The Cornell Real Estate Review was founded as a forum for students, faculty, and practitioners in real estate. Its purpose is to focus attention on issues in the industry.

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The Cornell Real Estate Review is committed to providing a forum for all members of the real estate community to express their ideas.

This publication is funded by the Cornell Baker Program in Real Estate, Cornell Real Estate Council and the generosity of readers.

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Published by the students of the Graduate Baker Program in Real Estate at Cornell University, Ithaca, New York.
# Table of Contents

<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foreword</td>
<td>4</td>
</tr>
<tr>
<td>Letter from the Editors</td>
<td>5</td>
</tr>
<tr>
<td>Can Short-Term Rental Arrangements Increase Home Values?: A Case for Airbnb and Other Home Sharing Arrangements By: Jamila Jefferson-Jones</td>
<td>12</td>
</tr>
<tr>
<td>When Private Property Rights Collide With Growth Management Legislation By: Steve P. Calandrillo, Chryssa V. Deliganis, and Andrea Woods</td>
<td>20</td>
</tr>
<tr>
<td>The interconnectedness between Home Builders and the Asian-American Community By: Gerd-Ulf Krueger and Scott Laurie</td>
<td>36</td>
</tr>
<tr>
<td>Constitutional Constraints on Using Eminent Domain to Write-Down Underwater Mortgages By: Jacob R. Shelton</td>
<td>46</td>
</tr>
<tr>
<td>Baker Program Alumnus Profile: Elysia Tse (Baker ’01)</td>
<td>62</td>
</tr>
<tr>
<td>Industry Leader Profile: John Grayken</td>
<td>64</td>
</tr>
<tr>
<td>Asian Capital Investing in US Real Estate By: Junwei (Eddie) Zhou</td>
<td>66</td>
</tr>
<tr>
<td>This Land is Your Land, This Land is My Land: A Case Study on Eminent Domain and Under Compensation By: Annamaria Lookman</td>
<td>75</td>
</tr>
<tr>
<td>Determining the Applicability of 3D Concrete Construction (Contour Crafting) of Low Income Houses in Select Countries By: David Weinstein and Peter Nawara</td>
<td>94</td>
</tr>
<tr>
<td>Healthcare REITs and their Operator Partnerships By: Matt Gottlieb</td>
<td>112</td>
</tr>
<tr>
<td>The Troubled Tower By: Jason L. Spencer</td>
<td>127</td>
</tr>
<tr>
<td>Cornell/SelectLeaders Job Barometer</td>
<td>140</td>
</tr>
<tr>
<td>Case Competition Highlights</td>
<td>144</td>
</tr>
</tbody>
</table>
Welcome to the 2015 edition of the Cornell Real Estate Review (CRER), a publication that features practical, applied research interspersed with commercial real estate cases and industry awards relied upon by our readers.

The Cornell Real Estate Review, similar to the Law Review structure found in most US Law Schools, is edited and managed by graduate students in the two-year Cornell University Baker Program in Real Estate who serve as the managerial and editorial staff with Cornell faculty oversight. Selection as editor of the Cornell Real Estate Review is the most prestigious honor available in the Baker Program in Real Estate at Cornell University, and 2014-15 Co-Editors Dan Gualtieri (Baker ’15), Nicholas Martinez (Baker ’15) and Clayton Roach (Baker ’15) continued the tradition of dedication and professionalism that have come to symbolize Cornell Real Estate Review Editors as well as implemented practices that will serve the Review for years to come.

The Review’s selection of its commercial real estate Industry Leader of the Year has become an anticipated event each year, and 2015 awardee John Grayken, founder and Chairman of Lone Star Funds, continues a tradition since the awards inception in 2007 of remarkable leaders who exemplify “transformational leadership and leave an enduring legacy” on the real estate industry. Each year the Advisory Board of the Baker Program in Real Estate forwards nominees to the CRER editorial board, which then thoroughly reviews finalists, announces the award, and hosts a “fireside chat” with the recipient.

Contributors to each edition of the Review include academicians as well as industry practitioners, but the Review also recognizes student research and scholarship. The Westport Capital Partners award recognizes the top article submission from a Cornell student author, which was awarded to Annamaria Lookman (Baker ’16) for her work on eminent domain. The Capstone Advisors Most Outstanding Article Award meanwhile, recognizes the top article from an enrolled graduate student, which went to Jacob Shelton of Texas A&M for his analysis of constitutional constraints on writing down underwater mortgages. Texas A&M now joins UW-Madison, USC, UCLA, Rutgers, Columbia University, MIT, University of California-Berkeley, University of Florida, and the University of Pennsylvania as universities whose students have received the coveted Capstone Advisors Most Outstanding Article award.

Each edition of the CRER also includes at least one real estate case study, and this year two case studies are featured. You will find This Land is Your Land, This Land is My Land: A Case Study on Eminent Domain and Under Compensation to be an eye opening case on eminent domain. The Troubled Tower is an application case encompassing issues of valuation, design, construction, and joint venture negotiations. CRER cases are available by request through the Baker Program in Real Estate for use in courses, workshops, and professional development.

The CRER would not be possible without the support and generosity of its subscribers, sponsors, and contributors. The generosity of Steve Meringoff (BS ’66) and others play a critical role in supporting the CRER as well as other Baker Program in Real Estate outreach activities, and are sincerely appreciated.

On behalf of the Cornell University Baker Program in Real Estate in conjunction with the Cornell Real Estate Council, allow me to present Volume 13 of the Cornell Real Estate Review, which I hope you will find a highly readable, topical periodical that brings insight and practical value. Please visit www.crer.realestate.cornell.edu for CRER archives and the periodic release of real estate-related research and feature items. As always, we welcome your contributions, comments, and suggestions for future topics and improvements to the Review, and thank you.

Yours truly,
David L. Funk
Director
Baker Program in Real Estate
Cornell University
Letter from the Editors

We are excited and honored to present the 13th Volume of the Cornell Real Estate Review, a student edited and managed publication with oversight from faculty in the Baker Program in Real Estate at Cornell University. A continuation of the tradition of thought leadership in real estate, the Review strives to promote practical learning and introduce readers to new concepts and practices. As editors, it is our duty to join scholarly discourse with professional applicability and to create a publication that reflects the values of the Baker Program in Real Estate.

As the Review team came together to determine the direction for Volume 13, we reaffirmed our belief that the Review is most effective when it covers a variety of topics that interest all readers. We believe that we have succeeded in cultivating a series of timely and relevant articles and cases that touch a range of real estate topics, and are humbled by the dedication and persistence of the authors, contributors, and sponsors in the preparation of this year’s Volume. We would also like to thank our hardworking assistant editors – Matthew Green and Jason Henderson.

This year we encouraged Baker Program students to explore a topic of their choice and write an article or case for the Review. The response was enormous, and led to this year’s Volume containing five student published contributions; all focusing on very different and compelling topics. Articles and case studies this year include explorations of the applicability of 3D concrete printing in affordable housing, two discussions on the legal ramifications surrounding eminent domain, a thorough analysis of smart growth development, and a study on mixed-use development, among other compelling topics. We also introduced a new annual feature, the Baker Program in Real Estate Alumnus of the Year Award. This Award is presented to an alumnus of the Baker Program who has proven to be a steward of their community and has advanced significantly in their career in real estate. We are proud to announce that Elysia Tse (Baker ’01) has been selected as the 2015 recipient of this Award. Look for the Review team’s interview with Ms. Tse in this year’s Volume.

Last Spring, we had the distinct pleasure of welcoming Mr. Jorge Pérez, Chairman and CEO of The Related Group, to Ithaca for a visit with students. We had the honor of recognizing Mr. Pérez for his selection as the 2014 Industry Leader Award recipient. This past April, we again continued the Review’s tradition of bestowing this award on another industry icon - Mr. John Grayken, Founder and Chairman of Lone Star Funds. Mr. Grayken participated in a lively fireside chat with students, sharing valuable career advice and his firm’s investment strategy. Mr. Grayken’s interview with the Review – published in this Volume – stands as a testament to Mr. Grayken’s passion, leadership, and the transformative impact that he continues to have on his community and industry.

We also want to acknowledge the generosity of Russ Bernard of Westport Capital Partners and Alex Zikakis of Capstone Advisors who continue to support the Student Collaboration Award and Most Outstanding Article Award, respectively. We hope that you find the articles in this year’s Review valuable, insightful, and applicable to your experience in this great industry. As always, we welcome your feedback and invite you to share thoughts and ideas for upcoming publications at crer@cornell.edu. It has been our pleasure preparing this Volume and we hope you enjoy reading it.

Sincerely,

Dan Gualtieri, Nicholas Martinez, & Clayton Roach
Co-Editors, 2014-2015
The SOCIETY OF INDUSTRIAL AND OFFICE REALTORS® Award

Through a partnership with Cornell Real Estate Review, SIOR is pleased to announce the “SIOR Most Outstanding Article Award”. This $2,500 award will go to the author of the most distinguished article relating to office or industrial brokerage and transactions appearing in the Cornell Real Estate Review each year. The winning article will also be archived on the Cornell Baker Program in Real Estate’s website for future web searches. This award recognizes and encourages professional excellence in the study and practice of industrial and office real estate.

About SIOR

The SOCIETY OF INDUSTRIAL AND OFFICE REALTORS® is the leading professional commercial and industrial real estate association. With more than 3,000 members in more than 580 cities in 28 countries, SIOR represents today’s most knowledgeable, experienced, and successful commercial real estate brokerage specialists.
The Cornell Real Estate Council sponsors the Annual Cornell Real Estate Conference, which will be held October 15-16 in New York City. To learn more or to request an invitation, visit:

www.realestate.cornell.edu
The International Council of Shopping Centers ("ICSC") in partnership with the Cornell Real Estate Review is pleased to sponsor the **ICSC RETAIL REAL ESTATE ARTICLE OF THE YEAR AWARD**. The award, which carries a $2,500 honorarium, is awarded to the most outstanding article that advances understanding of retail real estate theory and practices. All submissions related to retail real estate in its broadest terms, including articles from faculty, practitioners, and graduate students, are eligible for consideration with selections announced each spring.

**About ICSC**

**Serving the Global Retail Real Estate Industry**

The ICSC is the world’s most prominent retail-oriented professional organization and the largest global trade association of the shopping center industry. It has a global membership of over 60,000, including developers, owners, investors, managers, marketing specialists, brokers, attorneys, lenders, retailers and other professionals as well as academics and public officials.

Its membership also includes a wide range of students through its Student Membership Program. The program now boasts more than 1,200 members from North America, Europe, Asia, South and Central America, and Australia. Students represent more than 250 colleges and graduate schools. The program is designed to enhance the college and graduate school experience of individuals in real estate, retailing, and related disciplines. Moreover, the program provides access to resources and a network of individuals that helps students locate internships and job opportunities.
Institute of Real Estate Management
Most Outstanding Real Estate Award

The Institute or Real Estate Management ("IREM") in partnership with the Cornell Real Estate Review is pleased to sponsor the IREM REAL ESTATE ARTICLE OF THE YEAR AWARD. The award, which carried a $2,500 honorarium, is awarded to the most outstanding article that advances understanding of theory and practices in the area of real estate management. All submissions related to real estate in its broadest terms, including articles from faculty, practitioners, and graduate students, are eligible for consideration with selections announced each spring.

About IREM

Promotes ethical real estate management practices

The Institute of Real Estate Management (IREM®) is an international community of real estate managers across all property types dedicated to ethical business practices and maximizing the value of investment real estate. An affiliate of the National Association of Realtors®, IREM has been a trusted source for knowledge, advocacy and networking for the real estate management community for more than 77 years.

IREM is the only professional real estate management association serving both the multi-family and commercial real estate sectors and has 80 U.S. chapters, 13 international chapters, and several other partnerships around the globe. Worldwide membership includes nearly 18,000 individual members and over 535 corporate members.

IREM promotes ethical real estate management practices through its credentialed membership programs, including the Certified Property Manager® (CPM®) designation, the Accredited Residential Manager® (ARM®) certification, the Accredited Commercial Manager (ACoM) certification, and the Accredited Management Organization® (AMO®) accreditation. These esteemed credentials certify competence and professionalism for those engaged in real estate management. IREM also offers CPM® Candidate, Associate, Student, and Academic memberships. All members are bound by the strictly enforced IREM® Code of Professional Ethics.

Collectively, CPM® Members in the United States manage nearly $2 trillion in real estate assets, including 11.4 million residential units and 10.4 billion net square feet of commercial space.
Westport Capital Partners
Student Collaboration Award

The “Student Collaboration Initiative” facilitates the professional development of graduate and undergraduate real estate students through active collaboration with real estate professionals. The initiative provides students the opportunity to research current issues in the real estate industry with the guidance of an industry professional. Research findings are typically published on the Baker Program in Real Estate’s website and in the Cornell Real Estate Review. In addition, recipients of this award receive $2,500 in recognition of their achievement.

By directing and assisting a real estate student, practitioners can pursue research topics with minimal interruption to their professional obligations. Typically, students initially contact industry professionals who have expressed a willingness to participate and to seek the professional’s cooperation in collaborating on a paper. Real estate professionals who are interested are encouraged to contact the Director of the Baker Program in Real Estate who will then notify students of opportunities to work with interested industry participants.

The CRER staff would like to extend a gracious thank you to Westport Capital Partners, LLC for its past and ongoing support for the Review and student publications.

Student Collaboration Award Recipients

2015
Annamaria Lookman (Baker ’16)
“This Land is Your Land, This Land is My Land: A Case Study on Eminent Domain and Under Compensation”

2014
Rebecca Green (Baker ’14) with Miriam Harris
“Collaborate or Compete: How Do Landlords Respond to the Rise in Coworking?”

2013
Syed Hyat (Baker ’13) with David Schaefer
“Jian Ye Li: Assessing and Managing Rises in International Real Estate Development”

2012
Robert Krumhansl (Baker ‘13) with Alex Zikakis
“Commercial Real Estate in the Digital Economy”

2011
David Shlomi (Baker ‘12) with Andrew Benioff
“How Dismantling Fannie Mae and Freddie Mac will Affect the Future of the Multifamily Market”

2010
Zied Sanhaji (Hotel ’10) with Peng Liu
“Green Initiatives in the US Lodging Industry”

2009
Tyler Grooms(Baker ’10) with John Hesse
“Galisteo Basin Preserve”
Josh Ladle (Baker ’10) with Duane Stiller
“Retail Site Selection:An Innovative Model for Retail Development”

2008
Daniel Lentz (Baker ‘08)
Mixed-Use and Mini-Vans: When New Urbanism Meets Sunbelt Consumer Preference

Brian Semel (Baker ’08)
A Challenging Process Outlined

2007
Jessica Pitts (Baker ’08) with Mychele Lord
“Existing Buildings: It’s Easier Than You Think to Green the Triple Bottom Line”

Richard Kennedy (Baker ’07) with Richard Baker
“Private Equity Goes Retail”

Pictured from left to right: 2015 Westport Capital Award winner Annamaria Lookman (Baker ’16) and Katherine Scafuri (Baker ’16) connect with a real estate professional during the Cornell Real Estate Conference. Photo: Jon Reis Photography
Although known for its practice-oriented, applicable real estate articles from academicians and industry practitioners, the Cornell Real Estate Review is also committed to supporting real estate scholarship by graduate students through publication of the MOST OUTSTANDING ARTICLE received from a graduate student each edition. In addition to publication in the CRER, the article is also distributed electronically and the author receives $2,500 in recognition of their achievement.

Eligible submissions include any real estate-related research commenced while enrolled as a graduate student in any field of study (graduates that started their publication while enrolled may submit up to one year from their date of graduation). Graduate students are encouraged to submit articles for consideration at any time, and all submissions received by March 1st will receive consideration for publication during the spring.

Capstone Advisors
Most Outstanding Articles Award

The CRER staff would like to extend a gracious thank you to Capstone Advisors and President Alex Zikakis for the firm’s support for the Review and this award.

2015
Texas A&M University
Jacob Shelton
Texas A&M University School of Law
“Constitutional Constraints on Using Eminent Domain to Write-Down Underwater Mortgages”

2014
University of Wisconsin-Madison
Cori Harvey

2013
University of Southern California
Henry Ammar

2012
University of California, Los Angeles
Marc Gans

2011
Rutgers
Brian N. Biglin

2010
MIT
Ben Bulloch and John Sullivan

2009
Columbia University
Alexandre Weiss

2008
University of Florida
Patricia Roset-Zuppa

2007
University of California at Berkeley
Kristin Perkins

2006
University of Pennsylvania
Janice Dornbush
Can Short-Term Rental Arrangements Increase Home Values?: A Case for Airbnb and Other Home Sharing Arrangements

By: Jamila Jefferson-Jones

Introduction

The sharing economy or “new economy”\(^1\) has redefined consumption in the housing context in a manner that impacts traditional notions regarding home values and neighborhood integrity. Housing sharing allows owners to share some of the benefits of property ownership – namely use and enjoyment\(^2\) – while shifting some of the burdens of ownership – particularly, the economic burdens. With the advent of the sharing economy, there is a brewing conflict between this new economy and the realities of economic regulation. Thus, in the housing context, we see this conflict playing out in the tension between growing patterns of home sharing and existing regulations that prohibit such sharing. Many state and local governments, relying on their inherent police powers, regulate short-term housing. In particular, certain land use legislation overtly prohibits occupation by short-term renters. One prominent justification for such prohibitions is the maintenance of property values and neighborhood character.

I argue that, despite short-term housing prohibitions and the underlying policies supporting them, such exchanges can actually help to preserve property values by providing income to homeowners that can be used to offset mortgage and maintenance costs – in other words, by allowing owners to share the burdens of ownership. Thus, rather than frustrating the goals and purposes for which old economy regulations were designed (e.g., the preservation of property values and neighborhood character), housing exchanges may instead aid in achieving these aims. Specifically, if homeowners are able to do so, they are more likely to be able to maintain their homes in the short-term and, in the long-term, to maintain ownership.

Policies that curtail short-term rental housing are of a bygone era and are ill-suited to address the modern sharing economy. The number of online platforms designed to link property owners with potential short-term lessees has grown rapidly over the last few years. For instance, Airbnb.com (“Airbnb”) -- the most well-known of these platforms -- boasts that it has connected over twenty-five million guests with hosted properties in 34,000 cities in 190 countries since its founding in 2008.\(^3\)

Sharing and bartering housing resources is not new. Historically, the concept has long existed in the context of lodging purchased on a time- or space-limited basis in inns and

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1 See Jenny Kassan and Janell Orsi, The Legal Landscape of the Sharing Economy, 27 J. Envtl. L. & Litig. 1, 2, 5 (2012) (listing some of the names of the new economy, such as the “relationship economy,” “cooperative economy,” “access economy,” “peer-to-peer (or p2p) economy,” and the “grassroots economy.”). The modern sharing economy is diverse and is made up of various types of organizations and structures, including shared housing. Id. at 3 (noting that the sharing economy consists of “social enterprises, cooperatives, urban farms, cohousing communities, time banks, local currencies, and [a] vast array of other unique organizations.”). What ties these various components together is that they “generally facilitate community ownership, localized production, sharing, cooperation, [and] small scale enterprise.” Id.

2 The liberal view of property is represented by the prevailing Hohfeld-Honore “bundle of rights analysis.” See J.E. Penner, The “Bundle of Rights” Picture of Property, 43 UCLA L. Rev. 711, 712-13 (1996) (“The currently prevailing understanding of property . . . is that property is best understood as a ‘bundle of rights’” (citations omitted)). Penner uses this term to describe the conflation of Wesley N. Hohfeld’s analysis of rights and the incidents of ownership delineated by A.M. Honore. In this view, property includes the rights of use and enjoyment, possession, and alienation. See John S. Mill, Principles of Political Economy bk. II, ch. ii, at 218 (W. Ashley ed., 1909)).

boarding houses, rooms for rent, housing cooperatives, and informal arrangements. The catalyst for such sharing has often been the quest for affordability, coupled with housing scarcity. In the contemporary context, we see a home sharing proliferation the catalyst of which is also the scarcity of resources – both affordable housing itself and the monetary resources with which to maintain home ownership. What is unique to home sharing in the new economy is not the sharing, but rather the way in which such sharing is facilitated by technology and how the use of such technology is causing innovation in sharing to outpace changes in housing regulation.

This Article focuses on the question of whether short-term rental arrangements negatively impact neighborhood character and home values. Part I gives an overview of the character of and justifications for municipal short-term leasing restrictions. Part II examines the Airbnb controversy in New York City. Finally, Part III argues that municipalities may actually be doing themselves a disservice when they prohibit these new economy housing exchanges because they may be missing out on an opportunity to reap enhanced economic benefits from permitting such exchanges.

The Character of and Justification for Short-Term Rental Restrictions

The Supreme Court long ago recognized the validity of zoning regulations as a proper exercise of the police power. However, the Court noted that the extent of the police power “varies with circumstances and conditions.” Thus, when examining the character of the various state and local government restrictions, it is important to do so in the context of local community circumstances. Local considerations have resulted in a number of different types of short-term rental restrictions. Current short-term rental restriction can be divided into six types: (1) full prohibitions; (2) geographically-based restrictions; (3) quantitative restrictions; (4) proximity restrictions; (5) operational restrictions; and (6) licensing requirements.

Full Prohibitions and Geographically-Based Restrictions on Short-Term Rentals

Those localities that fully prohibit short-term rentals do so on a community-wide basis. However, some municipalities also enact such full prohibitions only in certain geographical locations, such as particular zoning districts or neighborhoods.

Full prohibitions may constitute a regulatory taking of private property without just compensation in violation of the Fifth and Fourteenth Amendments to the United States Constitution. Governmental restrictions on the use of real property for the purpose
of short-term rentals may be classed as “inverse condemnation” – an instance where the government has taken property or impacted property rights without utilizing the condemnation process and, therefore, without providing just compensation for the taking. Inverse condemnation applies both to physical invasions of private property and to so-called “regulatory takings”—those instances in which the government has regulated the use of property in a manner so as to constitute a constructive taking thereof. The genesis of the idea of the “regulatory taking” can be found in Pennsylvania Coal Co. v. Mahon, wherein, Justice Oliver Wendell Holmes, Jr., writing for the Court, famously concluded that, with regard to government regulation of property rights, “The general rule at least is that while property may be regulated to a certain extent, if regulation goes too far it will be recognized as a taking.”

**Quantitative Restrictions on Short-Term Restrictions**

Municipalities that have enacted quantitative restrictions allow short-term rentals throughout the community, but limit the number of such rentals. Often, these communities take the approach of issuing short-term rental permits to property owners, but capping the number of such permits that may be issued. As an alternative to an absolute cap, some municipalities mandate that a certain ratio of long-term to short-term residential use be maintained throughout the community or within certain designated zoning areas. The impact of either approach is that owners who may want to enter the short-term rental market may be prohibited from doing so if the permitting cap has already been reached or if the mandated ratio cannot be maintained.

**Proximity Restrictions on Short-Term Rentals**

In contrast to the quantitative restrictions, some municipalities restrict new short-term rentals from being located within a certain distance of an existing short-term rental property. Again, the manner of restriction may have the effect of preventing new entrants into the short-term market.

**Operational Restrictions Affecting Short-Term Rentals**

Many regulations restricting short-term rentals focus on the operational aspects of renting. These restrictions are also designed to prevent new entrants into the short-term rental market. For example, a municipality may limit the maximum overnight occupancy of

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12 Evangelical Lutheran Church of Glendale v. Los Angeles City, 482 U.S. 304, 317 (1987) (“While the typical taking occurs when the government acts to condemn property in the exercise of its power of eminent domain, the doctrine of inverse condemnation is predicated on the proposition that the taking may occur without such formal proceedings.”). If the government would like to acquire private property for public use, it must usually commence by attempting to negotiate a purchase agreement with the owner. If its attempts at negotiation fail, it will begin the condemnation process via the courts. At trial the government has to establish authority to condemn, which may require it show that the proposed taking is “necessary,” thus establishing its authority to condemn the property. If successful, the government will be required to pay just compensation to the owner for the taking. See Jessie Dukeminier, James E. Krier, Gregory S. Alexander & Michael H. Schill, Property 1081 (2010) (7th ed. 2010).

13 260 U.S. 393, 415 (1922).

14 The issue in Pennsylvania Coal was whether the effect of the Kohler Act—which prohibited the mining of anthracite coal in a manner that, among other things, would cause subsidence to any residential structure—amounted to a taking. The Court held that “To make it commercially impractical to mine certain coal has very nearly the same effect for constitutional purposes as appropriating or destroying it.” Id. at 515.

15 See, e.g., City of Santa Fe, N.M., Code §14-6.2(A)(6)(a)(i) (2011) (limiting the number of short-term rental permits to 350, unless the dwelling unit in question qualifies for a permit as an “accessory dwelling unit, owner-occupied unit, or unit located within a ‘development containing resort facilities.’”

16 See, e.g., Mendocino County, Cal., Code § 20.748.020(A) (1995) (mandating that a ratio of thirteen long-term to one short-term dwelling units be maintain throughout the county).

17 See, e.g., San Luis Obispo County, Cal., Code § 23.08.165(c) (2012) (prohibiting residential vacation rentals from being established within 200 feet on the same block of any existing residential vacation rental or “visitor-servicing accommodation”).
short-term rental properties. Such restrictions may be based on the number of bedrooms in the property or on some other quantitative aspect of the property. Alternatively, rental period regulations that limit the number of times that a property may be rented may be enacted. These types of operational restrictions increase the cost of providing short-term rentals and, therefore, frustrate the very aim of owners seeking to reduce, shift or share the cost of ownership.

**Licensing Requirements Affecting Short-Term Rentals**

Some local government entities require that property owners seeking to use their properties for short-term rentals obtain a license to do so. Such licensing is often conditioned upon the property’s passing various inspections. Moreover, licensees may be subject to the payment of licensing fees and periodic renewals and, thus, additional fees. Often, this type of “procedural rental requirement [is employed] to ensure that landlords maintain their rental properties and that renters are well-behaved.”

**Justifications for Municipal Short-Term Rental Restrictions**

Communities justify restrictions of short-term leasing using various lines of reasoning, the most prominent of which (2) focus on issues related to taxation and revenue; (3) are public safety-based; or (3) relate to protecting property values and the character of the neighborhood;

1. **Revenue and Competition with Licensed Lodging**

The hotel industry has lobbied for bans prohibiting short-term rentals, or at the very least, tougher regulations that would compel owners to pay the same sorts of occupancy taxes and other fees to which licensed hotels are subject. By the same token, local governments have often couched their objections to prohibited short-term rentals in terms of lost hotel occupancy tax revenue.

2. **Public Safety**

Local governments argue that the state is obliged to regulate the relationship between property owners and renters in order to protect the public from possibly unsafe lodging situations. Thus, municipalities argue that occupancy limits and inspection requirements, for example, are not designed to prevent owners from entering the rental market, rather they are meant to ensure that the renting public remains safe. As noted above, this reasoning is best-suited for a regulatory scheme that is mediating vertical relationships, rather than horizontal peer-to-peer relationships that have the tendency to be self-regulating. Such burdensome requirements may have the unintended consequence of creating an “underground” market for short-term housing rentals. In essence, this is what is happening in municipalities with total bans as well. Although hosts are using a publicly-accessible website to facilitate short-term rental relationships, these hosts have often taken the calculated risk of disregarding bans or onerous regulation in

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18 See, e.g. Isle of Palms City, S.C., Code § 5-4-202(1) (2007) (limiting overnight occupancy to two persons per bedroom, plus and additional two persons).

19 See, e.g. Sonoma County, Cal., Code § 26-88-120(f)(2) (2010) (limiting maximum overnight occupancy by the design load of the septic system).

20 See, e.g., Santa Fe, NM City Code §14-6.2(A)(6)(a)(ii) (limiting short-term rental units to a maximum of 17 rental periods per calendar year and limiting properties to one rental per consecutive seven-day period).

21 See, e.g., Tillamook County (OR) Short Term Rental Ordinances, Section 6 (Standards) and 9.A.b (Short Term Renal Permit Application Requirements) (requiring that short-term rental properties be certified by a building inspector with regard to minimum fire extinguishers and smoke detectors and emergency escape standards, as well as structural requirements).

22 See Pindell supra note 8 at 49.

order to shift a portion of their ownership burden, thus creating a “black market” in housing sharing.

3. Property Values and Character of the Neighborhood

Conventional thinking has been that short-term rental restrictions increase property values by causing owners to adhere to maintaining a gold standard of single-family ownership and occupancy. However, it is possible that property values may increase as a result of government’s allowing owners to enter into the short-term market, especially if, in the long-run, by doing so, the owner is able to alleviate some of the burden of ownership and thereby avoid deferring maintenance or, in the extreme, avoiding foreclosure.

The argument regarding the protection of the character of a particular residential neighborhood pits permanent residents against short-term residents and the owners that rent to them. Permanent residents may argue that short-term tenants do not have ties to the community and do not or cannot, therefore, reflect the values of the community. These arguments confute the length of stay in a community with the ability (or more precisely the inability) to be a good neighbor.

The New York Airbnb Controversy

The recent New York Airbnb controversy is a good example of the tensions between new economy home sharing and old economy regulation. In October 2013, New York Attorney General Eric Schneiderman subpoenaed Airbnb’s records, requesting data on its hosts for the previous three years. Schneiderman contended that Airbnb hosts in New York City — Airbnb’s largest United States market — were violating a provision of the New York Multiple Dwelling Law which requires that certain multiple dwelling units only be occupied by “permanent occupants” — those residing in the unit for thirty or more consecutive days. The Attorney General also asserted that Airbnb hosts in New York City were not complying with state and local tax registration and collection requirements.

Airbnb moved to quash the subpoena, arguing that: “(i) there is no reasonable, articulable basis to warrant such an investigation and the subpoena constitutes an unfounded ‘fishing expedition’; (ii) any investigation is based upon laws that are unconstitutionally vague; (iii) the subpoena is overbroad and burdensome; and (iv) the subpoena seeks confidential, private information from petitioner’s [Airbnb’s] users.”

Judge Gerald W. Connolly of the Supreme Court of the State of New York, Albany County held that the subpoena must be quashed because the requests contained therein were overly broad. The court made this determination despite its finding that a predicate factual basis had been established with “evidence [supporting the assertion that a substantial number of Hosts may be in violation of the Multiple Dwelling Law and / or New York State

24 Airbnb refers to the property owners who use its platform as “hosts” and the lessees as “guests.” Airbnb, supra note 3.
27 N.Y. Multiple Dwelling Law, Article 1, §4.8(a) (providing that “[a] Class A multiple dwelling shall only be used for permanent residence purposes” and defines “Class A dwelling” as including tenements, apartment houses, studio apartments, duplex apartments and kitchenette apartments. Further providing that “[f]or purposes of this definition, ‘permanent residence purposes’ shall consist of occupancy of a dwelling unit by the same natural person or family for thirty consecutive days or more and a person or family so occupying a dwelling unit shall be referred to herein as the permanent occupants of such dwelling unit.”). See Decision and Order, Airbnb v. Schneiderman, No. 5393-13 (N.Y. Sup. Ct. May 13, 2014) available at http://www.documentcloud.org/documents/1159527-airbnb-new-york-decision.html#document/p9; N.Y. Multiple Dwelling Law, Article 1, §4.8(a).
and/or New York City tax provisions.”

The court also held that Airbnb’s constitutional vagueness argument was not yet ripe for review because there was no actual controversy ongoing between the state and the hosts. Additionally, the court held that Airbnb had failed to show that the information requested by the subpoena was confidential.

The court noted that the subpoena demanded information on “all Hosts that rent Accommodation(s) in New York State.” The Multiple Dwelling Law, however, applies only to “cities with a population of three hundred twenty-five thousand or more.” Moreover, the court found fault with the subpoena’s not limiting its request to rentals of less than thirty days.

With respect to the tax-related allegations made by the Attorney General, the court also took issue with the fact that the subpoena was not limited to New York City hosts and did not take into account the various exceptions to the state and city tax regulations. In particular, the court noted that the Attorney General acknowledged the existence of exceptions to the hotel occupancy tax that exempted hosts who rented their properties “for less than 4 days, or for fewer than three occasions during the year (for any number of total days).”

One day after the court’s ruling, the Attorney General issued a second subpoena to Airbnb. This second subpoena was revised to address the court’s concerns about over breadth. Less than a week after the issuance of the second subpoena, Airbnb and the Attorney General entered into an agreement whereby Airbnb would provide the Attorney general with anonymized data on its New York City hosts. If after reviewing such data, the Attorney General or the New York City Office of Special Enforcement instituted an investigation of or undertook an enforcement action against a specific host, Airbnb agreed that it would provide non-anonymized information on that host.

Five months later, in October 2014, Attorney General Schneiderman released *Airbnb in the City*, a report on the information that it had gathered from Airbnb as a result of the May 2014 agreement. The report analyzed Airbnb bookings for “private stays” in New York City from January 1, 2010 through June 2, 2014 (referred to in the report as the “Review Period”). According to the report, during the Review Period, “72 percent of units used as private short-term rentals on Airbnb appeared to violate [the Multiple Dwelling Law].”

The New York Attorney General’s earlier subpoena and eventual conclusions

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32 *Id.* (noting that petitioner’s privacy policy provides that it will disclose hosts’ information at its discretion).
33 *Id.*
34 N.Y. Multiple Dwelling Law §3.
36 *Id.*
37 *Id.* (quoting Respondent Memo. In Opp., p. 13).
39 See Snyder, supra note 38.
41 See *Id.*
43 A “private stay” is one in which the entire house or apartment is available to the guest and the host is not present in the unit during the stay.
44 *Id.* at n. 1.
45 *Id.* at 2.
regarding Airbnb and its hosts is emblematic of the tension inherent in the current regulatory scheme. A revision of the underlying policies justifying the restricting of short-term rentals is necessary in order to align our legal framework with our new economic reality.

**Using "New Economy" Principles to Analyze the Impact of Short-Term rental Restrictions on Property Values and the Character of the Neighborhood**

An owner’s participation in home sharing by renting his or her property on a short-term basis impacts the use and enjoyment “sticks” in the traditional Hohfeld-Honore “bundle of rights analysis” of property. By contrast, regulations prohibiting or restricting short-term rentals are a restraint on the right to alienate property – another stick in the bundle of rights. A question that must be address is whether by imposing such a restraint on alienation – one that restricts an owner’s right to shift use and enjoyment on a short-term basis – state and local governments actually further their stated goals of preserving property values and neighborhood integrity.

The New York Attorney General’s report was critical of the fact that six percent of hosts seemed to be “Commercial Users” in that they accounted for 36% of all private short-term bookings. However, it must be noted that all Airbnb hosts are engaged in commercial activity – not just those deemed “commercial” by the Attorney General’s office. A hallmark of the sharing economy is the blurring of the line between commercial and non-commercial activities. As Professor Arun Sundararajan noted,

One hundred years ago there wasn’t a clear line between someone who ran a hotel and someone who let people stay in their homes. It was much more fluid. Then we drew clear lines between people who did something for a living and people who did it casually not for money. Airbnb . . . [is] blurring these lines.

Jurisdictions outside of New York have addressed this issue. For example, the plaintiffs in a case heard by the California Court of Appeal, Sixth District argued that the defendant municipality Carmel-by-the-Sea acted arbitrarily by restricting transient commercial use of residential property – in particular short-term rentals – while other commercial uses such as home occupations were permitted by the ordinance in question. The court, however, found that home occupations “do not threaten the basic character of a residential neighborhood. Rather, they strengthen the community by fostering the talents of its residents.”

The plaintiffs also complained that Carmel had drawn the line between impermissible short-term and permissible long-term rentals arbitrarily by permitting rentals of 30 consecutive days but not 29. The court, however, citing Euclid v. Ambler Co., gave great deference to the legislature in making this determination:

Line drawing is the essence of zoning. Sometimes the line is pencil-point thin—allowing, for example, plots of 1/3 acre but not 1/4, buildings of 3 floors but not 4, beauty

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46 See discussion of Hohfeld-Honore “bundle of rights analysis” supra note 3.
47 New York State Office of the Attorney General, supra note 42 at 2, 10-11.
49 Ewing v. City of Carmel-by-the-Sea, 234 Cal App. 3d 1579, 1592-93 (1991); Carmel Ordinance No. 17.24.020 permits home occupations in the R–1 District, including “painting and related graphics, music, dance, dramatics, sculpture, writing, photography, weaving, ceramics, needle-craft, jewelry, glass and metal crafts.” By contrast the New York Multiple Dwelling Law allows joint living-working quarters for “artists,” as defined by the statute. See N.Y., Multiple Dwelling Law, Article 7, § 277.
50 Ewing v. City of Carmel-by-the-Sea, 234 Cal. App. 3d at 1593 (citing County of Butte v. Bach, 172 Cal.App.3d 848, 865 (1985) (home occupation exception in a zoning ordinance “implicitly premised upon expectations that the number and distribution of such encroachments will not be intolerable and that persons who live where they work are likely to have less detrimental impact than nonresidents”).
51 272 U.S. 365.
shops but not beauty schools. In *Euclid*, the Supreme Court recognized that “in some fields, the bad fades into the good by such insensible degrees that the two are not capable of being readily distinguished and separated in terms of legislation.” Nonetheless, the line must be drawn, and the legislature must do it. Absent an arbitrary or unreasonable delineation, it is not the prerogative of the courts to second-guess the legislative decision.\(^\text{52}\)

Moreover, the court opined that “long-term tenants may create as stable a community as resident homeowners.”\(^\text{53}\) Further, the court found that “the 30–day cutoff [was] not arbitrary but, rather, reasonably linked to that goal [of creating community stability].”\(^\text{54}\) As noted earlier, this type reasoning is best-suited for the old economy and a regulatory scheme that is mediating vertical relationships, rather than the horizontal peer-to-peer relationships of the sharing economy.

**Conclusion**

Both vacationers and those traveling for business have expressed an increased interest in staying in homes rather than hotels. Although this may in the short-term cause a decline in hotel tax revenue in some cities, a well-thought-out taxing scheme for the sort of short-term rentals that are prevalent in the sharing economy can provide cities and states with a means of recouping these tax revenue losses while providing greater benefits in stabilizing existing ownership.

The ability to rent one’s property – even in the short-term – may be a tremendous aid to struggling homeowners. By providing short-term rentals, owner may shift and share the burden of homeownership. This shifting can help to defray mortgage, homeowners association, and real estate tax costs. Moreover, the sharing of this burden, through the consequent sharing of the benefits of homeownership – use and enjoyment in particular – can help to avoid or at least mitigate instances of blight due to disrepair, distressed sales at below-market-rate sales prices, and even foreclosures. Thus, allowing owners to home share can protect a community’s character and property values by helping to insulate individual owners from the effects of negative housing market downturns.

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53 Ewing v. City of Carmel-by-the-Sea, 234 Cal. App.3d at 1593
54 Id.
When Private Property Rights Collide With Growth Management Legislation

Author

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Introduction

Over the past century, ever-expanding urban and suburban growth in the United States has offered a clear sign of America’s economic vitality, but it has not come without unique challenges of its own. Indeed, efforts to promulgate “smart growth” legislation as an antidote to suburban “sprawl” have proliferated in the past three decades, but it is time we ask ourselves whether their benefits outweigh their unintended consequences. States and local governments that once enthusiastically touted such legislation are beginning to confront unforeseen obstacles – and litigation – that raise the need for immediate reform. This Article explores the impact of growth management acts on preexisting property rights, noting the inevitable and growing conflicts between the two sides that legislatures (and courts) are increasingly being forced to confront. We assess the problems with creating truly intelligent urban and suburban growth, from political pressures to inconsistent judicial determinations to NIMBYs to constitutional takings jurisprudence.

This Article explores the problems inherent in many states’ noble efforts to enact sensible growth management laws, and offers normative suggestions for meaningful reform. Part I details the rise of the “smart growth” movement as the legal antidote to “sprawl,” examining the well-meaning but internally conflicting growth management legislation efforts passed by several states. Not surprisingly, substantial litigation has been the inevitable result, and neither predictability nor smart growth has necessarily been enhanced. Part II further analyzes these efforts in order to identify common problems in growth management that we need to learn from lest we repeat the failures of the past. Finally, Part III offers bold law and public policy solutions to these common dilemmas that legislators can and should take up immediately. We must remove smart growth efforts from local political manipulation, and create durable land use solutions that address the inherent conflicts of interest involved. If we fail to do so, smart growth efforts will surely never be capable of living up to their name.

