development and include architects, builders, city housing specialists and developers. Following the selection of the initial three core interviewees, the remaining twelve participants were based upon personal recommendations. During each of their respective interviews, these individuals were asked to recommend additional participants with a prior experience in developing affordable housing projects. In many cases, these individuals were direct team members on a previous project.

Data Collection

Personal interviews were the primary source of data collection for this research study. These individual dialogues provided in-depth, industry-specific information focused on the barriers and challenges to affordable housing development. This method of collecting data was more effective than the survey process because of the personal narratives and specific examples that arose during the interviews. Within these interviews, participants were asked to rate affordable housing barriers and project management factors in terms of their “criticalness” to the development of an affordable housing project. In addition, interviewees were asked to discuss the challenges and/or obstacles facing affordable housing and methods to overcome them. A complete discussion of the interview process, interview format and questions posed are discussed in Chapter 3 of this study.

Data Analysis

Once interviews were conducted, the data gathered was organized and recorded for further analysis. Interview coding was used to identify key themes raised among the interviewees, as well as to begin organizing the barriers/factors into common categories. Analysis focused on identifying the top rated barriers/factors as scored by the participants. Once this step was completed conclusions were drawn about the importance and implications to the affordable housing development process for each factor. Interviewee comments and examples were used to justify these conclusions. The analysis process was concluded by obtaining a list of critical success factors for affordable housing development, which is described in further details in Chapter 5 of this report.

Figure 1.4 on the following page shows an outline of the research methodology as described in this section.

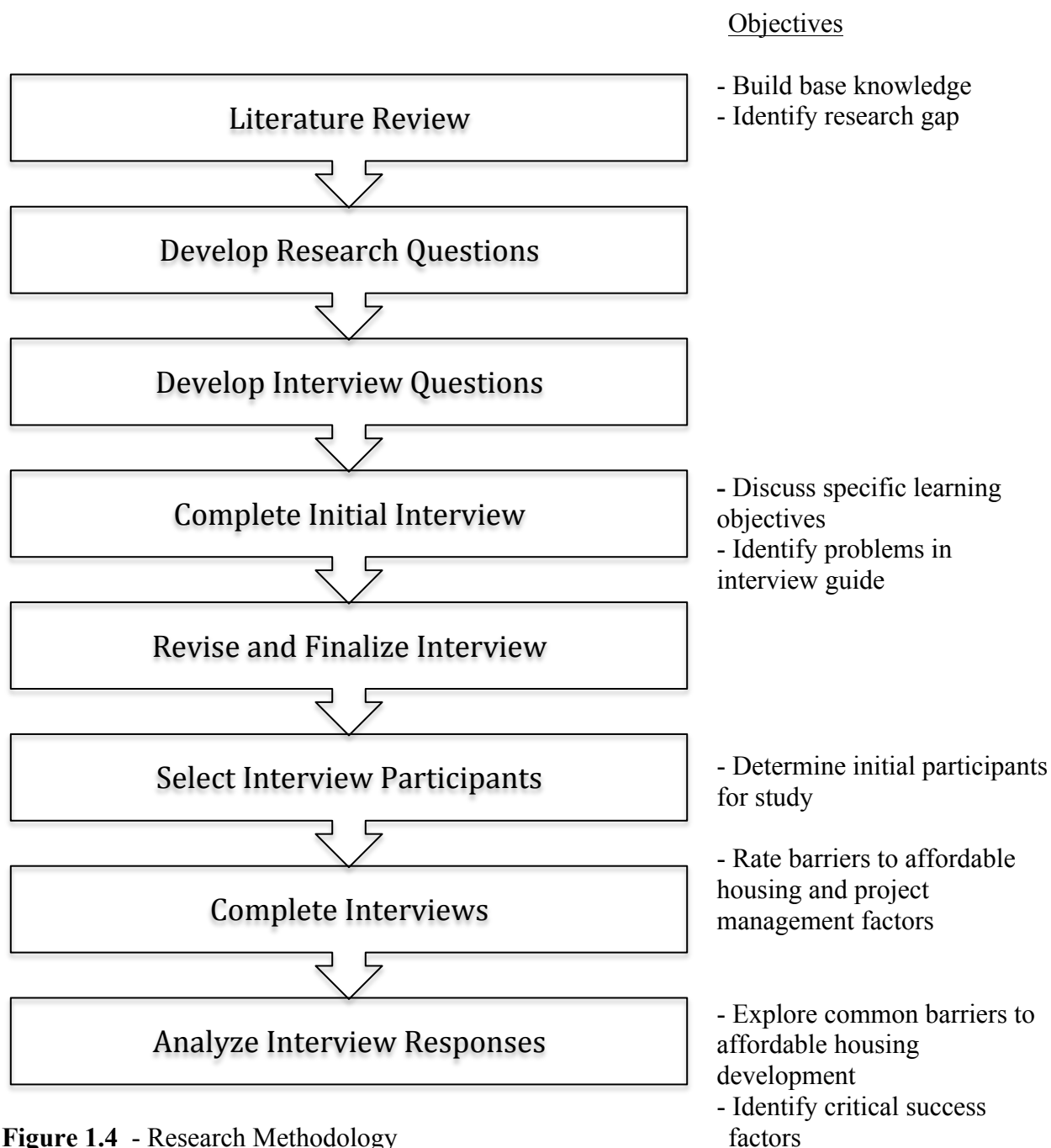


Figure 1.4 - Research Methodology

1.5 Research Findings

The final step in this scholarly study was to document any findings. While a complete set of research findings and conclusions can be found in Chapter 6 of this report, this section summarizes those discoveries. Affordable Housing Development is a complicated and

multifaceted process that is faced with numerous social, political and financial barriers. The success of such developments is dependent upon: having an experienced project team, led by a skillful leader, that is backed with political and community encouragement, having the financial means to implement a fitting plan, possessing a clear vision and set objectives, that addresses these intricate issues. Through this process of discovery, the analysis and its documentation herein, serve as a guide for development teams desiring to develop an affordable housing project.

1.6 Research Contribution

Currently, an extensive amount of affordable housing literature exists on topics such as housing policy, measuring affordability, barriers to homeownership, housing goals and affordable housing supply (Sirmans and Macpherson 2003). In addition, current literature in construction engineering and management, as well as literature in project management, has a substantial body of work on the topic of *Critical Success Factors (CSFs)*. However, there is little to no work combining the two areas of study. Through this study the reader will gain a greater understanding of the affordable housing development process and the issues facing the industry. Thus, this study will add to the two bodies of literature by providing a list of Critical Success Factors for Affordable Housing Development. This list can then be used as a resource by affordable housing development teams on future affordable housing projects.

1.7 Research Context

This particular research project and findings are heavily influenced by the location in which this study was conducted. The interviews included in this report were held with individuals whose professional experience is primarily shaped by the affordable housing conditions of the city of Boulder, Colorado. Affordable housing faces unique and specific circumstances in Boulder unlike any other nearby cities, limiting the scope of this project to this

particular city. These conditions include an urban growth boundary line resulting in little vacant land available within boundary; a city ordinance restricting the long-term rate of growth in the city at no greater than one percent; and an inclusionary zoning ordinance requiring developers to include twenty percent of all new development as permanently affordable units. All of these specific conditions define the Boulder experience, are major causes to the high costs of living and issues affordable housing projects face in this city. Thus, the findings of this report are specific to the city of Boulder and are not representative of other cities within the state or across the nation.

CHAPTER 2

LITERATURE REVIEW

2.1 Literature Review Introduction

In order to begin to answer the posed research questions of this study, familiarity with the current body of literature is needed to set the research foundation. Currently, this question addresses a body of literature lacking in academia. Therefore it is important to review literature in areas that do exist and are relevant to the topic to set the theoretical framework.

The following sections will address existing literature on the topics of affordable housing, critical success factors and affordable housing development. Specifically, the researcher will review the regulatory barriers facing affordable housing; critical success factors from theory-based studies, both within the construction industry and beyond the project-based focus; and the approaches to affordable housing development from historical and current effort accounts.

The Venn diagram in Figure 2.1 below demonstrates these three bodies of literature. The overlapping areas are cases in which two bodies of literature complement one another. The area in the middle, formed by the intersection of all three areas of literature is the area in which this study will attempt to fill.

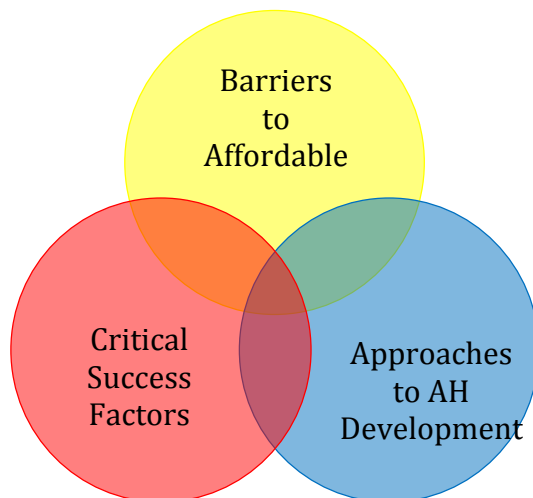


Figure 2.1 – Research Venn diagram

2.2 Barriers to Affordable Housing

The existing literature on the affordable housing industry consists of a variety of issues. The following section concentrates on a minor, yet specific area of literature consisting of barriers to affordable housing.

Regulatory Barriers. In 1990, Secretary Jack Kemp of the U.S. Department of Housing and Urban Development (HUD) selected a 22-member commission to assess the nature and extent of regulatory barriers to affordable housing. Chaired by Thomas H. Kean, former governor of New Jersey, the Advisory Commission on Regulatory Barriers to Affordable Housing issued its final report in July 1991. At its core, the main findings suggest exclusionary, discriminatory or unnecessary government regulations establish difficult barriers to affordable housing (HUD 1991). Furthermore, the comprehensive report implies that regulatory barriers not only delay and increase the costs of construction, but also impede and in some cases, prohibit the production of affordable housing (HUD 1991).

The challenge led by Kean examined Federal housing and environmental regulations, as well as State and local regulations, governing various development issues, such as growth controls, zoning and building codes. In a detailed discussion of the behavior and accomplishments of the Advisory Commission, Anthony Downs, a commission member, explains that the Advisory Commission gathered its evidence by hosting public hearings in major cities across the country and collected personal testimonies of interest groups and the general public (Downs 1991). Additional evidence was obtained by investigating literature and past studies on the subject to provide objective data (Downs 1991). Using the information gathered, the Advisory Commission identified barriers within the sections presented in Table 2.2

Regulatory Barriers
<i>Not In My Back Yard</i> (NIMBY) Syndrome
Growth Controls
Restrictive and Exclusionary Zoning
Excessive Subdivision Controls
Inequitable Fees on Development
Burdensome/Uncoordinated Approval and Permitting Process
Restrictions on Urban Rehabilitation and Infill
Rent Control
Restrictions on Low-Cost Housing
Regulatory Restrictions on Certain Types of Housing
Reinvestment in Older Neighborhoods
Environmental Regulations
Wetlands and Affordable Housing
The Endangered Species Act
Timber Productions
Poverty and Housing Affordability
Housing Finance System
Tax System

Table 2.2 – Regulatory Barriers (HUD 1991)

Following the identification of regulatory barriers, the Advisory Commission completed their report and proposed 31 recommendations for Federal, State, local and private action. Downs, however suggests these recommendations were “heavily influenced” by Kean’s desire not to upset the presidential administration at the time, and thus did not include “radical recommendations” (Downs 1991). However, both reports conclude that a major reason behind the use of regulatory barriers, is the opposition by residents and public officials alike to the supply of affordable housing in their communities (HUD 1991; Downs 1991).

Thirteen years after the Advisory Commission on Regulatory Barriers to Affordable Housing released its findings, HUD, under the direction of Secretary Alphonso Jackson, published an update to the 1991 Advisory Commission's report. The purpose of this report was to review the tendencies in the regulatory environment affecting affordable housing development over the last thirteen years. As a result, the committee suggests a modernized strategy for HUD to assist states and local communities in reducing regulatory barriers and creating a plan to reduce barriers to affordable housing production at the federal level.

An additional outcome of this study reveals that the issue of regulatory barriers still exists. Jackson and his committee reviewed 13 case studies across the nation that point to increased costs in housing construction due to excessive regulation (HUD 2004). In general, Jackson points out that the regulatory barriers that existed then continue to remain barriers today. Jackson goes on to state that regulatory controls have developed in complexity and are more predominant, making it increasingly more difficult for the development of affordable housing. These challenges are seen even more so in suburban areas and rural regions as communities look to control population growth (HUD 2004). Furthermore, Jackson identifies the following trends that are more prominent today:

- 1) Increased complexity of environmental regulation.
- 2) Misuse of smart growth.
- 3) Still NIMBYism in the suburbs.
- 4) Impact fee expansion.
- 5) Urban barriers remain.

These studies discuss how regulatory barriers affect affordable housing, yet as Downs (1991) states, the removal of all regulatory barriers does not solve the nation's affordable housing

problem, additional issues like housing finance, poverty and low income levels augment the problem.

2.3 Critical Success Factors

Theory. The current body of literature on critical success factors is extensive, extending across decades and various industry disciplines. However, an explicit definition or common theoretical framework does not exist. First mention of the term “*critical success factors*” (CSFs) can be attributed to Rockart (1982). In examining the altering responsibility of an information systems executive, Rockart defined the term as “key areas of an activity in which favorable results are absolutely necessary for a particular manager to reach his or her goals” (Rockart 1982). A second mention of the term arose in the management information systems (MIS) industry by Shank, Boynton and Zmud (1985) who describe the CSF concept as a focused-attention on the “vital organizational issues” that are found in a variety of areas within a corporation’s operations in their systematic analysis of MIS planning. Lastly, Pinto and Slevin (1986) make additional references to the term and define it as the key factors for project implementation in their empirical development of the project implementation profile.

While all the literary works use the term frequently, the subject matter for which they apply the term differs significantly. The same can be said for the results of each respective study. The critical success factors that were identified have been extracted and presented in Table 2.3 on the following page with a brief summary of the factor:

Study	Identified Critical Success Factors
<p><i>Rockart (1982)</i> <i>“Role-Related CSFs for I/S Executives”</i></p>	<ul style="list-style-type: none"> • Service: performance of necessary operations • Communication: active communication and leadership • I/S Human Resources: effective and quality people • Repositioning the I/S Function: make role ever-present
<p><i>Shank et all (1985)</i> <i>“CSFs for MIS Planning”</i></p>	<ul style="list-style-type: none"> • Prevent losses through risk management • Increase diversification of the customer base • Increase professional staff productivity • Enhance the corporations image with the firm’s markets and the public
<p><i>Pinto and Slevin (1986)</i> <i>“CSFs used to develop Project Implementation Profile”</i></p>	<ul style="list-style-type: none"> • Project Mission: clarity of goals and general directions • Top Management Support: necessary resources and authority/power provided • Project Schedule/Plan: individual actions steps specified • Client Consultation: communicate/consult/listen to client • Personnel: recruitment, selection and training of personnel • Technical Tasks: required technology available • Client Acceptance: act of “selling” project to intended users • Monitoring and Feedback: comprehensive control information • Communication: circulation of data/info through networks • Trouble-Shooting: ability to handle projects issues and deviations

Table 2.3 – Critical Success Factors (Rockart, 1982; Shank et all, 1985; Pinto and Slevin, 1986)

These initial studies set the theoretical framework for definition and basis of critical success factors. The following sections review the literature of critical success factors in specific industry areas as related to affordable housing development.

CSFs in the Construction Industry. An abundance of literature on critical success factors can be found in the construction industry. It has been a topic that has been widely explored relating to the success of construction projects (Sanvido et all, 1992; Chan, Scott and Chan, 2004), partnering in construction projects (Chan et all, 2004) and the overall construction

industry as a whole (Abraham, 2003) among many other topics. Of particular importance within the reviews of these scholarly publications are the multiple literary viewpoints on the definitions of the term “success.” These definitions have been widely focused on the notion of “project success” in both literature and industry (Abraham, 2003).

In order to further explore the critical success factors within the construction industry, it is relevant to examine these definitions. Early pioneers based project success on multiple measures consisting of cost, schedule and performance (Cleland and King, 1983). Ashley (1987) expands this further by defining success as, “results better than expected or normally observed in terms of cost, schedule, quality, safety, and participant satisfaction.” A year before project success was considered successful if “the project meets the technical performance specifications and/or mission to be performed, and if there is a high level of satisfaction concerning the project outcome among: key people in the parent organization, key people in the project team, and key users or clientele of the project effort (de Wit, 1986). Yet another definition is Tuman’s (1986) who defines project success as “having everything turn out as hoped.... anticipating all project requirements and have sufficient resources to meet needs in a timely manner.” These definitions above are neither specific nor consistent, thus suggesting that project success is open to the viewpoint of each project participant. Understanding the subjectivity of these definitions, it is not uncommon then that the CSFs studies reviewed herein also to vary as seen in the findings presented in Table 2.2 above. The remainder of this section reviews the findings of particular studies on CSFs in the construction industry, followed by studies on CSFs in industries outside of construction.

The criteria for success as it relates to constructing a building changes from project to project and is dependent upon the project “participants, scope of services, project size,

technological implications, and a variety of other factors” (Sanvindo et al, 1992). Due to these constantly changing variables and the fact that “building projects are becoming much more complex and difficult,” (Chan, Scott and Chan, 2004), emphasis then on critical success factors in the construction industry is primarily focused on the factors that lead to project success and less on the management practices at the corporate level (Abraham, 2003). Similarly the research conducted by Pinto and Slevin, as mentioned prior, focused on implementation factors related to project success (Pinot and Slevin, 1987). The results of the three studies discussed here (Sanvindo et al, 1992; Abraham, 2003; and Chan, Scott and Chan, 2004) all relate to the construction industries. Yet Abraham’s work is the only of the three that does not specifically examine CSFs for project success. Furthermore, the CSFs identified by Chan, Scott and Chan are actual levels of grouping as their studied was a review of the CSF literature, and not actual factors. The CSFs identified for each of these respective studies are shown in Table 2.4 on the following page, again with a brief summary of each factor.

