

Vacant and Underutilized Land in Boston

By

Alison E. Mori

**Bachelor of Arts in Social Ecology
University of California, Irvine, 1992**

**Master of City Planning
University of Pennsylvania, 1995**

Submitted to the Department of Architecture in Partial Fulfillment of the Requirements for the Degree of

Master of Science in Real Estate Development

At the
Massachusetts Institute of Technology

September 2004

© 2004 Alison E. Mori. All rights reserved.
The author hereby grants to MIT permission to reproduce and to distribute publicly paper
and electronic copies of this thesis document in whole or in part.

Signature of Author: _____

Alison E. Mori
Department of Architecture
August 6, 2004

Certified by: _____

Dr. Lynn Fisher
Assistant Professor of Real Estate

Accepted by: _____

Dr. David Geltner
Chairman, Interdepartmental Degree Program in Real Estate Development

Vacant and Underutilized Land in Boston

By

Alison E. Mori

Submitted to the Department of Architecture
on August 6, 2004 in Partial Fulfillment of the Requirements for the Degree of
Master of Science in Real Estate Development

Abstract

This paper considers how to define “vacant” and “underutilized” land by looking to various concepts employed by urban planners and real estate professionals. Geographic Information Systems (GIS) is then used to observe the assessed property tax value, current use and zoning constraints of parcels as compared to neighboring land in the South End neighborhood of Boston, Massachusetts. Case studies of three specific pieces of real estate are examined to help identify the constraints faced by sample parcels and to compare to assessment findings. Finally, a brief summary of select recommendations to deal with such urban real estate is offered in light of the case evidence.

The concept of vacant land often calls forth negative images of despair and decay, but this is due to the fact that underutilized land frequently is not identified until it has already become a problem. In truth, such land can be an asset just as much as a detriment for cities as they have the power to lend to or detract from the economic health and perception of a city. By looking at assessment data and other qualitative factors, planners, real estate professionals and economists can begin to systematically identify such land, understand why it is held in an underutilized state and thus create more efficient and effect methods of dealing with potential problem parcels.

Thesis Supervisor: Dr. Lynn Fisher
Title: Assistant Professor in Real Estate Development

Acknowledgements

I extend my deepest gratitude to the following individuals:

To Dr. Lynn Fisher, for guiding me through the thesis process with great understanding and intellect.

To Andrew Hart, for all of the time he gave to me without complaint, his willingness to teach, his amazing GIS skills and most of all, his friendship.

To David Hilde, undergraduate extraordinaire, for his STATA skills, support and kindness.

To Claire Lane, for kindly and thoroughly answering every question that I could possibly have about Boston's assessment data.

To all of the individuals who generously provided information and data to make this study possible. And especially to my family for their support and the inspiration they provide.

Table of Contents

Introduction	5
Chapter 1: What is Underutilized Land?	6
The Planner's View	8
The Real Estate Professional's View	10
Chapter 2: Why are Parcels Underutilized?	12
Chapter 3: Should Cities Care About Underutilized Land?	14
Boston and the South End	15
The Story of the South End	16
Data & Methodology.....	18
Findings.....	22
Boston and the South End: General Information	23
The Implications of Zoning	24
Land Use	26
Assessed Land Values	27
The Lowest Valued Parcels.....	30
Lot Size	33
Applied Case Studies.....	35
Case Study 1: The Alexandra Hotel & Ivory Bean Row House	36
Case Study: Hite Radio and Television Company.....	39
Case Study 3: Olympia Flowers	42
Chapter 4: Conclusion	46
Appendix	49
Works Cited	62

Introduction

The positive economic conditions of the late 1990's and the low interest rates of recent years have made real estate investment and development attractive throughout the United States. Though suburban population growth has exceeded that in most city centers, many downtowns have experienced an urban renaissance.¹ Numerous cities like Boston, Massachusetts, experienced substantial growth. Even the central business districts of some shrinking municipalities such as Philadelphia, Pennsylvania, saw increases in population during the 1990's². New residential, retail and commercial developments have transformed areas that once tipped on the brink of failure into vibrant business and residential communities. The result has been increases in property values, revenues and development.³ Still, even within these epicenters of urban revitalization, certain parcels that would seem seasoned for development stay untouched.

Ask local developers and planners where these target lots in hot areas are and most can tell you. However, the causes for land remaining underutilized are not always as clear cut. What makes these parcels underutilized? What obstacles keep the land from reaching its maximum potential and are these parcels rationally held vacant? Should cities worry about apparently underutilized land?

While many of the individual reasons are far from unique, it seems that numerous parcels face a complex combination of challenges with respect to development. This paper will consider how to define "vacant" and "underutilized" land by looking to various concepts employed by urban planners and real estate professionals. Next, Geographic Information Systems (GIS) will be used to observe the assessed property tax value, current use and zoning constraints of parcels as compared to neighboring land. Case studies of specific pieces of real estate within the urban core of Boston, Massachusetts then will be examined to help identify the constraints faced by sample parcels. Finally, a brief summary of select mechanisms to deal with such urban real estate will be considered in light of the case evidence.

¹ Rebecca R. Sohmer and Robert E. Lang, *Downtown Rebound*. Washington, D.C.: Brookings Institution and Fannie Mae Foundation, 2001 as reported by Paul C. Brophy and Jennifer S. Vey, *Seizing City Assets: Ten Steps to Urban Land Reform*. Washington, D.C.: Brookings Institution and CEO's for Cities, 2002.

² U.S. Census Bureau, 2000

³ Center City District and Central Philadelphia Development Corporation, *State of Center City*. Philadelphia, PA: 2004

Chapter 1: What is Underutilized Land?

Underutilized land is a cloudy and somewhat elusive concept, meaning different things to different people. For some, it is simply vacant land, a seemingly basic term until you scratch beneath the surface. Indeed, vacant land can be a multitude of things from beaches, wetlands, community gardens, parks, and farmland to parking lots, abandoned buildings, empty lots and inactive industrial sites, just to name a handful of possibilities. For others, the notion of underutilized real estate extends even further beyond vacant land to encompass all properties that can be put to a higher and better use, whether it is from a financial, community, social and/or economic standpoint. Underutilized land can be a parking lot that would better serve the community as a grocery store, a use that would reduce negative externalities to the community and/or a property that brings in more income to its owner. It is even more subjective and difficult to define.

According to a 2000 study of 99 American cities conducted by Ann O'M. Bowman and Michael Pagano for the Brookings Institution Center on Urban and Metropolitan Policy and CEO's for Cities, no formal standardized classification system exists for "vacant" and "underutilized" land that is employed across multiple municipalities. It seems that most local governments lack accurate, up-to-date inventories of the land within their borders. In fact, only 83 of the 99 participating cities in the Bowman Pagano study were able to provide any sort of data on vacant and abandoned structures whatsoever. In most cases, methods of data collection are reactive and often technologically behind. Cities frequently learn of abandoned buildings through informal channels such as "call from neighbors" and a mere 56% of those respondents that have vacant land data make use of computerized systems to track it. Furthermore, of those city agencies that monitor such space, designation frequently refers mainly to different types of underutilized parcels. These lands may include "perimeter agricultural or uncultivated land; recently razed land, derelict land; land with abandoned buildings and structures; brownfields; greenfields" in addition to "small or irregularly shaped parcels left over from earlier development," physically limited parcels that can not be developed due to "steep slope or flood hazard," and land in "temporary use." No real distinction is made amongst unutilized, underutilized, vacant and abandoned properties. Added complications are caused by the variations in interpretation by different officials within the same city, causing further discrepancies in program applications and land strategies. With a lack of reliable data and inconsistent definitions, the effectiveness of many municipal policy initiatives is weakened.

The federal government fares only slightly better in offering a systematic evaluation of underutilized land. In 2002, the United States General Accounting Office released a report on vacant and underutilized properties owned by the General Services Administration (GSA), the Department of Veterans Affairs (VA) and the U.S.

Postal Service (USPS). The report states that individual federal agencies are responsible for monitoring their own inventories but, similar to many municipalities, no centralized record of underutilized and vacant properties exists. Each agency identifies vacant and underutilized parcels primarily through their in-the-field real property officials who manage the portfolios. The VA and USPS do not use actual definitions to assist staff with classifying the land. Instead, both agencies rely upon the judgment of field staff through their daily management, communications with tenant representatives and annual real property reviews assessing future space needs.

Only GSA has formal definitions for vacant and underutilized real estate. The GSA Federal Property Management Regulations define “not utilized” or vacant property as “an entire property or portion of a property that is not occupied or used for current program purposes of the accountable agency or property that is occupied in caretaker status only.” “Underutilized” real estate is defined as “an entire property or portion of a property that is used only at irregular periods or intermittently by the accountable agency or property that is being used for the agency’s current program purposes that can be satisfied with only a portion of the property.” (41 C.F.R. Subpart 101-47.8)⁴ GSA property officials use the definitions as guidelines to classify properties along with the information they gather via their day-to-day activities.

The federal government recognizes the need to restructure its portfolios to address the maintenance costs and lost opportunities of continuing to hold many of these assets. However, no coordinated efforts are underway amongst the three agencies. This is perhaps due to the various different budgetary constraints and laws governing each specific agency that act as disincentives for agencies to proactively deal such real estate. In its report, the GAO recommends a “comprehensive and integrated real property transformation strategy that, among other things, could identify how best to realign and rationalize federal real property and dispose of unneeded real property assets.”⁵ This has yet to be done.

Clearly, at both the local and federal government level, the definitions of “vacant” and “underutilized” land differ, but they also vary in and amongst professions. What may be viewed as “underutilized” space that detracts from the community in a planner’s eyes may be the “highest and best use” as defined by the property owner. Real estate professionals may have yet another vision of what is optimal for a piece of land given their set of goals, timing and market conditions.

⁴ United States General Accounting Office (GAO), *Federal Real Property Vacant and Underutilized Properties at GSA, VA and USPS*. GAO Report to Congressional Requesters; August, 2003. p. 1

⁵GAO, p. 24

The Planner's View

The planning profession looks not only to evaluate the general financial condition of the parcel itself, but also to the externalities imposed upon the neighborhood in determining the underutilization of parcels. Many of these impacts are difficult to quantify or standardize as the focus is beyond the property and may be subjective to the neighborhood. For example, just a few of the elements that planners look to evaluate may include a site's sense of place, the perception of safety and economic well-being offered, the impact on the sense of community and fit within the existing urban context, all of which are very hard to assign consistent values to. Even some of the more quantitatively-oriented effects such as a parcel's influence on neighboring property values, job creation and its economic multiplier effect can be quite challenging to figure. Because of this, the planning profession is frequently limited to using broad municipal regulations in an attempt to reduce negative and increase positive externalities. Most of these laws, nonetheless, do not deal directly with underutilized land until it is vacant or abandoned.

The official national professional organization for city planners in the United States is the American Planning Association. Their publication, *A Planner's Dictionary*, a collection of official terms used by urban planners throughout various U.S. municipalities, does not offer a definition of "underutilized" real estate. Two definitions are given for "vacant land:"

1. *Lands or buildings that are not actively used for any purpose (California Planning Round Table, CA);*
2. *A lot or parcel of land on which no improvements have been constructed (Leesburg, VA).⁶*

The City of Philadelphia also does not define underutilized land. Unlike many municipalities, however, the official city code directly addresses the negative impact of vacant and abandoned properties. The code defines a "vacant lot" as:

Any property which:

1. *is unimproved or contains no buildings that are in compliance with all provisions of The Philadelphia Code relating to the health or safety of citizens; and*
2. *has a lien for demolition of any structures by the Department of Licenses and Inspections.*

"Abandoned" properties are defined as:

Any property that is not a vacant lot, as defined in this Section; and which has:

1. (a) either:
 - (i) remained continuously unoccupied during the privilege year and for the prior four calendar years; or
 - (ii) has been licensed as *vacant* for the entire privilege year in accordance with the provisions of Section

⁶ Michael Davidson and Fay Dolnick, *Planners' Dictionary – PAS #521/522*. Washington, D.C. American Planning Association Advisory Service, 2004.

- PM-102.4 of Title 4 of The Philadelphia Code; and either
- (b) (i) (in the case of property containing one or more buildings used in whole or in part for one or more dwelling units immediately prior to the time such property became *vacant*) has been under continuous designation as a public nuisance pursuant to Section PM-307.0 of Title 4 of The Code during the privilege year and for the year immediately preceding the privilege year; or
 - (ii) (in the case of property containing one or more buildings none of which were used in whole or in part for one or more dwelling units immediately prior to the time such property became *vacant*) has been under continuous citation by an agency of the City for violation of Philadelphia Code provisions relating to the health or safety of citizens during the privilege year and for the year immediately preceding the privilege year; or
 - (iii) (in the case of land not containing any building) has been continuously under citation for violating Section PM-102.4 or PM-302.0 of Title 4 of The Philadelphia Code during the privilege year.
2. *Continuously Unoccupied.* Any property which is listed during the entire privilege year as *vacant* in the records of the Board of Revision of Taxes, or is designated by the Department of Licenses and Inspections as *vacant* during both the privilege year and the year immediately preceding the privilege year, shall be deemed continuously unoccupied during the privilege year.
 3. *Privilege Year.* The twelve (12) month period corresponding to the calendar year.
 4. *Actively Marketed.* Means good faith efforts by the owner of the property to obtain one or more occupants of the property. Such good faith efforts may include (without limitation) one or more of the following:
 - (i) making substantial financial expenditures, in comparison with the value of the property; or
 - (ii) listing the property for sale or lease, or both, with one or more real estate brokers, for a price and on terms, or for a rental, that is realistic considering the fair market or fair market rental value of the property; or
 - (iii) advertising (using one or more signs on the property and at least one other medium) the availability of the property for sale or rental for a price and on terms, or at a rental, that is realistic considering the fair market value or fair rental value of the property.
 Sporadic attempts to sell or lease the property during the privilege year may be viewed as not constituting a good faith marketing effort.

By clearly defining abandoned properties and addressing the negative externalities of such real estate in its code, Philadelphia planners have a potential mechanism to more efficiently deal with the problem land by setting standards that owners must comply to. The ordinance may act as somewhat of a deterrent to keep people from severely neglecting their assets and can allow for official designation that can lead to the disposition of the land. Nevertheless, the code is aimed primarily at the back end, dealing with underutilized properties only after they have tipped past vacancy into abandonment. By then, the negative externalities likely already have made a deep impact. In addition, the code is only as effective to the degree that it is enforced and complied with.

Philadelphia's ordinance seems to make a real effort at addressing the impact of derelict land in a somewhat of a measurable way ex post, thus meeting the goal of the planner to look at effects beyond property lines. This indeed is rare as evidenced by the Bowman Pagano study, the APA dictionary and independent research. But, perhaps due in part to the fact that many of the externalities imposed are not systematically quantifiable and

because of the politics and legal wrangling involved, many of the tools that most planners are left with to address underutilized, vacant and abandoned properties seem to result in inefficient dealings and can actually put urban planners at odds with real estate professionals in evaluating what exactly makes a site underutilized.

The Real Estate Professional's View:

Real estate appraisal and development professionals fundamentally center on the financial concept of the "highest and best use" of a property as the use that maximizes its profit-making capacity. Highest and best use is "the legally permissible and physically possible use that generates the highest residual income to the property over a reasonable period of time."⁷ Hence, any real estate that is not the highest and best use qualifies as underutilized.

Real estate appraisers estimate the value of land by analyzing four factors:

1. The allowed land use (typically governed by zoning);
2. The physical capability of the site;
3. The market revenue generated by each legally permitted and physically possible use;
4. The residual income derived by subtracting expenses from revenue estimates.

To determine the highest and best use of a vacant site, the appraiser establishes the value of the land *as vacant*, investigating all of the "legally permitted and physically feasible land uses that the site can accommodate."⁸ Legal limitations can be both private and public. Private constraints can include legally non-conforming uses that have been grandfathered in and environmental constraints. Zoning controls are the most prevalent form of public legal restrictions.⁹ Here, planning and real estate development intersect and sometimes conflict. Regulations designed to reduce negative externalities and promote general welfare can delay and limit development, having both positive and negative consequences for the community and developers alike. While added reviews and requirements can create better projects, it can also limit or keep development from happening. Aside from the legally permitted uses, specific uses may also be prohibited strictly by the physical characteristics of the site, which fundamentally must be excluded. The appraiser then analyzes the costs and revenue for different uses for

⁷ Donald R. Epley, Richard L. Haney, Jr., Joseph S. Rabianski, *Real Estate Decisions*. South-Western Thomson Learning; Cincinnati, OH; 2002. p.107.

⁸ Epley, Haney, Rabianski, p.108.

⁹ Kenneth M. Lusht, *Real Estate Valuation Principles & Applications*. Times Mirror Higher Education Group, Inc. Company; Chicago, IL, 1997. p. 68

the site, employing comparables or discounted cash flows to calculate a return. The highest and best use is that which generates the most income.

If the land is improved, the appraiser also must take this into consideration as the highest and best use of the land *as improved* may require existing investments to be removed or enhanced. The appraiser must not only evaluate the land as vacant, but also must analyze the property with the continuation of the existing uses and as further improved. The costs of demolishing or improving the existing assets need to be included in the financial analysis.¹⁰ Again, multiple uses are tested against the legal and physical constraints of the property and taken through the four-step process. Whether the land is made vacant, kept in its same condition or improved, the highest and best use is that which the financial analysis states will generate the greatest return given the cost of redevelopment or improvement.

Maximum potential use is determined by a myriad of variables and judgments such as required return, market timing and investor risk preferences. To make the appropriate decisions in their analyses, appraisers assume a known world in determining a highest and best use. This view can be rather myopic if it does not take into consideration the option value of waiting to develop the land and unknown future market movements. In addition, the concept of highest and best use is strictly limited to the site and does not include consideration to the externalities imposed on the surrounding community, contrary to the planning profession.

¹⁰ John B. Corgel, Ph.D., David C. Ling, Ph.D., Halbert C. Smith, DBA, *Real Estate Perspectives: An Introduction to Real Estate*. McGraw-Hill Higher Education; New York, NY. 2001. p. 255.

Chapter 2: Why are Parcels Underutilized?