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I. Growth Management Laws and Their Shortcomings

Sprawl and other unforeseen problems can be traced to failings in our legal system. In two key ways, the legal structures meant to help ensure smart growth have actually contributed to the problem of sprawl: (1) first, through the legal system’s sanctioning — indeed, its endorsement — of municipal zoning laws, and (2) second, through states’ failures to either enact effective growth management legislation or to consistently interpret and apply their existing growth management legislation.

A. Sprawl is Actually Caused in Large Part by our Nation’s Laws

At its core, some say, sprawl is caused by our nation’s pursuit of the “American Dream.” In Belle Terre v. Boraas,3 U.S. Supreme Court Justice William O. Douglas famously described the ideal American neighborhood as a “quiet place where yards are wide, people few, and motor vehicles restricted . . . .” The Court went on to hold that a proper role for government was to “lay out zones where family values, youth values, and the blessings of quiet seclusion and clean air make the area a sanctuary for people [to live].”5

The Belle Terre decision serves as a reminder that our sprawling nation could not have come into being without the willing assistance of its legal system. The nation’s legal system has encouraged sprawl through its approval of municipal zoning laws.6 Conventionally, the history of municipal zoning begins with the Supreme Court’s decision in Euclid v. Ambler Realty,7 a 1926 decision that first established the constitutionality of zoning. In Euclid, the Court held that the Village of Euclid was free to segregate residential land uses from industrial land uses.8 The Village’s power to segregate land uses derived from the state’s police power (delegated to the municipality) and from the collective “will of the majority” (voicing its desires through the municipality’s officials). The Village’s zoning ordinance was held to be a proper use of the police power because it protected public health9 and preserved the value of private property. Under the ordinance, the Village’s residents could rest assured that an undesirable industrial land use would not suddenly spring up down the street, leading to negative health outcomes and precipitating a massive decline in the value of the surrounding land.10

Nobody would debate that industrial land uses (read: factories) and residential land uses (read: single family homes) ought to be segregated. However, the Court in Euclid was not solely concerned with the pollution and noise associated with factories and other industrial land uses. Less obviously, but more insidiously, the Court was also concerned with the sort of “human pollution” that its members seemed to associate with high-density housing options such as apartments and townhomes.11 By allowing municipalities to slate large areas of land for low-density, residential development, Euclid ushered in the era of sprawl.

4 Id. at 9.
5 Id.
6 See Michael Lewyn, You Can Have It All: Less Sprawl and Property Rights Too, 80 Temp. L. Rev. 1093, 1094 (2007) (explaining that “[z]oning, street design, and parking regulations discourage landowners from placing housing within walking distance of shops and jobs, force landowners to surround their buildings with parking lots, and mandate the construction of streets and highways that are too wide to be crossed comfortably on foot”).
8 Id. at 389-90 (“[The Village]s governing authorities, presumably representing a majority of its inhabitants and voicing their will, have determined, not that industrial development shall cease at its boundaries, but that the course of such development shall proceed within definitely fixed lines. If it be a proper exercise of the police power to relegate industrial establishments to localities separated from residential sections, it is not easy to find a sufficient reason for denying the power because the effect of its exercise is to [prevent injury to the] residential public.”).
9 A municipality should, for example have some way to prevent a coal plant or a paper mill from springing up in the middle of a residential neighborhood.
10 See Gillham, supra note 55 (“[Zoning controls] provide reasonable expectations for the continued value of a given piece of land and thereby create a relatively stable marketplace”).
11 See Ziegler, supra note 52, at 47-48 (“The holding established that homeowners might properly be protected by zoning from apartment dwellings and those who occupied them. An apartment house, the Court pointed out, might operate as “a mere parasite” in the neighborhood of detached homes – constructed to take advantage of the open spaces and attractive surroundings and in the process depriving children of their play areas.”) (quoting Euclid, 272 U.S. at 394).
As Professor Ziegler has argued, *Euclid* “has operated throughout the twentieth century largely to constitutionalize low-density restrictive zoning and related local governmental actions directed at excluding less affluent housing from entire neighborhoods and suburban communities.”12 In Ziegler’s view, such zoning is less a matter of public health and more a matter of snobbery or NIMBYism.13

The argument that sprawl is “bad” has become a familiar one. Perhaps most commonly, sprawl is blamed for increased congestion on our roadways. We live in an automobile-centered society, and the built landscape reflects that cultural choice.14 Over the past three decades, American vehicle use has outpaced population growth by a factor of three.15 The interstate highway system – our “yellow brick road to sprawl”16 – has enabled the movement of people between the city and far away suburban communities. By one estimation, our nation’s roadway system can lay claim to the “largest public works project in world history.”17 As urban planner Oliver Gillham has written, the “huge new freeways would become the trunk veins and arteries of a rapidly spreading membrane of development, spilling over state and regional boundaries and changing the face of the United States forever.”18

Sprawling development generally necessitates the use of open space that might otherwise be protected for future generations. According to one report, land is being consumed for development at a rate almost three times faster than population growth.19 By 2050, an additional 23 million acres of forest land may be lost forever.20 Of course, America is a pretty big country. According to one account, total urban and suburban land use in the United States has consumed only 3.1% of the nation’s total land supply.21 The problems with such a misleading statistic are almost too obvious to be stated. Of the nation’s total supply of land, only a small percentage has the right geography to support any meaningful population density. An even smaller percentage of land can provide a desirable place to live. The truth is that suburban sprawl consumes land.

Sprawl has also been blamed for cultivating social isolation within American communities.22 In sprawling suburban neighborhoods, where the closest thing to a public square may be a strip mall on a major street, residents may not feel a strong “sense of place.”23 This sense of detachment can have real psychological costs.24 Professor Ziegler has postulated that many Americans who live in sprawling neighborhoods are disappointed that “The Way Things Actually Are” is different from “The Way Things Ought to Be”:

Instead of pastoral vistas enhanced by attractive buildings and awesomely efficient highways, we have sprawl that makes a mockery of urban vitality and turns countryside into clutter. Instead of comfortable cities that run like clockwork, we have cities that are

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12 Id. at 47.
13 Id. at 47 n.98.
14 Id. at 31 (concluding that our nation’s landscape is “totally shaped and dominated by the automobile.”)
16 Ziegler, supra note 52, at 35.
17 Gillham, supra note 55.
18 See id.
19 See Ewing, supra note 61.
20 Nadeja Mishkovsky, Int’l City/Cty. Mgmt. Ass’n Putting Smart Growth to Work in Rural Communities 4 (2010).
23 See Ziegler, supra note 52, at 40.
24 See id. at 38 (acknowledging the “growing awareness that there may be significant psychological, emotional, and civic costs associated with the rootlessness of the suburbs and of our hyper sprawl lifestyle.”); see also Philip Rucker, In Tucson’s Sprawling Suburbs, Recession has Dimmed the American Dream, Wash. Post, Jan 12, 2011, available at htm?pid=topnews (citing sprawl as a cause of the social isolation that may have contributed to the attempted assassination of Congresswoman Gabrielle Giffords Jan. 8, 2011, in Tucson Arizona. “Tucson,” the article noted, “is divided by boulevards stretching six or eight lanes wide and extending 15 or more miles into the horizon. The subdivisions here are often separated by concrete walls.” While sprawl might contribute to social isolation, the author thinks it is a stretch to connect it causally to the attempted murder of Gabrielle Giffords.)
scattered, clumsy, expensive, and increasingly hard to enjoy or even use. Instead of shining towers in a park, we have windowless discount stores in a parking lot.

B. The “Smart Growth” Movement as the Antidote to Sprawl

The antidote to sprawl is “smart growth” – whatever that means. Depending on whom you ask, smart growth is either a panacea or a meaningless euphemism. When evaluating smart growth definitions, it can be hard to cut through the salesman-like puffing of the proponents and the derogatory rhetoric of the critics. Too often, for example, proponents define smart growth with tautologies like “smart growth is a way of encouraging development and revitalization that makes the most sense for future livability.”

Nonetheless, we can distill certain basic features of the smart growth movement. The term “smart growth” is shorthand for a range of alternatives to traditional suburban development. Such alternatives include transit villages, “fully-contained communities,” mixed-use infill projects, and many other high-density, ecologically-minded, transit-oriented designs. Through changes to municipal codes and county-wide comprehensive plans, and, more recently, through enactment of statewide growth management acts, planners at all levels of state government have begun to embrace these alternative designs.

Despite their diversity, smart growth policies all share a common goal – namely, to change the status quo (somehow). We say “somehow” because, if the question is “how will we live?” then smart growth’s most consistent response has simply been: “differently.” Yet, despite this intractable definitional problem, the basic principles of smart growth are evident. The fundamental idea is that development should take place in the right place, at the right time, and using the right methods. Thus, smart growth envisions spatial, temporal, and technical restrictions on development.

First, smart growth ensures that development occurs in the “right place” by encouraging or mandating high-density, mixed-use development as close to the urban core as is practicable. Smart growth policies also encourage “infill” or “brownfields” development. In Phoenix, one of the country’s largest and most sprawling cities, tax incentives handed out by the state legislature helped spawn a $900 million urban infill project known as CityScape. The project, which includes plans for an eventual 1.8 million square feet of high-rise office buildings, fashionable storefronts, and designer restaurants, aimed to resuscitate a dying area of Phoenix known as Patriot’s Square Park – described in early 2011 as a “blighted stretch of dead trees, failed electronic light shows, broken promises, and homeless squatters.” A project like CityScape theoretically will reuse and recycle land that is already developed – and decayed. As such, it can occur with minimal investment of additional infrastructure.

Second, smart growth ensures that development occurs at the “right time” by forestalling development in a particular area until such area has been connected with adequate transportation, water, sewer infrastructure, and school. For example, a city ordinance might prohibit development of an outlying neighborhood until the city’s tax base is large enough to fund an elementary school in the neighborhood.

25 See Ziegler, supra note 52, at 39.
27 See Gillham, supra note 55, at 153 (“[T]he term smart growth has become an umbrella concept endorsed by a range of diverse groups seeking a way to plan for continued growth.”)
28 See Edward J. Sullivan, Comprehensive Planning and Smart Growth, Trends in Land Use Law from A to Z 188 (Patricia E. Salkin, ed., 2001) (commenting that, “unlike other western industrialized countries, the United States lacks a coherent national comprehensive planning policy.”)
30 See Anna Read & Christine Shenot, Int’l City/Cnty. Mgmt. Ass’n Getting Smart About Climate Change 1 (2010) (defining infill developments as construction which makes use of “vacant and underused properties in already developed areas”).
Finally, smart growth ensures that development relies on the “right methods” by encouraging or mandating changes to building codes. For example, building codes may need to be updated to allow developers to build housing units with shared walls.

C. A Brief History of Smart Growth Legislation

As mentioned previously, thirteen states have enacted growth management legislation in an effort to bring smart growth under regional control. While states have adopted differing methods of tackling smart growth and land use decisions, each approach has its pitfalls. A brief history and examination of these efforts is in order.

“Growth management” as a goal of state planning first appeared as a term of art in 1975. Though the phrase originally conjured connotations of slowing or stopping development altogether, “growth management” is more commonly used to define local and state governments’ efforts to “influence the amount, type, location, design, rate, or cost of private and public development in order to achieve public interest goals.” The goals of smart growth movements typically include balancing business and development interests with environmental concerns such as maintaining clean air and water, as well as a high quality of life for residents.

There were three key phases to the modern “smart growth” movement. The birth of the movement came in the 1960s and 1970s, driven by environmentally concerned individuals in Hawaii, and then later in Vermont, Florida, and Oregon, who together ushered in a “quiet revolution in land use.” City planners began to promote the idea of compact urban villages that utilized public transportation, bicycling and walking as an alternative to combat the increasing congestion created by the rise of automobiles. The second phase involved states such as Florida, Vermont, New Jersey, Maine, Rhode Island, Georgia, and Washington, all of which enacted specific legislation that focused on comprehensive planning in the decade leading up to 1991. Finally, political support increased and expanded to even more states, with funding and gubernatorial support growing in states such as Maryland, Pennsylvania, Delaware, Tennessee, and Colorado in the years between 1992 and 2000. As this Article will explore, however, political attitudes towards smart growth have been far from consistent over time.

While each state had its own political, social, and geographical needs in enacting its smart growth legislation, most of these state-based programs involved coordination of local land use planning efforts through a “stick and carrot” package of obligations and incentives. The means employed to meet the generally accepted goals of using land sustainably and responsibly varied widely across different states. For example, Oregon pioneered smart growth by establishing urban growth boundaries beyond which development was highly disfavored in order to preserve its rural and agricultural land. Maryland adopted a different approach, by directing state grants to fund infrastructure for “priority funding areas” rather than by designating urban growth boundaries. Local planning has been voluntary in Georgia and (until recently), mandatory in neighboring Florida.

35 See Godschalk, supra note 21, at 13.
36 Id.
37 Id.
38 Id.
39 Id. at 15.
40 Id.
41 Id.
42 Id. at 16.
43 Id. at 18. See also Patrick Hurley & Peter Walker, Planning Paradise: Politics and Visioning of Land Use in Oregon (Society, Environment, and Place) (2011).
44 Godschalk, supra note 21, at 18.
45 Id.
State employs a decentralized, local-led growth management program while Hawaii uses a top-down, centralized system.\textsuperscript{46}

Which system is preferred by any given state has far more to do with the interests of various parties – including political interests – than many lawmakers are willing to admit. For example, local governments may prefer a smart growth system that is incentive-based and provides resources for projects of chief importance to the community, while state authorities often prefer a centralized program that ensures land use compliance even by reluctant localities. Ultimately, popular attitudes may have the greatest influence over what the elected and appointed officials at each level of government decide to do with their land use authority. States with strong environmental consciousness like Vermont or Oregon thus look quite different than states that have stronger business and development pressures.

We consider several representative state efforts below.

\section*{D. Various States’ Efforts at Growth Management Legislation - and their Pitfalls}

Let us consider a few examples of smart growth management legislation in depth in order to better understand their goals – and their common problems – that we must strive to avoid going forward.

\subsection*{i. Oregon: If It Ain’t Broke, Keep Enforcing It!}

Oregon has long been considered a pioneer in land use law due to its creation of “urban growth boundaries” (UGB’s) as part of its comprehensive land use planning laws adopted in 1973.\textsuperscript{47} The Oregon Land Use Planning Program created both a citizen commission with authority to oversee land use decisions, the Land Conservation and Development Commission or LCDC, as well as a state Department of Land Conservation and Development (“Department”) to implement the program.\textsuperscript{48} The citizen LCDC appoints the director of the Department.\textsuperscript{49} The express purpose of this land use legislation was to “stop a process of cumulative public harm resulting from uncoordinated land use,”\textsuperscript{50} not unlike what a layman might refer to as the “tragedy of the commons.”

Under the Oregon Land Use Planning Program, local governments submit land use plans subject to periodic review by the Department and LCDC.\textsuperscript{51} However, extensive delays in the process led to amendments in the growth management legislation in 1991.\textsuperscript{52} Now, in addition to the prior structures there exists a Land Use Board of Appeals (LUBA), comprised of three attorneys appointed by the state governor.\textsuperscript{53} Attempts to coordinate the review being conducted by the state agencies, the LCDC, and LUBA have proven unsuccessful, particularly as the attorney general interpreted case law to preclude certain state agencies from being required to participate in coordination efforts.\textsuperscript{54} Thus, even in what is arguably one of the most progressive and environmentally conscious states in the nation, coordination of various government actors (including citizens) with regard to land use planning and review has proven elusive.

\begin{itemize}
  \item \textsuperscript{46} Id.
  \item \textsuperscript{48} Id.
  \item \textsuperscript{49} Id.
  \item \textsuperscript{50} 1000 Friends of Or. v. Wasco Cnty. Ct., 299 Or. 344, 347 (1985).
  \item \textsuperscript{51} Id. at 10372.
  \item \textsuperscript{53} See Liberty, supra note 185, at 10373.
  \item \textsuperscript{54} Id. at 10375; see also In re State Agency Coordination Program of the Department of Revenue, LCDC No. 91-CERT-707, at 3, 4, 7 (Jan. 10, 1991) (citing Attorney General Letter of Advice, No. OP-6390 (Oct. 11, 1990)).
\end{itemize}
Oregon is nonetheless still deserving of praise for offering a revolutionary tool to land use legislators: namely, the creation of urban growth boundaries (UGBs). Legislation adopted in 1974 created the UGBs in Goal 14 of the state’s planning goals, which are binding on local plans.\(^{55}\) Goal 14, entitled “urbanization,” requires that every incorporated community draw a UGB based on seven factors, including the need to accommodate long-term population growth and environmental impacts.\(^{56}\) Drawing an appropriate UGB, however, is a complicated and nuanced task, particularly if population growth does not follow expected projections. Because Oregon experienced population decline followed by rapid growth from the 1980’s to 1990’s, some UGBs were drawn too broadly for the period of population decline, while other cities added land to their UGBs to accommodate perceived growth that never manifested.\(^{57}\)

Goal 14 classifies land into three possible categories: urban, urbanizable, and rural.\(^{58}\) Urban land exists within or adjacent to an incorporated city, with emphasis on an already-existing high concentration of people and supporting public facilities and infrastructure.\(^{59}\) Urbanizable land exists within a UGB and is considered necessary and suitable for future urban uses, able to be served by existing infrastructure, and necessary for the expansion of an urban area.\(^{60}\) Lastly, rural lands are found outside a UGB, and are generally agricultural, forest, or open spaces (though they are essentially everything that is not urban or urbanizable).\(^{61}\) In general, residential and urban growth (including incorporation of new cities) is not permitted outside a UGB, though exceptions are authorized under Goal 2 of the legislation.\(^{62}\)

There are numerous examples of UGBs accomplishing precisely what they were intended to do – i.e., the promotion of growth within an urban boundary and the deterrence of sprawl outside of it in agricultural or rural areas. For instance, Washington County just outside of Portland saw 96 percent of its residential growth permits from 1984-1988 approved within its UGB and only four percent approved for sites outside the UGB.\(^{63}\) Similarly, the Portland metropolitan area saw 95 percent of residential units built within its UGB during a five-year study.\(^{64}\) However, Bend, Oregon’s UGBs were less astonishing in their success rates, as 59 percent of new residential units were built outside its UGB and 81 percent of industrial development permits were authorized inside its UGB, creating the opposite result of that intended.\(^{65}\)

Whether or not a land use project may be approved depends on whether or not it complies with Oregon’s legislative goals regarding land use. For example, in 1000 Friends of Oregon v. Wasco County Court,\(^{66}\) an advocacy group opposed the incorporation of a meditation center as a new city, Rajneeshpuram. Whether or not incorporation of the city was legal depended on (1) if incorporation constituted a “land use decision” for the purposes of the state planning statute, (2) if Goal 14 creating UGBs, prohibited this incorporation, and (3) whether Goals 3 and 14 (pertaining to agricultural land) of the planning statute affected the incorporation decision.\(^{67}\) The Oregon Supreme Court held that the decision whether or not to

\(^{55}\) LCDC, Oregon’s Statewide Planning Goals (1990), at Goal 14.

\(^{56}\) (1) the demonstrated need to accommodate long-range urban population growth requirements consistent with LCDC goals; (2) the need for housing, employment opportunities, and livability; (3) the orderly and economic provision for public facilities and services; (4) the maximum efficiency of land uses within and on the fringe of the existing urban area; (5) the environmental, energy, economic, and social consequences; (6) the retention of agricultural land as defined, with Class I the highest priority for retention and Class VI the lowest priority; and (7) the compatibility of the proposed urban uses with nearby agricultural activities. Id.

\(^{57}\) Liberty, supra note 185, at 10376.


\(^{59}\) Id. at 351 (citing Statewide Planning Goal Definitions).

\(^{60}\) Id.

\(^{61}\) Id.

\(^{62}\) Id. at 352-53.

\(^{63}\) Id. (citing Wash. Cnty. Dept. of Land Use & Transp., Joint Legis. Comm. on Land Use, Briefing on Washington County Land Use and Transp. Issues (1989)).

\(^{64}\) Liberty, supra note 185, at 10378 (citing Eco Northwest et al., Portland Case Study: Urban Growth Management Study (1990)).

\(^{65}\) Id. (citing Eco Northwest et al., Bend Case Study: Urban Growth Management Study 3 (1990)).

\(^{66}\) 299 Or. 344 (1985).

\(^{67}\) Id. at 348.
allow Rajneeshpuram to incorporate was indeed a land use decision and thus fell under the jurisdiction of LUPA; that Goal 14 did not prohibit the incorporation of the new city, and that statewide goals pertaining to the development of agricultural land were at issue in this decision.68

Despite Oregon’s land use planning successes, its smart growth legislation has faced opposition via statewide ballot measures attempting repeal.69 Part of its survival is attributed to ex-governor Tom McCall, whose popularity (especially as he was dying of prostate cancer) continues to spur Oregon land use preservation efforts.70 Not long before his death in 1983, McCall famously stated, “if the legacy we helped give Oregon and which made it sparkle from afar – if it goes, then I guess I wouldn’t want to live in Oregon anyhow.” His heartfelt desire to create enduring, responsible growth policy was crucial in defeating a ballot measure aimed at repealing his signature land use legislation.71

Public sentiment did not remain on the side of state land use planning advocates, however. In 2000, Ballot Measure 7 was passed, providing compensation to landowners whose property values were reduced by land use regulations. This marked a substantial victory for reclaiming and preserving private property rights in the face of regional planning.72 The State Supreme Court subsequently overturned ballot Measure 7 in 2002 on a technicality.73 However, a subsequent ballot initiative, Measure 37, was passed in 2004 and accomplished in practice what Measure 7 aimed to do. The state and local governments were now required to either waive land use planning regulations, or pay compensation for all the declines in property values shown to result.74 In effect, disappointed developers who desired to build in areas otherwise not permitted under the state’s UGB structure could now demand compensation from the government if their permit was denied. As claims for compensation reached $19.8 billion (more than the state’s overall two-year budget) in 2007, many state and government actors were forced to succumb to the financial pressure and waive the land use regulations that had been so widely praised for the prior three decades.75

In the end, even Oregon was not immune to the pressures that plague land use planning – namely, the competing tensions between private property rights, including those of developers implicating economic growth, and the public interest in collaborative regional planning.

ii. Maryland: A Good Rule, if it were Followed

Maryland is home to the lion’s share of the Chesapeake Bay – an enormous waterway that affects the environment and economy of six states.76 In addition to carrying the bulk of the bay-preservation burden, Maryland is the fifth most densely populated state in the nation.77 One estimate found that Maryland was slated to lose 240,000 acres of farmland and 307,000 acres of forest by the year 2020.78 Recognizing the need to be responsible stewards of their land, Maryland lawmakers crafted innovative – indeed, award winning – growth management legislation.79 However, failure to consistently apply its growth management

68 Id.
70 Id.
71 Id.
72 Id.
73 Id. The ballot measure would have changed more than one part of Oregon’s constitution.
74 Id.
75 Id.
77 Dept. of Legis. Serv., Office of Policy Analysis Update on Smart Growth and Planning Policy in Maryland 1 (2009).
78 See Tierney, supra note 214, at 461.
legislation has left Maryland in nearly the same place it started when it comes to development and sprawl.80

Maryland had laws as early as the 1970’s designed to protect wetlands,81 water sources,82 forests,83 and farmland.84 Maryland then joined the nationwide growth management legislation movement in 1992 with the passage of the Economic Growth, Resource Protection, and Planning Act, which articulated seven “visions” for land use.85 Like other states, Maryland delegated the creation of land use plans to local governments, at least initially.86

Given the shared nature of state usage of the Chesapeake Bay, Maryland partnered with neighboring states Pennsylvania and Delaware, as well as the District of Columbia and the U.S. Environmental Protection Agency to establish a “2020 Panel” to make land use plans for the future.87 While this partnership marked a significant opportunity for regional land use planning, the bills establishing a 2020 vision were quickly defeated in the Maryland legislature, largely due to opposition from property rights activists, developers, farmers, and financial organizations.88

Instead of a plan with sights set on 2020, Maryland enacted a package of growth management laws in 1997, including the innovative Smart Growth Areas Act, which established the new concept of “Priority Funding Areas” (PFAs).89 The creation of PFAs quickly generated national attention, and Maryland was credited with starting a “third wave” in the land use revolution.90

PFAs were, in 1997, a Maryland novelty, though they resembled other growth management policy tools such as urban growth boundaries (originated in Oregon), urban service areas (used in Minnesota), and enterprise zones (used by several states including New Jersey). Priority Funding Areas are, as their name would suggest, areas targeted for public investment and therefore designed to encourage development.91 PFAs were created as a “more politically acceptable alternative to urban growth boundaries,” in which local and state governments would direct funding for roads, housing, schools, and the infrastructure necessary to spur growth.92

Like urban growth boundaries (UGBs), the intended purpose of PFAs was to curb growth outside of certain urban areas.93 However, UGBs make it legally difficult to develop outside of a boundary line, while PFAs attempt to create the same outcome via financial incentives rather than by prohibition.94 Analogously, urban service areas (USAs) limit the expansion of public services and infrastructures such as water and roads, but do not legally limit the expansion of housing projects into new areas – a

80 See Lewis, supra note 217, at 471.
85 Smart Growth Legislation, Maryland Dept. of Planning, available at planning.maryland.gov (last visited Jan. 15, 2014). The seven visions are: (1) Development is concentrated in suitable areas (2) Sensitive areas are protected (3) In rural areas, growth is directed to existing population centers and resource areas are protected (4) Stewardship of the Chesapeake Bay and the land is a universal ethic (5) Conservation of resources, including a reduction in resource consumption, is practiced (6) To assure the achievement of items (1) through (5) of this section, economic growth is encouraged and regulatory mechanisms are streamlined (7) Adequate public facilities and infrastructure under the control of the county or municipal corporation are available or planned in areas where growth is to occur.
86 Id.
87 See Tierney, supra note 214, at 465.
89 See Lewis, supra note 217, at 457.
90 Id.
91 Id. at 458.
93 See Lewis, supra note 217, at 457.
model that PFAs very much resemble.\textsuperscript{95} Lastly, enterprise zones (EZs) encourage development by lowering taxes and easing regulatory requirements – again, trying to encourage responsible growth outcomes by using more “carrot” than “stick.”\textsuperscript{96}

Though PFAs were highly regarded as a creative combination of these pre-existing policy instruments, the outcomes of the PFA system were not as originally envisioned. In overseeing the growth management laws, some counties allowed PFA boundaries to be drawn too generously so as to accommodate growth.\textsuperscript{97} Reporting and review of spending as it pertained to PFAs was not done in a complete manner.\textsuperscript{98} According to some commentators, the amount of funding allocated for PFAs was inadequate to make a meaningful difference.\textsuperscript{99} While some progress was seen, including increased investment and development of wastewater management systems within PFAs,\textsuperscript{100} the outcomes left much to be desired. Ultimately, the amount of growth and development of low-density parcels (i.e., the amount of sprawl), was not improved in the ten years following passage of the Smart Growth Areas Act.\textsuperscript{101} In fact, some growth and development was actually increased outside of PFAs – precisely the opposite of what the legislation sought to effectuate.\textsuperscript{102}

Ultimately, though PFAs represent an innovative and politically viable solution to urban sprawl and growth management problems, their implementation was inconsistent and ineffective. Too many local actors worked around the intended purpose of the PFAs, drawing boundary lines too broadly, and reporting funding too vaguely. In the end then, Maryland’s approach provides an informative lesson for current growth management efforts: good rules only work if they are followed.

\section*{II. Assessing the Common Problems in Growth Management}

Many commentators have surveyed the growth management laws of various states, but such efforts are usually conducted in order to generate a list of “options” for future legislation.\textsuperscript{103} However, it may prove more helpful to think beyond the list of statutory frameworks already provided by other states’ attempts – particularly because consistent success under any growth management plan remains elusive. We therefore need to assess the common problems witnessed in growth management efforts across the U.S. in order to learn lessons for the future.

\subsection*{A. Political Motivations and Interest Group Pressures Lead to Inconsistent Legislation}

Decisions concerning land use implicate almost every other aspect of the political process. Land use decisions affect the environment, the economy, business, private property rights, affordable housing, and human health and well-being. It is not difficult to understand that politicians would be wary of telling developers (who create jobs and donate money) that they cannot develop. And it is also easy to understand that it would be unwise to tell one’s constituents that a large company was on the verge of moving in to their backyard in order to build thousands of condominiums. Eventually though, excessive political emphasis on economic development (while simultaneously assuring

\textsuperscript{95} Id.
\textsuperscript{96} Id. at 457-58.
\textsuperscript{97} See Weitz, supra note 230, at 413-14.
\textsuperscript{98} Id. See also Lewis, supra note 217, at 471.
\textsuperscript{99} See Weitz, supra note 230, at 414.
\textsuperscript{100} See Lewis, supra note 217, at 458.
\textsuperscript{101} Id. at 467-72 (includes tables summarizing development in many Maryland counties).
\textsuperscript{102} Id.
\textsuperscript{103} See, e.g., Godschalk, supra note 21; Rebecca Lewis and Gerrit Ja Knaap, Institutional Structures for State Growth Management: An Examination of State Development Plans, State & Local Gov’t Rev. (Jan. 24, 2012).
private property owners the right to continue to use their land as they please) will lead to significant problems including sprawl. This is the basic tragedy of the commons problem – there is not enough land for everyone to have what they want, and too much growth without preservation and conservation could be irrevocably damaging to the environment. Competing political interests around land use run rampant.

The hot-button nature of land use planning is evident from the continuing fight over smart growth legislation, even decades after its initial passage in some states. Legislators, judges, state actors, and even the public have eventually buckled to the ever-changing (and forceful) pressures coming from various sides of the issue. Without consistency over time, legislation swings back and forth, and long-run solutions to land use dilemmas prove elusive.

This lack of consistency can be traced directly to lawmakers’ discomfort with antagonizing large groups of citizens in the short-term in order to seek long-run goals. In land use legislation, this often takes the form of legislators’ desire to be seen as “pro-business” and economic development – meaning there is often strong support for legislation that is friendly to developers (because of its immediate impact) without rigorous consideration of long-term regional planning or other delayed external effects. After all, those latter interests are usually significantly less obvious and certainly less organized.

The reluctance of legislators to take bold and consistent stands in land use planning is perhaps best illustrated by the failure of the Maryland legislature to pass the 2020 vision despite the immense regional buy-in that the plan had generated.\textsuperscript{104} And perhaps more than any other example, Florida’s recent repeal of its growth management legislation after three decades of state land use coordination, in an effort to promote “economic development,” represents the ultimate power of the dollar and a defeat for consistent smart growth over time.\textsuperscript{105}

B. Political Motivations By State Agencies

Independent state agencies have also not been immune from political influences. For example, the lack of review and reporting that occurred in the Maryland agencies responsible for overseeing Priority Funding Areas is a strong indication that even state agency actors – who one would think would be shielded from the political pressures of elected office – have failed to be reliable stewards of the growth management tools in their state.\textsuperscript{106} Though Priority Funding Areas were the law of the land, the state officials involved did not meaningfully fund or record what was occurring in the decision-making process. As a result, residential development (and indeed, even funding) was just as likely to occur outside a Priority Funding Area as inside one – and in some places even less so.

C. Popular Sentiment May Change

To solely blame government actors for the inconsistencies and failings in state growth management laws, however, would be misguided. The key development that led to the undercutting of Oregon’s renowned Urban Growth Boundaries was a citizen-driven ballot measure.\textsuperscript{107} Even in what was an extremely environmentally-conscious state, (indeed Oregon is a leader in the environmental movement), developer’s dollars and declining property values in some areas were eventually able to sway a popular vote measure that led to slackened enforcement of the UGBs and eviscerated the state land use planning program.\textsuperscript{108}

\begin{itemize}
\item \textsuperscript{104} See Part II.D.iv, supra.
\item \textsuperscript{105} See Part II.D.ii, supra.
\item \textsuperscript{106} See Part II.D.iv, supra.
\item \textsuperscript{107} See Part II.D.iii, supra.
\item \textsuperscript{108} See discussion of Ballot Measure 37 in Part II.D.iii, supra.
\end{itemize}
D. The “NIMBY” Phenomenon

The “Not In My Backyard” or “NIMBY” phenomenon is another important factor in eroding support for smart growth efforts. Previously supportive citizens suddenly withdraw their backing as soon as they realize that the growth might actually occur “in their own back yards.” As Clint Bolick put it, “once people move to the suburbs . . . they eagerly roll up the welcome mat.”109 The NIMBY attitude is understandable. In fact, NIMBYs often “think of themselves as heroes (for fighting development), not villains.”110

One of the great ironies in the debate over sprawl is that liberal environmentalists – the constituency most likely to support smart growth legislation – is also a constituency that is filled with NIMBYs. “After all,” observed one writer, “it is one thing to be a passionate proponent of recycling, and another to welcome a particular recycling plant –with the attendant garbage-truck traffic – on your street.”111

If the NIMBY dilemma is pervasive, and all available data suggest that it is, what are the implications for smart growth? One suggestion is that the NIMBY problem will eventually spell the demise of any smart growth program that attempts to increase density through an urban growth boundary. Those living inside the UGB will not want outsiders coming in. But where will the outsiders go? That is the unsolvable question.

Let’s consider a representative example. Virginia’s Loudoun County has been described above as a region that is well-situated to take on additional growth. Its proximity to the nation’s capital makes it a highly desirable place to live. Indeed, 2010 census data show that Loudoun County grew by 84.1% in the past decade, far outpacing growth in all other Virginian counties. The influx of new homes, cars, and people rankled more than a few existing residents. Residents in western Loudoun’s “Horse Country” have successfully resisted changes to zoning ordinances that preserve the region’s rural character. But residents of the county’s developed eastern half – home to Washington Dulles International Airport – do not want the additional growth either. The Mayor of Leesburg, a town that lies just fifteen minutes south of the airport, was quoted in the local newspaper as saying that her town “has grown too fast.” The mayor claims to have voted against every major residential rezoning during her tenure on the Town Council.

The Mayor of Leesburg is not the only individual fighting new development in Loudoun County. A citizens’ network calling itself the “Campaign for Loudoun’s Future” also has denounced new residential construction. “For several decades, Loudoun County has been the target of national developers and their proposals for massive increases in residential development beyond what our roads, schools and other community services can handle,” the group’s website warns. “Thousands of us fought back, seeking a say in the future of our home and the way it is planned.” The website includes a picture of a little girl holding a sign displaying the group’s slogan: “Don’t Supersize Loudoun!”

Yet, while Loudoun residents praise themselves for growing responsibly and maintaining the “charm and small-town feel” of communities such as Leesburg, outsiders look at Loudoun with contempt. As mentioned above, residents of commuter neighborhoods as far away as West Virginia must drive through miles of untouched land on their hour-long commutes into metropolitan Washington, D.C. As one West Virginian county planner explained, Loudoun County’s restrictive land use regulations may have saved Loudoun from the worst effects of sprawl – but, as a result, sprawl simply leapfrogged Loudoun and ended up in West Virginia. “They’ve only accelerated it,” said the planner, speaking about the leapfrogging phenomenon. “They’ve pushed it out here.”

Professor Jonathan Levine’s 2001 survey cataloguing developer perceptions of the land

110 Id.
111 See Elizabeth Rosenthal, Green Development: Not in My (Liberal) Backyard, NY Times (March 12, 2011).
use market provides evidence of the NIMBY problem’s severity. Although developers believed that restrictive zoning regulations posed the greatest barrier to the expansion of smart growth, they also saw “neighborhood opposition” as a major impediment. When neighbors oppose smart growth developments, they tend to do so by asking local planners to reject or modify the project. Thus, at a conceptual level, it may be hard to distinguish between the “regulatory” problem and the “NIMBY” problem. They are frequently two sides of the same coin. However, neighborhood opposition to smart growth poses a fundamentally different problem than regulatory opposition. Neighborhood opposition is an older, more pervasive, more intractable problem.

E. Constitutional Takings Jurisprudence

An aggressive program of smart growth will likely provoke a backlash, not only from NIMBY citizens, but also from frustrated developers who may claim that the legislation or regulation (or land use planning decision) amounts to a taking of their property deserving of just compensation under the Constitution. Under the Supreme Court’s Penn Central test, a court must weigh the “economic impact of the regulation” – particularly the extent to which the regulation has interfered with the landowner’s “distinct investment backed expectations” – against the general “character” of the governmental action. In analyzing the “character” of the regulation, the court will ask whether the regulation can be “characterized as a physical invasion by government.” If so, then the court will be more likely to find a taking.

One study of regulatory takings claims in nine southeastern states found a correlation between the aggressiveness of a state’s smart growth agenda and the number of regulatory takings claims that resulted in a published opinion. For example, Chris Williams’ study found that a comparatively “overwhelming number of regulatory takings cases were brought by developers in Florida.” The author attributed the result in part to the fact that Florida was the only state out of the nine studied that had a comprehensive, statewide growth management law on its books. He concluded that “the interests of developers will likely be best served by avoiding the mandatory, highly-restrictive forms of smart growth regulation” that include urban growth boundaries, development moratoria and incentives for the kind of development that will meet the goals of smart growth and avoid sprawl.

III. Conclusions and Solutions: Making Smart Growth Smarter

A. Smart Growth has Failed to Live Up to its Promise

In many ways then, “smart growth” has failed to live up to the hype. As detailed above, smart growth has been stymied both by unintended consequences and unforeseen circumstances, sometimes producing counterproductive results. In Maryland, their critically acclaimed smart growth program seems to have frozen growth in the very areas it was trying to encourage. Opponents of smart growth also claim in numerous studies that smart growth legislation inevitably results in higher housing prices by restricting the supply of land.

In other situations, smart growth policies have collided headlong with preexisting private
property rights. In *Viking Properties v. Holm*, a developer attempted to exploit a state policy preference for higher density as a pretext for invalidating a private covenant that called for lower density.121 This conflict has been described by Jonathan Levine as a “mismatch between fealty to property rights and deference to municipal regulations that impinge on those rights.”122

Other times, consequences are unanticipated because few envisioned the degree to which lack of political will would hamstring progress.123 The smart growth movement even has the potential to divide environmentalists, with smart growth proponents struggling to shake off accusations of “NIMBY” attitudes.124

Finally, growth management advocates may have underestimated “NIMBY” opposition from current residents. Such opposition “can take the form of political pressure, for example, city residents voicing their concerns at planning commission meetings, or, in many states, direct democracy, such as referenda and initiatives.”125

Given this grim portrait of the fate of smart growth efforts, what lessons can we glean and what solutions can we offer to the next wave of land use legislators?

**B. Remove Smart Growth From Local Politics: National Land Use Planning**

Removing land use decisions from political pressure seems a nearly impossible feat. After all, the states surveyed in this Article have employed almost every possible government actor to perform its land use governance: from appointed state agencies, to governor-appointed review boards, to citizen commissions, to judges, to the state legislatures, to popular vote ballot measures.

Shifting government control over certain critical land use decisions from the local to the federal level would not be an unprecedented solution to this dilemma. Congress has already enacted federal legislation with strong implications on local land use, including the Clean Air Act,126 the Clean Water Act,127 the Endangered Species Act,128 and the National Environmental Policy Act.129 Even the birth of the U.S. National Parks and National Forests represents a heavy exertion of federal control over land. These efforts required that vast tracts of property be set aside for public use and long-term conservation, rather than for the kind of economic development at issue in many of the lawsuits mentioned in this Article (e.g., housing developments or shopping centers).130 Those lawmakers fearful of public backlash for curbing development in the name of conservation should look no further than the astronomically high approval ratings given by the public for the creation and maintenance of national parks.131

Similarly, Congress could refocus long-stalled efforts on formulating and promulgating a National Land Use Planning Act. Rather than vesting politically sensitive land use decisions with local and regional bodies that can easily fall prey to the forces of public

123 See *Comment, Challenges to Smart Growth: State Legislative Approaches to Smart Growth and the Local Government Issue, 2004 Wisc. L. Rev. 229, 255 (2004)* (“A legislature that defers excessively to local governments could result in an inconsistent statewide land-use policy”).
sentiment, reviving the national movement seems like a better long-run alternative. Given the shortcomings of state-based planning, a broader regional and even a national structure may be able to ensure greater consistency across the states currently engaging in land use planning, and jump start the majority of states which lack growth management laws currently.