Study	Identified Critical Success Factors
<p><i>Sanvido et all (1992)</i> <i>“CSFs for Construction Projects”</i></p>	<ul style="list-style-type: none"> • Well-organized, cohesive facility team to manage, plan, design, construct and operate the facility. • Series of contracts that allow and encourage various specialists to behave as a team. • Experience in management, planning, design, construction, and operations of similar facilities. • Timely, valuable optimization information from the owner, user, designer, contractor, and operator in the planning and design phases of the facility.
<p><i>Abraham (2003)</i> <i>“CSFs for the Construction Industry”</i></p>	<ul style="list-style-type: none"> • Structure of Industry: interactions, relationships and operational characteristics established between multiple construction organizations. • Competitive strategy: market differentiations, which the organization cultivates to establish unique positioning and sets the organization apart from others in a particular market niche. • Market Conditions: analysis of marketplace in which organization operates or has interest in developing a position. • Political Environment: political forces influencing project decisions, community development and fiscal policy. • Organizational Structure: form in which an organization is internally structured • Technical Applications: use of technical applications for advancement of company • Employee Enhancements: lifelong learning process for employees tied to personal, professional growth. • Process Benchmarking: identification of processes and procedures and their continual improvement.
<p><i>Chan, Scott and Chan (2004)</i> <i>“Factors affecting a Construction Project”</i></p>	<ul style="list-style-type: none"> • Project Management Actions: necessary managerial tools or actions required to be taken. • Project Procedures: the procurement and tendering methods. • Project-Related Factors: specified project details • External Environment: the various economic, social, political, physical, industrial and technological environments. • Human-Related Factors: the various people-based skills/abilities (ie organization, leadership, coordination, decision making, etc)

Table 2.4 – CSFs within Construction Industry (Sanvido et all 1992; Abraham 2003; Chan, Scott and Chan 2004)

The construction industry has narrowly focused its studies on the factors influencing project success. For affordable housing projects, this approach seems fitting and thus worth a discussion since “the study of project success and the critical success factors are considered to be a means to improve the effectiveness of a project (Chan, Scott and Chan, 2004). Yet, as Abraham suggests a “shift in emphasis from project success to corporate success should be examined” (2003) leads a further discussion on CSFs in other industries.

CSFs Beyond the Project Based-Focus. While affordable housing has a construction phase as part of its process, the rest of the development activities exist outside the realm of the construction industry. Therefore, for the purpose of this study, it is equally important to address literature on critical success factors beyond the project focus. Failure to conduct this would contradict views on CSFs outside of the industry: “critical success factors need to include issues vital to an organization’s current operating activities and its failure success” (Boynton and Zmund, 1984). CSFs studies have been extensively conducted within R&D, the construction engineering industry and the information systems management environment, the following summarizes CSFs beyond these scopes.

Several writers have reviewed the CSF literature (Belassi and Tukel, 1996; Westerveld, 2002; Fortune and White, 2006), all of which suggest ambiguities and a lack of a unified connection between project success and critical success factors. Furthermore, Koutsikouri, Austin and Dainty (2008) suggest that despite the various models and frameworks used to identify CSFs, they are inconsistent in categorizing success factors, revealing that “context matters in understanding drivers of success” (p. 199). This lack in unity or having a missing comprehensive list of factors can make it difficult for project managers or academic scholars to evaluate specific projects based on these factors (Belassi and Tukel, 1996).

Yet despite the vagueness in defining project success, CSFs continue to be examined, as done so by these scholars. These writers, in their respective studies have each extended the CSFs body of literature by finding their own respective models and frameworks defining project success.

- Belassi and Tukul use an empirical framework to group CSFs into four groups, factors related to: the project, the project manager and team members, the organization, and the external environment (Belassi and Tukul, 1996).
- Westerveld uses a European model, to develop the Project Excellence Model which organizes CSFs into ‘*organizational areas*’ that include: leadership and team, policy and strategy, stakeholder management, resources, contracting and project management (Westerveld, 2002).
- Fortune and White use a formal systems model to group CSFs into seven components that include: goals and objectives, performance monitoring decision-makers, transformations, communication, environment, boundaries resources and continuity (Fortune and White, 2006).
- Koutsikouri, Austin and Dainty also use an empirical model to group CSFs into four interdependent factor categories consisting of: management issues, design team issues, competencies and resources, and project enablers (Koutsikouri, Austin and Dainty, 2008).

While these frameworks and models were examined to create uniformity between previous factors relating to project success and critical success factors for projects, they too demonstrate irregularity and discrepancies seen in previous CSFs lists and models. Furthermore, supporting Jugdev and Müller (2005) who note: “project success is ambiguous and highly context dependent.”

2.4 Approaches to Affordable Housing Development

Historical Account. The various development approaches to affordable housing begins with a historical summary found in literature. Sazama (2000) provides a decade-by-decade historical account of affordable housing cooperatives to better understand the general history of American affordable housing policy. He explains that cooperatives have evolved from ethnic and union groups in the 1920s, through the federal funding of low-income cooperatives in the 1960s and 1970s, to the local nonprofit organizations during the 1980s and 1990s. The fundamental objective of these cooperatives is to obtain decent, affordable housing with resident control for low- and moderate-income families (Sazama, 2000). This historical account of affordable housing cooperatives leads into current efforts by various types of developers to produce affordable housing.

Current Efforts. By examining the roles of for-profit and nonprofit agencies, Wallace (1995) addresses the gap in affordable housing. For decades the provision of housing for low-income households was public housing (Wallace, 1995). While this system has produced 1.4 million units (p. 804), Wallace suggests the public housing system is not commonly viewed as a viable vehicle for expanding the stock of affordable. He goes on to indicate that the production of affordable housing is currently being produced by private developers using tax credits and the nonprofit sector (p. 805). In his review of the various forms of federal financial support for affordable housing, Wallace notes that the affordable housing gap is a “long way from being bridged,” suggesting open roles for private, for-profit suppliers; local public housing agencies; and nonprofit, community-based developers to provide affordable housing (Wallace 1995).

Similarly Mayer (1991) indicates that the amount of nonprofit organizations, community-based nonprofits specifically, have grown in number over recent years and have “expanded the

size and scope of their housing preservation activities (p 499).” Furthermore, Mayer suggests that the opportunity for additional growth in their activities exists both in the near and long term future. He also provides a short narrative on the history of nonprofit organizations and how they’ve developed from “housing sponsors” without any housing development or management experience, to community-based development organizations (CBDOs) and the major developers in the nonprofit housing industry (Mayer 2001). Mayer contends that “limited project funds” are the main limitations to increasing nonprofit housing activity (p. 515).

Performance Evaluation. With an “increasingly important role in meeting the housing needs of low- and moderate-income families”, a performance of housing developments sponsored by nonprofit organizations was conducted by Rohe, Quercia and Levy (2001). In their study, they examined 36 developments that received the Fannie Mae Foundation’s Maxwell Award between 1989 and 1994, an award that recognizes the outstanding work of non-profit organizations who develop and maintain low-income housing, to assess the performance of housing developments sponsored by non-profit organizations. The 36 winners of the award consist of home ownership developments, rental developments and developments for special needs populations ranging in geography location, community size and project type (p 599). Through assessing the performance of these housing developments, the results indicate that the developments provided decent, affordable housing to their low-income residents (Rohe, Quercia and Levey, 2001). Additionally, Rohe, Quercia and Levy (2001) identified the “most important factors in performance” consisting of: stability in leadership, local demand for affordable housing, permanent financing terms, and selection of tenants.

Additional Avenues. Another development approach to providing affordable housing is the role of limited-equity cooperatives (LECs) (Miceli, Sazama, Sirmans, 1994). This piece of

literature explores the methods to overcome externalities in multi-unit rentals. Specifically, Miceli, Sazama and Sirmans indicate that LECs have a niche with low-income households who are “willing to conform to the requirements of LEC living” (p. 487).

2.5 Literature Review Summary

As discovered, a plethora of literature exists on the topic of critical success factors, yet despite the scholarly writing of many, the concept of critical success factors is inherently ambiguous and content specific on a project by project basis. While some factors identified in various CSFs lists overlap with the acknowledged regulatory barriers facing affordable housing, the issues are inherently different. These issues then are left to those organizations, who through this nation’s history have redefined various approaches to affordable housing development, to address and continue their efforts in providing innovative solutions that tackle the affordable housing gap. Through the review of this literature, a formidable research foundation has been established, leading to the point of departure as summarized below.

2.6 Point of Departure

This research project is aimed at exploring the barriers that developers of affordable housing face during the development process. The conduction of this study will contribute to the limited body of literature on critical success factors within the affordable housing industry. A qualitative research study involving face-to-face interviews will be used for this study to provide an in-depth perspective of the affordable housing development process and the various challenges developers must overcome. The information gathered will serve as a resource for other developers and contributors of affordable housing, during their attempts to narrow the affordable housing gap.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Methodology Introduction

The groundwork for this scholarly investigation is chiefly based upon interviews with various players in the real estate development process. Interviews with local architects, builders, developers and city officials were conducted in order to gather further insight in the affordable housing development process. The interview coding process supplemented the interview results. Interview coding is a qualitative method to aid interview data analysis. It should be noted that the analysis itself is not the coding, but a deeper investigation of the coding results. When paired with the results of the coding process, the interview responses are systematically grouped into common themes that form the barriers to affordable housing development. Furthermore, by having a diverse interview pool with multiple perspectives of the development process, insights to the strategies to overcome these barriers are developed to produce a complete list of *Critical Success Factors* for affordable housing development.

3.2 Company Selection

The selection of companies for this study was initiated in the classroom. Serving as guest lecturers, representatives of various RED organizations presented on an array of topics ranging from affordable housing, multi-family housing development and project management. Preliminary contact with the executives of these companies was initiated following their respective presentations. Since this particular investigation is specific to these subject areas and

to maintain validity for this research project, companies with current and previous experience in only these subject areas were examined.

An initial core group, consisting of three local, non-profit affordable housing developers, arose from the pool of lecture presenters. The three organizations were chosen because of their extensive and continued work in the affordable housing industry. Due to the proximity of each company to the University of Colorado and their willingness to participate in this study, interviews were able to be conducted in person. The remaining participants, who partook in this study, were recommendations on behalf of the initial three executives. These companies were also chosen due to their practice in affordable housing, office location and expressed interest in participating in the study.

3.2.1 Interview Participants

With the aim of collecting multiple perspectives for insight and analysis, establishing a diverse pool of interview subjects was critical. To achieve this mark, interviews were conducted with various players in the affordable housing industry. Each participant possessed specific industry expertise varying from: building construction; to architecture design, to real estate development; and housing policy issues; along with past development experiences with affordable housing projects. In the course of discussion, each participant was asked to describe their role and contribution to affordable housing. Throughout the conduction of these interviews, it became apparent that participants had both shared views on certain barriers to affordable housing, but in many cases also dissimilar and often contradictory opinions. As such, these interviews provided an extensive perspective, thus allowing one to indentify and validate the Critical Success Factors.

As aforementioned, the initial three interview subjects were previously identified in the classroom. During these interviews, each executive was asked to recommend key contributors to affordable housing in the local surrounding areas. Creditable recommendations produced a total of 15 participants who aided in this study. The business backgrounds of the interviewees consist of: four non-profit developers, two for-profit developers, three builders, three city representatives and 3 architects. To maintain the confidentiality of each participant, their names and company names will not be disclosed. Table 3.2.1 on the following page, provides an overview of the industry experience for each participant.

Interviewee	Background Information
Architect #1	Principal with local developer with 21+ years of experience in architectural design, project management, A/E consultant coordination, entitlement, sustainability integration and construction observation.
Architect #2	Principal with local architect firm with 33+ years of experience in architectural design, passive solar design and construction services.
Architect #3	Principal with local architect firm with 35+ years of experience in architectural design, master planning and urban design, mixed-use development, affordable housing and general contracting.
City Official #1	Division Manager for local housing department with 13+ years of experience in housing finance and funding, policy and community development.
City Official #2	Community Development Program Manager for local housing department with 15+ years of experience with affordable housing and community development programs, policies, organizations and projects.
City Official #3	Housing Planner for local housing department with 7+ years of experience in urban and regional planning and 3+ years of experience in housing planning and policy development.
Constructor #1	President of local general contracting firm with 28+ years of experience in custom residential, historic restoration, hospitality, retail, and urban infill projects.
Constructor #2	Project Manager for local construction firm with 23+ years of experience in estimating, managing and supervising all types of construction.
Constructor #3	President of local construction management firm with 30+ years of experience in multi-family residential, office, medical, retail, recreational, and industrial projects.
Developer #1	Executive Director of local, non-profit, housing developer with 2 years experience heading the organization, 6 years experience as volunteer for the organization and 25+ years of experience in business development and senior level marketing.
Developer #2	Executive Director of local housing authority with 26+ years of experience in community and economic development, and affordable housing development and management.
Developer #3	Chief Executive Officer of local, non-profit, developer with 20+ years of experience in affordable housing development.
Developer #4	Executive Director of local, community-based affordable housing developer, with 15+ years of experience in the non-profit industry.
Developer #5	Principal with local real estate development and investment firm with 25+ years of experience in acquisition, development, production and management of real estate investment assets.
Developer #6	Director of Development for local developer with 20+ years of experience in real estate acquisitions, commercial brokerage, property management, development and construction.

Table 3.2.1 – Interview Participant Background Experience

3.3 Interview Format

As Patton suggests, “the purpose for interviewing, then, is to allow us to enter into the other person’s perspective” (Patton, 1980). Thus for this qualitative research study, one-on-one

interviews were conducted in person. Locations of interviews were conducted at the participants' office location or other agreed-upon site. Interview participants were contacted ahead of time either by email or telephone call. Prior to the interview, the participants were provided a brief introduction to the research study in addition to short descriptions of the affordable housing barriers and communication factors. To encourage more open and thorough responses, participants were assured confidentiality with personal information, company name and company objectives and strategies.

All interviews were conducted with integral players in the affordable housing industry. With the exception of city representatives, contacts with each respective organization were at an executive level, such as executive director, vice president, director of development, etc. All interviews followed the same format and were based on the same set of questions. The interviews itself followed the general interview guide approach as presented by Patton (1980). This approach follows a general interview outline as a basic guide and checklist and explores a set of issues without the need for standardized questions or results. The interview guide and included questions can be found in Appendix A.

The interview guide itself was developed using the assistance of a former housing policy instructor and former executive of director of development for a local housing authority. The initial draft and questions were shortened to reduce the length of the interview. Additional factors were suggested and incorporated into the list of factors. By conducting a mock interview, the questions and guide were tested to determine the flow of the interview and structure of the questions. A final interview guide and list of factors was approved by both the former instructor and guiding research advisor.

In addition to the interview guide, two lists of factors were used for the quantitative data collection component of each interview. Using the U.S. Department of Housing and Urban Development's report on barriers to affordable housing and the project management factors determined by Pinto and Slevin, two lists were developed to be rated by each participant. The first list, entitled *Affordable Housing Barriers* compiles the barriers of affordable housing as suggested by HUD, as well as additional recommendations from the guiding housing instructor. The second list, entitled *Project Management Factors* compiles the critical success factors as suggested by Pinto as well as additional recommendations from the guiding housing instructor. Both lists were used to rate the specific factors in order to determine the most critical and pressing issues. Detailed descriptions of each factor were produced on separate documents to clarify or define terms for the interviewees. Lists and descriptions can be found in Appendix B.

Consideration of the interviewer's work schedule was taken into account and thus the interview format and question was designed to be completed in less than 45 minutes. However, many participants were more than willing to provide substantial detail on various affordable housing and/or project management issues, resulting in longer interviews. On the other hand, other participants were limited due to time constraints and shorter interviews were used to accommodate. Since all interviewees are located in the same city, location need not be a factor. It is important to note that interview results are reflective of this specific geographic only.

Given that this particular research study follows the qualitative approach, interviews followed the same method. By conducting qualitative interviews, those being interviewed are able to respond to questions in their own words and express ideas using their own unique perspective (Patton 1960). Thus multiple perspectives have been obtained using a diverse pool of interviewees. To gain fully-developed responses, interview topics were organized into

sections to allow for naturally led responses and the ease of flow from one topic to another. Questions were posed to extract descriptive responses and respondents were encouraged to use examples in their answers. Such open-ended inquiring often led to deviation from the outline. These occurrences were uninterrupted and often most insightful, a perspective not obtained in a closed-format interviews.

3.3.1 Personal Interviews

A total of 15 interviews were conducted with various professionals in the affordable housing industry for this study. Interview length ranged from 30 minutes to 2 hours, with an average of length of 1 hour. Prior to interviewing, participants were provided a brief summary of the research project, as well as documents defining the factors that were to be discussed in the interview. The interview guide used for each interview commenced with a formal description of the research project, and narratives of both the interviewee's background experience, as well as the interviewer's. Following this, the guide separated the interview into three sections, each with specific questions on affordable housing barriers, project management factors and affordable housing development strategies. These questions are discussed further in the following sections.

Affordable Housing Barriers

In 1991, the U.S. Department of Housing and Urban Development transmitted the report entitled "*Not In My Back Yard*": *Removing Barriers to Affordable Housing* to former President Bush. The findings presented by the Advisory Commission on Regulatory Barriers to Affordable Housing, suggested "exclusionary, discriminatory and unnecessary regulations constitute formidable barriers to affordable housing" (HUD 1991). The identified regulatory barriers form the basis for this particular section of this study. Utilizing these barriers, a list entitled *Affordable Housing Factors* was produced for interview use.

During this section of the interview, interviewees were given the list of affordable housing barriers, as well as a separate document describing each factor respectively for definition purposes. The complete list of factors was read to the interviewees and clarification was given on any factor that was unclear. Interviewees were asked to rate the factors individually based on the importance of each to creating a successful affordable housing development. Additionally, interviewees were asked to provide insight, comments and examples to support their ratings. To conclude the interview segment, interviewees were asked to suggest any other additional factors that were not included in the list and explain their reasoning.

Project Management Factors

A wealth of project management literature exists in academia. However, a particular manuscript entitled *Critical Factors in Successful Project Implementation* written by J. Pinto and D. Slevin serves as the second literary source for this investigation. These two scholars suggest ten critical factors for successful project implementation. Utilizing these factors a second list entitled *Project Management Factors* was also produced for interview use.

Much like the previous section, interviewees were first presented with the list of organization/communication factors along with a separate document defining each factor. Additional factors not part of the original ten were also added to the list. Interviewees were read the factors and provided clarification, as well as asked if the list of factors was sufficient. A second rating took place and interviewees rated these factors individually in order of criticalness to an affordable housing development. Lastly, interviewees were asked to provide any additional factors not included in the list and explain their reasoning.

Moving Forward

The third section of the script provided interviewees the opportunity to elaborate more on the affordable housing development process. In this segment participants were asked to address additional challenges not presented in either list of factors. Additionally, subjects were requested to describe the prevalent hurdles that other similar organizations must overcome to provide affordable housing. Lastly, contributors were inquired about the most effective strategy to implement affordable housing. This portion of the interview provided the most opinionated responses and deepest insight to the most pressing issues facing affordable housing.

3.4 Interview Coding

As previously noted, the interview coding process is not the analysis portion of this scholarly investigation, but rather a qualitative research method used to supplement interview results. Interview coding is a method of generating concepts based upon organizing, managing and retrieving data from interviews (Coffey and Atkinson, 1996). Analysis thus begins with the identification and extraction of key themes or patterns found within the conducted dialogues. The coding process allows one to analytically link various segments in the data to create a specific category. These categories are then used to systematically arrange concepts and results together. While categories and concepts may be closely related to one another, the analytical efforts are in establishing connections and understanding the meaning of such ties.

3.4.1 Interview Coding Results and Categories

During the conduction of interviews, it became apparent that common themes were naturally developing based upon on the opinions expressed by the participants. Repeatedly, comments demonstrated similar trends within the interview extracts. The categories thus surfaced organically and were established as the key concepts for this study. Additional, themes were produced after further analysis of the interview results to complete the list. At the

completion of the coding process the themes shown in Table 3.2 on the following page were retrieved.

