

Center for Real Estate

The Center for Real Estate (CRE) was founded in 1983. Our mission is to improve the quality of the built environment and the real estate industry by providing a forum for education, research, and the exchange of ideas between MIT and the global real estate industry. We do this with:

- A specialized, globally recognized, one-year Master of Science in Real Estate Development (MSRED) program that emphasizes the creation, operation, and management of the physical product of real estate
- A unique interdisciplinary research platform that brings together academia and industry to address critical areas of real estate knowledge and decision making
- Outreach that connects MIT with the real estate industry and CRE alumni to develop the profession and to support the center's long-term growth

Strategic Goals and Objectives

The center had four key strategic thrusts for FY2006: enhancing the MSRED program, building an effective industry-supported research program, establishing a global presence, and identifying a plan for financial sustainability.

Enhanced MSRED program—CRE is rebuilding the core of its MSRED curriculum to focus more clearly on the real estate development process. The purpose is to give the MSRED program a unique, world-leading, and innovative curriculum built on key new professors the center has engaged over the past three years, Tony Ciochetti and Lynn Fisher. They build on the superlative preexisting faculty member in this part of the curriculum, Professor Dennis Frenchman, to provide a curriculum that not only will give our students a first-rate education but will improve CRE's industry outreach and research initiatives to help build the external funding base of the center.

Industry-supported research program—the center has continued to build its new program of interdisciplinary, industry-relevant, innovative, industry-supported research initiatives: New Century Development, Housing Affordability Initiative (HAI), and Commercial Real Estate Data Laboratory.

Global presence—CRE is pursuing a global strategy for both its research agenda and its programming, with a particular emphasis on Asia and Europe. We will form alliances and/or working relationships with premier educational institutions such as the National University of Singapore and Tsinghua University in China.

Financial sustainability—a minimum of \$2.5 million is necessary to run a first-rate real estate program and center, and MIT would not want to run anything less. The current budgetary revenue to support our program is approximately \$1.7 million, leaving a financial gap of approximately \$800,000. Due to 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 to pursue a gifting campaign (involving alumni and other potential donors and focused on CRE's upcoming move to new space in Building 9, coinciding with the center's 25th anniversary), and (3) restructuring the center's budgetary relationship with the Institute (increased reliance on tuition revenue).

Accomplishments During FY2006

Research

Continuing to develop an innovative and industry-relevant research program has been the single most important element of the center's strategic actions during FY2006. We identified three high-contribution initiatives that reach out beyond CRE to other elements within MIT and the real estate industry and that, taken together, span a range of disciplines and foci that synergize with the center's strategic directions and abiding mission.

Housing Affordability Initiative

The purpose of the Housing Affordability Initiative (HAI) is to conduct studies that will bring to bear MIT's unique strengths on the housing supply and affordability problem, starting with a focus on Massachusetts but expanding to a national and possibly international scope. The initiative is being directed by principal research associate Henry Pollakowski under the auspices of a steering committee chaired by Professor Langley Keyes (Department of Urban Studies and Planning).

- *Land-use report*: On January 31, 2006, the initiative presented its report indicating that new single-family home construction in the Greater Boston metropolitan area is consuming about twice as much land as existing single-family housing and that half of the region's 30,387 new single-family homes have been built on lots of nearly an acre. This finding has the potential to significantly affect land-use policies.
- *Research conference*: On May 25, 2006, the research team presented its revised Housing Affordability Index. This new index includes both rental and owner-occupied units in the Boston metropolitan area and incorporates new measures of quality of life such as school quality and public transit. Other conference topics included Chapter 40B, Massachusetts's Affordable Housing Zoning Law; suburban residential land use density; and key worker housing opportunities. Approximately 120 people attended the conference.

Industry support for the center's work in the HAI grew from \$80,000 in FY2005 to \$110,000 in FY2006, a 37.5 percent increase.

Commercial Real Estate Data Laboratory

The Commercial Real Estate Data Laboratory 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).