Indeed, in the 1970’s, efforts to enact a National Land Use Planning Act (LUPA) came within a few votes of becoming successful. The law, as proposed by Senator Henry M. Jackson, would have made federal grants available for states that made strong regional land use plans. Rather than risk the political minefield of seeking direct federal involvement in formulating land use decisions, Senator Jackson’s bill would have instead offered strong incentives for local leadership and authority to enact and enforce growth management laws.

This federal scheme is not unlike other incentive-based approaches that utilize Congress’s power of the purse such as those at issue in South Dakota v. Dole. Time and time again, states have demonstrated a willingness to comply with federal schemes when there are significant grant dollars in play.

C. Urban Growth Boundaries or Priority Funding Areas, But for Keeps

Two of the more successful tools employed by the states surveyed for this article appeared to be the (1) urban growth boundary (in Oregon) and (2) the priority funding area (in Maryland). However, both of the key efforts to use these tools met with failings somewhere along the political system. The success of UGBs in curbing development in open areas was quite promising before financial pressures and budgetary pitfalls made continuation impossible. If the smart growth movement is going to remain stuck on a state-based system, then a much more stringent, consistent, and robust application of UGBs or PFAs would appear to be a useful approach.

It is an obvious goal of an effective smart growth scheme that it be enforced in a way that is meaningful (read: has some teeth) and consistent (read: does not disappear with changing political sentiment). This is especially true of the UGB or PFA provisions that showed such promise before changing political tides or lax implementation spelled their doom. Meaningful enforcement and application of these planning mechanisms could be provided through federal oversight and a strong incentive-based approach, as discussed above in Part IV.B.

Alternatively, lawmakers could devise a scheme that is more “stick” than “carrot,” and look harshly upon the approval of new building permits or projects outside of UGBs or PFAs. Along with enforcement practices to ensure that new construction occurs only with a valid permit, a strict policy of denying permits in areas where growth is not intended could be highly successful. Without government support, large residential and commercial developments are bound to be unsuccessful – either due to a lack of permitting or lack of infrastructure. Where private parties resisted (i.e., sought development outside sanctioned UGBs or PFAs), government officials could seek penalties or ultimately engage in a taking of the land, though of course the latter option would require payment of “just compensation.”

133 Id. at 241.
134 Id.
135 483 U.S. 203 (1987) (upholding the constitutionality of a federal statute that withheld funding from states who refused to raise the legal drinking age to 21).
137 See supra, Part I.D.iii. [NEED update section numbers throughout paper]
138 See supra, Part I.D.iv.
139 To reiterate, the approval rating of such projects as national parks is unbelievably high, even though the presence of national parks serves to curb certain types of economic development. See National Parks Poll, available at http://www.npca.org/protecting-our-parks/policy-legislation/national-parks-poll.html (citing a Hart Research Associates and North Star Opinion Research study that found that 95% of voters see “protecting and supporting the National Parks” as an appropriate role for the federal government.)
While it is not a foregone conclusion that stronger UGBs or PFAs would have met with long-term success, it is evident that the failure to consistently enforce and oversee the programs ultimately led to their demise. Instead, policymakers could create a meaningful, incentive-based program through a National Land Use Planning Act, with UGBs and PFAs that carried teeth in their enforcement mechanisms and consistency in their implementation.

D. Reform Private Property Rights

Though it would clearly take a complicated revamping of many areas of American law (not to mention cultural expectations), it is rarely – if ever – suggested that the U.S. reexamine its individualistic conception of private property rights. The historic and legal ways that private property rights are construed in the U.S., namely, the robust “bundle of rights” provided to persons who own property and the accompanying sense of entitlement manifested in the “American Dream” both pose significant impediments to sustainable, coordinated land use management.

A movement – both social and legal – to educate Americans about the destructive nature of our expectations concerning land use may contribute significantly to a transformation in the way that land is treated. There is simply not enough land, enough water, enough open space, for everyone to have the idyllic single-family home, white picket fence, and beautiful scenery. More and more, the U.S. population is moving to urban settings. In fact, this movement into the city is also linked to positive health outcomes, including a longer life expectancy. Compact cities come with more socio-economic opportunity and healthier, longer lives. Without a realization that the quality of our lives is interconnected, and a sense of the shared nature of responsibility for preserving resources, lasting smart growth will prove elusive. We will quite simply run out of space and resources if people continue to live with the land use expectation that they can have it all, no matter the consequences on their neighbors. A shift in popular sentiment, if robust enough, may also lead political pressure to follow – a movement that would alleviate some of the difficulties in instigating lasting and meaningful growth management reform thus far.

Conclusion

Continued movement towards smart growth in America is imperative if we are to maintain basic fairness with regard to property rights as well as to continue to use land in a way that is sustainable and responsible. While several states have utilized a number of different structures in seeking smart growth, almost all of them have met with unintended consequences and dramatically increased litigation, particularly because political sensitivities around land use decisions run hot in multiple directions. If we are to be successful in achieving enduring smart growth over the long term, it is time to stop half-heartedly choosing from a menu of failed options. Rather, we must devise ways to remove smart growth decisions from local politics, borrow successful smart growth tools from other states, and have the courage to stay the course when we pass responsible land use legislation. We must implement regulation consistently, and even consider the idea of a federal National Land Use Planning Act. More radically, it is time we seriously rethink the nature of private property rights in the U.S. so that all citizens understand that our land use decisions impact everyone else around us. If we fail to take affirmative steps today, our efforts to achieve smart growth will never live up to their name.

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141 Id.
142 By way of illustration, numerous cities and developments in the American Southwest such as Phoenix, Las Vegas, Palm Springs, and Tucson, have contributed to the drying of the Colorado River delta and drought conditions on the Navajo Indian Reservation. See generally Eight Mighty Rivers Run Dry from Overuse, National Geographic, available at environment/photos/rivers-run-dry/.
The Interconnectedness between Home Builders and the Asian-American Community

By: Gerd-Ulf Krueger and Scott Laurie

Introduction

California’s ethnic and cultural diversity has always influenced its housing market, lifestyle, and business investments. A great example of this is the increasing Asian-American demand for new housing in the Los Angeles Basin. Using The Olson Company as an example, this article investigates the interconnectedness and mutual influence between home builders and the Asian-American community. We will present demographic trends showing how the tenfold increase of Asian-Americans in California since 1960 has dynamically influenced Southern California’s inner and outer suburbs. Combined with an analysis of the Asian-American buyer profile from The Olson Company’s home sales in Southern California, we find that demand for “smart growth” urban product is strong within this population segment. A psychographic analysis of these buyers draws conclusions for basic site and product design and marketing approaches. Several recent examples of projects in the West San Gabriel Valley highlight how the challenges of limited supply conditions in an essentially built-out urban landscape can be overcome via the interconnectedness of builders and homebuyers.

The Historical Context of the “Rise of Asian-Americans” in Southern California and Builder Behavior

Historically, Southern California home builders have shown a proclivity toward building in the suburbs, which used to be culturally conservative and broadly middle-class. As urban sprawl increased, builders expanded to the far-reaches of the Inland Empire. Since the 1980s, they have tended to build either monotonous tract houses or, if they wanted to be creative, designed what amounted to sophisticated master plans, all of which essentially followed the model of Orange County’s Irvine Ranch.

However, in the early 1980s things began to change. First, Southern California became more ethnically diverse, initially in its urban centers and then in the suburbs of once-staunchly conservative Orange County. As a result, some communities in Orange County now feature some of the highest concentrations of Hispanic and Pan-Asian populations in the United States (U.S.). Exhibit 1 illustrates how the Asian–American population has spread in Southern California from its initial core just east of Los Angeles in Monterey Park to Irvine in Orange County.

The Great Recession accelerated these trends. Old home building conventions no longer worked with the same emphatic certainty, at least in the more-distant suburbs where there was still developable land. Simply put, something new had to be done. Some

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1 Inland Empire consists of Riverside and San Bernardino Counties. These Counties are located just east of Los Angeles and Orange Counties and have a combined land mass of 27,000 square miles spanning to the borders of Arizona and Nevada. The Inland Empire has become the affordable overflow area from relatively built out Los Angeles, Orange and San Diego Counties. It is now the area where much of the suburban sprawl takes place these days in Southern California.
builders felt that homebuyers would be willing to embrace “smart growth” concepts, and make similar tradeoffs in order to live in smaller, denser units to maintain closer proximity to job centers, retail, entertainment, and walkable spaces within their communities. As builders have acted on these ideas, Southern California’s older suburbs, which are now completely urbanized, have experienced an impressive renaissance of new home building. In fact, at least 52 new projects have been opened since 2012, constructed by private and public home builders in the San Gabriel Valley, the San Fernando Valley, the South Bay, and Northern Orange County.\(^2\) Active players in this space include established companies such as DR Horton, KB Homes, Brookfield, Standard Pacific Homes, and others.

### The Olson Company Identifies and Meets Asian-American Housing Needs

The Olson Company (Olson) is a home builder with a longstanding “In-Town” tradition and expertise. Early in the current housing cycle, Olson discovered what other urban residential developers were hoping for: that buyers were committed to staying close to the urban core, even as they proceeded through marriage, forming households, having children, and retirement. This trend was most pronounced in areas with highly rated schools, safe communities, and proximity to recreational amenities. While these overarching needs were expected, what was not expected was the revelation that, along the path of smart growth – (and more by chance than by design) the majority of its buyers were Asian-American. The Olson Company’s insightful responses to this discovery would form an interconnectedness between the home builder and new, urban, Asian-American buyers. This group of buyers differed from the less-diverse clientele of the old suburban development regime and has since become an integral part of The Olson Company’s strategy.

It should be noted that this trend is also different from the recent focus on wealthy Asian overseas investors buying upscale homes in Southern California, a trend that has been highlighted in the media. Although this is of significance, the fascination with wealthy Asian investors misses an important point: namely the economic rise of Asian-Americans\(^3\). The groundwork for this was laid over the last 40 years by a large, organically grown and diverse ethnic group of Asian immigrants who came to Southern California from places including Hong Kong, Taiwan, Mainland China, Korea, Japan, the Philippines, India, and Southeast Asia. As can be seen in Figure 1, Asian-Americans are now a major force to be reckoned with in the California economy.

After many years of hard work, Asian-Americans are now an integral part of the US economy. Many have good jobs, above-average incomes, and some have become wealthy in the United States. The children and grandchildren of the Asian-Americans who have migrated here have been educated in local schools and universities, and many have become professionals and entrepreneurs. In the process, Asian-Americans have become a prominent buyer group in the emerging urban infill and suburban housing markets of Southern California representing a prominent part of the new American middle class\(^4\). This stands as a great example of the way that ethnic diversity is forever changing and re-inventing established communities and housing markets in the melting pot of Southern California.

The courtship of Asian-American buyers by builders such as The Olson Company has resulted in a new dialogue with a new middle class profile. Olson and other builders have

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\(^2\) The data is based on Metrostudy, a well regarded national data vendor of the new housing market.


actively engaged this community by accommodating new tastes, needs, and ancient Asian design principles such as Feng Shui. As a result, dialogues with prospective buyers usually start with an understanding of who one encounters, and how to speak and listen to each other.

**Asian-American Market Share in Olson Company Projects**

This section of the article will focus on the overall ethnic composition of 15 Olson projects (past and present), for which detailed buyer profile information is available in the Olson Company’s client database. The geographic coverage is the San Gabriel Valley, the South Bay of Los Angeles, and Orange County. This database is unique within the homebuilding industry because of the detail provided through a wealth of demographic, income, mortgage, and geographical information. The database represents 517 new home sales from the beginning of 2012 to the end of 2014, a period in which the Southern California housing market began to recover in earnest from the downturn that began in 2006-07.

Since each buyer’s profile information includes their surname, the information was used to approximate their ethnic identity via internet searches of common Asian surnames. The findings are remarkable: 62% of the total buyers in the examined Olson projects were identified as Asian. To be specific, this population was Pan-Asian, composed of the following breakdown: 32% of the buyers had Chinese surnames, 16% Vietnamese, 7% Indian, 5% Korean, 2% Japanese, and 1% Filipino.

We will now focus on the 320 Olson homes that were sold to these Asian buyers. The general characteristics of the observed information indicate that the Asian-American buyers of homes built by The Olson Company are Asian-American and not recent, newly-wealthy homebuyers from Mainland China or other Pacific Rim Nations. Rather, they are first-and second-generation Asian-Americans. They typically work in STEM (Science, Technology, Engineering, and Math) jobs, in various mid-level business functions, own a business, and often work in academia and medicine. Their main motivation to buy is ownership, proximity to jobs, and a desire for better schools and neighborhoods. A surprisingly large

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5 The data is based on an internal customer database of The Olson Company, which include mortgage and basic demographic information of individual transactions.
percentage of them are first-time homebuyers, and very few are buying as investors. The vast majority of buyers used conventional financing, with most being from cities in the same submarkets in which they were buying their Olson homes. Many buyers also worked in cities located in the same submarkets of the homes they purchased.

The median home price of the Olson homes purchased by Asian-Americans was $540,000. For entry-level homebuyers, the median price was $534,000, and for repeat buyers it was $565,000. Home prices ranged from a low of $290,000 to a high of $750,000. Overall, the prices of new homes bought by Asian-Americans in Olson projects were within the middle price range of new homes in Southern California.

Additionally, there was a sizable portion of millennial buyers. Millennials are defined as the generation born between the early 1980s and the early 2000s. In fact, out of 284 observations, 22.5% of the Asian buyers were less than 30 years old. These findings are somewhat contrary to the notion that American millennials have been staying away from the ownership market. Furthermore, the age group between 30 and 39 years old represents 42.3% of the Asian-American homebuyers. Homebuyers between 40 and 59 years represent 28.1%. This age group could be characterized as belonging to the initial immigration cohort of Asian-Americans – indeed, many are retirees or pre-retirees. Asian buyers in or close to retirement age represented 7.1%, which is a relatively small group. While the median age of all Asian buyers is 36 years, individuals from all life stages are present in the Asian-American group that purchased these homes.

The occupational profile of Asian buyers in new home projects is also remarkable. Out of 287 observations, 26.1% of the buyers worked in STEM fields. Almost 41% were employed in high-end business fields ranging from management to mid-level executive positions to business finance, and 17% have jobs in the medical and legal fields. Overall, the occupational profile of Asian buyers of Olson Company projects indicates that they are highly-educated workers.

Figure 2 depicts the income distribution of Asian buyers in Olson projects. The median income of the primary householder is $97,500. Interestingly, one-sixth of the Asian buyers have incomes above $150,000, indicating a relatively wealthy clientele. Based on 213 observations, these income numbers fit the strong occupational profile of Asian buyers in Olson projects.

With regard to entry-level buyers, 53.3% of Asian homebuyers in Olson projects were first-time homebuyers. This is very surprising, because on a national basis, the first-time homebuyer ratio is currently under 3:1 in the resale market, according to the National Association of Realtors. Only 8.8% of buyers were investors, which is rather low, and repeat buyers made up 37.9%, based on 182 observations.

One interesting aspect of the group’s household characteristics is the large percentage of singles. 55% of buyers were married, and 63% of them have children. However, 39% were single, with only a small group within the sample being divorced.

The demographic profile of Olson project buyers with Asian surnames confirms that they are, indeed, Asian-Americans and not foreign investors. Furthermore, the profile links neatly with recent findings of the Pew Research Center that reveal that Asian-Americans are a highly-educated, high income group. The study puts forth that, in contrast to a century ago when most Asian-Americans were low-skilled, low-wage workers living in crowded enclaves and were subject to prejudice and official discrimination, they are today the best-educated ethnic group in U.S. In fact, 49% of Asian-Americans hold at least a bachelor’s degree, compared to 31% of Caucasians. Additionally, they are the most likely of any major ethnic group to live in mixed neighborhoods and marry across ethnic lines. Furthermore, Asian-Americans had the highest median income of any other major ethnic

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6 The data is based on an internal customer database of The Olson Company, which include mortgage and basic demographic information of individual transactions.
The Olson data, when combined with the family characteristics and the first-time homebuyer statistics, suggests that a large proportion of Asian-American buyers of the firm’s projects are the advanced cohort of the children of the Asian-Americans who immigrated into the United States in the 1980s and 1990s. This may provide an explanation for the large proportion of singles. The data and general demographic trends illustrate that this class of buyer is genuinely sustainable moving forward and not an anomaly. Therefore, this finding should be applicable to other urban or suburban projects in Southern California and provide strategic guidance.

Now we will focus on how Asian-American buyers of Olson homes financed the purchase of their homes. Based on 294 observations, 84% of the group used some form of mortgage financing. The majority (69%) took out conventional mortgages, 15% used FHA and VA mortgages, while 16% paid cash. This suggests that the Asian-Americans buying Olson homes are well-integrated into the American mortgage system and are using it to their benefit.

The down payment ratio information for the buyers is based on 164 observations. The average down payment for a mortgage was high: 25% to 29% of the group made a down payment between 25% and 99%. Thus, the Asian buyers in Olson homes clearly had the wherewithal to provide down payments in amounts that would qualify them for a mortgage in the currently tight underwriting environment. What probably helped as well is the higher average savings rate of Asian-Americans and financial assistance of the parents in the buying process. Data from Pew Research indicates that the median net worth of Asian-American households was $83,500 in 2010, which was higher than the average American household net worth, but lower than the $120,000 net worth of non-Hispanic Whites. The down payment habits of Asian-Americans when buying homes signals the presence of a high quality mortgage niche, one with high down payments and implied good credit scores that are suitable for the vast majority of conventional mortgages.

The Olson database also includes information pertaining to the main motivations for why the buyers bought Olson projects. Out of 248 observations, the typical motivations included the desire to own a home (41.5% of homebuyers), a change in home size (8.9%), family change (4.4%), or job transfer (3.2%). More fascinating is that 36.3% of Olson buyers...
were mainly interested in the community aspects that accompany Olson homes, a finding that reflects the urban character of its home sites. As mentioned, Olson buyers were initially assessed to make tradeoffs in favor of proximity to the urban core under the proviso that the homes are in safe neighborhoods while being close to retail and good schools. The premium that a large percentage of Olson buyers give to community characteristics is a striking confirmation of this initial observation.

As Figure 3 shows, being close to jobs (33.3%) is the main community motivation of Asian-American buyers, followed by the desire to live in a better neighborhood (32.2%), have access to better schools (21.1%), and community amenities (13.3%) such as proximity to retail and recreation.

This trade-off also becomes apparent in the acceptance of smaller, denser homes for greater access to jobs and professional networks by Asian-Americans. Furthermore, when one examines where buyers are coming from and where they work in the San Gabriel Valley, one can see that Asian-Americans that buy Olson homes in urban or older suburban sites tend to come from and work in urban environments. For example, in the San Gabriel Valley, 77.3% of all Asian-American buyers were originally from either the San Gabriel Valley or Los Angeles. Furthermore, 65.3% of buyers in the San Gabriel Valley work in either the San Gabriel Valley or Los Angeles.

The motivational, work place, and buyer profile data for Olson home sites in Southern California all exhibit a strong signature of community motivations and an interest to stay close to job cores. What is particularly intriguing is the fact that many Asian-American buyers are looking for upscale urban amenities, nearby jobs, good schools, safe neighborhoods, and shopping spaces that fit their cultural and culinary tastes. In suburban master-planned communities that are further away from Los Angeles, such as the Inland Empire, such amenities need to be built over time by developers with great expense and care. In many of Olson’s sites, these amenities already exist, involving little to no extra cost for the builder; a hidden benefit to following a smart growth strategy in well-positioned urban neighborhoods.

### PRIZM Segmentation Analysis

This section will augment the emerging dynamic of Asian-American buyers by examining the PRIZM segmentation of Olson buyers via 4,000 sales during the last 14 years. The Key PRIZM segmentations of Olson buyers are unambiguously linked to the Asian-American buyer profile. This can be used toward image-building, traditional marketing, social media outreach, product design, and to get an idea of the overall gestalt of one’s target market, going beyond the buyer profile presented in the above section.

PRIZM is a geo-demographic model that defines U.S. households in terms of 66 demographically and behaviorally distinct types, or “segments,” to help marketers
determine consumers’ likes, dislikes, lifestyles and purchase behaviors. The segments are labeled with nicknames that capture the essence of the segments. Each segment is also grouped in larger life stage and urbanicity categories.

For the total number of recent buyers, the PRIZM data was boiled down to 5 segments, which together represent 72.5% of transactions in Olson projects\(^8\). The segments are ranked by socio-economic status; the lower the number, the higher the ranking (in parenthesis below). The segments are in order of market share:

- **(7) Money and Brains (29% of buyers):** This segment has high incomes, advanced degrees and sophisticated tastes. Many are white city-dwellers, albeit, with a relatively high concentration of Asian-Americans. They are married with few children who live in fashionable homes, which can be townhomes or single-family detached homes. They are in upper management and are wealthy. In terms of life stage, they are enjoying midlife success.

- **(29) American Dreams (17% of buyers):** This segment represents ethnically diverse America, with more than half being Asian-Americans, Hispanic, and African-American. They live in multilingual neighborhoods, and many speak a foreign language. They are middle-aged, and live in middle class comfort with their children in townhomes and single-family detached homes. They are professionals with above average wealth. Life-stage wise, they can be described as young accumulators.

- **(16) Bohemian Mix (13% of buyers):** They are young, mobile urbanites and represent the nation’s most liberal lifestyles. They are a progressive mix of young, singles and couples, and are mostly professionals with upper middle incomes. They are multi-ethnic with a good share of Asians, Whites, Hispanics and African-Americans. Living in funky, attached homes they are early adopters who are quick to check out the latest movies, nightclub, ethnic foodie places, technology, and microbrews. In terms of life-stage they are young achievers with moderate wealth.

- **(14) New Empty Nests (11.0% of buyers):** With their children recently out of the house, this segment consists of older Americans who pursue active lifestyles and live predominantly in townhomes. Their income falls into the upper middle range and their wealth is high. Life stage wise, they are in their mature years and they like to travel.

- **(4) Young Digerati (2.5% of buyers):** These are the nation’s tech-savvy singles and couples that live in fashionable neighborhoods at the urban fringe. Affluent, highly educated and ethnically mixed, they live in townhomes and single-family detached homes. They love to shop in boutiques, dine in casual restaurants and go to all types of bars. In terms of life-stage, they belong to the young achievers.

The commonality of these geo-demographic segments is that buyers have a distinct urban flavor. As mentioned, buyers in these segments cover all life stages, and are ethnically diverse with a strong Asian-American component. In addition to having high incomes, the key PRIZM segments identified have above-average wealth as well. Their overall market gestalt is a mix of older and younger populations with a distinctly hip and, again, Asian flavor.

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\(^{8}\) Nielsen PRIZM, a geo-demographic data vendor owned by The Nielsen Company.
Two Project Examples

This section makes the connection with the Asian-American community more concrete. The map in Exhibit 2 shows the distribution of Olson projects in Southern California. The blue dots represent sold-out projects, the red ones represent currently active projects, and the white dots represent future projects. For the purposes of this article, we are particularly interested in two future projects in the green cluster around Monterey Park, just east of downtown Los Angeles.

This cluster of cities was predominantly white until 1970. The area in question includes Alhambra, Arcadia, Temple City, Rosemead, and San Gabriel. These were the first Asian-American communities developed in the beginning of the 1970s as well-educated Asian-Americans began settling in the West San Gabriel Valley, initially to Monterey Park, which was at one time dubbed “The Chinese Beverly Hills”. Attractive features of these cities include highly-ranked schools, low crime rates, proximity to job centers, great retail and restaurants, and a full-fledged Asian business infrastructure.

A great example of the Asian-American influence is the transformation of this cluster of cities into a hub of sophisticated Asian food, culture, and business. With the San Gabriel Mountains rising majestically to its back, facing the blue waters of the Pacific Ocean in the distance, its landscape conveys ancient Asian design traditions of harmonizing one’s surroundings for good luck and health.

The first future project, Mission Walk, is located in the City of San Gabriel on a 5.5 acre site that was formerly occupied by Huy-Fong Foods, the maker of Sriracha hot sauce. The site is a very good example of the typical urban infill opportunity in Southern California, which often involves former commercial sites. It takes great effort, expertise, and good relationships with the local community fabric to find such sites. It is also hard to entitle them, and in this case a lot of time was spent working with local politicians, making direct contact with predominantly Asian-American community and business leaders to persuade them of the benefit of this new residential development. As a result of this dialogue, the property received approval for 88 homes, of which 57 will be row townhomes, 27 will be triplex homes, and 4 will be single-family detached homes. The price range of the homes will be from $450,000 to $750,000.

With the prominent Asian population in the City of San Gabriel, it is obvious that one should expect a large share of Asian-American buyers for the project. Since the project consists mostly of townhomes, most of the PRIZM segments focused on by The Olson Company should come into play, including “Money and Brains” and “American Dreams”. Both segments have an interest in sophisticated, urban attached homes.

The Olson Company utilizes this type of psychographic segmentation information to determine buyer trends and influences. The database of information the Company has compiled on past Olson buyers provides the necessary information and insights to make strategic product and planning decisions. The Company is able to review past buyer preferences to determine floor plans and density at future communities based on the psychographic segments present in these areas. For example, the Company is repurposing a product for the upcoming San Gabriel community that was highly successful at a previous Olson Company community in the City of Fountain Valley in Orange County. The City of Fountain Valley had the same strong psychographic segments and many other attributes (highly-rated schools, high incomes, low crime) similar to the City of San Gabriel (“Money and Brains” and “American Dreams”). From experience, the Olson Company knows the product and location preferences of these buyer segments. As far as marketing is concerned, the Olson PRIZM targets are major users of technology, and therefore a sophisticated internet campaign is planned, with a particular focus on social network marketing.

The second future project is called Encanto Walk and is located in the Southern fringes
of Monterey Park, consisting of 80 small-lot detached homes. The site was formerly owned by the San Gabriel Nursery and Florist and therefore had a commercial zoning. In order for The Olson Company to develop the site as a residential community, a Zone Change and General Plan Amendment was required. In the City of Monterey Park, any Zone Change on a site greater than one acre must be ratified by a public vote. Again, intensive and thoughtful dialogues with local community leaders and the community facilitated the entitlement of the property. The voters voted in favor of the Zone Change and General Plan Amendment by a narrow margin, and the results of the election were ratified by the City Council the following month.

Due to the adjacency of the site to a cemetery and other planning considerations, Olson utilized Feng Shui principles in both product and site design. The site plan, therefore, includes placing a fountain at the entry of the community, with the water flowing to the interior of the site directing energy into the community. The community’s landscaped frontage with numerous trees creates a flourishing and protected environment for the project.

Based on psychographic segmentation analysis the Company determined that “American Dreams” and “Money & Brains” were among the top five segments in Monterey Park. The Company wanted to differentiate the product offering from nearby communities in San Gabriel and Temple City, so they developed a small lot single-family detached site plan within a gated community. Home prices at the Encanto Walk will range from $550,000 to $650,000 and the product was designed for families with product offering 4-5 bedrooms and rear yards.

Conclusion

In summary, this article has shown that Asian-American buyers have become a major source of demand within the Southern California urban new home market. This represents a change from the traditional practice of new, suburban housing developments, which feature large homes and backyards on the outer fringes of suburban Southern California. Instead, a fresh dynamic is emerging in which a new style of home building based on smart growth principles and closeness to urban job cores has become accepted both by home builders and a major, sophisticated consumer group. Furthermore, good relationship-building with local business and community leaders can help in the search process for residential projects and help gain approval for entitlement. It is important to recognize that this new dynamic is driven by Americans who are firmly rooted in both Asian and American experiences, creating a very innovative framework for doing business together. The authors believe that this is just the beginning of an urban renaissance, which will bring about new styles and practices of conducting research, new product design, new marketing techniques, and ways of relating to the customer.
Exhibit 1

2012 % of Asians by ZIP Code

% Asians by ZIP Code
- 0% to 5%
- 5% to 10%
- 10% to 15%
- 15% to 20%
- 20% to 25%
- 25% to 30%
- 30% to 40%
- 40% Plus

Exhibit 2

Olson Projects and % of Asians

% Asians by ZIP Code
- 0% to 5%
- 5% to 10%
- 10% to 15%
- 15% to 20%
- 20% to 25%
- 25% to 30%
- 30% to 40%
- 40% Plus
Introduction

Beginning in 2007, the U.S. economy was hit with a series of damaging financial blows, the negative repercussions of which still affect Americans today. In years prior thereto, various economic and political factors worked in unison to artificially inflate the selling price of residential homes within many U.S. markets. When the market could stand no more inflation, the metaphorical bubble burst, sending the banking, investment, and mortgage industries into a downward tailspin.

Economists assert that the artificial inflation issue is an ongoing one whose damaging implications have not yet come to fruition in some areas. This assertion is based on data showing that many homeowners that bought in the pre-2007 free-spirited loan market are still significantly underwater on their home mortgage loans. Due to a much higher likelihood of default, underwater loans are considered economically burdensome and unstable.

Government entities and private analysts alike have proposed various solutions to reduce the current number of underwater mortgages, thus avoiding further instability via foreclosures. One commentator advocates for a particularly unique approach. Professor Robert Hockett of the Cornell University Law School prescribes the use of sovereign eminent domain authority to achieve the benefits that many perceive mass write-downs could afford.

In very general terms, Hockett’s plan (“the Plan”) suggests that local municipalities utilize their eminent domain power to “take” underwater mortgages from pooled units of securitized investor-trusts that would not otherwise be able to write-down such loans, and then restructure them in a way that reduces the risk of default, thus benefitting both national and local economies.

This article will objectively address several major legal challenges such a program faces under Constitutional jurisprudence. Section II below sets out a brief explanation of how the need for collective-action solutions such as the Plan arose, and then provides a summary of Hockett’s Plan. Section III then analyzes the Plan under the U.S. Supreme Court’s current repertoire of Taking’s law, and explains why the Plan meets the Constitutional requirements thereof. Sections IV and V highlight the legal hurdles the Plan faces under the U.S Constitution’s Contracts and Commerce Clauses, respectively. Finally, Section V provides a conclusion and a summary of the impediments faced by Plan proponents moving forward, particularly the city of Richmond, California.
Collective-Action Problems and the Plan

Consider first what a mortgage is. At its core, it is a financial instrument used to secure the repayment of a loan over a fixed term of years, generally in exchange for a lien on real property. Many lenders now specialize solely in this practice.

In an effort to originate more loans (and thus make more money), lenders need to create cash flow. To do this, they sell all or a part of their interest in newly created mortgages into the secondary mortgage market. The secondary market in turn benefits from purchasing the loans through securitization.

Securitization refers to the process of pooling contractual debt obligations (here mortgages), into securitized units with other mortgages of similar credit-worthiness. Once created, these securitized units are referred to as collateralized mortgage obligations or mortgage-backed securities (“MBS”). These MBS are then put into trust accounts and sold to various groups of investors as part of their investment portfolios.

The securitization process itself can occur in a variety of ways depending on the parties involved. If the loan originator was a large commercial bank, for example, they may choose to handle the securitization/pooling process themselves, thereby saving some expense. Alternatively, the loan originator may engage in a complex series of legal conveyances through which it sells its loans to specialized loan servicers, who thereafter securitize and pool loans from various sources before selling an interest in them in the secondary market. Due to the varied (and previously unregulated) nature of the securitization process, many ownership structures are possible.

The securitization process offers many economic benefits. Because many specialized loan originators are so efficient at what they do, they prefer to focus entirely on creating profitable investments, rather than maintaining them. By creating and selling mortgages at a discount into the investment market, lenders are able to generate more cash flow, thus facilitating the lending process by having more money to lend.

Relatedly, the process also benefits homebuyers. Securitization (1), creates an attractive niche in the market for lenders to operate, so more financing options are available to borrowers, and (2), creates natural competition among lenders, incentivizing them to offer better rates to homebuyers. Holistically then, the secondary mortgage market expands consumer access to credit.

MBS are however, not without drawbacks. In the traditional mortgage lending model where the original lender retains title to a loan, the lender has the option of reducing the likelihood of borrower default by writing-down (or essentially off) a portion of the loan made, thus (arguably) incentivizing and increasing the likelihood of repayment. Modernly however, most underwater mortgages are held in the previously described private-label

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6 See generally 54A Am. Jur. 2d Mortgages § 1.
7 This general concept, known as structured finance, encompasses “financial arrangements that serve to efficiently refinance and hedge … profitable economic activity beyond the scope of conventional forms of on-balance sheet securities (debt, bonds, equity) …” often at much lower transaction costs. Andrea A. Jobst, Franchise Pricing in Subordinated Loan Securitization, 11-2 J. Structured Fin. 64 (Summer 2005).
8 Id.
9 Id.
10 The term “loan servicer” may refer to one of several players in the secondary mortgage market. A true loan servicer simply contracts to handle the transaction between the originator, the securities broker, and the investor, acting in effect as a trustee; and then functions as an intermediary by distributing funds to investors as homeowners make their payments. In this instance, the loan servicer does not own any part of the securitized unit, but instead simply profits via a fee for handling the transaction. Alternatively, some use the term “loan servicer” to refer to an entity that purchases, securitizes, and in the traditional sense “services” the pooled loans after selling a portion to end investors. Because this latter type of servicer retains a portion of each MBS as its own investment, it is more appropriately referred to as an “aggregator.” See Adam J. Levitin & Tara Twomey, Mortgage Servicing, 28 Yale J. on Reg. 1, 24 (2011) (Discussing the various types of “servicers.”).
12 For purposes of this article, it is not necessary to delve too deeply into the various ways in which securitization can occur. More important in this analysis is a basic understanding of the system’s structure, and the resulting limitations.
13 Id., supra note 7.
15 Levitin & Twomey, supra note 10.
securitized pooled units as MBS. These securitized units are managed by loan servicers whose authority is governed by a pooling and servicing agreement (“PSA”). Nearly all PSAs restrict the loan servicer’s ability to modify the terms of the loan itself. This restriction is necessary to maintain the particular pass-through type of limited tax liability that makes mortgage-backed securities so attractive to investors, so there is no readily available work-around for this arrangement.

Add into the mix the cause of, and thus the need to restructure many of these securitized loans. From the early 1990’s until 2006, U.S. residential home prices rose at unprecedented rates. Causes of price inflation included: an increase in the home buying population, conflicts of interest that promoted unscrupulous appraisals, government-sponsored mortgage deductions that made home ownership an attractive option for both investment, and residential purposes, and ease of consumer access to credit because of the secondary mortgage market, among others.

The following chart illustrates the inflation bubble by showing both the historical trend of home price increases, and the artificially inflated rates that homes were selling at before the mortgage bubble burst.

From the 1990s through 2006, private label securitization through the secondary market was just one of several facilitators that allowed borrowers to take out loans on homes at artificially high prices. Those price-inflated loans were then sold into securitized/pooled units as mortgage-backed securities. Then the metaphorical inflation bubble burst, causing market home values to plummet. Suddenly, borrower/homeowners find themselves upside down or “underwater” on their mortgages, owing investors much more than their homes are now worth in the market, and the PSAs that govern private-label loans do not allow them to be restructured. As a result, many underwater loans are unmodifiable, and

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16 Id.
17 Id.
18 Id.
19 Commercial Real Estate Workouts § 1:5 (3d ed.).
as such, bear a significantly higher likelihood of default.

To remedy this economy-wide problem, Hockett’s Plan suggests a “collective-action” solution. He proposes that municipalities use their eminent domain authority to take the underwater mortgages themselves from their investor-owned securitized trusts (thus circumventing the restrictive PSAs), refinance them so that they more closely reflect the (current) actual value of the underlying home, and then sell them to new investors thereby decreasing the likelihood of default.

Under the plan, local municipalities will begin by collaborating with privately owned enterprises to raise the large amounts of capital necessary to pay for the condemnations. Mortgage Resolution Partners, LLC (“MRP”) is one such privately owned venture capitalist firm seemingly created for the purpose. MRP initially raises the necessary funding by seeking out interested third-party investors interested in buying into trust accounts that will later be collateralized by re-securitized mortgages. MRP then fronts the raised capital to local municipalities to facilitate the Plan.

Second, the local municipality and MRP will work together to establish a set of criteria to use when actually selecting which underwater loans they wish to take. At the outset, “it was MRP’s intent that municipalities purchase all underwater mortgages…[,)” but it was later conceded that municipalities should retain the flexibility to establish their own criteria for selecting the loans they wish to condemn. Also, initially MRP only intended to take performing loans, but preliminary loan selections in one area have included both performing and nonperforming loans.

Third, after selecting which loans to take, the municipality will use its eminent domain power under the applicable state and U.S. Constitutions to effectively condemn the privately held securitized mortgages themselves, and pay the required “just compensation” to the investor/owners.

Finally, once it has purchased a mortgage through condemnation, the municipality will negotiate with the homeowner an entirely new mortgage loan based on the previously determined fair market value, at terms equal to those that the homeowner could currently obtain on the open market. The municipality will then convey the new mortgage to MRP for re-securitization, and placement as a mortgage-backed security into one of its various investor-financed trusts. MRP’s financial interest in facilitating this process is limited to a $4,500 transaction fee for each loan taken and processed through the Plan.

23 As this has been an ongoing proposal over the last few years, several changes and revisions have been made to the structure and mechanics of the Plan. This summary attempts to integrate those updates as much as possible to provide the most accurate analysis of Hockett’s proposal.
24 Hockett, It takes a Village, supra note 4.
26 Id.
29 Id.
31 See e.g. Cal. Const. art. I, § 19.
32 U.S. Const. amend. V.
33 Hockett, It Takes a Village, supra note 4.
34 Id.
35 Id.
Takings Law and the Plan

An Overview of Takings Jurisprudence

Claims of improper eminent domain use underlie almost all objections to the Plan. Commonly referred to as the “Takings Clause,” the last line of the Fifth Amendment to the U.S. Constitution reads: “nor shall private property be taken for public use, without just compensation.” Scholars disagree about whether the Takings Clause is an express grant of eminent domain authority, or merely a limitation upon the implicit sovereign authority held as a matter of right. At any rate, such authority is accepted, so the Fifth Amendment does serve to limit sovereign eminent domain authority, irrespective of whether it does so inclusively or exclusively.

In its early applications, the Fifth Amendment (as part of the Bill of Rights) was only read to apply to the federal government, but has subsequently been incorporated through the Fourteenth Amendment’s Due Process Clause so as to apply to state (and therefore local) governments as well.

When parsed, the Takings Clause requires analysis of several considerations, including: what kind of action amounts to a “taking,” what constitutes “public use,” and how “just compensation” should be calculated.

Defining a Taking

Broadly stated, “[a] taking occurs when the government encroaches upon or occupies private land for its own proposed use.” In the simplest example, a taking occurs when a sovereign approaches a private landowner and demands the overturning of title to, or deprivative use of, all or a portion of the landowner’s property for some type of public use.

Initially, “takings” only occurred with respect to real property, but the doctrine has since been significantly relaxed in scope, thus conforming its application to the evolving definition of “property.” For example, instead of strictly using the term to define interests in real estate, “property” more appropriately describes a bundle of rights or interests, which can vary in form depending on the circumstances.

The modern definition of property now encompasses intangible assets as well, including

37 U.S. Const. amend. V.
38 See 26 Am. Jur. 2d Eminent Domain § 3 (“The power of eminent domain does not depend for its existence on a specific grant in the United States Constitution or statutes as it is inherent in sovereignty and exists in a sovereign state without any specific recognition.”).
40 U.S. Const. amend XIV, § 1 (“No state shall make or enforce any law which shall abridge the privileges or immunities of citizens of the United States; nor shall any state deprive any person of life, liberty, or property, without due process of law ….”).
41 Chicago, B. & Q.R. Co. v. City of Chicago, 166 U.S. 226, 236 (1897). (“Due process of law, as applied to judicial proceedings instituted for the taking of private property for public use means, therefore, such process as recognizes the right of the owner to be compensated if his property be wrested from him and transferred to the public.”).
43 The classic example would involve a local government’s need to take privately owned land to construct a school, hospital, or roadway.
44 See W. River Bridge Co. v. Dis, 47 U.S. 507, 516 (1848) (“The original idea of the eminent domain was the right of sovereignty, or residuum of power over the land which remained in the sovereign or lord paramount after the fee granted to the feudatory, and was therefore confined to the realty.”).
45 “In the progress of arts and commerce, when personal property became worthy of legal consideration, this power of sovereignty was extended over that, and even included debts.” Id.
46 For example, the state of California now broadly defines “property” as “real and personal property and any interest therein.” Cal. Civ. Proc. Code § 1235.170 (West).
47 “The term is generally used in this sense in the federal and state constitutional guarantees against deprivation of property without due process of law, and as so used, the word signifies the sum of all the rights and powers incident to ownership” 63C Am. Jur. 2d Property § 1 (Referring to “property” as a “bundle of rights.”).
“contract rights, insurance policies, corporate equities, businesses as going concerns, hunting rights, rights of way, and sports franchises, among others.”