Category Number	Category Name
1	Community Concerns
2	Environmental Obstacles
3	Financial Issues
4	Project Leadership
5	Project Management Tools
6	Regulatory Barriers

Table 3.4.1 – Interview Coding Categories

The affordable housing and organization/communication factors used during the rating portion of the interview process were then placed into one of the categories above creating six data subsets. With every category representing a common topic affecting affordable housing development, the various factors are systematically arranged to fit the concepts and link results together. These new data segments maintain the conceptual link between each factor and its corresponding category; fulfilling the objective of the interview coding process. Table 3.4.2 on the following page, exhibits each category and its corresponding factors.

Category Name	Corresponding Factors
<i>Community Concerns</i>	<ul style="list-style-type: none"> • NIMBY (Immediate) • NIMBY (Community) • Growth Controls • Community Support
<i>Environmental Obstacles</i>	<ul style="list-style-type: none"> • Environmental Regulations • Wetlands • Endangered Species
<i>Financial Constraints</i>	<ul style="list-style-type: none"> • Construction Costs • Financial Market Conditions • LIHTC Tax Benefits
<i>Project Leadership</i>	<ul style="list-style-type: none"> • Competent Project Manager • Management Team • Competent Team Members • Experienced Team Members • Functional Board
<i>Project Management Tools</i>	<ul style="list-style-type: none"> • Clearly Defined Goals • Sufficient Resource Allocation • Adequate Communication Channels • Control Mechanisms • Feedback Capabilities • Response to Client • Appropriate Design • Conflict Resolution
<i>Regulatory Barriers</i>	<ul style="list-style-type: none"> • Exclusionary Zoning • Inclusionary Zoning • Subdivision Controls • Impact Fees • Site Review Process • Infill Development • Rent Control • Building Codes • Types of Housing

Table 3.4.2 – Coding Categories with Corresponding Factors

As a result of such organization, each respective group was set for examination. Individual factors were then analyzed by their specific ratings as rated by the interviewees, as well as the relationship of each factor to its theme. Understanding this connection, the critical success

factors were determined completing the goal of this study. These factors are presented and discussed in the analysis chapter of this thesis report.

3.5 Data Ratings

As soon as coding categories were filled with the corresponding factors, the ratings completed by each participant during the interviews were used to qualitatively determine the critical success factors. These scores were inputted into a spreadsheet according to the responses provided by each participant for each factor within the coding categories. Figure 3.5 delineates this spreadsheet without any inputted data.

INTERVIEW RESULTS																																		
Interviewee Type	1	2	3	29	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	23	24	25	26	27	32	20	21	22	28	31			
	Community				Regulatory								Environment			Financial		Project Management						Leadership										
Architect 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Architect 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Architect 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
City Official 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
City Official 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
City Official 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Constructor 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Constructor 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Constructor 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Developer 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Developer 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Developer 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Developer 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Developer 5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Developer 6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Developer 7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Average	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1 NIMBY (Immediate)	4 Exclusionary Zoning	13 Environmental Regs	16 Construction Costs	19 Clearly Defined Goals	20 Competent PM																													
2 NIMBY (Community)	5 Inclusionary Zoning	14 Wetlands	17 Finance Market Cond.	23 Sufficient Resources	21 Management Support																													
3 Growth Controls	6 Subdivision Controls	15 Endangered Species	18 Tax Benefits	24 Communication	22 Competent Team																													
29 Community Support	7 Impact Fees			25 Control Mechanisms	28 Experienced Team																													
	8 Site Review Process			26 Feedback Capabilities	31 Functional Board																													
	9 Infil Development			27 Response to Client																														
	10 Rent Control			30 Appropriate Design																														
	11 Building Codes			32 Conflict Resolution																														
	12 Types of Housing																																	

Figure 3.5 – Spreadsheet for Factor Ratings

Once the collected data was inputted into the spreadsheet, the average rating for each factor was calculated. This computation produced the top factors within each category.

3.6 Analysis

Upon completion of the interview stage of this study, interview responses were then analyzed to identify a set of *Critical Success Factors* for affordable housing development. The analysis process commenced with the interview coding method as described previously in the section above. Once coding was completed, the barrier ratings provided by each interviewee

were incorporated into a spreadsheet for each particular factor and grouped based upon the coding results. Utilizing this data, the rating average for each factor was calculated producing the top factors affecting affordable housing.

These critical factors match the issues commonly expressed by the interview participants in their responses, validating these factors. Further analysis was completed on each factor identified herein. Additional background literature and follow-up questions with the interview participants was completed in order to provide detailed descriptions, examples and ramifications of each particular factor. This in-depth analysis and account of each critical success factor can be found in the analysis chapter of this report.

3.7 Methodology Summary

Representatives from across the spectrum of the affordable housing industry participated in this scholarly study. Personal interviews were conducted with 15 members of the industry, with each individual at an executive level. These one-on-one dialogues were intended to gain further information and insight on the affordable housing development process. Specifically, the conversations were used to identify the critical factors confronting affordable housing. Based on the responses and information gathered from the contributing subjects, a list of *Critical Success Factors* for affordable housing development has been formulated that will be useful to other affordable housing agencies and supporters in their continued efforts.

CHAPTER 4

INTERVIEW RESULTS

4.1 Interview Results Introduction

Personal interviews with affiliates in the real estate development industry were conducted for this research. Perspectives from architects, constructors, developers and city representatives provide a diverse outlook on the main issues and challenges of developing affordable housing. This cross-industry approach will assist in identifying a comprehensive set of *Critical Success Factors* to the development of affordable housing. The interviews conducted were divided into three sections: affordable housing barriers, project management factors and a concluding section. In the first two sections, barriers to affordable housing and critical factors for successful project management are revealed to individuals, who are then asked to rate each item based on importance. The concluding section delves into additional challenges, overcoming obstacles and offering strategies for the development of affordable housing. The following subsections provide an account of the information gathered from the interviewees for each segment.

4.2 Affordable Housing Barriers

Utilizing the U.S. Department of Housing and Urban Development's report on regulatory barriers to affordable housing, a list of affordable housing factors was produced. This record encompasses the 17 regulatory barriers identified by HUD in 1991, plus an additional barrier that was added as amplification of an original factor. These barriers will serve as the base set of

issues that impede affordable housing. A second document, entitled *Affordable Housing Factors Descriptions* was created for supplemental purposes in order to define the factors for research participants not familiar with the barriers, as well as provide additional clarification. Table 4.2 below displays the eighteen affordable housing barriers.

Barrier Number	AH Barrier
1	<i>NIMBY Syndrome (Community Level)</i>
2	<i>NIMBY Syndrome (Immediate Level)</i>
3	<i>Growth Controls</i>
4	<i>Exclusionary Zoning</i>
5	<i>Inclusionary Zoning</i>
6	<i>Excessive Subdivision Controls</i>
7	<i>Impact Fees</i>
8	<i>Site Review Process</i>
9	<i>Infill Development</i>
10	<i>Rent Control</i>
11	<i>Building Codes</i>
12	<i>Types of Housing</i>
13	<i>Environmental Regulations</i>
14	<i>Wetlands</i>
15	<i>Endangered Species Act</i>
16	<i>Construction Costs</i>
17	<i>Financial Market Conditions</i>
18	<i>Tax Benefits (LIHTC)</i>

Table 4.2 – Affordable Housing Barriers

4.2.1 Revealing Affordable Housing Barriers

In the opening phase of each interview, participants were presented with the list of barriers and asked whether or not they agreed with the bulleted catalog. Not a single participant disputed it, but rather complimented the extensive profundity in capturing such range of affordable housing impediments. Several subjects were not familiar with a number of factors and clarification was provided when needed. Additionally, participants questioned how affordable housing was obstructed in the case of factors, like *Inclusionary Zoning* and *Tax Credits*, tools often used to promote affordable housing rather than bar it, according to subjects. In such instances, HUD's rationalization, that factors indirectly raise development costs and thus affect the price and supply of affordable housing was used to justify the inclusion of such barrier. However, participants were encouraged to recall their contemplation when rating the factor as a barrier or not.

4.2.2 Rating Affordable Housing Barriers

After this initial query, the second segment of this section was to then rate each factor based upon their hindrance to affordable housing development. Interviewees were requested to consider each factor individually in relation to their past experiences and projects, both successful and not. After reflection, interviewees were asked to rate each factor on a scale of 1 to 10, 1 being the "least critical" and 10 being the "most critical" to an affordable housing development/project. The rating exercise proved to be the most challenging, yet insightful, portion of the interviews. Discussions on particular factors dived deep into each issue resulting in multiple examples and a wealth of information, yet ratings for each factor were unattainable.

Only three of the 15 participants rated every single factor, most interviewees omitted ratings for more than one. Subjects commented that distinction between one or more factors

could not be differentiated and thus rating each factor individually was not possible since factors were intertwined. Such was the case for *Developer #7* and *Constructor #3* who both explained that all development projects undergo regulatory processes and therefore all regulatory barriers are a necessary burden with not one factor more significant than the other. In addition, participants also explained that factors were being omitted because they were not absolutely critical; such was the case for *Developer #2*, *Developer #3* and *City Official #1*.

Last, in some cases, factors were skipped over because the particular factor(s) were not applicable to the work completed by the individual or had not been encountered in the professional's experience. While ratings for several factors were not obtained, such omission does not constitute a lack of impact, but rather a personal judgment of its implication. It should be noted then, that the lack of ratings makes the analysis and determination of critical factors more difficult without quantitative data to compare factors amongst each other. Figure 4.2.2 below displays the complete individual ratings by each participant for all affordable housing barriers with the average rating score for each barrier at the bottom.

AFFORDABLE HOUSING BARRIERS																		
Interviewee	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Architect 1	8	8	-	-	-	-	6	6	-	-	-	-	-	-	-	8	10	10
Architect 2	3	3	-	-	9	-	6	6	6	-	6	-	3	3	-	-	10	-
Architect 3	10	7	10	10	-	-	6	8	-	-	-	-	5	5	1	1	8	7
Builder 1	10	5	8	-	8	1	1	5	1	-	-	-	1	1	1	-	9	10
Builder 2	8	6	5	3	2	6	9	7	-	2	3	3	3	3	3	3	9	8
Builder 3	6	6	-	-	9	-	9	-	-	-	3	-	-	-	-	-	9	-
City Official 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	10
City Official 2	3	6	9	9	3	6	6	6	3	-	3	3	3	3	-	3	8	7
City Official 3	8	8	5	3	3	3	5	6	6	3	5	7	3	3	3	8	9	8
Developer 1	6	2	2	1	1	5	7	8	1	3	5	2	1	1	1	8	8	-
Developer 2	-	-	-	-	-	6	-	5	-	7	-	-	-	-	-	-	10	10
Developer 3	9	9	-	-	-	-	-	9	-	-	-	-	-	-	-	-	10	-
Developer 4	3	5	4	6	7	7	8	8	7	-	2	3	3	3	2	6	8	7
Developer 5	9	9	9	9	9	6	6	6	6	6	3	6	6	3	3	3	9	9
Developer 6	3	4	6	6	1	7	8	8	6	5	5	7	8	2	2	7	10	10
Average Ranking	6.6	6.0	6.4	5.9	5.2	5.2	6.4	6.8	4.5	4.3	3.9	4.0	3.6	2.7	2.0	5.2	9.1	8.7

Figure 4.2.2 – Affordable Housing Barrier Ratings

The total mean of all affordable housing barriers and project management factors is 6.6. This average will be used to determine the variance from the total mean for each individual affordable housing barrier and project management factor. The calculation and purpose of the variance will be discussed in the Analysis section of this report. The sections that follow discuss the individual results obtained while rating each affordable housing barrier.

NIMBY Syndrome (Community Level)

The first affordable housing barrier is “*Not In My Back Yard (NIMBY) Syndrome*” at the Community Level. While HUD’s report lists *NIMBYism* as one single factor, this barrier was divided into two barriers to delineate the community issues from more immediate local issues. *NIMBY Syndrome* at the community level, are intentional barriers implemented into local codes and ordinances that discriminate against affordable housing. Such examples include: growth controls, exclusionary zoning ordinances, etc.

This particular barrier is the 4th highest rated factor out of the 18 affordable housing barriers. Seven of 13 participants rated this factor as “most pressing” to an affordable housing development with a score of “8” or higher. The average score for this barrier is 6.6, with no variance from the mean of all factors (6.6). Table 4.2.1 displays the breakdown of ratings by each participant and the average; a dashed line represents an omitted rating by the participant.

AH BARRIER #1	A1	A2	A3	B1	B2	B3	C1	C2	C3	D1	D2	D3	D4	D5	D6	AVG
<i>NIMBY Syndrome (Community Level)</i>	8	3	10	10	8	6	-	3	8	6	-	9	3	9	3	6.6

Table 4.2.1 – Ratings for ‘NIMBY Syndrome (Community Level)’ Barrier

NIMBY Syndrome (Immediate Level)

The second barrier, *NIMBY Syndrome* at the Immediate Level, is an amplification of the first barrier. While *NIMBYism* is an encompassing community issue, there are distinguishable differences between the issues raised by the larger community (local jurisdictions) and

immediate community (local neighbors). This second barrier addresses the anti-affordable housing sentiment from local neighbors, citizens, businesses, politicians often leading in protests and demanding public hearings.

This second barrier rated 7th highest out of the eighteen affordable housing barriers. Unlike the previous *NIMBYism* barrier, this second one did not appear as critical with only 4 of 12 participants rating it with a score of 8 or higher. The average score for this barrier is medium, or 6.0, with a -0.6 variance from the mean. Table 4.2.2 displays the breakdown of ratings by each participant and the average barrier rating.

AH BARRIER #2	A1	A2	A3	B1	B2	B3	C1	C2	C3	D1	D2	D3	D4	D5	D6	AVG
<i>NIMBY Syndrome (Immediate Level)</i>	8	3	7	5	6	6	-	6	8	2	-	9	5	9	4	6.0

Table 4.2.2 – Ratings for ‘NIMBY Syndrome (Immediate Level)’ Barrier

Growth Controls

Growth Controls is the third barrier rated by participants. This barrier represents the regulatory measures used by communities to secure “their borders” against new development. These types of measures include: downsizing to increase lot size; zoning tracts for agricultural use; caps on building permits; tying growth to infrastructure needs, etc.

Growth Controls rated 5th highest out of the eighteen affordable housing barriers. With 9 participants rating the factor, only 4 rated the barrier an “8” or higher, it appears the barrier is not critical to affordable housing development. The average score for this barrier is 6.4, with a -0.2 variance from the mean. Table 4.2.3 displays the breakdown of ratings by each participant and the average barrier rating.

AH BARRIER #3	A1	A2	A3	B1	B2	B3	C1	C2	C3	D1	D2	D3	D4	D5	D6	AVG
<i>Growth Controls</i>	-	-	10	8	5	-	-	9	5	2	-	-	4	9	6	6.4

Table 4.2.3 – Ratings for ‘Growth Controls’ Barrier

Exclusionary Zoning

A second regulatory barrier, which is highly regarded as an immediate impact to affordable housing in the reviewed literature, is the fourth barrier, *Exclusionary Zoning*. This barrier includes the local zoning ordinances that purposely prescribe land uses, densities and building heights making affordable housing development not feasible.

This barrier rated 8th highest out of the eighteen affordable housing barriers. With eight participants rating the issue, and only two rating it an “8” or higher, it appears the barrier is also not critical to affordable housing development as literature suggests. The average score for this barrier is 5.9, with a -0.7 variance from the mean. Table 4.2.4 displays the breakdown of ratings by each participant and the average barrier rating.

AH BARRIER #4	A1	A2	A3	B1	B2	B3	C1	C2	C3	D1	D2	D3	D4	D5	D6	AVG
<i>Exclusionary Zoning</i>	-	-	10	-	3	-	-	9	3	1	-	-	6	9	6	5.9

Table 4.2.4 – Ratings for ‘Exclusionary Zoning’ Barrier

Inclusionary Zoning

The fifth affordable housing barrier, *Inclusionary Zoning*, sparked the broadest range of comments from participants. This barrier is one in which local municipalities agree to relax zoning restrictions on density for developers in lieu of affordable housing units or cash. According to HUD, *Inclusionary Zoning* is a barrier to affordable housing since market-rate units absorb higher housing costs and thus priced higher, as well as potential legal issues (HUD 1991). However, HUD also suggests that *Inclusionary Zoning* is a common way of ensuring affordable housing, which many participants argued is a tool and not a barrier.

Albeit, *Inclusionary Zoning* is the 11th highest rated barrier out of the eighteen, the results for this factor are misleading. Developers #1 and #6, along with City Housing Officials #2 and #3 and Builder #2 all believe that *Inclusionary Zoning* is a tool that provides affordable housing

and thus gave this barrier a low score. On the contrary, Developers #4 and #5, Architect #2, and Builders #1 and #3 all believe this barrier places an unnecessary burden on developers and raise the cost of housing rating it as highly critical to affordable housing. In addition, many of the individuals who did not rate this factor suggested it was not an issue but rather a good strategy to implement affordable housing. Thus, this disparity does not provide any conclusive evidence as to whether or not this factor is a barrier to affordable housing, despite its low average rating of 5.2 and variance of -1.4 from the mean. Table 4.2.5 displays the breakdown of ratings by each participant and the average barrier rating.

AH BARRIER #5	A1	A2	A3	B1	B2	B3	C1	C2	C3	D1	D2	D3	D4	D5	D6	AVG
<i>Inclusionary Zoning</i>	-	9	-	8	2	9	-	3	3	1	-	-	7	9	1	5.2

Table 4.2.5 – Ratings for ‘Inclusionary Zoning’ Barrier

Excessive Subdivision Controls

Excessive Subdivision Controls is an additional regulatory barrier and the sixth affordable housing barrier. This particular barrier is represented by ordinances that regulate the physical and design characteristics of new housing, or require onsite and offsite improvements. These include: wide side-yard setback; infrastructure additions and/or repair; capital improvements, etc.

This barrier rated 9th out of the eighteen total barriers in this study, and no participant rated this issue with a score of “8” or higher. Thus suggesting this barrier it is not critical to affordable housing development. The average score for this barrier is 5.2, with a -1.4 variance from the total mean. Table 4.2.6 displays the breakdown of ratings by each participant and the average barrier rating.

AH BARRIER #6	A1	A2	A3	B1	B2	B3	C1	C2	C3	D1	D2	D3	D4	D5	D6	AVG
<i>Excessive Subdivision Controls</i>	-	-	-	1	6	-	-	6	3	5	6	-	7	6	7	5.2

Table 4.2.6 – Ratings for ‘Excessive Subdivision’ Barrier

Impact Fees

Yet another regulatory barrier is *Impact Fees*. This seventh affordable housing barrier is the various fees imposed on developers to pay for additional infrastructure and public services associated with new developments. Furthermore, these additional incurred costs to the developer are added into the cost of housing and passed along to future homebuyers.

Impact Fees rated 6th out of the eighteen affordable housing barriers. Only four of ten participants rated the factor as “critical” with a score of “8” or higher. The average score for this barrier is 6.4, with a -0.2 variance from the mean, suggesting this barrier has no significant impact. Table 4.2.7 displays the breakdown of ratings by each participant and the average barrier rating.