Despite the murky nature of the term “vacant” and the even hazier meaning of “underutilized” real estate, the words often call forth images of decay, disinvestment and desperation, especially since these parcels frequently do not garnish attention until they have become problematic.¹¹ In reality, as we have seen from more closely examining the various types of land classified as underutilized and vacant in the Bowman Pagano study, this land can also be an asset and can offer amazing potential and opportunities. But, why are these parcels underutilized? What is keeping them from capturing that potential?

Respondents to the Bowman Pagano vacant land survey were given six criteria to choose from in answering why the land remained vacant or underutilized. They included: 1) Oversupply; 2) Undersupply; 3) Vacant too long; 4) In the wrong location; 5) Odd-shaped parcels; 6) Not assembled in sufficiently large parcels.

Across cities, parcels were viewed to be limited primarily by three characteristics. The parcels were: 1) not large enough (56% of respondents); 2) odd-shaped (45% of respondents); or 3) in the wrong location (44% of respondents). The land staying vacant for “too long,” (stigma attached due to extended vacancy for various reasons) was stated by 26% of responding cities, while 28% of cities identified “other” conditions such as the “holding of vacant land for speculative purposes, the presence of brownfields, or the existence of infrastructure problems.”¹²

The Bowman Pagano survey leads us to believe that the reasons parcels are underutilized can be tied to the location of the property or to the owner. Unmistakably, there are observable obstacles to development that are tied to location. They include zoning/regulation constraints, physical conditions (flood plains, steep slopes, oddly shaped parcels, environmental contamination, etc.), lot size, infrastructure provision and overall market conditions (oversupply, undersupply, situated in the wrong location). While unique to the property, most of these are measurable.

Properties that are being held in an underutilized state for reasons specific to the owner may include the owner’s perception of the market/speculation, lack of development expertise, institutional and organizational issues and goals, long-term assembly and use strategies, absentee landlords, sentimental or familial ties and history (poor

¹¹ Ann O’M. Bowman and Michael A. Pagano, *Terra Incognita: Vacant Land and Urban Strategies*. Georgetown University Press, 2004. p. 4.

¹² Michael A. Pagano and Ann O’M. Bowman, *Vacant Land in Cities: An Urban Resource*. The Brookings Institution Center on Urban and Metropolitan Policy and CEO’s for Cities; December, 2000. p. 7.

associations with a negative event, the site has been vacant for too long, etc.). Unlike those reasons associated with location, these are difficult to benchmark and can be incredibly subject to the owner.

There is another possible explanation beyond the framework set forth by the Bowman Pagano survey that is tied to both the owner and location. It is the option value theory of development. There are two main models that attempt to explain the phenomena of underutilized land.

The dynamic deterministic model of option value theory of development argues that underutilized land exists in every city for a real reason. Underutilized land is held in its current state due to the expected growth in future rents or values. Property owners are making a rational decision to not develop currently because there are “dynamic considerations in the urban economy (that) can make it optimal to hold land vacant for some time, even though there exists a project that could currently be built that would be worth more than its construction cost.”¹³ In other words, building in the future will be even more profitable than building today, including construction costs. For example, a new highway will provide greater access to a site and the allowable floor-to-area ratio is slated to increase in one year’s time. Certainly, a greater demand and density will increase the value of the real estate if the owner develops in a year, when the changes have taken place. To develop today might sacrifice that revenue. Once the option to develop has been exercised, it can not easily be undone given the investment involved and the durability of construction. So, there is value in waiting. A major flaw of the dynamic deterministic model, however, is the assumption of a known universe with perfect foresight. Owners are able to perfectly predict all future real estate values (i.e. the value of real estate after the highway has been built and density regulations changed), ignoring uncertainty.

The second model, the financial option price model of vacant land value, centers upon the “call option” of land given uncertainty. Here, the value in the underutilized land lies within the call option on the land the owner holds. The owner has the right but not the obligation to develop land at a strike price that is equal to the development costs of the project. As a result, the owner can “profit from the upside of risk in the underlying asset without exposing themselves to the downside, such uncertainty may give value to the land over and above the net present value of the current best-project that could be built on it.”¹⁴ By keeping the land underutilized, the owner is holding the land rationally, strategizing to avoid loss and maximize gain.

¹³ David Geltner, *On the Use of the Financial Option Price Model to Value and Explain Vacant Urban Land*. AREUEA Journal; Vol. 19; No. 2; Cincinnati, OH; February, 1989. p. 143.

¹⁴ Geltner, p. 143.

Chapter 3: Should Cities Care About Underutilized Land? Searching for a Systematic Indicator

Given the wide array of reasons that underutilized parcels exist and with the concept put forth by option theory that vacant land exists as a result of individuals acting rationally, should cities care about such land? According to Bowman and Pagano in their 2004 book, *Terra Incognita*, municipal policy choices are driven by "...a fiscal need to generate resources and to keep the city's fiscal position strong, a social need to create stable neighborhood and sectors and to protect property values, and a development need to ensure and enhance the economic vitality of the community."¹⁵ Underutilized land seems to play a critical role as both an asset and a detriment in meeting these goals. These parcels have the power to lend to or detract from the health and perception of a city, whether in isolation or en masse.

Consider a modified version of Bowman and Pagano's simple example of a once successful shopping center to explain the effects of underutilized space. A shopping center is filled with a wide variety of popular stores. Store closings, regardless of reason, lead to less desirable tenants moving in. Soon, the traffic to the center decreases and vacancies begin to occur. The vacancies beget vacancies as fewer shoppers come, weakening the economic viability of the locale. Maintenance is therefore cut back and soon the property falls into disrepair. The state of the shopping center cycles further downward. Without new investment, the center becomes vacant, signaling distress.¹⁶ Underutilized land in successful urban environments may not pose such a dismal story, but such land, especially vacant and abandoned parcels, has the potential to act as such a catalyst. At minimum, it certainly can stunt economic investment from spreading and delineate communities.

For many older urban cities that are geographically constrained, like Boston, underutilized and vacant properties can also be a tremendous opportunity for cities to pursue a vision of what it desires to be. Underutilized land in large amounts presents opportunities for substantial new, well-planned development.¹⁷ Isolated sites can also have dramatic impacts by reinforcing connections, linking communities, increasing property values and fostering economic investment.

In order to deal with such important parcels, a systematic method of categorizing underutilized land should be very important to almost all municipalities. With so many variations in definitions, measurements and models, however, a quantifiable solution to aid in the evaluation of underutilized land is sought. Rigorous study is

¹⁵ Bowman and Pagano, p. 23.

¹⁶ Bowman and Pagano, p. 2.

¹⁷ Bowman and Pagano, p. 4.

unquestionably required to find such a solution. Nonetheless, in a first pass attempt, reliable city-wide quantifiable data associated with limited location-based attributes can be analyzed for possible benchmarks to begin the process.

Generally, cities that collect substantial income via real estate taxes have thorough and accurate records for the incentive of maximizing income. Many cities, like Boston, Massachusetts, assess land and property based upon current market values. Assuming that assessors are systematically evaluating real estate using the same methodology limiting interpretation bias, can the assessed values of real estate in part or whole be possible indicators of underutilization where assessments are based upon market value? In order to examine a possible relationship between assessments and underutilization, property ownership data were obtained for 144,163 units in Boston, Massachusetts. Quantitative findings were then compared to select parcels as identified by various urban planning and real estate development professionals in the South End neighborhood of Boston.

Boston and the South End

The unofficial capital of New England, Boston was selected as the subject city due to its rich history, perceived lack of vacant available development parcels, strong demand for housing, thriving neighborhoods and available land-related data. To examine underutilized parcels specifically within economically healthy areas, focus was narrowed to a recently successful area of the city, the South End. Though the South End has undergone a major urban transformation, becoming one of Boston's most popular neighborhoods, a handful of underutilized parcels in prime locations continue to exist, leaving many questions to question why they remain in such a state.

The Story of the South End



An Early Map of the South End
The South End was known as the "Boston Neck" connecting Boston with mainland Massachusetts. Image courtesy of the South End Historical Society and the Society for the Preservation of New England Antiquities. Date unknown.

Boston was settled in 1635 on the Shawmut Peninsula. The area was originally occupied by Native Americans and then by colonists who established the city. Originally, the South End was a narrow piece of land connecting Boston to mainland Massachusetts. In the nineteenth century, however, the growing colonist population and scarcity of vacant land in Boston led officials to grant private developers permission to create new land mass by filling portions of the city's rivers, marshes and harbor to accommodate growth.¹⁸ Hence, land was added to both sides of Washington Street, the main commercial corridor of the area, allowing the South End to grow into a residential neighborhood. Substantial portions of the Back Bay and of Beacon Hill also were created by landfill at this time, which would eventually pull many residents out of the South End to those tonier neighborhoods.¹⁹

With the introduction of the horse-drawn streetcars and the creation of new neighborhoods, the middle-class left the South End. The area then became the entry neighborhood to diverse groups of working-class immigrants just arriving to the States.²⁰ After World War II, suburbanization trended through America and the South End, like many older urban neighborhoods, lost residents. By the 1940's, the area had gained the reputation of being unsafe and undesirable. From 1950 to 1970, the South End suffered a major exodus, its population falling from 57,218 to 22,495 residents.²¹

¹⁸ Bob Wells, Personal Interview, South End Historical Society, 28 July 2004

¹⁹ Bowman and Pagano, p. 23

²⁰ Washington Gateway Main Street, Inc. Historic Panel Program, 2002.

²¹ Washington Gateway Main Street, Inc. *Historical Perspective*, 2004.

In 1965, the South End was officially designated as an Urban Renewal Area. Though well-intended, urban renewal took more than fifteen acres of land during the 1960's and 1970's, uprooting residents, demolishing structures and leaving behind at least seven acres vacant lots that would sit fallow for decades. In 1985, the Orange Line public transit rail service that ran along Washington Street was discontinued. The ominous, abandoned elevated tracks cast a shadow on the neighborhood. By this time, much of the South End had become an urban "wasteland where no one wanted to come," characterized by prostitution, drug sales and derelict lots.²² The perception of the area, market conditions and the lack of vision and leadership for the area made it difficult to attract investment.

Though the South End seemed to be at its lowest point, many of the area's urban pioneers and community activists remained dedicated to their neighborhood. They could see the opportunity where others saw despair. Activists got the attention of Mayor Thomas M. Menino, who would act as a major force in the reshaping of the South End. As general economic conditions began to improve within Boston and with the commitment of local government, developers too began to see the potential and started to inquire. Existing residents, concerned with the type and speed of development slated for their neighborhood, welcomed change, but desired thoughtful and appropriate development.

From 1990 to 1993, the Boston Redevelopment Authority created a policy plan for the South End and Lower Roxbury. In order to ensure that the community's needs and concerns were addressed in the plan's implementation, Mayor Menino appointed the 26-member Washington Street Task Force, a working group of various stakeholders that included neighborhood residents, business people, community groups and developers. The task force worked in close partnership with the Boston Redevelopment Authority and other agencies to create a true vision for the revitalization of the area centered upon the neighborhood's commercial corridor, Washington Street, and released recommendations in 1995.

Today, much of the task force's vision has become a reality. Locals wanted the South End to retain its ethnic and economic diversity and to offer needed services its community members.²³ Since much of the vacant land in the South End was acquired via urban renewal and was under the control of the city, development was able to be carefully crafted within the framework of the plan. By the end of 2003, over \$430 million had been invested in both private and public funds to the redevelopment of the South End bringing over 1,500 housing units, 900 of which are affordable, 140,000 SF of commercial space, a community health center and 944 new parking

²² Ellen Witt, personal interview, Washington Gateway Main Streets, Inc., July 16, 2004

²³ Witt, July 16, 2004

spaces.²⁴ In 2002, the initial Massachusetts Bay Transit Authority (MBTA) Silver Line, a special bus rapid transit service, began its first phase servicing the South End from Dudley Station to Downtown Crossing, bringing with it streetscape improvements. A second phase of the Silver Line is proposed that will extend service to Boston International Airport, linking residents to jobs and providing access to travelers, is planned for operation in 2004.²⁵

From Massachusetts Avenue east to Herald Street, new retailers, restaurants, apartments, condominiums and services have helped to recreate the South End into a vibrant neighborhood once again. Home sales prices have increased as have rents, yet the high affordability components of new and renovated projects have allowed the South End to be economically diverse. The Washington Main Street Gateway and the twenty-plus other community groups within the district offer not only events and amenities, but also stewardship for the future. Developers no longer have to be courted, but instead seek out opportunities. The South End has become a wonderful place to live, work and visit. It is a true example of successful urban revitalization. Still, despite the South End's arrival as a desired address, there are pieces of the neighborhood that seem to fit at least some of the many definitions of underutilized.

Data & Methodology

Assessor's data were obtained for Fiscal year 2004, accounting for the fair cash value of each parcel of real estate as of January 1, 2003. The data are publicly available and graciously were provided by the City of Boston Assessor's Office.²⁶ The records received consisted of all types of units from parking condominiums to industrial and commercial spaces. Records includes a parcel identification number (a unique identifier for each parcel that also allows the data to be spatially analyzed in Geographic Information Systems), property address, ownership information, assessed value of the land, assessed value of the real property, land use, property type (condominium, single-family, etc.), general area (gross floor area multiplied by the total number of stories), living area (legal habitable area), number of stories and legal parcel size.

Boston's property tax is based upon the value of land and structures. Real estate values for all properties are assessed once every three years by the City of Boston Assessor's Office. Assessments are estimates of the fair cash value for properties as of January 1 of the previous year and may be adjusted in the interim years based

²⁴ Boston Redevelopment Authority, *Boston's Washington Street Corridor*. 2003.

²⁵ MBTA, *Silver Line Community News & Information*. Volume III, Issue VII. Spring, 2004.

²⁶ See Appendix A.

upon market observations. Three methods of valuation primarily are used to determine the assessed value of real property.

Residential properties are primarily measured using a "market approach" where comparable market sales and multiple regression formulas are used to gauge current value. Sales data are gathered through the Suffolk County Registry of Deeds which documents all real estate sales transactions. Additional information from multiple listing services and local brokers is used as well. Land and real property are assessed separately and summed to equal the total taxable real estate value.

Income-producing property, defined as real estate that is "bought and sold on the basis of its income-producing capacity," is mostly valued through an analysis of rents, occupancy rates, operating expenses and investor requirements. The Assessor's Office is empowered by the state to access the income information for real estate from property owners.²⁷ If owners do not supply the data, not only must they pay a \$50 fine, but, more importantly, they also lose the right to contest the reassessment. Owners therefore are ineligible for abatements if they feel their property has been disproportionately assessed, improperly classified or over assessed. In addition to the income statements, comparables, where available and purchased data from sources such as CACI Information Services to better evaluate trends, may also be used to determine values. With income properties, total value is based upon income and expenses, with the cost of the land then subtracted out to distinguish separate assessed values for land and building. Land values of built and vacant parcels may be linked through this process.

Finally, the "cost approach" is used for "special-purpose properties that are not readily sold or rented." With the "cost approach," estimates of the cost to reproduce or replace the real estate assets minus depreciation are used.²⁸ Examples of these properties may include sports arenas, performance venues, exhibition spaces and the like. It may also include other hard to value properties such as specialty storage warehouses or laboratory space for which comparable sales or rents are not readily available.

Though there is no official definition, Assessor's Department generally characterizes vacant parcels as land that has no sustained activity where people do not live or work. Some of these parcels are developable, while others are limited by physical and environmental constraints. No information is provided as to which parcels are not developable and why. Vacant parcels do not include parks and conservation open spaces as those properties

²⁷ M.G.L. chapter 59 §5, clause Third

²⁸ www.cityofboston.gov/trac

are included in the Conservation/Passive Recreation (CP) zoning classification. Vacant parcels are given the land use designation of CL for vacant commercial land and RL for vacant residential land. These plots may include private residential parking areas, garages and sheds. In rare cases, nominal values for paved areas, garages, fences and sheds may be assessed as part of the building value, despite the vacant land classification. Land is assessed primarily using a market approach, analyzing sales of vacant land in each neighborhood. The values obtained from recent sales are adjusted to reflect the subject site's proximity to features that may positively or negatively impact its market value. CL and RL parcels have been left out of total value and building analyses as they are clearly underutilized with little or no value attributed to buildings.

In general, municipal revenues must always equal municipal expenses to avoid the budget being unbalanced. In Boston, property taxes are a major source of municipal revenue. Prior to the adoption of the Classification amendment in 1978, which benefited the residential property class by redistributing the burden of the tax rate from residential to commercial property, the annual tax rate was calculated as follows:

$$\text{Total amount to be raised by taxes} / \text{Total valuation of all property} = \text{Tax rate per thousand dollars of value}$$

Now with Classification in effect the tax rate for each class is determined separately.

$$\text{Residential share of levy} / \text{Total residential value} = \text{Residential tax Rate}$$

, and

$$\text{Commercial, Industrial, Personal Property share of the levy} / \text{Total C,I,PP value} = \text{C,I,PP Tax Rate}^{29}$$

Certain properties may be exempted from all or part of their tax obligations with the approval of the Massachusetts Legislature.³⁰ Various levels of exemptions may be granted to residents (for their principal residence), charitable organizations, elderly owner occupants, a surviving spouse, blind or a disabled veteran with a wartime service related disability. Seeking exempt status is the responsibility of the organization or individual seeking relief. In addition to residential, personal and charitable exemptions, all properties held by the local, state and federal governments and their agents do not pay property taxes. As a result, assessments of exempt properties, especially for those which have no tax obligations, may not accurately reflect current market values since tax payments are controlled. For this reason, 8,399 exempt properties were eliminated from the analyzed data set.

²⁹ City of Boston Assessor's Department

³⁰ M.G.L. chapter 59 §5, clause Third

Because of the ownership structure of condominiums, no land values are assigned to their assessment records. Rather, condominiums are assigned a main record, coded with a land use of CM, and that record relates to multiple sub-records. While the main CM-coded record gives limited information about the lot as the whole such as address and lot size, each separate sub-record represents a unit within the parcel, whether it is a residential condominium, parking space or office condominium space. The sub-records have information about the size and assessed value for each unit. To calculate total assessed values for the property, the assessed values for all units associated with the building were summed. Land values, however, were assumed to remain at zero for all types of condominiums and were excluded for certain analyses to avoid biasing results. Condominium records were then re-categorized by use to commercial, residential or mixed-use values.