While many cases note the expansive definition of property for purposes of eminent domain, few courts have specifically dealt with the Taking Clause’s applicability to financial instruments, and almost none have explicitly applied it to mortgages.

Defining Public Use

Defining a “public use” is an oft-challenged aspect of takings jurisprudence. In *Berman v. Parker*, the Supreme Court began expanding the formerly strict public use requirement, thereby setting the stage for broadened future applications. In response to large concentrations of substandard housing and “blighted” areas, in 1945 Congress enacted the District of Columbia Redevelopment Act (“the Red. Act”). Under the Red. Act, the District of Columbia would use its eminent domain authority to condemn large areas within a certain community, and then turn them over to a private developer for new construction. The principle opponent of the Red. Act owned a department store that came within the purview of the area to be condemned, but was not itself in a blighted condition. Ultimately, the court rejected the argument that the public would not benefit from the taking of this particular owner’s property due to (an isolated) lack of blight.

In effect, the *Berman* Court began to expand the taking clause’s “public use” requirement by giving near-absolute deference to legislative authority that dictates what a public use is, and in so doing, rejected a judicially scrutinous limitation on governmental eminent domain authority.

Relatedly, the *Berman* Court also rejected the opponent’s arguments that the taking could not constitute a legitimate public use because the Red. Act would result in another private owner ultimately having title to the condemned property. In referencing its new deferential approach to legislative determinations of public use, the Court simply noted that “[t]he public end may be as well or better served through an agency of private enterprise than through a department of government—or so the Congress might conclude.” It is therefore reasoned that post facto private ownership does not automatically nullify the public use requirement.

The Supreme Court’s next major opportunity to define the Taking Clause’s public

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52 See, e.g., Swan Lake Hunting Club v. United States, 381 F.2d 238 (5th Cir. 1967).
54 See, e.g., City of Oakland v. Oakland Raiders, 646 P.2d 835 (Cal. 1982).
56 In *Louisville Joint Stock Land Bank v. Radford*, 295 U.S. 555, 602 (1935), the Supreme Court mentioned in dicta that “[i]f the public interest requires, and permits, the taking of the property of individual mortgagees in order to relieve the necessities of individual mortgagors, resort must be had to proceedings by eminent domain ….” While the Radford language is clear, two important considerations may curb its application to modern cases. First, Radford was a bankruptcy case dealing with creditor rights, not intentional applications of eminent domain authority. Second, the Radford language was proffered over twenty years before the Supreme Court began to expand its definition of “public use” in 1954 for eminent domain purposes (discussed infra). Although subsequent state court decisions have applied eminent domain to mortgages, *W. Fertilizer & Cordage Co. v. City of Alliance*, 504 N.W.2d 808, 816 (Neb. 1993), the U.S. Supreme Court may yet impose additional limitations in light of these contextual considerations.
58 Id. at 28.
59 Id.
60 Id.
61 Id. at 34.
62 Id. at 32 (“Subject to specific constitutional limitations, when the legislature has spoken, the public interest has been declared in terms well-nigh conclusive. In such cases, the legislature, not the judiciary, is the main guardian of the public needs to be served by social legislation, whether it be Congress [or a state legislature].”).
63 Id. at 34.
use vernacular came in *Hawaii Hous. Auth. v. Midkiff*. In that case, the Court measured the constitutionality of Hawaii’s Land Reform Act of 1967 (“Land Act”). Hawaii’s state legislature created the Land Act in an effort to correct what it viewed as the residual market failures caused by past feudal land ownership structures on the Hawaiian islands.

The Land Act’s condemnation structure operates by allowing individual tenants “living on single-family residential lots within developmental tracts at least five acres in size … to ask the Hawaii Housing Authority ("HHA") to condemn the property on which they live.” When twenty-five eligible tenants within a given area make such a request, a hearing is held to determine whether they are allowed to move forward with condemnation. If so, the Land Act allows the HHA to condemn the property, thus taking it from the current owner and allowing the possessor/lessee of the property to take title and pay the required just compensation.

When considered in light of the Takings Clause, the Supreme Court unanimously found the Land Act constitutional. In reaffirming its deferential approach founded under *Berman*, the *Midkiff* Court explained that the judiciary would not substitute its judgment for that of the legislature “as to what constitutes a public use.” In so doing however, the Court added much to the already expansive public use limitation by implying that the word “use” was too restrictive, and should instead be read to merely require that the taking justify a “public purpose.”

This interpretation again circumvents arguments that suggest an action cannot be a public use because the taken property returns to some other form of private ownership. This rationale allowed the *Midkiff* Court to dismiss arguments by the aggrieved condemnee-landowners who objected based on the fact that the property ended up in the private hands of the lessee/possessors, and no other members of the public. A public purpose was served because the taking alleviated the negative effects the land oligopoly had on “the normal functioning of the State’s residential land market [which had] forced thousands of individual homeowners to lease, rather than buy, the land underneath their homes.”

Finally, one of the Supreme Court’s most recent applications of the public use requirement is displayed in *Kelo v. City of New London, Conn.* In that case, the city of New London was experiencing economic downturn and flight due in large part to escalating local unemployment rates. Poor economic conditions caused state and local officials to target the area for “economic revitalization” programs. Enter Pfizer, a large pharmaceutical company in search of a home for its new 90-acre, $300 million dollar research facility. The match would have seemed ideal to the city of New London. The city was able to purchase most of the land needed, but had to use forced condemnation to acquire property held by a few holdout homeowners. The U.S. Supreme Court affirmed the State Court’s determination that the New London revitalization project was within due bounds of the

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66 *Midkiff*, at 232 (“After extensive hearings, the Hawaii Legislature discovered that, while the State and Federal Governments owned almost 49% of the State’s land, another 47% was in the hands of only 72 private landowners. … The legislature concluded that concentrated land ownership was responsible for skewing the State’s residential fee simple market, inflating land prices, and injuring the public tranquility and welfare.”) (Internal citations omitted).
67 The term “tenants” appropriately describes the disadvantaged residents the Land Act meant to help; these “tenants” owned the house in which they lived, but because of the feudal land ownership scheme (see note 66, supra), most were forced to lease or rent the real estate upon which their home had been built.
68 Id. at 233.
69 Id.
70 Id. at 241.
71 Id. (“Where the exercise of the eminent domain power is rationally related to a conceivable public purpose, the Court has never held a compensated taking to be proscribed by the Public Use Clause.”) (emphasis added).
72 Id. at 242.
73 545 U.S. 469 (2005).
74 Id.
75 Id. at 473.
76 Id.
77 Id. at 475.
public use requirement.\textsuperscript{79}

The Supreme Court’s decisions in \textit{Berman}, \textit{Midkiff}, and \textit{Kelo} are instrumental under the public use requirement in at least two key respects: (1) the Supreme Court acknowledges its retreat from the formerly conservative definition of “public use,” by clearly affirming that the language now merely necessitates a “public purpose;”\textsuperscript{79} and (2) in determining what a public purpose is, the condemning authority is given much deference.\textsuperscript{80}

But even the Court’s seemingly unrestrained application of the new public purpose doctrine is still arguably limited by the repeated affirmation that a sovereign “would no doubt be forbidden from taking … land for the purpose of conferring a private benefit on a particular private party.”\textsuperscript{81} Though the limitation seems commanding, rare is the case in which the judiciary is willing to identify a purely private taking. As long as some public purpose is articulable, much deference is given to the sovereign’s motives.

\textbf{Just Compensation}

The final resistance from condemnees is usually based on challenges to the valuation of “just compensation.”\textsuperscript{82} Unlike the deference given when identifying a public purpose, the just compensation inquiry is contextually fact-based, and is left entirely to the judicial process.\textsuperscript{83}

By way of interpretation, the phrase “just compensation” is a mandatory remedy that equates to the fair market value of taken property,\textsuperscript{84} at the time of the taking.\textsuperscript{85} Based on this standard, the property owner must be paid what a willing buyer would pay a willing seller at the time the taking occurs.\textsuperscript{86} Further, it is the condemnee’s loss, and not the takers gain that is the proper valuation of the taken property.\textsuperscript{87} Deviation from this measure is appropriate only when market value is too difficult to determine, or its measure would work as an injustice on the owner, or the public.\textsuperscript{88}

\textbf{Takings Law as Applied to the Plan}

The most forward and prominent objections to the Plan are based on assertions of improper eminent domain use.\textsuperscript{89} But as explained above, expansive applications of sovereign condemnation authority are alive and widely recognized by the legal community, and are applicable to intangible property such as mortgages. Primarily then, these objections come not from legal experts, but from (a) economic and political theorists fundamentally opposed to redistributive social policies, and (b) parties heavily involved in secondary market finance who would actually be affected by the Plan. When viewed in this light, most of these objections are properly addressed through the holistic policies behind the Plan itself, but have no place in a pure legal authority analysis.

\textsuperscript{78} Id. at 489-90.
\textsuperscript{79} Id. at 479. “[T]his Court long ago rejected any literal requirement that condemned property be put into use for the general public.” Id.
\textsuperscript{80} Id. at 483-84.
\textsuperscript{81} Id. (emphasis added); See also \textit{Midkiff}, 467 U.S., at 245 (“A purely private taking could not withstand the scrutiny of the public use requirement; it would serve no legitimate purpose of government and would thus be void[,]”).
\textsuperscript{82} U.S. Const. amend. V.
\textsuperscript{83} \textit{Monongahela Nav. Co. v. U.S.}, 148 U.S. at 327 (“The legislature may determine what private property is needed for public purposes; that is a question of a political and legislative character. But when the taking has been ordered, then the question of compensation is judicial.”).
\textsuperscript{86} \textit{Kirby Forest Indus., Inc. v. United States}, 467 U.S. 1, 9 (1984).
\textsuperscript{87} \textit{United States v. Causby}, 328 U.S. 256, 261 (1946).
\textsuperscript{88} \textit{50 Acres of Land}, 469 U.S. at 25.
Because the Plan itself affirmatively advocates for the use of eminent domain, a taking is definitively occurring. This leaves only three issues for consideration: (1) whether a sufficient public use is effectuated, (2) whether a purely private taking would occur, and (3) how to properly valuate just compensation.

**Public Use**

As the Supreme Court has consistently reaffirmed since its *Berman* decision, legislatures are given almost complete deference when defining public use. Moreover, public use does not necessarily even mean “use” in the literal sense, but instead merely requires a proffered public purpose. Two of the most commonly relied on purposes are those discussed in connection with *Berman*, and *Kelo*: reversing and/or preventing blight, and economic development.

The Plan likely meets both purposes. Reversing and preventing blight is largely beneficial for the local public, while economic development serves both local and national economies. As Professor Hockett himself explains, “each municipality will preserve neighborhood integrity, property values, and the revenue base from which it funds services. [The Plan] keeps residents in their own homes—still owning and paying on them rather than falling into default and foreclosure ....”

To meet the public use requirement, it is not even necessary that the Plan’s stated goals be met if the exercising authority could have rationally believed that they would be at the outset. The Plan therefore meets the low burden, merely by virtue of its asserted purpose.

**Purely Private Taking**

Though the judiciary consistently affirms that takings of a purely private nature would be an unconstitutional exercise of eminent domain authority, a case with facts as individualist-based as those in *Midkiff* suggest that a purely private taking would rarely, if ever be identified. In that case, even giving fee simple title of each lot to a single person was not a purely private taking because the scheme therein was utilized by more than just one person, and necessarily provided communal economic benefits. When viewed this way, the Court implies that a purely private taking could only occur when the deferential public use requirement is not itself satisfied.

Because by their very terms MBS require multiple interest owners in a given asset, it is rarely, if ever possible to assert that the taken mortgages are conveyed to a single private owner if they are thereafter securitized according to secondary market norms as the Plan asserts they will be. This distributive ownership structure is far less offensive to the purely private taking analysis as applied to the facts of *Midkiff*, where fee simple title ended up in the hands of individual private owners.

Moreover, where the economic benefits in cases like *Berman*, *Midkiff*, and *Kelo* were largely isolated to a given geographic area, Hockett’s Plan touts both local and nationwide economic relief through reduced foreclosures. In sum, though it may seem like a purely private taking to a layperson, legal precedent dictates otherwise.

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90 See generally Hockett, *It Takes a Village*, supra note 4, at 151.
91 In this context, the local municipality is the equivalent of a “legislature” because they have the ability to invoke condemnation authority.
92 Id. at 156-57.
93 Western & Southern Life Ins. Co. v. State Bd. of Equalization, 451 U.S. 648, 671–672 (1981) (“Of course, this Act, like any other, may not be successful in achieving its intended goals. But ‘whether in fact the provision will accomplish its objectives is not the question: the [constitutional requirement] is satisfied if ... [the state] Legislature rationally could have believed that the [Act] would promote its objective.’”)
94 *Midkiff*, 467 U.S. at 245 (“A purely private taking could not withstand the scrutiny of the public use requirement; it would serve no legitimate purpose of government and would thus be void.”).
Just Compensation

Most problematic for the Plan is the valuation of just compensation. To be viable, Hockett’s Plan requires the taking authority to purchase the loans for something much less than 100% of the actual market value of the underlying home (likely around 80%). This way, after factoring in transaction costs and MRP’s fees, when the new mortgage arrangement is worked out between MRP, the local condemning authority, and the homeowner, the new mortgage loan amount will be closer to 100-110% of the home’s actual market value; which is still substantially less than the underwater mortgage was when taken (the underwater loan could have been as high as 300% of the home’s value).

Consider a hypothetical\(^\text{95}\) based on a single home:

- Home X has a current market value of $200,000;
- Due to a variety of factors, the mortgage on home X is currently underwater, with its mortgagor owing a total of $300,000. This can also be stated as saying the investors who own the mortgage have a $300,000 expectation interest based on the face value of the loan;
- For Hockett’s Plan to work, MRP would need to be able to initially take the loan from the investors for approximately $160,000;
- When re-mortgaged and re-securitized, the new loan on the home X will have a face value of approximately $200-210,000.

Examples like this one illustrate the concerns of many critics. Facialy, it seems improbable that the Plan can both pay a constitutionally fair amount of just compensation, and create the growth and stability that it posits. Assuming (as discussed supra) that this is an appropriate exercise of eminent domain authority, can MRP and the local condemning authority show that the $300,000 face-valued mortgage is actually only worth $160,000 in its current state?

Speaking in practical terms, a mortgagee will always have the right to foreclose upon default and receive the value of the collateral. In our hypothetical, this would yield the securitized investors $200,000, less the costs of foreclosure.\(^\text{97}\)

Because just compensation is based on the value of an asset when taken (as opposed to its potential future value), the relevant question is “whether the loans’ expected value can be raised sufficiently to offset the write-downs and associated transaction costs.”\(^\text{98}\) Hockett himself proposes two avenues to calculate the appropriate amount of compensation.\(^\text{99}\)

Avenue A equates mortgage-backed securities with market-traded bonds, and suggests that since bonds are traded at a discount from their face value, mortgage-backed securities should be as well.\(^\text{100}\) In some cases, “[w]here mortgage-backed securities associated with a particular loan pool or analogous pools trade at a discount,”\(^\text{101}\) the fair market valuation method would be the same as it is for real property. One would need to look to similarly situated securities to see what they are trading at when the taking occurs.\(^\text{102}\) But it is unlikely

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\(^{95}\) See Panel Review with Hockett & Vlahoplus, supra note 30.


\(^{97}\) This is somewhat of a crude example; when a foreclosure on a MBS loan occurs, the distribution of funds is far more complicated, and would need to take into account the variously owned interests in the loan, and the contracted management fees of the loan servicer.


\(^{99}\) Id.

\(^{100}\) Id.

\(^{101}\) Id.

\(^{102}\) It is worth noting that because the trading prices for securities can fluctuate greatly from one day to the next (unlike real estate), there exists the potential for valuation manipulation (aka foul play) depending on when the taking occurs.
that this method could prove consistently effective because the loans at issue will vary drastically in their terms, unlike market-traded bonds.

Alternatively, when the data necessary for avenue A is unavailable, avenue B suggests a work-back method.\(^{103}\) Though not specifically formulated, it purports to rely on annual Fannie Mae and Freddie Mac publications containing anticipated default rates for PLS underwater mortgages, costs of foreclosure and associated recovery rates, and other “discount rates.”\(^{104}\)

Of his two valuation methods, Hockett’s first approach would forgo the result-oriented valuation analysis inherent in the above hypothetical and simply look to see what similarly situated mortgage-backed securities are trading at, and letting the numbers naturally fall where they do. Such an approach makes one wonder if mortgage-backed securities investors make cost-benefit decisions based on likelihood of borrower default and resulting remedies when they select investments, or if they simply look to see which type of loans are performing and which are not. The fluidity of the securities market suggests the latter.

Hockett’s second model takes into consideration a variety of externalities such as: (a) the likelihood of default based on Fannie Mae and Freddie Mac projections, which presumably consider various aspects of the underlying loan including: borrower debt-to-income ratios, the percentage of loan-to-value (our underwater percentage), and borrower payment history just to name a few; and (b) the likely remedy for the investor after said default, taking into account the various fees, and associated transaction and legal costs associated with foreclosure.

In an explicit opinion the Fair Housing Finance Agency (FHFA) rejects both approaches; the former because it looks to general pool data instead of taking into account individual loans on a case-by-case assessment, and the latter because a calculation of the likelihood of default would be largely fallible in a rising market.\(^{105}\)

By way of a summary, Hockett’s Plan is legally sound under Supreme Court takings jurisprudence, but practical hurdles may yet limit its effectiveness. The associated costs with litigating just compensation values alone may prove crippling for the Plan’s feasibility. Moreover, facial legality will not necessarily dissuade investors with fundamental objections to this type of condemnation action from raising costly legal setbacks for MRP and local municipalities.\(^{106}\)

### Contract Clause Concerns

Notwithstanding what appears to be a valid exercise of eminent domain authority, Hockett’s Plan may also have to overcome challenges based on a violation of the Constitution’s Contracts Clause.\(^{107}\) It provides that “[n]o State shall … pass any … Law impairing the Obligation of Contracts ….”\(^{108}\) Oddly enough, the Contracts Clause was included in the Constitution primarily to promote economic stability by preventing further state-enacted debtor relief legislation after the Revolutionary War.\(^{109}\) Opponents of MRP and Hockett’s Plan are therefore not out of line to assert that the Plan is the very kind of action that drove the Constitution’s framers to include the Contract Clause in the first place.\(^{110}\)

103 Id.
104 Id.
107 While the Supreme Court has noted that “the Contract Clause has never been thought to protect against the exercise of the power of eminent domain” Midkiff, 467 U.S. at 243 n. 6 (emphasis added), it is a non-sequitur that such an action would be immune from attack as a violation of the Contracts Clause.
108 U.S. Const. art. I. § 10, cl. 1.
110 “The goal and effect of the MRP proposal is precisely the danger contemplated by the Contracts Clause: the abrogation of valid debts because a local jurisdiction desires to reduce the debt born by local residents.”
Although it was one of the strongest constitutional limitations on state legislation in our country’s youth,\textsuperscript{111} the Contract Clause has had limited reach in the last century. When it began to regress on the issue, the Supreme Court opined that “literalism in the construction of the contract clause … would make it destructive of the public interest by depriving the State of its prerogative of self-protection.”\textsuperscript{112} In short, the Court ultimately concluded that giving true literal effect to the clause’s language could hamper or destroy economic growth and necessary regulation.

At any rate, a modern Contract Clause analysis first requires a determination of whether and to what degree the challenged action imposes a “substantial impairment [on] a contractual relationship.”\textsuperscript{113} The impairment’s severity correspondingly increases the level of judicial scrutiny.\textsuperscript{114}

Several of the Plan’s finer points potentially heighten the level of contractual impairment. Consider the following: (a) The Plan seeks not to limit or alter the terms of the various underlying contracts; it seeks to invalidate them entirely. (b) MBS investors bought into the various securitized units expecting that they would perform according to market standards and the terms of their contracts over a period of years, or that they would fail and give them a legal remedy, not with the expectation of receiving a grossly discounted lump sum at some indeterminable point in the future. So not only are the terms of the investors’ contracts themselves invalidated, the effects on the investors are much different than the risks and benefits that they initially bargained for. And (c), the level of impairment is particularly heightened when considering the structure of the secondary mortgage market itself. On this point, not only would the Plan invalidate the investors’ contracts, it would also invalidate homeowners’ contracts, loan servicers’ contracts, insurers’ policy contracts, loan originators’ contracts with secondary market brokers, and the contracts of any other related parties that may have a vested interest in a mortgage. The complicated secondary market’s structure that calls for a “collective action solution” as Professor Hockett says, also creates an extremely high level of contractual impairment under the Contract Clause analysis.\textsuperscript{115}

Second, if (or when) the challenged action is deemed a substantial impairment, the analysis looks to the invalidating cause (here the condemnation), to determine whether it proposes a “significant and legitimate public purpose.”\textsuperscript{116} As discussed supra in connection with takings jurisprudence, the Plan meets this requirement.

Finally, once a legitimate public purpose is identified, the judiciary will determine whether the reallocation of “the rights and responsibilities of contracting parties is based upon reasonable conditions” and is of a character responsively appropriate to the underlying public goal.\textsuperscript{117}

This last prong is the most problematic for the Plan. While it is similar to the Supreme Court’s commonly articulated Rational Basis Test, the “significant impairment” considerations listed above provides the third prong with a certain amount of contextual flexibility. Coupling this necessary flexibility with the fact that the Supreme Court has not squarely applied the third prong since 1983 leaves future litigation in this area somewhat uncertain. The result would likely hinge on a judicially imposed policy question about the appropriateness of using the Plan to invalidate all of the contractual obligations involved in the underlying transactions.


\textsuperscript{112} Id. Quoting W. B. Worthen Co. v. Thomas, 292 U.S. 426, 433 (1934). But see James Madison, The Federalist No. 44 (“[L]aws impairing the obligation of contracts are contrary to the first principles of the social compact, and to every principle of sound legislation.”).

\textsuperscript{113} Allied Structural Steel, 438 U.S. at 241.


\textsuperscript{115} See generally, Hockett, It Takes a Village, supra note 4.

\textsuperscript{116} Energy Reserves, 459 U.S. at 411.

\textsuperscript{117} Id. Quoting U.S. Trust Co. of New York v. New Jersey, 431 U.S. 1, 22 (1977).
Dormant Commerce Clause Concerns

Facially the Commerce Clause is simply an affirmative grant of power to Congress, allowing it to “regulate Commerce with foreign Nations, and among the several States ....”118 However, as arguably intended, 119 and now formally recognized,120 the Dormant or Negative Commerce Clause provides an offsetting reciprocal limitation on a state’s ability to regulate commerce.

Though the mechanics of the clause can invalidate state actions in a variety of ways, the Dormant Commerce Clause Doctrine as it applies to the Plan is articulable as follows: where the state action or law “regulates even-handedly to effectuate a legitimate local public interest, and its effects on interstate [commerce] are only incidental, it will be upheld unless the burden imposed on [interstate] commerce is clearly excessive in relation to the putative local benefits.”121 If a “legitimate public purpose” is acknowledged, then resort is had to a balancing test; the burden that will be permitted is dependent upon (a) the nature of the local interest, and (b) whether or not it could be alternatively implemented with a less intrusive impact on interstate commerce. 122

As the Plan’s creation centered on remedying both nationwide and local market defects, its local public benefits are largely self-explanatory. The less-clear, and thus more likely litigated issue will be an application of the so-called balancing test.

Though somewhat circular, for purposes of the balancing test the nature of the local interest should be considered aside from the Plan’s national benefits because foundationally, the Commerce Clause itself deals with interstate regulations. Local benefits include economic stability through reduced quantities of foreclosures within a given area, reduced strain on the local authorities who facilitate the foreclosure process, consistent revenue through local property taxes, and potentially keeping a fair number of people in their homes (assuming the Plan works as intended).

Alternatively, whether or not there are other less restrictive means available that could achieve the same results necessarily incorporates considerations of the negative effects the Plan would have on interstate commerce. These include: litigation costs borne by affected parties domiciled in other jurisdictions; instability in both domestic (nationwide) and foreign investment markets; responsive mortgage industry cost increases to compensate for uncertainty; chilled nationwide lending; and the concernedly potential overlap between federal regulation of the primary and secondary mortgage markets, and state efforts to circumvent such federal regulation.

Though balancing these considerations is left to the judiciary, another governmental authority—the FHFA—has weighed in.

Where a federal interest exists and is established, that interest would preempt a conflicting state interest. Here, the interest of the Conservator to preserve and conserve assets and to operate the Enterprises in conservatorships would be superior to the interest of a locality to alter the terms of a contract held by the Enterprises either through their ownership of a mortgage-backed security, their guarantee of a pool of mortgages or their ownership of a mortgage held in portfolio. As regulator for the Home Loan Banks, entrusted with safety and soundness responsibilities by federal law, concern would exist for any de-stabilization of investments held by the Banks as well as for values for collateral pledged to secure advances. 123

118 U.S. Const. Art. I, § 8, cl. 3.
119 “Mr. Madison. Whether the States are now restrained from laying tonnage duties depends on the extent of the power ‘to regulate commerce.’ These terms are vague but they seem to exclude this power of the States—They may certainly be restrained by Treaty.” 2 The Records of the Federal Convention of 1787 (Max Farrand ed., 1911).
122 Id.
123 See FHFA Opinion, supra, note 105.
While not dispositive, strong opposition by federal agencies who regulate housing and finance would certainly have a persuasive effect on judicial opinion. Also beneficial for the Plan’s opponents is the quantitatively limited, but qualitatively strong precedent.

Only one case, City of Oakland v Oakland Raiders,124 has analyzed the issues raised when local eminent domain use affects interstate commerce. In that case, the City of Oakland attempted to use its condemnation power to take intangible property—the Oakland Raiders Football franchise. In applying the balancing test discussed above, the Court agreed that because professional football is “such a nationwide business, and so completely involved in interstate commerce that acquisition of a franchise by an individual state through eminent domain would impermissibly burden interstate commerce.”125

Like national football, but far more complex, the MBS market is so inexplicably intertwined with interstate commerce that the burdens it imposes likely outweigh the local putative benefits. Unlike the moderate interpretive hurdles that the Plan faces when addressing Contract Clause challenges, the Dormant Commerce Clause may be more probative and influential because it allows a court to consider the Plan’s practical marketplace ramifications.

Conclusion

The legal hurdles caused by the secondary mortgage market’s structure, including the securitization process and the resulting modification limitations of PSAs make a collective-action solution like the one Robert Hockett proposes an attractive option to those who fear the negative consequences associated with further underwater loan default and foreclosure. Leading the Plan’s implementation charge is the small community of Richmond, California.126 Richmond has collaborated with the San Francisco-based MRP to create the Richmond CARES (Community Action to Restore Equity and Stability) program through which it will facilitate the Plan’s goals.127 Though other municipalities have expressed interest in the Plan (including Irvington, N.J. and El Monte, C.A.), all seem to be waiting on Richmond, making it a nationwide test case.128

At this point in time, Richmond has preliminarily selected 624 loans, and has tried to negotiate with the servicers/trustees of the loans to attempt buying them outside of Court first (presumably at a steep discount). Richmond has not yet actually begun condemnation proceedings.129

Citing the foregoing constitutional provisions, several major secondary mortgage market players have filed suit against Richmond in response to its preliminary actions.130 Wells Fargo, the Bank of New York Mellon, and several others filed an action for Declaratory Relief to declare the Plan unconstitutional, coupled with a Request for an Injunction to prevent the City of Richmond from moving ahead with condemnation proceedings.131 The filed-in Court declined to decide the issues presented however, and instead granted Richmond’s Motion to Dismiss because the Plaintiff’s Complaint was not yet “ripe” for suit.132

124 174 Cal. App. 3d 414, 419 (1985). (“[P]laintiff contends exercise of eminent domain power can never violate the commerce clause and notes that no previous case has precluded an eminent domain taking under that constitutional provision. The lack of such case law, however, is unremarkable; it serves merely to point out that eminent domain cases have traditionally concerned real property, rarely implicating commerce clause considerations which deal primarily with products in the flow of interstate commerce. Whether the commerce clause precludes taking by eminent domain of intangible property, however, is a novel question posed, it seems, for the first time in this case.”)
125 Id at 420.
127 Save Richmond Homes, http://www.saverichmondhomes.org/learn_more (last visited March 25, 2015);
128 Dewan, A Long Shot, supra note 126.
130 Id.
131 Id.
132 Id.; “A claim is not ripe if it is based on ‘contingent future events that may not occur as anticipated, or indeed may not occur at all.’”
While Professor Hockett is not dissuaded, calling the Banks’ suit a “bluff and intimidate” tactic, Richmond has nonetheless temporarily put the Plan on hold while it explores other options.

Although the Plan is legally sound under current takings jurisprudence, hurdles including costly challenges based on valuation, and facial legal challenges based on arguable Contracts and Commerce Clause violations may absolve the Plan’s viability—especially given the comparative resources of big bank-opponents. Moreover, such an aggressive solution may have seemed necessary in the height of the foreclosure crisis, but may no longer be agreeable in what most analysts deem, a recovering market.


133 Robert Hockett, Sham Suits and Securitizers: Why the lawsuits by several major banks against the City of Richmond seeking declaratory and injunctive relief have no merit (Sep. 12, 2013), available at http://mortgageresolution.com/mrp-blog-0 (last visited March 25, 2015).
This year marks the inaugural year of the Baker Program in Real Estate Alumnus Award. The Baker Program in Real Estate, in conjunction with the Cornell Real Estate Review (CRER), will bestow the award yearly to the Baker alumnus who has displayed leadership, growth, commitment to the Program, and community activism since graduating.

Elysia Tse (’01) is the inaugural recipient of the Alumnus Award. Tse was chosen by the Editors of the Review because she has exhibited all the aforementioned attributes during her illustrious career. She heads up the Research and Strategy function for J.P. Morgan Asset Management Global Real Assets (GRA) - Real Estate Asia Pacific.

Tse has supported the Baker Program through her role on the Real Estate Advisory Board. She has the distinction of being the youngest member on the Advisory Board. In addition, she has guest lectured at universities, including Cornell University.

Tse passionately contributes to various real estate organizations such as Asia Pacific Real Estate Association (APREA). She has occasionally taught classes at APREA on topics including real estate portfolio construction and fund management. Outside of work, Tse has devoted her energy to charities such as 100 Squared, an organization focused on creating self-sustaining orphanages.

Tse has held critical positions with the world’s leading real estate investment firms. Starting as a real estate researcher, Tse has become a highly regarded investment strategist. Tse has made significant original contributions to the field of global real estate portfolio research and strategy beginning early in her career. She was instrumental in developing a groundbreaking Global Real Estate Transparency Index that was the first public index of its kind and is now widely used in the industry. Further, she was the first to apply Value at Risk (VaR) measurement to a real estate portfolio, an innovative method that is often cited in academic journals. Tse is well published, having authored or co-authored various articles in some of the world’s most prominent journals in the field. As a result of her international reputation as an investment strategist, Tse has been asked to join and lead highly selective organizations, and her opinion has been sought for articles in widely circulated trade magazines, peer review of academic journals, and the awarding of prestigious scholarships. She has presented as a keynote speaker or a panelist internationally in prestigious conferences.

The Cornell Real Estate Review had the pleasure of having the following conversation with Ms. Tse:

Elysia, congratulations on being the inaugural recipient of the Baker Program in Real Estate Alumnus Award. We could not think of a more deserving recipient to set the standard for this award.

Thank you. It is a great pleasure to receive the award. I am surprised, and I am greatly honored to be part of the Program.

Do not be surprised. You have had a very illustrious career thus far and we really appreciate you taking the time to speak to us today. Can you describe your current position?

We are part of the J.P. Morgan Asset Management Global Real Assets platform. My area of focus is Asia Pacific real estate investment research and strategy. I consider my job to be one that helps my colleagues be able to do their jobs better. Specifically, I have four key responsibilities: One is to establish real estate investment strategies within Asia Pacific. Second is to oversee the Real Estate Asia Pacific research platform. Third is to provide market guidance for our investment team. Lastly, is to advise clients on portfolio construction, asset allocation, and market views for our existing mandates or potential mandates within our Real Estate Asia Pacific business.
I am also a voting member for the investment advisory and recommendation committees within Real Estate Asia Pacific.

Why did you decide to attend the Baker Program in Real Estate?

Growing up I always had an interest in real estate. I initially attended Cornell to pursue a Ph.D. in Economics, but during my first semester in the Economics department I got to know about the Program in Real Estate. This was back when the program was known as PRE before it became the Baker Program in Real Estate. I was very intrigued by the specialized program that the PRE was able to offer. It was exactly what I was looking for.

The Baker Program equipped me with very strong technical skills and real estate knowledge. Also, the Program provided us with a very strong global real estate industry network.

How has earning a degree from the Baker Program helped you to advance in your career?

While it is true that we make our own way in our careers, I recognize that my education in Cornell is and will always be a key foundation for my career. In addition to the academic education I received at Cornell, I benefitted greatly from the willingness of Cornell alumni, and in particular the Baker alumni, who are very willing to share their knowledge and experience, connections, and career advice. In particular there are a few people that have really coached me throughout my transition from a student to a professional. One of them is Brad Olson (‘63). He was the Director of the Program when I attended Baker, and he was one of the key people in my career. He was always there to give me advice or act as a sounding board whenever I needed it. His experience and knowledge has helped guide me, even still today. Another key individual is Carl Neuss (‘76), a Cornell alumnus, and a Baker Advisory Board member. Carl gave me my first internship in the U.S. real estate industry. That internship was in research and strategy, which really set the stage for my current career path. Last but not least is Dr. David Funk. He is always there for students with great advice including myself. His leadership has taken the Program to a greater level. In his role as Director for the past several years, we have worked together on the Advisory Board. I always enjoy bouncing ideas off him, and appreciate the support he has given me over the years.

What has been your involvement with Cornell and the Baker Program since graduating?

I was always active in the Program even when I was attending the Program. Post graduation I took on the role of Chairperson for the PRE Alumni Scholarship. The scholarship was initiated by our alumni. The goal was to raise scholarship funds for incoming students. It was a great way for alumni to continue to support the program and interact with each other while remaining engaged with what is happening in the Program. Most importantly, it was a wonderful way for us to play a small role in helping to attract the best talent to the Program by being able to provide the alumni based scholarship. It was very successful for the few years it was in effect.

I am also involved in the Baker Program’s Real Estate Advisory Board. I was first invited to be an advisory board member in September of 2006. I was thrilled and honored when Dr. Funk told me the news. The board plays a very critical role in advising on academic issues as well as the development of the Program. I have been very fortunate to serve on the Advisory Board and interact with the students and other board members.

What was the best, most valuable, or enjoyable class that you took at Cornell and why?

There are so many classes that I liked, it is difficult to pick just one. The Residential Development class, Commercial Development class, and Construction Management class were the most beneficial, especially for someone like me, with an economic or finance background. Those classes taught me key principles that have been extremely helpful in my day to day work, even today.

Outside of your career, what are some organizations that you actively contribute to?

I moved to Asia from the U.S. about three years ago. When I was in the U.S., I was very active in a few real estate organizations and I also guest lectured at universities. Since I have moved back to Asia, I have been more involved in industry education initiatives. For example, I have been involved with a few of the educational programs created by the Asia Pacific Real Estate Association (APREA). On occasions I have taught day classes at APREA on real estate principles, portfolio constructions, and general real estate fund management. In addition, I have been on advisory boards for a few Asia Pacific real estate conferences.

Outside of the real estate industry I have had the privilege to devote time to a few charity organizations. The one that is most near and dear to me is a Texas based charity called 100 Squared. Our goal at 100 Squared is to create self-sustaining orphanages for generations to come. We are planning to set up orphanages in the U.S. as well as in a few developing countries.

What pieces of career advice do you have for current and prospective students of the Baker Program in Real Estate?

I will make three key points. First is to work hard and do not give up. Second is to take initiative and be proactive, and most importantly, challenge your comfort zone. Third is do not be afraid of failure or any setback in your career. A key lesson I have learned through experience is that the failure is not important, but rather how you learn from the failure or setback and improve from there. To some extent, failure is a means to success.

Elysia, thank you for very much for your time.

Thank you. It is an honor to receive this award.
Mr. Grayken is the founder and Chairman of Lone Star. Since the establishment of its first fund in 1995, Lone Star has organized fourteen private equity funds with aggregate capital commitments totaling over $54 billion. Mr. Grayken has served as a key participant in investor relations, sourcing, negotiating, and structuring investments and has been the primary individual responsible for formulating investment strategy for the Funds. In addition, Mr. Grayken is the owner of Hudson Advisors, a full-service asset management company with approximately 850 employees worldwide that provides due diligence and analysis, asset management and other support services to Lone Star. Hudson, a SEC Registered Investment Advisor, has advised the Funds with respect to approximately 859,000 assets with an aggregate purchase price of more than $131 billion. Mr. Grayken holds a B.A. degree in Economics from the University of Pennsylvania and an M.B.A. degree from Harvard Business School.

One of the great things that we as Editors get to do is present the distinguished Industry Leader Award on behalf of the Cornell Real Estate Review. Congratulations on receiving the award and thank you for participating in this interview.

Thank you for choosing me. It is a great honor to receive this award.

Can you give us a brief background of why you started Lone Star? What was your interest and inspiration for building the company?

Early in my career I was involved in buying distressed commercial mortgage debt during the savings and loan crises. In 1996 I then decided that I wanted to organize institutional capital to pursue the same strategy on my own, and formed Lone Star.

In your current role as Founder and Chairman of Lone Star, what are you primary responsibilities within the company?

I oversee and participate in all capital investment decisions, as well as am involved in the fund raising process.

Lone Star seeks investment opportunities in developed markets that have suffered an economic and/or banking crisis, resulting in a dislocation in asset pricing and value opportunities. Can you talk a little bit more about the firm’s investment strategy?

We are a countercyclical investor and generally enter markets as the banking system is trying to de-risk and de-lever. This usually occurs in the aftermath of a pro-growth investment cycle that for one reason or another has come to an end. We engage in both equity and debt investments around the world. Currently we are most active in Europe.

Since its founding Lone Star has organized fourteen private equity funds with aggregate capital commitments totaling over $54 billion. What is the makeup of your investors?

Our investors are mostly institutional; consisting of pension funds, endowments, and sovereign wealth funds. We raise money globally; including Asia, Middle East, Europe, and North America.

In the competitive world of private equity, how does Lone Star distinguish itself from other private equity firms?

We try to focus on what we think are the right things to do for our investors. Unlike most real estate private equity funds we are generally not a growth investor and have our own servicer, Hudson Advisors. We also distinguish ourselves by having a global platform, scale, large fundraising capability, and important relationships with banks.

If you can think over your career, what is one principle that you have always tried to follow?

I have observed over the years that the best money managers care about having interest alignment with their investors. When interests are aligned, everybody has one agenda.

Do you have any advice for students graduating and entering the real estate world today?

It’s a great business. Real estate will always be cyclical, allowing for opportunities to be taken at any point along the spectrum. It is important to find the right entry point in the industry, as your career will build off of where you begin.

What gets you up in the morning? Where do you find inspiration?

I like what I do. Working at Lone Star is intellectually challenging and competitive. The efficient allocation and management of capital is an important thing and it needs to be done well.

Outside of your involvement at Lone Star, what are some things that you like to do in your free time? Any favorite books?

I enjoy spending time with my family, reading history and biographies, and spending time at the ocean.

How would you describe your leadership style? What advice can you give to young professionals hoping to improve their leadership skills?

