

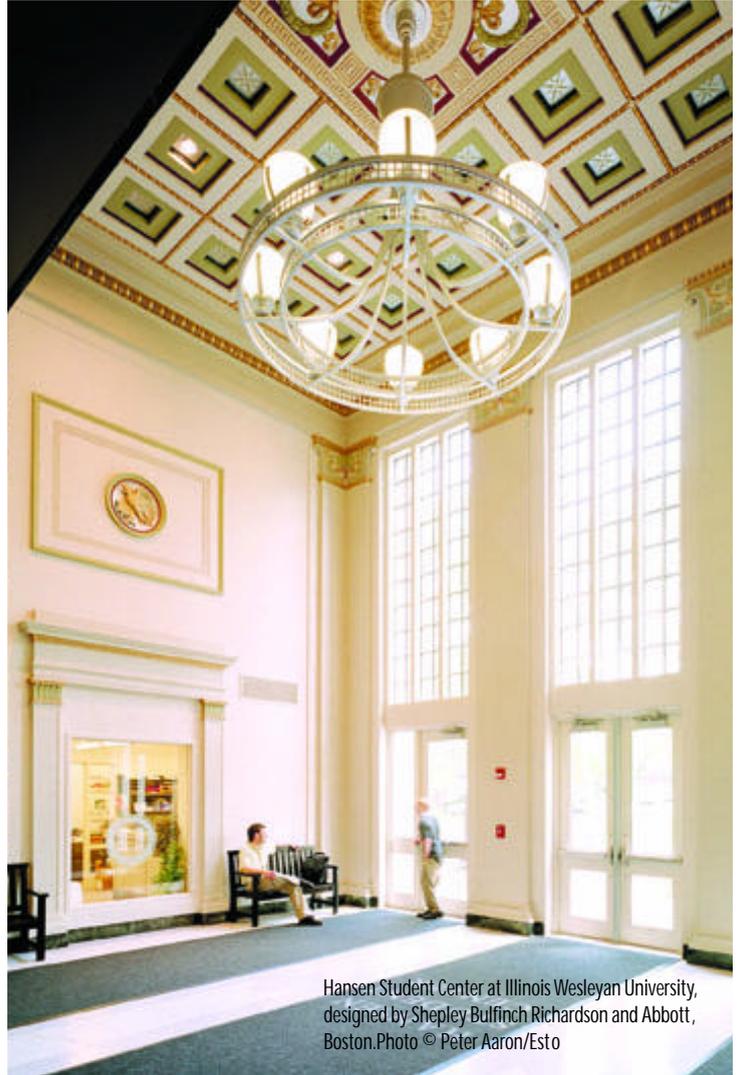
COLLEGE

Planning & Management

2003 Construction Report

College construction reached an all-time high in 2002: \$11 billion. Indications are that colleges will be doing at least that much construction in the years to come. About 36 percent of that number is going into fixing up and adding to existing structures.

by Paul Abramson



Hansen Student Center at Illinois Wesleyan University, designed by Shepley Bulfinch Richardson and Abbott, Boston. Photo © Peter Aaron/Esto

Here they come ... the students and the builders. Colleges and universities are gearing up for an increasing number of applicants as high school graduating classes bulge. And, where there are more students, there must be more facilities. Builders seem to be almost as ubiquitous on college campuses today as freshman students.

Colleges and universities in the United States put more than \$11 billion worth of construction in place in 2002, the largest single construction year in history. Spread evenly across the nation's 4,204 colleges, that would average \$2.7 million in completed construction on each campus last year. Indications are that colleges will be doing at least that much construction in the years to come. Most of the dollars are being spent on the design and construction of new buildings, but about 36 percent of the construction dollars are going into fixing up and adding to exist-

ing structures.

Those are among the findings of this eighth annual survey of college construction prepared for COLLEGE PLANNING & MANAGEMENT magazine in conjunction with School Construction Alert, a service of the Market Data Retrieval division of Dun & Bradstreet.

Representatives of School Construction Alert send survey forms and make 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 designed to add detail and accuracy to the reports and the projections. Those reports are grouped by the year construction is expected to be completed and started, and into 12 regions (see list on page 17), and are analyzed and used to project construction totals by the author.

