

15TH

ANNUAL COLLEGE CONSTRUCTION REPORT

15th Annual College Construction Report

Cautious progress is being made on campus as schools cope with tight budgets.

By Paul Abramson

Reading news about colleges today is almost akin to reading the financial pages of a newspaper. There is little about education. The news is about layoffs, courses being cut, campuses closed, deficits growing, state aid being reduced, student loans not available, tuition going up, salaries being cut, endowments way down, donations dropping. Only college athletic programs continue to report million-dollar offers to prospective coaches, but that's another story entirely.

Tracking Annual Changes

As Table 1 on page CR3 shows, in 1995, when *College Planning & Management* came on the scene, \$6.1B worth of college

construction was put in place. Construction stayed close to \$6B a year from 1995 through 1999, when it reached \$6.8B.

Then, with the beginning of a new century, college construction began to shift into a higher gear. In 2000, more than \$7B was spent on completed construction. In 2001, construction jumped to \$9.8B and to \$11B

Regional Definitions

Region 1:	CT, ME, MA, NH, RI, VT
Region 2:	NJ, NY, PA
Region 3:	DE, DC, MD, VA, WV
Region 4:	KY, NC, SC, TN
Region 5:	AL, FL, GA, MS
Region 6:	IN, OH, MI
Region 7:	IL, MN, WI
Region 8:	IA, KS, MO, NE
Region 9:	AR, LA, OK, TX
Region 10:	CO, MT, ND, NM, SD, UT, WY
Region 11:	AZ, CA, HI, NV
Region 12:	AK, ID, OR, WA



Cover and inside photos courtesy of SHW Group

the next two years, largely in response to a growing demand for seats in college classrooms and beds in residence halls.

By 2005, annual construction put in place was up above \$13B, and in 2006 it topped \$15B. Given the direction and the demand for college education among a larger and larger proportion of high-school graduates, there seemed no limit to how high annual spending might go.

Actually, in 2007, construction completions did fall back slightly, but that appeared to be just a hiccup. During the three years, 2005 through 2007, completed college construction averaged almost \$14.7B.

But, even while construction spending was high, there was a warning sign of a slow-down ahead. The same college officials who had reported \$14.5B worth of work completed in 2007 were predicting that they would complete work worth only \$13.3B in 2008, and would start even less than that.

They were right. College construction fell \$1.2B from 2007 to 2008. What was more worrisome was the projection that colleges would complete even less, \$12.2B, in 2009.

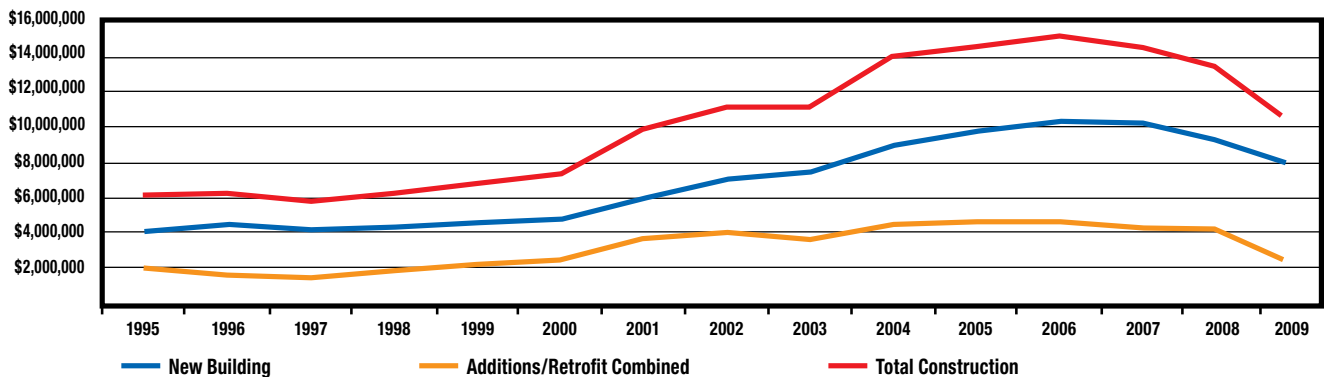
This time they were wrong. College construction completed in 2009 fell even further, to just \$10.7B, the lowest it has been since 2001. Obviously the economic depression that hit the world in 2008 had a very specific effect on colleges, limiting endowments and donations and slowing construction projects; probably delaying some and putting others on hold.