As a leader I like to be direct and honest about my expectations. I also try to be pragmatic so that everyone understands that Lone Star is a commercial operation and that our objective is to make objective rates of returns for our investors. In leading my team I express a clear and simple mission.
Each year, the Baker Program in Real Estate, in conjunction with the Cornell Real Estate Review (CRER), awards the Industry Leader Award which recognizes transformational leadership in the real estate industry. Formerly known as the “Executive Profile” appearing in the Cornell Real Estate Review, this award is a top honor given to those with the influence and integrity to have created a lasting legacy within the industry. Past recipients include: Gerald D. Hines, Chairman and founder of the Hines Organization, one of the world’s largest privately held real estate development, investment, and management firms; Robert Duncan, chairman, co-founder, and managing principal of Transwestern Investment Company, a privately held real estate firm specializing in agency leasing, property and facilities management, tenant advisory, capital markets, development, research and sustainability; Art Gensler, founder and CEO, Gensler, a global architecture firm; Andrew Florance, founder and CEO, CoStar, the commercial real estate information company; Samuel Zell, chairman and president, Equity Group Investments, a major Chicago-based private real estate investment firm; and William Sanders, chairman, Verde Realty, a leading developer, owner and operator of corporate facilities on the U.S.-Mexico border.

INDUSTRY LEADER AWARD WINNERS

2014
Jorge M. Pérez
The Related Group

2013
Gerald D. Hines
Hines Organization

2012
Larry A. Silverstein
Silverstein Properties

2011
Robert Duncan
Transwestern Investment Company

2010
Art Gensler
Gensler

2009
Andrew Florance
CoStar

2008
Samuel Zell
Equity Group Investments

2007
William D. Sanders
Verde Group, LLC
Executive Summary:

Asian capital investment in the United States real estate market is becoming increasingly popular. This article analyzes the patterns and preferences of Asian investors in the US real estate market by examining transaction history and aggregating consensus data to provide the reader an overview of the growing trend.

Introduction

Today, there is a material rebound of cross-border investment dollars into real estate, with Asia in particular significantly increasing its overseas positions. Based on volumes of executed deals, real estate investment in the United States (US) by Asian investors (pure foreign capital or joint ventures) in 2014 was almost $13 billion compared to $10.7 billion in 2013, and $2.4 billion in 2007, before the Great Recession. Some have called this trend a “tsunami” because both volume and growth are tremendous and have upsides and downsides.

Some signature deals, such as the $1.95 billion Waldorf Astoria deal by An-bang Insurance, or the $2 million per key Baccarat deal by Sunshine Insurance, made the market more liquid, while it pushed the price in certain cities even higher.

This paper focuses on three time periods: pre-recession (2001-2007); the recession and recovery period (2008-2012); and most recently (2013-2015). These periods exemplify different characteristics, especially total volume, which is the most important factor in capital markets. By performing this analysis, common patterns and preferences will be exposed, as well as several reasons for the patterns.

General trends

Annual Volume

Historically, Asian investment in US real estate had been steadily growing through 2008, when the global financial crisis affected world markets. After hitting a low in 2009, Asian investments in US real estate started to recover quickly. In 2010, the number had already reached pre-recession levels. The number of transactions in 2013 and 2014 more than doubled the volume of transactions in 2007; a previous historic high of 49. This trend is even more significant when focusing on volume. The total deal size in 2014 was almost $16 billion, compared to the previous peak of $3.8 billion in 2006.
Geographical Markets

Manhattan is a clear favorite for Asian capital. San Francisco, Chicago, Phoenix and Houston are also consistently ranked on the list. Besides these favored cities, Asian investments usually follow real estate market trends in the US. For example, some cities, such as Charlotte, Richmond and Atlanta made the list pre-recession, but were not top choices afterward. This is because such “second-tier” cities were hit harder during the global financial crisis, and are not recovering as fast as “gateway cities,” which by today’s Asian investors’ standards, usually include New York, San Francisco, Los Angeles, DC, Chicago; and in some cases, Boston, Houston and Seattle. Miami made the list in the recovering period. However, a single Malaysian investor contributed more than half of that investment amount. Thus, this would not represent a broader trend.

<table>
<thead>
<tr>
<th>US Markets</th>
<th>Total Deal Size</th>
<th>US Markets</th>
<th>Total Deal Size</th>
<th>US Markets</th>
<th>Total Deal Size</th>
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<td><strong>Grand Total</strong></td>
<td><strong>$10,812,008,102</strong></td>
<td><strong>Grand Total</strong></td>
<td><strong>$24,901,649,420</strong></td>
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Table 1: Top 10 US Geographical Markets by Total Deal Size (Sources: RCA)

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<tr>
<th>US Markets</th>
<th>No. of Deals</th>
<th>US Markets</th>
<th>No. of Deals</th>
<th>US Markets</th>
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<td>Dallas</td>
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<tr>
<td>East Bay</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Others-Northwest</td>
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<td></td>
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<tr>
<td>Las Vegas</td>
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<td></td>
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<tr>
<td><strong>Grand Total</strong></td>
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<td><strong>Grand Total</strong></td>
<td><strong>126</strong></td>
<td><strong>Grand Total</strong></td>
<td><strong>151</strong></td>
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</table>

Table 2: Asian investments by US Geographical Markets by No. of Deals (Sources: RCA)

Ranking the total number of deals yielded interesting results. The deals were widespread throughout the country prior to the recession. Since then, deals have been more widespread. California is receiving lots of attention, with a notable number of deals in submarkets such as Orange County, San Jose, and Inland Empire. Boston topped the list pre-recession thanks to a portfolio deal. If counting that as one deal, the number of deals Boston received was 6, which is steady across time. Seattle, now considered a “gateway” city...
by some Asian investors, has seen a large amount of activity recently. Since Seattle is not on
the list by volume, it may indicate that Seattle is more attractive to smaller investors. As a
trend, gateway cities are gaining more attention from Asian capital, with both institutional
and retail investors.

Table 3
Asian investments by property
types and total deal size (Sources:
RCA)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Apartment</td>
<td>$565,225,932</td>
<td>$1,156,120,469</td>
<td>$1,424,224,154</td>
</tr>
<tr>
<td>Hotel</td>
<td>$1,365,802,650</td>
<td>$2,022,537,797</td>
<td>$10,347,422,254</td>
</tr>
<tr>
<td>Industrial</td>
<td>$333,675,202</td>
<td>$348,715,931</td>
<td>$804,136,778</td>
</tr>
<tr>
<td>Office</td>
<td>$6,584,913,328</td>
<td>$8,680,823,028</td>
<td>$14,354,488,270</td>
</tr>
<tr>
<td>Retail</td>
<td>$180,650,000</td>
<td>$735,577,629</td>
<td>$735,342,500</td>
</tr>
<tr>
<td>Grand Total</td>
<td>$9,030,267,112</td>
<td>$12,943,774,854</td>
<td>$27,665,613,956</td>
</tr>
</tbody>
</table>

Table 4
Asian investments by property
types and number of deals
(Sources: RCA)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Apartment</td>
<td>29</td>
<td>51</td>
<td>34</td>
</tr>
<tr>
<td>Hotel</td>
<td>15</td>
<td>25</td>
<td>49</td>
</tr>
<tr>
<td>Industrial</td>
<td>22</td>
<td>26</td>
<td>40</td>
</tr>
<tr>
<td>Office</td>
<td>76</td>
<td>69</td>
<td>69</td>
</tr>
<tr>
<td>Retail</td>
<td>9</td>
<td>19</td>
<td>19</td>
</tr>
<tr>
<td>Grand Total</td>
<td>151</td>
<td>190</td>
<td>211</td>
</tr>
</tbody>
</table>

**Property Types**

Addressing property types, office stands out as the favorite, both by volume and by
deal count. Its popularity is reasonable since office provides stable and predictable cash
flow and is less risky, thus perfect for Asian capital not familiar with the US market.

Second choice, interestingly, is hotels. Hotels usually only represent less than 15% to 20% of a typical domestic investor’s asset allocation in real estate and is less than the allocation for multifamily. For Asian investors though, their investments in hotels are consistently more than double the size of multifamily. Most recently, hotel investments represent 37.4% of total real estate investments by Asian investors. Further, reviewing the data reveals that it is not skewed by outliers considering that:

- The investments are made by many investors, including sovereign wealth funds, public REOCs, REITs, private developers, equity funds, and high net worth individuals.
- The investments are geographically diversified, most notably in gateway cities and Hawaii.

Multifamily, alternatively, is not as popular as it would be with US investors. However, by ranking the number of deals, we can see that the volume of apartment deals is roughly equal to that of hotels. One possible explanation could be that because hotels take on more risk, Asian investors prefer to invest in less risky locations, where prices are highest, thus leading to higher total deal sizes. Based on Cornerstone Real Estate Advisers (CREA) data\(^2\), some institutional Asian investors do not view residential investment, either for sale or rental, as a means of diversification. The reason is that residential markets in Asian countries are huge, already representing a large portion of these institutional investors’ portfolios.

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\(^2\) Meeting briefs with more than 50 major Asian investors, courtesy of CREA, Cornerstone Real Estate Advisers. This set of data focuses more on investment criteria. In order to protect client information, results are aggregated with the parameters mentioned above.
Industrial, including logistics, is becoming increasingly popular among Asian investors. In recent years, a greater number of deals and larger volume has taken place in these sectors. Based on CREA data, this is because the logistics industry is considered more advanced in some Asian countries like China, South Korea, and Japan. These countries are experiencing fast growth in e-commerce, and investors have been investing in logistics for a long period. As a result, they are more familiar with and comfortable investing in this property type.

Retail has not been invested heavily in by Asian investors. Based on CREA data, the main reason is that Asian investors view retail in the US as a different model from retail in their domestic countries. Retail in Asia is usually vertical and exists in mixed-use projects, whereas, in the US, malls are the dominant form. It should be noted that some investors in the private sector, often developers, are acquiring retail in the US for the purpose of learning this different model and may apply it in their domestic country. Retail is not seeing a lot of attention. Based on CREA data, the main reason is because Asian investors view retail in US as a different model from retail in their domestic countries. Retail in Asia is usually vertical and exists in mixed-use projects, whereas in the US, malls are the dominant form. It should be noted though that some investors in the private sector, often developers, are acquiring retail in the US with the purpose to learn this different model and may apply it in their domestic real estate markets.

### Table 5

Asian investments by capital sector and total deal size (Sources: RCA)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Corporate</td>
<td>$627,566,110</td>
<td>$965,606,417</td>
<td>$835,742,891</td>
<td></td>
</tr>
<tr>
<td>Equity Fund</td>
<td>$45,000,000</td>
<td>$153,620,000</td>
<td>$600,000,000</td>
<td></td>
</tr>
<tr>
<td>Institutional, Bank</td>
<td>$47,640,667</td>
<td>$70,100,080</td>
<td>$638,000,000</td>
<td></td>
</tr>
<tr>
<td>Institutional, Finance</td>
<td>$372,904,852</td>
<td>$82,214,000</td>
<td>$8,000,000</td>
<td></td>
</tr>
<tr>
<td>Institutional, Insurance</td>
<td>$2,187,050,000</td>
<td>$2,726,250,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Institutional, Investment Manager</td>
<td>$593,524,500</td>
<td>$426,141,847</td>
<td>$1,558,370,000</td>
<td></td>
</tr>
<tr>
<td>Institutional, Pension Fund</td>
<td>$2,435,837,446</td>
<td>$1,014,359,671</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Institutional, Sovereign Wealth Fund</td>
<td>$808,506,532</td>
<td>$910,000,000</td>
<td>$5,252,802,541</td>
<td></td>
</tr>
<tr>
<td>Multiple</td>
<td>$176,000,000</td>
<td>$921,050,000</td>
<td>$255,400,000</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>$172,850,200</td>
<td>$8,075,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Private</td>
<td>$93,800,000</td>
<td>$61,774,300</td>
<td>$298,855,500</td>
<td></td>
</tr>
<tr>
<td>Private, Developer/Owner/Operator</td>
<td>$638,633,300</td>
<td>$2,414,094,077</td>
<td>$5,938,512,009</td>
<td></td>
</tr>
<tr>
<td>Private, High Net Worth</td>
<td>$2,536,907,500</td>
<td>$1,858,002,861</td>
<td>$4,265,789,419</td>
<td></td>
</tr>
<tr>
<td>Public, REIT</td>
<td>$16,000,000</td>
<td>$69,900,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>State Owned Developer</td>
<td>$290,733,652</td>
<td>$2,288,983,625</td>
<td>$166,373,000</td>
<td></td>
</tr>
<tr>
<td>Public, REOC</td>
<td>$902,733,652</td>
<td>$2,288,983,625</td>
<td>$166,373,000</td>
<td></td>
</tr>
<tr>
<td>Grand Total</td>
<td>$9,030,267,112</td>
<td>$12,776,274,854</td>
<td>$27,639,213,956</td>
<td></td>
</tr>
</tbody>
</table>

Notes: Multiple means multiple buyers from different capital sectors are involved. State Owned Developer is different since it is neither private nor public. Other refers to other sectors, such as education or religion, etc.

**Capital Sector**

Interesting trends are evident when exploring the data above. Equity funds and banks historically have had low deal counts, and they still do, but the deals have become much larger in size. Investments made by traditional finance companies, such as Orix Real Estate from Japan, saw a steep decline. This may be related to whether the Volcker Rule could affect...
foreign financial institutions, based on concerns of similar investors according to CREA data. Insurance companies, historically having made a moderate number of transactions, completely ceased making deals during the recessions and, while they are recovering, they are making fewer large deals. Sovereign Wealth Funds are becoming a more powerful force in terms of deal size compared to the past. This sector would be even stronger if we include state-owned developers. In a further examination of the data, most of these investors are from China and Japan. Based on CREA data, the reasons are assumed to be twofold: first, they have reached a threshold where they can no longer get higher returns domestically; second, they need to diversify their portfolios. We can expect to see more investments from pension funds as they are increasing their allocation to real estate to achieve higher returns. Other notable investors include high net worth individuals and investment managers.

Table 6
Asian investments by capital sector and deal count (Sources: RCA)

<table>
<thead>
<tr>
<th>Capital Sector</th>
<th>Total Deal Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corporate</td>
<td>11</td>
</tr>
<tr>
<td>Equity Fund</td>
<td>4</td>
</tr>
<tr>
<td>Institutional, Bank</td>
<td>3</td>
</tr>
<tr>
<td>Institutional, Finance</td>
<td>19</td>
</tr>
<tr>
<td>Institutional, Insurance</td>
<td>12</td>
</tr>
<tr>
<td>Institutional, Investment Manager</td>
<td>10</td>
</tr>
<tr>
<td>Institutional, Pension Fund</td>
<td></td>
</tr>
<tr>
<td>Institutional, Sovereign Wealth Fund</td>
<td></td>
</tr>
<tr>
<td>Multiple</td>
<td>1</td>
</tr>
<tr>
<td>Other</td>
<td></td>
</tr>
<tr>
<td>Private</td>
<td>4</td>
</tr>
<tr>
<td>Private, Developer/Owner/Operator</td>
<td>37</td>
</tr>
<tr>
<td>Private, High Net Worth</td>
<td>6</td>
</tr>
<tr>
<td>Public, REIT</td>
<td></td>
</tr>
<tr>
<td>State Owned Developer</td>
<td></td>
</tr>
<tr>
<td>Public, REOC</td>
<td>23</td>
</tr>
<tr>
<td>Grand Total</td>
<td>151</td>
</tr>
</tbody>
</table>

Table 7
Asian investments by country of origin and total deal size (Sources: RCA)

<table>
<thead>
<tr>
<th>Country of origin</th>
<th>Total Deal Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Japan</td>
<td>$4,027,772,080</td>
</tr>
<tr>
<td>China</td>
<td>$16,380,000</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>$3,148,281,700</td>
</tr>
<tr>
<td>Multiple</td>
<td>$0</td>
</tr>
<tr>
<td>Korea</td>
<td>$0</td>
</tr>
<tr>
<td>Singapore</td>
<td>$808,506,532</td>
</tr>
<tr>
<td>India</td>
<td>$280,604,300</td>
</tr>
<tr>
<td>Malaysia</td>
<td>$0</td>
</tr>
<tr>
<td>Taiwan</td>
<td>$393,222,500</td>
</tr>
<tr>
<td>Pakistan</td>
<td>$311,000,000</td>
</tr>
<tr>
<td>Thailand</td>
<td>$44,500,000</td>
</tr>
<tr>
<td>Indonesia</td>
<td>$0</td>
</tr>
<tr>
<td>Philippines</td>
<td>$0</td>
</tr>
<tr>
<td>Afghanistan</td>
<td>$0</td>
</tr>
<tr>
<td>Macau</td>
<td>$0</td>
</tr>
<tr>
<td>Grand Total</td>
<td>$9,030,267,112</td>
</tr>
</tbody>
</table>

6 Meeting briefs with more than 50 major Asian investors, courtesy of CREA, Cornerstone Real Estate Advisers.
The list is sorted in order of descending total in their respective categories. While the common assertion is that Chinese capital is leading the herd, Japan is still the top country investing in US Real Estate regarding both deal size and deal count. China, however, is quickly catching up especially since China made a key investment pre-recession, resulting in an amazing speed of the increase in China’s capital. This is because China invested in the Chinese real estate market, which was booming at the time. Now with the domestic market cooling down, the Chinese capital is seeking investments overseas.

Not surprisingly, Hong Kong, Korea, and Singapore are also the top countries/regions of the capital’s origin. Other countries and regions such as India, Malaysia and Taiwan are also making sizable investments though smaller compared to the top countries. The rest of the countries/regions made minimal investments and did not form a large enough data set to generate any meaningful findings.

An interesting trend is that we see more and more club deals not only with different capital sectors, but also from different countries/regions. Most of these deals are institutional capital, indicating some commonality between the players.

Particularly strong trends

In this section, we will use multiple parameters from the previous section to analyze if a certain correlation exists. The analysis is based mainly on recent (2013 to 2015) data.

Here are the findings:

Japanese investments in Hawaiian hotels: Since 2013, there were ten investments in Hawaii, of which 9 were hotels. Of these 9, 8 were Japanese investors. Though one portfolio deal contributed more than 70% to the trend, it should be noted that the Japanese have a taste for Hawaiian hotels since Hawaii is a favorite destination of the Japanese. In 2013, the Japanese share of total tourism expenditure in Hawaii was 17.1%, only rivaled by that of the US domestic consumers.

Chinese investments in Houston multifamily: Since 2004, there were 27 investments in Houston made by Asian investors. 20 were multi-family. One portfolio deal made by
a JV between Gaia Holding (US), Menora Mivtachim Holdings (Israel) and Grand China Fund (China), contributed nine deals. Another portfolio deal made by Standard Portfolios (China) contributed eight. Based on CREA data, more than half of the Chinese insurance companies expressed interests in Houston and multifamily. We can expect to see this momentum continue in the coming years. Part of the reason for this is that capital to be deployed overseas, a certain protocol must be followed. Government officials have the power to prevent an investment from being made; as a result, investors would choose cities that government officials would be familiar with to reduce time spent persuading said officials. Houston, being the home of the Houston Rockets where Yao Ming played in the National Basketball Association (NBA), gained a level of popularity amongst Chinese people, including the government officials. Also of note, these gateway cities are not only large in the economic base, but also house a large population of Chinese immigrants.

Chinese insurance companies investing in hotels: Some signature deals last year would easily make people think that there is a trend of Chinese insurance companies investing in hotels. However, that is not the case. Based on CREA data, though more than half of insurance companies would consider hotel investments, they do not prefer it to multifamily, and office. This so-called trend is heavily influenced by personal preferences of a few executives overseeing overseas investments at those insurance companies, thus it would not represent a pattern.

Consensus data from Cornerstone

In this section, investors are categorized by capital sector because they share strong commonalities in preference.

### Table 9

<table>
<thead>
<tr>
<th>Investor Consensus (Sources: Cornerstone Real Estate Advisers LLC; Author)</th>
<th>Required Return</th>
<th>Property Types</th>
<th>Deal Size</th>
<th>Key Driver</th>
<th>Key Concern</th>
<th>Other Issues</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sovereign Wealth Fund</td>
<td>High-single digit for Core 15% for Value-added</td>
<td>Office, Residential (Retail, Hotel, Others)</td>
<td>$100 MM Minimum</td>
<td>Diversification</td>
<td>Will also consider debt investments, some agree to do development debt if can understand the risk. Some will consider secondary and tertiary markets.</td>
<td></td>
</tr>
<tr>
<td>Insurance Company</td>
<td>6% Cash on Cash</td>
<td>Office, Residential (Retail, Logistics, Others)</td>
<td></td>
<td>Tax Structure FIRPTA</td>
<td>Some are willing to do development deal. Would only invest in gateway cities.</td>
<td></td>
</tr>
<tr>
<td>Pension Fund</td>
<td></td>
<td></td>
<td>$100 MM Minimum</td>
<td>Diversification</td>
<td>Tax Structure FIRPTA</td>
<td></td>
</tr>
<tr>
<td>Bank</td>
<td></td>
<td></td>
<td></td>
<td>Whether the Volcker Rule would apply</td>
<td>Would only consider core investments in major cities.</td>
<td></td>
</tr>
<tr>
<td>Private, Owner/Developer</td>
<td>15% levered IRR</td>
<td>Has individual rules for property types to invest in.</td>
<td>$100 MM average</td>
<td>Return</td>
<td>Have individual rules for cities to invest in. Some would consider real estate securities.</td>
<td></td>
</tr>
<tr>
<td>High Net Worth</td>
<td>&gt;10% levered IRR</td>
<td></td>
<td>$50 MM Minimum</td>
<td>Control of asset</td>
<td>Holding period can be very long.</td>
<td></td>
</tr>
</tbody>
</table>

---

7 Ibid
8 Ibid
9 Meeting briefs with more than 50 major Asian investors, courtesy of Cornerstone Real Estate Advisers. This set of data focuses more on investment criteria. In order to protect client information, results are aggregated with the parameters mentioned above.
10 Conversations with more than 20 Asian investors. This set of data is similar with CREA Data, but is based on the author’s conversation with Asian investors, specifically for the topic discussed here. The investors don’t overlap with CREA Data, thus will be used at the same time, and will not be specifically referred to differently.
Conclusion

Through analysis of the data presented, we can clearly see that investments from Asian capital are on the rise:

1. Volume wise, the total transaction size in the past two years is more than that before 2013, indicating a tremendous growth.
2. Geographically, Asian capital is more focused in gateway cities such as New York City, San Francisco, and Chicago.
3. Office and hotel are the most invested property types.
4. Both the private and institutional sectors are growing strong, led by Sovereign Wealth Funds and developer/owner/operators.
5. Japan is still the top country of origin though China is quick catching up.

It should be noted that many of the types of investors mentioned are still testing and learning the US market. That is why they currently focus investments in “gateway cities,” and in less risky property types. As they know more about the market, and as some countries (such as China) are lifting their restrictions on foreign investments, we can expect to see more capital investment.
This Land is Your Land,
This Land is My Land:
A Case Study on Eminent Domain and Under Compensation

By: Annamaria Lookman
This Land is Your Land,
This Land is My Land:
A Case Study on Eminent Domain and Under Compensation

ABSTRACT

This case introduces students to issues regarding real estate and eminent domain. Through the prism of a small business owner named Joe Shoe, this case study will examine the following topics: due diligence and its process, underwriting, land valuations, eminent domain and just compensation.

Shoe’s experience will begin with his purchase of a shopping center. As the case progresses, Shoe learns that the city intends to seize a portion of his newly purchased property to widen a highway. Students will evaluate what Shoe’s choices are when faced with an eminent domain declaration, as well as consider the city’s point of view.

The implications for the development project on Shoe’s business, neighboring businesses, and the city at large will all be considered and evaluated with regard to the economic and social costs imposed. Shoe’s commercial, financial and legal options as well as the decisions he makes will be examined each step of the way during the city’s process of acquiring his land via eminent domain.

This case will pose and enable readers to evaluate the following questions, particularly in the case of Mr. Shoe:

- Are the policies of eminent domain enacted with a sufficient level of consistency?
- Do state and local governments consider the full scope of the impact of eminent domain on business owners and society?
- What differences exist in legal interpretations of eminent domain across state borders?
Author
Annamaria Lookman graduated from The University of North Carolina at Chapel Hill with a Bachelor of Arts in Management as well as a Bachelor of Arts in Psychology. During her undergraduate tenure and after graduation, she managed the multimillion dollar commercial and residential real estate holdings of Johnyke LLC, including the redevelopment of shopping centers and development of mixed used retail space. Annamaria simultaneously started her own small business, a jewelry and accessory boutique named Mod. Most recently, she has renovated a retail space into a bar. She served as the contractor and designer for the project and helped establish the business. Annamaria has also been active in philanthropic endeavors as a member of her local Rotary International chapter and is a Paul Harris Fellow. This has included spearheading an international service project that brought potable water to a remote village in the South American country of Guyana. As the leader of this project, Annamaria secured the largest financial commitment for an international project in her chapter’s history. Upon completion of a real estate master degree at Cornell University, Annamaria plans to continue her career in real estate investment and development.

By: Annamaria Lookman

“Nor shall private property be taken for public use, without just compensation.”
- 5TH AMENDMENT, U.S CONSTITUTION

Executive Summary

- The following discusses eminent domain and the issue of just and under compensation.
- Additionally, land valuation calculations and potential development considerations are presented.
- The case suggests that government compensation to landowners in eminent domain cases is at best inadequate.

The master plan concept supports the following potential development program:

- Residential Flats: 210 units
- General Office: 73,800 sq. ft.
- Medical Office: 124,800 sq. ft.
- Mixed-use Buildings: 649,600 sq. ft.
Eminent Domain

The Fifth Amendment of the United States Constitution states "private property [shall not] be taken for public use, without just compensation." Land is deemed viable for eminent domain when it will be used by the public or if the public will have the opportunity to use the property taken. Such uses can include public access for a post office, airport or highway. Since its inception there is often debate about the interpretation of just compensation. Both federal and state constitutions have a public use clause, however not all states have a just compensation clause.

One of the main controversies surrounding these interpretations is the true meaning of just compensation and how that is determined. Supreme Court decisions concerning eminent domain have become increasingly confusing and often inconsistent. As a result, the amount offered as “just compensation” has reduced significantly over recent decades and has all but forced citizens to seek legal representation to navigate the confusing process.

History of Just Compensation

The concept of “just compensation” in the United States dates back to the Seventeenth Century. However, the first federal court case involving eminent domain did not appear until 1875.

Property may be obtained almost immediately through eminent domain. Its use avoids the time and resources involved in bargaining versus purchasing land through the open market. Although seizure can take place immediately, the date of use or construction can be ambiguous and inconclusive. This ambiguity adversely affects the value of the surrounding land.

Porttown Background

Citizens have flocked to Porttown, North Carolina for the beach, mild climate, and historic downtown riverfront, and it has become the epitome of New South. It is a coastal town bordered by the Atlantic Ocean on the East and the Cape Fear River on the West. It retains small town character while simultaneously attracting global corporations such as GE Hitachi Nuclear Energy, Corning, Verizon Wireless and Pharmaceutical Product Development (PPD).

The greater Porttown area generates more tourism revenue than any other city in North Carolina. It has a historic downtown district and is close to many Civil War sites, such as Fort Fisher. It is home to the battleship USS North Carolina and has three pristine beaches within a twenty-minute radius. USA Today also voted its riverfront 'Best American..."
Riverfront. Hundreds of film and television productions have been filmed in the area, and the city is also host to an internationally acclaimed film festival.

**Market Street Background**

Market Street, one of only three thoroughfares that go North-to-South through Porttown, was first paved as an 18 foot wide road in 1927. It was later widened to 36 feet in 1940. Today, approximately 2.5 miles of the road remain only 36 feet wide, while the remaining length has been expanded to 59 feet wide. The 4300 block leading towards Kerr Avenue now serves over 47,000 vehicles daily.

The majority of Market Street is a five-lane major arterial with two travel lanes in each direction, and a center lane used as a two-way turn lane (Exhibit 1). According to studies in 2004, all of Market Street functioned at an unacceptable level of service (LOS) of F based on federal standards for volume to capacity ratios (Exhibit 2).

Market Street functions as an entrance corridor to a historic downtown and leads to major commercial and service destinations for both city residents and regional shoppers. Additionally, it functions as a thoroughfare between two neighboring counties. It also connects two roads that lead to a state university, as well as Portville Beach, a popular tourist destination.

The land use patterns along the road are varied and include historic residential neighborhoods with homes dating to the 1910s, aging suburban strip developments, big box super centers and heavy commercial. It also holds the highest concentration of hotels in the county along the road.

The zoning along Market Street contains approximately 4.4 miles of continuous Regional Business (RB) zoning. No other zoning district makes up more than 15% of zoning along the road. The city believes that this is the most inappropriately zoned area in Porttown because it allows for the most intense and greatest variety of uses. Voluntarily downsizing on RB zoned properties in the area seemed unlikely. Property owners who would not want to give up redevelopment options for their land would heavily oppose changes to this zoning.

In 2005 and 2006, Martin Luther King, Jr. Parkway and I-140/US 17, were respectively completed and helped to significantly reduce through-traffic on Market Street. The city, however, still believed traffic to be a problem.

**Owner Background**

Joe Shoe was the epitome of the American Dream. He and his wife immigrated to the United States in the 1980s when they were teenagers. He worked three jobs and put himself through university, graduating top of his class. He left a well-paid corporate career for the opportunity to open an Italian restaurant in North Carolina with his brothers-in-law. The restaurant opened its doors in Porttown in 1986 in a shopping center situated at the intersection of Market Street and Kerr Avenue. It became a local staple and fixture of the community. His brothers-in-law went on to open fifteen other family-owned restaurants across the state.

Shoe had always been on good terms with Frank Farrish, the owner of the shopping center where Shoe’s restaurant was located, and over time the two developed a friendship. Farrish was aging and decided to sell the shopping center and move to California to be closer to his children and grandchildren. In 2006, Farrish told Shoe that he planned to sell the shopping center and would give Shoe the right of first offer.
The shopping center had a 5% vacancy rate and had not undergone major renovations since its construction in the late 1960’s. The set price was $2.31 million and seemed in line with comparable building sales (Exhibit 3). Shoe did not have much time to make a decision. He had never made such a large purchase. Was this a fair price for the property? Should he risk making a counter offer? Shoe was also worried about how he would finance such a large purchase. Bank lending terms seemed to be loose; should he try to get a loan? Would Farrish provide seller financing? Would that option allow more flexible loan terms? Perhaps Shoe could finance the purchase with his savings? (Exhibit 4)

Besides the financial aspect, Shoe had to consider what would happen if he decided not to buy the property and what impact a new landlord would have on his business. The predictability of his business supported him and his family; should he pass on buying and risk a potentially adverse relationship with a new owner? Shoe currently had five years remaining on his lease, what if the new owner would not renew his lease?

The adjacent parcel (B) was also for sale (Exhibit 5). The strip mall on the parcel abutted Farrish’s strip of retail, had a larger footprint, greater leasable square footage and had a 17% vacancy. The seller of Parcel B was asking for $2.5 million. Shoe was conflicted. Though he would get more property for the money, much of the leasable square footage of Parcel B was hidden from the main road. If tenants in the back units did not renew their leases, releasing the backspaces would be difficult. Which parcel should he purchase? Should he purchase both properties and merge the parcels?

**Life After Purchase**

Shoe decided to pay the full price with owner financing and became a landowner. The purchase was finalized at the end of 2007. Shoe began renovations and spent hundreds of thousands of dollars to “put lipstick on a pig”. Soon the shopping center was fully leased and was able to realize a 30% Effective Gross Income (EGI) increase.

Four years later, in 2011, Shoe received a notice for an exploratory meeting to expand Market Street, the highway where the shopping center was located. The city government had identified the corridor for potential expansion to seven lanes, including a median. In order to widen the road, the government would need to seize a portion of Shoe’s property.

The new routing and expansion of Market Street posed big problems for Shoe. After the condemnation, he would no longer have enough space on his property to expand his building and comply with the 30-foot setback requirement. The proposed median would also cut off all direct access to the shopping center. Drivers would have to go a mile up the road to the nearest turning point and drive back up the other side (Exhibit 6). Additionally, if there was ever a fire that damaged the shopping center, Shoe would not be able to build to the same footprint.

It was not the first time that Shoe had heard the city’s plans for expansion. The Market Street expansion had been included in the city’s long-term development plans for over two decades. Thus, when almost a year passed without any city correspondence, Shoe assumed the exploratory and planning meetings had once again failed, until Shoe received attorney letters in the mail. The city never made Shoe or neighboring business owners aware of the process or intentions and often shared inaccurate information about the timing of the project.

The city announced an official expansion in 2011 but had not sent a North Carolina Department of Transportation (NC DOT) representative to appraise the property in over a year. Shoe received a check for $263,007 with virtually no say in the amount of land seized, explanation of the process, or timeline for construction.

Shoe sought legal representation and the appraisal was disputed. Shoe ordered a new appraisal and found just compensation to be almost three times the original offer.
Porttown’s Point of View

Mike Kelly was the transportation-planning manager of the city Metropolitan Planning Organization (MPO). The MPO looked at the North-South capacity in the city and region. The North-South capacity was an indicator of the number of those driving from the northern part of the city to the southern part of the city. Based on current capacity, it was clear the city needed to develop solutions to solve the North-South capacity problem.

Currently, there were only a few continuous routes that went from the Northern section of the city to the Southern region: College Road, Third Street, and Kerr Avenue to a certain point. Looking at the travel demand model and how cars move throughout the region, he had identified a need for the additional North-South capacity. To achieve this, Kerr Avenue would have to be widened. When Kerr Avenue widened to the projected 2035-level measurements, there would still be a need to expand in order to meet traffic demands.

The model is used to forecast traffic in the region over a twenty-year period and is updated periodically. It examines volume on existing roadways and projects growth over a given period. It also focuses on land use and where anticipated growth will occur, while travel and traffic varies in given areas. Kelly projects where the city anticipated growth to occur. That information is compiled and put into the model, which shows what traffic levels are projected to be in 2035.

North Carolina recently enacted the Strategic Transportation Investment Law in which projects identified as high priority and fiscally constrained for the long-term are submitted to the NC Department of Transportation. The NC DOT then prioritizes the projects for funding and constructs the project. The MPO does the long-range planning. The NC DOT implements planning efforts and incorporates public involvement through the design process.

The Market Street Corridor plans were formalized in 2004 in the city’s development service report. The report stated the city’s desire to make the road more attractive, less congested, and to reduce generic strip commercial developments. However, they knew change would be gradual, and that strategies for public investment toward the enhancement of corridor aesthetics were costly.

Without financing tools such as tax increment financing, state and federal grants, and revenues, the city would have to pay for many of these improvements. The NC DOT agreed to provide funding for road improvements in the area, although the city knew that it could not expect the NC DOT to fully fund all of the improvements.

The city began controversial regulatory approaches along the corridor: the elimination of pole signs, architectural standards for buildings, and downzoning strips between commercial nodes. These regulations created significant challenges to older commercial areas along Market Street, built under older, more lenient regulations. The City used the Future Land Use Plan to ensure that such concessions would not be made again and depended on the private sector to drive redevelopment.

In the past, the city had experienced halted projects due to public outcry. However, these projects were under different laws and an outdated formula for fund allocation. Kelly said, “It was a different day in North Carolina.” New laws would not allow a similar outcome.

In order for construction to take place, the State must identify a preferred corridor. Once identified, a record of decision must be signed and a road redesign must be completed. The State then partners with utility companies to relocate and adjust utilities. Once all of these steps are met, construction can commence.

Shoe understood that the intersection and roadways needed improvement. He also knew the effects of the project would be devastating on neighboring properties.
A Necessary Evil?

Eminent domain contests the “holdout problem” caused by strategic holdout sellers. The state would confront a holdout problem in cases involving the assemblage of multiple pieces of land for a single project, such as a highway. Shoe knew his property was necessary for the entire project, and could “hold out” on selling it in order to secure an inflated price for it. This strategy often occurs in private acquisitions and could prevent the transaction and, consequently, the entire project, from occurring.

Since there is no standard mechanism for determining how much existing owners actually value their property, courts routinely ignore actual value, and instead rely on the “fair market value” of damages to determine “just compensation” for the condemnee’s loss. However, market value does not calculate nor compensate the actual value to the existing property. The State often undervalues property or does not take into consideration the effect on value of the remaining property when a section is taken by eminent domain.

Under-compensation

Eminent domain is coercive in nature. Its power exists to prevent individuals from thwarting theoretically beneficial projects by forcing those individuals to sell when they otherwise would not, either because they wish to retain the property for personal reasons or because the condemner is offering less than the owner’s asking price.

The coercive nature of eminent domain is sometimes justified on the grounds that the government must pay “just compensation” when it takes property. As a result of the just compensation requirement, eminent domain, in theory, represents “an equitable compromise between the needs of the public and the rights of the individual.”

The Supreme Court has decided that just compensation equals “fair market value,” that is, “what a willing buyer would pay in cash to a willing seller at the time of the taking.” However, a major shortcoming is that Shoe, by definition, is not a willing seller.

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5 Richard A. Epstein, Holdouts, Externality, and The Single Owners: One More Salute to Ronald Coase, 36 J. L. & E. 553, 572 (1993) (stating that eminent domain is used “typically to prevent holdouts”); Thomas Merritt, Rent Seeking and the Compensation Principle, 80 NW. U. L. REV. 1561, 1570 (1986) (book review) (pointing out that eminent domain “traditionally has been employed to promote a more efficient allocation of resources by overcoming holdouts and free riders”); RICHARD POSNER, ECONOMIC ANALYSIS OF LAW 41-42 (2d ed. 1977) (maintaining that eminent domain power is justified in economic terms only in the context of certain holdout situations); see also infra note _ (citing cases).
6 Steve P. Calandrillo, Eminent Domain and Economics: Should “Just Compensation” Be Abolished and Would “Takings Insurance” Work Instead?, 64 OHIO ST. L.J. 451, 468 (2003) (“The dilemma stems from the fact that the state may need to buy multiple small properties, all of which are essential for full development of a single large scale project. However, public knowledge of this fact puts the government at a severe disadvantage when it steps up to the negotiating table.”); see also EUGENE SILBERBERG, PRINCIPLES OF MICROECONOMICS 288 (2d ed. 1999) (describing the classic “hold-up maneuver” if existing homeowners discover the developer’s plan).
7 STEVEN SHAVELL, FOUNDATIONS OF ECONOMIC ANALYSIS OF LAW 124-25 (2004) (“[T]he problem of an impasse in bargaining may become severe when there are many private owners who own parcels and when, if any one of them does not sell, the whole project would be seriously affected or halted.”)
8 Glen O. Robinson, On Refusing to Deal With Rivals, 87 CORNELL L. REV. 1177, 1994 (2002) (“By assumption, subjective value has no reliably objective measure, which is the conventional justification for excluding it from eminent domain compensation.”); Steven M. Crafton, Comment, Taking the Oakland Raiders: A Theoretical Reconsideration of the Concepts of Public Use and Just Compensation, 32 EMORY L.J. 857, 891 (1983) (noting that it is “virtually impossible for a court to ascertain objectively the condemnee’s subjective valuation of the property in order to award just compensation.”)
10 Matter of Larsen, 616 A.2d 529 (Pa. 1992) (“Because value is an inexact, highly subjective concept, the Supreme Court has adopted the relatively objective concept of market value at the time of the taking as the just and equitable guideline for measuring just compensation.”); see also Richard A. Epstein, Unconstitutional Conditions, State Power, and the Limits of Consent, 102 HARV. L. REV. 4, 62 (1987) (“Ideally, the state should be required to pay not the market value, but the subjective value that the individual attaches to the property. Because the latter is difficult to determine, courts have moved to the market value standard.”)
11 Munch, supra note 1, at 474 (stating that eminent domain “is effectively a reassignment of property rights: the seller is deprived of his right to refuse to sell and constrained in his right to bargain over price.”)
12 Gideon Kanner, Condemnation Blight: Just How Just Is Just Compensation?, 48 NOTRE DAME L. REV. 765, 772 (1973) (stating that “the open use of the power of eminent domain is involved to deprive the owner of an otherwise legally protected economic advantage”).
16 Krier & Serkin, supra note 21, at 866; see also Fennell, supra note 149, at 963 (“Most property owners value their property above fair market
Further, in North Carolina, if only a portion of a property is seized, just compensation is determined by establishing the difference in value between the fair market value at the time of seizure and the property value after the project has been completed. Shoe received $263,007 for his property but the true appraised value is three times that amount.