Growing Activity

College construction went through a growth period some 20 years ago, then settled in at about \$6 billion annually through the 1990s. Since 1999, however, construction has been increasing rapidly (see Table 1), going from \$6.8 billion to more than \$11 billion in 2002.

A total of \$11.055 billion was reported spent on college construction completed during calendar year 2002. Of that amount, a little more than \$7 billion was for construction of entirely new buildings (see Table 2). The balance was split between adding new space to existing buildings (\$1.7 billion) and upgrading existing buildings (\$2.3 billion).

Not all colleges are in a construction mode. As a matter of fact, when asked about construction completed in 2002, expected to be completed in 2003 and projected to start in 2003, almost half the colleges responding (49.8 percent) indicated that, in those windows, they had no construction activity of any kind planned. Some of those colleges, of course, could have construction activity underway that started last year and will not be completed until 2004 or later. Nevertheless, if only half the nation's colleges are responsible for some \$11 billion of construction, it is apparent that there is a great potential upside to what suppliers would call the college construction market.

A Regional Look

To better understand and estimate how and where construction is taking place, the nation was divided into 12 regions and construction programs of each region's colleges were examined. Region 2, including New Jersey, New York and Pennsylvania, put the greatest amount of construction in place, almost \$1.4 billion, followed by

colleges in Region 6 (Indiana, Michigan and Ohio) with \$1.25 billion, and those in Region 5 (Alabama, Florida, Georgia and Mississippi) at \$1.23 billion.

Region 9 colleges (Arizona, California, Hawaii and Nevada) were also responsible for slightly more than \$1.2 billion in construction completed.

Colleges in two other regions also reported more than \$1 billion of construction in 2002. These were Region 7 (Illinois, Minnesota and Wisconsin), reporting \$1.17 billion, and Region 9 (Arkansas, Louisiana, Oklahoma and Texas) with \$1.03 billion.

It is interesting to note the differences in how the money was used. In Region 2, more than half the dollars were used to upgrade and increase the space in existing buildings. By contrast, in Region 11, 82 percent of the dollars were spent on new buildings and, as a result, colleges in that region spent almost \$1 billion on that category alone. Region 10 was one of the lower-spending regions at just more than \$500 million, but colleges in those states (Colorado, Montana, New Mexico, North Dakota, South Dakota, Utah and Wyoming) used 86.6 cents of every construction dollar for new buildings.

What's Underway

Construction completed in 2002 is history. Construction expected to be put in place during 2003 is what's going on right now. And what's going on right now is a continuation of last year's record.

Colleges report that they will complete \$11.115 billion worth of construction this year. Of that

Regional Definitions

Region 1:	Conn., Maine, Mass., N.H., R.I., Vt.
Region 2:	N.J., N.Y., Pa.
Region 3:	Del., D.C., Md., Va., W.V.
Region 4:	Ky., N.C., S.C., Tenn.
Region 5:	Ala., Fla., Ga., Miss.
Region 6:	Ind., Ohio, Mich.
Region 7:	Ill., Minn., Wis.
Region 8:	Iowa, Kan., Mo., Neb.
Region 9:	Ark., La., Okla., Texas
Region 10:	Colo., Mont., N.D., N.M., S.D., Utah, Wyo.
Region 11:	Ariz., Calif., Hawaii, Nev.
Region 12:	Alaska, Idaho, Ore., Wash.

TABLE 1: College Construction Completed (\$000s), 1996 through 2002

	1996	% of	1997	% of	1998	% of	1999	% of	2000	% of	2001	% of	2002	% of
	Cost	Total	Cost	Total										
New Buildings	\$4,528,792	72.4%	\$4,260,969	73.8%	\$4,384,893	69.2%	\$4,567,166	67.2%	\$4,780,898	65.6%	\$6,029,621	61.8%	\$6,950,532	63.4%
Additions	\$541,697	8.7%	\$529,013	9.2%	\$857,051	13.5%	\$986,864	14.5%	\$1,039,178	14.3%	\$1,586,614	16.2%	\$1,732,084	15.8%
Retrofits	\$1,181,310	18.9%	\$986,993	17.0%	\$1,090,206	17.3%	\$1,239,307	18.3%	\$1,467,785	20.1%	\$2,147,947	22.0%	\$2,272,794	20.8%
TOTAL	\$6,251,799		\$5,776,975		\$6,332,150		\$6,793,337		\$7,287,861		\$9,764,182		\$11,055,411	