These are among the finding of this 15th Annual Survey of College Construction prepared for *College Planning & Management* magazine in conjunction with Market Data Retrieval, a company of Dun and Bradstreet (D&B). Market Data Retrieval

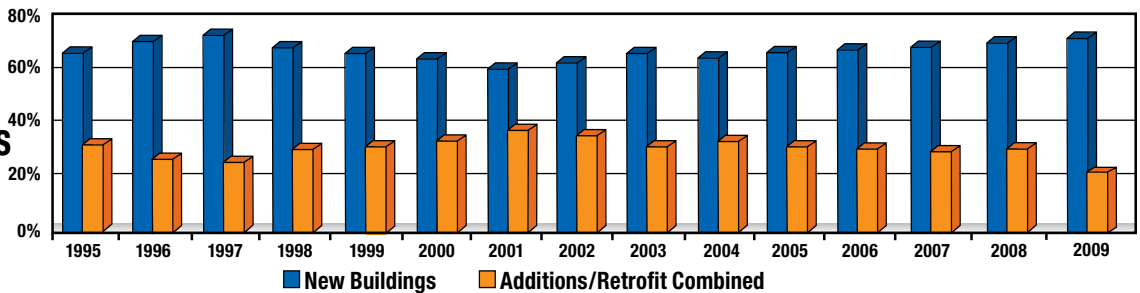
Table 1 College Construction Completed (\$000's), 1995 Through 2009

	<u>1995 Cost</u>	<u>% of Total</u>	<u>1996 Cost</u>	<u>% of Total</u>	<u>1997 Cost</u>	<u>% of Total</u>	<u>1998 Cost</u>	<u>% of Total</u>	<u>1999 Cost</u>	<u>% of Cost Total</u>
New Bldgs	\$4,131,972	67.7%	\$4,528,792	72.4%	\$4,260,969	73.8%	\$4,384,893	69.2%	\$4,567,166	67.2%
Additions	\$507,809	8.3%	\$541,697	8.7%	\$529,013	9.2%	\$857,051	13.5%	\$986,864	14.5%
Retrofits	\$1,463,373	24.0%	\$1,181,310	18.9%	\$986,993	17.1%	\$1,090,206	17.2%	\$1,239,307	18.2%
TOTAL	\$6,103,154		\$6,251,799		\$5,776,975		\$6,332,150		\$6,793,337	
	<u>2000 Cost</u>	<u>% of Total</u>	<u>2001 Cost</u>	<u>% of Total</u>	<u>2002 Cost</u>	<u>% of Total</u>	<u>2003 Cost</u>	<u>% of Total</u>	<u>2004 Cost</u>	<u>% of Total</u>
New Bldgs	\$4,780,898	65.6%	\$6,029,621	61.8%	\$7,050,533	63.8%	\$7,453,511	67.4%	\$9,024,829	66.0%
Additions	\$1,039,178	14.3%	\$1,586,614	16.2%	\$1,732,084	15.7%	\$1,761,110	15.9%	\$2,151,836	15.7%
Retrofits	\$1,467,785	20.1%	\$2,147,947	22.0%	\$2,272,794	20.6%	\$1,843,611	16.7%	\$2,491,079	18.2%
TOTAL	\$7,287,861		\$9,764,182		\$11,055,411		\$11,058,232		\$13,667,744	
	<u>2005 Cost</u>	<u>% Of Total</u>	<u>2006 Cost</u>	<u>% Of Total</u>	<u>2007 Cost</u>	<u>% Of Total</u>	<u>2008 Cost</u>	<u>% Of Total</u>	<u>2009 Cost</u>	<u>% Of Total</u>
New Bldgs	\$9,792,474	67.4%	\$10,327,086	68.6%	\$10,186,254	70.2%	\$9,345,152	70.3%	\$8,087,132	75.5%
Additions	\$2,067,987	14.2%	\$2,109,843	14.0%	\$1,774,674	12.2%	\$1,981,866	14.9%	\$1,254,902	11.7%
Retrofits	\$2,662,689	18.3%	\$2,615,611	17.4%	\$2,539,088	17.5%	\$1,972,920	14.8%	\$1,370,462	12.8%
TOTAL	\$14,523,150		\$15,052,540		\$14,500,016		\$13,299,939		\$10,712,496	

At a Glance History of College Construction College Construction Completed, 1995 Through 2009



At a Glance Percent of Total Dollars



sends survey forms and makes follow-up telephone calls to every college in the United States seeking information on their construction programs. As projects are identified, often in the very early stages, contacts are continued in order

to add detail and accuracy to the reports. These reports are grouped into 12 regions (see list on page CR2) by the year construction is expected to be completed and started, and are analyzed and used by the author to project construction totals.

