

## Center for Real Estate

MIT founded the Center for Real Estate (CRE) in 1983 to improve the quality of the built environment and to promote a more informed professional practice in the global real estate industry. We are home to the first-ever one-year master of science in real estate development (MSRED) degree, as well as an integrated suite of professional development courses. Our pioneering research investigates the real estate process from initial concept to market reality, providing breakthrough knowledge that helps organizations capitalize on today's dynamic markets and technologies. Uniting industry leaders with MIT's distinguished researchers and students, our selective industry partnership program advances the art and science of international real estate and bridges the gap between theory and practice.

### Vision

The structures built by the real estate industry represent more than a third of the world's tangible wealth and are responsible for more than a third of the world's energy consumption and CO<sub>2</sub> emissions. If the industry is to maintain its responsible leadership in the global community, it must encourage a culture of sustainability and innovation that meets the challenges of an increasingly interconnected world.

MIT is uniquely positioned to help the industry increase its efficiency, prosperity, and social responsibility. Through research and education initiatives at the Center for Real Estate, MIT's tradition of excellence in technology, knowledge transfer, and global reach is applied to the real estate industry, developing innovations to help practitioners build responsibly and profitably.

Our goal is to educate the next generations of industry leaders, preparing them with tools to develop better real estate worldwide. In keeping with the MIT tradition, we bring to industry the very best offered by practical experience coupled with the interdisciplinary studies of design, science, and engineering. We offer:

- A specialized, globally recognized, one-year MSRED program that emphasizes the creation, operation, and management of the physical product of real estate
- A unique, interdisciplinary research platform that links academia with industry to meet the need for more informed decision making based on practical knowledge
- A network of global outreach that links the real estate industry with Center graduates and MIT to develop and support the industry's long-term growth

### Strategic Goals and Objectives

The Center had three key strategic thrusts for FY2008: enhancing its educational programs, building an effective industry-supported research program, and continuing its pursuit of financial sustainability and stability.

## **Enhanced Educational Programs**

The Center is continuously working to enhance its core MSRED program and its professional development and executive education offerings. It is focusing more clearly on the real estate development process and in bringing the rigors of science to the real estate industry. The purpose is to give the MSRED program a unique, world-leading, and innovative curriculum that effectively leverages MIT's globally recognized excellence in science and technology.

As real estate becomes an increasingly demanding and complex field, practitioners must keep abreast of trends in policy, technology, and professional practice. To meet this need, CRE's suite of short summer courses reached beyond the summer and beyond Cambridge. This year the Center offered courses in January and February in New York City, and in Mumbai, Bangalore, and Delhi, India.

## **Industry-Supported Research Program**

The Center has continued to build up its program of interdisciplinary, industry-relevant, innovative, industry-supported research initiatives: New Century Development (NCD), the Housing Affordability Initiative (HAI), and the Commercial Real Estate Data Laboratory (CREDL).

## **Financial Sustainability and Stability**

A minimum of \$2.5 million is necessary to run a first-rate real estate program and center. The current budgetary revenue to support the program is approximately \$1.7 million, leaving a financial gap of approximately \$800,000. Considering the nature of the real estate industry, the classical MIT model (focused on research funding) is not viable for the sustainability of the Center. Top real estate programs elsewhere in the United States are funded primarily by named endowment gifts and student tuition. The Center continues to pursue a three-legged strategy to achieve financial sustainability: (1) increase Center-generated revenues beyond tuition (from our industry outreach/partnership program, research consortia, and executive education), (2) work with the Office of Resource Development and the Office of the Dean of the School of Architecture and Planning to pursue a gifting campaign (involving alumni and other potential donors focused on the Center's upcoming move to new space in Building 9, coinciding with the Center's 25th anniversary), and (3) restructure the Center's budgetary relationship with the Institute to gain increased financial support for the MSRED program.

## **Accomplishments During FY2008**

### **Research**

Developing an innovative and industry-relevant research program is an important element of the Center's strategic actions. We identified three potentially high-contribution initiatives that reach out beyond CRE to other elements within MIT and the real estate industry and which, taken together, span a range of disciplines and foci that synergize with the Center's strategic directions and abiding mission.