To read this table: In 1997, colleges spent \$4,260,969,000 on construction of new buildings, \$529,013,000 on additions to existing buildings and \$986,993,000 to upgrade and retrofit existing buildings — a total of \$5,776,975,000. In 2002, colleges completed buildings worth \$11,055,411.



amount, \$7.7 billion (69 percent) will go into new buildings. Another \$1.7 billion will be used to provide additional space in existing buildings. Almost \$1.8 billion will be used to retrofit, renovate and upgrade existing structures. The huge percentage of the money going into new buildings is something of a reversal of recent trends, which had seen the percentage of dollars for new construction falling to as low as 61 percent of total spending.

Region 9, dominated by Texas, reports the highest spending, expecting to complete construction worth almost \$1.8 billion this year. Of that, \$1.3 billion (almost 73 percent) will go into entirely new buildings.

Region 11, including Arizona and California, will complete almost \$1.4 billion in college construction this year, with a whopping 84 percent used to create new buildings. Region 2 is the third highest spender this year at \$1.15 billion and is one of only two regions that will use more than half its money improving and enlarging existing buildings. The other is Region 12 (Alaska, Idaho, Oregon and Washington) which, two years in a row, will do the least college construction of any of the 12 regions.

At the Starting Line

What's coming next? Colleges were asked to

describe their plans for construction to get underway during 2003. The result, that slightly less than \$11 billion worth of construction will commence this year, indicates that construction into the near future will remain at least at current levels. Based on previous surveys, it is predictable that more work will start than has so far been delineated and that, when next reported as work being completed, it will cost more than projected.

In any case, colleges are projecting that they will start work on almost \$6.8 billion worth of new buildings this year and have scheduled a little more than \$4.1 billion to be spent on existing buildings, almost evenly split between retrofit and adding space.

Colleges in Region 11 and Region 9 are expecting to commence spending the most dollars, \$1.3 billion each. Colleges in Regions 2, 4, 5 and 6 also will begin more than \$1 billion worth of construction.

What's in a Building?

Each 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, depending on the college's needs. Some colleges will put science labs in their academic buildings; others construct buildings strictly for science. Similarly, student

TABLE 2: College Construction Completed in 2002 Nationally and by Region (\$000s)

Region	New Bldgs	Additions	Renovations	Total	% of Spending for			
					New Bldgs	Additions	Renovations	% of Nation
1	\$409,761,769	\$157,260,362	\$283,341,323	\$850,363,454	48.2%	18.5%	33.3%	7.7%
2	\$615,305,804	\$382,597,981	\$397,243,228	\$1,395,147,013	44.1%	27.4%	28.5%	12.6%
3	\$447,549,649	\$103,164,838	\$ 58,252,416	\$608,966,903	73.5%	16.9%	9.6%	5.5%
4	\$720,641,955	\$ 69,441,238	\$ 89,869,082	\$879,952,275	81.9%	7.9%	10.2%	8.0%
5	\$752,782,773	\$127,062,848	\$352,769,141	\$1,232,614,762	61.1%	10.3%	28.6%	11.2%
6	\$795,437,592	\$230,027,299	\$225,474,415	\$1,250,939,306	63.6%	18.4%	18.0%	11.3%
7	\$607,099,123	\$216,360,014	\$347,444,111	\$1,170,903,248	51.8%	18.5%	29.7%	10.6%
8	\$368,393,627	\$120,729,279	\$129,717,865	\$618,840,771	59.5%	19.5%	21.0%	5.6%
9	\$744,371,089	\$102,089,316	\$183,887,247	\$1,030,347,652	72.2%	9.9%	17.9%	9.3%
10	\$440,874,424	\$ 12,831,667	\$ 55,446,948	\$509,153,039	86.6%	2.5%	10.9%	4.6%
11	\$990,983,670	\$120,869,765	\$ 95,937,935	\$1,207,791,370	82.1%	10.0%	7.9%	10.9%
12	\$157,331,325	\$ 89,649,850	\$ 53,409,850	\$300,391,025	52.4%	29.8%	17.8%	2.7%
National	\$7,050,532,800	\$1,732,084,457	\$2,272,793,561	\$11,055,410,818	63.8%	15.7%	20.5%	