Construction Activity, Nationally and by Region

College construction completed in 2009 totaled \$10.7B (see Table 2 on page CR4), just about \$2.6B less than in 2008, a drop of almost 20 percent. Of that amount,

Table 2 College Construction Completed in 2009, Nationally and by Region (\$000's)

Region	New	Add	Renovate	Total	% of Spending for			% Reg Is of Nation
					New	Add	Renovate	
1	\$386,138	\$57,373	\$112,621	\$556,132	69.4%	10.3%	20.3%	5.2%
2	\$846,860	\$65,681	\$61,543	\$974,085	86.9%	6.7%	6.3%	9.1%
3	\$689,087	\$101,247	\$91,547	\$881,882	78.1%	11.5%	10.4%	8.2%
4	\$864,462	\$32,843	\$56,353	\$953,657	90.6%	3.4%	5.9%	8.9%
5	\$768,306	\$184,830	\$83,712	\$1,036,848	74.1%	17.8%	8.1%	9.7%
6	\$394,593	\$287,945	\$187,754	\$870,291	45.3%	33.1%	21.6%	8.1%
7	\$531,093	\$101,967	\$79,162	\$712,222	74.6%	14.3%	11.1%	6.6%
8	\$342,928	\$89,558	\$112,402	\$544,888	62.9%	16.4%	20.6%	5.1%
9	\$1,340,385	\$142,691	\$180,853	\$1,663,928	80.6%	8.6%	10.9%	15.5%
10	\$532,918	\$49,041	\$79,826	\$661,786	80.5%	7.4%	12.1%	6.2%
11	\$1,113,795	\$108,010	\$275,934	\$1,497,739	74.4%	7.2%	18.4%	14.0%
12	\$276,568	\$33,715	\$48,755	\$359,039	77.0%	9.4%	13.6%	3.4%
National	\$8,087,132	\$1,254,902	\$1,370,462	\$10,712,496	75.5%	11.7%	12.8%	100.0%

To read this table: Colleges in Region 1 (New England) spent \$386M on new buildings completed in 2009, \$57M on additions to existing buildings, and \$112M on retrofit of existing buildings, for a total of \$556M on all construction. Sixty-nine percent of Region 1's college construction dollars were spent on new buildings. Region 1 colleges spent 5.2 percent of all the money spent on college construction last year.

\$8.1B (75.5 percent) was spent on entirely new buildings. The balance went to adding space to existing structures (\$1.25B) and renovating existing space (\$1.37B). Spending in each category was a down from the previous year, but the percentage spent on new buildings increased; probably because these were essentially long-term projects, planned and financed in better times and completed last year. It is much easier to stop and delay additions and retrofit projects than to stop a new building and leave it standing, not quite completed.

To better understand and estimate how and where construction is taking place, the nation was divided into 12 regions and construction plans and programs of each region's colleges were examined.

In terms of construction put in place in 2009, colleges and universities in Region 9 — including Arkansas, Louisiana, Oklahoma, and Texas — spent the most, completing almost \$1.7B worth of construction, including \$1.3B for new buildings. While this was the nation's highest spending region, it completed \$300M less work in 2009 than the year before.

Region 11 (including California, Arizona,



Nevada, and Hawaii) was the second-largest spender, with a total of almost \$1.5B put in place; but that was a drop of almost \$900M from the year before. Given the fiscal woes of California, the lead state in the region, it is remarkable that construction remained that high. But again, much of this is completion of work well underway before the financial crisis was really understood. Actually, the region had already recorded a half-billion-dollar decrease from the previous year.

Colleges in Region 5 (Alabama, Florida, Georgia, and Mississippi) made up the only

other region to put more than \$1B worth of construction in place in 2009.

In only two regions did spending in 2009 exceed spending the year before, and those increases were small. Colleges in Region 3 (Delaware, the District of Columbia, Maryland, Virginia, and West Virginia) put \$882M of construction in place in 2009, up \$40M from the year before, and those in Region 12 (Alaska, Idaho, Oregon, and Washington) raised their spending \$32M, from \$327M to \$359M in 2009.