AH BARRIER #7	A1	A2	A3	B1	B2	B3	C1	C2	C3	D1	D2	D3	D4	D5	D6	AVG
<i>Impact Fees</i>	6	6	6	1	9	9	-	6	5	7	-	-	8	6	8	6.4

Table 4.2.7 – Ratings for ‘Impact Fees’ Barrier

Site Review Process

The eighth affordable housing barrier is the *Site Review Process*, which happened to be the only regulatory barrier that was rated by all six developers, three architects and three builders. This is not surprising as all 12 individuals expressed complaints regarding the often burdensome, long-lasting approval process that involves multiple overlapping jurisdictions and review parties.

Site Review Process is the 3rd highest rated out of the 18 affordable housing barriers. However, only five of 13 participants rated this factor as “most pressing” to an affordable housing development with a score of “8” or higher. The average score for this barrier is 6.8, with a +0.2 variance from the mean. Despite the criticism, it appears the barrier is not a

significant hurdle to affordable housing development. Table 4.2.8 displays the breakdown of ratings by each participant and the average barrier rating.

AH BARRIER #8	A1	A2	A3	B1	B2	B3	C1	C2	C3	D1	D2	D3	D4	D5	D6	AVG
<i>Site Review Process</i>	6	6	8	5	7	-	-	6	6	8	5	9	8	6	8	6.8

Table 4.2.8 – Ratings for ‘Site Review Process’ Barrier

Infill Development

Infill Development is an additional regulatory barrier and ninth affordable housing barrier rated by the interview participants. This barrier corresponds to limiting opportunities for rehabilitation and infill development through restrictions, bans or lack of support from municipal ordinances or officials. These include, but not limited to, delays in acquisition, historic preservation requirements, outdated building codes, etc.

This particular barrier is the 12th highest rated factor out of the eighteen affordable housing barriers. No participants rated this factor with a score of “8” or higher. With an average score of 4.5, a -2.1 variance from the mean, suggests this is not a significant barrier to affordable housing development. Table 4.2.9 displays the breakdown of ratings by each participant and the average barrier rating.

AH BARRIER #9	A1	A2	A3	B1	B2	B3	C1	C2	C3	D1	D2	D3	D4	D5	D6	AVG
<i>Infill Development</i>	-	6	-	1	-	-	-	3	6	1	-	-	7	6	6	4.5

Table 4.2.9 – Ratings for ‘Infill Development’ Barrier

Rent Control

A further regulatory barrier often used in densely-populated, major cities is *Rent Control*. While this 10th affordable housing barrier is illegal in the state of Colorado, it is used by incorporating regulations that prevent rents from rising, thus keeping occupants in place for longer periods preventing residential mobility and limiting the supply of affordable units.

This barrier is the 13th highest rated factor out of the eighteen affordable housing barriers. No participants rated this factor with a score of “8” or higher. With an average score of 4.3, and a -2.3 variance from the mean, suggests this is not a significant barrier to affordable housing development. Table 4.2.10 displays the breakdown of ratings by each participant and the average barrier rating.

AH BARRIER #10	A1	A2	A3	B1	B2	B3	C1	C2	C3	D1	D2	D3	D4	D5	D6	AVG
<i>Rent Control</i>	-	-	-	-	2	-	-	-	3	3	7	-	-	6	5	4.3

Table 4.2.10 – Ratings for ‘Rent Control’ Barrier

Building Codes

The 11th affordable housing barrier to be rated by participants is *Building Codes*, another regulatory barrier. These are building and housing codes that are often outdated, inadequate, and dissimilar from jurisdiction to jurisdiction or poorly administered.

Building Codes is the 15th highest rated factor out of the eighteen affordable housing barriers. No participants rated this factor with a score of 8 or higher. With an average score of 3.9, and a -2.7 variance from the mean, this suggests it is not a critical barrier to affordable housing development. Table 4.2.11 displays the breakdown of ratings by each participant and the average barrier rating.

AH BARRIER #11	A1	A2	A3	B1	B2	B3	C1	C2	C3	D1	D2	D3	D4	D5	D6	AVG
<i>Building Codes</i>	-	6	-	-	3	3	-	3	5	5	-	-	2	3	5	3.9

Table 4.2.11 – Ratings for ‘Building Codes’ Barrier

Types of Housing

The last of the regulatory barriers are restrictions on *Types of Housing* that prevent the use of alternate housing types for affordable housing projects. Alternate types include: manufactured housing, modular housing and accessory housing. This is the twelfth affordable housing barrier rated by the interviewees.

This particular barrier is the 14th highest rated factor out of the eighteen affordable housing barriers. No participants rated this factor with a score of “8” or higher. With an average score of 4.0, and a -2.6 variance from the mean, suggests this is not a critical barrier to affordable housing development. Table 4.2.12 displays the breakdown of ratings by each participant and the average barrier rating.

AH BARRIER #12	A1	A2	A3	B1	B2	B3	C1	C2	C3	D1	D2	D3	D4	D5	D6	AVG
<i>Types of Housing</i>	-	-	-	1	3	-	-	3	7	2	-	-	3	6	7	4.0

Table 4.2.12 – Ratings for ‘Types of Housing’ Barrier

Environmental Regulations

The thirteenth affordable housing barrier, *Environmental Regulations*, introduces the “environment” category of barriers. This barrier is used to protect the environment that often raises the cost of housing, interjects costly delays and contains overlapping jurisdictions with separate requirements.

Environmental Regulations is the 16th highest rated factor out of the eighteen affordable housing barriers. Only 1 of the 10 participants, rated this factor as “most pressing” to an affordable housing development with a score of “8.” The average score for this barrier is 3.6, with a -3.0 variance from the mean, suggesting this is not a critical barrier to affordable housing development. Table 4.2.13 displays the breakdown of ratings by each participant and the average barrier rating.

AH BARRIER #13	A1	A2	A3	B1	B2	B3	C1	C2	C3	D1	D2	D3	D4	D5	D6	AVG
<i>Environmental Regulations</i>	-	3	5	1	3	-	-	3	3	1	-	-	3	6	8	3.6

Table 4.2.13 – Ratings for ‘Environmental Regulations’ Barrier

Wetlands

A second environmental barrier is the protection of *Wetlands*. This fourteenth affordable housing barrier includes impediments raised by wetland regulation through definitional issues, multiple administrative procedures and jurisdictions, and a complex Federal permitting process.

The fourteenth affordable housing barrier is the 17th highest rated factor out of the eighteen affordable housing barriers. No participants rated this factor with a score of “8” or higher. With an average score of 2.7, and a -3.9 variance from the mean, suggests this is not a critical barrier to affordable housing development. Table 4.2.14 displays the breakdown of ratings by each participant and the average barrier rating.

AH BARRIER #14	A1	A2	A3	B1	B2	B3	C1	C2	C3	D1	D2	D3	D4	D5	D6	AVG
<i>Wetlands</i>	-	3	5	1	3	-	-	3	3	1	-	-	3	3	2	2.7

Table 4.2.14 – Ratings for ‘Wetlands’ Barrier

Endangered Species Act

The last environmental issue and fifteenth affordable housing barrier is the *Endangered Species Act*. This barrier suggests that development is curtailed by environmental protection agencies making buildable land more scarce and diminishing potential prospects.

Endangered Species Act is the lowest rated factor out of the eighteen affordable housing barriers. No participants rated this factor with a score of “8” or higher. With an average score of 2.0, and a -4.6 variance from the mean, this is not a critical barrier to affordable housing development. Table 4.2.15 displays the breakdown of ratings by each participant and the average barrier rating.

AH BARRIER #15	A1	A2	A3	B1	B2	B3	C1	C2	C3	D1	D2	D3	D4	D5	D6	AVG
<i>Endangered Species Act</i>	-	-	1	1	3	-	-	-	3	1	-	-	2	3	2	2.0

Table 4.2.15 – Ratings for ‘Endangered Species Act’ Barrier

Construction Costs

The remaining barriers discussed in this section are categorized as financial issues. The sixteenth barrier, then are the related *Construction Costs* of an affordable housing project. This barrier can raise the cost of housing based on the limited supply and high costs of building materials. In addition to restrictions or bans on materials through design regulations or codes.

This particular barrier is the 9th highest rated factor out of the eighteen affordable housing barriers. Three of 9 participants rated this factor as “most pressing” to an affordable housing development with a score of “8.” The average score for this barrier is 5.2, with a -0.4 variance from the mean. These scores suggest this may not be a critical barrier to affordable housing development. Table 4.2.16 displays the breakdown of ratings by each participant and the average barrier rating.

AH BARRIER #16	A1	A2	A3	B1	B2	B3	C1	C2	C3	D1	D2	D3	D4	D5	D6	AVG
<i>Construction Costs</i>	8	-	1	-	3	-	-	3	8	8	-	-	6	3	7	5.2

Table 4.2.16 – Ratings for ‘Construction Costs’ Barrier

Financial Market Condition

Financial Market Condition was broadened from the original barrier, *Housing Finance System* to include the overall market conditions that contain the various financing tools. This seventeenth affordable housing barrier was the only factor to be rated by all participants. In addition, it was the only factor to receive comments regarding its impact to affordable housing by every interviewer. The results then speak for themselves and demonstrate the importance of this factor that is defined as a volatile and unpredictable finance market, including but not limited to, the housing finance system.

This particular barrier is the highest rated factor out of the eighteen affordable housing barriers. Each of the fifteen interview participants rated this factor as “most pressing” to an

affordable housing development with a score of “8” or higher. The average score for this barrier is 9.1, and has the highest variance from the mean at +2.5. Glancing at the scores alone suggest this barrier may indeed be a contributing factor to affordable housing development. Table 4.2.17 displays the breakdown of ratings by each participant and the average barrier rating.

AH BARRIER #17	A1	A2	A3	B1	B2	B3	C1	C2	C3	D1	D2	D3	D4	D5	D6	AVG
<i>Financial Market Conditions</i>	10	10	8	9	9	9	10	8	9	8	10	10	8	9	10	9.1

Table 4.2.17 – Ratings for ‘Financial Market Conditions’ Barrier

Tax Benefits (LIHTC)

Likewise, *Tax Benefits* including the *Low-Income Housing Tax Credits (LIHTC)* was also modified from its original form as simply the *Tax System*. This last affordable housing barrier to be rated by the interview subjects incorporates a complex and overlapping financial system that provides developers with tax credits and incentives to develop affordable housing.

Tax Benefits is the 2nd highest affordable housing barrier of the eighteen rated in this study. This particular barrier did not receive a rating less than “7”, and eight out of 11 participants rated the barrier as “most pressing” with a score of “8” or higher. The average score for this barrier is 8.7, and has the second highest variance from the mean at +2.1. Based on the data alone, this barrier also appears to be a significant barrier to affordable housing development. Table 4.2.18 displays the breakdown of ratings by each participant and the average barrier rating.

AH BARRIER #18	A1	A2	A3	B1	B2	B3	C1	C2	C3	D1	D2	D3	D4	D5	D6	AVG
<i>Tax Benefits (LIHTC)</i>	10	-	7	10	8	-	10	7	8	-	10	-	7	9	10	8.7

Table 4.2.18 – Ratings for ‘Tax Benefits (LIHTC)’ Barrier

4.2.3 Additional Affordable Housing Factors

The final question of the opening section for the interviews, asked each interviewee to identify any additional factors not included in the original list. This inquiry identified an additional factor not originally accounted for by HUD. *Land Acquisition* is another barrier to

affordable housing, according to the seven developers in this study. The barrier is more prevalent for the developers in the city of Boulder, CO. Due to the city's growth boundaries and a near max build-out, opportunities for future development are dreadfully scarce. Thus many of the affordable housing developers in the area find the acquisition of land difficult to obtain; and when such land prospects become available, they do so at a premium cost hand-cuffing developers desiring to provide its communities a social benefit. Apart from the limited supply and land cost factor, no other additional factors were mentioned from the group.

4.3 Project Management Factors

Pinto and Slevin's article, *Critical Factors for Successful Project Implementation*, served as the second key piece of literature in creating the list of project management factors for the following segment of the interviews. Their scholarly investigation includes ten critical success factors, with an additional four factors added to the list based on the suggestion of a former affordable housing executive. Once again, a separate document, entitled *Project Management Factors Descriptions*, was created to define factors and provide additional clarification for research participants not familiar with the topics. Table 4.3 on the following page displays the fourteen project management factors.

Factor Number	PM Factor
1	<i>Clearly Defined Goals</i>
2	<i>Competent Project Manager</i>
3	<i>Top Management Support</i>
4	<i>Competent Project Team Members</i>
5	<i>Sufficient Resource Allocation</i>
6	<i>Internal Communication Channels</i>
7	<i>Control Mechanisms</i>
8	<i>Feedback Capabilities</i>
9	<i>Responsiveness to Client</i>
10	<i>Experienced Project Team Members</i>
11	<i>Community Support</i>
12	<i>Appropriate Design</i>
13	<i>Highly Functional Board</i>
14	<i>Conflict Resolution</i>

Table 4.3 – Project Management Factor Descriptions

4.3.1 Revealing Project Management Factors

Much like the affordable housing section of the interview, the questions and script for the following section are the same. Interviewees were once again given a bulleted list, this time of project management success factors, and asked whether or not they agreed with the list. Overwhelming the collection of participants agreed wholeheartedly with the topics, many inquiring about the whereabouts of the register due to the comprehensiveness of project management issues encountered by many of the interviewees. Yet unlike the affordable housing

barriers, no challenges were made regarding the factors and their connection to successful project implementation, as many subjects agreed these were indeed essential tools for success.

4.3.2 Rating Project Management Factors

Rating individual project management factors proved equally difficult if not more cumbersome than rating affordable housing barriers. In the same manner, participants were asked to think about their past projects and experiences and rate each factor using the 1 – 10 scale used previously. Participants had a difficult time rating the factors because the majority considered all the project management factors to be of high importance. As one interviewee stated, *“Successful project management requires that all factors be used and addressed, therefore all these factors are extremely high in my opinion.”* Nevertheless, subjects rated those they thought were most applicable. In this round of ratings, only four of the fifteen participants scored each factor. Figure 4.3.2 below displays the complete individual ratings by each participant for all project management factors with the average rating score for each factor at the bottom.

PROJECT MANAGEMENT FACTORS														
Interviewee	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Architect 1	-	9	-	9	-	-	-	-	-	9	-	9	-	-
Architect 2	9	9	-	9	-	-	-	-	-	9	-	9	-	-
Architect 3	10	10	-	10	10	10	7	10	8	10	8	10	8	8
Builder 1	10	10	5	5	10	5	8	5	8	5	1	5	1	8
Builder 2	-	9	9	9	9	-	-	-	-	9	-	-	-	-
Builder 3	9	9	-	9	-	-	-	-	9	9	9	9	-	-
City Official 1	-	9	-	9	-	-	-	-	-	9	-	-	-	-
City Official 2	9	6	-	-	6	-	-	-	3	9	9	6	-	-
City Official 3	8	9	8	9	6	-	-	-	-	9	9	8	9	-
Developer 1	7	9	7	7	10	6	6	5	6	5	10	8	7	7
Developer 2	10	10	9	9	10	-	-	-	-	9	-	-	9	-
Developer 3	-	-	-	10	-	-	-	-	-	-	-	-	-	-
Developer 4	10	8	8	8	9	9	8	8	8	7	8	8	7	7
Developer 5	9	-	-	9	-	-	9	-	8	-	9	-	-	9
Developer 5	10	10	10	8	9	10	8	8	7	8	8	9	10	10
Average Ranking	9.2	9.0	8.0	8.6	8.8	8.0	7.7	7.2	7.1	8.2	7.9	8.1	7.3	8.2

Figure 4.3.2 – Project Management Factor Ratings

The sections that follow discuss the individual results obtained while rating each project management factor.

Clearly Defined Goals

The first project management related factor is *Clearly Defined Goals*. This factor, categorized as a project management tool, relates that the general project philosophy or general mission of the project is clearly defined. In addition, it includes commitment to those goals on the part of project team members (Pinto and Slevin, 1987).

This particular factor is the highest rated issue of all fourteen project management factors. Ten of 11 interview participants rated this factor as “most pressing” to an affordable housing development with a rate of “8” or higher. The average score for this factor is 9.2, and has the highest variance from the mean of all factors at +2.6. These high scores suggest that this particular aspect may be critical to affordable housing development. Table 4.3.1 displays the breakdown of ratings by each participant and the average factor rating.

PM FACTOR #1	A1	A2	A3	B1	B2	B3	C1	C2	C3	D1	D2	D3	D4	D5	D6	AVG
<i>Clearly Defined Goals</i>	-	9	10	10	-	9	-	9	8	7	10	-	10	9	10	9.2

Table 4.3.1 – Ratings for ‘Clearly Defined Goals’ Factor

Competent Project Manager

A second project management factor labeled as *Competent Project Manager* is the first leadership themed topic to be rated by the interviewees. This particular factor correlates with the importance of having a skilled (interpersonally, technically and administratively) project leader (Pinto and Slevin, 1987).

Competent Project Manager is the 2nd highest rated factor of the fourteen project management factors. It also received the second most ratings with a total of 13, 12 of which rated the factor with a score of “8” or higher. The average rate for this leadership issue is 9.0 and

has a +2.4 variance from the mean. Table 4.3.2 on the following page displays the breakdown of ratings by each participant and the average factor rating.

PM FACTOR #2	A1	A2	A3	B1	B2	B3	C1	C2	C3	D1	D2	D3	D4	D5	D6	AVG
<i>Competent Project Manager</i>	9	9	10	10	9	9	9	6	9	9	10	-	8	-	10	9.0

Table 4.3.2 – Ratings for ‘Competent Project Manager’ Factor

Top Management Support

The third project management factor is having *Top Management Support*. This factor, another leadership themed issue, conveys that the necessary support from top or divisional management for the project has been conveyed to all concerned parties (Pinto and Slevin, 1987).

This factor is the 8th highest of the fourteen project management factors. With only five of seven participants rating this factor with a score of “8” or higher, it appears it may not be as critical despite its high average of 8.0 and a variance of +1.4 from the mean. Table 4.3.3 displays the breakdown of ratings by each participant and the average factor rating.

PM FACTOR #3	A1	A2	A3	B1	B2	B3	C1	C2	C3	D1	D2	D3	D4	D5	D6	AVG
<i>Top Management Support</i>	-	-	-	5	9	-	-	-	8	7	9	-	8	-	10	8.0

Table 4.3.3 – Ratings for ‘Top Management Support’ Factor

Competent Project Team Members

An additional leadership themed topic, and fourth project management factor is having *Competent Project Team Members*. This particular factor revolves around the importance of selecting and having skilled project team members (Pinto and Slevin, 1987).

This fourth factor rated 4th highest of the fourteen project management factors. Additionally, this factor received the most ratings, with a total of 14. Of those, 12 rated the factor “*most pressing*” with a score of “8” or higher. The average for this leadership factor is 8.6 and has a variance of +2.0 from the mean, suggesting it may be a significant impact to affordable

housing development. Table 4.3.4 on the following page displays the breakdown of ratings by each participant and the average factor rating.