To read this table: Colleges in Region 1 (New England) spent \$409,761,769 on new buildings completed in 2002, \$157,260,362 on additions to existing buildings and \$283,341,323 on retrofit of existing buildings, for a total of \$850,363,453 on all construction. More than 48 percent of Region 1's college construction dollars were spent on new buildings. Region 1 colleges spent 7.7 percent of all the money spent on college construction last year.

unions run the gamut from simple gathering and food service areas to theaters, bowling alleys and the like.

Nevertheless, when a college representative says, “we are building a science building, an academic building, a library, a student union or a residence hall,” there is a certain commonality of facilities that we all expect. And that commonality allows some comparison from campus to campus in terms of cost and size.

Table 5 provides information on nine building types. For example, the School Construction Alert survey identified 80 new academic buildings in construction. Among those 80, the median size was 40,000 sq. ft and the median cost was \$7,500,000. In terms of cost per square foot, the building right in the middle is being constructed for \$159.06 per sq. ft. One quarter of the academic buildings are being constructed for \$131.50 per sq. ft. or less, while one quarter at the other end of the scale are being completed for \$200 per sq. ft. or more.

What does this mean to you? How do you compare your costs with such wide ranges? This table does not answer that question but it gives you tools to analyze what you are doing. For example, if you are in a high construction cost area (the northeast, for example), you may well be spending \$200 per sq. ft. If you are in the southwest, a building that expensive

ought to have some pretty sophisticated space. If you have a “plain Jane” building in Mississippi and it is costing \$200 per sq. ft., you may want to take a hard look at the reasons why. Similarly, if you are in New Jersey and your cost per square foot is below \$131.50, even if it is a very plain building, you may wonder if you are just lucky, or if you are getting a building that is poorly built or may be expensive to operate.

The largest buildings in terms of median size are libraries at 70,000 sq ft. The most expensive are science buildings, with a median price tag of \$17,250,000. In terms of cost per square foot, science buildings are certainly the most expensive at \$243.43 for the median among 56 identified buildings. Technology buildings, at \$227.82, are next.

Among 68 residence halls, the median cost \$130.04 per sq. ft., but even some in the high quartile came in at \$156.25, less than the median cost of most other buildings. Physical education buildings are also relatively inexpensive in terms of cost per square foot because they have so much space against which to estimate their cost.

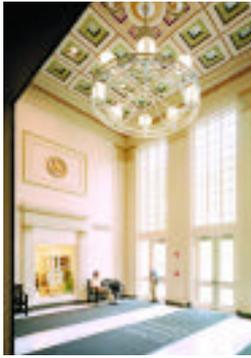
This year, a new building type was identified. Ten different colleges indicated they were building space for the care of preschool children. Most appeared to be associated with schools of education but some were stand-alone projects presumably designed



TABLE 3: College Construction Projected to Be Completed in 2003 Nationally and by Region (\$000s)