Assessor's Department records with no value given for the lot size variable represent associated and partially exempt parcels. Associated parcels are two or more separate parcels that are linked to each other via tax payments. Lot size amongst associated parcels are combined while assessments are individually attributed based upon different circumstances. Due to the data attribution issues, these were not used for quantitative analysis, with the exception of those parcels included in the case studies. Approximately 3% of the total records had no lot size attributed to them.

Data provided by the Assessor's Department were intersected with zoning information provided by the Commonwealth via the MassGIS website. Zoning information pertains to the "highest density type of development permitted as a matter of right."³¹ Primary attributes such as local zoning codes were provided by the City of Boston and the data were then refined by MassGIS into general and secondary use categories for statewide comparisons amongst different municipalities. More stringent overlay district restrictions are not taken into consideration. The intersection process, filtering of data by MassGIS the unrecorded overlay district may have caused zoning inconsistencies for an insignificant number of records.

GIS shape files spatially representing curb lines, hydrology, open space and planning districts were supplied by the Boston Redevelopment Authority (BRA) via MIT's GIS Library. Parcel shape files were provided by the Boston Assessor's Office. Shape files are based upon digitized orthophotography and may not be fully spatially accurate due to errors made during the digitizing process, however these are to be considered minimal. GIS projections for all data layers were set to the NAD 1983 State Plane Massachusetts Mainland FIPS 2001 coordinate system for spatial consistency.

³¹ www.mass.gov/mgis/zn.htm

The BRA divides the city into 16 planning districts, one of which is the South End. The BRA South End planning district GIS theme was used to define the general neighborhood boundaries for the study area, however, just over 300 parcels along the border are in at least one additional district. These border parcels were attributed to the districts where the majority of their land area was located.

General analysis of the final merged data set was initially conducted in STATA. When analyzing properties by land use, 4,223 records were re-categorized from general condominium use to residential, commercial, parking and mixed-use based upon their sub-record classification. Duplicate records, resulting from data entry errors and intersection miscalculations, were removed. Cleansed data were then imported into GIS for spatial analysis.

Case study parcels were selected by various urban planning and development professionals through interviews. Interviewees were asked to single out sites in the South End that they felt were underutilized. Each professional was then asked to give reasons as to why the sites were underutilized and why the interviewee believed the parcel had not been developed or redeveloped.

Findings

The South End unmistakably is one of Boston's hottest neighborhoods. If assessments are based upon market value, it would seem logical that underutilized property with certain location-related constraints could be identified via their assessed value. Buildings are quite varied and can be depreciated making their value per square foot and therefore total value per square foot faulty indicators. Land value, however, when determined by its maximum developable potential and location attributes, should show flaws and physical constraints to development when measured against other similarly zoned and located parcels. By analyzing land classified by the city as vacant in addition to the first decile of lowest valued land of improved parcels on a per square foot basis, we can begin to examine possible relationships between underutilization and assessed values. These findings then can be tested against case studies of underutilized parcels as selected by planning and development professionals for consistency.

Condominium values are forced out the analysis because the Assessor's office does not attribute land value to the parcels due to the ownership structure of the buildings. For this reason, 781 records representing condominiums could not be included in the study of land values.

Boston and the South End: General Information

Excluding exempt properties, the City of Boston consists of 86,066 parcels making up approximately 648.6 million square feet (SF). Using the BRA South End planning district as the boundaries, the total number of parcels within the South End counted 2,803 totaling about 10.9 million SF and making up approximately 1.68% of the parcel area of Boston. The average lot size, the legally defined area of a parcel, is smaller for the South End at 3,969 in comparison to that of Boston at 7,619 SF.

Boston and the South End Summary Data

	Boston	South End
Number of Parcels	86,066	2,803
Total Square Feet	648,611,471	10,868,299
Minimum Parcel Size (in SF)	20	27
Maximum Parcel Size (in SF)	13,100,000	1,018,392
Mean Parcel Size (in SF)	7,619	3,969

**Excludes exempt properties and associated parcels*

As evident in the maps below, high value areas tend to be concentrate within specific areas and neighborhood districts. The Back Bay/Beacon Hill district, the central business district, Charlestown and the South End show higher land and total values.



Boston Total Value per Square Foot

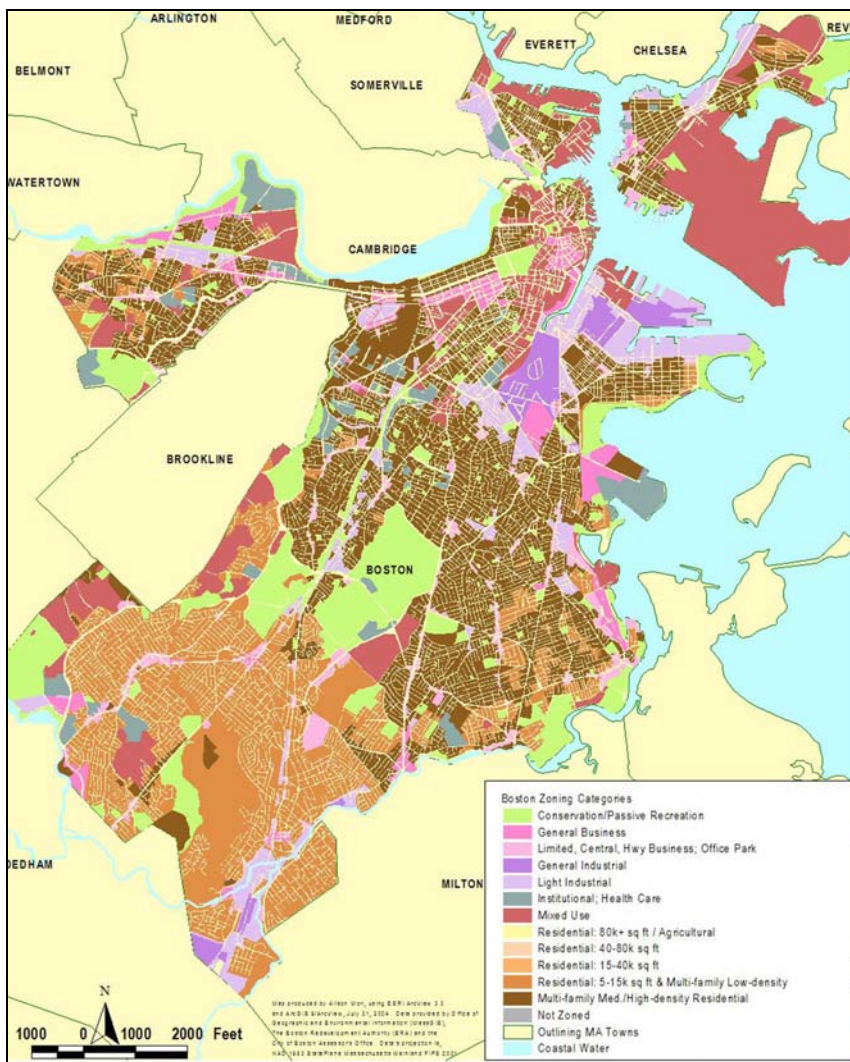
City of Boston: Total Parcel Value Per Sq. Ft.

- >= \$0.00 and <= \$100.00
- > \$100.00 and <= \$250.00
- > \$250.00 and <= \$750.00
- > \$750.00 and <= 1015.32
- > \$1015.32
- City of Boston
- Neighboring MA Towns
- Boston Water

The Implications of Zoning

Zoning is one of the key location-based determinants in valuations because it regulates what land can be used for. Obviously, other variables, some related to the individual building and others to location, also play a major role. But, we can see reflections of zoning when looking at the map of total values per square foot. The areas zoned for income-producing buildings at higher densities generate increased assessed values.

The zoning map exhibits the feel and density of each of planning districts. The more residential areas like the Back Bay and Beacon Hill are shown in brown on the map. Meanwhile areas like the financial district, which are primarily zoned for commercial uses, appear in the shades of magenta and pink.



Zoning in Boston

Boston Zoning by Classification and Square Footage

SF by Zoning	Boston							
	Observations	% of Total Obs.	Mean	Std. Dev.	Min.	Maximum	Total SF	% of Total SF
Conservation/Passive Recreation (CP)	513	0.6%	37,589.46	439,708.00	101	9,848,200	19,283,392.98	3.0%
General Business (GB)	1,557	1.8%	14,046.11	43,521.59	20	752,109	21,869,793.27	3.4%
General Industrial (GI)	181	0.2%	54,245.94	97,480.34	265	805,185	9,818,515.14	1.5%
Institutional (IN)	118	0.1%	67,332.61	396,158.90	27	3,856,658	7,945,247.98	1.2%
Limited Business (LB)	3,034	3.6%	12,112.07	56,173.34	53	1,127,045	36,748,020.38	5.7%
Light Industrial (LI)	1,815	2.1%	36,233.86	299,817.00	33	11,100,000	65,764,455.90	10.1%
Multi-Family High Dens. (MH)	30,803	36.2%	4,596.79	39,955.71	25	4,221,386	141,594,829.96	21.8%
Multi-Family Low Dens. (ML)	6,725	7.9%	6,085.57	22,005.99	213	1,402,500	40,925,464.98	6.3%
Multi-Family Med. Dens. (MM)	16,850	19.8%	5,305.01	13,191.26	40	1,342,600	89,389,384.80	13.8%
Mixed Use (MU)	1,791	2.1%	38,918.90	421,860.40	40	13,100,000	69,703,749.90	10.7%
Single Family (R5)	21,746	25.5%	6,694.04	22,387.17	80	2,464,922	145,568,615.59	22.4%

*Excludes exempt properties and associated parcels

In the South End, 89.1% of parcels, the majority of parcels, equaling 62.8% square feet of its land is zoned MH, for multi-family, high density use. The second most prevalent zoning classification by both the count of observations and square footage is MU, mixed-use. MU zoning accounts for 8.3% of the parcels and 29.3% of the square footage in the South End. In comparison, MH-zoned properties make up 36.2% of the parcels and 21.8% of the square footage in Boston, while MU-zoned sites consist of 2.1% of Boston parcels and 10.7% of the city's land. Zoning tells us that the character of the South End is more residential in flavor, with higher density and a more urban feel.



Zoning in the South End

- Major Streets
- Zoning: South End
 - Conservation/Passive Recreation
 - General Business
 - Limited, Central, Hwy Business, Office Park
 - General Industrial
 - Light Industrial
 - Institutional, Health Care
 - Mixed Use
 - Residential: 80k+ sq ft / Agricultural
 - Residential: 40-80k sq ft
 - Residential: 15-40k sq ft
 - Residential: 5-15k sq ft & Multi-family Low-density
 - Multi-family Med./High-density Residential
 - Not Zoned
 - South End Planning District
 - Boston Planning Districts

South End Zoning by Classification and Square Footage

SF by Zoning	South End							
	Observations	% of Total Obs.	Mean	Std. Dev.	Min.	Maximum	Total SF	% of Total SF
Conservation/Passive Recreation (CP)	20	0.7%	5,729.10	14,409	900	65,611	114,582	1.1%
General Business (GB)	15	0.5%	10,862.87	16,802	1,466	60,364	162,943	1.5%
General Industrial (GI)	1	0.0%	16,900.00		16,900	16,900	16,900	0.2%
Institutional (IN)	11	0.4%	10,339.00	15,056	27	45,718	113,729	1.0%
Limited Business (LB)	-	0.0%						0.0%
Light Industrial (LI)	24	0.9%	18,467.04	30,116	1,021	110,230	443,209	4.1%
Multi-Family High Dens. (MH)	2,439	89.1%	2,800.15	23,136	84	1,018,392	6,829,559	62.8%
Multi-Family Low Dens. (ML)	-	0.0%						0.0%
Multi-Family Med. Dens. (MM)	-	0.0%						0.0%
Mixed Use (MU)	228	8.3%	13,979.72	33,662	504	267,549	3,187,376	29.3%
Single Family (R5)		0.0%						0.0%

**Excludes exempt properties and associated parcels*

Land Use

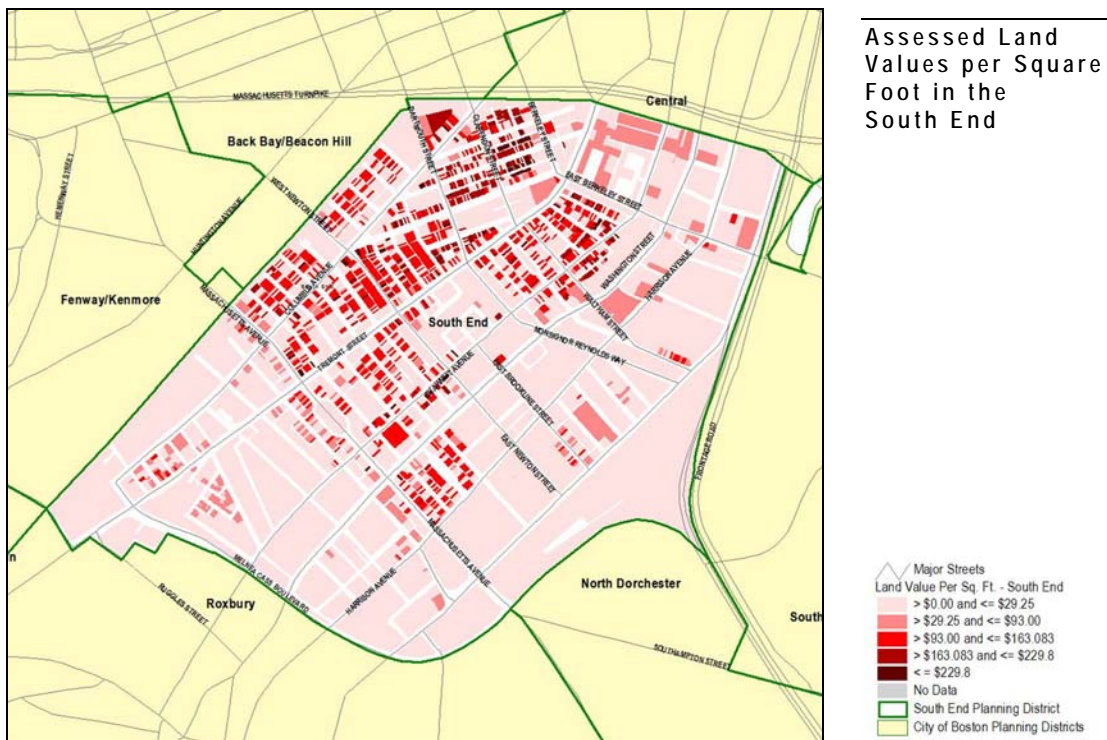
Zooming into the classifications by land use, we are able to see more specifically what these parcels are used for.

SF by Land Use	South End							
	Observations	% of Total Obs.	Mean	Std. Dev.	Min.	Maximum	Total SF	% of Total SF
Apartment (A)	157	5.7%	6305.07	34237.02	982	421704	989896	9.1%
Commercial (C)	66	2.4%	26037.06	41923.9	887	246145	1718446	15.8%
Comm. Condo (CC)		0.0%						0.0%
Res. Condo (CD)	774	28.3%	2358.373	4877.609	625	98297	1825381	16.8%
Other Comm. (CL)	70	2.6%	7484.529	11333.91	27	55486	523917	4.8%
Condo Parking (CP)		0.0%						0.0%
Industrial (I)	46	1.7%	31658.91	52036.06	1531	267549	1456310	13.4%
Single Family (R1)	402	14.7%	1227.371	496.0606	404	2743	493403	4.5%
Two-Family (R2)	237	8.7%	1441.671	417.0506	690	2500	341676	3.1%
Three-Family (R3)	252	9.2%	1525.06	427.8538	646	3081	384315	3.5%
Apt. 4-6 Units (R4)	424	15.5%	1769.653	553.152	720	7850	750333	6.9%
Mixed-Use Residential (RC)	246	9.0%	8958.951	66600.82	756	1018392	2203902	20.3%
Other Res. (RL)	64	2.3%	2823.75	10667.96	84	85102	180720	1.7%

According to land use observation counts, condominiums make up the majority of the units South End with multi-family apartment buildings and townhouses coming in as the second and third. All residential uses with the exception of vacant residential land (RL) make up 91.0% of the parcels and 64.3% of square footage in the South End. Mixed-use residential space, though lower in the rank of number of observations, has the most square footage dedicated to its use. Not surprisingly, commercial space is very limited. Once more, the land use reinforces the notion that South End is mostly a residential community.

Assessed Land Values

Observing the distribution of land value per square foot, it seems that there are concentrations within the South End that have higher land values. The northern portion of the neighborhood has many of the higher valued parcels. Likely, many of these parcels are zoned similarly and experience the same proximity to amenities. Again, it should be remembered that condominiums have been removed from the data set due to the lack of land values attributed to the parcels. With such a large number of highly valued condominiums in the South End, the spatial distribution of high land value per square foot may be broader.



The median land value for the South End is calculated at \$129.77 per square foot, however, land values vary dramatically dependant upon zoning. Recreation and conservation spaces, which include things like cemeteries, parks and club facilities, have highest median and mean land values. It seems that many of these parcels are put to special uses that may fall loosely into the category, warranting further study in the future. Multi-family high density housing uses have the second highest median land value per square foot at \$134.25. MH zoned land makes up the majority of square footage within the South End and, in actuality, the value of parcels zoned MH is

probably higher as condominiums have been from the sample since no land value is attributed to that land use. Compare this number to the median land value per square foot land value of light industrial space. The median is only \$17.05, \$117.20 less. This reinforces the notion that parcels zoned for high density housing are the highly profitable and that the housing market is strong in the South End. Therefore, it would seem that parcels zoned for residential use would not have a strong presence in the lowest decile of land values unless there is a location/physical issue with the land. Simultaneously, industrial parcels should be a more formative portion of the lowest valued parcels based upon assessments.