PM FACTOR #4	A1	A2	A3	B1	B2	B3	C1	C2	C3	D1	D2	D3	D4	D5	D6	AVG
<i>Competent Project Team Members</i>	9	9	10	5	9	9	9	-	9	7	9	10	8	9	8	8.6

Table 4.3.4 – Ratings for ‘Competent Project Team Members’ Factor

Sufficient Resource Allocation

Sufficient Resource Allocation is the fifth project management factor and is categorized under project management tools. This factor suggests that resources in the form of money, personnel, logistics, etc. are readily available for the project (Pinto and Slevin, 1987).

This particular factor rated 3rd out of the fourteen project management factors. Despite having a high rating average of 8.8 and a variance of +2.2 from the mean, only five of eight participants rated this factor as “*most pressing*” suggesting it may not be as significant as the data suggests. Table 4.3.5 displays the breakdown of ratings by each participant and the average factor rating.

PM FACTOR #5	A1	A2	A3	B1	B2	B3	C1	C2	C3	D1	D2	D3	D4	D5	D6	AVG
<i>Sufficient Resource Allocation</i>	-	-	10	10	9	-	-	6	6	10	10	-	9	-	9	8.8

Table 4.3.5 – Ratings for ‘Sufficient Resource Allocation’ Factor

Internal Communication Channels

The sixth project management related factor is having *Internal Communication Channels*. This project management tool suggests that sufficient information on project objectives, status, changes, organizational coordination, client’s needs, etc. is available (Pinto and Slevin, 1987).

Internal Communication Channels rated 8th out of the fourteen project management factors. With only five out of eight participants rating the factor with a score of “8” or higher, it appears this may not be a factor critical to affordable housing development. The average score

for this factor is 8.0 with a +1.4 variance from the mean. Table 4.3.6 on the following page displays the breakdown of ratings by each participant and the average factor rating.

PM FACTOR #6	A1	A2	A3	B1	B2	B3	C1	C2	C3	D1	D2	D3	D4	D5	D6	AVG
<i>Internal Communication Channels</i>	-	-	10	5	-	-	-	-	-	6	-	-	9	-	10	8.0

Table 4.3.6 – Ratings for ‘Internal Communication Channels’ Factor

Control Mechanisms

An additional project management tool and the seventh factor are having *Control Mechanisms* underway, such as planning tools or schedules. These mechanisms or programs are readily in place to deal with initial project objectives (Pinto and Slevin, 1987).

This factor rated the 11th highest of the fourteen. With only six participants scoring the issue, of which only four rated the factor as an 8 or higher, this issue also does not appear to be critical to affordable housing development. The average for this factor is 7.7 and has a +1.1 variance from the mean. Table 4.3.7 displays the breakdown of ratings by each participant and the average factor rating.

PM FACTOR #7	A1	A2	A3	B1	B2	B3	C1	C2	C3	D1	D2	D3	D4	D5	D6	AVG
<i>Control Mechanisms</i>	-	-	7	8	-	-	-	-	-	6	-	-	8	9	8	7.7

Table 4.3.7 – Ratings for ‘Control Mechanisms’ Factor

Feedback Capabilities

Feedback Capabilities is the fifth project management tool and the eighth factor rated by the interviewees. This project management factor suggests that all parties concerned with the project are able to review project status, make suggestions, and/or corrections through formal feedback channels or review meetings (Pinto and Slevin, 1987).

The eighth factor is the 13th highest factor of the fourteen. Only three of the five participants, rated this factor as “*most pressing*” with a score of “8” or higher. Combined with a lower average of 7.7 and a variance from the mean of +1.1 suggests this factor may not be

pertinent to affordable housing development as compared to the other project management factors. Table 4.3.8 displays the breakdown of ratings by each participant and the average factor rating.

PM FACTOR #8	A1	A2	A3	B1	B2	B3	C1	C2	C3	D1	D2	D3	D4	D5	D6	AVG
<i>Feedback Capabilities</i>	-	-	10	5	-	-	-	-	-	5	-	-	8	-	8	7.2

Table 4.3.8 – Ratings for ‘Feedback Capabilities’ Factor

Responsiveness to Clients

The ninth project management factor to be rated is maintaining *Responsiveness to Clients*. This project management tool suggests that all potential users of project are consulted with and kept up to date on project status. Additionally, clients receive assistance after the project has been successfully implemented (Pinto and Slevin, 1987).

Responsiveness to Clients rated the lowest among the fourteen project management factors. While this does not suggest the factor is not important, it does imply that it is not critical to affordable housing development with only five of eight participants rating it as an “8” or higher. The average for this factor is 7.1, and has a +0.5 variance from the mean. Table 4.3.9 displays the breakdown of ratings by each participant and the average factor rating.

PM FACTOR #9	A1	A2	A3	B1	B2	B3	C1	C2	C3	D1	D2	D3	D4	D5	D6	AVG
<i>Responsiveness to Clients</i>	-	-	8	8	-	9	-	3	-	6	-	-	8	8	7	7.1

Table 4.3.9 – Ratings for ‘Responsiveness to Clients’ Factor

Experienced Project Team Members

An additional leadership themed issue was added to the original list of project management factors as suggested by a former executive director of affordable housing during the initial draft interview. The tenth project management factor, *Experienced Project Team Members*, relates to having team members who have extensive work experience with the specific

industry or type of project. While this is similar to competent team members, this factor takes competence a step further to entail specific work experience.

This particular factor is the 5th highest rated of the fourteen project management factors. It is also the second highest rated factor with a total of 13 participants providing ratings. 10 of those participants scored the factor as “*most pressing*” with a rating of “8” or higher. The average for this factor is 8.2, and has a +1.6 variance from the mean. Table 4.3.10 displays the breakdown of ratings by each participant and the average factor rating.

PM FACTOR #10	A1	A2	A3	B1	B2	B3	C1	C2	C3	D1	D2	D3	D4	D5	D6	AVG
<i>Experienced Project Team Members</i>	9	9	10	5	9	9	9	9	9	5	9	-	7	-	8	8.2

Table 4.3.10 – Ratings for ‘Experienced Project Team Members’ Factor

Community Support

Community Support is a community issue added to the list once again under the recommendation by the former affordable housing executive director. This project management factor suggests that political, financial and/or moral support from the local and/or surrounding communities is needed for particular projects.

The eleventh factor is the 10th highest rated of the fourteen project management factors. Yet, despite being one of the lower rated factors, eight of the nine participants who rated the factor scored it as an 8 or higher, suggesting the majority agrees on the importance of the factor to affordable housing development. The single lone score of “1” significantly drops the average for the factor, which happens to be 7.9. The variance of the mean is +1.3 for this factor. Table 4.3.11 displays the breakdown of ratings by each participant and the average factor rating.

PM FACTOR #11	A1	A2	A3	B1	B2	B3	C1	C2	C3	D1	D2	D3	D4	D5	D6	AVG
<i>Community Support</i>	-	-	8	1	-	9	-	9	9	10	-	-	8	9	8	7.9

Table 4.3.11 – Ratings for ‘Community Support’ Factor

Appropriate Design

The twelfth project management factor was also added to the list as recommended by the former affordable housing executive director. This project management tool suggests the importance of having the project design should be fitting for the community it is designed for and appropriate for the users of the project.

Appropriate Design rated 7th out of the fourteen project management factors. Eight of 10 participants rated this as “*most pressing*” with a score of “8” or higher. The average for this factor is 8.1 and has a +1.5 variance from the mean. This data suggests a worthwhile look at the importance of this factor to affordable housing development. Table 4.3.12 displays the breakdown of ratings by each participant and the average factor rating.

PM FACTOR #12	A1	A2	A3	B1	B2	B3	C1	C2	C3	D1	D2	D3	D4	D5	D6	AVG
<i>Appropriate Design</i>	9	9	10	5	-	9	-	6	8	8	-	-	8	-	9	8.1

Table 4.3.12 – Ratings for ‘Appropriate Design’ Factor

Highly Functional Board

While the majority of affordable housing development is completed by non-profit organizations, including the expertise and role of a board of directors was deemed important according to the former affordable housing executive director. Thus this leadership aspect was added to the list of project management factors. This thirteenth factor relates to having a group of highly functional, motivated and supportive members to provide project assistance with vision and direction as members of the board of directors.

This factor is the 12th highest rated issues of the fourteen project management factors. With only four of seven participants rating the factor an 8 or higher, and a lower rated average among the additional project management factors, this suggest a less critical impact on affordable housing development. The average for this factor is 7.3 and it has a +0.7 variance

from the mean. Table 4.3.13 on the following page displays the breakdown of ratings by each participant and the average factor rating.

PM FACTOR #13	A1	A2	A3	B1	B2	B3	C1	C2	C3	D1	D2	D3	D4	D5	D6	AVG
<i>Highly Functional Board</i>	-	-	8	1	-	-	-	-	9	7	9	-	7	-	10	7.3

Table 4.3.1 – Ratings for ‘Highly Functional Board’ Factor

Conflict Resolution

The final project management factor was yet another factor added to the original list of factors. It was suggested that since a variety of individuals, with varying experiences and perspectives, are key role players in any affordable housing development, having procedures in place for *Conflict Resolution* is a necessity. Thus this project management tool relates to having appropriate mitigation methods in place or readily available to resolve any conflicts with parties involved with project.

This last project management factor rates 6th among the other fourteen. A higher rating average of 8.2, and a +1.6 variance from the mean, suggests this factor may be critical to affordable housing development. However, with six participants rating the factor, and only four scoring it as “*most pressing*” with a rate of “8” or higher, implies otherwise. Table 4.3.14 displays the breakdown of ratings by each participant and the average factor rating.

PM FACTOR #14	A1	A2	A3	B1	B2	B3	C1	C2	C3	D1	D2	D3	D4	D5	D6	AVG
<i>Conflict Resolution</i>	-	-	8	8	-	-	-	-	-	7	-	-	7	9	10	8.2

Table 4.3.14 – Ratings for ‘Conflict Resolution’ Factor

4.3.3 Additional Project Management Factors

Concluding this second phase of the interviews, participants were asked again to identify any additional factors not included in the original list. Since the majority of the interviewees expressed that the list was exhaustive to start, no major factors were suggested. However, one

particular non-project management factor, *Political Support*, was expressed that will be discussed in the following section.

4.4 Moving Forward

After ratings for both affordable housing barriers and project management factors were completed, each conversation moved into the third and final segment of the interview. In this concluding section, entitled *Moving Forward*, interviewees were asked three specific questions about additional challenges to affordable housing, obstacles organizations providing affordable housing need to overcome and best strategies to implement affordable housing. The responses to each of these questions can be found below in the subsequent sections.

4.4.1 Additional Challenges

A reoccurring theme during the conduction of interviews is the need for political will and support. When participants were asked *to provide additional barriers not addressed in the ratings*, many of the subjects cited that affordable housing, like other social issues, is in the hands of political constituents. As Developer #5 said, “When it comes to affordable housing, one has to recognize that in order to increase efficacy and the way of life, influencing the political atmosphere is critically important.” Similar sentiments were shared amongst the group of participants during the interviews, like those of Developer #2, “It’s important not to omit the power of political preference; politics is on the top of the pile.” There is no question that affordable housing is best implemented in communities where political backing exists, after all regulatory ordinances are created and put into place by political officials in their respective jurisdictions as confirmed by Developer #2, “Appreciation of affordable housing is codified in regulation and building codes.”

Adding to the complexity of the problem, the question becomes who is responsible in providing the necessary political support and by what means? Is affordable housing a challenge left for cities to create their own solutions with their own resources or should state and federal backing and funding come into play? As seen with other social issues like health care, immigration, education, the debate for affordable housing and who should provide it become intrinsically difficult. Developer #7 posed the following question when discussing the role of government in providing funding for affordable housing, “If it’s a community goal, why is development the sole provider?” Since this topic is outside the scope of this report, the focus will be kept at the local level for now, given that all the interviewees, with the exception of one, operate, and in most cases, live in the same city.

4.4.2 Overcoming Obstacles

Contrary to public sentiments, affordable housing is not just another liberal issue to provide social good. Where NIMBYism exists, a lack of understanding promulgates this theory presenting affordable housing providers with additional challenges and issues. In such cases, educating the public about the need and benefits of affordable housing is a necessary step to win over opposition. Developer #4 suggests communities must also share the vision in providing affordable housing, “Our organization strives to produce living, thriving communities it is important that the communities we serve understand this and share our vision.” There is no question society desires synergy and pride of their communities, an educated community understands how affordable housing positively affects the entire community.

The public’s understanding for the need and benefits of affordable housing is just one step in tackling the problem, unfortunately it does not cease there. Developer #6 expresses this notion with this statement, “It’s not just about putting roofs over people’s heads there are

additional social issues that must be addressed, like education, mental health and career counseling. Affordable housing helps in other ways, the public just doesn't see it that way." While educating the public about affordable housing is important, equally important if not more, affordable housing providers must understand who the end-users will be and the challenges they face. According to Developer #6, the goal of development is to provide enduring, self-sustaining communities. Furthermore, he states "We all want to have mixed-use, mixed-income in our projects. We want a balance of renters and owners, but the question becomes, who is 'more responsible?' Renters don't care because there's no commitment." While the comments made by Developer #6 do not encompass all renters, there is certainly validity in his two statements. Affordable housing is not just about the housing, there are additional social issues relating to educating the public, social services and personal responsibility that come into play. These are significant social issues outside the realm of development, yet directly impacting the efforts of those working to provide affordable housing.

4.4.3 Implementing Strategies

Throughout the interviews, it became apparent that affordable housing development is an extremely complex solution to one of the nation's largest social problems. Addressing creative solutions was the focal point for the final question of the interview section. In this final inquiry, participants were asked to *describe strategies best suited to implement an affordable housing project*, the majority of responses called for a collaborative approach between the non-profit sector, the private industry and local governments. Developer #4 summarizes this shared opinion amongst the participants, "Affordable housing is a complex problem that requires the collaboration of all players involved with development as well as engaging the community to create good solutions." From a differing perspective, City Official #2 also suggested similar

sentiments, “Affordable housing needs a broader, stronger network of developers and a great deal of assistance from the rest of us.”

In the past, affordable housing has demonstrated that the previous model where responsibility is taken upon or placed on individual entities is also not a viable solution. Developer #2 supports this notion in a written piece published in the *Journal of Housing and Community Development* as well as in this interview:

“Historically, we’ve tried so many different models. We first tried a public approach to housing, then we tried a long chapter of ‘well no, really it should be the private sector’ developing housing. Then quite naturally where we’ve been since the ‘80s is that it ought to be a public-private partnership with funding from all three levels: federal, state and local; all entities having different and appropriate roles to play.” (Martens, 2009)

Developer #6 added to the notion of collaborative partnerships, “Affordable housing is expensive and very complicated. Each sector brings something different to the table and requires the expertise of each.” Indeed affordable housing is a complex solution facing numerous social, political and financial issues. It seems unrealistic to think a lone entity possesses experienced individuals to tackle every problem encountered. Thus it seems appropriate, that a push towards public-private partnerships with community engagement is in order as a way to fully address the pertinent issues arising from developing affordable housing.

4.5 Interview Results Summary

A total of fifteen interviews were conducted for this investigation with various representatives of the affordable housing industry. The dialogues were divided into three subsections: affordable housing barriers, project management factors, and affordable housing development. In the first two sections, participants were asked to rate the affordable housing barriers and project management factors. The concluding section addressed additional challenges, obstacles and strategies for affordable housing development. The information

gathered from the interviews served two purposes: one to provide a deeper understanding of the issues facing affordable housing; and second, to present quantitative data in which to utilize to identify a comprehensive set of *Critical Success Factors* for affordable housing development.

CHAPTER 5

ANALYSIS

5.1 Analysis Introduction

In conducting the interviews, common trends and opinions on certain aspects of Affordable Housing became apparent. While the interviewees themselves have differing perspectives and trade experience, the importance of providing Affordable Housing opportunities for communities, families and individuals were apparent. This social desire to impact change and noble efforts to supply such housing opportunities was strongly conveyed by all interview subjects. There is no question that if this project were one based on the social value of including Affordable Housing in communities or the moral responsibility of increasing the supply of affordable units, there would be an abundance of personal anecdotes and positive opinions on this subject matter. However, such is not the case and thus analysis of the data results needed to exclude the “social good” or other forms of emotional responses from the interviewees.

In this chapter, the *Critical Success Factors* (CSF) for Affordable Housing Development are independently discussed in greater detail. The following section discusses the method used to analyze the data results, how the factors selected were identified as CSFs and the significance of the mean variance that was calculated for each factor, as well as the CSFs specific to affordable housing development. A description of each critical success factor is provided, followed by examples and comments from interviewees that validate the selection of the factor,

and last the implications of each factor on affordable housing development is described to conclude each section.

5.2 Selection of Critical Success Factors

Initial analysis of the data results commenced with the coding of interviews. By examining the interview responses in greater detail, common themes began to arise amongst the responses. One of the main topics was *Political Will*. This specific theme described the lack of or need for political support when developing affordable housing projects. In addition to political support is the notion of *Community Backing*, a theme that describes the importance of having communities' buy-in and back the inclusion of affordable housing in their respective communities. These common, yet distinctive trends, including other similar topics were grouped and categorized as *Community Concerns*, one of six categories that resulted from the interview coding process. The remaining five categories were also developed in a similar fashion and include the following: *Environmental Obstacles*, *Financial Issues*, *Project Leadership*, *Project Management Tool* and *Regulatory Barriers*.

Once the categories had been established the data results were ready to be inputted into an excel spreadsheet and analyzed. The ratings produced by each participant were entered into a spreadsheet grouped by category along with the respective ratings by each interviewee. Figure 5.2 on the following page shows the completed spreadsheet with the final interview data results.