HAI reorganized and refined its focus on conducting policy-relevant research on housing affordability in the New England area. CREDL researchers continued to pursue the development of commercial property market information. Real Estate Analytics LLC (REAL), State Street Global Markets, and Real Capital Analytics (RCA) support the Moody's/REAL Commercial Property Price Index (CPPI) with data and financial resources; the Center has been working with the National Association of Real Estate Investment Trusts (NAREIT) to generate a suite of indexes; and the Center has continued to produce the Transaction-Based Index using data provided by the National Council of Real Estate Investment Fiduciaries. The NCD initiative is being expanded to promote the practice of sustainable building development as well as methodology that will facilitate improvements in both the development process and the resulting product.

### ***Housing Affordability Initiative***

HAI reorganized during FY2008. Professor Lynn Fisher became the director of the initiative; research associate Keri-Nicole Dillman became the associate director, with responsibilities for research and administrative oversight; and a part-time administrative staff person was hired to support the initiative. With this group in place, HAI began an aggressive program of research development and management, networking and fundraising, and marketing and communication. The focus of the initiative was refined to promote a body of scholarship for informed public discussion of regional housing issues and improved public and private decision making through investigation and examination of the following:

- The supply of housing and its attributes—proximity to jobs, school quality, and safety
- Housing policy and land use regulation
- Relationships among housing markets, communities, and both local and regional economic development

HAI brings together and engages:

- The academic community at MIT and at other universities
- Students of all disciplines committed to housing research and practice
- Private developers, real estate investment trusts (REITs), mortgage industry participants, and private equity funders
- Housing policy, planning, and government officials
- Advocacy communities as well as legal and environmental professionals

### ***Commercial Real Estate Data Laboratory***

CREDL facilitates and promotes the gathering and compilation of data and methodologies to quantitatively measure the performance of commercial real estate along a variety of dimensions (investment, operational, environmental).

*Commercial property pricing indexes.* During the latter part of FY2006 and the beginning of FY2007, the Center reached an agreement with Real Capital Analytics to develop a

methodology for creating periodic price-change indexes. The CPPI is a periodic same-property round-trip investment price change index of the US commercial investment property market based on RCA data. During FY2008, an affiliate of RCA partnered with State Street Research to create REAL. To heighten the visibility of the index, the group has partnered with Moody's Investors Service, and each month the CPPI is published. After publication of the index, the data is provided on the Center's website as a service to the real estate academic and industry research communities. To fund the monthly production of the CPPI, the Center has a service agreement with REAL.

*REIT-based indexes.* During late FY2007, the Center began discussions with representatives from NAREIT for the construction of commercial property price indexes based on share price movements of REIT stocks. This sponsored project research agreement was finalized in June 2008 and funded for \$193,873.

### ***New Century Development***

CRE has been working with the Engineering Systems Division to explore the application of real options and related computer simulation techniques to the real estate development process. Two major events were hosted by the Center in this area during FY2008. In October an international academic conference was held, sponsored by the *Journal of Real Estate Finance and Economics* (one of the top academic journals in the field). In April, a team of practitioners from Chicago presented their application of real options in the development of a vertically expandable high-rise corporate office building in downtown Chicago. The latter event led to three MSRED student theses this summer.

During FY2008, the NCD initiative was expanded to include a focus on promoting sustainable building development in the real estate industry. Rebecca Henderson is engaged in research addressing how to improve energy efficiency in buildings built before 1990, faculty in the School of Architecture and Planning have been developing a workshop that will serve as a prelude to a symposium on development innovations (just-in-time configurable space) that can have a tremendous impact on the real estate industry, and students are engaged in thesis research related to this initiative.

### **Education**

#### ***MSRED Curriculum Changes***

The Center requires all MSRED students to take a capstone course, 11.303J Real Estate Development; enrollment is limited to MSRED students. This year the course was reduced to one semester to allow time for additional electives.

For the third consecutive year, a mini-course on international real estate was offered during the Independent Activities Period; the course was led by managing director Marion Cunningham. A group of 26 students visited universities and organizations in Dubai and Abu Dhabi, United Arab Emirates; Istanbul, Turkey; and London, England. Over the course of two weeks, students visited 11 real estate projects, met with representatives from 10 companies to hear presentations on local market dynamics, and visited Abu Dhabi Men's College and Istanbul Technical University. The class was

created to give students a better sense of the diversity of projects, approaches, and challenges for real estate development outside of the United States.