South End Assessed Values per Square Foot

	Mean	Std. Dev.	Min	Max	Median
Land Value Per Square Foot	123.50	70.73	0.26	345.07	129.77
Building Value Per Square Foot	559.94	357.73	0.17	2,247.10	558.45
Total Value Per Square Foot	631.84	360.30	0.95	2,447.10	667.60

**Excludes exempt properties and associated parcels
Building and total value figures do not include the land use classification of RL and CL, representing vacant land
Condominiums are not included in the calculation of land value*

South End Land Value per Square Foot by Zoning Classification

Zoning	Obs	Median	Mean	Std. Dev.
Conservation/Passive Recreation (CP)	12	\$ 173.70	\$ 156.85	63.12582
General Business (GB)	8	\$ 96.34	\$ 98.76	57.87826
Institutional (IN)	3	\$ 56.22	\$ 99.15	106.1374
Light Industrial (LI)	15	\$ 17.05	\$ 21.91	15.79781
Multi-Family High Dens. (MH)	1,581	\$ 134.25	\$ 139.06	63.74233
Mixed Use (MU)	157	\$ 38.59	\$ 55.20	47.21937

**Excludes exempt properties and associated parcels
Condominiums are not included in the calculation of land value*

Since the majority of parcels are zoned for multi-family high density (MH) and mixed-use (MU), a closer examination of the land use for each zoning classification reveals that the most valuable units, not including condominiums, are high-density apartment buildings and single-family dwellings. These uses make up almost half of the units zoned MH. Commercial and industrial spaces are the least profitable and likely were grandfathered uses or received variances. It would seem at first glance, that these parcels might better be put to residential use and could be considered underutilized, but there may be conditions to the specific to the businesses and communities that encourage the owners to continue using the property for something other than residential purposes.

Land Value per Square Foot for Multi-Family High Density (MH) by Land Use

Land Use	Obs.	Mean	Bottom Decile	Std. Dev.	Min	Max	Median
Apartment (A)	147	\$ 113.22	\$ 33.66	\$ 62.38	\$ 3.76	\$ 294.70	\$ 104.84
Commercial (C)	20	\$ 44.42	\$ 20.37	\$ 28.42	\$ 13.78	\$ 106.05	\$ 31.92
Res. Condo (CD)	0						
Industrial (I)	5	\$ 40.44	\$ 17.94	\$ 22.84	\$ 17.94	\$ 76.87	\$ 40.09
Single Family (R1)	391	\$ 151.07	\$ 44.00	\$ 70.44	\$ 22.34	\$ 345.07	\$ 142.84
Two-Family (R2)	234	\$ 159.16	\$ 115.49	\$ 46.57	\$ 19.40	\$ 284.43	\$ 149.71
Three-Family (R3)	236	\$ 134.60	\$ 42.85	\$ 53.38	\$ 17.12	\$ 282.75	\$ 130.43
Apt. 4-6 Units (R4)	398	\$ 145.50	\$ 68.08	\$ 63.16	\$ 25.71	\$ 326.00	\$ 137.74
Mixed-Use Residential (RC)	150	\$ 107.52	\$ 30.86	\$ 57.54	\$ 2.60	\$ 292.00	\$ 105.79

**Excludes exempt properties and associated parcels
Condominiums are not included in the calculation of land value*

Mixed-use properties are valued slightly less than multi-family high density zoned parcel overall. In this zoning classification, two-family and single family residences rise to the top to be the most valuable with median values of \$137.25 and \$135.64, respectively. Surprisingly, they only make up 5.7% of MU zoned properties. The majority of mixed-use zoned parcels fall under the land use classifications of commercial, industrial and high-density mixed-residential space. Commercial and industrial spaces, interestingly, have the two lowest land values associated with their use classifications.

Land Value per Square Foot for Mixed-Use (MU) by Land Use

Land Use	Obs.	Mean	Bottom Decile	Std. Dev.	Min	Max	Median
Apartment (A)	9	\$ 84.02	\$ 24.84	\$ 43.72	\$ 24.84	\$ 136.49	\$ 97.08
Commercial (C)	34	\$ 26.95	\$ 3.67	\$ 24.96	\$ 0.26	\$ 108.41	\$ 18.59
Res. Condo (CD)	0						
Industrial (I)	33	\$ 22.00	\$ 10.28	\$ 13.70	\$ 4.77	\$ 78.58	\$ 18.96
Single Family (R1)	7	\$ 130.18	\$ 40.81	\$ 42.57	\$ 40.81	\$ 177.27	\$ 135.64
Two-Family (R2)	2	\$ 137.25	\$ 118.50	\$ 26.52	\$ 118.50	\$ 156.00	\$ 137.25
Three-Family (R3)	12	\$ 61.94	\$ 20.23	\$ 55.82	\$ 20.10	\$ 171.89	\$ 26.18
Apt. 4-6 Units (R4)	24	\$ 69.67	\$ 33.87	\$ 22.53	\$ 29.09	\$ 131.62	\$ 71.89
Mixed-Use Residential (RC)	36	\$ 74.07	\$ 26.64	\$ 55.10	\$ 17.02	\$ 255.61	\$ 58.02

**Excludes exempt properties and associated parcels
Condominiums are not included in the calculation of land value*

The Lowest Valued Parcels

Based upon the Assessor's stated methodology that land is assessed at market value, it can safely be assumed that the lowest ten percent of all represent underutilized parcels must be limited in some way to be valued so far below other similar land. Consistent with the zoning figures, commercial and industrial spaces do not fare well. They make up 17.8% and 17.3% of the lowest valued records, respectively. Overall, the South End does not seem well-suited for such uses from a land-value perspective as 71.7% of the industrially used parcels fall into the lowest decile as do 52.3% of the commercially zoned lots. Alternatively, most types of residential uses perform well. Very few of the single family, two-family and apartment building observations are in the lowest decile and each classification has less than 3.2% of their total records coming in below the 10% mark. Three-family and mixed-use residential buildings have a higher presence in the lowest land value decile. Taken as a whole, however, residential uses appear to be quite stable.

Bottom Decile Land Value per Square Foot

Land Use	Obs. in Bottom Decile	Total Obs.	Obs. in Bottom Decile	% of Bottom Decile Overall
All Uses	191	1910	10.0%	100.0%
Apartment (A)	5	157	3.2%	2.6%
Comm. Condo (CC)	34	65	52.3%	17.8%
Other Comm. (CL)	46	70	65.7%	24.1%
Industrial (I)	33	46	71.7%	17.3%
Single Family (R1)	3	402	0.7%	1.6%
Two-Family (R2)	3	237	1.3%	1.6%
Three-Family (R3)	21	252	8.3%	11.0%
Apt. 4-6 Units (R4)	0	424	0.0%	0.0%
Mixed-Use Residential (RC)	12	193	6.2%	6.3%
Other Res. (RL)	34	64	53.1%	17.8%

**Excludes exempt properties and associated parcels
Condominiums are not included in the calculation of land value*

As previously described, vacant parcels in Boston are classified as Commercial Land (CL) or Residential Land (RL) by the Assessor's Department. These parcels are underutilized by definition since they are not used and because conservation and recreational open spaces are separately categorized. Not including exempt and associated properties, a total of 10,030 parcels are counted as vacant representing 58,974,200 SF or 9.09% of the Boston's total land. This is substantially lower than what the cities reported in the 2000 Bowman Pagano study. When guided to define vacant parcels as land that "...includes not only publicly-owned and privately-owned unused or abandoned land or land that once had structures on it, but also the land that supports structures that have been abandoned, derelict, boarded up, partially destroyed or razed" for the purpose of the

study, respondent cities reported that 15% of their land as vacant on average.³² Though the Bowman Pagano survey includes exempt public properties and such properties are not included in the Boston and South End analyses, the South End still falls far below the Bowman Pagano average. In the South End, there are 134 RL and CL non-exempt parcels, totaling 704,637 SF and 6.48% of the land. RL and CL parcels do not appear to be highly clustered in most cases, indicating that they are not vacant due to some common location factor. When examining the zoning classifications of these parcels, the majority tend to be zoned for MH and MU uses, similar to the zoning distribution for the neighborhood overall.

Land Use Classifications RL & CL (Vacant Land)

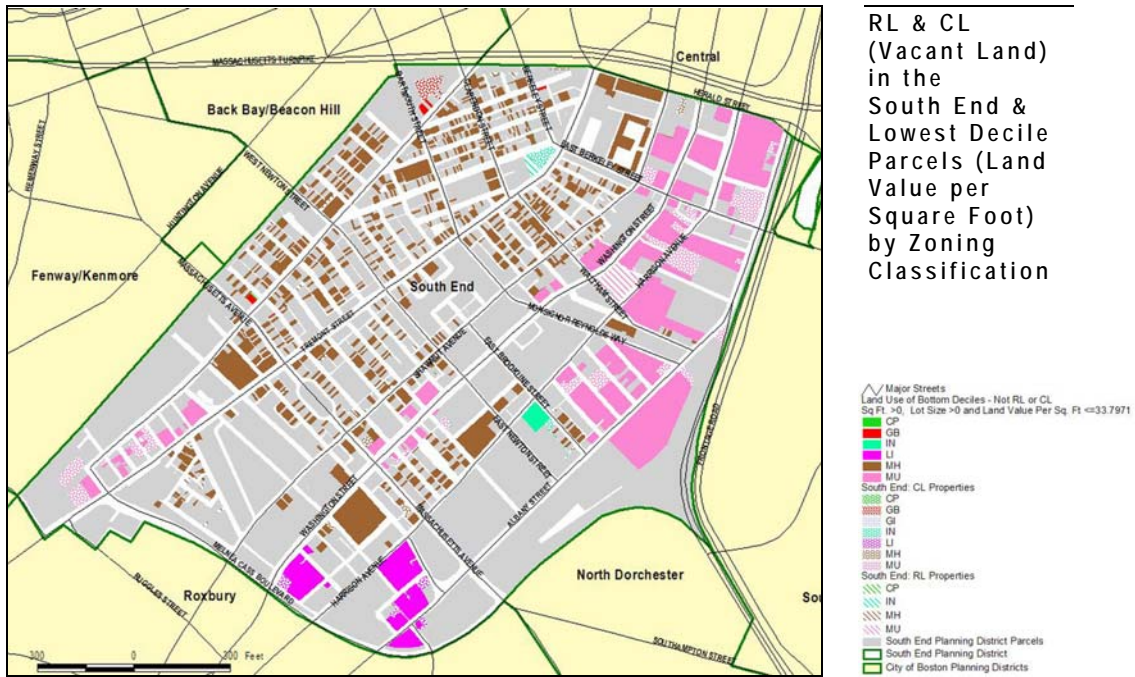
	Boston	South End
Number of Parcels Classified as RL	7,731	64
Total Square Feet of RL	34,869,486	180,720
Number of Parcels Classified as CL	2,299	70
Total Square Feet of CL	24,104,714	523,917

**Excludes exempt properties and associated parcels*



³² Bowman and Pagano, p. 45.

Exploring the bottom decile, we can see that RL and CL parcels constitute the largest percentage of the lowest valued land in the South End at 41.9% of the total observations. These lots appear to be classified as vacant for a reason. In fact, 65.7% of all commercial vacant lots and 53.1% of the total number of residential vacant lots are amongst the lowest valued land. Hence, it can be inferred that these pieces of land likely are not built upon because there are substantial physical obstacles, resulting in low market values.



Lot Size

Lot size undeniably can be an issue prohibiting parcels from being developed. In the Bowman Pagano study, the majority of respondent, 56%, stated that parcels were vacant because they were “not large enough” to be developed.³³ Assessment data, however, did not give an indication of parcel size as being an issue. Lot sizes for parcels zoned MH and MU, the two most prevalent zoning classifications in the South End, did not give evidence of substantial differences between median sizes for those parcels in the bottom decile in comparison to all records. The data expand a wide range and are skewed by outliers of extremely large and small parcels. This is evident by examining the means of records in the bottom decile and across all observations.

Lot Size for MH Zoned Parcels by Land Use

Land Use	LOT SIZE IN SQUARE FEET			
	Bottom Decile Median	All Obs. Median	Bottom Decile Mean	All Obs. Mean
ALL	1,640.00	1,581.00	14,164.85	3,079.94
Apartment (A)	1,961.50	1,890.00	37,119.06	6,332.55
Commercial (C)	12,004.50	8,712.50	23,238.42	16,882.75
Other Commercial Vacant (CL)	2,001.00	1,824.00	3,133.57	2,741.90
Industrial (I)	5,666.00	4,093.00	5,666.00	8,414.20
Single Family (R1)	920.00	1,100.00	962.79	1,227.54
Two-Family (R2)	1,431.00	1,440.00	1,494.33	1,442.64
Three-Family (R3)	1,640.00	1,558.00	1,507.10	1,542.59
Apt. 4-6 Units (R4)	1,804.50	1,769.00	2,036.50	1,790.08
Mixed-Use Residential (RC)	2,421.00	1,839.00	61,615.48	11,851.33
Other Residential Vacant (RL)	927.50	960.00	1,156.52	1,190.50

**Excludes exempt properties and associated parcels*

Lot Size for MU Zoned Parcels by Land Use

Land Use	LOT SIZE IN SQUARE FEET			
	Bottom Decile Median	All Obs. Median	Bottom Decile Mean	All Obs. Mean
ALL	23,420.00	2,606.50	39,061.50	14,505.38
Apartment (A)		6,361.00		6,134.89
Commercial (C)	13,015.00	12,692.50	36,054.88	32,268.50
Other Commercial Vacant (CL)	15,876.00	2,213.00	17,612.50	8,371.68
Industrial (I)	32,569.00	12,000.00	59,734.43	34,937.76
Single Family (R1)		1,443.00		1,271.71
Two-Family (R2)		1,467.50		1,467.50
Three-Family (R3)		1,427.50		1,355.33
Apt. 4-6 Units (R4)		1,404.00		1,432.96
Mixed-Use Residential (RC)		1,804.50		3,484.94
Other Residential Vacant (RL)	4,200.00	3,533.00	4,200.00	23,402.00

**Excludes exempt properties and associated parcels*

³³ Bowman and Pagano, p. 23

By observing the lowest decile of assessed land values per square foot and mapping the data, it seems that value is not purely a function of the neighborhood, but may be linked to other problems that can not be observed through the assessment information. Since 41.9% of the lowest decile of lots by land value per square foot is classified as RL or CL (vacant land), it can be assumed that many of the parcels with the lowest values assigned to them are not buildable. They are underutilized or vacant as a result. Cities can better address these parcels in an effective manner because the obstacles seem to be linked to the land rather than unique to the owner. To shed some light on the conclusions made from assessment data, three case studies were examined.

Applied Case Studies

It seems that land values may function as somewhat of an indicator of underutilization based upon the assessment data. How do the numbers compare to real-life situations? To test our findings, three case studies of “underutilized” real estate were selected through interviews with local planners, South End community members and Boston area developers. Given the assumption that assessments of land value reflect market value, the low valued improved parcels in the South End likely reflect various problems with the land that constrain its value. In other words, these parcels may not be “underutilized” in any meaningful way. The term “underutilized” is best applied to parcels with higher land values, but which remain un- or under developed. To begin an assessment about why some developable sites have not been developed, we turn to 3 case studies. They include:

- The Alexandra Hotel and Ivory Bean Row House at 1759-1769 Washington Street
- Olympia Flowers at 1747 Washington Street
- Hite Radio and Television Company 1672 Washington Street

**Case Study 1: The Alexandra Hotel & Ivory Bean Row House
1759-1769 Washington Street**



Site Description

Located at the northwest corner of the intersection of Massachusetts Avenue and Washington Street, the Alexandra Hotel (Alexandra) now stands as a vacant eyesore at one of the South End's major gateways. Built in the 1870's by Caleb Wallworth, the five-story Victorian Gothic-style hotel once hosted elite visitors, but those days are only a faint memory.³⁴ Closed since the 1960's with the exception of its retail space, the Alexandra greets pedestrians with boarded up windows, peeling paint, and chipped masonry, emitting general aura of decline and depravity.

The Alexandra has been in severe disrepair since 1993 when the 40,125 foot building was damaged by a suspicious fire that resulted in roadblocks, rerouted traffic and court-ordered building repairs to protect the public. The owner at the time, Russell T. Britt, was jailed due to non-compliance with the court mandated work at which time, the ownership of the building passed to its first mortgagee. The first mortgagee, Metaxia Taliaris, was reluctant to take responsibility and signed her right of entry over to Peter Bakis of Macedonia Realty Trust who currently owns the building as part of Alexandra Residences, LLC. Over the years, Bakis has done little to the property resulting in the building having been placed in and out receivership of the City.

³⁴ Susan Diesenhouse, "Restoration for a Victorian", New York Times, August 22, 1993.

Next door, the Ivory Bean Row House (Ivory Bean) is fully vacant. The bow front row house was built in 1853 by the prominent Boston builder for whom the building is named, Ivory Bean.³⁵ It too is boarded up and in poor condition today. The Ivory Bean parcel was unified with the Alexandra parcel in 1989, thus also making it the property of Alexandra Residences, LLC.

Bakis has received all the necessary approvals, including variances and historical review, for twenty-three residential rental units in a single, six-story unified structure connecting the Alexandra and the Ivory Bean, including two affordable units, and ground-floor retail. A penthouse addition is proposed for the Alexandra structure and two additional floors are to be added to the existing Ivory Bean. Fifteen subterranean parking spaces also are planned. The site is located within the South End Urban Renewal Area, Project NO. R-56 and the Roxbury Neighborhood District. Bakis secured the necessary approvals and variances in 2002, but has done nothing with the property since. As of July, 2004, the property was taken out of receivership by the city and put back into the hands of the Alexandra Residences, with the conditions that the property be developed two years.

What makes this parcel underutilized?

For many, the reasons the Alexandra Hotel is underutilized are evident on first sight. “Boarded up, abandoned, unkempt, eyesore,” are terms that were frequently used. According to Ellen Witt, Associate Director of the Washington Gateway Main Street, Inc. (WGMS), the Alexandra has acted as somewhat of a barrier the new development that had revitalized much of the South End, keeping it from extending westward along Washington Street towards Melnea Cass Boulevard. The mostly vacant site is said by interviewees to have aided in the reduction in property values for neighboring sites, detracted from the perception of safety, taken away from the pedestrian environment and depressed the general economic vitality of the area.

Ownership & Reasons Given for “Underutilization”

Owner	Date Received	Reasons for "Underutilized"
Alexandra Residences, LLC	11/1/2002	<i>Maximum FAR not reached for Ivory Bean Boarded up, vacant, eyesore Physical barrier to development/growth Reduces neighboring property values Perception of unsafe neighborhooa Delineates and breaks community Maximum income not realized, thus the city is losing revenue Gateway property, should have greater presence Signals economic decline</i>

³⁵ City of Boston Environment Department, South End Landmark District Commission, Notice of Decision, February 26, 2002

Why does this parcel remain underutilized?