In this case, after construction, the land may be worth more but the building lost considerable value. The shopping center would lose one-fourth of its parking spaces and the building would no longer be up to code. Though the property would be grandfathered, it would prevent Shoe from carrying out any potential renovations or expansions.

The loss of parking made the shopping center less desirable to new tenants. Additionally, eminent domain fails to compensate a property owner for his loss of the autonomy to refuse to sell at any price, even at a price exceeding his own valuation of the property.\textsuperscript{17}

Subjective Premium

The terms “subjective premium” and “consumer surplus” refer to the value an owner places on his property that exceeds its opportunity cost.\textsuperscript{18} This premium may include sentimental attachment, unique suitability of the property to the owner’s needs, relocation costs, attorneys’ fees, lost business revenue, and a number of other considerations. For Shoe, there was unique suitability of the property to his needs; Shoe’s restaurant, and main source of income, was located in the shopping center. This was one of the main reasons he bought the shopping center.

Additionally, Shoe did not receive an “average reciprocity of advantage” on neither a narrow nor broader level.\textsuperscript{19} This term refers to the possibility that Shoe may derive some reciprocal benefits from the condemnation. In other words, this is the measure of whether Shoe might directly or indirectly benefit from the taking.

The compensation requirement is said to provide an essential check on government power: by forcing local officials to internalize the cost of a taking, the just compensation requirement must prevent abuse\textsuperscript{20} and overconsumption of property.\textsuperscript{21}

Under-compensation allows the government to avoid internalizing the full cost of a taking, operating under the “fiscal illusion” that the property is worth less than its true value.\textsuperscript{22} For example, because the government need not consider subjective value in

\begin{itemize}
  \item Fennell, supra note 149, at 966–67. Fennell analogizes this autonomy to “holding an option—the capacity to wait on unfolding conditions to decide when one wishes to sell.” Id. at 967.
  \item Robert C. Ellickson, Alternatives to Zoning: Covenants, Nuisance Rules, and Fines as Land Use Controls, 40 U. CHI. L. REV. 681, 735 (1973) (“There is a minimum price at which any person would voluntarily exchange any item of his property. The excess of this subjective value over market value is termed ‘consumer surplus.’”); Merrill, supra note 129, at 83 (defining subjective premium as the value an owner “might attach to his property above its opportunity cost”).
  \item 333. See Hanoch Dagan, Takings and Distributive Justice, 85 VA. L. REV. 741, 768 n.84 (1999) (noting that the term “average reciprocity of advantage” was first used by Justice Holmes in Jackman v. Rosenbaum Co., 260 U.S. 22, 30 (1922), and later in Penn. Coal Co. v. Mahon, 260 U.S. 393, 415 (1923)).
  \item Heller & Krier, supra note 30, at 999 (contending that “the obligation to pay compensation can constrain government inclinations to exploit politically vulnerable groups and individuals”); see also Garnett, supra note 294, at 951; Glynn S. Lunney, Jr., Compensation for Takings: How Much Is Just?, 42 CATH. U. L. REV. 721, 723 (1993).
  \item William A. Fischel & Perry Shapiro, Takings, Insurance, and Michelman: Comments on Economic Interpretations of “Just Compensation” Law, 17 J. LEGAL STUD. 269, 269–70 (1988) (arguing that the compensation requirement has the effect of “disciplining the power of the state, which would otherwise over expand unless made to pay for the resources that it consumes”); see also Garnett, supra note 294, at 951; Christopher Serkin, The Meaning of Value: Assessing Just Compensation for Regulatory Takings, 99 NW. U. L. REV. 677, 725 (noting “the assumption that forcing the government to pay compensation will have some deterrent effect on its willingness to act”). Public choice theorists, however, contend that the compensation requirement does not deter overconsumption of property. Under public choice theory, legislators are said to respond to political incentives, including political support, votes, contributions, and less legitimate benefits, rather than fiscal constraints. See Garnett, supra note 294, at 956 (quoting Daryl J. Levinson, Making Government Pay: Markets, Politics, and the Allocation of Constitutional Costs, 67 U. CHI. L. REV. 345, 349 (2000)); Kochan, supra note 90, at 79–80. As a result, governments may not internalize any of the costs in acquiring property by eminent domain. This is particularly true given the intense competition among municipalities seeking to attract developers. See Garnett, supra note 294, at 956–57. The desire to lure investment may more than overcome any brake imposed by the prospect of compensation. If so, this suggests even greater risks of abuse and inefficiency, as even the minimal limitations imposed by the present undercompensatory scheme would seem to have little impact on land acquisition.
  \item Lawrence Blume & Daniel L. Rubinfeld, Compensation for Takings: An Economic Analysis, 72 CAL. L. REV. 569, 621 (“Fiscal illusion arises because the costs of governmental actions are generally discounted by the decision-making body unless they explicitly appear as a budgetary expense.”).
\end{itemize}
determining its cost for acquiring a given property, it may embark on projects in which the
wealth created in the hands of the transferee pales in comparison to the subjective value of
the property in the hands of the original owner.23 Because subjective value is by definition
non-transferable,24 it is destroyed upon transfer. Thus, a government entity disregarding
subjective value may actually destroy more wealth than it produces.25

Local Law Perspective

The law of eminent domain, especially in North Carolina, does a poor job of meting out
justice. When a property owner of any property type realizes that they are going to have to
deal with eminent domain, most believe they will receive just compensation. Shoe believed
that he would be made whole; he would be in as good of a position at the end of the process
as he was before the eminent domain process began. Many contest that just compensation
rarely happens and there are major shortcomings in the law of eminent domain.

North Carolina is one of the only states that does not have a “just compensation”
clause in its state constitution. The State, however, has a “law of the land” clause and the
North Carolina courts have interpreted that as requiring just compensation in the event of
a government taking26.

The government determines the need of property for public use (i.e.: transportation,
school, hospital or park). This can also be done by a quasi-governmental entity such as a
public utility company. The government or entity is expected to take the least amount of
land necessary for public use. Property must be appraised and the owner must be paid for
the land’s highest and best use. This payout, however, fails to recognize real losses incurred
by the property owner.

To determine just compensation, property is valued at one instance before seizure
through eminent domain and again after its completion. The difference between these
values is the amount of just compensation awarded. This method is problematic because
it disregards all of the damages and costs the property owner is responsible for while the
project is under construction. Project completions are notoriously behind schedule and can
span a decade from start to finish. In North Carolina this can mean profit loss for a property
owner that cannot be recouped. To date, only Texas and Florida require that a business
have been in existence at the same location for a minimum of five years to be compensated
for a loss in profits. This clause, known as “damages to a going concern,” is limited to these
two states, but would likely serve property owners well across the United States.

The Next Step

Utility relocation started in 2014 and construction began in 2015. Shoe was forced to
make the best of an inevitable situation. He sued for the full appraised value of his property
and began thinking about his options for the future. He knew that Porttown’s master plan
preferred the redevelopment of Shoe’s entire lot. Shoe thought again about buying the
adjacent property. Perhaps now was the time to buy.

Shoe thought if he waited until construction began to place a bid, he might be able to
make a below market offer the seller would likely accept. Combining both parcels would
allow Shoe to tear the buildings down and construct the type of new development the city

23 Fennell, supra note 149, at 964; Merrill, supra note 129, at 83–84.
24 Fennell, supra note 149, at 964.
25 See id. at 964–65; see also Merrill, supra note 129, at 83–84.
26 N.C. Const. art. I § 19. “The term ‘law of the land’ as used in Article I, Section 19, of the Constitution of North Carolina, is synonymous
with ‘due process of law’ as used in the Fourteenth Amendment to the Federal Constitution.” Rhyne v. K-Mart Corp, 358 N.C. 160, 594 S.E.2d 1
wanted to see. This would also make the permitting process easier, and if he timed it right he could even get city financing. The city actively engages in offering financial incentives to promote desirable development, such as 3J tax credits, community development block grants, and minority business development grant.

New ground-up development would be a huge undertaking and Shoe was not very experienced in development. Shoe needed to decide if he should try to tackle the development by himself or partner with the neighboring landowner as a joint venture.

Seeking legal action to support his appraisal, and considering financial incentives from the city to support his decision-making, afforded Shoe the opportunity to obtain an outcome that he deemed fair. Unfortunately Shoe’s case is all too common among small business owners in North Carolina regarding eminent domain. Shoe’s case illustrates the need for clarification and legal reform, specifically for just compensation.
V/C ratios can be correlated to roadway Levels of Service (LOS), which place roadway segments into six letter grade levels of the quality of service to a typical traveler on the facility. An “A” describes the highest level (least congestion) and level “F” describes the lowest level (most congestion). Levels of service can be grouped into the following categories.

- **LOS A or B** – Well below capacity ($V/C = \text{less than } 0.5$) – Roadways operating with a $V/C$ ratio less than 0.60 operate at optimal efficiency with no congestion during peak travel periods. This level of service usually occurs on rural or local streets.

- **LOS C** – Approaching capacity ($V/C = 0.50 \text{ to } 0.65$) – As the $V/C$ nears 0.8, the roadway becomes more congested. A roadway approaching capacity may operate effectively during non-peak hours, but may be congested during morning and evening peak travel periods.

- **LOS D** – At Capacity ($V/C = 0.65 \text{ to } 0.8$) – Roadways operating at capacity are somewhat congested during non-peak periods, with congestion building during peak periods. A change in capacity due to incidents impacts the travel flow on corridors operating within this $V/C$ range. LOS D is the MPO target service level.

- **LOS E** – Slightly Over Capacity ($V/C = 0.80 \text{ to } 1.0$) – Roadways operating with $V/C$ ratios between 1.0 and 1.2 experience heavy congestion during peak periods and moderate congestion during non-peak periods. Changes in capacity can have major impacts on corridors and may create gridlock conditions.

- **LOS F** – Well Over Capacity ($V/C = \text{greater than } 1.0$) – Roadways in this category represent the most congested corridors in the study area. These roadway are congested during non-peak hours and most likely operate in stop-and-go gridlock conditions during the morning and evening peak travel periods.
### Exhibit 3. Comparable Building Sales

<table>
<thead>
<tr>
<th>Appraisal Date</th>
<th>5/30/2066</th>
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</thead>
<tbody>
<tr>
<td>Annual Time Adjustment</td>
<td>5%</td>
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<tr>
<td>Size of Subject Prop</td>
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</tr>
<tr>
<td>Type</td>
<td>Retail</td>
</tr>
<tr>
<td>Location</td>
<td>Suburban</td>
</tr>
<tr>
<td>Quality</td>
<td>Class C</td>
</tr>
<tr>
<td>Sprinkler</td>
<td>No</td>
</tr>
<tr>
<td>Effective Age</td>
<td>30</td>
</tr>
</tbody>
</table>

#### Comparable Number

<table>
<thead>
<tr>
<th>Identification</th>
<th>1831</th>
<th>1538</th>
<th>1649</th>
<th>1885</th>
<th>1844</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location</td>
<td>College</td>
<td>US 17</td>
<td>College</td>
<td>S. 17th St</td>
<td>College</td>
</tr>
<tr>
<td>Sales Price</td>
<td>$1,275,000</td>
<td>$1,500,000</td>
<td>$3,600,000</td>
<td>$1,700,000</td>
<td>$1,287,500</td>
</tr>
<tr>
<td>Date of Sale</td>
<td>Jul-04</td>
<td>Oct-03</td>
<td>Sep-03</td>
<td>Feb-05</td>
<td>Jul-04</td>
</tr>
<tr>
<td>Building Size</td>
<td>40,000</td>
<td>36,100</td>
<td>70,100</td>
<td>29,110</td>
<td>17,302</td>
</tr>
<tr>
<td>Indicated Price/SF</td>
<td>$31.88</td>
<td>$41.55</td>
<td>$51.36</td>
<td>$58.40</td>
<td>$74.41</td>
</tr>
<tr>
<td>Effective Age</td>
<td>20</td>
<td>10</td>
<td>20</td>
<td>25</td>
<td>25</td>
</tr>
</tbody>
</table>

#### Interest Sold

| Interest Adjusted Price | $1,275,000 | $1,500,000 | $3,600,000 | $1,700,000 | $1,287,500 |

#### Financing

| Financing Adjusted Price | $1,275,000 | $1,500,000 | $3,600,000 | $1,700,000 | $1,287,500 |

#### Condition of Sale

| Condition of Sale Adjustment | 20% | 0% | 0% | 0% | 0% |
| Condition Adjusted Price | $1,530,000 | $1,500,000 | $3,600,000 | $1,700,000 | $1,287,500 |

#### Time Adjustment

| Time Adjusted Price | $1,672,521 | $1,699,726 | $4,093,151 | $1,810,151 | $1,406,726 |

#### Adjustments For

| Location | 0% | 25% | 0% | 5% | 0% |
| Condition | 0% | 0% | 0% | 0% | 0% |
| Access/Exposure | 0% | 0% | 0% | 0% | 0% |
| Retail/Warehouse | 35% | 25% | 20% | 0% | 0% |
| Size | 0% | 0% | 5% | 0% | 0% |
| Age | -10% | -20% | -15% | -5% | -5% |
| Sprinklers | 0% | 0% | 0% | 0% | 0% |
| Composite Factor | 25% | 30% | 5% | 0% | -10% |

#### Indicated Price

| Indicated Price | $2,090,651 | $2,209,644 | $4,297,808 | $1,810,151 | $1,266,053 |
| Indicated Price/SF | $52.27 | $61.21 | $61.31 | $62.18 | $73.17 |

#### Value Indices

| Minimum Price/SF | $52.27 |
| Maximum Price/SF | $73.17 |
| Mean Value Per SF | $62.03 |

### IMPROVED SALES SUMMARY TABLE

<table>
<thead>
<tr>
<th>No.</th>
<th>Location</th>
<th>Sale Date</th>
<th>Price</th>
<th>Building Size (SF)</th>
<th>Price/ SF</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>414 South College Road</td>
<td>07/04</td>
<td>$1,275,000</td>
<td>40,000</td>
<td>$31.88</td>
</tr>
<tr>
<td>2.</td>
<td>15597-A U.S. Highway 17 North</td>
<td>10/03</td>
<td>$1,500,000</td>
<td>36,100</td>
<td>$41.55</td>
</tr>
<tr>
<td>3.</td>
<td>3514 South College Road</td>
<td>09/03</td>
<td>$3,600,000</td>
<td>70,100</td>
<td>$51.36</td>
</tr>
<tr>
<td>4.</td>
<td>833 S. 17th Street</td>
<td>02/05</td>
<td>$1,700,000</td>
<td>29,110</td>
<td>$58.40</td>
</tr>
<tr>
<td>5.</td>
<td>1005 College Road South</td>
<td>07/04</td>
<td>$1,287,500</td>
<td>17,302</td>
<td>$74.41</td>
</tr>
</tbody>
</table>
Terminal Capitalization Rates Comparables. To reflect the risk of estimating a rate ten years in the future, 50 basis points should be added to the Ro. This indicates a terminal rate for the subject of 9.56 percent (9.06%+0.50%), has been adopted. Coincidentally the average TRC for strip centers in CBRE survey at the time was 9.50 percent. (Source: Ingram, McKenzie and Associates, Inc.)

<table>
<thead>
<tr>
<th>No.</th>
<th>Location</th>
<th>Sale Date</th>
<th>Price</th>
<th>NOI</th>
<th>OER</th>
<th>Ro</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.</td>
<td>15597 US 17</td>
<td>10/03</td>
<td>$1,500,000</td>
<td>$13,857</td>
<td>29%</td>
<td>7.59%</td>
</tr>
<tr>
<td>3.</td>
<td>3514 S. College</td>
<td>09/03</td>
<td>$3,600,000</td>
<td>$322,052</td>
<td>6%</td>
<td>8.93%</td>
</tr>
<tr>
<td>4.</td>
<td>833 S. 17th St</td>
<td>01/05</td>
<td>$1,700,000</td>
<td>$160,092</td>
<td>20%</td>
<td>9.42%</td>
</tr>
<tr>
<td>5.</td>
<td>1005 S. College</td>
<td>07/04</td>
<td>$1,287,500</td>
<td>$132,527</td>
<td>18%</td>
<td>10.29%</td>
</tr>
</tbody>
</table>

Exhibit 4. Financial Information of Shopping Center

Table 1: Parcel A- Farrish Shopping Center

<table>
<thead>
<tr>
<th>Property Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lot Size</td>
<td>1.6 Acres</td>
</tr>
<tr>
<td>Square Footage</td>
<td>72,039</td>
</tr>
<tr>
<td>Leasable Area</td>
<td>36,752</td>
</tr>
<tr>
<td>Zoning</td>
<td>RB-Regional Business</td>
</tr>
<tr>
<td>Building to Land Ratio (%)</td>
<td>53%</td>
</tr>
<tr>
<td>Gross Monthly Rent</td>
<td>$19,684</td>
</tr>
<tr>
<td>Yearly Expenses</td>
<td>$24,368.24</td>
</tr>
<tr>
<td>Year Built</td>
<td>1954</td>
</tr>
<tr>
<td>Class</td>
<td>C</td>
</tr>
<tr>
<td>Vacancy</td>
<td>8%</td>
</tr>
<tr>
<td>Expense Increase</td>
<td>2.5%</td>
</tr>
<tr>
<td>Discount Rate</td>
<td>11.10%</td>
</tr>
<tr>
<td>Single Tenants</td>
<td>12</td>
</tr>
</tbody>
</table>

Table 2: Parcel B

<table>
<thead>
<tr>
<th>Property Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lot Size</td>
<td>5.1</td>
</tr>
<tr>
<td>Square Footage</td>
<td>222,155</td>
</tr>
<tr>
<td>Zoning</td>
<td>RB-Regional Business</td>
</tr>
<tr>
<td>Building to Land Ratio (%)</td>
<td>53%</td>
</tr>
<tr>
<td>Gross Monthly Rent</td>
<td>$19,684</td>
</tr>
<tr>
<td>Yearly Expenses</td>
<td>$24,368.24</td>
</tr>
<tr>
<td>Year Built</td>
<td>1965</td>
</tr>
<tr>
<td>Class</td>
<td>C</td>
</tr>
</tbody>
</table>
Discount Rate. The average Class C rate of 11.10 is accepted for the DCF analysis.

<table>
<thead>
<tr>
<th>Investment Type</th>
<th>Rate Range</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strip Centers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Class A</td>
<td>8.00% - 11.25%</td>
<td>9.39%</td>
</tr>
<tr>
<td>Class B</td>
<td>9.00% - 12.00%</td>
<td>10.21%</td>
</tr>
<tr>
<td>Class C</td>
<td>9.50% - 12.50%</td>
<td>11.10%</td>
</tr>
<tr>
<td>CBRE Estimate</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Estimated Value of Farrish Property. (Source: Ingram, McKenzie and Associates, Inc.)

<table>
<thead>
<tr>
<th>Interest Type</th>
<th>Date</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fee Simple &quot;As Is&quot;</td>
<td>May 30, 2006</td>
<td>$2,560,000</td>
</tr>
<tr>
<td>Lease Fee &quot;As Is&quot;</td>
<td>May 30, 2006</td>
<td>$2,110,000</td>
</tr>
</tbody>
</table>
Exhibit 5. Parcel Layout

Exhibit 6. New Market Street/ Kerr Avenue Traffic Pattern
The top image is the current Market Street and Kerr Avenue intersection. The bottom image is the new intersection with solid medians.
Determining the Applicability of 3D Concrete Construction (Contour Crafting) of Low Income Houses in Select Countries

By: David Weinstein and Peter Nawara

Executive Summary

In addition to showcasing the significance of 3D concrete printing technology, this report seeks to analyze what factors would inhibit, allow for, or facilitate Contour Crafting’s success in select countries. Saudi Arabia and China would be the optimal countries to introduce Contour Crafting based on our Excel-based model that controls for variables related to wealth, size, likelihood to consume, and concrete consumption per capita. Further research on country-specific regulation fosters the hypothesis that Contour Crafting is more likely to succeed in Saudi Arabia than in China. Contour Crafting’s global investing strategy will likely be through a joint venture partnership with governments via sovereign funds. Since capital partnerships seek to utilize the technology to supply low-income housing units, end users would not be able to afford the technology and would theoretically be funded by nations seeking solutions to underlying social issues impacting citizens. Overall feasibility is contingent upon government regulated housing, infrastructure, and cheaper alternatives of construction that provide adequate enclosure systems. Though Contour Crafting is a novel construction technique, it’s unlikely to be adopted as an economically feasible method for affordable housing construction.

Introduction

Contour Crafting, a pioneering process in 3D concrete construction, has the potential to change the way houses are conventionally constructed. Though the technology itself may have the capability to introduce significant automation to the construction industry, in practice, its pervasiveness is limited to its adoption. Like most new cutting-edge technologies, we expect that its use will first be novel in this case, limited to developing interesting contours for luxury homes, for use on Mars, or for when traditional labor can not accomplish what 3D concrete printing can. It’s our goal in this paper to not only showcase the significance of Contour Crafting but also the applicability of the technology by determining optimal markets where it would be in-demand to provide affordable housing.

Quantitative analysis using an Excel-based model was the starting point to “weed out” countries that – objectively – would be inadequate markets to introduce Contour Crafting at this time. The countries remaining are those, that in the most basic sense, are suitable to consider implementing this automated technique as a construction method for affordable housing. Further research was collected through retrieval of secondary data – opinions, journal articles etc. – and interviews with industry professionals. This research led to identifying further variables of interest, which when cross referenced against those yielded by the quantitative analysis, fosters selected target markets to research further. The applicability study is unique in its two-fold approach, first targeting the primary consumers (sovereign funds, private firms) and then the end consumers (the individual inhabitants of the house).
Behrohk Khosnevis¹, USC Professor of Engineering and active researcher in robotics, and mechatronics related research and development projects, is accredited for developing the additive manufacturing process that he coined Contour Crafting. Khosnevis found a way to reconcile housing-construction and 3D printing technology: “Contour Crafting technology scales up automated additive fabrication from building small industrial parts to constructing buildings.” While the Contour Crafting technique is a form of “green construction” and would be ideal for developing tricky contours that many luxury homes incorporate, for the purpose of this report, Contour Crafting is being used for development of affordable houses.

After giving a brief overview of the Contour Crafting technology and the competitive landscape, the following sections seek to:

1. identify target markets that have resources capable of mass 3D printing construction and proven demand based on affordable housing fundamentals.
2. evaluate primary research data (qualitative factors) to identify countries most likely to benefit from social impact investing.
3. expose deal structuring and partnership options that will facilitate the implementation of Contour Crafting technologies.
4. highlight a case study demonstrating macro-demand criteria that justify entering China or Saudi Arabia.

The paper will conclude by describing why Contour Crafting is unlikely to succeed as a construction method for affordable housing development.

**Overview of Contour Crafting - The Technology**

**Significance**

Contour Crafting challenges the way houses are conventionally built. As an automated construction process of whole structures, Contour Crafting seeks to increase safety standards (both for occupants and laborers) and construction efficiency at a time when: “Labor efficiency is alarmingly low, accident rates at construction sites are high, work quality is low, and a skilled workforce is vanishing.”

As the population in developing countries grows rapidly, traditional methods of construction will not meet housing demands, especially in areas where a higher construction standard is required for safety precautions. Contour Crafting seeks to address housing problems and provide people in all countries and all societies with affordable and dignified housing.

**Unique Selling Point and Proprietary Technologies**

Contour Crafting (CC) is an additive fabrication technology that uses 3D printing technology and applies it to the automated output of concrete to build homes. Waste is extremely minimal because the manufacturing transforms raw materials to final product all on-site. The process starts with a 3D model based off of a “tool path.” Through computer

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¹ Khoshnevis is a professor of Industrial & Systems Engineering, Aerospace & Mechanical Engineering, Astronautics Engineering, Biomedical Engineering and Civil & Environmental Engineering and is the Director of the Center for Rapid Automated Fabrication Technologies (CRAFT) and Director of Manufacturing Engineering Graduate Program at USC.


³ B. Khoshnevis, George Bekey, Automated Construction using Contour Crafting – Applications on Earth and Beyond
animation, any contour or free-form surface can be built ranging from traditional ‘boxy’ styles to more modern curved designs. The tool path describes the position, orientation, velocity, and deposition rate of the nozzle in the entire construction period. This information is converted into a sequence of machine tasks and then fed to the Contour Crafting machine.

As shown in Figure 1, a gantry system carrying extrusion nozzle(s) moves on two parallel tracks installed at the construction site. Trowels smooth the surface of the layers as the concrete is extruded. The cement does not require forms; each layer extruded can keep its form as each successive layer is added. Automated reinforcement is possible through the addition of steel mesh or fibers like reinforced plastics. A single house or many houses, each with possibly a different design, may be automatically constructed in a single run.

This method allows for a custom built Concrete Masonry Unit (CMU) based wall that has all utility conduits embedded in the design. The cost of construction is related to time and energy expended by the machine and the amount of materials consumed for the structure.

- Machinery needed: Gantry crane system, a nozzle assembly with three motion control components (extrusion, rotation, and trowel deflection) and a six-axis coordinated motion control system.
- Predicted result: A 2,000 square foot house can be constructed in less than 24 hours.

**General Competitors (not country specific)**

Currently, “Contour Crafting (CC) is one of few layer fabrication technologies that is uniquely applicable to the construction of large structures such as houses” From a construction perspective, its competitors can be grouped into two categories: (1) those that are in the 3D concrete printing space and (2) those that use different means of production but advance the same mission, like prefabricated housing. Its competitors extend to any fabrication process that represents a more economical alternative and provides an adequate enclosure system for those in that region.

**Competitors in 3D Concrete Printing Space**

Contour Crafting is simply one method – one of the first and most established – to come into the market. Other companies in the sector include:

**DUS Architects (based in Amsterdam, Netherlands)** – Dubbing 3D printing technology “a new craftsmanship,” DUS Architects is a high-end focused firm that plans a one-of-a-kind 3D printed houses that architecturally stand out. The 3D Canal House is their most recent project and uses some of the most “green” materials and technology including bioplastics and glue made of 80% vegetable oil.

**Yingchuang New Materials (based in Suzhou, China)** – The company uses a modified version of the printers originally proliferated by Contour Crafting. WinSun Decoration Design Engineering supplies the printers that measure 20 feet in height, 33 feet in width, and span 132 feet long. According to Khosnevis, they have copied his approach, but also produce numerous false claims like: “ten buildings [can be] built in one day, while in

reality every one of those buildings has taken [the company] a few days to build because [they’re built] in several pieces in the factory with that huge non-mobile machine (a CNC machine).” Prior to fabrication, each structure is meticulously planned out using a Computer Aided Design (CAD) design format as the template, then a computer controls the mechanical extruder arm to lay down specially treated concrete to ‘print the structure’ in a patterned layering process that simultaneously increases the strength of the structure. Unlike both DUS Architects’ and Contour Crafting’s 3D printing equipment, Yingchuang’s technology extrudes recycled construction materials, such as sand, concrete, and glass fiber. Ten one-room structures can be built in under 24 hours. Built from predominantly recycled materials, these homes cost as little as $4,800 USD.

**Pinwheel house design** – A potential competitor could be the affordable housing project called the 1K House, designed by Ying chee Chui (MArch ’11), a graduate of MIT’s Department of Architecture. The “Pinwheel House” consists of a modular layout with hollow brick walls, steel bars for reinforcement, wooden box beams, a central courtyard space and it is also built to withstand a magnitude 8.0 earthquake. The goal was to build the house at $1,000, but currently, the cost to build is $5,929. The house is structurally very sound, and could be used in areas that are often threatened by natural disasters (capable of withstanding an 8.0 magnitude earthquake). The prototype house has been constructed in Mianyang, in Sichuan Province, China. As it is in its prototype stage, further information about the project is limited.

**Modeling the Feasibility for Contour Crafting to be Adopted in Select Countries**

Quantitative analysis was the first step in narrowing target markets of interest. To lend insight into product attractiveness in developing and developed countries, secondary data was collected from various sources and organized according to four key variables: wealth, size, likelihood to consume, and accessibility of the resources critical to the product. Each variable was assigned a specified weight from one to five; a higher weight means that a variable has a relatively greater influence in determining product likelihood to succeed. To account for discrepancies and to be able to compare data among all four variables, data was normalized. For each country, the normalized data for each variable with applied weight was then summed. The greater the tallied score, the more likely the country exhibits demand characteristics for Contour Crafting.

**Method & Variable Selection**

The following variables were identified to determine which country exhibits demand characteristics for Contour Crafting:

- **Variable 1 – Wealth**: GDP at Purchasing Power Parity per Capita
  - Weighted at 1 (lowest weight) – By using data that standardizes monetary values across all nations, GDP purchasing power parity per capita determines how much a citizen contributes to its GDP. This variable identifies populations that would typically have a high demand for low-income housing. Due to massive fluctuations in population sizes, “Wealth of Nation” as measured by GDP alone is less relevant than the selected variable.

7 [http://newsoffice.mit.edu/2011/1k-house-prototype-0915](http://newsoffice.mit.edu/2011/1k-house-prototype-0915)
• **Variable 2 – Size:** Number of Housing Units Existing in 2012
  ° Weighted at 3 – This indicates the maturity of the housing market and the number of households relative to the population size. It is used to project our likelihood to consume based on population forecasts that estimate future housing unit needs.

• **Variable 3 – Likelihood to Consume:** Forecasted Single-Person Housing Need in Housing Units for 2017
  ° Weighted at 5 (highest weight) – This indicates a lack of current (housing) inventory that will need to be filled by creating housing units to meet the demand of future population growth. The number of single-person households by country in 2012 was contrasted with future forecasted demand in 2017. The spread between the two signifies future demand for housing units and takes into consideration whether the selected populations are growing or retracting.
  ° Note for Excel-model users: Standardized value is applied inversely because the negative number represents a lack of future housing inventory, which is in reality a demand driver (so the more negative the number, the greater the need for future housing, the more housing is currently “lacking”). Countries such as Japan and Germany are not applied inversely because they are experiencing negative population growth; only countries experiencing positive growths are applied inversely.

• **Complementary Variable – Concrete Consumption per Capita**
  ° Weighted at 4 – The feasibility of Contour Crafting is dependent on the construction method’s access to concrete. If a country does not have sufficient inventory of concrete or channels of distribution to obtain it at an affordable cost, then Contour Crafting would not be used. Similarly, if there were high import costs of concrete to the project site, then Contour Crafting may not be feasible. In selecting countries used for analysis, only those that also met a standard for “concrete consumption per capita” were determined to be viable markets for using Contour Crafting.

Data for each variable was normalized, allowing for comparison among all variables. A positive number indicates a demand for the variable while a negative one indicates that contour crafting may not work in that country because the variable in question is not satisfied. When the normalized data from each variable was summed for each country, it was then ranked according to its score (higher the rank, the higher the likelihood that Contour Crafting would be successful in that country).

**Quantitative Results: Saudi Arabia and China would be the Optimal Markets for Contour Crafting (for Affordable Housing Construction)**

The model takes into consideration both the primary and end-users, though only the sovereign and private companies are our initial ‘targets’, as they are the capital / political sources that would drive initial adoption of the product. Though ten countries were selected as markets for being the most likely to utilize Contour Crafting, only two countries were identified as optimal markets to explore further. As the Excel model reveals (refer Appendix A), some countries, such as Iran, have been removed due to insurmountable political barriers. Additionally, countries, such as Italy, have also been removed due to ongoing volatility in their capital markets. Such political and capital barriers are further
examined to the extent of the role they play in determining Contour Crafting’s ability to penetrate the market effectively.

Figure 2 depicts the results of our quantitative analysis i.e. the top ten countries with the highest propensity to use the product. Please also refer to Appendix A (and embedded Excel file) for the quantitative analysis that justifies and corroborates our conclusions.

**Primary Data Analysis: Contour Crafting is Unlikely to be Adopted as an Affordable Housing Method of Construction**

In supplement quantitative analysis, primary data was collected to further identify forms of Contour Crafting’s applicability in particular countries. A series of interviews were conducted to gain insight about affordable housing in developing countries, alternative methods of construction for low-income housing and 3D printing of materials. These responses helped refine market entry strategies. Among all data collected from the interviews, the key points are summarized in the paragraphs below.

For low cost/affordable housing, Contour Crafting is most applicable to wealthy countries with great wealth disparity in which the government could intervene and
subsidize housing. Demand for Contour Crafting will be accelerated by countries that experience dangers in their traditional forms of housing construction and a lack of current housing inventory. Joint ventures with sovereign funds or private corporations will be the financing approach for Contour Crafting’s entry strategy.

Ultimately, the choice of enclosure systems will depend on: climate, available material types (e.g. clay, concrete), existence of infrastructure for community development (sewage, power, clean water, etc.), and transportation routes to bring materials to/from site.

Below are the key points with respect to each respondent:

- **Warren Bailey, Professor of Finance at the Samuel Curtis Johnson Graduate School of Management at Cornell University**
  - He was skeptical of using this method in developing countries because in such instances the 3D construction method would be “replacing local workers and local materials with high-tech dangerous materials.” Bailey thought that a development bank partnership could be the optimal deal structure.

- **Hod Lipson, Associate Prof. of Mechanical & Aerospace Engineering and Computing & Information Science**
  - If low-cost labor is available, this method should not be pursued in developing countries.

- **Ted London, Patrimonio Hoy, Director of the Base of the Pyramid Initiative at the William Davidson Institute at the University of Michigan**
  - Mr. London noted that conventional housing methods are the greatest competitor to Patrimonio Hoy; he did not view 3D concrete printing as a threat in low-income housing communities in developing countries.

- **Heather Esper, Patrimonio Hoy, Program Manager of Impact Assessment of the William Davidson Institute at the University of Michigan**
  - Patrimonio Hoy’s initiative is marketed by having “promoters.” Patrimonio Hoy hires promoters from the community, so they can increase outreach and gain customers. According to Ms. Esper, they had significant challenges with the promoter model because there was a high volume of turnover.
  - The client funds the project using a 70-week saving program, and slowly, materials are bought from a construction source. The customer buys raw materials and works with local masons, per the Patrimonio Hoy-affiliated architect’s design. The end user gets to help design how the house will look – they get say in it, so it is much more dignified.
  - Ms. Esper expressed the need to have a partner, in a similar way that Patrimonio Hoy is connected to Cemex.

- **Jonathan Oschorn, Professor, Director of Graduate Studies at Cornell University’s College of Architecture, Art, and Planning**
  - 3D concrete printing is better suited for customization where specific designs/contours are required. 3D printing, in general, is better suited for fabrication of things like prosthetics; not concrete building since concrete housing can be fabricated using many different methods.
  - The infrastructure – planning for waste, water, etc. – is the key concern in developing large affordable housing communities. Choosing the construction method for building houses is secondary, once these systems are in place.
The adoption of contour crafting is first and foremost a political and economic issue. If the “economics” make sense, then it comes down to choosing the material of construction that is best suited for the climate (e.g. wood would be best suited for the U.S. since it is cheaper. And, concrete is somewhat ineffective as an insulator in cold climates).

Fundamentally, the choice of enclosure system is based on: climate, material type (e.g. clay, concrete), infrastructure for community (for sewage, water etc.), and transport routes to bring materials to/from site.

Global Entry Strategies

Contour Crafting’s global penetration strategy will likely facilitated through a joint venture partnership with governments via sovereign funds. Private companies would potentially be attracted to Contour Crafting to enter into emergent markets that have either (1) been showing to be a proven success or (2) demonstrate a strong need for affordable housing built to the standards of 3D concrete construction. Note that there is little – if any – precedent for sale of this construction technique, so all pricing will solely be based on profitability hurdles; meaning that materials costs, labor considerations, and the scale of the projects (quantity of units produced) will likely play the biggest role in determining pricing.

JV & Management Contract Strategies Applicable to Contour Crafting

Given that Contour Crafting is in its early stages, there will likely be a demand for licensing of the proprietary technology. However, for the purpose of this paper, the main strategy considered is JV partnerships. Based on this partnership structure, Figure 3 below identifies key drivers of success for market entry strategies.

<table>
<thead>
<tr>
<th>Key Drivers of Entry Strategy</th>
<th>JV &amp; Management Contract Strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capital Cost</td>
<td>Projects would be funded entirely by government budgets or sovereign wealth funds. The goal is to seek maximum equity participation of sovereign nations or private entities – to increase “skin in the game” – in order to incentivize successful completion of projects.</td>
</tr>
<tr>
<td>Human Resource Needs</td>
<td>As emerging markets, each country will have low-cost laborers for auxiliary and support purposes. However, some skilled labor will be required; workers will need to be trained by Contour Crafting to operate the machinery. These workers could potentially be employees of the Contour Crafting firm, and work aboard on the given projects to train other members of the construction staff.</td>
</tr>
<tr>
<td>Control of Technology</td>
<td>The technology will be entirely proprietary. Reproduction of it would cause Contour Crafting to lose its competitive advantage. Licensing is something that will need to be considered.</td>
</tr>
</tbody>
</table>
| **Speed to Market** | This hinges on the JV partners’ action plan to identify the need and pace to implement Contour Crafting.  
**Note:** Based on our analysis, the selected countries already have a need to (1) supply additional low income housing units and (2) can afford to execute (have the monetary capacity and material resources). |
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Market Learning (Adaptation/Expansion)</strong></td>
<td>Because this is a new and proprietary method of construction, there will be a steep learning curve and barriers to adoption of the method. Strategically, the goal is to sell the product to the primary users (the sovereign funds etc.) and to demonstrate a need for the technology, while keeping in mind the demand from end-users of the product.</td>
</tr>
<tr>
<td><strong>Strategic Control</strong></td>
<td>It’s anticipated that full strategic control will be given to the sovereign nations as they design/master-plan the low-income housing communities via Contour Crafting construction. In order to uphold the warrantee, a member of the Contour Crafting team (or perhaps someone who is certified to use the equipment) will be on-site in the beginning stages.</td>
</tr>
<tr>
<td><strong>Asset Exposure</strong></td>
<td>As of now, there is no “template” deal structure with JV partners, so capital structure will have to be determined on a case-by-case basis.</td>
</tr>
<tr>
<td><strong>Political Risk Management Capability</strong></td>
<td>We refuse to partner in countries where political risk, corruption, and instability are likely to arise/exist and threaten the implementation of the Contour Crafting construction method.</td>
</tr>
<tr>
<td><strong>Quality Control</strong></td>
<td>Warranties will be provided to the primary users to increase the attractiveness of the technology – the adoption rate - and provide an advantage over competitors such as pre-fabricated housing, etc. The warranty would be structured in a way that ensures that all housing units are built to a certain, promised level of quality. This would be contingent upon the users promise to utilize the recommended grade of concrete. Select parts could also be warranted, specifically those that are particularly durable e.g. the steel frame and the supports/arms on each side of the track (the wheels or mechanisms that attach to the track would not be warranted, because they’re exposed to more wear-and-tear issues). The reliability of the material and the product will also give consumers confidence based on the extensive R&amp;D that went into product development.</td>
</tr>
<tr>
<td><strong>Income</strong></td>
<td>Increased emphasis is placed on the degree of equity participation by sovereign funds, rather than the income strength of the end-consumer. The role of government subsidies will largely determine the feasibility of the product.</td>
</tr>
</tbody>
</table>
**Entry Strategy by Selected Country**

Quantitative analysis dictates that China and Saudi Arabia would be ideal countries for market entry and will be the subject of further investigation for how Contour Crafting can be implemented internationally. Ultimately, as to be discussed, we find that Saudi Arabia would be an ideal market for entry, while Contour Crafting may not be suited for the Chinese market. These sample countries demonstrate the capital and political characteristics as well as social demand drivers that would determine the feasibility of success of our international marketing plans.

**Entry Strategy: China**

Though China represents an ideal market for Contour Crafting – based on our quantitative research and anticipated demand from the end-users – political risks and regulation pose too much of a threat.

**The End-Users**

Contour Crafting’s success in China hinges on the country’s government housing subsidies. The end users targeted are those who would typically seek one of the following types of affordable housing options offered by the government:

- **“Cheap rental housing (CRH)”** - These are rental-housing subsidies to provide provisions for rent control rent subsidies (monetary subsidies), and rent reduction to households who already live in public rental housing. These are provided by municipal government, developers, or work units and are subsidized by housing provisions with controlled rents, rent subsidies, and rent reduction. The target customers are those requiring low-income housing or have housing difficulty.