The Center sponsored lecturer John Macomber to develop a new course on sustainability, 11.946 Real Estate Sustainability: Building Technology, Economics, and Decision Making. The course, which was offered for the first time during the first half of the spring semester, focuses on sustainability in the context of the supply chain, with an emphasis on design, construction, the economics of energy, sustainability and productivity, and “the motivations, incentives, economics, and communication issues” associated with decision making. The objective of the class was to equip students to be effective contributors to sustainable real estate development, redevelopment, and management.

### **Regional Treks**

This year the MSRED experience was enhanced by two treks. The first was in October 2007. Students attended the Urban Land Institute’s annual meeting in Las Vegas, NV, from October 24 to October 27, and also toured alumni projects in the area. The last trek was in early May 2008, when the students took their annual trip to New York City. While in Manhattan, they attended a panel presentation organized by New York–area alumni on “Real Estate Crisis or Correction?” and visited Moody’s Investors Service, Citigroup, Wachovia, TIAA-CREF, and Deutsche Bank.

### **MSRED Students**

During FY2008, the Class of 2007 graduated, the Class of 2008 matriculated, and the Class of 2009 was admitted.

*Class of 2007:* Thirty-three graduates, members of CRE’s 23rd class, received master’s degrees in real estate development in September 2007. Graduates are employed in real estate finance, investment, and acquisitions and as project managers and entrepreneurs. Employers include New England Development; BlackRock, a global investor that merged with Merrill Lynch Investment Managers in September 2006; New City Corporation, a global real estate investor based in Japan; and KIPP, a national organization of college preparatory programs.

*Class of 2008:* The 40 members of this class included 4 joint degree candidates, 9 women and 31 men, and 18 international students. Twelve students hold advanced degrees in urban and regional planning, architecture, finance, Middle Eastern studies, and business administration. This class will graduate in September 2008. The yield rate for the MSRED Class of 2007 was 78%; the yield rate for the Class of 2008 was 86%.

*Class of 2009:* In April, the Center selected its 25th class of MSRED students. Forty students from a pool of 91 candidates were offered admission; 33 accepted the offer, for an 83% yield. Two current MIT students were also accepted into the Class of 2009 as dual-degree students. The class is composed of 6 women and 27 men, the average age is 29 years, and 14 members of the incoming class are from countries other than the US.



### **Professional Education**

During FY2008, the Center's professional development program reached beyond the summer and beyond Cambridge. Fifty people attended one of the three courses offered in January. One class (Real Estate Equity Derivatives I: The Basics) had a web-based component, and one class was offered in New York City in collaboration with our Partner firm, TIAA-CREF. Almost two hundred people attended classes in Mumbai, Bangalore, and Delhi, India. As of fiscal year end, more than 300 people had enrolled in the summer session.

### **Industry Outreach**

We have continued to incorporate the concept of "partnership" into our industry outreach model. The Center's value propositions to industry are our MSRED program and our research program, as well as the natural byproducts of these programs, such as the Center's ability to conduct professional education courses and convene substantive forums of thought leaders in specific fields.

Over the past year, industry support of our research program has increased significantly. Our partnership with NAREIT has led to the receipt of sponsored research dollars. In addition, we have the Center's first global partner: Taurus Investments. Taurus is a real estate investment company based in Germany with holdings around the world.

### **Forums on Issues and Innovations in Real Estate**

The goal of the Forums on Issues and Innovations in Real Estate (FIRE) events is to engage and communicate with members of the real estate industry about topics that are timely, noteworthy, and significant. In October, CRE partner Taurus Investments hosted a FIRE event in Istanbul, Turkey, where Center chairman Tony Ciochetti moderated a panel on sustainability. In January 2008, Center director David Geltner made a presentation in Tel Aviv, Israel, titled "Risk and Return in Real Estate: And What to Do About It." Both FIRE events were very well attended.