It is the opinion of some developers and community members that the parcel has not been redeveloped due to the lack of expertise by its current owners. The BRA assigned project manager suspects that the owner is having difficulty securing the appropriate financing, especially given the projected cost of providing underground parking on-site. Numerous offers for the site are rumored to have been offered, but the owner continues to turn them down.

The property also was seriously constrained by zoning. Located in the Roxbury Neighborhood District, the site only offers a 1.0 FAR as-of-right and requires 20 feet front and rear yards. Given the dense urban neighborhood, this severely limits what can be built without special review. The owner, regardless of his level of development acuity, secured the necessary approvals and permits to build a high-density apartment building. Though the zoning barriers to development have been effectively removed, the owner has sat idle for two years, long enough for the property to fall in and out of receivership.

Zoning Related Information

Parcel	FAR	Zoning	Land Use	Lot Size	Overlay/Special District
Alexandra Ivory Beam 1759 Washington St. to 1769 Washington St. (631 Massachusetts Ave.) PID: 0900879000	1.0	Multi-Family High Density (MH)	Resid. Multi-Use (RC)	5,167	Roxbury Neighborhood District <i>*20 ft. rear and front yard req.</i> <i>*10 ft. side yard req.</i> <i>*45 ft. height restriction</i>

Conclusion

Looking at the assessment data associated with the property, the land value per square foot for the Alexandra Ivory Bean site is \$39.14 below the average and \$45.41 less than the median land value per square foot for the South End, a substantial difference. When compared to parcels within the South End that are zoned similarly and that have the same land use, the site is 21.5% below the mean and 20.3% below the median land value per square. Zoned MH, the classification that has perhaps the largest value, the property certainly is not meeting its maximum income potential in such a visible, highly trafficked area. Therefore, it can be inferred that the lower assessments in both arenas may reflect the original zoning constraints upon the urban site as mandated by the Roxbury Neighborhood District.

Since the zoning limitations have essentially been removed. The owner can include the approvals and permits in the sale of the property, which can increase the sale price substantially as long there is sufficient time for construction to be completed before the paperwork expires. Given the time-sensitive nature of the entitlements, they likely would not be included in the land valuation however.

South End Land Value per Square Foot Comparison

	Land Value PSF	% of Above or Below
1759-1769 Washington Street	\$ 84.36	
South End Overall Average	\$ 123.50	-31.7%
South End Overall Median	\$ 129.77	-35.0%
South End Zoned MH & RC Average	\$ 107.52	-21.5%
South End Zoned MH & RC Median	\$ 105.79	-20.3%

**Case Study: Hite Radio and Television Company
1672 Washington Street**



Site Description

Hite Radio and Television Company is located at Washington Street. It has been a fixture in the South End for years, selling televisions and electronic equipment. The business is owned by Bob Hite who currently operates the family business.

Since 1986, the building has been under the ownership of Stanley D. Charmoy, an attorney who represents the Hite family via the Radio Realty Trust. Before Mr. Charmoy, the property was owned directly by various members of the Hite family for 22 years, who purchased it from Nicholas Stamatou. The property went on the market most recently in the fall of 2003 at an asking price of \$1.5 million, but was rather abruptly taken off in the early part of 2004. According to a local agent, the property has been offered up numerous times in the recent past.

What makes this parcel underutilized?

Developers were the first to mention the Hite as underutilized. From plain sight, it is evident that the single-story building does not maximize the allowed floor-to-area ratio (FAR) of 3.0. The property is a small lot of 2,420 SF, but is zoned for mixed-use and could easily accommodate ground floor retail with upper floor residential units. In addition, the building does not appear to be architecturally significant.

Though many planners agreed that the parcel could be further developed, some did not view the site as underutilized. No negative externalities to the community were mentioned. In fact, Shiela Grove, Executive Director of the Washington Gateway Main Streets, Inc., expressed the need for local small businesses to retain the flavor and character of the neighborhood. Hite Radio and Television Company is said to serve the local community and provide a sense of living history. Still, others, including a BRA planner and developer, both stated that housing would not only increase the income of the site, but would also serve the need for additional housing. Ideally, Hite's retail establishment could continue to operate out of a new building, keeping the pedestrian environment active and serving the community.

Ownership & Reasons Given for "Underutilization"

Owner	Date Received	Reasons for "Underutilized"
Stanley D Charmoy, Radio Realty Trust	1/1/1986	<i>Maximum FAR not reached Building not attractive Residential above is needed Maximum income not realized, thus the city is losing revenue</i>

Why does this parcel remain underutilized?

According to many, the parcel has not been developed due to the owner's unrealistic estimation of the property's value. Mr. Hite was planning to sell the building and move across the street, but it is believed that he changed his mind at the last minute because he was unwilling to pay market rental rates at another space. Mr. Hite remains committed to the neighborhood and wants to stay in business. For that reason, he did not close the deal.

The building is located within Washington Street Neighborhood District (WSND), which actually relaxes zoning regulations in order to promote development. With a FAR of 3.0, the building clearly has potential and could be developed to accommodate the current use in addition to much needed housing. According to the assessment data, mixed-use housing is more valuable than commercial space in the South End.

Zoning Related Information

Parcel	FAR	Zoning	Land Use	Lot Size	Overlay/Special District
Hite Radio & Television Co., Inc. 1672 Washington St. (2 Worcester Sq.) PID: 0801442000	3.0	Mixed Use (MU)	Commercial (C)	2,420	Washington Street Neighborhood Development Area <i>*No setbacks, lot size, front yard, side yard requirements</i> <i>*70 ft. height restriction</i>

Conclusion

The land value per square foot for 1672 Washington St. is \$98.29 below the average and \$104.56 less than the median land value per square foot for the South End, a substantial difference due to high value attributed to MH uses, which constitute the majority of the South End aside from RC parcels. When compared to parcels within the South End that are zoned similarly MU and that are classified with commercial land use, the site fares is in sync with other market rates. It is only 6.4% below the mean and actually comes in at 35% above the median land value per square foot. This seems to imply that the parcel is fairly valued at or near market rates, especially given the statistical dispersion of MH/C parcels.

The Hite site is not physically constrained. The existing market demand for residential units, zoning regulations, lot size and 3.0 FAR make the parcel very attractive and developable. Assessed land value for the site reinforces this. It can be concluded from this information that the site would not be recognized as underutilized via assessment data alone and that the reasons for the parcel staying in its current state are tied to the owner.

South End Land Value per Square Foot Comparison

	Land Value PSF	% of Above or Below
1672 Washington Street	\$ 25.21	
South End Overall Average	\$ 123.50	-79.6%
South End Overall Median	\$ 129.77	-80.6%
South End Zoned MU & C Average	\$ 26.94	-6.4%
South End Zoned MU & C Median	\$ 18.59	35.6%

**Case Study 3: Olympia Flowers
1745-1747 Washington Street**



Site Description

One of Boston's oldest flower shops, Olympia Flowers is at 1747 Washington Street. The site sits across the street from the Alexandra at the northeast corner of the intersection of Massachusetts Avenue and Washington Street, in a highly visible prime location, welcoming people to the South End.

According to the Assessor's Department, the parcel standing at the corner, 1747 Washington Street, has been associated with an adjacent two-story parcel to the east, 1745 Washington Street. Essentially, this means that

each parcel has separate land and building values derived from allocating a proportion of the total parcel area of the two combined, but a single assessment is charged to one owner. The adjoined properties make for a potential development site of 16,163 SF. Few developable sites of this size exist to the east of Massachusetts Avenue, making the Olympia buildings quite attractive.

The Olympia Flowers buildings have been owned by the Olympia Realty, LLC since 2001. Before that, 1747 Washington Street was in the hands of the Bornstein family for at least 53 years. It is unclear whether or not the Bornsteins are still involved in the ownership of the two buildings today. An interesting aside, however, another Bornstein, Gerald, was listed as one of the owners of the mostly-vacant Alexandra located across the street, as a part of the Macedonia Realty Trust.

What makes this parcel underutilized?

Like the Hite Radio and Television site, the existing Olympia Flowers buildings do not maximize the allowable FAR of 3.0. The property is zoned for high-density residential and mixed-use. The building at 1747 does not appear to have any residential uses above it, however, equating lost potential revenue and real income to the existing structure. Also, both buildings are plain, two-story brick construction and appear to lack design significance.

For years, 1747 was said to have been in poor condition detracting from the neighborhood after a car hit the façade. 1747 Washington Street is currently undergoing renovations. Once the work is complete, Olympia Flowers will relocate its shop to the retail space of the associated parcel at 1745 Washington Street. A national chain convenience store, 7-11, will locate at 1747 Washington. 7-11 plans to refurbish the entire building façade and will install new signage. The retailer will use only the first floor.

To more than one planner and many developers, the 7-11 still qualifies as an underutilization of the site. Obviously, the site is not reaching its maximum build-out with the existing buildings staying at two floors. Current zoning allows for greater density and, from an urban design standpoint, a larger scale building makes sense within the existing urban fabric. Furthermore, as Randi Lathrop, Deputy Director for Community Development at the BRA, stated, "7-11 is certainly not the highest and best use at such a prime corner."³⁶ While a chain convenience store will serve the community, 7-11 will do little to bring a presence to such an important entry point to the South End.

³⁶ Randi Lathrop, Deputy Director for Community Development at the BRA. Personal Interview. July 14, 2004.

Ownership & Reasons Given for "Underutilization"

Owner	Date Received	Reasons for "Underutilized"
Olympia Realty LLC	5/17/2001	<i>Maximum FAR not reached</i> <i>Physical barrier to development/growth</i> <i>Hyndrance to businesses</i> <i>Gateway property, should have greater presence</i> <i>New tenant not optimal (low commitment to neighborhood)</i> <i>Poor use of space</i>

What does this parcel remain underutilized?

Over the past decade, Washington Gateway Main Street has worked with the owners of Olympia Flowers to look at possible improvements, giving free design services with no results. An offer was also placed on the property by the higher density building directly next door to the east, but it was rejected. It is believed that the current owner is not interested in selling or developing the real estate at this time because he is willing to put forth the effort to develop now and believes he can get more when selling the property in the future.

The property is zoned for multi-family high density (MH) and mixed-use (MU) via its two associated parcels and has a good size surface parking lot behind one the buildings. Located within the Washington Street Neighborhood District (WSND), the properties are located on the east side of Massachusetts Avenue along Washington Street, where over \$430 million of new development has recently occurred.

Zoning Related Information

Parcel	FAR	Zoning	Land Use	Lot Size	Overlay/Special District
Olympia Flowers 1747 Washington St. PID: 0900861000 PID: 0900863000	3.0	Multi-Family High Density & Mixed Use (MH/MU)	Resid. Multi-Use & Parking Lot <i>therefore VACANT</i> (RC/CL)	16,163	Washington Street Neighborhood Development Area <i>*No setbacks, lot size, front yard, side yard requirements</i> <i>*70 ft. height restriction</i>

Conclusion

Comparing the per square foot land assessments to the average and median of the South End, the Olympia Flowers parcels seem grossly undervalued. Taking a closer look and comparing the site's land values to medians and means for similarly zoned properties, however, we find that the results actually vary greatly by zoning and land use. Currently, the site is not being valued at its maximum potential use as a MH zoned and RC

use, falling 58.0% and 57.3% below the median and average land values per square foot for such similar properties in the South End. If the mixed-use zoning involving residential land use is applied, the assessed value also indicates underutilization, as it is also below median and mean values. On the other hand, Olympia Flowers seems to be over valued when compared to assessments for parking lots or vacant land in both the MH and MU classifications. This likely is not a good comparison given that the majority of the site is built upon.

Since this property is not severely limited by zoning, is in a highly visible keystone location, is large and is within close proximity to substantial new investment and other highly regarded projects, the parcels would seem to be ripe for development. Assessed land values per square foot indicate that the site is currently underutilized for residential uses, implying that land values may be more linked to existing uses than previously considered.

Though the quantitative evidences seems to say that the site is underutilized in its current state when compared to residential uses, the site seems to have few physical and location limits to development. Furthermore, qualitative evidence tells us that the constraints most likely are subject to the owner. He is holding his option to develop the property. For now, the owner has found a nationally affiliated tenant who is willing to put in minimal improvements, providing income and maintaining the building until the time to develop is right. Thus, the argument assessed land values per square foot may point to underutilization may be weakened as such assessments do not necessarily reflect market value.

South End Land Value per Square Foot Comparison

	Land Value PSF	% of Above or Below
1747 Washington Street	\$ 45.18	
South End Overall Average	\$ 123.50	-63.4%
South End Overall Median	\$ 129.77	-65.2%
South End Zoned MH & RC Average	\$ 107.52	-58.0%
South End Zoned MH & RC Median	\$ 105.79	-57.3%
South End Zoned MH & CL Average	\$ 36.20	193.8%
South End Zoned MH & CL Median	\$ 15.38	24.8%
South End Zoned MU & RC Average	\$ 74.06	-22.1%
South End Zoned MU & RC Median	\$ 58.02	-39.0%
South End Zoned MU & CL Average	\$ 25.88	74.6%
South End Zoned MU & CL Median	\$ 20.54	120.0%

Chapter 4: Conclusion

The condition of underutilized land varies greatly from location to location, but, regardless of where it is, such land has an impact, especially when it becomes vacant or abandoned. Real estate professionals may argue that many underutilized parcels are held rationally, but even urban economists agree with planners in that these lots have the power to impose severe negative externalities on the neighborhoods they are located within.³⁷ Certainly, underutilized land will never be fully controlled as the variables controlling land are too wide and varied. But, it is imperative that cities begin to attempt to deal with underutilized parcels in order to create stronger neighborhoods and protect property values, thus enhancing the economic well-being of their communities.

In their article *Seizing City Assets: Ten Steps to Urban Land Reform*, Paul C. Brophy and Jennifer S. Vey offer a series of suggested methods to address underutilized land, viewing such land as an asset for urban revitalization. The recommendations are geared towards creating a more “transparent, efficient and effective system for private market land development.”³⁸

Ten Steps to Urban Land Reform:

1. Know your territory – *Where are the vacant land and buildings? What is the condition of the supply? How are the parcels zoned? In a strong or weak market areas? Ownership? Current market values? What are the tax delinquency (a major indicator of abandonment), assessed values, code violations, occupancy, and zoning associated with the parcels?*
Cities must actively inventory and follow the conditions of their cities, identifying underutilized land.
2. Develop a Citywide Approach to Redevelopment – Governments must create strategic plans for growth and development with distinct goals and objectives for the future, looking at vacant and underutilized land as an asset while understanding the negative impacts of the sites in their current condition. The plan must allow for actions to be taken quickly to take advantage of market conditions.
3. Implement Neighborhood Plans in Partnership with Community Stakeholders – Local governments must work in partnership with citizens, community development organizations, business owners, real estate agents, lenders and appraisers in the development of plans to address needs, educate and minimize conflict between developers, city representatives and local stakeholders.
4. Make Government Effective – Cities must create effective and efficient systems for land development from zoning, code enforcement, permitting, design review/regulation to the disposition of tax delinquent properties and execution of eminent domain.
5. Create a Legal Framework for Sound Redevelopment – State and local property-tax foreclosure laws should be written to simplify the process where appropriate. In addition, reform laws allowing local governments to use eminent domain more effectively (i.e. “quick take” laws) should be implemented.

³⁷ George Galster, *On the Nature of Neighbourhood*. Urban Studies. Vol. 38, No. 12, 211-2124, 2001. p. 1.

³⁸ Paul C. Brophy and Jennifer S. Vey, *Seizing City Assets: Ten Steps to Urban Reform*. The Brookings Institution and CEO's for Cities; October, 2002. p. 1.

- Finally, state laws permitting the creation of land bank authorities to facilitate the acquisition, assembly and disposition of properties should be implemented.
6. Create Marketable Opportunities – Governments must work with real estate developers and neighborhood groups who have a first-hand understanding of the local market dynamics, to make the development process transparent, increase the marketability of the land (including infrastructure improvements, assemblage, the demolition and clearing of abandoned sites and assistance with environmental remediation), and create a business/user friendly process.
 7. Finance Redevelopment – Urban development is more expensive than greenfield development and public subsidies may be needed. Suggested tools include TIF's, tax incentive programs and bonds
 8. Build on Natural and Historic Assets – Cities can offer things the suburbs simply can't in a dense environment. Underutilized lots can be converted to other uses which build upon the existing environment to increase value, whether it is an active use or a passive green space.
 9. Be Sensitive to Gentrification & Relocation Issues – Brophy and Vey believe that revitalization strategies must include mechanisms to maintain affordability in improving markets such as the mixed-income housing, land trusts, taxation (homestead exemptions, tax deferral programs) to deal with gentrification pressures. In addition, relocation must be done sensitively and professionally.
 10. Organize for Success – Cities must have a coherent approach that is effectively carried out at all levels of government (local, state, federal), communicated clearly, embraced by a wide range of stakeholders and spearheaded by strong, committed leadership.³⁹

While all ten steps are important to the process, the very first of Brophy and Vey's recommendations focusing upon the identification and inventorying of underutilized land is critical. This is no easy task and as Bowman and Pagano have shown, few cities have undertaken such an initiative.⁴⁰ Regardless, no matter how daunting the task may seem, these parcels have incredible positive and negative potential. Cities must be proactive. A first priority must be to offer clear, systematic definitions of exactly what underutilized land is.

In order to inventory parcels, definitions must be offered that are used uniformly across various departments and level of governments. The definitions should give clear distinctions amongst underutilized, vacant and abandoned properties, listing unambiguous, understandable conditions and typologies for each category. By making the definitions explicit, parcels can be identified prior to becoming problematic. As well, there will be less room for misinterpretation, consequently increasing the efficiency of policy initiatives.

In addition to the descriptive definitions, other quantifiable data also can be used in conjunction to make classification easier. Basic information such as lot size and zoning can reveal whether a parcel is too small for development. As we have seen with Boston, for many cities, especially those for which property tax is a major source of revenue, assessed land value may possibly serve as a preliminary screen for constraints to further development of underutilized properties. It is tremendously important, however, that the assessments are

³⁹ Brophy and Vey, p. 1.