- **Economic and comfortable housing (ECH)** - Refers to ownership-oriented housing provided by developers on free land allocated by local municipalities, and sold to qualified households at government-controlled prices. These are provided by developers and subsidized by the municipal government. The target customers are low and middle-income households.

- **Public Rental Housing (PRH)** - Rental housing provided by the municipal government, work units or developers. The land can be free and rents are regulated. This targets lower-middle income households, new employees, and qualified migrants with difficult housing.

The government has been constantly adjusting its low-income housing policies to try to get all citizens to qualify for a type of affordable housing should they need it. However, a significant portion of the population are still considered “sandwich households,” those that cannot afford to purchase ECH but do not qualify for CRH. 3D concrete printing affordable houses would be fit for the sandwich households, those on the margin, but this would mean that the government would have to expand their subsidizing program.

Secondly, for those who were displaced from their houses, Contour Crafting can be used to build replacement homes efficiently. To better define the customer segment of development-induced displacement, it is important to note some of the process’ causes.

- Urban infrastructure
- Water supply (Dams, reservoirs, irrigation)
- Transportation

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• Energy (power plants, mining areas etc.)
• Agricultural expansion
• Parks and forest reserves
• Population redistribution scheme

The people who are displaced by the above causes are referred to as being part of the “costs” of displacement. The irony is that in the process of facilitating infrastructure development projects, things that are supposed to be beneficial to society, the government actually subjects the “displaced” to long-term “risks of becoming poorer than before displacement, more vulnerable economically, and can lose their livelihoods altogether.”

These customers, rather than those displaced by natural disasters, human-made disasters etc., are the targeted end-users for this project, because it would be much more feasible to fund this housing project in a “high development” situation rather than one of natural disaster recovery. Infrastructure related projects generate substantial revenue for the government, which partly subsidizes these houses. In a disaster situation, temporary houses – that are usually sub par in status – cannot be a source of profit; also, the public generally does not criticize the government when there is a disaster of some sort and they provide shelter (since the government is the last – and often – the only resort). The targeted market experiences great variation in terms of its demographic composition, but its socioeconomic status is consistent.

**Category Demand for Affordable Housing Units**

In China, the government has displaced millions of people through the process of urbanization e.g. via the construction of the Three Gorges Dam that has led to 1.4 million people displaced by the rising of the Yangtze River’s waters. The government exercises forced dislocation in these rural areas in the moving of households to other “cookie-cutter” like houses. Alternatively, much of the displacement involves putting people in tall buildings within affordable housing complexes. However, in the case of the Three Gorges Dam displacement, people were resettled in 20 counties around the region and typically in houses, rather than large apartment buildings.

Furthermore, in the future, it is foreseeable that demand for low-income housing will continue. According to Jiang Weixin, Minister of Housing and Urban-Rural Development, “The country plans to start construction of more than 6 million affordable housing units and complete the construction of 4.8 million units [in 2014]. The country built 4.7 million affordable housing and started construction of 6.3 million units in 2013, according to the ministry’s statistic.” JV partnerships via public development companies will be the major builders of this project.

We know this trend will continue because the Chinese government is literally trying to change the nature of the economic system – no quick task – so that the economy is less based on exports and more on domestic consumer demand for products. Bulldozers are razing villages: “The ultimate goal of the government’s modernization plan is to fully integrate 70 percent of the country’s population, or roughly 900 million people, into city living by 2025.” The Chinese government wants to build 36 million units of affordable housing between 2011-2015.

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10 To clarify disaster induced displacement could be from sudden impact disasters, slow-onset disasters, epidemic diseases, industrial/technological, disasters, and complex emergencies. Furthermore, refugees – as another type of displaced person – would not be able to afford a house of this sort.
11 http://www.nytimes.com/2011/05/20/world/asia/20gorges.html?_r=0
13 http://www.china.org.cn/china/Off_the_Wire/2013-12/24/content_30990577.htm
On a macro scale, “the government has started construction on 6.66 million affordable housing units and completed building 5.44 million in the first 11 months of 2013\textsuperscript{15}, meeting its annual targets ahead of schedule, according to the country’s housing authorities on Monday.” The government is working quickly to build. And since construction stimulates the economy through not only the increase in raw materials demand but also through increasing employment, there would need to be justification for the use of 3D concrete printing – a technique that employs fewer people than conventional methods.

**Purchasing Habits**

Purchasing habits among the Chinese for affordable housing is utilized on a needs basis for those displaced. Displaced people tend not to have much choice about where to live, upon being evicted from their homes. A purchase by the end user tends to be made near or onsite. For the product itself though, purchase habits are non-existent. The developers, the primary users, bid on projects to build on land-leased sites (those owned by the state)\textsuperscript{16}. “There are two main types of auction: regular English auction and an unusual type which we call a two-stage auction. The latter type of auction seems more subject to corruption, and to side deals between potential bidders and the auctioneer\textsuperscript{17}.”

The machinery required for 3D concrete printing would have to be shipped from the U.S., where it is constructed, and assembled in China (onsite). The end users will assume the housing the same way that all other affordable housing is assumed in China, via an application process.

**China-Specific Strategy for JV Partnerships**

“Construction of low-income housing has been the key project vigorously promoted by the central government.\textsuperscript{18}” China Development Bank would be an appropriate and particularly useful JV partner for the construction of affordable housing by means of Contour Crafting. “According to relevant personnel of China Development Bank, in Hadawan Model, China Development Bank has referred to generally accepted international practice of ‘joint-venture by the public and private enterprises’ to establish company for special purpose with joint investment from social capitals responsible for financing, developing, organizing and constructing specific areas of the city based on implementation of relevant documents of the State Council on standardization of liability of local government and rectification of original local financing platform.”

Furthermore, the China Development Bank has led all financing strategies for shantytown reconstruction. Additionally, “according to relevant personnel from China Development Bank, since 2005, to solve the capital restrictions on shantytown reconstruction projects, China Development Bank has used market construction methods to jointly establish market financing platform with local government to integrate various resources.” Since they already have this platform in place where they use market construction methods, it might be fairly difficult to have them adopt Contour Crafting and JV.

**Competitors**

The large-scale development of housing funded by the government remains to be a competitor. Developers subsidized by the government for affordable housing – more

\textsuperscript{15} http://news.xinhuanet.com/english/china/2013-12/16/c_132971549.htm
\textsuperscript{17} http://www.nytimes.com/2013/06/16/world/asia/chinas-great-uprooting-moving-250-million-into-cities.html?pagewanted=all
\textsuperscript{18} http://www.cdh.com.cn/english/NewsInfo.asp?NewsId=4723
broadly – represent competitors (primary users, those who utilize the machinery). In its current format, workers and funding bodies associated with these large-scale affordable housing projects are incentivized by:

- a guarantee of a 3% profit margin.
- little money down (as little as 20% of their equity).
- increased chance of winning public land at auction after helping to develop an affordable housing project (product of government control in land production).

Additionally, with the government becoming less involved in business and moving towards a globalized “western-world” laissez-faire platform, this increases our risk of foreign competitors entering the market.

Risks of Market Entry Threaten Success

Despite the potential success of high demand and JV partnerships, a changing market and political risk threaten the success of the product. While the quantitative model used indicates that China is the best fit for the product being sold, it does not take into account viability of the market – the threat of potential competitors – or government regulation. As a result, despite the variables used lending insight into country selection for the product, such is not sufficient to decide whether the country would be a favorable choice for the product.

For specifically the affordable housing market, an enormous risk is related to the lack of reliable information in China that makes it difficult to determine who is entitled to low-income housing. Since the penalty for false application is negligible (the customer merely has to give back the unit and move out), potential customers are increasingly forging.

Government confiscation of houses is undoubtedly a potential risk to the end users, who do acquire their houses in a legal way by presenting truthful applications. With the government owning 30% of the equity in all the ECH homes, there is an element of government control involved in all the houses.

Corruption of the housing market makes it particularly risky to enter. “China’s affordable housing program lost nearly 6 billion yuan to embezzlement last year; the national auditor reported on Friday, underscoring the obstacles to official efforts to fight graft.” Additionally, “In 2012, the government invested 412.9 billion yuan in affordable housing, while another 466.8 billion yuan came from bank loans, bonds, and other social financing, according to the report. The real amount of money that was lost may be higher than reported, Jinsong Du, a Hong Kong-based property analyst at Credit Suisse Group AG, said in a phone interview.”

The two-stage auction model, as described above, is corruptible and presents a threat. Government officials can alter the selection technique as a way to pass along better properties to groups of their preference.

Entry Strategy: Saudi Arabia

To understand Saudi Arabia’s motivation to a more progressive and humanitarian-abiding position in the global sphere, we need to take a look at the drivers of this change. As Saudi Arabia has joined NATO and the U.N., it is actively seeking to make progress to conform to the values and practices mandated by the respective organizations. As Saudi Arabia has joined NATO and the U.N., it is actively seeking to make progress to conform

to the values and practices mandated by the respective organizations. Contour Crafting – through producing large scale and safe, affordable housing – can effectively penetrate the market by addressing massive gaps in housing affecting migrant worker populations.

Preface: A Brief Overview of Saudi Arabia’s Recent Human Rights Violations

Though a member of the United Nations, Saudi Arabia is notorious for historically behaving negligently towards several documented cases of human rights abuse. It has been argued that several nations disregard this because The Kingdom maintains a notable presence internationally as the world’s second largest oil producer and largest exporter. King Abdullah bin Abdul Aziz, having defended Saudi Arabia’s position on human rights in 2000, stated that “it is absurd to impose on an individual or a society rights that are alien to its beliefs or principles”21. The violations range from still culturally acceptable public executions by beheading, severe oppression of the female population, and for the context of this assignment- treatment of illegally registered migrant workers. The following excerpts from the CIA World Factbook lend insight into Saudi Arabia’s current geopolitical issues.

“King Abdullah since 2005 has worked to incrementally modernize the Kingdom - driven by personal ideology and political pragmatism - through a series of social and economic initiatives, including expanding employment and social opportunities for women, attracting foreign investment, increasing the role of the private sector in the economy, and discouraging businesses from hiring foreign workers. The Arab Spring-inspired protests - increasing in number since 2011 but usually small in size - over primarily domestic issues among Saudi Arabia’s majority Sunni population. In addition, Saudi Arabia has seen protests among the Shia populace in the Eastern Province, who have protested primarily against the detention of political prisoners, endemic discrimination, and Bahraini and Saudi Government actions in Bahrain. Protests are met by a strong police presence, with some arrests, but not the level of bloodshed seen in protests elsewhere in the region. In response to the unrest, King Abdallah in February and March 2011 announced a series of benefits to Saudi citizens including funds to build affordable housing, salary increases for government workers, and unemployment entitlements. To promote increased political participation, the government held elections nationwide in September 2011 for half the members of 285 municipal councils - a body that holds little influence in the Saudi Government. Also in September, the king announced that women will be allowed to run for and vote in future municipal elections - first held in 2005 - and serve as full members of the Advisory Consultative Council. The country remains a leading producer of oil and natural gas and holds about 17% of the world’s proven oil reserves. The government continues to pursue economic reform and diversification, particularly since Saudi Arabia’s accession to the WTO in 2005, and promotes foreign investment in the kingdom. A burgeoning population, aquifer depletion, and an economy largely dependent on petroleum output and prices are ongoing governmental concerns.”22

The Opportunity and Customers Targeted

The strategy proposed to gain entry into the Saudi Arabian market is opportunistic. Historically, little effort has been made by the nation to recognize these issues, though human rights abuses are outlawed by all UN Conventions. More recently, however, the country has taken great strides in culturally progressing to a more globalized society. Saudi Arabia has committed to a “gradual reform programme” (and) in 2013, (is) making

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22 CIA- The World Factbook- About ‘Saudi Arabia’
incremental improvements, including on human rights, while managing societal resistance to change.”\(^{23}\) The country is looking to improve its image in the public eye, having even hired MSL Group Qorvis for its reputation management, government relations, and public diplomacy services.

There are existing products that house these migrants workers, but unfortunately they are criticized as the equivalent of Gulags and slave camps\(^{19}\). Given the availability of low-cost labor for construction in Saudi Arabia, it is counterintuitive for the government to use these transients as laborers when they are trying to reduce the frequency of human rights violations. Due to the prevailing circumstances, Contour Crafting may be the solution to the inhumane housing conditions these transients reside in.

The targeted initial consumer would be the nations’ sovereign wealth fund or another government-backed entity. The thesis would be to enter into JVs or be hired as contractors by Saudi Arabia to build new housing developments to improve the living conditions of the migrant worker population, many or most of whom are unregistered. This contingent is predominantly comprised of third world country citizens, many of whom have their passports confiscated upon arrival, and are forced to live in unacceptable housing conditions. The group is inadequately protected by existing labor laws in the country, vulnerable to sexual and physical abuse and at peak times have been estimated to even reach numbers approximately the size of 1/3rd of the nation’s own population. Though it seems irrational to expect such a partnership, there is great opportunity as the country, and its leaders are actively committed to bettering their reputations on a global stage and amending many of their past faults. As the ground for evidence to our hypothesis, “In the hope of ending a shortage of homes which has depressed living standards and is politically sensitive for the government. After social discontent prompted uprisings elsewhere in the Arab world in 2011, King Abdullah announced (in 2013) a plan to build 500,000 homes in Saudi Arabia over several years. Some $67 billion of state funds were earmarked for the plan”\(^{24}\).

### Potential Demand & Purchasing Habits

The timing for Contour Crafting to enter the market is ideal as this is part of the ongoing transformation of the Saudi Arabian government and would generate great positive publicity. The comparative advantages offered by the technology would be immense. However, the programme has been slow to get underway because of sluggish bureaucracies, difficulties in obtaining suitable land and the complexity of allocating aid. The new scheme, named ESKAN - the Arabic word for housing - and launched by the Ministry of Housing last week, aims to break through those bottlenecks\(^{25}\).” Contour Crafting provides the perfect synergies at the perfect time for a potential partnership opportunity. ESKAN presents itself as an ideal primary customer.

Saudi Arabia currently has a severe issue with housing supply for these types of migrant workers, there are currently an estimated 8 million registered for employment in the service industry there with visas, not accounting for those illegally employed. Many enter the country unknowingly signing contracts that commit them to ‘indentured slavery\(^{26}\), a significant portion of these people live in forced confinement pending on the terms in which they entered the nation.

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\(^{24}\) Reuters- Saudi Arabia launches new housing scheme to ease shortage- Thursday, 13th March 2014.

\(^{25}\) http://www.reuters.com/article/2014/03/13/saudi-housing-idUSL6N0MA17I20140313

Competitors

Contour Crafting likely will not be threatened by prefabricated housing techniques made in a factory, since the costs to distribute those materials around the country would most likely be higher than using isolated land to “roll out” housing units generated by the technology.

Saudi Arabia could be an ideal environment to apply contour crafting partly because of its accessibility to concrete and its existing human rights violations related to the labor pool. The country is already the highest consumer of concrete per capita (refer to Excel Model), and this building aggregate is highly adaptable, sustainable, and suitable to the environment.

Specific Strategy for JV Partnerships

JV Partnerships with government/sovereign entities will facilitate Contour Crafting’s market penetration and growth. Due to the nature of this country and its unique political system, Contour Crafting could theoretically lead to mass adoption.

Due to the make-up of the country’s leadership made up of Royal decree, most private development companies from the region have many intricate connections between both Government, private and public sector leadership positions. For this reason, a JV structure with the Government/Royal Family or product licensing tactic would be best suited for a deal structure.

Conclusion

The likelihood of adoption of Contour Crafting technology is based on so many factors, but primarily, relative costs of construction, high initial costs to market, and political issues.

In terms of the country-specific case studies, Saudi Arabia would be better suited than China to adopt Contour Crafting for use in affordable housing projects. It is illogical to use contour crafting in a country that has low-cost labor where houses can be built relatively cheap. However, the automated method could be used in a country that is (1) seeking to overcome a social barrier/issue where all construction is typically done “by hand” and (2) where there tends to be little specialization of labor, so housing quality is unsafe.

Overall, it is unlikely that Contour Crafting will be adopted as an affordable housing method for construction. It is more likely to be adopted first for novel uses like to build luxury homes with unique contours and for use on the moon/mars. As construction becomes less labor intensive and increasingly more automated, Contour Crafting will be at the forefront in facilitating the change in ways structures are traditionally built and constructed.
Sources of justification (by country, associated with Excel model):

South Korea: http://www.theguardian.com/housing-network/2014/jan/20/south-korea-housing-problem-jeonse-rent
India: http://www.firstinitiative.org/content/index.cfm?ctID=120
Turkey: http://www.academia.edu/319455/An_Analysis_Of_The_Opportunities_And_Weaknesses_Of_The_Turkish_Real_Estate_Market
Malaysia: http://economicsintaylors.wordpress.com/2012/10/26/housing-issues-in-malaysia/
Egypt: http://www.dailynewsegypt.com/2013/09/08/egyptians-living-conditions-and-their-expectations-for-the-future-poll/
Brazil: http://www.theguardian.com/housing-network/2013/jan/03/brazil-slum-housing-local-solutions
Appendix A

Notas

1. Entry removed from high barriers to entry due to developed capital markets

2. Lacking some info on current household per capita due to outdated census info

3. Japan and Germany not applied inversely because experiencing negative growth in population growth

4. Estimated using regression

1. Brazil
2. China
3. South Korea
4. Saudi Arabia
5. India
6. Indonesia
7. Turkey
8. Malaysia
9. Egypt
10. Vietnam

10 Selected Markets to Inspect
Introduction and Thesis

Over the past 10 to 15 years the senior living industry has grown to become a $315 billion nationwide business. This has spurred the development of healthcare focused real estate investment trusts (REITs) and large-scale senior living operators (REOCs), thus, beginning to consolidate a fragmented industry. In contrast with other real estate sectors, the REITs and REOCs are aligned or partnered with each other due to the vital focus on operational capability. They are also partnered because growth in senior living requires acquisitions of existing senior living businesses. While the large-scale operators bring their managerial expertise, the REITs bring their access to capital with which to acquire smaller operators. Despite the strong levels of growth, in the last few years, healthcare real estate is seen as a sub-sector within the core real estate sectors. With healthcare trading at the highest price to net asset value (NAV) of any real estate sector (or sub-sector), many investors and real estate professionals are still catching on to the idea of senior living as a highly profitable real estate investment area. It is likely the heavy operational focus (and subsequent risk) deters more real estate firms from entering the space.

Going forward, senior living will find itself in transition as it is challenged by factors changing the face of healthcare nationally, including the following:

- Senior living facilities forced to shoulder more acute levels of medical service, as services which have traditionally been performed in hospitals are forced downward to the ambulatory level and currently sub-acute levels.
- An aging demographic, which as a block will be increasingly unable to complete various activities of daily living (ADLs); thereby increasing demand for senior living services
- Advances in technology, which could enable senior living facilities to lower costs overall in what is still a labor intensive industry

Senior living will also be characterized by further levels of consolidation, as scale continues to be a key determinant of lower cost. Instrumental to a smooth execution of consolidation will be healthy REIT-REOC partnerships, in which stakeholder interests are closely aligned. Where partnerships fail to meet this standard of close alignment, operators may seek to move into the REIT space by spinning off their operating assets from the real estate. Finally, growth opportunities will continue to arise for non-REIT, non-private equity firms, who seek to venture with operators hoping to retain their management roles, but who need access to equity capital to grow and compete at a larger scale. These joint teams of operators and non-REIT equity capital providers represent competition for REITs in the quest to gain further market share in the $300 billion plus (and growing) market.

This article will provide the reader with an overview of the senior living industry today, starting with basic terminology and definitions, the history of the industry, existing market conditions, then commentary about the way ahead. It will also investigate the profitability of the top three healthcare REITs – Health Care REIT (HCN), Ventas (VTR) and HCP Inc. (HCP). The focus will be primarily on revenues from senior living – which constitute the majority of revenues within the healthcare REITs. As part of the focus on relationships between REITs and partners, we will also look at Brookdale, the nation’s largest operator and view some of its challenges as well as advantages.

Healthcare REITs and their Operator Partnerships
Terminology and Definitions

The senior living industry is a complex one, necessitating an understanding of key terminology and definitions. What follows is a description of the different types of senior living and the levels of care each one provides. The term senior living refers to age-restricted communities that care for elderly persons. It also refers to both modern multi-level facilities (also known as Continuum Care Retirement Communities or CCRCs) and facilities which operate on a stand-alone basis. Senior living includes broadly – independent living, assisted living, memory care, and skilled nursing (which is also associated with post-acute rehabilitation).

The “continuum” of multiple levels, which constitute the CCRC concept, is connected to a concept known as aging in place. Aging in place enables the resident/patient to access additional facilities at the same location and provides a “continuum” of services. The advantage for new residents, who average in age from 80 to 85, is the ability to remain in one venue. If their physical condition declines, they can be moved to a separate facility within that same location and subsequently, receive a higher level of care. For instance, at the independent living level, the services are centered on hospitality, and less on acute healthcare treatment. As the resident moves down the multi-level stack, the services become increasingly medically intensive (as well as expensive).

Exhibit 1 shows a graphic taken from the National Investment Center for Seniors Housing & Care 2014 Investment Guide. This represents the varying degree of service and cost associate within each subsector of senior living.

Currently in the US, there are approximately 22,700 investment grade senior living and care properties containing 2.9 million units. Investment grade properties are considered those that are age restricted and have at least 25 units/beds and charge market rates for the housing and services offered. A recent trend in senior living is the rise in needs of residents in all four of the care segments; with a slightly stronger growth rate predicted for skilled nursing care.

Background and History

Appreciation of the background and history of senior living is key to understanding the industry today. This section will address the roots and past including negative

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1 National Investment Center for Seniors Housing & Care (NIC) 2014 Investment Guide 3rd Edition
2 The Case for Investing in Senior’s Housing and Long-term Care Properties with Updated Projections (National Investment Center for the Senior’s Housing and Care Industries) 2001, Chicago, IL.
connotations and subsequent regulation, reform by entrepreneurs and the rise of the large-scale operational firm, which also includes modern brand development. Senior living in its modern, multi-level form was produced out of the nursing home model, rooted in federal legislation. The nursing home model emerged out of the 1930s Social Security Act, 1960s Medicare/Medicaid legislation, and assisted living facilities, which in turn originated from boarding care facilities (services which were traditionally provided in small homes, caring for one or several seniors). The more traditional nursing home model was to lead to what is known today as skilled nursing (or sub-acute) care for patients, whose medical condition was not severe enough to qualify for acute, or hospital treatment. While it was necessary for nursing home residents’ medical conditions to be monitored by skilled nurses, in-house physicians were not required. John Pratt wrote in *Long-Term Care, Managing Across the Continuum, 3rd Edition, 2009,*

“Sub-acute care follows a serious illness in a hospital, when you still need antibiotics or physical therapy while recovering… Sub-acute care units are usually classified as skilled nursing facilities by Medicare for reasons of reimbursement…”

It should also be added that skilled nursing consisted of two types of services and patients:

Long-term sub-acute care patients which include wealthier individuals, whose admittance is based on private pay capabilities, and individuals who are funded by Medicaid; and

Short-term rehabilitation patients – usually transferred over from hospitals.

In most skilled nursing facilities the majority of beds are devoted to the former, and a smaller percentage devoted to the latter. The short-term rehabilitation beds are by far the most profitable, usually averaging over $700 per day per bed, while long-term beds average around $300. Generally, several funding sources contribute to the rehabilitative portion of skilled nursing: Medicare, which provides about 75% of full payment, and private pay covering the balance over periods which can last up to 100 days.

In contrast to skilled nursing, assisted living was, and is “a long-term care alternative for seniors who need more assistance than [is] available in a retirement community, but who do not require the heavy medical and nursing care provided in a nursing facility” (NCAL, 2001). The correct set of measures to determine whether an individual was in need of assisted living was deciding how many activities of daily living (ADLs) a potential resident was able to perform. ADLs included the ability to bathe, cook, eat, toilet, and transport. If an individual is unable to perform a majority of these skills they likely will need assisted living services. Of course, those admitted to long-term skilled nursing facilities had an even higher number of ADLs which they are unable to complete.

Eventually, the assisted-living industry underwent significant changes: enhanced type and number of services, branding, image, and scale. Assisted living also helped to produce a similar, but less expensive product – independent living. Beginning in the late 1990s, healthcare REITs capitalized on the robust revenue growth in these two products. Independent and assisted living in effect, became the backbone of modern senior living.

One characteristic of the multi-level model has been the different sources of revenue. “When nursing facility care is the most appropriate solution, the higher cost is justified and accepted. However, when the lower cost assisted living will suffice, it provides
considerable savings.” Thus, the full senior living model came into fruition due to the ability of purchasers to discriminate between levels of services for the purpose of saving. Of course, today at the assisted living level, the primary payer is the individual, and not the government.

During the late 1990s, and to a lesser extent today, both the nursing home and assisted living products were heavily fragmented and dominated by small operators. Perhaps because of this, the nursing home arm of the business was plagued during this time by a strongly negative reputation. John Pratt, author of Long-Term Care-Managing Across the Continuum-3rd Edition, wrote in 2010:

“While there has been organizational and personal abuse in the long-term care system, it is not nearly as rampant or as serious as such articles suggest. Also, nursing homes are fighting a societal perception. They have been seen by an entire generation as places where someone goes to die or places where family members can “get rid of” a burdensome relative. These negative images often translate into tougher regulations and/or opposition to funding of long-term care”.

In the years since 2000, senior living has achieved a better reputation. Part of the reason for this was the enactment of the 1987 Nursing Home Reform Act and the intense levels of regulation which it implemented in the skilled nursing/post-acute rehabilitation sector. In contrast, regulation applied directly to assisted living, has been less intrusive and has occurred at the state level only. However, passage of the 1987 Reform Act appears to have ushered in a greater spirit of reform within the overall industry. For assisted living, this spirit of reform has led to a robust level of self-policing. Additionally, the sector’s absence of regulatory oversight has enabled the sector to operate more profitably. “The relative lack of government funding has meant a paucity of regulations, making it easier to invest in assisted living than in other types of long-term care.”

During the early 2000s large-scale operators and their REIT partners found a majority of revenues stemmed from private payments or private insurance. Thus, the most successful entrepreneurs formulated strategies based on the private pay model, which stressed assisted and independent living. Typically, skilled nursing has lower profit margins due to government regulations, which require a more labor-intensive business model. Cognizant of the inherent value of the industry they had chosen, entrepreneurs continued to self-policing; maintaining standards of care overall and dissuading talk of increasing regulation levels.

Those responsible for the transformation of the assisted living model included these same entrepreneurs, mainly at the operational level. They executed reforms that proved to be the right level of change for the marketplace, and their work is largely responsible for the evolution of the industry over the last decade and a half.

The evolution of senior living has been buoyed further by macroeconomic projections about future aging populations and greater longevity; analysis which first came to fruition in the late 1990s. Assisted living, along with the follow on sectors of independent living and memory care, profited from favorable top-down market variables. As an aside, memory care is more closely connected with assisted living than with skilled nursing. That is, like assisted and independent living, it is much less burdened by the heavy regulations which
affect skilled nursing. Memory care provides benefits which address the growing problem of Alzheimer’s and dementia.

Beginning in the 2000s, senior living saw construction and development decline from the faster pace that occurred in the 1990s. More often what occurred were large-scale consolidations of an overall fragmented industry; bulk purchases of existing facilities operated by small operators. Large-scale operators, both public and private, such as Brookdale Senior Living, Brandywine Senior Living and Benchmark Senior Living employed economies of scale, which facilitated the consolidation process – a process that continues today.

Even before for-profit entrepreneurs were creating the modern form of senior living at the turn of the Millennium, Wall Street analysts observed the favorable demographics and decided to enter the industry, forecasting the profitability. Healthcare related REITs (such as HCN, VTS and HCP) either came into existence at this time or transitioned a large part of their investments into senior living. Over time healthcare REITs, through their access to institutional capital markets, were instrumental in the consolidation and acquisition of existing facilities, along with construction of new facilities.

However, due to rules in effect prior to 2007, REIT operational involvement was limited to contracting triple net (NNN) leases with the operating firms. This changed with the REIT Investment Diversification and Empowerment Act of 2007 (RIDEA), which enabled healthcare-related REITs to participate in revenues stemming from the operating companies. To maximize efficiencies, operators and REITs formed partnerships; the best of which were based on cultural fit and the alignment of interests (incentivized systems include investment waterfalls, along with a sharpened regional focus). Ultimately, this enabled the partnerships to fine-tune growth strategies, while providing operators with easier access institutional capital. However, one drawback of the 2007 Act’s effect was that capitalization rates associated with individual investments increased, due to greater levels of operational risk.

Despite the attraction of private pay occurring at such a high percentage, Wall Street began to encourage further diversification of the REITs even before the 2007 change. Today, the top three healthcare REITs are diversified beyond the private pay independent/assisted living model, and now include skilled nursing/sub-acute rehabilitation in their portfolios despite the lower margins.

As industry consolidation continued to escalate during the 2000s, large-scale operators such as Brookdale Senior Living focused on creating brands that encapsulated their operational theme: “purposeful living.” Similarly, another large-scale operator, Benchmark Senior Living, focused their brand image on “taking care of vulnerable, frail people” and keeping residents “engaged all day”. Brand positioning and development not only helped individual operators break out and gain market share, but also served to sustain the rise in industry reputation.

In executing their strategies, large-scale operators added additional services, including 24 hour on call nurses for assisted living; full-time resident engagement; and the utilization of technology to strengthen patient relationships with family members. They also revitalized customer service, focusing not only on the resident, but also on the oldest offspring, usually a daughter, who made the arrangements for placement in a senior living arrangement. This model increasingly fit with the rising demands of Baby Boomers, the demographic that most often represented the offspring of residents. The Baby Boomers have different expectations - not wishing to relegate their parents to an unseen status; rather wanting to

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12 Sarah Laffey, SVP, Benchmark Senior Living, Personal Notes of Lecture before Senior Living Course, Cornell University, November 20, 2014, slide 43
13 John Rios, Lecture to Senior Living Course, Cornell University, November 7, 2014
14 Sarah Laffey, SVP, Benchmark Senior Living, Personal Notes of Lecture before Senior Living Course, Cornell University, November 20, 2014, slides 45 and 48
maintain connections with them.\textsuperscript{15} From an acquisition or development standpoint this frequently meant considering whether a prospective locale for a facility was close to a major city, rendering simpler visitation for family members. For instance, senior living facilities (shown below in Exhibit 2) in or surrounding metropolitan New York City, include the luxurious Atria developments at Roslyn, Ossining (Atria on the Hudson) and West 86 in Manhattan.\textsuperscript{16}

The aging in place concept also became vitalized – based on the multi-level (CCRC) structure. The strongest operators attracted the attention of the most successful REITs. Effective partnerships were (and are) based on aligning mutual interests and near seamless operational execution. The quality of partnerships has only increased in importance as investments have moved down the multi-level structure ladder and operations are accentuated.

In addition, both operators and healthcare REITs are keenly aware that increasing sources of revenue in the industry arise from favorable baseline demographics: aging individuals who have accumulated a formidable net worth – often in the form of housing equity or retirement portfolios. The pivotal event is often the retirement of individuals who can afford to pay large sums of money (anywhere from $3,000 to $12,000 per month).

For example, Brandywine Senior Living, an operator which partners with HCN and other top REITs, focuses on buying and developing facilities along the densely populated Atlantic Seaboard, believing strongly in the advantage of regional focus.

Other positive variables are also present which favor the success of the industry. Like Benchmark Senior Living, Brandywine Senior Living is privately held, which provides for the execution of strategy without second guessing from public shareholders. Brandywine Senior Living thrives in environments that contain naturally high barriers to entry: obstinate planning commissions, complicated entitlements/regulations processes (including certificates of need) and land scarcity, the existence of which, ultimately, helps to minimize

\textsuperscript{15} Pratik Shah, Capital Markets Associate, Health Care REIT, Personal Notes of Lecture Before Senior Living Course, Cornell University, November 20, 2014, Slide 75

\textsuperscript{16} Bob Kramer Presentation Slides – 7 November 2014

\begin{figure}
\centering
\includegraphics[width=\textwidth]{Exhibit2.jpg}
\caption{Exhibit 2}
\end{figure}
competition. Still, other operators are exploring the use of affordable housing subsidies in some of these communities by developing units in the facility to attract residents in that demographic.17

Brandywine also understands their target demographic and develops or redevelops properties with luxury and service in mind. For them, additional amenities consist of developments along the lines of a five star hotel – butler service, underground parking and buildings with inner courtyards. They cater to affluent retirees and their children.18

The Senior Living Industry Today

Today’s challenges in senior living have been outlined below by Bob Kramer, President of National Investment Center for Senior Housing and Care:

- Faster than average revenue growth since 2006
- A strong, continued consolidation trend based on still high fragmentation levels of existing product
- Robust operational focus, in which REITs and operators are seamlessly partnered
- For public REITs, increasing levels of diversification, which renders investors less beholden to the private pay model, thereby putting pressure on profit margins
- Vigorous demand levels for enhanced products and multi-level services based on foreseeable demographics19

Today’s senior living sector can be segmented into four main categories:

- **Independent Living** – A relatively new product which is a substitute for multi-family residential and trades at higher cap rates to multi-family, but lower than assisted living (it is entirely private-pay funded).
- **Assisted Living** – Primarily private-pay and private insurance funded, with additional funding provided by Medicaid (Medicare provides no funding).
- **Memory Care** – The most expensive prototype, focusing on the increasingly visible Alzheimer patient target market. From a regulatory standpoint, this is more closely linked with assisted living than skilled nursing – although it requires additional training for staff beyond the training which assisted living staff usually receive.20
- **Skilled Nursing/Post-Acute Rehabilitative** – Growth has occurred within private pay for this portion of the industry since 2009.21 Growth in skilled nursing reflects greater medical care capabilities (and an increased deficiency of ADL capabilities), along with short-term status of government subsidization for the post-acute rehabilitative services. Medicare payments for skilled nursing are on a short-term basis, where the patient pays a partial deductible from Day 21 to Day 100.22 Of course, skilled nursing presents formidable risks for all but the best operators.23

17 James Robert Sellinger, Principal, Senior Living Development, Interview, March 19, 2015
18 Ken Segarsnick, SVP, Brandywine Senior Living, Lecture – Senior Living Course, Cornell University, November 20, 2014, Slides 55-60
19 Bob Kramer Presentation Slides – 7 November 2014
20 Robert G. Kramer, CEO, National Investment Center for Senior’s Housing and Care, Lecture to Senior Living Course, Cornell University, November 7, 2014 (Slide 40)
21 Robert G. Kramer, Phone Interview, February 3, 2015
22 Professor Robert Brooke Hollis, Executive Director, Program in Health Administration, Cornell University, Lecture before Senior Living Course, November 7, 2014
23 Sara Terry, SVP, Brookdale, Lecture before Senior Living Course, Cornell University, 7 November 2014
As mentioned previously, there has been a lower level of development of senior living since the year 2000, and some of today’s product has become obsolete. However, some geographic areas have built more product than others, which requires REITs and (especially) operators to carefully screen possible building locations for oversupply.\textsuperscript{24} For instance, Brandywine Senior Living conducts an extensive level of market research prior to pulling the trigger on any new developments. The sum result of this level of analysis should equate to an increased level of building for new, state-of-the-art facilities nationwide in the near future, however, the aftershocks of the Great Recession still remain a deterrent for many projects.

**Finances and Profitability**

Understanding today’s overall profitability of the sector is essential to gain an appreciation of healthcare REITs and their partnerships. For investigation purposes and to better understand the industry overall, we examine the three largest healthcare REITs: Health Care REIT (HCN), Ventas (VTR) and HCP, Inc. (HCP) as well as the largest operator, Brookdale Senior Living (BKD). Key metrics include beta, long-term returns, market capitalization, funds from operations, price earnings to growth (PEG) ratios, debt levels and net asset values (NAV).

**REIT Profitability**

As demonstrated in Exhibit 3 from the National Investment Center for Seniors Housing & Care 2014 Investment Guide, senior living has outperformed the other real estate sectors in each holding period analyzed. Part of the reason for this was lower volatility (usually reflected by beta). Senior living is the only property type that did not experience declining asking rents during the economic recession, reaching a cyclical low (a positive return) of 1.1% in the fourth quarter of 2010.\textsuperscript{25}

Weighing long-term returns, HCN has put together a ten year annualized return of 26%, VTR realized nearly 34% and HCP registered nearly 19%. In 2014 the returns were 49% for HCN, 31% for VTR and 28% for HCP. These high returns appear to be the result of pent up demand because the previous three years were relatively flat, therefore, much of the growth in the last ten years occurred from 2005 to 2010, and then again during 2014. This likely reflects the market rewarding the consistent occupancy levels which senior living was able to produce during the Great Recession (while other real estate occupancy types were more

\textsuperscript{24} Bob Kramer Presentation Slides – 7 November 2014, Slide 51

\textsuperscript{25} NIC 2014 Investment Guide 3rd Edition
volatile). While the senior living industry wasn’t immune to the financial troubles of this period, it seemed to weather them better than most.

Market capitalization not only reflects the overall market value of the stock but the interest that Wall Street forecasts in the operating formula. Currently, healthcare REIT interest by institutions is at an all-time high as reflected by the top three firms. For instance, HCN features a market cap of $23.3 billion for 12/31/2014, while Ventas (VTR) had a market cap of $21.4 billion for the same year. HCP showed a market cap of $20.2 billion.

Beyond market capitalization, REIT performance measurement includes funds from operations (FFO). FFO is particularly useful when computing a ratio related to fund price - that is, fund price divided by FFO. Another key measure is growth rate. Exhibit 4 combines FFO with growth rate to form the price-to-earnings-to-growth rate formula, also known as the PEG ratio. Despite HCN’s large size, it continues to demonstrate explosive growth in 2014, which could partly justify the large run in the stock - as well as the high market multiple of just under 20.

<table>
<thead>
<tr>
<th>REIT</th>
<th>2014 Growth Rate (FFO)</th>
<th>PEG</th>
<th>Multiple (P/FFO)</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCN</td>
<td>15.06</td>
<td>1.32</td>
<td>19.81</td>
</tr>
<tr>
<td>VTR</td>
<td>4.89</td>
<td>3.41</td>
<td>16.67</td>
</tr>
<tr>
<td>HCP</td>
<td>1.69</td>
<td>8.66</td>
<td>14.68</td>
</tr>
</tbody>
</table>

An often overlooked downside to healthcare REITs is the presence of interest rate volatility and the subsequent effect on REITs. Due to REIT rules, which require a dividend payout of 90% or more on retained earnings, finding working capital for new projects/investments can be difficult. REITs must access capital markets debt, which results in their sustaining higher levels of debt, and thus, lower credit ratings. When rates eventually rise, REIT valuation (which moves inversely) drops. Of course, today’s rates remain historically low. HCN’s debt ratings are BBB. While its debt/equity ratio is .96 and .85 for last two years reporting, VTR has a credit rating of BBB+, and has a higher debt/equity ratio of 1.18 and 1.05 respectively. The higher debt levels for VTR raise the question as to why their credit rating is also slightly higher. HCP has a credit rating of BBB+ from Fitch (as of February 2014), and reveals debt/equity ratios of .87 and .89 respectively.

Operators:

While long-term stock performance of individual REITs is the true measure of a company’s profitability, their performance is really only as good as that of the operators (both private and public) with whom they choose to partner (of course this looks...
dispositions of property in which REITs engage). First, there are the privately-held operators. The profitability of privately-held operators who partner with the REITs are tied to their skill at making investments in locations with naturally high barriers to entry, because they indicate the presence of near monopolies, if even just for a moment in time.29 Again, Brandywine Senior Living and Benchmark Senior Living (which has grown at 9% over the last five years), are good examples of excellent privately-held REIT partners.30 Both operators co-exist in the northeast – a difficult area to penetrate with new product development. Results of this focus can be seen in higher rent prices, occupancy levels, and what Brandywine Senior Living terms - (higher) price variance upon turnover (which helps to explain higher rent increases).31 Ultimately, these advantages equate to higher operating margins. Of course, their residents demand a better product; which in turn raises expenses for the operator.