Region	New Bldgs	Additions	Renovations	Total	% of Spending for			% of Nation
					New Bldgs	Additions	Renovations	
1	\$678,868,333	\$ 95,648,092	\$ 90,331,289	\$864,847,714	78.5%	11.1%	10.4%	7.8%
2	\$472,630,255	\$329,706,403	\$348,044,601	\$1,150,381,259	41.1%	28.7%	30.2%	10.3%
3	\$571,270,658	\$ 91,800,308	\$113,360,847	\$776,431,813	73.6%	11.8%	14.6%	7.0%
4	\$554,821,372	\$ 39,474,824	\$202,767,935	\$797,064,131	69.6%	5.0%	25.4%	7.2%
5	\$896,892,103	\$104,316,673	\$121,107,644	\$1,122,316,420	79.9%	9.3%	10.8%	10.1%
6	\$613,679,979	\$224,708,138	\$226,287,541	\$1,064,675,658	57.6%	21.1%	21.3%	9.6%
7	\$767,821,210	\$ 66,318,825	\$ 83,452,860	\$917,592,895	83.7%	7.2%	9.1%	8.2%
8	\$260,298,463	\$120,462,444	\$137,315,475	\$518,076,382	50.2%	23.3%	26.5%	4.7%
9	\$1,301,099,979	\$338,434,137	\$148,708,594	\$1,788,242,710	72.8%	18.9%	8.3%	16.1%
10	\$244,411,255	\$102,300,091	\$ 89,295,380	\$436,006,726	56.1%	23.4%	20.5%	3.9%
11	\$1,150,720,888	\$ 73,877,716	\$141,423,969	\$1,366,022,573	84.2%	5.4%	10.4%	12.3%
12	\$152,865,198	\$ 82,644,665	\$ 77,751,864	\$313,261,727	48.8%	26.4%	24.8%	2.8%
National	\$7,665,379,693	\$1,669,692,316	\$1,779,847,999	\$11,114,920,008	69.0%	15.0%	16.0%	

To read this table: Colleges in Region 1 (New England) expect to spend \$678 million on new buildings to be completed in 2003, \$95 million on additions to existing buildings and \$90 million on retrofit of existing buildings, for a total of \$864 million on all construction. More than 78 percent of Region 1's construction dollars will go for new buildings. Region 1 colleges are projected to spend 7.8 percent of all the money spent on college construction completed this year.



specifically to care for children of faculty, other employees and students. The median cost was small compared to those of other building types, but it is interesting that so many colleges consider providing safe, professional daycare a university function.

Blue Sky Ahead?

There are many significant differences between schools and colleges, but they are often lumped together as “educational institutions.” There are more

schools than colleges and, not surprisingly, schools spend more money annually than do colleges. However, there was a short period in the early 1970s, when the original Post-War (World War II) Baby Boomers arrived on campus, when colleges were actually spending more money annually on construction than school districts.

Part of the reason was that schools were not spending construction money at all (they were closing buildings they did not need), but the same kind

TABLE 4: College Construction Projected to Start in 2003 Nationally and by Region (\$000s)

Region	New Bldgs	Additions	Renovations	Total	% of Spending for			% of Nation
					New Bldgs	Additions	Renovations	
1	\$482,724,044	\$101,817,257	\$161,137,212	\$745,678,513	64.7%	13.7%	21.6%	6.8%
2	\$458,994,791	\$281,525,412	\$322,562,837	\$1,063,083,040	43.2%	26.5%	30.3%	9.7%
3	\$741,748,206	\$101,889,413	\$115,870,359	\$959,507,978	77.3%	10.6%	12.1%	8.8%
4	\$644,671,206	\$108,732,895	\$366,521,911	\$1,119,926,012	57.6%	9.7%	32.7%	10.2%
5	\$780,976,330	\$203,751,316	\$ 81,673,550	\$1,066,401,196	73.2%	19.1%	7.7%	9.8%
6	\$564,341,818	\$323,739,538	\$277,732,907	\$1,165,814,263	48.4%	27.8%	23.8%	10.7%
7	\$628,353,532	\$156,500,462	\$185,613,293	\$970,467,287	64.8%	16.1%	19.1%	8.9%
8	\$239,264,800	\$ 90,495,163	\$ 80,097,794	\$409,857,757	58.4%	22.1%	19.5%	3.8%
9	\$895,046,876	\$246,494,922	\$173,316,916	\$1,314,858,714	68.1%	18.7%	13.2%	12.0%
10	\$177,067,451	\$122,758,686	\$ 86,481,015	\$386,307,152	45.8%	31.8%	22.4%	3.5%
11	\$890,487,394	\$199,985,302	\$226,558,949	\$1,317,031,645	67.6%	15.2%	17.2%	12.0%
12	\$277,871,975	\$ 99,891,693	\$ 42,128,654	\$419,892,322	66.2%	23.8%	10.0%	3.8%
National	\$6,781,548,423	\$2,037,582,059	\$2,119,695,397	\$10,938,825,879	62.0%	18.6%	19.4%	

To read this table: Colleges in Region 1 (New England) expect to spend \$482 million on new buildings being started in 2003, \$101 million on additions to existing buildings and \$161 million on retrofit of existing buildings, for a total of \$745 million on all construction. More than 64 percent of the construction dollars are destined to be spent on new buildings. The construction plans of Region 1 colleges starting in 2003 account for 6.8 percent of all college construction projects now on the boards nationally.