⁴⁰ Bowman and Pagano, p. 4

correctly calculated at current market values. Unquestionably, further modeling and rigorous analysis is absolutely warranted. Used together with other measures, however, these data can act as signals for land in jeopardy.

Planners, real estate professionals and economists alike are frequently able to list the impacts a piece of real estate may have on its surroundings, but few efforts are made to measure these. Though difficult, social benefit-cost analysis attempts to quantify the net increase or decrease in goods or services that a development produces for society as a whole.⁴¹ Benefit-cost analysis can be applied to analyze the externalities imposed when evaluating whether questionable properties. Though this may not be an efficient use of staff resources to conduct for all properties, it may be useful in evaluating specific properties at the tipping point.

Water service, gas service, electricity and mail delivery are indicators of activity at a location. Some cities, like Philadelphia, Pennsylvania, are using discontinued service reports to flag at-risk properties. As Brophy and Vey point out, tax delinquency, liens and code violations are also major predictors of future vacancy.⁴² This information is collected on a regular basis by various organizations. The data certainly exists, but needs to be centralized and maintained, requiring the coordination of multiple companies and agencies.

We have seen that “vacant” does not equal “bad” and underutilized land exists for a myriad of reasons. Sometimes, as many economists would argue, land is held in an underutilized state because that is the correct use, assuming there are no or minimal negative externalities to the community. Controllers of the land simply are behaving rationally and are waiting to maximize their profit. Other times, as the analysis of Boston’s parcels with lowest land value per square foot exhibits, physical and location constraints mire the land. And, there are always individuals who hold underutilized land static for personal reasons and beliefs. Highest and best use may be in the eye of the beholder to some degree, but culling together both qualitative and quantitative information to create a graduated system of categorization that is applied at a broad level has the power to drastically change the urban landscape. It indeed is the first step. Each piece of data can act as a flag signaling land at different conditions. Taken together, community members, developers and municipalities can begin to evaluate land, working towards crafting better policies and programs that will turn many underutilized parcels into assets.

⁴¹ Harvard Graduate School of Design and Kennedy School of Government, *Note on the Differences Between Social Benefit-Cost, Financial and Regional Income Analyses*. (Undated). p. 1

⁴² Brophy and Vey, p. 3.

Appendix A: Assessor's Department Land Use Classifications

PROPERTY CLASSIFICATION SYSTEM

Code	DESCRIPTION	Land Use
Multiple use Property		
010	CONDO MULTI-USE	RC
012	RES /OPEN SPACE USE	RC
013	RES /COMMERCIAL USE	RC
019	RES /EXEMPT USE	RC
025	RC: ONE RES UNIT	RC
026	RC: TWO RES UNITS	RC
027	RC: THREE RES UNITS	RC
031	COM /RES MULTI-USE	RC
Residential Property		
101	SINGLE FAM DWELLING	R1
102	RESIDENTIAL CONDO	CD
103	MOBILE HOME	R1
104	TWO-FAM DWELLING	R2
105	THREE-FAM DWELLING	R3
106	RES ANCLL IMPROVEMT	RL
107	OTHER RESIDENTIAL	RL
108	CONDO PARKING (RES)	CP
109	MULTIPLE BLDGS/1 LOT	R3
110	CONDO STORAGE (RES)	CD
Apartment Property		
111	APT 4-6 UNITS	R4
112	APT 7-30 UNITS	A
113	APT 31-99 UNITS	A
114	APT 100+ UNITS	A
115	CO-OP APARTMENT	A
116	RES PARKING GARAGE	A
117	DAY CARE USE	A
118	ELDERLY HOME	A
119	RES PARKING LOT	RL
121	ROOMING HOUSE	A
122	FRATERNITY HOUSE	A
123	RESIDENCE HALL	A
125	SUBSD HOUSING S- 8	A
126	SUBSD HOUSING S-231D	A
127	SUBSD HOUSING S-202	A
130	RESIDENTIAL LAND	RL
131	RES LAND (SECONDARY)	RL
132	RES LAND (UNUSABLE)	RL
140	CHILD CARE FACILITY	A
Codes #150-154 are used only in the commercial Income system		
150	APT : Studio	A
151	APT : 1 Bedroom Unit	A
152	APT : 2 Bedroom Unit	A
153	APT : 3 Bedroom Unit	A
154	APT : 4 Bedroom Unit	A
202	UNDERWATER LAND	RL
211	NON-PRODUCTIVE LAND	RL
Commercial Property		
300	HOTEL	C
301	MOTEL	C
302	INN, RESORT, B & B	C
303	PRIV CITY CLUB	C
304	NURSING /CONV HOME	C
305	HOSPITAL: PRIVATE (Taxab	C
306	LABORATORY	C
307	VETERINARY HOSPITAL	C
309	MED CLINIC OUTPATIENT	C
Commercial Property		
310	LAUNDRY OPERATION	C
311	LAUNDROMAT /CLEANER	C
312	MINI-STORAGE WHSE	C
313	LUMBER YARD STORAGE	C
314	TRUCK TERMINAL	C
315	PIERS / DOCK	C
316	WAREHOUSE /DISTRIBUTI	C
317	STORAGE WHSE / GARAGE	C
318	COLD STORAGE WHSE	C
319	STRIP CENTER /STORES	C
320	RETAIL /WHSL /SERVICE	C
321	DISCOUNT STORE	C
322	DEPARTMENT STORE / MAL	C
323	SHOPPING CENTER	C
324	SUPERMARKET	C
325	RETAIL STORE DETACHED	C
326	RESTRANT /SERVICE	C
327	RESTRANT /LOUNGE	C
328	FAST FOOD RESTAURANT	C
329	BAR /TAVERN /PUB	C
330	SHOWROOM (AUTO)	C
331	AUTO SUPPLY /SERVICE	C
332	REPAIR /SERV GARAGE	C
333	SELF-SERV STATION	C
334	SERVICE STATION	C
335	CAR WASH: AUTOMATIC	C
336	COM PARKING GARAGE	C
337	PARKING LOT	CL
338	SUBTERRANEAN GARAGE	C
339	CAR WASH: SELF-SERVICE	C
340	OFFICE (ATTACHED)	C
341	BANK BUILDING	C
342	MEDICAL OFFICE	C
343	OFFICE 1-2 STORY	C
344	OFFICE 3-9 STORY	C
345	OFFICE : CLASS B	C
346	OFFICE : CLASS B+	C
347	OFFICE : CLASS A-	C
348	OFFICE TOWER: Class A	C
350	POSTAL SERVICE	C
351	TRAINING /PRIV EDUC	C
352	DAY CARE USE (com bldg)	C
353	SOCIAL CLUB	C
354	MAUSOLEUM	C
355	FUNERAL HOME	C
356	COMM CONDO	CC
357	RETAIL CONDO	CC
358	OFFICE CONDO	CC
359	CONDO PARKING (COM)	CC
360	MUSEUM, GALLERY	C
361	NIGHT CLUB	C
362	MOVIE THEATER	C
363	DRIVE-IN THEATER	C
364	STAGE THEATER	C
365	AUDITORIUM/SPORT CTR	C
366	FIELDHOUSE /TRACK	C
367	RACE TRACK	C
368	FAIRGROUND, PARK	C
370	BOWLING ALLEY	C
371	ARENA: ICE SKATING	C
372	ARENA: ROLLER SKATING	C
373	SWIMMING POOL	C
Commercial Property		
374	HEALTH SPA /CLUB	C
375	TENNIS/ RACQUET CLUB	C
376	GYM /ATHLETIC FACILITY	C
377	RECREATION BLDG	C
380	GOLF COURSE	C
381	TENNIS COURT(S)	C
382	STABLE, KENNEL	C
383	SWIMMING POOL -OUTDR	C
384	BOAT HOUSE / MARINA	C
385	TAXABLE BLDG ONLY	C
386	CAMPGROUND FACILITY	C
387	PAY PARKING LOT	CL
388	AIR RIGHTS PROPERTY	C
389	BLDG: CHAP 61 A LAND	AH
390	COMMERCIAL LAND	CL
391	COM LAND (SECONDARY)	CL
392	COM LAND (UNUSABLE)	CL
393	COM UNDERWATER LAND	CL
394	UTILITY BLDG /SHED	CL
395	AIR FREIGHT TERMINAL	C
396	HANGAR: STORAGE, MAINT	C
397	BUS / RAIL TERMINAL	C
398	AIRPORT TERMINAL	C
399	COM GREENHOUSE	C
Industrial Property		
400	OLD MANUFACTURING	I
401	OLD INDUSTRIAL WHSE	I
402	OFFICE: INDUSTRIAL USE	I
403	NEW MANUFACTURING	I
404	LIGHT MFG / R & D	I
405	INDUSTRIAL LOFT	I
406	COMPUTER EQUIP BLDG	I
407	MACHINE SHOP (SMALL)	I
408	NEWSPAPER PLANT	I
410	MINING, QUARRYING	I
412	METAL PROCESSING	I
413	AUTO SALVAGE YARD	I
414	FOOD PROCESS PLANT	I
415	BOTTLING PLANT	I
416	CANNERY	I
417	DAIRY	I
420	TANKS: ABOVE GROUND	I
421	TANKS: UNDER GROUND	I
422	ELEC POWER PLANT	I
423	ELEC TRANS R O W	I
424	ELEC SUBSTATION	I
425	GAS MANUFACTR PLANT	I
426	GAS PIPELINE R O W	I
427	GAS STORAGE	I
428	GAS PRESSURE STATION	I
430	TELEPH EXCHG STATION	I
431	TELEPH RELAY TOWER	I
432	CABLE T V FACILITY	I
433	RADIO /TV TRANS FACIL	I
435	RADIO /TV STUDIO	I
436	STUDIO /REMOTE CONTR	I
440	INDUSTRIAL LAND	CL
441	IND LAND (SECONDARY)	CL
442	IND LAND (UNUSABLE)	CL
445	RAILROAD PROP	I
446	WATER /SEWER UTILITY	I
450	INDUSTRIAL CONDO	I
465	COM BILLBOARD	C
Exempt Ownership		
900	U.S. GOVERNMENT	E
901	COMMONWEALTH OF MASS	E
902	CITY OF BOSTON	E
903	BOST REDEVELOP AUTH	E
904	PRIV SCHOOL /COLLEGE	E
905	CHARITABLE ORGANIZTN	E
906	RELIGIOUS ORGANIZATN	E
907	121-A PROPERTY	EA
908	BOSTON HOUSING AUTH	E
Codes # 910-919 only apply to State-owned property with Re-imbursable LAND		
910	Mass Dept Environment Mgmt	E
912	Mass Dept of Youth Services	E
914	Mass Dept of Mental Health	E
915	Metro Dist Com (MDC) LAND	E
917	Mass Dept Education (college)	E
918	Mass Environment Protection	E
codes # 920-929 used for NON-reimbursable		
920	Mass Environment Mgmt	E
921	Mass Environmt Protection	E
922	Mass Corrections / Police	E
923	Mass Dept of Public Health	E
924	Mass Highway Dept	E
925	Metropolitan Dist Com (MDC)	E
926	Mass Dept Justice /Judiciary	E
927	Mass Dept Education (college)	E
928	Mass Div Capital Asset Mgmt	E
929	Mass : Other property	E
Exempt Property Type		
Codes # 950-986 are used for valuation		
950	RETAIL CONDO: EXEMPT	E
960	OFFICE CONDO: EXEMPT	E
965	GOV'T OFFICE BLDG	E
970	CHURCH, SYNAGOGUE	E
971	RECTORY, CONVENT	E
972	CORRECTIONAL BLDG	E
973	ADMINISTRATIVE BLDG	E
974	FIRE STATION	E
975	POLICE STATION	E
976	SCHOOL	E
977	COLLEGE (ACADEMIC)	E
978	LIBRARY	E
979	HOSPITAL (EXEMPT)	E
980	WATER TREATMT PLANT	E
981	INCINERATION PLANT	E
982	ARMORY (MILITARY)	E
983	CEMETERY	E
984	PUBLIC BEACH	E
985	OTHER EXEMPT BLDG	E
986	OTHER PUBLIC LAND	E
995	CONDO MAIN (no value)	CM
999	Partial Exempt Entity	

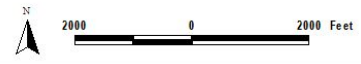
Appendix B

City Of Boston Planning Districts

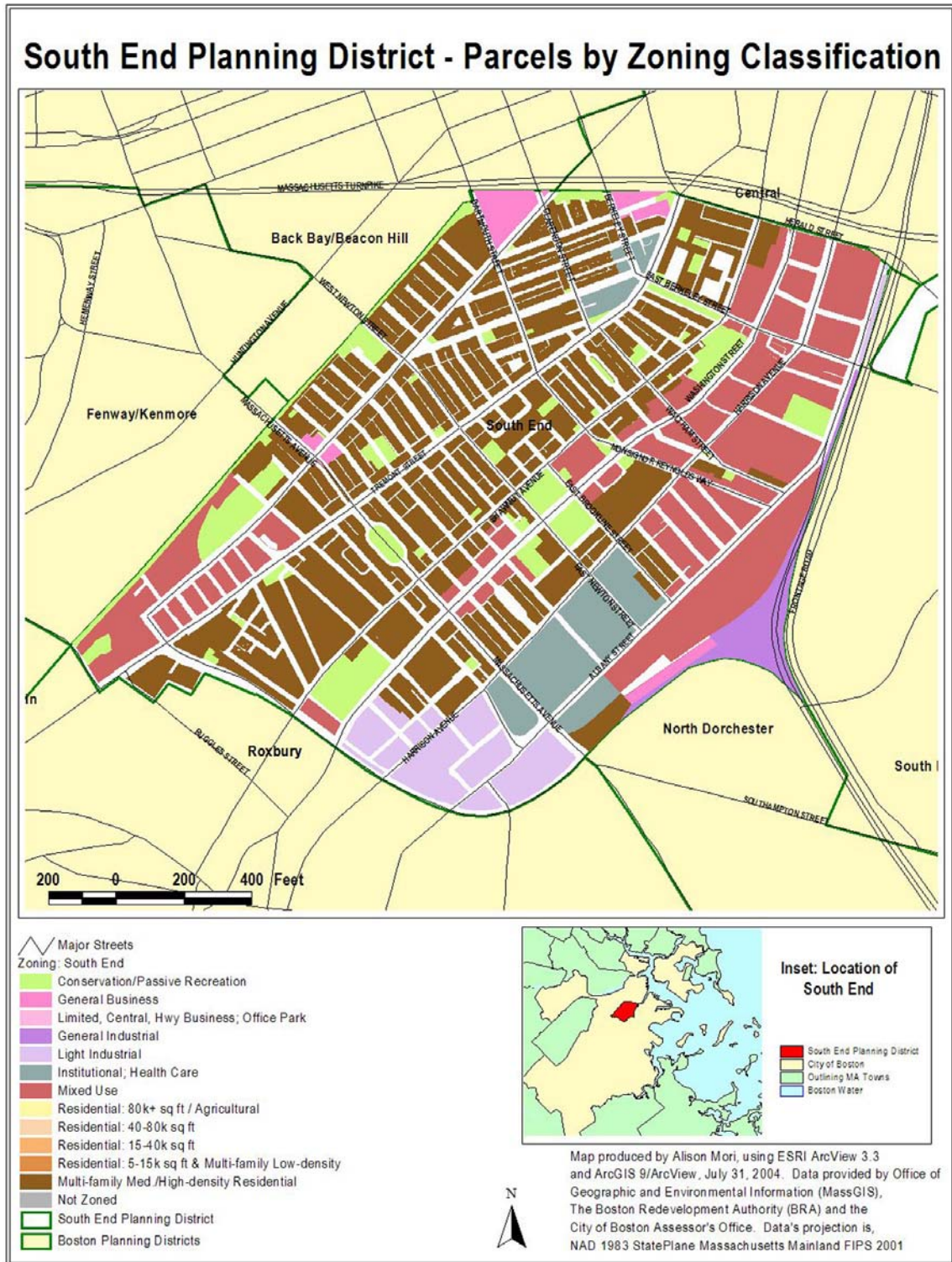


- City of Boston Planning Districts
- Neighboring MA Towns
- Coastal Water

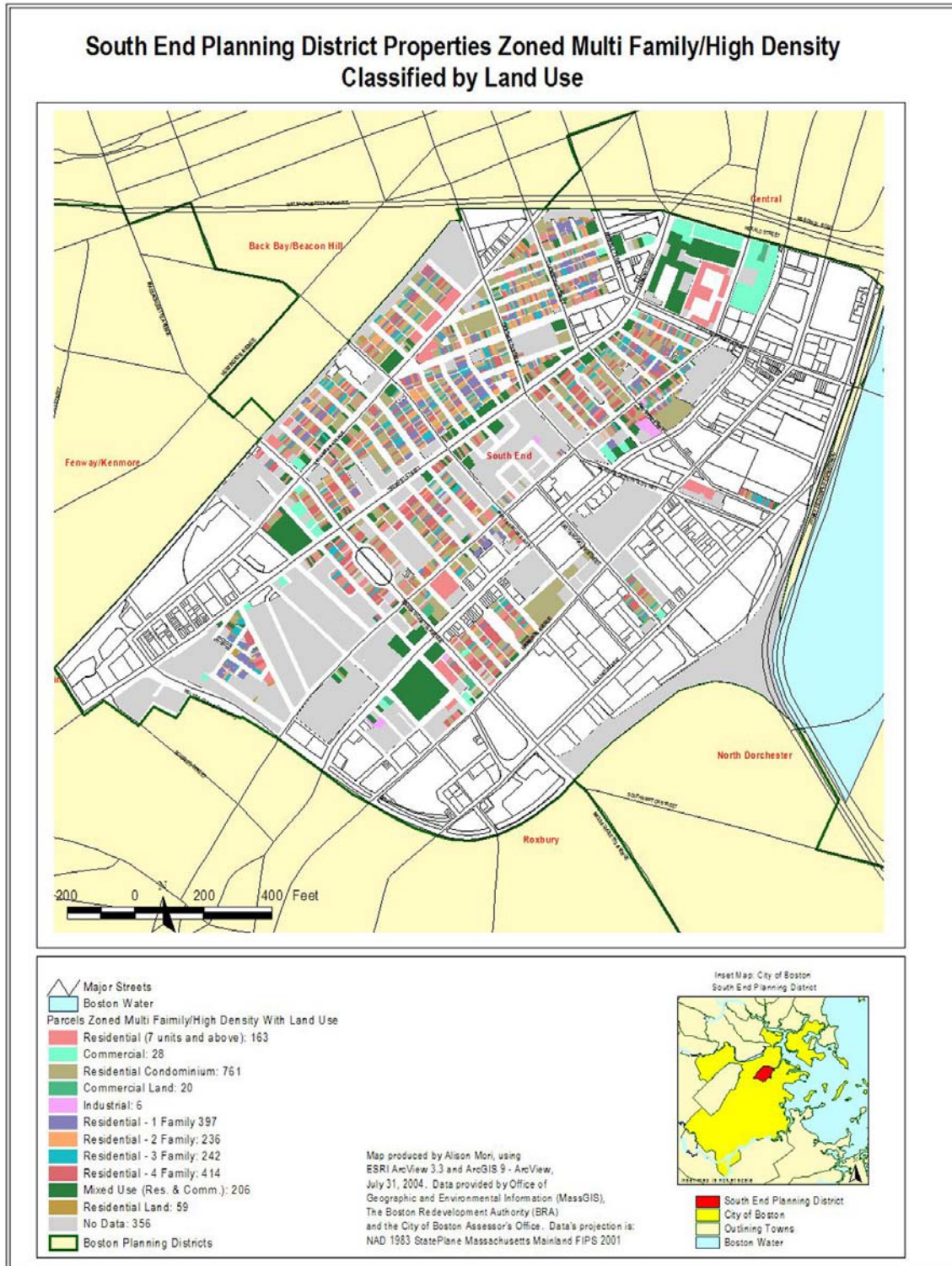
Map produced by Allison Mori, using ESRI ArcView 3.3 and ArcGIS 9/ArcView, July 31, 2004. Data provided by the Office of Geographic and Environmental Information (MassGIS), The Boston Redevelopment Authority (BRA) and the City of Boston Assessor's Office. Data projected to NAD 1983 State Plane Massachusetts Mainland FIPS 2001