- *Transaction-based index.* Much of FY2005 was devoted to the development of a transaction-based index of real estate investment performance derived from a database maintained by the National Council of Real Estate Investment Fiduciaries. On February 22, 2006, the transaction-based index, <http://web.mit.edu/cre/research/credl/tbi.html>, was released along with the announcement of the investment performance of commercial real estate nationally during calendar year 2005. Information is updated on a quarterly basis.
- *Commercial property pricing indexes:* The center reached an agreement with a third party to develop a methodology for creating periodic price-change indexes. The method will build on prior work and expertise with the aim of producing practical indexes usable for derivative products.

New Century Development

The Center for Real Estate is working with the Engineering Systems Division, the MIT Design Laboratory, and the National University of Singapore's Department of Real Estate to hold an international symposium examining the application of real options theory to real estate and infrastructure development projects. The symposium is scheduled for October 2007.

Education

MSRED Curriculum Changes

The past year saw significant enhancements to the traditional CRE course offerings. The legal issues class was moved to the spring semester during FY2005, and this year the course was half a semester. Traditionally taught by an attorney, the legal issues module was organized and moderated by a real estate practitioner who invited area attorneys to the class to guest lecture on specific areas of expertise.

Consistent with our heightened focus on the development process and the physical product of real estate, we introduced a 1.5-semester capstone course, Real Estate Development, that all MSRED students are required to take. The objective of this course is to deliver the information, skills, and techniques associated with creating and managing the physical product of real estate. The course is intended to expose students to the general skills, techniques, and processes associated with each of the functional areas involved in real estate development so that they can organize and lead the development process. Students work in teams and apply the development framework to create a proposal for a particular development opportunity.

Professor Ciochetti led a minicourse during Independent Activities Period that focused on European real estate. Students met and joined real estate students at the University of Cambridge in England and visited and assessed real estate projects and firms in Cambridge, London, and Paris.

MSRED Students

Class of 2005—thirty-six graduates, members of CRE's 21st class, received master's degrees in real estate development in October 2005. Graduates are employed in real estate finance, acquisitions, and development (as project managers), and as entrepreneurs. Employers include AvalonBay Communities, a leading provider of luxury residential units; AIG Global Real Estate Investment Group; Forest City Ratner Companies, a major developer in New York City; MassInnovation, a nonprofit planning and development organization in Lawrence, MA; and the Shimizu Corporation, a leading architectural, engineering, and general contracting firm in Japan.

Class of 2006—the 31 members of this class included 8 joint degree candidates, 9 women and 22 men, and 12 international students. Twelve of these students already held advanced degrees in accounting, public administration, geology, mechanical engineering, law, international affairs, and business administration. This class, which will graduate in September 2006, was the first to be charged the full MSRED tuition premium. The MSRED class yield rate was 63 percent, down from 74 percent in 2005.

Class of 2007—in April, the center selected its 23rd class of MSRED students. Forty-five students from a pool of 90 candidates were offered admission; 35 (10 women and 25 men) accepted the offer, for a 78 percent yield. Seven of the students will pursue dual degrees in business administration, city planning, and civil engineering, and nine already have advanced degrees in architecture, structural engineering, management, business administration, and Middle Eastern studies.

Professional Education

The 21st summer of professional development courses brought 228 attendees to campus in June and July 2005, a 17 percent decrease from the previous summer's attendance. Attendees enrolled in eight courses, two of which were new offerings: Topics in Development and Legal Issues. Early indications for the 2006 classes (which started in June) suggest a significant increase in attendance over 2005.

Industry Outreach

We have continued to incorporate the concept of "partnership" into our industry outreach model. The center's value proposition to industry is 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.