New England colleges (Region 1 includes Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont) spent \$556M, a cut of more than 40 percent from the previous year, and those in Region 2 (New Jersey, New York, and Pennsylvania) cut spending by almost half a billion dollars, but still put \$974M in place. The high percentage (86.9 percent) these colleges spent on new buildings is another sign that spending was buoyed by the completion of projects long underway.

Region 6, including Ohio, Michigan, and Indiana, spent a little under \$900M, and those in Region 7 (Illinois, Minnesota, and Wisconsin) spent \$712M. Both were close to the previous year.

TABLE 3

College Construction Projected to Be Completed in 2010, Nationally and by Region (\$000's)

Region	New	Add	Renovate	Total	% of Spending for			% Reg Is of Nation
					New	Add	Renovate	
1	\$206,415	\$35,217	\$72,964	\$314,596	65.6%	11.2%	23.2%	3.1%
2	\$642,216	\$54,150	\$113,258	\$809,625	79.3%	6.7%	14.0%	7.9%
3	\$455,185	\$59,041	\$113,341	\$627,567	72.5%	9.4%	18.1%	6.1%
4	\$753,983	\$54,982	\$44,321	\$853,286	88.4%	6.4%	5.2%	8.4%
5	\$689,022	\$208,220	\$294,667	\$1,191,908	57.8%	17.5%	24.7%	11.7%
6	\$449,320	\$165,285	\$197,796	\$812,400	55.3%	20.3%	24.3%	8.0%
7	\$337,821	\$91,115	\$121,311	\$550,247	61.4%	16.6%	22.0%	5.4%
8	\$342,145	\$70,076	\$130,998	\$543,218	63.0%	12.9%	24.1%	5.3%
9	\$1,570,614	\$51,999	\$51,260	\$1,673,873	93.8%	3.1%	3.1%	16.4%
10	\$536,313	\$32,338	\$48,463	\$617,114	86.9%	5.2%	7.9%	6.0%
11	\$1,575,099	\$113,585	\$174,294	\$1,862,978	84.5%	6.1%	9.4%	18.2%
12	\$277,039	\$27,720	\$49,729	\$354,489	78.2%	7.8%	14.0%	3.5%
National	\$7,835,171	\$963,727	\$1,412,402	\$10,211,300	76.7%	9.4%	13.8%	100%

To read this table: Colleges in Region 1 (New England) expect to spend \$206M on new buildings to be completed in 2010, \$35M on additions to existing buildings, and \$73M on retrofit of existing buildings, for a total of \$315M on all construction. Sixty-five percent of Region 1's college construction dollars will go for new buildings. Region 1 colleges are projected to spend 3.1 percent of all the money spent on college construction to be completed this year.

TABLE 4

College Construction Projected to Start in 2010, Nationally and by Region (\$000's)

Region	New	Add	Renovate	Total	% of Spending for			% Reg Is of Nation
					New	Add	Renovate	
1	\$674,589	\$189,585	\$253,736	\$1,117,910	60.3%	17.0%	22.7%	8.8%
2	\$475,987	\$50,209	\$301,588	\$827,784	57.5%	6.1%	36.4%	6.5%
3	\$1,016,390	\$242,067	\$422,579	\$1,681,036	60.5%	14.4%	25.1%	13.3%
4	\$784,020	\$93,603	\$85,357	\$962,980	81.4%	9.7%	8.9%	7.6%
5	\$971,373	\$139,391	\$311,080	\$1,421,845	68.3%	9.8%	21.9%	11.2%
6	\$572,670	\$67,527	\$104,871	\$745,068	76.9%	9.1%	14.1%	5.9%
7	\$611,217	\$26,276	\$103,885	\$741,378	82.4%	3.5%	14.0%	5.9%
8	\$244,580	\$50,407	\$125,345	\$420,332	58.2%	12.0%	29.8%	3.3%
9	\$1,765,175	\$180,063	\$111,386	\$2,056,624	85.8%	8.8%	5.4%	16.2%
10	\$581,284	\$77,610	\$143,196	\$802,090	72.5%	9.7%	17.9%	6.3%
11	\$814,496	\$242,907	\$341,730	\$1,399,134	58.2%	17.4%	24.4%	11.0%
12	\$340,036	\$77,115	\$68,972	\$486,123	69.9%	15.9%	14.2%	3.8%
National	\$8,851,818	\$1,436,762	\$2,373,725	\$12,662,305	69.9%	11.3%	18.7%	100%