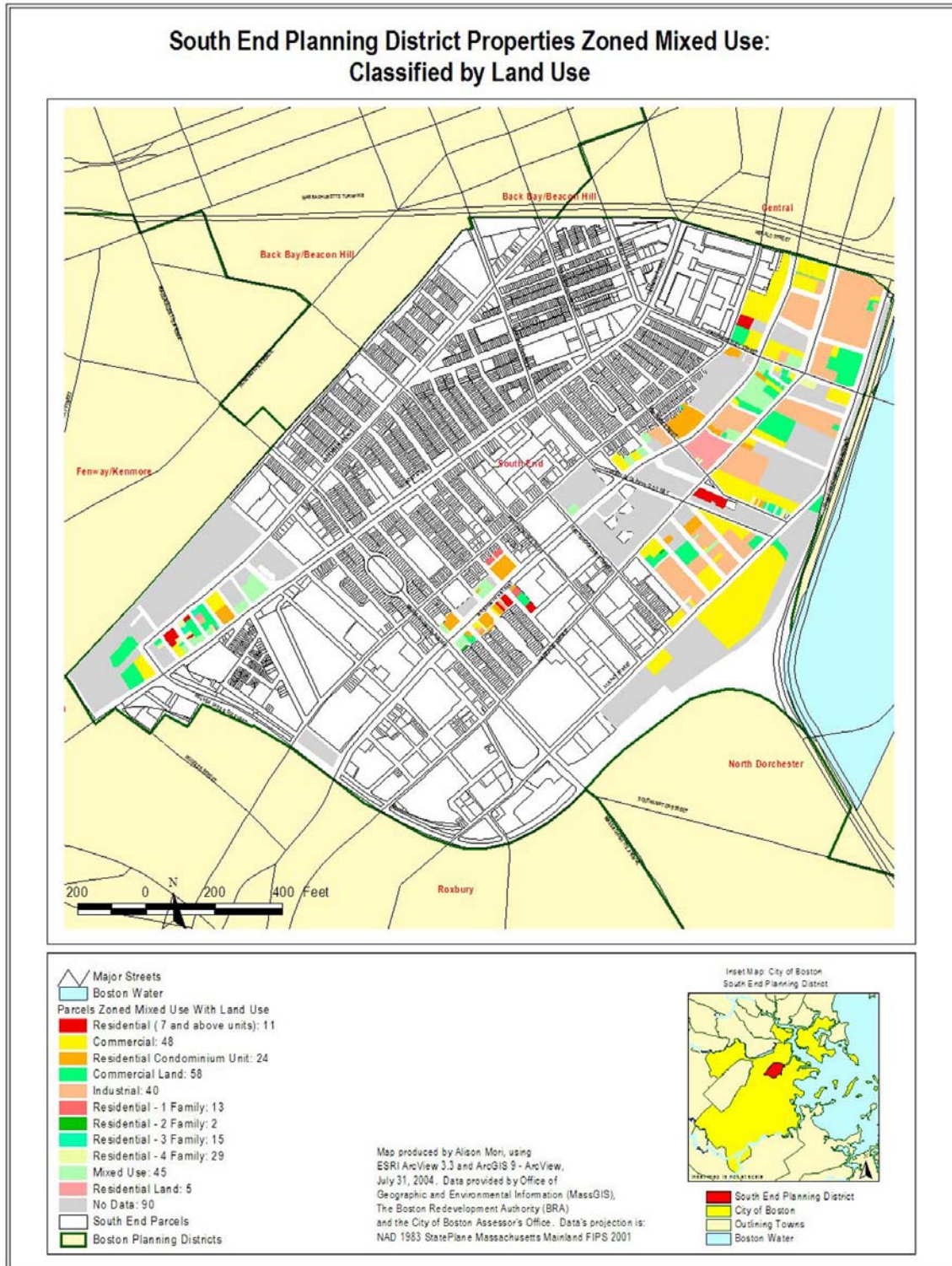
Appendix D



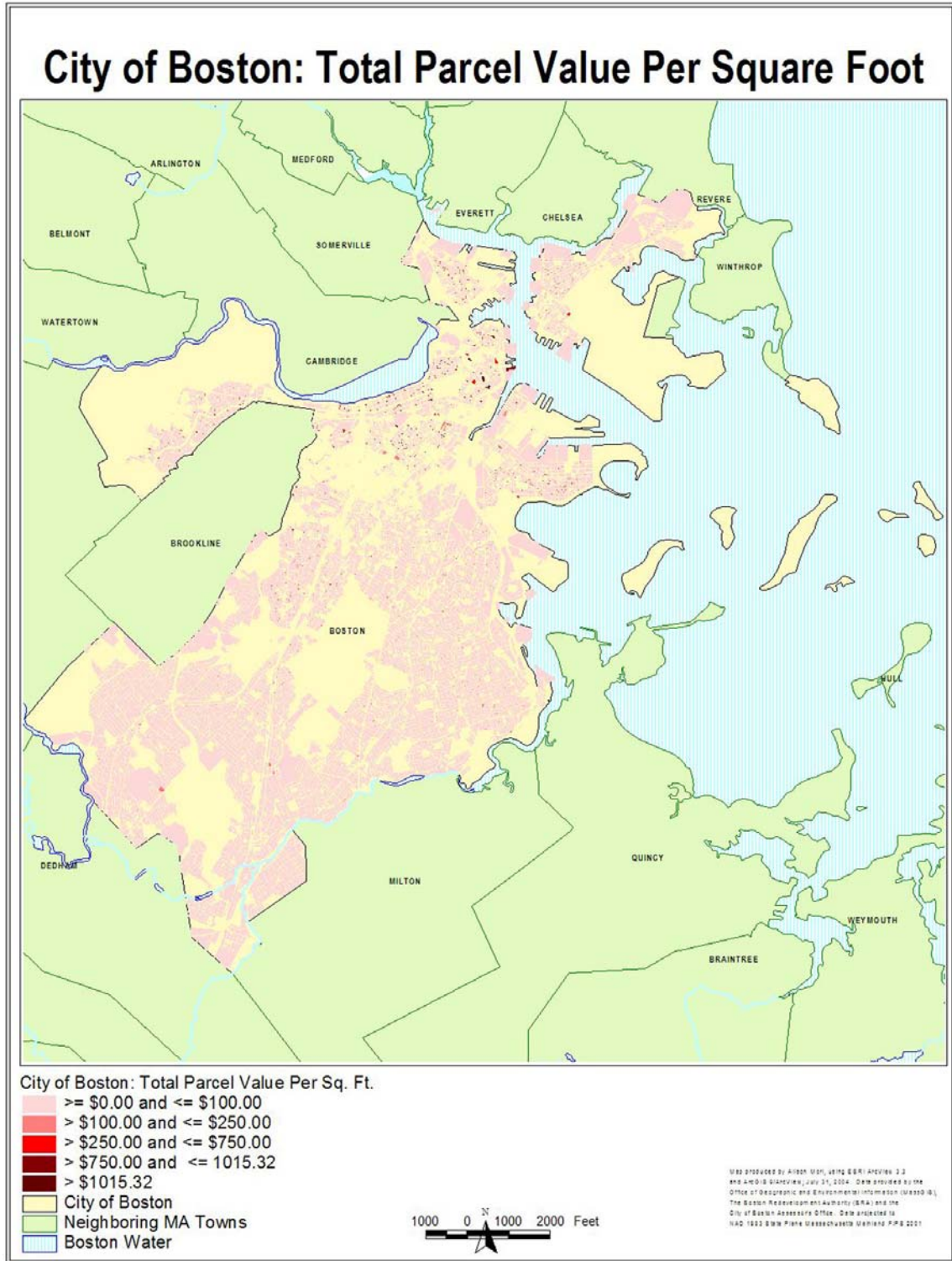
Appendix E



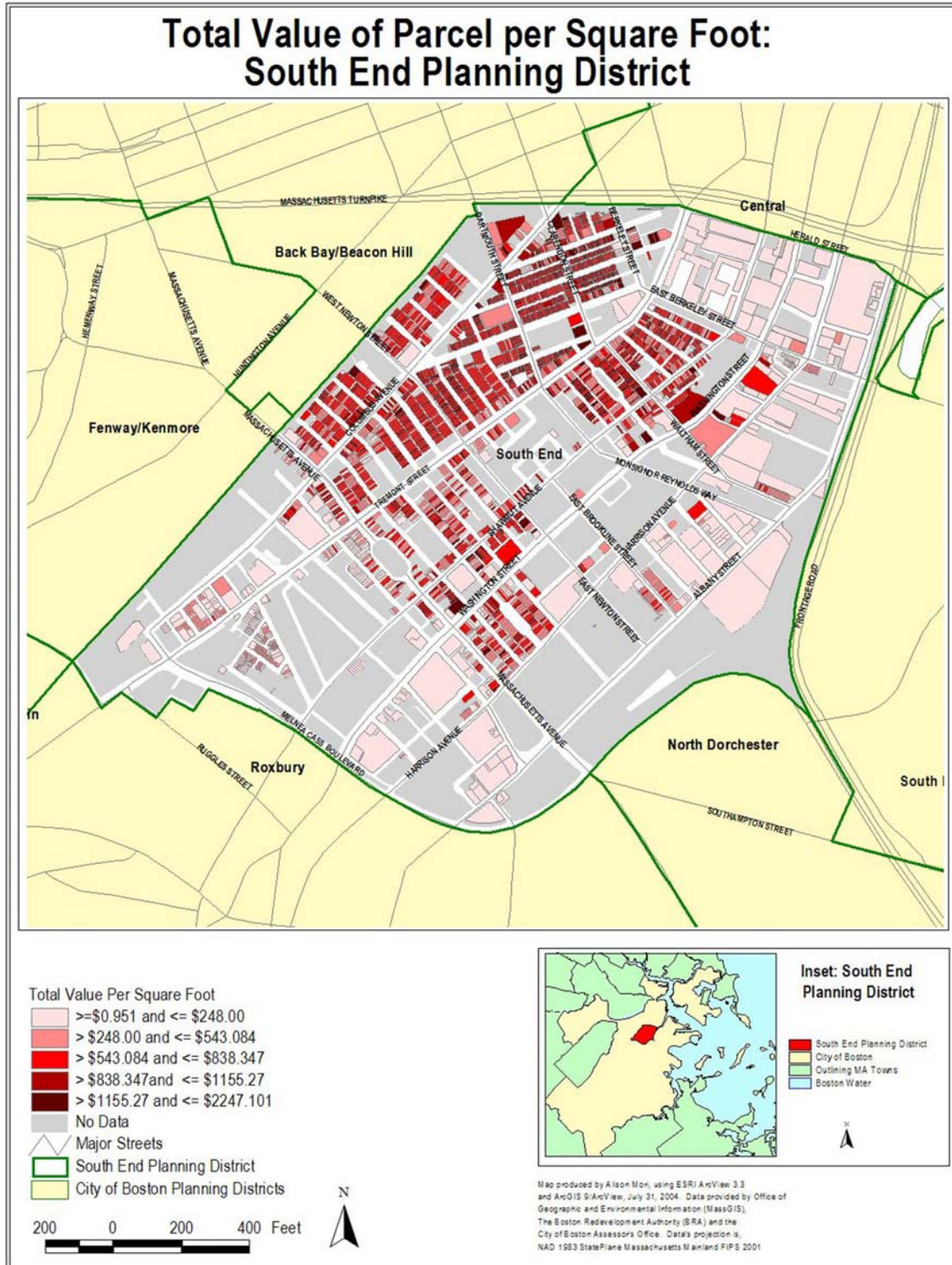
Appendix F



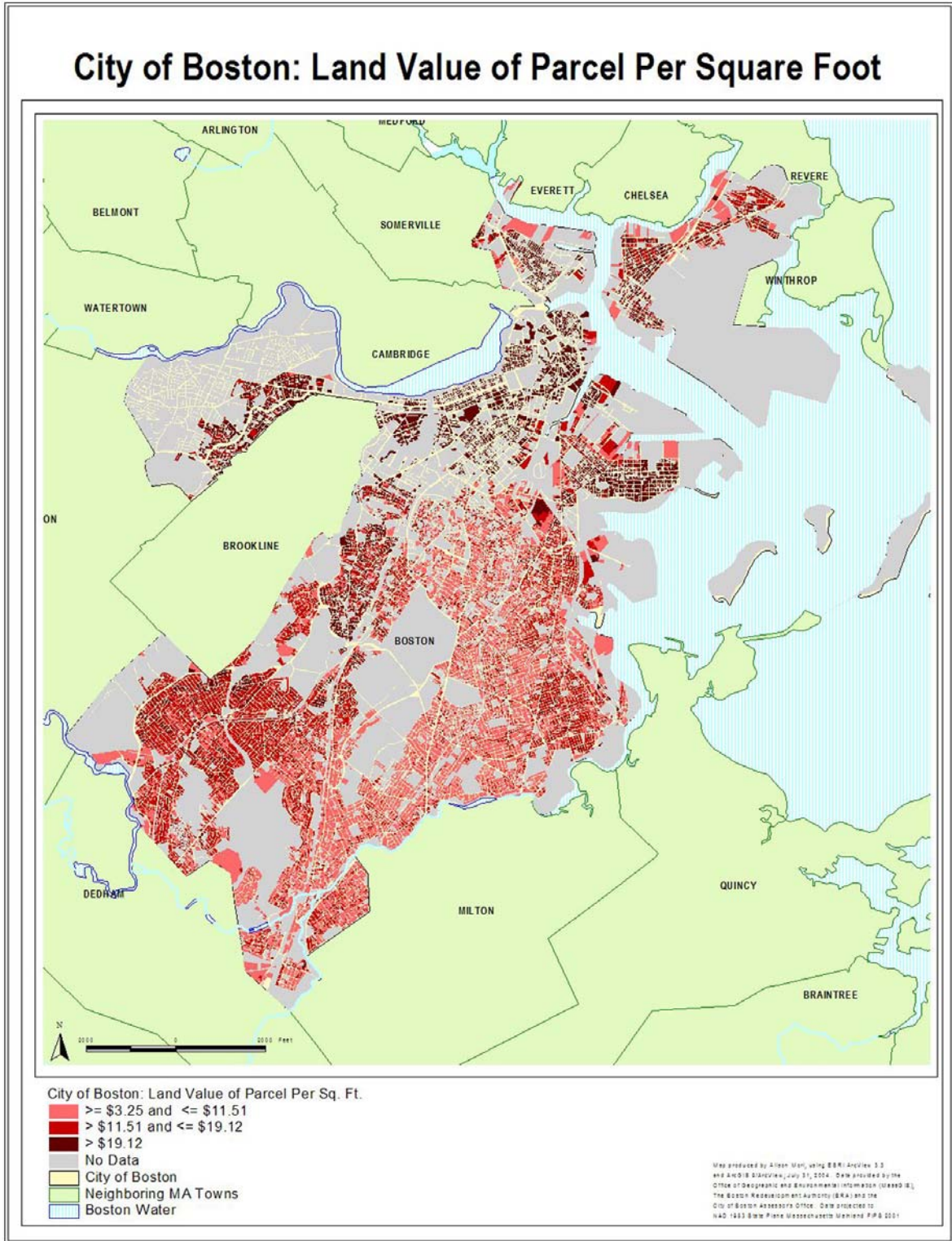
Appendix G



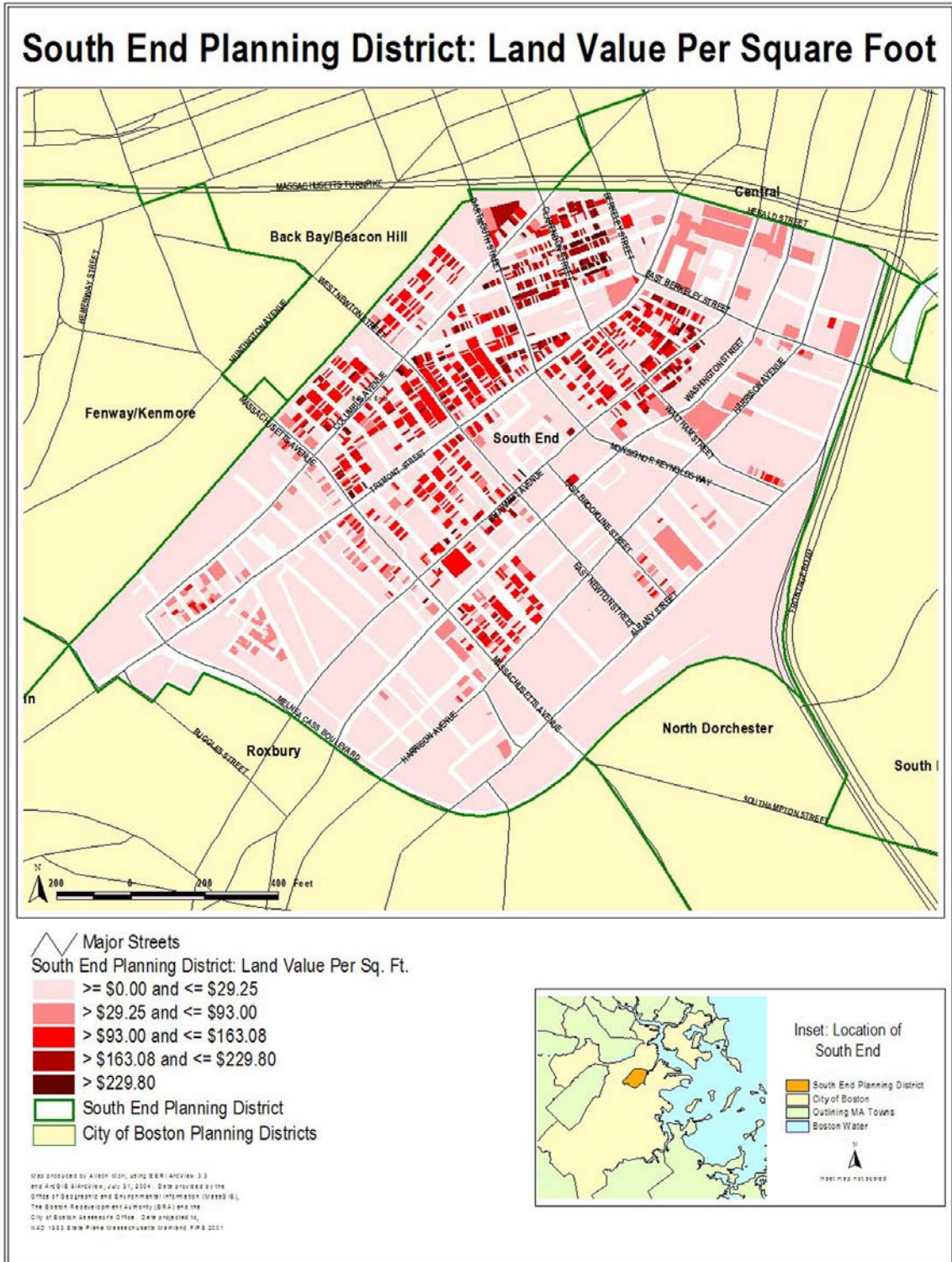
Appendix H



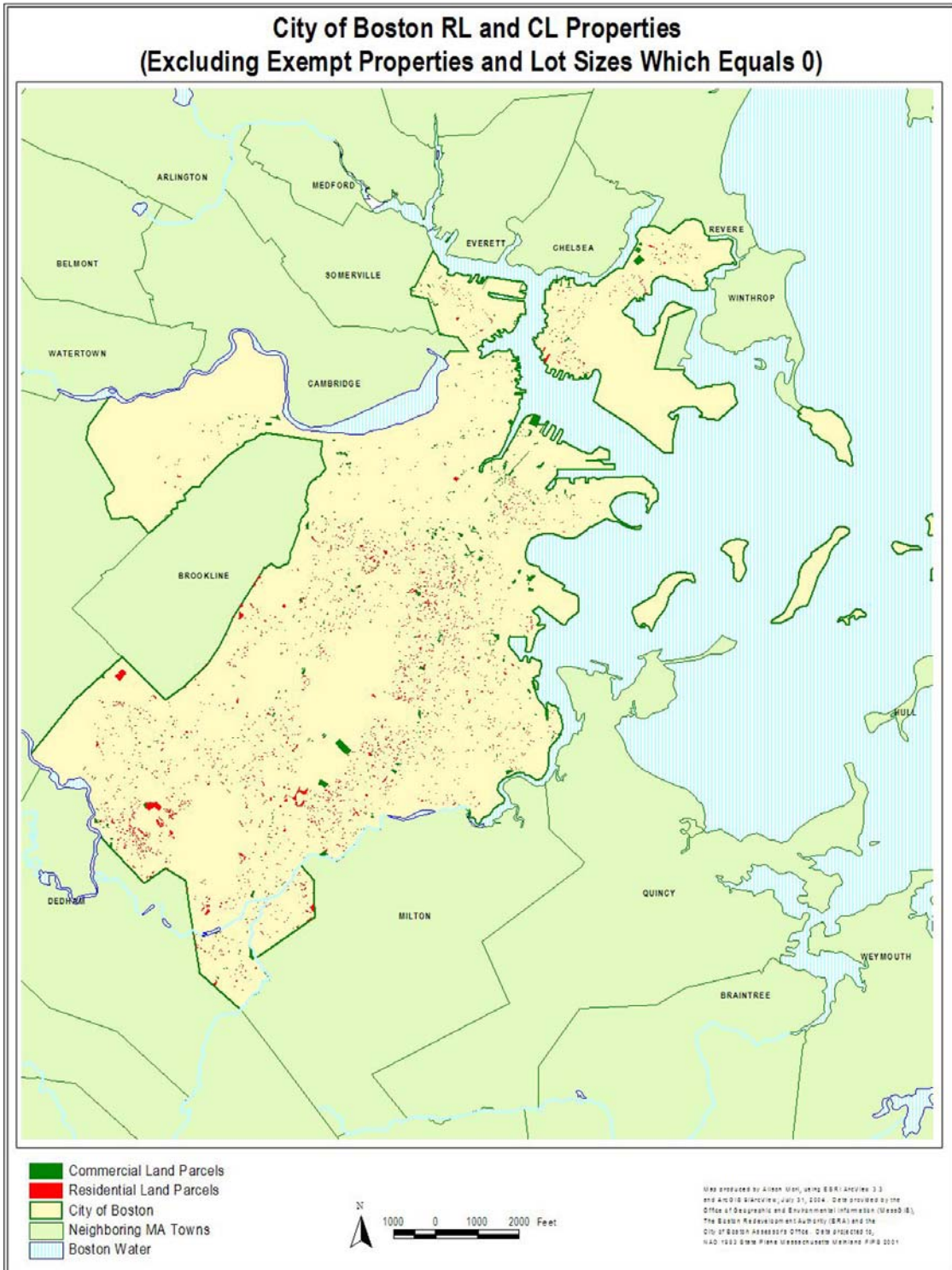
Appendix I



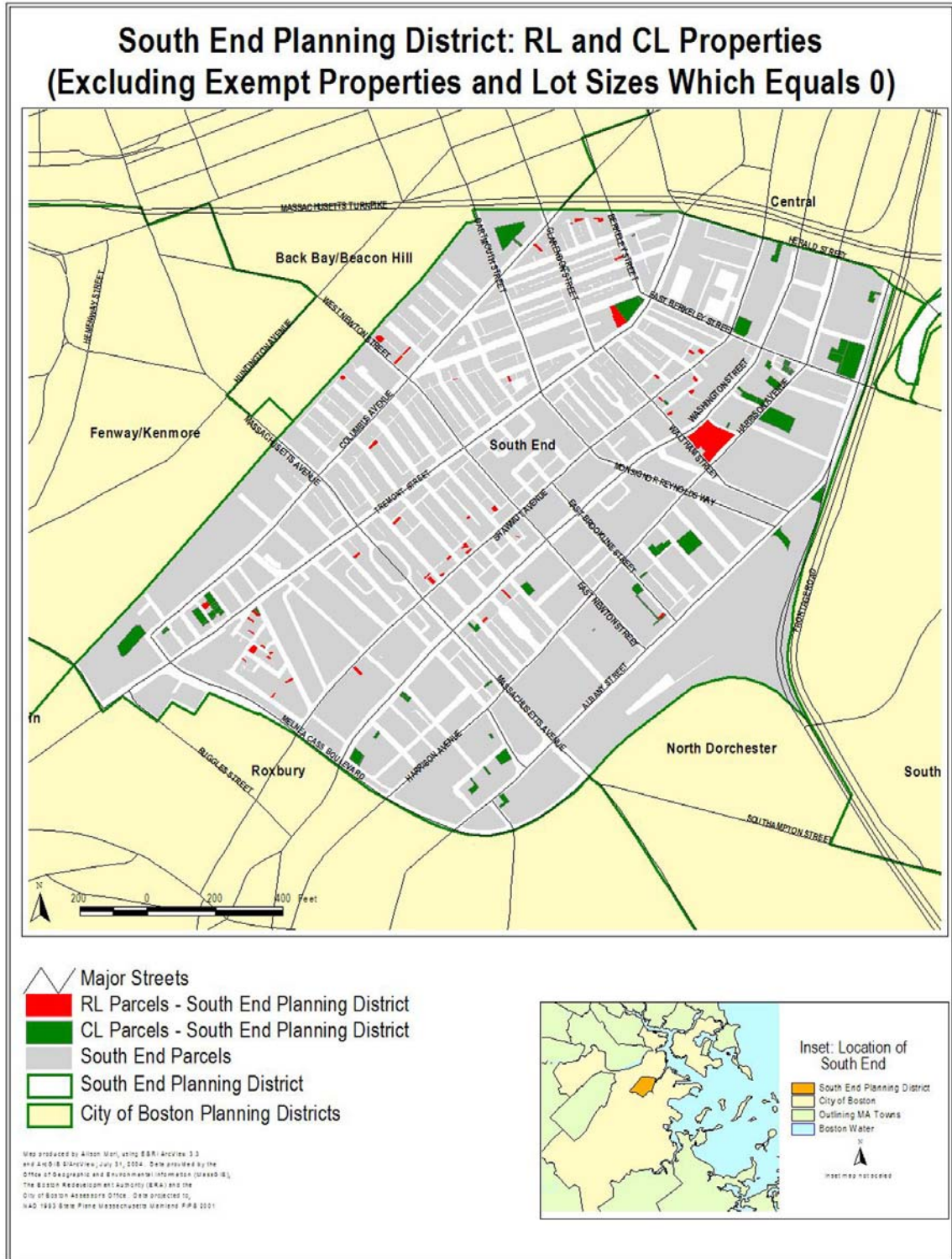
Appendix J



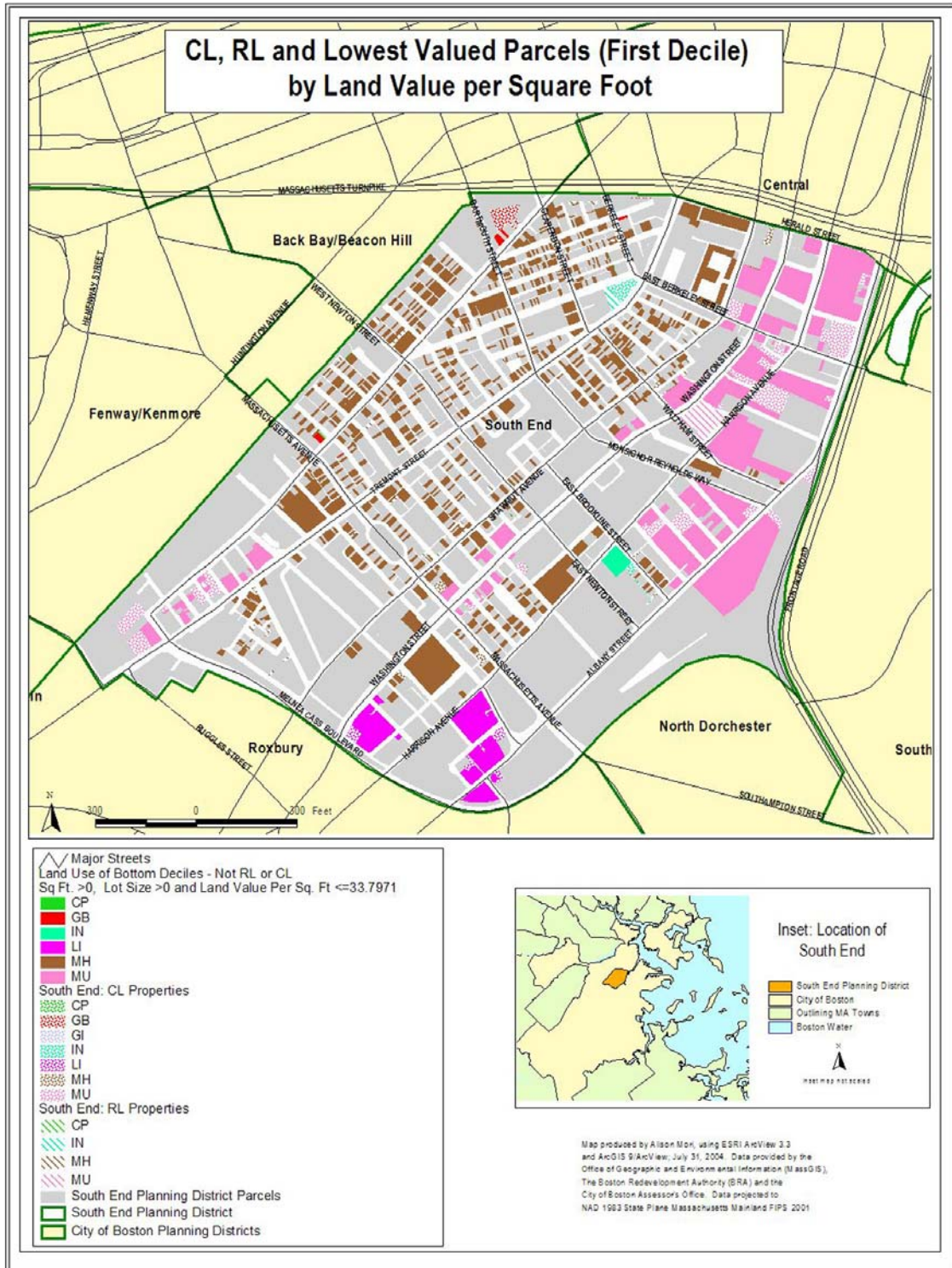
Appendix K



Appendix L



Appendix M



Works Cited

- American Institute of Real Estate Appraisers and the Society of Real Estate Appraisers. "Real Estate Appraisal Terminology." Ballinger Publishing Co., 1981. p.126-7.
- Boston Redevelopment Authority. "Boston's Washington Street Corridor." 2003.
- Bowman, Ann O'M., and Michael A. Pagano. "Terra Incognita: Vacant Land and Urban Strategies." *Georgetown University Press*, 2004.
- Brophy, Paul C., and Jennifer S. Vey. "Seizing City Assets: Ten Steps to Urban Reform." The Brookings Institution and CEO's for Cities. Oct. 2002.
- Center City District and Central Philadelphia Development Corporation. "State of Center City, Philadelphia." 2003.
- City of Boston. *Taxpayer Referral and Assistance Center*. 2004. www.cityofboston.gov/trac.
- City of Boston Environment Department, South End Landmark District Commission, Notice of Decision, February 26, 2002
- City of Philadelphia. *Philadelphia Zoning Code*. 1985.
- Corgel, John B., Ph.D., David C. Ling, Ph.D., and Halbert C. Smith, DBA. *Real Estate Perspectives: An Introduction to Real Estate*. New York: McGraw-Hill Higher Education, 2001. p. 255.
- Davidson, Michael, and Fay Dolnick, ed. *A Planner's Dictionary*. American Planning Association Advisory Service, #521/522 (2004): 244.
- Diesenhouse, Susan. "Restoration for a Victorian." *New York Times* 22 Aug. 1993.
- Epley, Donald R., Richard L. Haney, Jr., and Joseph S. Rabianski, "Real Estate Decisions." Cincinnati: South-Western Thomson Learning, 2002.