TABLE 5: Profile of New Buildings Currently Underway, 2003

Building Type	Median Size (Sq. Ft.)	Median Cost (\$000s)	Cost per Square Foot			Buildings in Sample
			Low Quartile	Median	High Quartile	
Academic	40,000	\$ 7,500	\$ 131.50	\$ 159.06	\$ 200.00	80
Child	10,000	\$ 1,850	\$ 133.77	\$ 157.35	\$ 190.37	10
Library	70,000	\$15,000	\$ 148.17	\$ 240.38	\$ 307.32	21
Performance	52,000	\$12,000	\$ 142.87	\$ 204.76	\$ 333.04	15
Physical Education	60,000	\$ 8,000	\$ 89.01	\$ 137.25	\$ 200.00	17
Residence Halls	52,250	\$ 7,036	\$ 108.00	\$ 130.04	\$ 156.25	68
Science	68,180	\$17,250	\$ 189.19	\$ 243.43	\$ 343.60	56
Student Union	50,000	\$10,000	\$ 146.43	\$ 180.33	\$ 204.21	25
Technology	41,000	\$ 7,029	\$ 140.65	\$ 227.82	\$ 276.67	18

To read this table: The median academic building in this sample of buildings currently being built will contain 40,000 sq. ft. and will cost \$7.5 million. The median cost will be \$159.06 per sq. ft. One quarter of the academic buildings will cost \$131.50 per sq. ft. or less. At the other end of the scale, one out of four academic buildings will cost \$200 per sq. ft. or more. This information was gathered from a sample of 80 academic buildings.

of flood of students that arrived on college campuses in the 1970s is arriving again today. Those students are demanding more and better facilities, and colleges are trying to provide them.

I mention this because school spending for construction has reached \$21 billion annually. Colleges and universities may never again spend as much on construction as school districts do but, if history is to be believed, there is good reason to expect that,

through the next decade, college spending will continue to increase substantially as more and more students come banging on their doors. [CPM](#)