To read this table: Colleges in Region 1 (New England) expect to spend \$675M on new buildings being started in 2010, \$189M on additions to existing buildings, and \$254M on retrofit of existing buildings, for a total of almost \$1.118B on all construction. More than 60 percent of Region 1's construction dollars are destined to be spent on new buildings. The projected construction plans of Region 1 colleges starting in 2010 account for 8.8 percent of all college construction projects projected to start this year.

What's Underway?

Construction completed in 2009 is history. Expected construction to be put in place in 2010 is underway right now.

Colleges do not expect a big bounce-back in 2010. They report that they expect to complete just \$10.2B worth of construction this year (see Table 3, above). Of that

amount, \$7.8B (77 percent) will go into new buildings. Another \$1.4B will be used to retrofit, renovate, and upgrade existing structures.

Table 5 Profile of New Buildings Currently Underway

Building Type	Median Size (Sq. Ft.)	Median Cost	Cost per Sq. Ft.			Buildings in Sample
			Low Quartile	Median	High Quartile	
Academic	70,000	\$20,000,000	\$212.05	\$295.00	\$410.08	98
Admin/Office	35,000	\$19,776,000	\$183.16	\$398.91	\$545.06	13
Early Childhood	15,317	\$4,717,942	\$208.33	\$350.00	\$385.89	11
Library	55,000	\$24,000,000	\$227.69	\$333.33	\$456.14	11
Performance	89,000	\$28,330,000	\$269.09	\$351.09	\$416.67	22
Physical Education	43,000	\$13,000,000	\$185.00	\$274.29	\$403.44	33
Residence Halls	80,000	\$14,000,000	\$172.82	\$209.31	\$259.26	70
Science	89,500	\$30,656,500	\$266.15	\$391.65	\$594.43	86
Student Union	85,200	\$31,000,000	\$233.75	\$275.86	\$446.60	43
Technology	52,448	\$11,750,000	\$181.41	\$225.38	\$514.21	16

To read this table: The median academic building in this sample of buildings recently completed or currently being constructed will contain 70,000 square feet and will cost \$20M. The median cost will be \$295 per square foot. One quarter of the academic buildings will cost \$212.05 per square foot or less. At the other end of the scale, one out of four academic buildings will cost \$410.08 per square foot or more. This information was gathered from a sample of 98 academic buildings completed in 2009 or currently under construction.

Despite budget cuts, colleges in Region 11 project that they will return to being the nation's most active construction region, at almost \$1.9B. Colleges in Region 9 say they will complete almost \$1.7B worth of work in 2010, about the same as last year's total. Nobody (with the possible exception of colleges in Regions 5 and 11) expects the expenditures for 2010 completions to be significantly higher than in 2009.

Looking Ahead

What is coming next? Colleges were asked about construction they were plan-

ning to start during calendar year 2010.

Table 4 on page CR5 shows the results. The total projected is almost \$12.7B, possibly showing a slight rebound in construction activity. A similar rebound was projected last year. We won't know for another year or two (when completed projects are reported) if that rebound did occur, but the headlines mentioned earlier make it seem unlikely. At best, it appears that college spending on construction will hold steady or decline only marginally through the next two years.

What's in a Building?

Every college that plans and constructs a new building designs that building for its own specific needs and purposes. An academic building at one institution will have a different mix of classrooms, labs, and offices than one at another. Some colleges will put science labs in their academic buildings; others construct buildings strictly for science. Similarly, student unions run the gamut from simple gathering and food service areas to the inclusion of theaters, fitness centers, and the like.

Nevertheless, when a college says that it is building a science building, an academic building, a library, or performance building, there is a certain commonality of facilities that we all expect. That commonality allows some comparison from campus to campus

in terms of cost and size. **Table 5**, above, provides information on ten building types that were identified by colleges. In each case, it is assumed that the function that was named is the dominant one in the building, although other facilities may also be included.