- Galster, George. "On the Nature of Neighbourhood." *Urban Studies* 38.12 (2001): 2111-124.
- Geltner, David. "On the Use of the Financial Option Price Model to Value and Explain Vacant Urban Land." *AREUEA Journal* 19.2 (1989)
- United States General Accounting Office. *Federal Real Property Vacant and Underutilized Properties at GSA, VA and USPS*. GAO Report to Congressional Requesters. Aug. 2003.
- Grove, Shiela. Personal Interview. 21 July 2004.
- Harvard Graduate School of Design and Kennedy School of Government. *Note on the Differences Between Social Benefit-Cost*. Financial and Regional Income Analyses. (Undated). p. 1

- Homsy, George. "Bouncing Back." *Planning Magazine* 64.3 (1998): 12
- Kromer, John, for the Fels Institute of Government "Vacant Property Policy & Practice: Baltimore & Philadelphia." The Brookings Institution Center on Urban and Metropolitan Policy and CEO's for Cities. Oct. 2002.
- Lathrop, Randi. Personal Interview. 14 July 2004.
- Lehman & Associates. "The Zoning Dictionary Resource Materials for Planners." 1999.
- Leigh, Nancey Green. "The State Role in Urban Land Development." The Brookings Institution Center on Urban and Metropolitan Policy and CEO's for Cities. Apr. 2003.
- Lusht, Kenneth M., "Real Estate Valuation Principles & Applications." Chicago: Times Mirror Higher Education Group, Inc. Company, 1997. p. 68
- Massachusetts Bay Transit Authority. *Silver Line Community News & Information* 3.7 (2004):
- Massachusetts Governance Law (M.G.L.) Chapter 59.5, clause Third.
- MassGIS. *Zoning Datalayer Description*. March 2004. www.mass.gov/mgis/zn.htm
- Pagano, Michael A., and Ann O'M. Bowman. "Vacant Land in Cities: An Urban Resource." The Brookings Institution Center on Urban and Metropolitan Policy and CEO's for Cities. Dec. 2000.
- Washington Gateway Main Street, Inc. Historic Panel Program, 2002.
- - -. *Historical Perspective*, 2004.
- Wells, Bob. Personal Interview. 28 July 2004.
- Witt, Ellen. Personal Interview. 16 July 2004.