Our ideal partners are ones who see what CRE is doing in education and research and can envision ways in which we can add value to their enterprise through new knowledge, new personnel, or new endeavors. The kinds of real estate firms that find

the unique abilities of MIT to be a significant value proposition are few, but they are firms on the leading edge around the world—ones that will change the world for the better. Partnerships between these firms and CRE can produce a potential synergy that is very exciting to contemplate. With this new model in mind, over the past year we have convened the following partner meetings:

- *MIT Insights—special-interest meeting.* In December 2005, Amgen professor of biology Nancy Hopkins gave a presentation of her work on insertional mutagenesis in zebrafish to four of the center’s sustaining partners (companies paying \$20,000 per year). This meeting reflected the center’s ongoing desire to build bridges across the Institute and provide opportunities for our industry partners to gain access to some of the research being conducted at MIT.
- *Powering the Future—2006 partners meeting.* The center’s partners meeting was held April 5–6, 2006. The meeting opened with a dinner presentation on April 5 by industry partner ZK Group, the largest real estate developer in China. The conference started the next day, and invited speakers addressed the topic “Powering the Future.” Presenters included Professor Henry Jacoby, who discussed global warming; graduate students from the Technology and Policy Program, who talked about coal as a source of energy; and Jon Bjorn Skulason from Icelandic New Energy. Mr. Skulason outlined Iceland’s conversion to a hydrogen-based economy. Attendees also toured the Sloan Automotive Laboratory, the Alcator C-Mod Tokamak at MIT’s Plasma Fusion Center, and the MIT Reactor.
- *Friends meeting.* Following the annual partners meeting, on April 7, we invited our sustaining industry partners, representative alumni, and Institute colleagues to take part in a substantive and interactive discussion about the center’s direction. Participants provided direction on communications, creating an advisory group, and establishing a global presence.

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. CRE partner Taurus Investments hosted a FIRE event in Munich, Germany, and AMB Property Corporation was our host in San Francisco. In addition, the center participated in FIRE events in London and Beijing. In collaboration with the Massachusetts chapter of the National Association of Industrial and Office Properties, center chairman Tony Ciochetti moderated a panel discussion, “Going Global,” that included partner representatives from AEW Capital, Fidelity, Taurus Investments, and AMB Property Corporation. MIT/CRE graduates were our partners in hosting events in Los Angeles as part of the Urban Land Institute’s annual meeting.

Alumni Reunion Weekend

In September and October 2005, the center graduated its 21st class. Industry partner AMB Property Corporation provided an overview of the industrial sector and presented a “real deal” case study to current students, graduates, and alums. Attendees had the opportunity to tour the newest addition to the MIT campus: the Brain and Cognitive Sciences Complex. Director David Geltner, chairman Ciochetti, and managing director

Marion Cunningham discussed the state of the center via webcast and used this as an opportunity to spotlight three outstanding student theses from the Class of 2005.

Finances and Funding

While the center is making huge strides relative to its vision and goals, the implementation of its core strategies has entailed an approximate doubling of its annual rate of expenditure. 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 FY2006 budget, the center projected stabilized expenses of \$2.5 million, reflecting the center's commitment to global outreach and cutting-edge research. As mentioned earlier, there are current revenues of approximately \$1.7 million (including the base budget allocation from MIT) and, thus, a financial shortfall of approximately \$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 premium tuitions, keeping all revenue above MIT's base tuition amount; in FY2006, these premiums generated \$177,520 in income. In FY2006, fees from our industry partners and HAI supporters were \$395,000, and revenue from the center's professional development courses increased more than 50 percent from FY2005 levels, totaling approximately \$445,000. While CRE has made significant strides in each of these areas, continued vigilance is required to reverse the long-term decline in industry financial support that the center has experienced. Accordingly, CRE is continuing to pursue an aggressive development program focused on cultivating major gifts and recurring sources of income.

New Sources of Revenue

As 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. With this in mind, the center is negotiating with Delta Rangers to support the development of commercial property price indexes that would be the basis for the creation of derivative products. One model would have Delta Rangers sponsor the development of the index methodology and pay a licensing fee their use. Alternatively, the center could enter into a service agreement with DRI. The center is in the midst of discussions regarding the optimal structure.