### **Graduation Weekend**

On September 29, 2007, the Center graduated its 23rd class. A number of activities surrounded the occasion. On September 28, the Center webcast an afternoon of presentations that served to highlight CRE's commitment to excellence and application of the rigor of science to real estate. Center chairman Tony Ciochetti provided a "state of the Center" report; architecture professors John Fernandez and William Mitchell, respectively, gave presentations on "Sustainable and Resilient Communities" and "Sustainable Personal Transportation: The Media Lab City Car"; and three outstanding student theses from the Class of 2007 were presented. The theses presented work on the use of carbon credits, building information modeling, and barriers to growth for the derivatives market. Following the webcast, current students, their families, and alumni were invited to a reception honoring the Class of 2007. As part of our graduation weekend activities, the Center also invited members of the classes of 1987 and 1997 to an anniversary dinner. The speaker for the special celebration marking the conferring of

degrees was Blake Eagle, former chairman of the Center for Real Estate and founder and CEO of the National Council of Real Estate Investment Fiduciaries.

### **Technology Upgrades**

Between March and June 2008, the Center made a number of technological upgrades and changes. As a result of new security requirements, the Institute changed its credit card processing. The Center relies on credit card payments in connection with its professional development courses. During the spring semester, the Center worked with Merchant Services and moved from ShopSite as the consumer interface for purchasing items to Network Solutions' Monster Commerce. In addition, the bank interface was shifted from OMARS to Cybersource.

The Center also worked with Departmental Consulting and Application Development to move from FileMaker 5.5 to 9.0. The upgrade coincided with the new credit card processing system, leading the Center to develop an interface between the two. The FileMaker upgrades were launched in June 2008.

CRE uses a server system to manage its computing. In late May 2008, the Center's Information Services and Technology (IS&T) consultant and the IS&T server group migrated the Center's computing operations to a server housed off site in W92. The migration was relatively uneventful.

The Center's phone system was also switched to Voice over Internet Protocol during June.

### **Finances and Funding**

The Center has made tremendous strides relative to its vision and goals, and the execution of our core strategies has entailed an approximate doubling of the annual rate of expenditures since 2002. The majority of this increase has gone into creating substantive educational and research products and services that reflect MIT's unique strengths and its mission to use knowledge to improve the world. In the FY2008 budget, the Center projected stabilized expenses of \$2.5 million, reflecting the Center's continued commitment to global outreach and cutting-edge research.

Recurring income of approximately \$1.7 million (including a phased increase in the current base budget allocation from MIT) exists to support this program, leaving a financial gap of about \$800,000. Our continuing goal is to develop programs to increase annual, ongoing contributions from the Center's three primary sources of financial support: the Institute, the real estate industry, and the alumni community.

Starting in FY2005, the Center was allowed to charge a premium tuition, keeping all revenue above MIT's base tuition amount; in FY2008, this premium generated \$266,760 in income. In FY2008, fees from our industry partners amounted to \$380,000. Revenue from the Center's professional development courses was approximately \$585,000 in FY2008, a record number. While the Center has made significant strides in each of these areas, continued vigilance is essential.

New Sources ofAs an MIT center, CRE is required to be self-sufficient. Consequently, the Center needs to raise a substantial amount of its operating budget from external

industry contributions. Part of the role of the Center's research program is to attract such financial support. FY2008 was noteworthy because the successful negotiation with Delta Rangers Inc. led to a service agreement with the successor organization to Delta Rangers, REAL. Through this service agreement, we received monthly payments totaling \$135,000 for FY2008.

In addition, the Center's work with NAREIT to develop new types of REIT equity share price-based indexes that reflect specific property market segments culminated in a sponsored project with NAREIT for \$193,000 in direct and indirect costs.

## **Recurring Sources of Operating Income**

### ***Tuition***

The primary competitors for real estate graduate education are schools of business. To reflect the competitive environment and the higher level of service required by MSRED students, the provost approved charging a premium tuition. The Center collected \$266,760 in premium tuition during FY2008.

### ***Professional Development Courses***

During the summer, the Center offers continuing education courses for real estate professionals. These professional development courses are a critical contributor to the Center's financial stability. Building on the success of our aggressive marketing efforts in 2006 and 2007, the Center upgraded its marketing materials, enhanced its course offerings by adding the Executive Series, and partnered with the CCIM Institute and the National Association of Industrial and Office Properties. We expanded course offerings in FY2008. In January we offered three courses domestically, and in February we held classes in three cities in India (Mumbai, Bangalore, and Delhi). We provided eight courses, including two sessions of Fundamentals of Real Estate Finance, Introduction to Commercial Real Estate Development, and Real Estate Equity Derivatives I: The Basics, in June and July 2008. As of the end of FY2008, more than 500 people had registered for the courses and gross revenues were \$625,000, 30% higher than the year before. We plan to continue to explore offering the courses throughout the year, in a variety of locations, collaborating with corporate partners where possible.