INTERVIEW RESULTS																																		
Interviewee Type	Community						Regulatory						Environment						Financial						Project Management						Leadership			
	1	2	3	28	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	29	31	20	21	22	30
Architect 1	8	8	-	-	-	-	6	6	6	-	-	-	-	-	-	8	10	10	-	-	-	-	-	-	-	-	-	9	-	-	9	-		
Architect 2	3	3	-	-	-	9	6	6	6	-	6	-	3	3	-	-	10	-	9	-	-	-	-	-	-	-	-	9	-	9	-	-		
Architect 3	10	7	10	8	10	-	6	8	-	-	-	-	5	5	1	1	8	7	10	10	10	7	10	8	10	8	10	-	10	8	-	10		
Builder 1	10	5	8	1	-	8	1	1	5	1	-	1	1	1	1	-	9	10	10	10	5	8	5	8	5	8	10	5	5	1	-	1		
Builder 2	8	6	5	-	3	2	6	9	7	-	2	3	3	3	3	3	3	3	8	-	9	-	-	-	-	-	-	9	9	9	-	-		
Builder 3	6	6	-	9	-	9	-	9	-	-	3	-	-	-	-	-	9	9	-	9	-	-	-	-	-	-	9	-	9	-	-	-		
City Official 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	10	-	-	-	-	-	-	-	-	-	9	-	9	-	-	-	
City Official 2	3	6	9	9	9	3	6	6	6	3	-	3	3	3	3	3	8	7	9	6	-	-	-	3	6	-	6	-	-	-	-	-	-	
City Official 3	8	8	5	9	3	3	3	5	6	6	3	5	7	3	3	8	9	8	8	6	-	-	-	-	-	-	9	8	9	9	9	-	-	
Developer 1	6	2	2	10	1	1	5	7	8	1	3	5	2	1	1	8	8	-	7	10	6	6	5	6	8	7	9	7	7	7	7	-	-	
Developer 2	-	-	-	-	-	-	6	-	5	-	7	-	-	-	-	-	10	10	10	10	-	-	-	-	-	-	-	-	10	9	9	9	-	-
Developer 3	9	9	-	-	-	-	-	-	9	-	-	-	-	-	-	-	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Developer 4	3	5	4	8	6	7	7	8	8	7	-	2	3	3	3	2	6	8	7	10	9	9	8	8	8	8	7	8	8	8	7	-	-	
Developer 5	9	9	9	9	9	9	6	6	6	6	3	6	6	6	3	3	3	9	9	9	-	-	-	9	8	-	9	-	-	-	-	-	-	-
Developer 6	3	4	6	8	6	1	7	8	8	6	5	5	7	8	2	2	7	10	10	10	9	10	8	8	7	9	10	10	8	10	8	10	-	-
Average Ranking	6.6	6.0	6.4	7.9	5.9	5.2	5.2	6.4	6.8	4.5	4.3	3.9	4.0	3.6	2.7	2.0	5.2	9.1	8.7	9.2	8.8	8.0	7.7	7.2	7.1	8.1	8.2	9.0	8.0	8.6	7.3	-	-	
Mean for all Factors	6.6																																	
Variance from Mean	0.0	(0.6)	(0.2)	1.3	(0.7)	(1.4)	(1.4)	(0.2)	0.2	(2.1)	(2.3)	(2.6)	(3.0)	(3.9)	(4.6)	(1.4)	2.5	2.1	2.6	2.2	1.4	1.1	0.6	0.5	1.5	1.6	2.4	1.4	2.0	0.7	-	-		
Majority Percent	47%	27%	27%	53%	20%	27%	0%	27%	33%	0%	0%	0%	0%	7%	0%	0%	20%	100%	53%	67%	47%	20%	27%	20%	33%	53%	27%	80%	33%	80%	27%	-	-	
1 NIMBY (Community)	4 Exclusionary Zoning																																	
2 NIMBY (Immediate)	5 Inclusionary Zoning																																	
3 Growth Controls	6 Subdivision Controls																																	
28 Community Support	7 Impact Fees																																	
	8 Site Review Process																																	
	9 Infill Development																																	
	10 Rent Control																																	
	11 Building Codes																																	
	12 Types of Housing																																	
	13 Environmental Regs																																	
	14 Wetlands																																	
	15 Endangered Species																																	
	16 Construction Costs																																	
	17 Finance Market Cond.																																	
	18 Tax Benefits																																	
	19 Clearly Defined Goals																																	
	20 Competent PM																																	
	21 Management Support																																	
	22 Competent Team																																	
	23 Sufficient Resources																																	
	24 Communication																																	
	25 Control Mechanisms																																	
	26 Feedback Capabilities																																	
	27 Response to Client																																	
	29 Appropriate Design																																	
	30 Functional Board																																	
	31 Conflict Resolution																																	

Figure 5.2 – Spreadsheet with Final Interview Rating

After the numerical results were imputed into the spreadsheet the mean for each factor was calculated, as well as the total mean for all factors combined. The variance from the mean for each factor was taken by subtracting the mean for each factor by the mean of all factors. This provided an initial set of factors to be considered as potential critical success factors. The variance from the mean is a method used by Nayak and Taylor (2009) in which a positive variance denotes the factor was considered more critical to the participants and a negative variance indicates that the interviews were less concerned with the criticalness of the factor as it relates to affordable housing development. Using this method produced a total of 16 of 31 factors with a positive variance.

The next step taken to determine the critical success factors was to examine the frequency in which each particular factor was rated highly critical or with a rate of “8” or higher. This was used due to the fact that not all participants rated each individual factor. Many participants failed to provide ratings on several factors, and thus it could not be inferred that an omission in rating signaled any less or more importance of the factor as compared to the others. Therefore, by calculating the percentage for each factor, one could determine whether or not the majority of participants rating the factor considered it to be critical or not.

This proved to be an important step as it reduced the original 16 factors into a more complete list based on the total percentage of participants rating the factor as critical. For example the factor *Sufficient Resource Allocation* received an average rating of 8.0 and had a +1.4 variance from the total mean, both scores higher than the scores determined for *Community Support*. These data values would suggest this to be a critical factor, however only 20% of the participants, or three out of 15 rated this factor as critical, compared to 53% of the participants, or eight out of 15 who rated *Community Support* as critical. In summary, the critical success

factors were determined on the following basis: a positive variance from the mean and a majority of critical ratings from all research participants. Table 5.2 below shows the seven critical success factors as identified through the interview and data analysis, along with the various numerical methods used to calculate each.

Factor	Average Rating	Variance from Mean	Rated Critical	Percent of Majority	Mean Rating
<i>Clearly Defined Goals</i>	9.2	+2.6	10 of 15	67%	6.6
<i>Financial Market Conditions</i>	9.1	+2.5	15 of 15	100%	
<i>Experienced Project Manager</i>	9.0	+2.4	12 of 15	80%	
<i>Tax Benefits</i>	8.7	+2.1	8 of 15	53%	
<i>Experienced Project Team Members</i>	8.6	+2.0	12 of 15	80%	
<i>Appropriate Design</i>	8.1	+1.5	8 of 15	53%	
<i>Community Support</i>	7.9	+1.3	8 of 15	53%	

Table 5.2 – Data Analysis for Critical Success Factors

5.2.1 Interviewee Bias

It is important to discuss that the critical success factors determined here were affected by industry bias and personal experiences stemming from the interview participants. *Community Support*, the last listed CSF in the table above is a prime example as a result of this bias. This particular CSF has the lowest rating of all seven CSFs, and that can be attributed to a low rating of “1” from Builder #2. Meanwhile, the six of the eight participants who rated this factor as critical come from either the development industry or city officials. From these occurrences, it can be inferred that *Community Support* is an important factor, but specifically important to developers and the city, yet not so important to the construction industry. Such can be the case since both builders and architects are hired services to complete a specific role in the project and

whose efforts are not bonded by community support. On the contrary, developers and city officials specifically, are strongly tied to the respective community and whose professional efforts are highly impacted by the level of support from the community or lack thereof.

Likewise the critical success factor, *Appropriate Design*, received high ratings from all architects who participated in this study and a majority of the developers, yet received low ratings from a builder and city official. Again, as in the previous case, design is a unique and important factor to both architects and developers, for many it is the lifeline of their work. Whereas a builder is more interested in the specific construction aspects of a project and less on the design impacts. These examples suggest an industry specific bias towards some of the CSFs that have been identified; the parties or individuals whose work is dependent on that factor have heavily influenced these CSFs.

On the contrary, CSFs such as *Financial Market Conditions*, *Experienced Project Manager*, and *Experienced Project Team Members* demonstrate no bias and achieved high rankings from all parties across the board. In these cases, one can state with certainty, that the CSFs identified are not based on industry bias but rather a general consensus of all parties. Therefore, these circumstances call for deeper investigation and larger pools of participants. The following section addresses the specific CSFs as they relate to affordable housing development.

5.3 CSFs Unique to Affordable Housing Development

While it can be argued that the seven CSFs identified above can apply to all forms of development, there are three key CSFs that relate specifically to the affordable housing experience, these include *Financial Market Conditions*, *Tax Benefits*, and *Community Support*. This particular section specifically addresses these issues as they affect affordable housing.

Affordable housing developments, unlike traditional real estate developments, are financed differently using a variety of financing systems. Traditional developments are financed with typical loans from private financial institutions. However, for various reasons, outside the scope of this project, affordable housing developments do not use the traditional loan structure. One of the major reasons for this is the lack of financial returns on the investment since affordable housing projects are developed at low profit margins. Due to the complexity of the financing affordable housing projects and the current financial recession are major drivers in making *Financial Market Conditions* a CSF for affordable housing development.

Additionally, *Tax Benefits* is another CSF specific to affordable housing. Tax benefits, like the *Low-Income Housing Tax Credit* are useful tools to affordable housing developers in securing financial resources to finance affordable housing projects. Yet, these tax credits are limited in supply and include a highly competitive selection process to secure them. Despite this, they provide the private market with opportunities to invest on such tax credits and are a significant way in addressing the financing issues that affordable housing developments face.

A third critical success factor, *Community Support*, is also specific towards affordable housing development. While the case may be argued that support from the local community is necessary on all development projects, affordable housing is a unique type of development requiring heavy community support. One of the major barriers affordable housing developments face is the *Not In My Back Yard* (NIMBYism) attitude. This anti-sentiment from local neighbors, community members and/or politicians can significantly have a negative impact on affordable housing. These anti-affordable housing sentiments include exclusionary and discriminatory regulatory barriers that prohibit or limit the production of affordable housing.

Such is not the case in Boulder, CO, where local officials and community members are open and receptive to affordable housing and have instituted ordinances to promote affordable housing.

In the following sections, each critical success factor, including these three, will be analyzed in further detail and described more fully with interview comments.

5.4 Community Concerns

Like many people, most communities are often bothered by change. This is not the type of change that comes with the passing of time, or the altering seasons, or the transition of one generation to another; but rather direct, impacting change to a community. Communities are troubled with the immediate modification to their existing surroundings. This particular type of sentiment, known as, the *Not In My Back Yard* (NIMBY) syndrome, describes the opposition by residents and public officials to additional or different kinds of housing units in their neighborhoods and communities (HUD 1991). The following section outlines Community Support, a Critical Success Factor that combats this anti-affordable housing sentiment.

5.4.1 Community Support

The antithesis of NIMBYism is the overwhelming community support and desire for affordable housing. Rather than opposing change, sentiment of this positive sort takes on the encouraging motif of “*Why Not In Our Community?*” In creating affordable housing opportunities, it is critical that political, financial and moral support be received from local community members. Community members play an integral role in assisting developers create a development plan focused on common goals related to a healthy environment, a strong economy, and a high quality of life, thus participation is key (Miles et al, 2007).

Community support then, is not just a matter of reaching an agreement or vocally backing this cause, it is more about getting community members on board, committed and

engaged in the process. Architect #1 states the following as a general question to local communities desiring affordable housing. “If it’s a community goal, why is development the sole provider?” This is a tough question for communities to answer. Arguments can and will always be made for who holds the responsibility of providing affordable housing, but more importantly, this specific interviewee is asking where is the community participation? When asked how to encourage community involvement, City Official #3 stated the following, “It is critically important for communities to buy into the concept. When they do, they are more likely to donate their time and skill to the project.”

Throughout the interview process, research participants suggested that support from the surrounding communities, both from neighbors and local government, was critical to the success of an Affordable Housing project. Of the 15 individuals who were interviewed, eight interviewees rated this factor *High*. Only one participant rated the factor as *Low*, and the other six participants omitted from rating. Community Support thus is imperative to an affordable housing project. Additional subjects stated that affordable housing developments serve the economical and social needs of a community; provide opportunities to connect communities and the people who live in them; and are key projects that help the underprivileged community members who may not otherwise have the financial capabilities of owning or renting a home.

The phrase “Real Estate Development,” are three words that community members are taken aback by as intimidating, intrusive and offensive. Often times community members fail to see the economic and social benefits a development project may bring to their community because of their own inability or unwillingness to allow change. Sentiments towards Affordable Housing Development are further exacerbated with poor

judgments that coin the development as for solely the “poor” people or “cheap” housing or even worse, the “ghetto projects.” When communities have these sentiments, support for AHD projects is extremely low. The lack of community support not only creates moral implications, but also legal, economic and project delay implications. Such is the case with the *Washington Village* project in Boulder, CO. Community opposition and political interests have impeded the progress of this development by delaying groundbreaking and pushing construction on the project back two years. A lack of moral support, active participation and political will, can place Affordable Housing Developments in an up-hill battle with local citizens, neighbors and local officials who look to stop or stall such developments; further evidence that Community Support is a crucial Critical Success Factor.

5.5 Financial Issues

Financial issues come in various forms on development projects: project financing, construction costs, material inflation, budget control, etc. In particular, two financial constraints, the current Financial Market Conditions and Tax Benefits, are issues that are prevalent to affordable housing development. Financial Market Conditions affect the overall condition of a project and may even prevent the project from commencing, while Tax Benefits are meant to serve as financing tools, yet have limitations of its own. The following sections discuss these two Critical Success Factors in further detail.

5.5.1 Financial Market Conditions

Overall market conditions, limited funding pools and complex financing structures combine to make affordable housing development challenging. In a volatile financial market, access to and acquisition of monetary funds can be difficult. For these types of projects the

financial challenges do not cease to exist, if anything, they are more difficult to resolve. With the most recent slide in the economy, the current recession places an arduous task on communities and developers to obtain financial resources to fund current projects. Include a complex and varying finance structure into the system and developers find themselves scrambling for economic solutions. Despite the challenges, affordable housing projects are like any other real estate development; success relies on sound underwriting and good planning (Corradino and Tran, 2005).

The current financial market has placed a tight stranglehold on development; affordable housing projects are not excluded from this grip. Developer #6 further echoes this hardship by saying, “Financing affordable housing projects is most difficult in this current market. Funding pools are very limited, and the few that do exist, are extremely difficult to obtain with the amount of competition that is out there.” Unlike traditional development, affordable housing is uniquely financed. While traditional loans and equity resources fund private developments, affordable housing relies heavily on other sources of subsidies, such as grants, funds, tax benefits, housing credits, as well as other financial mechanisms. This makes for a complicated and limited pool of funds available for development, as Developer #6 states, “The nature of funding mechanisms for affordable housing projects needs to increase.”

Limited funding resources are just one of the issues impacting the affordable housing financial market. The cost of this particular development is also costly, as City Official #3 states, “Affordable Housing is expensive and the cost of development increases when there is a lack of funding.” The high costs of development are attributed to many factors; specifically this research project found that the high costs could be attributed to low profit margins, land costs and gap funding. When homeownership and/or rental housing units are subsidized for users,

profit margins are either eliminated or barely cover the costs of development. The high risk and low reward is a reason why these types of projects do not have traditional financing structures. In addition, the cost of land can be a premium to the developer. Land costs are the same for affordable housing projects and private developments. These issues create 'high' cost items for the developer and often create gap-funding issues, making the cost of development a significant factor. City Official #2 supports this notion, "the limited subsidies and cost of land makes it difficult for a developer to build affordable housing projects." While these are independent issues alone, as a whole they encompass the many financial challenges an affordable housing developer faces in tough market conditions.

The implication of the financial market conditions on affordable housing projects is not rocket science. Limited funding pools, high costs of development and a depressed economy can eradicate any plans for development; thus, challenging affordable housing developers to cleverly determine means to finance such projects. Any kink or disparity in the financing structure can spell doom for a project. With the current state and national economies in recessions, securing funding subsidies has been an arduous project for local affordable housing developers and made development practically unattainable. Architect #1 confers this notion with the following, "lack of consistent streams of funding for the development process has made affordable housing practically impossible." The current financial crisis in America has had crippling effects across the spectrum, combine that with an already limited and complicated financing system and affordable housing projects find themselves in dire need of life-support, thus making the Financial Market Condition a Critical Success Factor.

5.5.2 Tax Benefits

A specific source of funding affordable housing projects is through the use of tax credits. This Federal source of funding for affordable housing projects arose through the Tax Reform Act of 1986 (HUD 1991). Low Income Housing Tax Credits (LIHTC) has fast become the most important tool in encouraging the production of affordable housing (Ogorzalek 2004). Private and non-profit developers are taking advantage of the politically popular tax credit model. However, in a financially constrained market, LIHTCs have become scarcer and thus more difficult to obtain. Local developers also claim that the acquisition process for such credits is fragmented and complicated. A powerful tool in producing affordable housing requires deep knowledge and complete understanding of the attainment process.

There is no question tax benefits have become an integral part of funding affordable housing projects, as Developer #2 states, “tax credits and local housing funds are significant funding sources for our developments, we rely on them heavily when available.” The issue then is not the financial importance of the credits, but rather, the availability and access to them. Tax benefits, like the LIHTC, are the popular types of credits, often sought, yet limited in quantity. Developer #5 supports this notion, “LIHTC are limited in quantity, and those that are available are difficult to obtain.” Fierce competition is a major barrier to landing tax credits, however Architect #1 suggests an additional barrier, “the LIHTC process is inefficient. There is a lack of communication between the City and CHAFA (Colorado Housing and Finance Authority) making it difficult and time consuming to obtain.”

Despite the difficulties in obtaining and limited supply of credits research participants agree that they are critical to an affordable housing development. Of the eleven participants that rated the factor, eight individuals rated it to be highly critical with a rate of “8” or higher. The

other three participants rated the factor as moderately critical. For developers seeking to fund an affordable housing project, tax benefits can serve a critical role in providing additional financing, yet it cannot be a significant source. As Developer #5 suggests, funding needs to come in additional forms if traditional financing is not an option, “The affordable housing industry needs to get creative and find ways to add additional incentives for the private sector.” Attracting the private sector is a viable strategy, however not in the scope of the project, but describes the importance of tax benefits and the current supply or lack thereof.

One of the most significant issues that numerous interview participants suggested regarding this factor is the limited quantity of tax credits available to developers. In a reduced pool of opportunity, simple supply and demand economics describes the implications of this issue; low funding sources creates high demand on existing funds. In this case, competition for these limited funds intensifies, making it difficult for developers to obtain the financial credits and thus causing less affordable housing projects to be built. While it may be argued that this type of competition produces quality developments, the desire for affordable housing still exists and thus the need goes unmet. A quid pro quo solution would be to increase the number of credits available, however that easy-fix solution would cause a reverse reaction. Therefore, Tax Benefits are an important, yet complicated, source of funding. They require a strategic solution to create additional opportunities, yet maintain economic value, and are thus another Critical Success Factor.

5.6 Project Leadership

Guided direction is of critical importance in any endeavor. Project Leadership is an intangible component of any development or construction project. Without sound leadership at the helm, project teams are susceptible to encounter challenges and left struggling to determine

the appropriate course of action best suited for the project. Having an Experienced Project Manager and Experienced Project Team Members are two extremely important leadership components needed to deal with the complexity and barriers facing affordable housing development. These two Critical Success Factors are discussed in further detail in the following sections.

5.6.1 *Experienced Project Manager*

Leadership is a key component for the success of any organization or project. Pinto and Slevin support this notion by identifying a *Competent Project Manager* as a critical success factor in successful project implementation (Pinto and Slevin 1987). The importance of the initial selection of an interpersonal, technical and administratively skilled project leader is critical (Pinto and Slevin 1987). Given that affordable housing projects face numerous social, financial and political challenges, the success of development originates then with leadership at the forefront of a project team. Affordable housing developers are confronted with community opposition, strenuous financing issues, and construction and design aspects that require a skilled project leader.