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 premium was phased; MSRED tuition was 5 percent higher than the standard MIT graduate tuition in FY2005 and climbed to 15 percent above the base in FY2006. The center collected \$177,520 in premiums during FY2006.

Professional development courses—during June and July, CRE offers continuing education courses for real estate professionals. These professional development courses are a critical contributor to the center’s financial stability. To this end, during the summer of 2006, the center aggressively marketed the classes, engaging in partnerships with the Royal Institute of Chartered Surveyors, the CCIM Institute, and the National Association of Industrial and Office Properties. We provided eight courses, including two new offerings: Brownfields Redevelopment and Advanced Real Estate Development. As of the end of FY2006, enrollments in and gross revenues from these courses were about 55 percent higher than the year before.

Industry Partners

During FY2006, CRE’s revenue from its industry partners stabilized. Under the new partnership fee structure, supporting partners pay \$10,000 annually, and sustaining partners pay \$20,000. As of the end of the fiscal year, the center had eight sustaining partners. By the end of FY2006, the center had 28 active corporate members providing \$285,000 in fee income.

During FY2005, the center attracted industry supporters of the Housing Affordability Index. These new partners provided gifts totaling \$80,000 to help support the center’s HAI work during FY2005; during FY2006, they donated \$110,000.

Major Gifts

During FY2008, CRE will be moving into newly renovated space in Building 9. This move 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. In general, individuals who have accumulated their wealth from the real estate industry are more inclined to provide tuition support and major gifts that result in a naming opportunity. With this in mind, our specific goal is the generation of an eight-figure named gift. Chairman Tony Ciochetti has been working with the Committee for Review of Space Planning and the School of Architecture’s assistant dean for resource development to develop a strategy for raising funds for the new space.

During FY2006, CRE received \$672,386 in gifts. The largest donation (\$500,000) was from Mrs. Thomas G. Eastman, who paid off her \$1 million pledge to the center. Her gift was the basis for the establishment of the Thomas G. Eastman chair at the center as a memorial to her husband, one of the founders of the real estate investment firm AEW Capital Partners. The Eastman chair was established to support the industry outreach activities of the center. The second significant gift was from Irwin Grossman (\$20,000). Mr. Grossman, a 1952 graduate of MIT’s Building and Engineering Construction Department, has been a long-standing supporter of the center, and his gift reflects the fulfillment of his \$100,000 50th-reunion pledge.

Alumni

CRE's alumni are ardent fans of the center. During FY2006, alumni gifts totaled \$150,219. To continue to cultivate this group's financial support, we are developing an annual calling program that draws on current students to contact alums, we have heightened our communication activities, and we are working with the assistant dean for resource development to create a development strategy for our alumni.

Personnel Changes

Assistant professor Lynn Fisher was on research leave during the spring of 2006. During this time, she was involved in two major projects, conducting research related to the process and litigation surrounding Massachusetts's Chapter 40B comprehensive permits and working on the revision of the Housing Affordability Index. She presented her work to five professional and academic bodies and is preparing a scholarly paper describing the methodology and theory underlying the index work.

Henry Pollakowski was promoted to principal research associate. Dr. Pollakowski received his PhD in economics, specializing in housing, from the University of California at Berkeley. He is editor of the *Journal of Housing Economics* and is recognized as an authority on issues related to housing, residential markets, and affordability. Since joining DRE, he has served as director of HAI, and he is the codirector of the Commercial Real Estate Data Laboratory.

In February 2006, CRE hired Cheryl Gillespie as senior financial assistant. Ms. Gillespie has more than 20 years of experience with the Institute, of which 17 have been in the financial services area. She replaces Margaret Bryan, who is now working as a fiscal officer in the Department of Aeronautics and Astronautics.

After an extensive search, Christina Gomes joined CRE as the chairman's assistant/industry liaison. She has a varied background working as a producer, an assistant to the executive vice president with Miramax Films, and an entrepreneur. As a businessperson, she was the owner of an organization and relocation firm. We look forward to leveraging her production, organizational, and administrative skills on behalf of CRE.

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/>.