### **Industry Partners**

Last year the Center eliminated the \$10,000 partnership level and created a new partnership fee of \$20,000. This year we solicited global partners, organizations with an international presence that would be a core resource in the development of our international curriculum and outreach efforts. Our global partnership fee is \$50,000. Taurus Investment Holdings is the Center's first global partner. As of the end of FY2008, the Center had 26 corporate partners generating income of \$380,000. Landmark Properties in Dubai, United Arab Emirates, is a new industry partner.

### **Major Gifts and Resource Development**

During October 2007, Center director David Geltner, accompanied by the School of Architecture and Planning's assistant dean for development, Tia Tilson, made a series



of resource development trips to visit alums and prospects in Los Angeles and San Francisco, CA. During these visits, Professor Geltner talked about his vision for the Center, the Center's upcoming 25th anniversary, and the impending move into Building 9 during FY2009. The move into Building 9 represents a major administrative and financial opportunity for the Center. CRE will be better integrated into the intellectual core of the Institute, and the move will allow the Center to galvanize the real estate industry's philanthropy around the cost of redeveloping the new space. The Center's chairman, Tony Ciochetti, has been working with the Committee for Review of Space Planning and the School of Architecture and Planning's assistant dean for resource development to develop a strategy for raising funds for the new space.

During FY2008, CRE received \$161,028 in gifts and added \$59,328 to its principal.

### **Alumni**

CRE's alumni are ardent fans of the Center. During FY2008, alumni gifts totaled \$146,028. To continue to cultivate this group's financial support, we have heightened our communication activities and are working with the assistant dean for resource development to create a development strategy for our alumni.

In May, New York-based alumni of the Center put together a panel addressing the topic "Real Estate Crisis or Correction?" Also in May, the Boston chapter of the Alumni Association of the Center for Real Estate organized a symposium titled "[Real Estate Capital Markets: Strategies in Uncertain Times](#)." Both events were well attended.

### **Personnel Changes**

There were a number of personnel changes during FY2008, and several affected the research group:

- Assistant professor Lynn Fisher was promoted to associate professor and was named the director of HAI.
- Visiting scholar Keri-Nicole Dillman was hired as a research associate in December 2007 and became associate director of HAI. Dr. Dillman worked closely with Professor Fisher to reposition HAI and tie the initiative more closely to housing policy in Massachusetts. In June 2008, Dr. Dillman relocated to New York to pursue new opportunities.
- Ryan McCann, who had joined the Center in December 2006 as a research support associate with HAI, resigned in April to pursue policy-related work in Israel.
- Dr. Sharon Krefetz joined the Center as a visiting scholar in May 2008; she will be working with HAI.
- Amy Sargent was hired on a part-time basis in October 2007 to provide administrative support to HAI and the work funded by NAREIT.

During FY2008, the potential of the professional development courses was apparent. The courses were being managed by a single individual who was also the executive assistant for the chairman. The Executive Committee made the decision to create two positions,

an administrative assistant to support the chairman and a program coordinator for the professional development and executive education courses who would be responsible for growing the professional development and executive education programs. This reorganization led to the loss of one member of the Center's team, Christina Gomes, the chairman's executive assistant and industry liaison. After a three-month search, Najat Kessler was hired as the administrative assistant for the chairman, and Julian Phillippi was hired as program coordinator.

June 30 marked David Geltner's last day as director of the Center for Real Estate. During his tenure, the research program was initiated, funding from the Institute increased, the executive model was refined, the global academic initiative was launched, and a focus on the "physical product of development, the asset" was reasserted. In FY2009, Tony Ciochetti will serve as both chairman and director.

**David M. Geltner**

**Director**

**Professor of Real Estate Finance**

*More information about the Center for Real Estate can be found at <http://web.mit.edu/cre/>.*