Information was gathered on 98 new academic buildings completed in 2009 or underway now. Among them, the median size was 70,000 sq. ft., and the median cost \$20,000,000. In terms of cost per square foot, the median academic building is being constructed for \$295 per square foot. One-quarter of the academic buildings cost \$212.05 or less per square foot, while one-quarter at the other end of the scale cost \$410 or more. (It should be noted that the median for each variable was found independently. The 70,000-sq.-ft. academic building was not necessarily where the cost was \$295 per square foot.)

Looking at some of the other building types identified, the median among 11 library buildings was 55,000 sq. ft. and the median cost was \$24M. It may or may not be significant that this was the fewest library projects we have seen in all the years we have been collecting this information. Is the standalone library on the way out?

Among 22 performance venues, the median size was 89,000 sq. ft. and the cost \$28.3M. They were relatively expensive, at

■ RETROFIT	
When Colleges Renovate a Building, Here Is the Work They Most Often Undertake* (% of projects)	
HVAC	40.7%
Electric Overhaul	40.0%
Plumbing	31.5%
Lighting	31.2%
Flooring/Carpeting	28.3%
Fire Alarms	21.6%
ADA Compliance	20.4%
Fiber Optics/Cable	18.1%
Storage	14.1%
LAN's	13.8%
WANS	13.4%
Security Equipment	12.7%
Bathrooms	11.6%
Tile	11.4%
Controls	11.4%
Roofing	11.1%

* Retrofit undertaken in at least 10% of reported projects

a median cost of \$351 per square foot (and one of four costs more than \$416 for each square foot).

There were 11 reports of early childhood centers. The median was 15,317 sq. ft. and cost \$4.7M. Thirteen administration/office buildings were identified, at a median 35,000 sq. ft. and almost \$20M. In terms of cost per square foot, the median was almost \$400, making these the most expensive building type. That is something of a surprise, but may have to do with expensive technology if the administration building is the hub of the campus information system. (It also could be the result of faulty reporting.)

Physical education and athletic facilities ranged from field houses to natatoriums and from gymnasiums to locker rooms to stadiums. Thirty-three facilities falling into this category had a median cost of \$13M. Reports on 43 student unions showed the median size to be 85,200 sq. ft. and the cost per square foot at almost \$276.

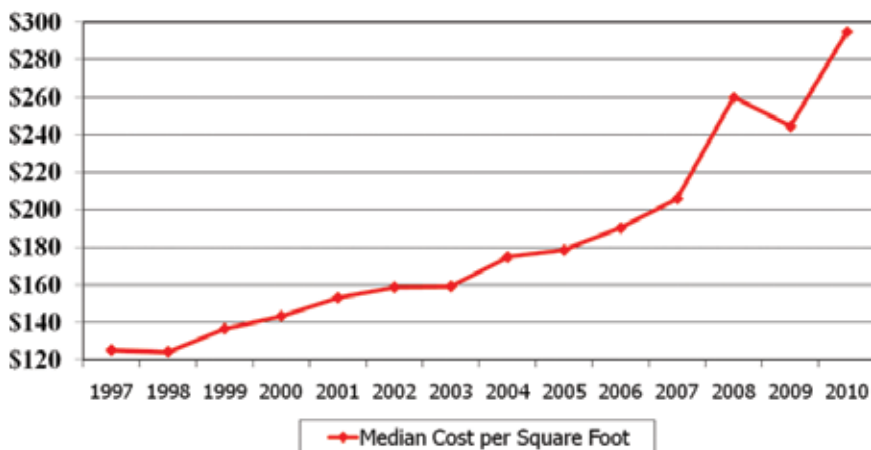
Among 70 new residence halls, the median size was 80,000 sq. ft. The median cost, \$14M. In terms of cost per square foot, these buildings are the least expensive at the median and among those colleges that spent on the low end and those that spend at the high end.

The median cost per square foot for science buildings was more than \$391, and one-quarter of these buildings cost \$594 or more. A total of 86 science buildings completed in 2009 were identified, with the median size 89,500 sq. ft. and the median cost close to \$31M. Sixteen technology buildings have a median cost of \$11,750,000 and 52,448 sq. ft.