The financials of the large-scale operator Brookdale Senior Living reveal a company that, as of year-end 2013 showed revenue of $2.9 billion (an increase of 4% over the previous year – which was in turn a 13% increase over 2011). For its bottom line, Brookdale Senior Living produced net losses for the three-year period of minus (-) $3.6 million, minus (-) $67 million and minus (-) $69 million respectively, the result of impairment charges, according to their annual report. However, there appears to be additional reasons for the losses, such as the aggressive consolidation schedule that they have undertaken – most recently their expensive 2011 acquisition of Emeritus, a key competitor.

It’s also important to remember that while senior living weathered the Great Recession better than other sectors, (operators in particular), the industry did not go unscathed. According to Beth Burnham Mace, Chief Economist at NIC, “the performance of many operators was affected by the Great Recession, which started in late 2007; it took until 2014 for jobs to fully recover. This slow recovery affected demand, occupancy and development practices and ultimately operators’ financial results which in some instances did well and in others, less so.”32

While operator occupancy levels are high (upwards of 90%), it should be noted the stock performance volatility as measured by its beta is 1.67; significantly higher than that of the REITs. Thus, it appears Brookdale Senior Living’s challenge now, after having been a pacesetter in the industry, is to comfortably integrate all of their acquisitions and accommodate cultural fit.

**Future Expectations**

Investigating the future of healthcare REITs and their operators requires first looking at an overall projection of the senior living industry from a demographic standpoint, then focusing on anticipated changes expected to occur in the future for this dynamic industry.

Over the next five years (2015-2020), the average annual growth rate of the 75-84 age group is projected to be 3.5%, while the 85+ age group is projected to have an average annual growth rate of 1.2%.33 The most significant period of growth for the 75+ age group is expected to occur from 2021 to 2039, when the baby boomers enter this age group (the last baby boomer will turn 75 in 2040, 85 in 2050 and 95 in 2060). The largest concentration of senior population growth in this decade is expected to take place in the nation’s western and southern states. Florida, Texas, Virginia, Maryland, North Carolina, South Carolina, and Tennessee are projected to account for 40% of the increase in population for those over

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29 Professor Crocker Liu, Cornell University, September 1, 2014, Lecture for Principles of Real Estate
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31 Ken Segarrick, SVP, Brandywine Senior Living, Lecture – Senior Living Course, Cornell University, November 20, 2014, Slides 55-60
32 Beth Burnham Mace, Chief Economist, NIC, quote, email, February 17, 2015
33 NIC 2014 Investment Guide 3rd Edition
65 over the next decade, with California, Arizona, Washington, Nevada, and Colorado expected to account for another 26%. 34

Increased life expectancy will continue to play a role in the senior living real estate sector as seniors are now living longer due to healthier lifestyles, breakthroughs in biotechnology, treatment capability, and better access to healthcare. In addition to aging demographics, these factors are leading to increased demand for senior living and the requirement for additional supply of facilities. As the population continues to age in the United States, the number of individuals with ADL deficiencies will also increase – providing increasingly higher demand for assisted living services, as well as skilled nursing.

Due to the paucity of development during the years 2008 - 2014, the senior living sector is poised to have a prolonged period of development, as supply catches up to expanding demand for senior housing. Development opportunities will not only be located in suburbia, but also increasingly in urban locations. This is partly due to the increasing wishes of offspring of the aged (largely Baby Boomers) to be in closer proximity to the senior facilities where they can both visit more often and also monitor the care their parents are receiving.

Despite a steady flow of mergers and acquisitions in recent years, the senior living industry remains highly-fragmented. The top 25 independent living operators in the US represent an estimated 24.5 percent of all units, and the top 25 assisted living operators in the US represent 37.7 percent. The top 25 skilled nursing operators in the US represent 22 percent of all units. 35 Senior living as a whole is 30 percent owned by non-REITs and REITs, while the remaining 70 percent of senior living properties are owned by “mom and pops” (defined as owners of 15 or fewer properties). 36 It should be noted that the non-REIT group also includes a large number of not-for-profit firms.

The fragmentation that currently exists in the senior living industry also presents significant opportunity for consolidation and re-capitalization among the existing smaller senior living operators; especially if they enter into joint ventures with capital providers who are willing to let them make the operational decisions. Many of these smaller operators also find it accretive to recapitalize their portfolios by selling off their assets, retaining the proceeds, and further growing their operating businesses. The value-add that senior living operators bring to the table is increasingly evident, as stated by Isaac Losh, VP of Acquisitions at Senior Star:

“It’s very difficult to start a management company from scratch on the operating side. Having context to understand what a good operator is from a poor one is critical to success. Operations drive the value of senior living assets. In general real estate, the mantra is ‘location, location, location.’ In senior living the value mantra is ‘operations, operations, operations,’ or maybe ‘operations, operations, location.’ Senior living real estate is an operations-centric business with a real estate component.”

Most indications are that the strong growth in the overall senior living industry will continue in both the near and long-terms overall. This strong growth in rent revenues and demand is largely based on the passing of the baton from the Greatest Generation (born prior to 1925) to the Silent Generation. The Greatest Generation as a whole was largely very independent and may have resisted the senior living format; especially at the upper layers of assisted and independent living. By contrast the Silent Generation (born between 1925 and 1945) will be reaching 85 (the prime age) through 2030.

Of course, it is the hope of both REITs and operators that the Silent Generation will be more open to senior living than their Greatest Generation cohorts. Currently, it is estimated that only 15% of people over the age of 80 who are qualified for senior living choose to contract for it, while 85% do not. 37 If, in the years ahead, higher percentages sign on, the

34 The US Senior Housing Opportunity: Investment Strategies
35 BGL Healthcare & Life Science’s Insider, April 2014
36 BGL Healthcare & Life Science’s Insider, April 2014
37 John Rijos, Lecture to Senior Living Course, Cornell University, November 7, 2014
senior living industry will be able to take even greater advantage of the Silent Generation’s robust savings rate – which should also be higher than the generation to follow: the Baby Boomers.

The Baby Boomers potentially represent a much larger market, and one that will require an even higher level of service offered by the facilities. But the inherent doubt about the Baby Boomers is their savings rate – will they have saved enough to afford the private pay scale that constitutes senior living? This question is underscored by the potential difficulty in selling their homes to provide a portion of the funds – will there be enough demand for single-family homes when this time arrives? The first of the Baby Boomers will reach their mid-80s in the early 2030s and the last some twenty years later.

One outcome of this dilemma is that the Baby Boomers will need to remain in the work force longer, in order to meet the requirements of retirement. This may mean that the average age to enter senior living facilities will also be pushed higher – to age 90 and above. This may result in a marginally slower growth rate for senior living. However, due to the longer life span the growth may be pushed out over a longer period of time. This is reinforced by the above 80, above 90 and above 100-year old demographic cohorts, which are growing at a very high pace.

Other risks to future operations and investments include the threat of greater government involvement and regulations, along with the changing landscape of healthcare overall. If Congress sees that the industry is not self-regulating effectively and numerous complaints occur, they will step in and draft regulations. According to Ken Segarnick, SVP of Brandywine Senior Living, this is the greatest threat facing the senior living industry.

Future competition for the senior living industry (as a market substitute) may arise from multi-generational housing, which, along with multi-family housing, presents direct competition for the independent living layer. Additionally, improving technologies (such as Tele-Health and biometric monitoring) may enable home-based assisted living to continue to compete with traditional senior living. However, those same technological advances may also bend the cost curve for CCRCs; enabling them to be more affordable. That said, it is possible the bundling of services (forcing consumers to become more selective and providers to be more competitive) will replace the current fee for service methodology. The long-term effect of this on senior living could lead to an even greater reliance on private pay (especially at the skilled nursing level) and the provision, including more acute services, will be pushed outward from hospitals to the skilled nursing and even assisted living levels. This will increase the focus on operational capabilities even more.

It is uncertain if more REITs and operators will enter the space, as healthcare increasingly becomes a core investment. The prediction for outstanding forecasted returns may be outweighed by the increasingly stringent operational focus of senior living, preventing many real estate firms from venturing into the space. What is more likely is that consolidation will transpire among operators in order to improve economies of scale further.

Expect to see continuation and perhaps further refinement of the REIT/REOC model. For the operator, this model appears to work better than the private equity model since the latter requires an exit strategy within 3-5 years. In contrast the REIT/Larger Operator model is a long-term proposition.

However, there is also the presence of a newer hybrid model, which represents a potential threat to the traditional REIT/REOC strategy. This is a predicated on the idea of joint partnerships, which operate at a middle market level (acquisitions under $100

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38 Robert G. Kramer, Phone Interview, February 3, 2015
39 Ken Segarnick, SVP, Brandywine Senior Living, Lecture – Senior Living Course, Cornell University, November 20, 2014, Slides 55-60
40 Ken Segarnick, SVP, Brandywine Senior Living, Lecture – Senior Living Course, Cornell University, November 20, 2014, Slides 55-60
41 Sarah Laffey, SVP, Benchmark Senior Living, Personal Notes of Lecture before Senior Living Course, Cornell University, November 20, 2014, slides 45 and 48
million), and are based on a going concern strategy, in which the operator (often a family owned business) retains managerial control after establishing a joint venture with an equity firm. The success of this blueprint is dependent on a smooth, long-term relationship between the operator and a joint equity firm. The latter is not looking for a quick exit, but instead relishes participation in the operational side of the business, while letting the operator retain managerial control. In contrast, if the operator in this case sold out to the large institutions or REITs, his managerial involvement would likely cease. The area of operations for this market is not a trivial amount of money, but potentially represents a large portion of the $300 billion senior living market.42

Other threats also exist to the REIT model. For instance, some of the operators may decide to spin off their real estate holdings from the operating businesses and go into the REIT business themselves. Already, there is talk about Brookdale attempting this strategy. Other possible trends to anticipate include the proliferation of closed end REITs – smaller REITs whose exit strategy includes being purchased outright by the larger REITs.43

A summary of key drivers of the senior living industry includes REITs continuing as active buyers of senior living portfolios, increased product acceptance, improving healthcare (and therefore, life expectancy), private pay continuing to maintain solid profit margins, a relative absence of building since the Millennium, and a still-fragmented industry (HCN’s investments constitute just 3% of the market). There are also overseas opportunities, which present a whole new layer of investment focus. Currently, the top three REITs have some investments in Great Britain.44 While the top three firms haven’t yet ventured into the continents of South America and Asia, they are clearly looking in that direction.

Finally, as technology continues to provide assistance in the areas of healthcare, there will be increasing amounts of forays in this direction, which will also facilitate the transition towards the bundling framework within the industry. In essence, as acute services are increasingly pushed downward from the older hospital centric model and towards ambulatory care, the senior living facilities will increasingly offer services which are of a higher level of acuity.

In conclusion, the senior living sector has proven to be a fast-growing, dynamic industry in which top-down demand oriented variables (including the aging demographic) have propelled healthcare REITs into some of the highest REIT market capitalization levels due to multiple acquisitions of smaller operators. Because of the required focus on operating capability, REITs have thrived in their partnerships with REOCs, as both have focused on aligning interests for mutual benefit. The stiff requirement for operational know-how will likely continue to dissuade many general real estate firms from entering the space. It is also likely that the largest, and most successful partnerships will gain increasing market share, but the threat the industry might move in other directions such as operators conducting spinoffs and exiting the partnerships, or other firms becoming jointly linked to the mid-size operators who wish to expand and compete is very significant. Also, as the national face of healthcare changes, senior living providers will also have to adapt to higher levels of acute services; but improvements in technology can provide benefits to help offset this challenge.
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The Troubled Tower

By: Jason L. Spencer
The groundbreaking ceremony for a landmark building is always a noteworthy event, complete with local dignitaries and gold-painted shovels. But what happens when market fundamentals suddenly change and a project cannot be completed as designed? This case chronicles the turbulent development of South River Tower in order to answer this question while exposing the reader to the challenges and opportunities presented by distressed real estate projects.

This case is a detailed examination of how a failed development can be repositioned to meet key market, financial, and physical restraints. The advantages and challenges that joint ventures entail are also discussed, especially when it comes to forming one with a diverse group of partners whose interests may be misaligned.

Ultimately, Richard Roark of Port City must determine the appropriate usage for the partially-finished South River Tower and a joint venture structure that meets each of the stakeholders’ investment objectives. In addition, Roark must also decide whether it is even feasible to resume construction on the tower.

This case study incorporates the following real-estate themes and issues:

- Residential/Office Development
- Use Selection
- Distressed Assets
- Design and Constructability Issues
- Deal Structuring
- Financial Analysis
Buildings are constructed for certain purposes, and the buildings of today are more practical, from the standpoint of the man who is in them than the older buildings. [...] We are considering effort and convenience much more than appearance or effect.

-Raymond Hood, architect of Rockefeller Center

Roark looked across the river at the shell of the unfinished building on an unusually cold April morning in Metropolis. The building, originally designed to be the signature property of an elite hotel company, sat partially finished on the south bank of the Metropolis River.

As Roark looked at the building, questions raced through his mind: Was the unfinished building an opportunity or just a waiting nightmare? If his company purchased the building, how should it be completed and as what?

South River Tower

Clark Street Development Group (CSDG) came up with the idea for South River Tower in 2005, just as new construction starts in Metropolis, and across the country, reached record highs. CSDG had a track record of developing office buildings throughout the region, but was looking to get into hospitality and mixed-use development sectors. As such, the company sought to build a tower that would have approximately two hundred luxury hotel rooms on the lower levels and two hundred luxury condos on the upper floors.

The building site was located along the Metropolis River, one block from a busy subway station, five blocks from a premier retail street, and six blocks from a large public park. CSDG wanted to design a building that would redefine the Metropolis skyline.

CSDG hired Hancock Tooth Architects to be the lead architect on the project. Since South River Tower was going to be such a departure from the company’s previous projects, CSDG wanted to work with an architect that it had previously worked with. Like CSDG, Hancock Tooth had extensive experience designing office buildings throughout the region, but had designed only a few hospitality projects. To reduce the project’s upfront costs, CSDG offered Hancock Tooth a 2% equity share and the ability to have full aesthetic design control of the building instead of the traditional 7% design fee.

Hancock Tooth was enticed by this unusual opportunity and designed a trophy-worthy, 1.6M square foot (SF); 95-story building that had an intricate glass and stone facade. High-end finishes were specified throughout the building.

The first two levels of the building were designed to have great street visibility and would be occupied by high-end retail stores. Levels three through twenty-five would be parking, and levels twenty-six through ninety-five would house the hotel/residential tower. Levels twenty-six and twenty-seven would house the hotel’s amenity spaces. Levels twenty-eight and fifty-nine housed mechanical equipment that was needed to service the rest of the hotel tower (Exhibit 1).

Hancock Tooth, in conjunction with the structural engineer, sought to save costs by using an efficient reinforced concrete structural system, in which the columns would be spaced at 20’-0” on center in both directions (Exhibit 4). This relatively small spacing would allow the columns to be placed inside the demising walls between units. Twenty-inch
thick concrete core walls would surround the elevator and stair shafts and resist the forces imposed by the strong Metropolis winds.

CSDG hired Jackson Lee Construction as the general contractor. Like Hancock Tooth, CSDG got Jackson Lee involved in the project early, during the schematic design phase. Throughout the design process, CSDG continued to have Jackson Lee review the progress drawings to better understand the project’s costs and to identify possible value engineering opportunities. Despite following this approach, the total costs, per square foot, for the project were $275 for the retail levels, $200 for the parking levels, and $375 for the hotel/residential levels. Using these numbers, Jackson Lee estimated that the project’s total hard costs would be $515M and construction would last twenty-seven months once ground was broken.

Construction Stops

CSDG wanted to start construction on South River Tower as soon as possible. To accomplish this, the company funded the excavation and foundation costs using $30M of its own equity and took out a $40M one-year bridge loan from Bank A. CSDG anticipated that these funds would finance the first year of construction. Meanwhile, the company would look for a permanent construction loan to finance the remaining construction costs.

In the spring of 2007, when site excavation began, tower cranes were everywhere in Metropolis and it looked like South River Tower would be a great success. By the fall of 2007, foundation construction was complete and the building was beginning to go vertical. Building activity in the city was still strong, but lenders were getting nervous about all of the new supply coming on line and started to raise lending rates, especially for new construction loans. At this point, the original $60M that had been invested in the project had almost been exhausted and CSDG still had not secured a permanent construction loan. The company had talked to several lenders, but the higher rates and lower loan-to-value ratios that were being offered significantly decreased the project’s anticipated return. CSDG believed that the market would improve shortly and invested an additional $10M of equity into the project while it kept looking for more favorable lending terms.

Construction crews built about one story per week and by the fall of 2008 the building was twenty-one stories tall. While the building was going up rapidly, the economy was shrinking and the demand for luxury hotel rooms and residential units was shrinking exponentially. By this point, CSDG had already invested $30M into the project and the bridge loan had been completely exhausted and was coming due in less than six weeks. Construction loan terms had not improved and several of the loan offers made earlier in the year had been rescinded.

By early October, Jackson Lee was not getting paid on time. A year earlier, when new construction projects were plentiful, the contractor would have abandoned the project, but by this point, there was not another project to go to. As such, Jackson Lee agreed to continue building with the hope that the economy would improve and CSDG would be able to get a construction loan.

By January of 2009, it became apparent that CSDG would not be able to get a construction loan. The building was twenty-five stories tall, but Jackson Lee had not been paid since early October and was owed approximately $15M. The pace of construction declined dramatically and several sub-contractors walked off of the project due to lack of payment. Bank A was also demanding repayment of the one year bridge loan the bank had made to get construction started and was threatening to file suit against CSDG.

In February of 2009, CSDG suspended construction; however, it was more of a formality as little progress had been made since the first of the year. As soon as construction stopped, the tower crane came down and the building was abandoned, fully exposed to the
elements. The general contractor and several sub-contractors filed mechanics liens against the building. Bank A also filed suit against CSDG for its failure to repay the bridge loan.

**New Ownership**

After construction stopped, CSDG looked everywhere for additional sources of financing, but the national economy was in terrible shape and no one was willing to take a risk on the project. Desperate and out of options, CSDG agreed to turn the project over to the contractors and lender in February of 2009 to resolve the unpaid bridge loan and mechanics liens that had been filed against the building.1

Bank A and Jackson Lee did not know what to do with the building; the national economy was extremely weak and the hotel company that the building was originally designed for backed out of the project. Bank A did not want to be in the development business and was unwilling to put any more money into the project. Jackson Lee was looking for work, but like Bank A, did not have any development experience or the financial resources to restart the project. After a few months, it became apparent that Bank A and Jackson Lee would have to find an experienced developer to partner up with and finish the building or sell the site as is. The uneasy ownership group began making calls to gauge potential interest in both options.

Port City was initially contacted about the project in the summer of 2009, but was apprehensive about getting involved in the project. The national and local economies had stabilized, but vacancies were elevated all across Metropolis while rents were significantly lower than what they had been in 2007. Due to its good location, Port City was interested in acquiring the site outright, but Bank A and Jackson Lee rejected the company’s offer and instead proposed forming a joint venture to finish the building. Port City did not have an existing relationship with Bank A nor Jackson Lee and was nervous about undertaking such a risky project with an unfamiliar team. In the end Roark and Port City decided that finishing South River Tower was too risky.

The building sat abandoned for two more years – a symbol of the 2008 financial meltdown. The concrete shell had become an eyesore and the city was eager to see the project completed or demolished. Fearing a city takeover of the project, Bank A and Jackson Lee were motivated to get whatever value they could out of the unfinished building. Once again, they contacted Roark and Port City in regards to the project.

**Port City**

Port City is a large developer that is focused on developing new office and multi-family properties in the United States. The company started in New York City in the late 1960s and grew into one of the largest privately held real estate companies in the United States. The company now has offices in several U.S. cities including Metropolis, Chicago, and New York.

Unlike other multi-city real estate companies, the different offices have limited interaction and, in some ways, operate like separate franchises. Each office finds and manages its projects. 20% of each office’s yearly profits are set aside to pay for company-wide expenses and to fund corporate growth initiatives.

In late 2008, Port City created an $800M opportunistic fund that was focused on acquiring distressed assets. The mission of the fund was to identify distressed residential projects in core markets that had stopped or been significantly scaled back due to the

---

1 The ownership percentage of Bank A and Jackson Lee was divided based upon how much money each party was owed. As such, 74% of the property reverted to Bank A, while the remaining 26% reverted to Jackson Lee.
recession. If these project presented an opportunity, the fund’s managers would consider
investing anywhere between $25M and $75M in them in an effort to finish and stabilize
them as soon as possible. When Bank A and Jackson Lee contacted Port City again in 2011,
Roark thought about South River Tower’s superior location and started to think that this
might be a perfect recovery fund investment opportunity.

Market Analysis

Soon after beginning an in-depth analysis of the project, Port City concluded that there
was not sufficient demand in Metropolis to support a 95-story luxury hotel/residential
building.

Spurred by recent laws passed by the city and state governments, the business
environment had become friendlier in Metropolis and a few large corporations had recently
relocated their headquarters to the city. As such, the office market had rebounded slightly,
but there was still more than 1 million square feet of vacant space in the CBD. Class A rents
in the immediate neighborhood of South River Tower were around $25/SF with $50/SF of
tenant improvements and six months of free rent.

Roark anticipated that, if the building was completed as an office building, it would
take twenty-six months to complete construction. At project completion, Roark thought
that the building would be at least 65% preleased and that the remainder of the space
would be absorbed at 8% per year.

While the office market was relatively stagnant, the multi-family market was showing
modest gains. During the 1990s, several multi-family buildings were built just north of the
Metropolis River. These buildings were typically 30-40 stories in height and offered studio
(approximately 550 SF), 1-bedroom (800 SF), and 2-bedroom apartments (1,100 SF); and
rented for around $2.00 per SF per month. These buildings typically had modest amenities
that included a fitness center, indoor pool, party room, and a sun deck.

Prior to the recession, most of these buildings’ residents were younger, transient
millennials who would live downtown for a year or two before moving to one of
Metropolis’s northern neighborhoods. As such, the market demand was much higher for
smaller buildings in the area 1 – 2 miles north of downtown than it was for the immediate
downtown area. Empty nesters were also beginning to move back into the CBD. However,
architects and developers often struggled to design a building that would appeal to both
millennials and empty nesters.

Roark thought that if he redesigned the building to have larger units and more luxurious
amenities that he would be able to attract a diverse group of residents, achieve a higher
level of occupancy and garner higher rents relative to the nearby residential buildings.

If the building were completed primarily as a for rent multi-family residential building,
he thought that it would take twenty months to complete and that 70% of the apartments
would be preleased prior to opening. After completing construction, Roark anticipated
that it would take two years to get the building stabilized at an occupancy level of 95%.
The rental market for luxury units in Metropolis had improved significantly and Roark
anticipated that he would be able to rent the units for a minimum of $1700/month (Exhibit 3).

Design Concerns

The original 95-story structure was designed to be extremely robust; however, the floor
plates and column layout were designed to accommodate usage as a hotel. Changing the
building’s usage would require reconfiguring the floor plates and column layout.
Finishing the project as an office would require eliminating all of the interior columns and the building’s interior core would have to be enlarged to accommodate additional elevators that would be required to service the increased occupant load. The capacity of the existing foundations would also have to be carefully examined. The initial design assumed that levels twenty-six through ninety-five would be eight inches thick and support a live load of 40 pounds per square foot (PSF). In order to eliminate the interior columns and support the required office live load of 90 PSF, the floor slabs would have to be thickened to eleven inches (Exhibit 5).

A preliminary structural engineering analysis indicated that the existing foundations could support a 45-story office building or a 60-story apartment building without the need for reinforcing the existing foundations. The existing foundations could be reinforced, but doing so would significantly increase construction costs.2

The existing structure’s condition was not completely known. From afar, the structure looked sound, but nothing had been done to weatherize the structure when it was abandoned in the winter of 2009. A closer inspection of the structure revealed that some of the concrete’s steel reinforcing bars were corroded and concrete was spalling off in localized areas (Exhibit 7). Further analysis would have to be undertaken to determine the extent of the damage and if the structure could be reused. This condition assessment would be estimated to cost at least $50,000.3

If Roark redesigned the building, should he retain Hancock Tooth as the architect or hire a new one? Going forward, Roark did not want the architect to have any equity participation in the deal, but he was not sure that Hancock Tooth would agree to this arrangement. If a different architectural team redesigned the project, would the two phases of the redesigned building look coherent or would it look like two completely different buildings stacked on top of one another?

**Potential Deal**

As Roark and Port City neared a decision as to whether or not to buy in to the project, old concerns rose again. In most distressed projects, the bank would have sold its interest to a different entity; however, Bank A wanted to remain in the deal and attempt to recoup some of its losses. Jackson Lee also wanted to recoup some of its losses and saw the project as a potential source of employment in a weak market.

Roark was still concerned about the about the complicated structure of the proposed joint venture. Roark was also concerned, that Jackson Lee would try to make an exorbitant profit on the project. If Roark were to enter into a joint venture with Bank A and Jackson Lee, specific rules would have to be developed to detail each party’s role and participation (Exhibit 8).

Securing financing for the project would also be extremely difficult: Port City would contribute a maximum of $75M into the project from the recovery fund, but it was going to take substantially more money to complete the building. Unfortunately, other potential sources of additional financing were limited. The commercial mortgage-backed securities market was pretty much non-existent. Commercial banks were willing to make floating rate construction loans, but were hesitant to make loans that exceeded a 70% loan-to-value ratio and were demanding interest rates 750 basis points above the LIBOR rate floored at 1%.4

Roark approached Bank A about taking a larger equity position in the project or loaning

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2 Each additional office floor above the 45th floor would require would require $900,000 in additional construction costs to strengthen the existing foundation system and building structure.

3 In the retail space, $75/SF would be required to repair the corrosion damage. $50/SF would be required to repair the corrosion damage done to the parking garage.

4 The 1-yr LIBOR rate in the summer of 2011 was 0.72%.
money at favorable rates to Port City. Unfortunately, Bank A’s directors were hesitant to contribute any more money. Roark considered asking Port City’s board of directors for permission to invest more than $75M from the recovery fund to finance the project, but he was not sure that he would get approval to do so.

**Deal or No Deal**

As Roark looked across the river, he knew that the abandoned tower presented a unique opportunity, if he could just find the right use for the site, make the numbers work, and navigate a complicated joint venture agreement with Bank A and Jackson Lee.

*The preceding narrative is not intended to be representative of any one project but is derived from several projects that ran into financial trouble during the 2008 financial crisis.*

Exhibit 1

Original Stacking Plan

<table>
<thead>
<tr>
<th>Hotel/Residential</th>
<th>70 Floors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parking</td>
<td>23 Floors</td>
</tr>
<tr>
<td>Retail</td>
<td>2 Floors</td>
</tr>
</tbody>
</table>

Ground Level
Exhibit 2
Initial Construction Costs

Exhibit 3
Potential Building Revenues as a 95-story Residential Building

<table>
<thead>
<tr>
<th>Top Floor</th>
<th>Bottom Floor</th>
<th>Units/Floor</th>
<th>Total Units</th>
<th>Size/Apt</th>
<th>Rent/Apt/Month</th>
<th>Total Rent ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>95</td>
<td>90</td>
<td>4</td>
<td>20</td>
<td>4000</td>
<td>$12,000</td>
<td>$240,000</td>
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<tr>
<td>89</td>
<td>85</td>
<td>4</td>
<td>16</td>
<td>4000</td>
<td>$10,000</td>
<td>$160,000</td>
</tr>
<tr>
<td>84</td>
<td>80</td>
<td>6</td>
<td>24</td>
<td>2667</td>
<td>$8,000</td>
<td>$192,000</td>
</tr>
<tr>
<td>79</td>
<td>75</td>
<td>6</td>
<td>24</td>
<td>2667</td>
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<td>$156,000</td>
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<td>70</td>
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<td>32</td>
<td>2000</td>
<td>$5,500</td>
<td>$176,000</td>
</tr>
<tr>
<td>69</td>
<td>65</td>
<td>8</td>
<td>32</td>
<td>2000</td>
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<td>$144,000</td>
</tr>
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<td>59</td>
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<td>8</td>
<td>32</td>
<td>2000</td>
<td>$4,000</td>
<td>$128,000</td>
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<td>10</td>
<td>40</td>
<td>1600</td>
<td>$3,500</td>
<td>$140,000</td>
</tr>
<tr>
<td>49</td>
<td>45</td>
<td>10</td>
<td>40</td>
<td>1600</td>
<td>$3,000</td>
<td>$120,000</td>
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<td>10</td>
<td>40</td>
<td>1600</td>
<td>$2,500</td>
<td>$100,000</td>
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<tr>
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<td>35</td>
<td>14</td>
<td>56</td>
<td>1143</td>
<td>$2,000</td>
<td>$112,000</td>
</tr>
<tr>
<td>34</td>
<td>30</td>
<td>14</td>
<td>56</td>
<td>1143</td>
<td>$1,850</td>
<td>$103,600</td>
</tr>
<tr>
<td>29</td>
<td>25</td>
<td>14</td>
<td>56</td>
<td>1143</td>
<td>$1,700</td>
<td>$95,200</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>320</strong></td>
<td><strong>500</strong></td>
<td><strong>1,580,000</strong></td>
<td><strong>$798,800</strong></td>
<td></td>
<td><strong>$2,026,800</strong></td>
</tr>
</tbody>
</table>

Parking Revenue

<table>
<thead>
<tr>
<th>Top Floor</th>
<th>Bottom Floor</th>
<th>Spots/Floor</th>
<th>Total Spots</th>
<th>Size Spot (SF)</th>
<th>Rent/Space/Month</th>
<th>Total Rent ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>24</td>
<td>3</td>
<td>77</td>
<td>1617</td>
<td>180</td>
<td>$200.00</td>
<td>$323,400.00</td>
</tr>
</tbody>
</table>

General Vacancy (%) 15%
Effective Parking Rent ($) $274,890.00

Retail Revenue

<table>
<thead>
<tr>
<th>Top Floor</th>
<th>Bottom Floor</th>
<th>Size (SF)</th>
<th>Total Space (SF)</th>
<th>Rent/SF/Year</th>
<th>Rent/SF/Month</th>
<th>Total Rent ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>0</td>
<td>20000</td>
<td>40000</td>
<td>$250.00</td>
<td>$20.83</td>
<td>$833,333.33</td>
</tr>
</tbody>
</table>

General Vacancy (%) 5%
Effective Retail Rent ($) $791,666.67

Total Effective Monthly Rent ($) $3,093,356.67
Total Effective Yearly Rent ($) $37,120,280.00

Notes:
1. As a 95-story building, every sixth floor would be required to house amenity or mechanical spaces.
2. Market research indicates that the same total residential revenue could be generated by building a shorter tower with fewer units and some of the amenity/mechanical space relocated to the parking levels.

Exhibit 4
Original Column Layout

Source: turnerconstruction.com
Exhibit 5
Revised Column Layout to Accommodate an Office Use

Exhibit 6
Turner Construction Building Cost Index for the First Quarter of 2012

Turner Building Cost Index

“The economy in the United States has shown signs of slow growth over the past six months. However, the construction market has remained relatively flat as an increase in private sector activity is offset by lower levels of activity in the public sector. Market competition continues to restrain the overall impact of slowly increasing material and labor costs.”

Karl F. Almstead
Vice President
Exhibit 7
An example of the concrete deterioration that was typical on site.

Exhibit 8
Proposed Joint Venture Participation

Proposed Joint Venture Participation

- Bank A: 14%
- Jackson Lee: 7%
- Port City: 79%

Source: http://en.wikipedia.org/wiki/Concrete_degradation
The Cornell/SelectLeaders Job Barometer found that 2014 was the “best of times” for commercial real estate hiring, in sharp contrast to the five year malaise following the global financial crisis. The Job Barometer, a joint research effort between Cornell University’s Baker Program in Real Estate and the SelectLeaders Real Estate Job Network, has tracked job opportunities and career trends in commercial real estate since 2006. The 2014 highlights of the Job Barometer included:

- The number of real estate opportunities increased in 2014 by 23.2% over the 2013 total
- 2014 was the first year in which the number of job openings surpassed those available in 2007
- Retail and multifamily opportunities were the most prevalent for the fourth consecutive year, yet their relative strength was diluted as other areas of the industry began to catch up
- Single-family housing continued its charge back into the hiring picture with a 53% increase in job postings over 2013, registering its third straight year of growth in opportunities for job seekers
- Property management and development/project management opportunities were the two most prevalent job function categories in 2014
- Openings for financial analysts and acquisition/disposition professionals declined during 2014

![Figure 1](image)

Job opportunities continued their positive trend, surpassing 2007 levels for the first time in the history of the Job Barometer.

![Figure 2](image)

**Which Functions are in Demand?**

Property management was again most prevalent among opportunities, though development roles recorded an increase over the prior year, while financial analysis declined from 2013.

![Figure 3](image)

**Which Sectors are Hiring?**

Retail remained the most active sector for hiring, though it was down from 2013. Single family roles grew while office and multi-family showed declines.
The Job Barometer also expanded its focus for the year to uncover insights about applicant interest, and the skills highlighted by applicants and desired by employers. The following insights were gained by analyzing aggregate data for thousands of resumes, job postings, and applications on the SelectLeaders Real Estate Job Network:

- Asset and portfolio management positions were competitive because applications overshadowed availability
- Property management and development/project management opportunities were much easier for candidates because opportunities were more prevalent than candidate interest
- Office and multifamily positions received more than their fair share of interest from applicants, meaning that these sectors were particularly competitive
- Retail and single family openings were much less competitive; despite their strong ranking in opportunities, they received less relative interest from applicants
- Job seekers may want to consider highlighting teamwork and communication skills during their application and interview process, as they were commonly requested by employers in job openings
- Experience in financial modeling, finance, and accounting were also commonly sought. This seems to indicate that employers are looking for well-rounded candidates; those who have financial acumen and solid communication and teamwork skills

Job postings commonly referenced both soft skills and specific technical skills. Candidates may want to consider highlighting their qualifications in both areas when applying for openings.

Mismatch in applicant interest and employer need. Candidates are more likely to have success in property management and development.
Successfully leveraging social media is now an essential part of any commercial real estate job seeker’s strategy. A recent study conducted by Reppler1, a social media consultancy, found that 91% of employers are now using social media to screen prospective applicants. Cornell University’s Baker Program in Real Estate and SelectLeaders have closely monitored changing trends in the real estate search space. Marc Torrey, Director of Global Sales at SelectLeaders, states that, “Where we see social media playing the biggest role in recruiting is on the screening end of the process. If I were looking for a job today I would assume that a recruiter was going to do a search and check on my online presence, what I consider to be someone’s online personal brand. Taking the time to make sure that your online personal brand conveys who you are and represents your best self should be a vital step in any job seeker’s process.”2

The resume may still be the single most important piece of an applicant’s arsenal in the recruiting process, but social media is beginning to render resumes obsolete. Phil Greenberg, Associate Director of Real Estate Career Services at Cornell University’s School of Hotel Administration, observes, “Now, there are dedicated boards such as SelectLeaders, which are very industry specific. The number of job postings and boards has proliferated extensively, and the ability to connect with people who have commonalities has similarly increased.”3 David Pollard of Monster.com states, “The next batch of workers to enter the workforce will shine on social media. Ultimately, it’s where they’ll pick up a tip for their next job. And so, talent management has to revamp its thinking toward one in which the resume is a piece (albeit an important one) of the puzzle.”4

Torrey maintains that the best way to hire someone in real estate still remains via a referral. He notes how LinkedIn brings the old fashioned rolodex of contacts online into a social forum, which is immensely powerful in finding commonalities. Because one’s information is accessible to anyone, the onus is even greater on the job seeker to actively manage his or her online brand. “Many of the larger organizations we work with are attempting to leverage social media such as LinkedIn and Facebook in a corporate branding way,” states Torrey. Still, Torrey believes that, as a whole, the real estate industry is just scratching the surface on what the capabilities are with social media and recruiting. While traditional methods of recruiting have focused on job postings and job boards, social media is radically changing the recruiting process, and a job seeker is increasingly advised to leverage such media to find commonalities in their own search.

2 (Torrey, Marc. Personal Interview. 12 Apr 2015).
3 (Greenberg, Phil. Personal Interview. 27 Mar 2015)
4 “Social media hasn’t disrupted the resume, but it’s certainly changed the concept of one.” Monster.com. 25 Mar. 2015. Web: 29 Apr. 2015.

Online social networks are increasingly displacing job boards as the second most popular source for job leads, behind personal connections. This demonstrates the effectiveness of social media in today’s job search.
CALL FOR PAPERS

The REVIEW was founded as a journal for students, faculty, and practitioners in real estate. Its purpose is to focus attention on issues in the industry.

The REVIEW aims to provide a conduit for scholars, professional practitioners and student to express ideas, concepts and research findings from all fields related to the real estate profession.

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Case Competition Highlights

Graduate real estate education has embraced the concept of Case Competitions as a way to apply education-based learning to real world project simulation. In this issue of the Review, we continue to recognize a composite of previous winners of the three major real estate-focused case competitions. Each case competition draws students from programs in real estate, architecture, landscape architecture, finance, and urban planning. These pages aim to highlight the ongoing success of these contests, the teams, and the organizations involved in each competition.

The University of Texas—Austin McCombs School of Business Real Estate Challenge welcomes teams of real estate and business graduate students to propose an investment thesis from the perspective of an investment fund. Graduate student teams from top business schools compete for the highest honors and cash awards in an invitation-only real estate case competition. Each invited school may enter one team of up to six currently enrolled graduate students. Each team receives the case by email just days prior to the competition event, and must prepare a 20-minute presentation on the case. The competition takes place at The University of Texas at Austin. It is judged by accredited real estate professionals from nationally recognized companies. The case is custom-written for the competition and is provided by a leading global real estate investment institution.

2014 Challenge Winners
1st Place: Columbia University
2nd Place: University of Southern California
3rd Place: Cornell University
4th Place: University of North Carolina-Chapel Hill

2013 Challenge Winners
1st Place: University of Southern California
2nd Place: University of Pennsylvania
3rd Place: University of Texas
4th Place: Cornell University

2012 Challenge Winners
1st Place: Columbia Business School
2nd Place: University of Pennsylvania
3rd Place: University of North Carolina
4th Place: University of Texas at Austin

Gerald D. Hines, Founder and Chairman of Hines, admires students' work at the Hines ULI Competition. Photo: Jon Reis
The CASE is an annual real estate competition that provides current graduate student teams an opportunity to compete, showcase their knowledge, and learn from each other through the analysis of a complex real world development site. The CASE is organized and hosted by the Alumni Association of the MIT Center for Real Estate (AACRE).

Unlike other competitions, The Case focuses on real estate acquisition and development underwriting at the asset level. The competition mimics the professional circumstances and assignments that students of real estate finance, construction, planning, and design will encounter in the formal development industry after graduation.

The ULI Gerald D. Hines Student Urban Design Competition—now in its 13th year—offers graduate students the opportunity to form their own multidisciplinary teams and engage in a challenging exercise in responsible land use.

Student teams comprising at least three disciplines will have two weeks to devise a comprehensive design and development program for a real, large-scale site full of challenges and opportunities. Submissions will consist of boards that include drawings, site plans, tables, and market-feasible financial data. Each year the competition focuses on an urban site in a major metropolitan area.

**2015 CASE Winners**
1st Place: Cornell University
2nd Place: Massachusetts Institute of Technology
3rd Place: New York University

**2014 CASE Winners**
1st Place: Georgetown University
2nd Place: Harvard University
3rd Place: Columbia University

**2013 CASE Winners**
1st Place: Cornell University
2nd Place: Massachusetts Institute of Technology
3rd Place: Georgetown University

**2012 CASE Winners**
1st Place: York University
2nd Place: Columbia University
3rd Place: Dartmouth College

**2015 ULI Hines Winners—New Orleans**
1st Place: University of Maryland

**2014 ULI Hines Winners—Nashville**
1st Place: University of Maryland

**2013 ULI Hines Winners—Minneapolis**
1st Place: Kansas State University/University of Missouri/University of Kansas

Cornell University's team won the The Case 2015 held on MIT's campus in Cambridge, MA. Pictured above from left to right: Jason Henderson (Baker '16), Dan Gualtieri (Baker '15), Stephen Porter (Baker '15) and Martin Moser (Baker '16)