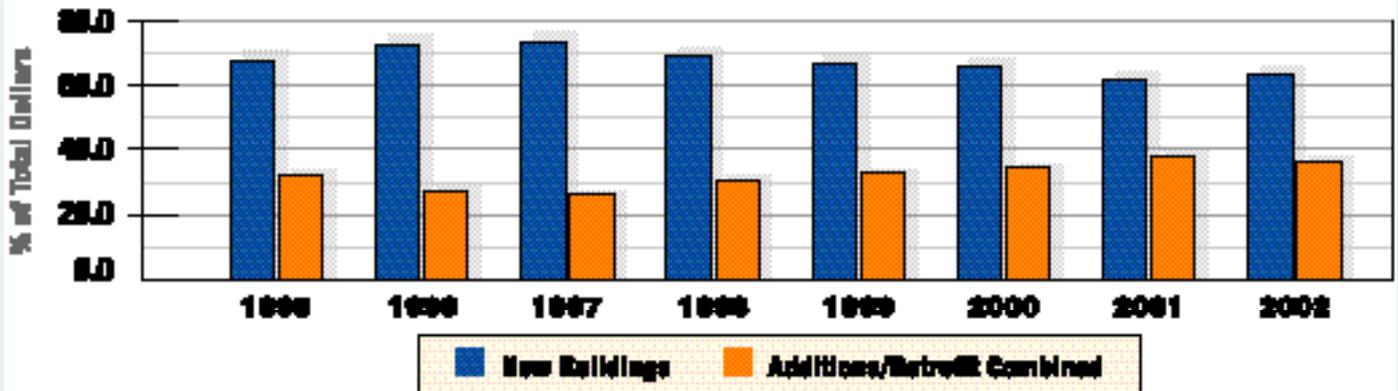
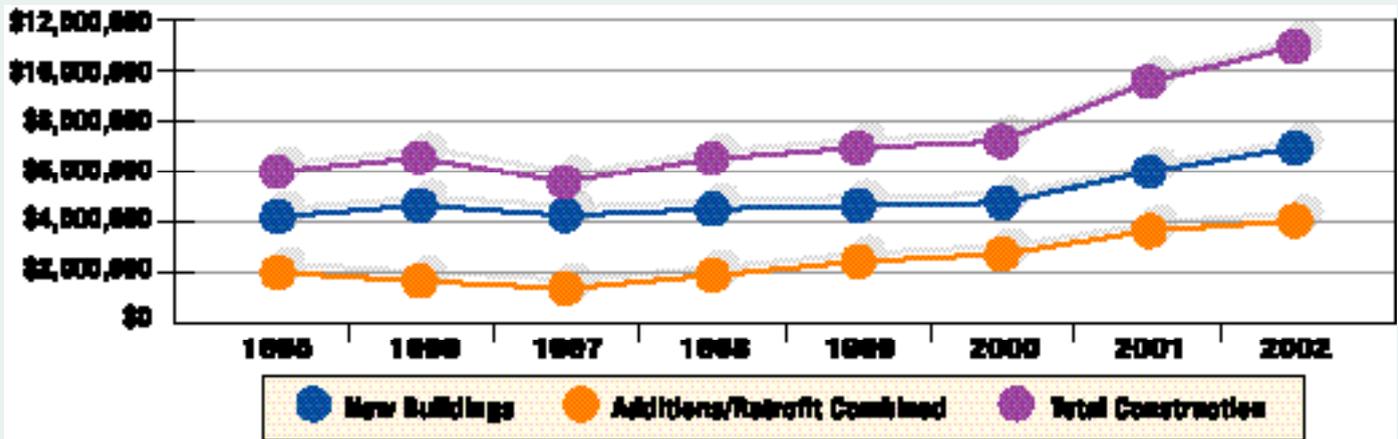
Paul Abramson is education industry analyst of COLLEGE PLANNING & MANAGEMENT magazine. He can be reached for questions and comments at <intelled@aol.com>.



HISTORY OF COLLEGE CONSTRUCTION

College Construction Completed (\$000s), 1995 through 2002

	1995 Cost	% of Total	1996 Cost	% of Total	1997 Cost	% of Total	1998 Cost	% of Total	1999 Cost	% of Total	2000 Cost	% of Total	2001 Cost	% of Total	2002 Cost	% of Total
New Buildings	\$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%	\$4,780,898	65.6%	\$6,029,621	61.8%	\$6,950,532	63.4%
Additions/Retrofits	\$1,971,182	32.3%	\$1,723,007	27.6%	\$1,516,006	26.2%	\$1,947,257	30.8%	\$2,226,171	32.8%	\$2,506,963	34.4%	\$3,734,561	38.2%	\$4,004,878	36.6%
TOTAL	\$6,103,154		\$6,251,799		\$5,776,975		\$6,332,150		\$6,793,337		\$7,287,861		\$9,764,182		\$10,955,410	



COLLEGE PLANNING & MANAGEMENT

Office Locations

N.Y./New England

Judith Cavaliere
220 E. 42nd St., 4th Fl.
New York, NY 10017
800/838-1590
212/818-0708, fax
jcavaliere@peterli.com

West/South

Marcia Rodman
801 S. Wells, Ste. 901
Chicago, IL 60607
800/799-5080
312/939-4603, fax
mrodman@peterli.com

Mid-Atlantic/South

Michael E. Spring
6 Constitution Rd.
Laurel Springs, NJ 08021
856/784-9257
856/784-5868, fax
mspring@peterli.com

Midwest

Jeff Brumbeau
801 S. Wells, Ste. 901
Chicago, IL 60607
800/799-5080
312/939-4603, fax;
jbrumbeau@peterli.com

Mideast

Patty James
39 Hawthorne Ave.
Pittsburgh, PA 15205
866/812-0288
412/875-4383, fax
pjames@peterli.com

This report is also available on the COLLEGE PLANNING & MANAGEMENT Website at
www.webcpm.com