Interview participants confirmed the importance of having an experienced project leader as a key to the success of a project. Of the thirteen subjects who rated this factor, only one participant rated the factor as not critical. These participants agreed that having a successful project begins with experienced and skilled leadership. This notion can be summarized with the following statement by City Official #2 who said, “Affordable Housing is a detailed, thorough, multi-layered process that requires a lot of planning, attention to detail and expertise. Qualities that an experienced project manager should have.” It should be noted that participants suggested that an experienced project manager is different than a competent manager. Developer #1 made

this initial distinction and the other participants echoed the same sentiment with the following statement,

“An experienced project manager should be used rather than the term competent. Competent implies having the basic knowledge and skills to complete a project. However, affordable housing projects are extremely complicated and not only require those skills of project management, but also the experience of managing a complex financing structure, finding the various financial credits available for affordable housing, dealing with community opposition and other social, political factors not necessarily found in traditional developments.”

Therefore, for the sake of this study, the term *experience* will be used to encompass the views of interview subjects and the additional qualities required of an affordable housing project leader.

While project manager has been discussed frequently in literature and is a common title across industries, the leadership position, for this study, applies to the person responsible for the oversight of all financial, social, political and technical issues for a project. In this particular case, this position refers to the individual within the development team. This role is the “marshal of management,” to quote the opinion of Builder #2. This individual has the authority to make decisions, is knowledgeable about all phases of development and has the experience to handle all financial, social, political and technical issues relating to developing affordable housing projects.

The importance of a project manager can go without stating. Yet it is worthwhile to discuss the implications of not having an experienced project manager. Not only does an experienced project leader handle the day-to-day duties of the project management process, but as mentioned, the project manager also deals with various financial, social and political issues. These issues can be new and foreign to a competent project manager who has had little to no experience with affordable housing projects. Additionally, *leadership* is an intangible concept that cannot be easily taught or developed. As Developer #5 states, “*leadership is hard to find.*”

Thus, a significant factor that is not readily available or can be acquired quickly, becomes pressing and hence a Critical Success Factor for Affordable Housing Development.

5.6.2 Experienced Team Members

In conjunction with a skilled project leader, the importance of a competent and experienced project team should not be overlooked. Developers often collaborate with city officials, architects, builders, political constituents, community leaders and financing experts throughout the development process. These multiple facets and stages of affordable housing development require knowledgeable players in all realms of the industry. *Competent Project Team Members* is another critical success factor in successful project implementation (Pinto and Slevin 1987). Therefore, developing a project team with the experience and requisite skills to perform their function is critical for affordable housing projects.

Several interview subjects spoke to the importance of having competent or experienced team members on an affordable housing project. Builder #2 summarizes this importance with the following statement, “Affordable housing development is a complicated process. It involves a lot of different players and having experienced members on the team is an important ingredient of success.” The contractual relationships between parties on the development team are often straightforward. In traditional development the owner or developer has a contract with the architect, who then has several contracts with the builder and engineers. While this is also the case for some affordable housing projects, the relationships and responsibilities each party has with one another is complicated and intertwined. Architect #3 supports this notion by stating, “Having an experienced project team is important because partnerships in affordable housing development are complicated and each sector brings something different to the project.”

Like the experienced project manager factor, the term competent has been modified to *experienced* to include the financial, social and political intricacies of an affordable housing project. In a similar fashion, 12 of the 14 participants, rated this factor as highly critical with a rate of “8” or higher. In an already complex industry, affordable housing projects require each team member to be well versed in their areas of specialty, possess experience in dealing with affordable housing projects, as well as have extensive practice in working with multiple team members of various industries. Having these types of players involved on a project allows the team to deal with project issues and difficulties in a more effective manner, as suggested by Developer #3, “Teamwork is of great importance. With experienced team players on the project, we are able to combine our efforts and deal with problems in an effective and cooperative manner.”

Just as having an inexperienced project manager, the lack of experienced team members can cause issues in the development process. The well-known saying, a “chain is only as strong as its weakest link,” would fittingly describe the importance of the team players. A lack of experience can hinder, delay or impair the success of a project. The argument can be exacerbated for affordable housing projects, since there are multiple political, social and financial issues that arise throughout the development process. While individual team players may not have sole responsibility to manage these issues, cooperation and backing are needed for the progress and success of the project. Therefore, another Critical Success Factor for Affordable Housing Development is having Experienced Team Members.

5.7 Project Management Tools

Affordable housing developments like any other project require a strategic process and the necessary instruments to complete the project. Many of these tools are the various computer-

based software that help a project manager with the everyday duties, such as maintaining the project's schedule, budget and operations. However, before these project practices can be implemented a project manager and team must fully understand the purpose and objectives of a project. Establishing Clearly Defined Goals and having an Appropriate Design can do this. These final two Critical Success Factors for affordable housing development are addressed in the following sections.

5.7.1 *Clearly Defined Goals*

An overwhelming factor to successful development is a consistent and realistic vision. Developers use extensive background knowledge and market data to address a specific need or possibility for development. Once a project is conceived, the concepts initially conjured by the developer become the precedent for all succeeding stages of development. It is absolutely critical then, that the project philosophy or general mission of the project be clearly stated and understood by all team members. Establishing *Clearly Defined Goals* at the outset of a project is a third critical success factor for successful project implementation (Pinto and Slevin 1987). In addition, there must be a commitment to these goals and vision on the part of the project team members. Obtaining commitment from project team members begins with having clear and defined goals that reflect the concept of a project. Architect #3 supports this notion, "A successful project begins with commitment to the concept." Additionally, this interviewer explained that community members, politicians and project team members are more likely to support a project if the vision is shared. Developer #4 repeats this idea with the following statement, "As developers, it is important for us that our vision be shared with the communities we serve." Throughout the interview process, many of the participants used the terms: *enduring*, *self-sustaining*, *thriving* and *living* to describe community goals for affordable housing

developments. To make such goals a reality, it is important that time be dedicated to creating and defining the goals and vision for a project, as City Official #3 suggests, “Having clear goals makes for a more efficient decision making process, therefore it is important that the development team spend time upfront to define them.”

From a contextual standpoint having clearly defined goals not only allows the development team to better understand the needs of a project, but also the needs of a community, which is critical for the success of affordable housing projects. Since affordable housing projects are complex developments to begin with, adding to that complexity are the various needs from different communities. What may have worked before for in one community may not fulfill the needs of an entirely different community within the same city. Therefore a sound vision is one that determines the need of a community, evaluates the local support, discovers land opportunities and produces an all encompassing design that satisfies the project team and community users. This process creates a unique solution tailored for a specific need or community.

Not having clearly defined goals creates many complications, some of which include the typical delayed schedule, being over budget and having poor quality turnouts. However, a separate and more important implication that stood out from this analysis is the mismatch between what is built and whom the project is built for. During an interview, City Official #3, posed the following question that he believes the development team should be asking throughout the phase of the project, “Who is this project being designed for?” This simple question can create immense problems for the development team if not addressed. All too often, developments are built without thinking of the end users. In the case of affordable housing projects, the end users are often limited economically and socially. These limitations create

disparities between the needs of the individuals and families that occupy them. Case-in-point, a low-income, working class family looking for rental products has significantly different issues than a single, medium-income professional looking for homeownership. While the economic and social issues are outside the scope of this study, they nonetheless deserve attention, and thus making Clearly Defined Goals a Critical Success Factor for Affordable Housing Development.

5.7.2 *Appropriate Design*

There is an immense misconception around the nation that suggests affordable housing developments are less attractive and functional because they are built at a lower cost and meant to house lower-income families and individuals. Not only would this be a discriminative approach if such housing were developed in that fashion, but also a costly mistake. As Rajah-Gibbs (1999) suggests, affordable housing developments do not have to sacrifice aesthetics to meet the mandate for safe, affordable housing. Quality design and appropriateness to using community should not be an issue that is ignored when developing affordable housing projects. With an increasing push for sustainable development and eco-friendly building practices, the design process is a key element in any development project. Additionally, as Forsyth, Nicholls and Raye (2010) suggest project design is an important tool that can be used to “help resolve potential conflicts between neighborhood values, development constraints and city goals.” Therefore creating and implementing an Appropriate Design is critical to an affordable housing development.

While affordable housing project designs are influenced by factors such as the project’s location, community needs, city goals and development constraints among many others, one common trend found during the interview process is the notion of creating *desirable places* to live. This idea can be best summarized with the following statement provided by Architect #3

who said, “The importance of design is creating a sense of place, a sense of community that defines the space.” This comment was echoed by many other research participants who used the terms ‘enduring,’ ‘self-sustaining,’ and ‘synergy’ to represent the importance of design. These sentiments suggests that design is not about aesthetics, but rather about providing a communal space for local communities to gather, make use of, enjoy and take pride in. Developer #4 extends this idea further with the following quote, “A successful design is one that includes a vision for living, thriving communities.”

Appropriate Design was not an original factor included in this study based on the literature used to identify the barriers to affordable housing and critical success factors for project management. Inclusion of this factor resulted from the recommendations of an affordable housing expert who provided guidance on the initial selection of issues that were to be rated. This expert suggested that appropriate design be included as a factor to be investigated. The interview results proved that this indeed is an important factor. Of the 10 participants who rated this factor, eight participants scored the factor as highly critical with a mark of “8” or higher. The importance of having an appropriate design should not be overlooked, the remarks and scores of the interview subjects confirm this importance and hence the inclusion of this factor as a critical issue to affordable housing development.

For current affordable housing projects, it is critically important that designs take into account the end-users of the project. Many projects are built for families and individuals who have different needs than single-family homeowners. There exist numerous social and economic issues facing these community members that must be taken into account during the design of a project. These issues include, but not limited to: geographic location, transit oriented development, access to jobs and services, home affordability and more. These issues all relate to

the importance of design and as Developer #6 suggests, “in the context of the home, related to the community and to the neighborhood, a sound design is the first step in fostering a community.” Therefore, a negligent design that does not take these issues into account can make it more difficult on the individuals and families who require these needs and create just the opposite community that is desired and thus making Appropriate Design a Critical Success Factor for Affordable Housing Development.

5.8 Analysis Summary

To validate the findings of this study, interview participants were asked for a follow-up discussion in which they were asked to review the findings and provide any clarifications or additional comments on the Critical Success Factors. Of the 15 total participants, only eight expressed interest or had the time for a follow-up discussion. Their clarifications and insight were used to support the findings and added to the implications of the respective factor.

Affordable Housing Development faces various political, social, financial and leadership barriers. These main issues that each of the participants in this study face are listed in Table 5.1. While many programs have been established to help promote affordable housing projects, these various obstacles nonetheless exist and create delays, restraints and even restrictions that prevent projects from being completed. The companies in this study are overcoming many of these barriers through these programs, yet require additional assistance with other barriers. Understanding the implications of these factors provides the development team insight on the tools needed for successful affordable housing development.

CHAPTER 6

RESEARCH CONCLUSIONS

6.1 Research Summary and Objectives

This research study explored the main issues affecting successful affordable housing development. Critical factors were identified through the interview responses of 15 individuals at the project or executive level. Local interview participants were solicited from various stages of development that include local city officials, architects, developers and builders. Having a diverse pool of interview subjects ensured that multiple points of view could be collected and used to identify a complete set of issues confronting affordable housing developments.

6.1.1 Research Question and Study Success

The research question posed in this study is as follows:

What are the critical success factors for affordable housing development?

Interview responses to this question identified seven critical factors that research subjects suggest to be pressing issues when developing affordable housing projects:

- 1. Community Support**
- 2. Financial Market Conditions**
- 3. Tax Benefits**
- 4. Experienced Project Manager**
- 5. Experienced Project Team Members**
- 6. Clearly Defined Goals**
- 7. Appropriate Design**

The importance of each factor and the implications each has development was explored in further detail. Additional follow-up conversations with interview participants were conducted to

get further insight, examples and comments relating to each factor. In these follow-up discussions, the interview participants confirmed these were significant factors affecting affordable housing development.

The critical factors listed above demonstrate that the study successfully answered the research question. Interview participants provided insight to the affordable housing development process and the various obstacles that are encountered throughout the process. The information gathered was used to identify the Critical Factors for successful affordable housing development. In all, this research study is considered a success having met its objective.

6.2 Recommendations for Successful Affordable Housing Development

Using the information gathered during the interview and analysis processes of this report, led to the identification of seven critical success factors for affordable housing development. The following sections present and discuss this researcher's recommendations for successful affordable housing development. Figure 6.2 outlines each critical success factor and the corresponding recommendation below.



Figure 6.2 – Recommendations for Successful Affordable Housing by CSFs

1. *Foster Community Support.*

Critically important to any development is establishing community support. In order to do so the development team should not only take an active role in fostering relationships with the families/individuals who will be the end-users, but also with surrounding neighbors, businesses, local citizens and other community members. Early on the development team should host “open-house” sessions to: introduce the organization and/or development team to the community; educate and enlighten the community on the importance of affordable housing and explain the benefits the project and future home owners/renters will provide; invite the community to get involved with the development process either through volunteer opportunities or by establishing community coalitions; and allow a space for the community to voice any questions, concerns, suggestions, community needs and/or requests of the developer regarding the project, design and development. By having an open-ended conversation with the community, one can begin to foster a relationship and build support for a project.

2. *Establish Distinct Vision and Precise Objectives.*

Another focal point for a development team is to set a distinct vision and precise objectives for the affordable housing project. This may be an obvious recommendation, but is one that is often overlooked in the sense that not all community members, city officials and development team members understand the purpose and intent behind the project. Once an affordable housing development has been considered, it is imperative that the development team explicitly incorporates the needs and desires of a local community and city into a specific and shared vision. Additionally, clearly defined goals and objectives for the project must be outlined and disseminated to all parties involved

throughout the development process. Furthermore, the formation of a project's vision and objectives should be a shared process in which the local community, city and development team actively contribute, negotiate and achieve final consensus. Now this researcher understands that while it is certainly not possible to please everyone and incorporate the desires of each individual group, yet, all parties involved should walk away with the impression that their specific needs and desires for the project have been heard and have been incorporated into the project's vision and objectives to some extent.

3. *Generate a Holistic Design.*

When thinking about developing an affordable housing project one must do so with the end-users and community in mind. A holistic design is one that creates a vibrant place to live, work and play. Often, designs are focused on one of these three components or designed with an unequal emphasis on one or two aspects. For an affordable housing development to be successful, the design must be balanced and cater to the needs of the community, provide opportunities for economical development and provide a safe space for the social needs of healthy living. Since designs are inherently different from project to project, concrete suggestions cannot be made. However, a design focused on elements such as location, transit oriented, access to jobs and services, affordability and sustainability would certainly address the components mentioned here.

4. *Create Innovative Financial Solutions.*

An unstable, volatile financial market can be disastrous for an affordable housing development project, even more so than private developments since affordable housing projects are not traditionally financed. Due to the fact that these types of projects are not funded by traditional loans, they require innovative financing solutions. In many cases

affordable housing developments are financed with a majority of funding coming through tax credits, housing vouchers and/or housing grants. In tough financial markets, the development team is forced to look for and create innovative solutions. Furthermore, local cities, governments and communities desiring affordable housing must help in creating alternative methods of financing. Placing the burden on developers is unreasonable as affordable housing is a community goal and developments are not profit generating.

5. *Exploit, not Depend on Tax Credits.*

In an already saturated market, dependence on tax benefits is a costly mistake. While tax credits, housing vouchers and grants are available from a variety of sources, dependency on these financial subsidizes for financing purposes can create additional financial challenges for a development project. Developers rather, should look to benefit from these credits and make use of them when available as they contribute to livelihood of a project. Additionally, federal, state and local governments and/or entities should assist developers by increasing the number of credits available or making the attainment of such benefits more feasible. In both cases, the researcher understands the issue is much more complicated than the recommendation.

6. *Cultivate Knowledgeable Leaders.*

Leadership is an intangible skill and often a difficult one to find. For a complex industry like affordable housing, leadership is at the forefront of an organization's needs. An affordable housing development requires experienced leadership that not only understands the intricacies of the development process, but also is also keen on the social, political and economical issues facing affordable housing. In today's society where

career turnover is extremely prevalent, maintaining experienced personnel on staff is critically important. While it may be possible to recruit leadership outside the organization or across industries, the intricacies of affordable housing make it difficult for companies to find a suitable fit. Therefore, critical to affordable housing is cultivating knowledgeable leaders, especially within the organization. The development process is long and complicated, requiring a lot of detail and attention. Likewise the affordable housing industry poses many issues and challenges not presented in a training manual and thus leadership must be cultivated and developed to confront these challenges.

7. *Form Development Team with Experts.*

Leadership must extend across the development team and with the various members involved in the development process. A development team staffed with experts in financing, design, construction, project management and property management are key to the success of an affordable housing development. These extensions of the development team play a critical role in contributing to the success of a project. Likewise, these project players should also be knowledgeable with the affordable housing industry and have prior experience, as well as expertise within their own industries. A well-skilled, experienced development team will have the ability to encounter and combat the unexpected and frequent challenges in affordable housing developments.

6.3 Research Contribution

This research contributes to the limited body of knowledge on critical success factors in affordable housing development. Current affordable housing literature concentrates on a variety of issues like, barriers to homeownership, housing policy, affordable housing policy, housing goals and measuring affordability (Sirmans and Macpherson 2003). Affordable housing

literature often ignores the development process and the intricacies of complex, multifaceted procedures. The delicate social and political issues, multiple project players, and unpredictable financial climate all affect the outcome of affordable housing developments and thus critical factors leading to success should be identified and implemented.

While the construction industry has produced numerous studies relating to the critical success factors of construction projects, project management and collaborative projects, they have been primarily focused on the project leadership, tools and application components. This research study was based on personal interviews with various project players from the development team so that a comprehensive view of the development process could be established. In addition, individual positions ranged from project to executive levels encompassing a broad range of affordable housing expertise and development knowledge. From this study, additional affordable housing development teams can use this information as a resource when they initially plan or during the completion of an affordable housing project.

6.4 Future Research

While this research study adds to the existing literature on affordability housing barriers and critical success factors, a substantial gap still remains. Additional literature that delves deeper into the seven recommendations listed above would serve well to further increase the knowledgebase on these critical success factors. In addition, the following are areas outside the scope of this project yet beneficial to the affordable housing industry and the development process:

- *Public-Private Partnerships.* One of the major themes expressed throughout the interview process was the complexity of affordable housing development and the multiple layers of the development process. While local affordable housing developers

have done a terrific job of providing their surrounding communities with affordable housing projects, the need for such projects still exists. The amount of work left for these developers is immense, yet city growth limits, financial limitations and a lack of available land present make it difficult for these organizations to meet the demand. An area of particular interest is the creation of *Public-Private Partnerships* to attack this social problem and create solutions for the growing housing epidemic. The non-profit sector, in this case local housing authorities and developers are experts in the affordable housing industry and fully understand the resources available. Meanwhile, the private sector, including private developers, commercial builders, etc., have a sound understanding of the for-profit industry and in many cases the financial means or access to financing to commence a project. If a community has a housing need, and the local government has an expressed interest in addressing this need, it makes sense for all parties involved (profit, non-profit, city, community) to come together and create solutions in a formed partnership relationship. As a research participant expressed, if affordable housing is a community goal, why is the development sector the sole provider? A collaborative approach, involving all parties is an area for further research.