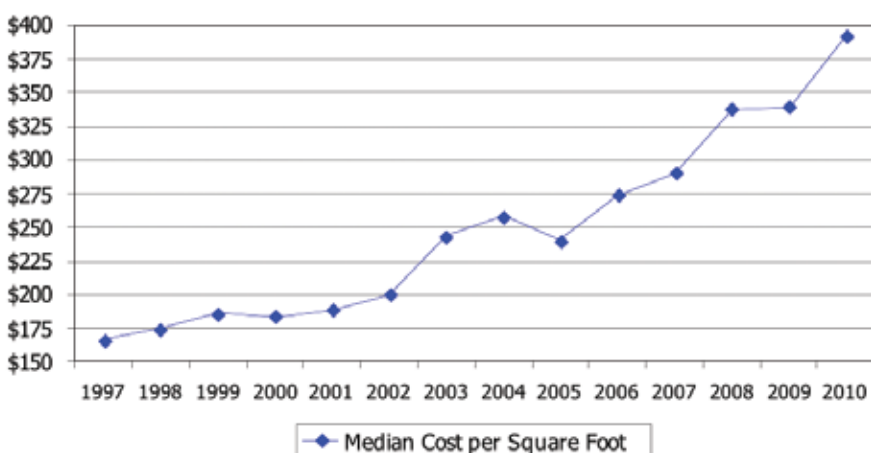
Each year I look for other types of buildings that are mentioned frequently but perhaps not consistently. This year two building types jumped out. One was buildings devoted specifically to **engineering**, and eight of these were identified. The median cost among them was \$61M, the median size was 130,000 sq. ft., and the median cost per square foot, \$360.

The second group was **medically related**, ranging from hospitals to special medical-related research facilities to schools of nursing. Twenty-seven projects

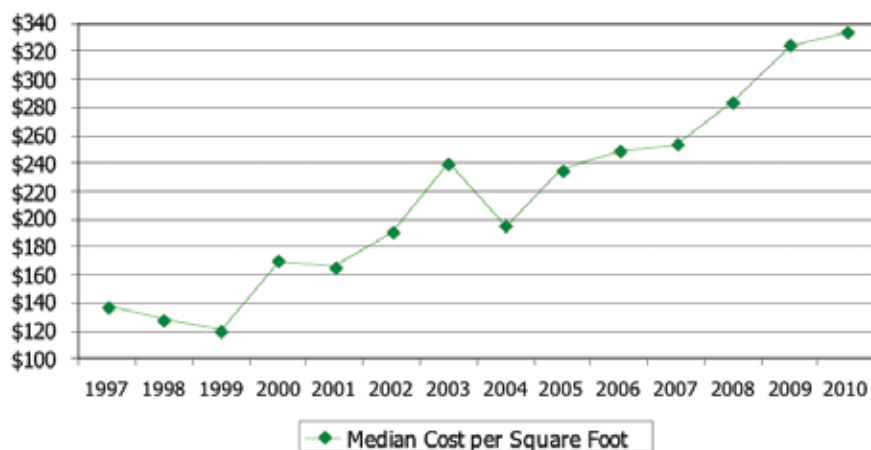
Graph A: Median Cost per Sq. Ft. for Academic Buildings



Graph B: Median Cost per Sq. Ft. for Science Buildings



Graph C: Median Cost per Sq. Ft. for Library Buildings



fell into this rather wide grouping, with a median size of 87,000 sq. ft. and a cost of \$35M. The median cost was \$387.50 per square foot, but to illustrate how they ranged, one quarter of them cost \$237 per

square foot or less (most likely nursing schools and other facilities basically for teaching) and one quarter of them cost \$528 per square foot and much more, particularly those devoted to medical research.

What's Being Renovated?

With almost \$1.4B spent in 2009 on renovation of existing buildings, it seemed useful to know what kinds of work are most often undertaken. The list in the box on page CR6 shows that when renovation projects are started on a college campus, overhauling the building's HVAC and electrical systems comes first. Plumbing and lighting are also frequently involved, along with flooring/carpeting. One out of five projects involves ADA compliance, often installation of an elevator in an older building.

Rising Costs

College Planning & Management has been publishing cost information on various building types since 1997. In the four graphs on pages CR7 and CR8, we have tracked the median cost of construction per square foot for four building types during that period of time. The four were chosen because we receive more reports on those than other types, and they are constructed on virtually every college campus.

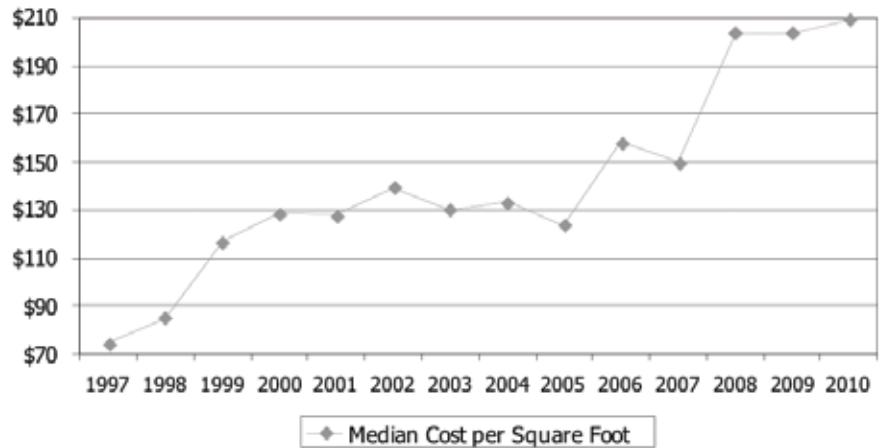
The median cost per square foot for academic buildings was just above \$120 in 1997 and stayed closed to that mark in 1998. Since then (see Graph A), it has risen significantly. Two years ago, the median cost for academic buildings rose above \$200, then to \$250. This year the cost has settled in at \$295 per square foot.

Of course, it is important to remember that each year a different set of buildings (and colleges) is involved. Conceivably, one year all buildings of a particular type could come from major universities and the next year from small community colleges. However, with a sampling as large as this one, that's unlikely.

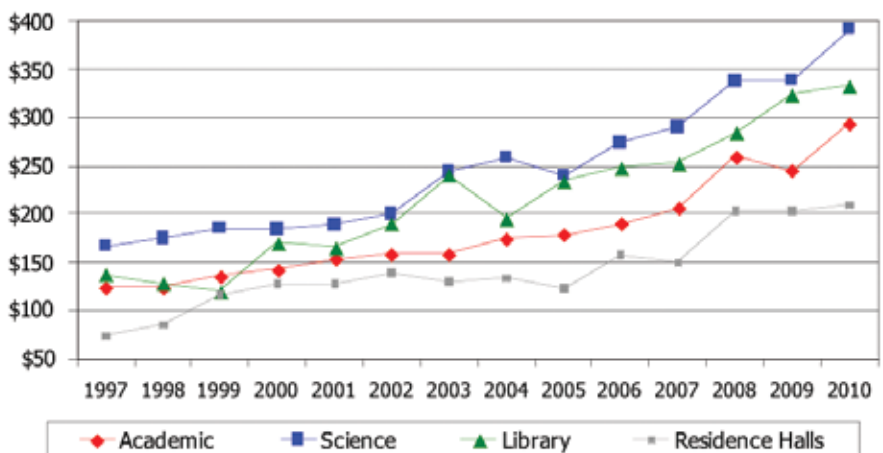
Science buildings (Graph B) always cost more than academic buildings. In 1997, they cost \$170 per square foot. By 2004, the cost had risen above \$250 per square foot, and last year stood at \$340 per square foot. The median cost this year is approaching \$400. One quarter of the 86 buildings studied did or will cost more than \$594 per square foot.

The cost for library buildings (Graph C)

Graph D: Median Cost per Sq. Ft. for Residence Hall Buildings



Graph E: Median Cost per Sq. Ft. for College Buildings



has risen to \$333 per square foot, just slightly more than last year. We are looking this year at a relatively small sample (11 buildings).

Graph D looks at the median cost per square foot for residence hall buildings. The days of inexpensive, minimally furnished housing for students has obviously passed. A decade ago, in 1997, the median residence hall was being constructed for about \$75 per square foot. Today the median cost among 70 residences was over \$209. However, residence halls remain the least expensive college buildings. A more thorough study of residence hall costs and amenities is now underway and will be reported in the May issue of *College Planning & Management*. [CPM](#)

Paul Abramson is education industry analyst for CP&M and president of Stanton

DOWNLOAD THIS REPORT

For your reference and convenience, a PDF of this report can be downloaded from www.webCPM.com (click on Research and Reports).

COLLEGE
Planning & Management

Find this report and much more @ www.webCPM.com



Leggett & Associates, an educational facility consulting firm based in Mamaroneck, NY. He was recently named CEFPI's 2008 "Planner of the Year." He can be reached at intelled@aol.com.