- *Design-Build Approach.* A similar, yet distinctive, approach to the aforementioned in addressing the affordable housing need is from a *Design-Build Approach*. Throughout this research study, it was observed that the majority, if not all, projects mentioned during interviews and follow-up conversations were those built with the traditional Design-Bid-Build (D/B/B) delivery system. In the traditional D/B/B delivery system the design and construction phases are separate and sequential activities, thus there is little input from the builder in the design and planning of a project. For an already complex

industry, it would seem that reducing the complication and involving all project team players in the development process, including the design stage, would make more sense for affordable housing. The *Design-Build* (D/B) approach provides the contractor the ability to influence or suggest the project's design by having a say early on. Additionally, a single entity is responsible to the design and construction aspects of a project, providing a 'one-stop-shop.' While the intent of this research is not to argue which project delivery method is better or worse, an area for additional research is using the D/B approach on affordable housing.

- *Fully Integrated Development.* A third area of future exploration is the benefits of a *Fully-Integrated* development organization on affordable housing projects. Also known as full-service development, this approach brings together the development, design, construction and project management capabilities under-one-roof. Only one of the six developers included in this study is currently practicing this approach. With expertise in all phases of development, one would suggest an entity like this is primed to attack the challenges of development. However, the political and social intricacies that face affordable housing may suggest otherwise. The combination of these capabilities coupled with the D/B approach on an affordable housing development is of personal interest for further research.

6.5 Research Limitations

There are several limitations in this study that may have an effect on the findings. First and foremost, is the prolonged time period used to complete this study. Initial work on this research project commenced two years ago in the spring of 2009. During this two-year period, research efforts for the study were lost, delayed and overlooked. The work completed between

literature review, conduction of interviews and written composition was intermittent and completed in segments.

A second limitation is the concentration and usage of interview subjects from Boulder, Colorado. This research study was limited and encompassed the views of individuals whose companies are based and primarily work in the Boulder area. While subjects have expertise operating in other geographical areas, comments and insights on affordable housing were limited in scope to projects and experiences with projects in Boulder, CO. Thus, this made this research project specifically catered to the Boulder experience and cannot be generalized or suggested that such experience is the same across the nation. Therefore the findings and recommendations from this report are limited by the narrow focus on the Boulder experience.

A third limitation of this study was not including additional issues that impact affordable housing development as suggested by several interview participants. These issues include *land costs* and *inclusionary zoning ordinances*. It was suggested that land costs is a significant barrier to development and local inclusionary zoning ordinances often promote and require the addition of affordable housing units or cash in-lieu for all private developments, however neither was included or addressed in this study.

Lastly, a major limitation to this study as described in section 5.2.1 of this report is the implications of industry bias on the identified critical success factors. Additionally, this limitation stems from the fact that not every interview subject rated each individual factor. Since each of the affordable housing barriers and project management factors did not receive complete ratings, their average rating is highly depended upon the individuals that did rate the factor. In some cases, as discussed previously, these ratings are influenced by the importance and dependency to that specific individual or subgroup. Again, a specific example is the CSF,

Community Support, who received high ratings from both developers and city officials but did not in the case of builders. Furthermore, the data analysis of this report did not look at the average ratings within each subgroup, but rather only looked at the average rating from all participants. This proved to be an oversight as further analysis of each subgroup could have provided additional information about all the factors and the CSFs in particular. In summary, the CSFs that were identified in this report are limited to the fact that not all participants rated each specific factor, and the CSFs identified are affected by industry bias.

6.6 Conclusion Summary

The purpose of this study was to determine the critical success factors for successful affordable housing development. Interview participants engaged in the various stages of development provided insight to the challenges and obstacles facing affordable housing projects. Through this study, the results produced a list of critical success factors that provide these individuals, their respective organizations and the affordable housing industry guidance as they attempt to develop these types of projects. While, this study met its objective, further guidance and insight on developing affordable housing could be provided with additional research.

Affordable housing development is indeed a complicated and sensitive issue that faces various social, political and financial issues. Despite the dissimilar political stances in this Nation's Federal, State and Local governments, the American Dream of "decent housing for every American family" still lives. While efforts continue to address the affordable housing gap, the end is still far from sight leaving plentiful opportunities for additional work. Hope still remains for every American family as the struggle to provide affordable housing continues despite these challenges and obstacles confronting it. This study is but a minute attempt to address those challenges with recommendations for successful affordable housing development.

REFERENCENCES

- Abraham, G.L. (2003). "Critical success factors for the construction industry." *Proceedings of Construction Research Congress*, Honolulu, Hawaii, 94-108.
- Ashley, D.B., Lurie, C.S. and Jaselskis, E.J. (1987). "Determinants of construction project success." *Project Management Journal*, 18(2), 69-79.
- Belassi, W. and Tukel, O.I. (1996). "A new framework for determining critical success/failure factors in projects." *International Journal of Project Management*, 14(3), 141-151.
- Boynton, A.C., and Zmund, R.W. (1984). "An assessment of critical success factors." *Sloan Management Review*, 25(4), 17-27.
- Chan, A.P.C., Chan, D.W.M., Chiang, Y.H., Tang, B.S., Chan, E.H.W. and Ho, K.S.K. (2004) "Exploring critical success factors for partnering in construction projects." *Journal of Construction Engineering and Management*, 130(2), 188-198.
- Chan, A.P.C., Scott, D. and Chan, P. (2004). "Factors affecting the success of a construction project." *Journal of Construction Engineering and Management*, 130(1), 153-155.
- Cleland, D.I. and King, W.R. (1983). *Systems analysis and project management*. New York: McGraw Hill.
- Coffey, A. and Atkinson, P. (1996). *Making sense of qualitative data: complementary research strategies*. Thousand Oaks: Sage Publications.
- Corradino, S. and Tran, P. (2005). "Public housing authorities as developers: opportunities and challenges." *Journal of Housing and Community Development*, 62(2), 33-39.
- Downs, A. (1991). "The advisory commission on regulatory barriers to affordable housing: its behaviors and accomplishments." *Housing Policy Debate*, 2(4), 1095-1137.
- Forsyth, A., Nicholls, G. and Raye, B. (2010). "Higher density and affordable housing: lessons from the corridor housing initiative." *Journal of Urban Design*, 15(2), 269-284.
- Fortune, J. and White, D. (2006). "Framing of project critical success factors by a systems model." *International Journal of Project Management*, 24(1), 53-65.
- U.S. Department of Housing and Urban Development. (1991). *Not in my backyard: removing barriers to affordable housing*. Washington, D.C.
- U.S. Department of Housing and Urban Development. (2004). *Why not in our community? Removing barriers to affordable housing*. Washington, D.C.

- U.S. Department of Housing and Urban Development. (2004). *Worst case housing needs 2009: a report to congress*. Washington, D.C.
- Jugdev, K. and Müller, R. (2005). "A retrospective look at our evolving understanding of project success." *Project Management Journal*, 36(4), 19-31.
- Koutsikouri, D., Austin, S. and Dainty, A. (2008) "Critical success factors in collaborative multidisciplinary design projects." *Journal of Engineering, Design and Technology*, 6(3), 198-226.
- Listokin, D. and Listokin, B. (2001). "Asian americans for equality: a case study of strategies for expanding immigrant homeownership." *Housing Policy Debate*, 12(1), 47-75.
- Martens, B. (2009). "A political history of affordable housing." *Journal of Housing and Community Development*, 66(1), 6-12.
- Mayer, N.S. (1991). "Preserving the low-income housing stock: what nonprofit organizations can do today and tomorrow." *Housing Policy Debate*, 1(1), 87-130.
- Miceli, T.J., Sazama, G.W., and Sirmans, C.F. (1994). "The role of limited-equity cooperatives in providing affordable housing." *Housing Policy Debate*, 5(4), 469-490.
- Miles, M.E., Berens, G.L., Eppli, M.J. and Weiss, M.A. (2007) *Real estate development: principles and process, 4th Ed.* Washington, D.C.: Urban Land Institute.
- Nayak, N.V. and Taylor, J.E. (2009). "Offshore outsourcing in global networks." *Journal of Management in Engineering*, 25(4), 177-184.
- Ogorzalek, T. (2004). "On its way back." *Journal of Housing and Community Development*, 61(1), 28-30.
- Patton, M.Q. (1990). *Qualitative evaluation and research methods*. Newbury Park, CA: Sage Publications.
- Pinto, J.K. and Slevin, D.P. (1986) "The project implementation profile: new tool for project managers." *Project Management Journal*, 18(4), 57-71.
- Pinto, J.K. and Slevin, D.P. (1987) "Critical factors in successful project implementation." *IEEE Transactions of Engineering Management*, 9(3), 243-248.
- Rajah-Gibbs, L. (1999). "Good work!" *Journal of Housing and Community Development*, 56(6), 35-43.
- Rockart, J.F. (1982). "The changing role of the information systems executive: A critical success factors perspective." *Sloan Management Review*, 24(1), 3-13.
- Rohe, W.M., Guercia, R.G. and Levy, D.K. (2001). "The performance of non-profit housing developments in the united states." *Housing Studies*, 16(5), 595-618.

Sanvido, V.E., Grobler, F., Parfitt, K., Guvenis, M., and Coyle, M. (1992). "Critical success factors for construction projects." *Journal of Construction Engineering and Management*, 118(1), 94-111.

Sazama, G.W. (2000). "Lessons from the history of affordable housing cooperatives in the united states: a case study in American affordable housing policy." *American Journal of Economics and Sociology*, 59(4), 573-608.

Shank, M.E., Boynton, A.C. and Zmud, R.W. (1985). "Critical success factor analysis as a methodology for MIS planning." *MIS Quarterly*, 9(2), 121-129.

Sirmans, G.S. and Macpherson, D.A. (2003). "The state of affordable housing." *Journal of Real Estate Literature*, 11(2), 133-155.

Tuman, J., Jr. (1986). "Success modeling: A technique for building a winning project team." *Proceedings of the Project Management Institute's Annual Seminar & Symposium*, Montreal, Canada, 94-108.

Wallace, J.E. (1995). "Financing affordable housing in the united states." *Housing Policy Debate*, 6(4), 785-814.

Westerveld, E. (2003). "The project excellence model: linking success criteria and critical success factors." *International Journal of Project Management*, 21(6), 411-418.

de Wit, A. (1988). "Measurement of project success." *International Journal of Project Management*, 6(3), 164-170.

APPENDIX A

INTERVIEW GUIDE

A. Intro and Background Information:

Hello (Mr./Ms.) _____, thank you for taking the time to speak with me today. Let me begin this conversation by introducing myself. My name is Jaime Morales. I am a 2nd year graduate student at the University of Colorado, working towards completion of my Master's degree in Construction Engineering and Management. Currently, I am in the process of finalizing my master's thesis. My topic of research is *Affordable Housing Development* and I am specifically interested in attempting to identify "Critical Factors" that are essential for the **successful** realization of a development project.

B. Interview Goals and Objectives:

By the end of this interview, my goal is to have a better understanding of the affordable housing development process and identify the factors that lead to a successful development process.

Specifically, my objectives are to:

- 1) Narrow my list of key "critical factors" to 12-15 issues.
- 2) Obtain three additional resources for further research.
- 3) Receive three contacts for future interviews.

C. Interview Questions

Section #1 – Preliminary Affordable Housing Factors

Q1: I have identified the following factors as key barriers to Affordable Housing Development, would you agree with this list? Why or why not?

- Read list of factors. (Show list)

Q2: Please rate the list on a scale from 1-10, with 10 being the most pressing and 1 the least.

- Explain reasoning.

Q3: Are there any additional factors I have missed that you would include on the list?

- If so, identify factors and explain.

Section #2 – Preliminary Organization/Communication Factors

Q4: In addition to the Affordable Housing factors from the previous section, I have identified these communication/project factors as key components of a developments success. Would you agree with this list? Why or why not?

- Read list of factors. (Show list)

Q5: Please rate the list on a scale from 1-10, with 10 being the most pressing and 1 the least

- Explain reasoning.

Q6: Are there any additional factors I have missed that you would include on the list?

- If so, identify factors and explain.

Section #3 – Moving Forward

Q7: In addition to the barriers mentioned above, are there other additional challenges I have not addressed?

- Such as political, social and/or financial hurdles?

Q8: What do you think are the biggest challenges organizations/businesses like yourself must overcome to provide affordable housing?

Q9: In your opinion, what is the best strategy to implement an affordable housing development/project?

Section #4 – Conclusion

Q10: Is there anything you believe I failed to mention or address?

Q11: Do you have any lasting comments, suggestions or questions for me?

Q12: Can you please provide me with three recommendations of sources (books, journals, articles, organizations, websites, etc) that you believe will help me with further research?

Q13: Lastly, can you please provide me with three additional colleagues in the realm of Affordable Housing that I can interview in the future?

I certainly do appreciate your time (Mr./Ms.) _____. Thank you very much for helping me with my research and answering my questions. Should you think of anything else at a future point in time, please do not hesitate to inform me. Also, should you have any questions for me, please do not hesitate to ask. Thanks again for your time. Have a great day!!

APPENDIX B

AFFORDABLE HOUSING BARRIER DESCRIPTIONS

- 1) **NIMBY Syndrome (Community Level)** – Intentional barriers implemented into local codes and ordinances, such as growth controls, exclusionary zoning ordinances, etc.
- 2) **NIMBY Syndrome (Immediate Level)** – Anti-affordable housing sentiment from neighbors, citizens, business, politicians often leading in protests and stressful public hearings.
- 3) **Growth Controls** – Measures used by communities to secure “their borders” against new development; such as: downsizing to increase lot size; zoning tracts for agricultural use; caps on building permits; tying growth to infrastructure needs, etc.
- 4) **Exclusionary Zoning** – Local zoning ordinances that prescribe land uses, densities and building heights.
- 5) **Inclusionary Zoning** – Zoning variances used to relax zoning restriction on developers in lieu of cash, density or units.
- 6) **Excessive Subdivision Controls** – Ordinances that regulate the physical and design characteristics of new housing, or require onsite and offsite improvements. Such as: wide side-yard setbacks; infrastructure additions and/or repair; capital improvements.
- 7) **Impact Fees** – Fees imposed on developers to pay for infrastructure and public services associated with new developments.
- 8) **Site Review Process** – Often a burdensome, long-lasting approval process that involves multiple overlapping jurisdictions and review parties.
- 9) **Infill Development (Urban Rehab)** – Opportunities for rehabilitation and infill development are restricted, banned or not supported under municipal ordinances or officials. Such as delays in acquisitions, historic preservation, building codes, etc.
- 10) **Rent Control** – Regulations that prevent rents from rising, thus keeping occupants in place for longer periods preventing residential mobility.
- 11) **Restrictions on Low Cost Housing (Building Codes)** – Building and housing codes that are often outdated, inadequate, dissimilar from jurisdiction to jurisdiction, poorly administered.

- 12) **Restrictions on Types of Housing** – Regulatory restrictions on types of housing thus prevent the use of alternate housing types such as: manufactured housing, modular housing and/or accessory housing.
- 13) **Environmental Regulations** – Barriers used to protect the environment that raise the cost of housing, interject costly delays and overlapping jurisdictions with separate requirements.
- 14) **Wetlands** – Barriers raised by wetland regulation through definitional problems, multiple administrative procedures and jurisdiction and a complex Federal permitting process.
- 15) **Endangered Species Act** – Development curtailed by environmental protection agencies making buildable land more scarce and diminishing prospects.
- 16) **Timber Production (Construction Costs)** – Limited supply and high costs of building materials (wood). Restrictions or bans of material through design regulations, codes.
- 17) **Financial Market Condition** – A volatile and unpredictable finance market, including but the housing finance market/system.
- 18) **Tax Benefits (LIHTC)** – A complex and overlapping system providing developers tax credits.

APPENDIX C

PROJECT MANAGEMNT FACTOR DESCRIPTIONS

- 1) **Clearly Defined Goals** – “General project philosophy and/or general mission of the project is clearly defined. As well as commitment to those goals from the project team members.”
- 2) **Competent Project Manager** – “The importance of a skilled (interpersonally, technically and administratively) project leader.”
- 3) **Top Management Support** – “Support from top or divisional management for the project and has been conveyed to all concerned parties.”
- 4) **Competent Project Team Members** – “Selecting and having skilled project team members.”
- 5) **Sufficient Resource Allocation** – “Resources in the form of money, personnel, logistics, etc. are available for the project.”
- 6) **Adequate Communication Channels** – “Information is available and readily disseminated on project objectives, status, changes, organizational coordination, client’s needs, etc.”
- 7) **Control Mechanisms** – “Mechanisms such as, planning, schedules, plans are readily in place to deal with initial objectives.”
- 8) **Feedback Capabilities** – “All parties concerned with the project are able to review project status, make suggestions, and/or corrections through formal feedback channels or review meetings.”
- 9) **Responsiveness to Clients** – “All potential users of project are consulted with and kept up to date on project status. Clients receive assistance after the project has been successfully implemented.”
- 10) **Experienced Team Members** - “Team Members who have extensive work experience with the specific industry or type of project.”
- 11) **Community Support** – “Political, financial or moral support from the local and/or surrounding communities.”
- 12) **Appropriate Design** – “Project design is fitting with community and appropriate for users.”

- 13) **Highly Functional Board** – “If a Board of Directors is in place, having a group of highly functional, motivated and supportive members to provide project assistance with vision and direction.”
- 14) **Conflict Resolution** – “Appropriate mitigation methods are in place or readily available to resolve any conflicts with parties involved with project. May extend to legal methods if necessary.”

APPENDIX D

AFFORDABLE HOUSING BARRIER RATINGS

Please rate the following factors on a scale from 1 (least pressing) to 10 (most pressing).

- 1) NIMBY Syndrome (Immediate Level) Rate# _____
- 2) NIMBY Syndrome (Community Level) Rate# _____
- 3) Growth Controls Rate# _____
- 4) Exclusionary Zoning Rate# _____
- 5) Inclusionary Zoning Rate# _____
- 6) Excessive Subdivision Controls Rate# _____
- 7) Impact Fees Rate# _____
- 8) Site Review Process Rate# _____
- 9) Infill Development (Urban Rehab) Rate# _____
- 10) Rent Control Rate# _____
- 11) Restrictions on Low Cost Housing (Building Codes) Rate# _____
- 12) Restrictions on Types of Housing Rate# _____
- 13) Environmental Regulations and Affordable Housing Rate# _____
- 14) Wetlands and Affordable Housing Rate# _____
- 15) Endangered Species Act and Affordable Housing Rate# _____
- 16) Timber Production (Construction Costs) Rate# _____
- 17) Financial Market Conditions Rate# _____
- 18) Tax Benefits (LIHTC) Rate# _____

APPENDIX E

PROJECT MANAGEMENT FACTOR RATINGS

Please rate the following factors on a scale from 1 (least pressing) to 10 (most pressing).

- 1) Clearly Defined Goals Rate# _____
- 2) Competent Project Manager Rate# _____
- 3) Top Management Support Rate# _____
- 4) Competent Project Team Members Rate# _____
- 5) Sufficient Resource Allocation Rate# _____
- 6) Internal Communication Channels Rate# _____
- 7) Control Mechanisms Rate# _____
- 8) Feedback Capabilities Rate# _____
- 9) Responsiveness to Clients Rate# _____
- 10) Experienced Project Team Members Rate# _____
- 11) Community Support Rate# _____
- 12) Appropriate Design Rate# _____
- 13) Highly Functional Board Rate# _____
- 14) Conflict Resolution Rate# _____