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2005 College Construction Report

by Paul Abramson

The amount of money spent on construction on college campuses throughout the United States has been increasing rapidly.

A decade ago, in 1995, all college construction totaled just \$6.1 billion. In 2002 and 2003, colleges spent almost twice as much, more than \$11 billion each year. It was expected, based on reports of activity then underway, that spending in 2004 would be at least as much.

It was significantly more. Almost \$13.7 billion, the most construction colleges and universities have ever completed in a single calendar year, was put in place last year.

This is not a one-year blip. Construction spending has been increasing year by year as colleges rush to provide facilities for an ever-increasing number of high school graduates seeking an opportunity to gain a college degree, and research universities seek to upgrade their facilities to keep up with exploding demand.

Those are among the findings of this tenth annual survey of college construction prepared for *College Planning & Management* magazine in conjunction with **Market Data Retrieval, a company of Dun & Bradstreet (D&B).**

Representatives of Market Data

Retrieval 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 year construction is expected to be completed and started, and into 12 regions (see list on prior page, lower left) and are analyzed and used to project construction totals by the author.

Growing Activity

A total of \$13.668 billion was reported spent on college construction completed during calendar year 2004. Of that amount, about \$9 billion was for construction of entirely new buildings (see Table 2). The balance was split between adding new space to existing buildings (\$2.15 billion) and upgrading existing buildings (\$2.49 billion).

Not all colleges are in a construction mode. As a matter of fact, when asked about construction completed in 2004, expected to be completed in 2005 and projected to start in 2005, 57 percent of the colleges responding indicated that, in those windows, they had no construction activity of any kind planned. If 43 percent of the nation's colleges are responsible for more than \$13 billion of annual construction, it is apparent that there is a great potential for even more construction activity as state legislators and fund raisers work to ensure that no college falls behind.

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.

Images are of from the Lunquist College of Business, Lillis Business complex at the University of Oregon. Cover and header images: rendering provided by SRG Partnership; photo of structure during construction © Jack Liu; photo of completed project © Steve Smith. Staircase photo in lower left corner, © Steve Smith. Designed by SRG Partnership of Portland, Ore. The general contractor was Crutcher Lewis, also of Portland.

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TABLE 1: College Construction Completed (\$000s) 1995 through 2004

	1995 Cost	% Of Total	1996 Cost	% Of Total	1997 Cost	% Of Total	1998 Cost	% Of Total	1999 Cost	% Of Total
New Bldgs	\$4,131,972	67.7%	\$4,528,792	72.4%	\$4,260,969	73.7%	\$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	13.6%	\$986,864	14.6%
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	
	2000 Cost	% Of Total	2001 Cost	% Of Total	2002 Cost	% Of Total	2003 Cost	% Of Total	2004 Cost	% Of Total
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	15.6%	\$1,761,110	15.9%	\$2,151,836	15.8%
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	

TABLE 2: College Construction Completed in 2004 Nationally and by Region

Region	New Bldgs	Additions	Renovations	Total	% of Spending for			
					New Bldgs	Additions	Renovations	% of Nation
1	\$ 606,204,788	\$ 163,436,699	\$ 210,761,463	\$ 980,402,950	61.8%	16.7%	21.5%	7.1%
2	\$ 891,068,901	\$ 274,639,927	\$ 271,620,745	\$ 1,437,329,573	58.0%	24.4%	17.6%	11.1%
3	\$ 696,653,531	\$ 159,977,300	\$ 123,188,762	\$ 979,819,593	71.1%	16.3%	12.6%	7.1%
4	\$ 865,892,669	\$ 233,024,359	\$ 339,382,040	\$ 1,438,299,068	56.3%	15.1%	28.6%	11.1%
5	\$ 882,501,007	\$ 259,641,800	\$ 198,409,468	\$ 1,340,552,275	65.8%	19.4%	14.8%	9.7%
6	\$ 787,232,330	\$ 239,305,041	\$ 224,273,199	\$ 1,250,810,570	62.9%	19.2%	17.9%	9.0%
7	\$ 974,542,865	\$ 170,805,501	\$ 204,605,203	\$ 1,349,953,569	72.2%	12.7%	15.1%	9.7%
8	\$ 374,605,332	\$ 88,385,128	\$ 174,849,909	\$ 637,840,369	58.7%	13.9%	27.4%	4.6%
9	\$ 1,149,482,915	\$ 289,741,406	\$ 201,968,318	\$ 1,641,192,639	70.0%	17.7%	12.3%	11.8%
10	\$ 239,607,501	\$ 49,075,199	\$ 129,353,293	\$ 418,035,993	57.3%	11.8%	30.9%	3.0%
11	\$ 1,173,043,122	\$ 124,548,029	\$ 282,322,357	\$ 1,579,913,508	74.2%	7.9%	17.9%	11.4%
12	\$ 383,994,103	\$ 99,256,162	\$ 130,344,522	\$ 613,594,787	62.6%	16.2%	21.2%	4.4%
National	\$ 9,024,829,064	\$ 2,151,836,551	\$ 2,491,079,279	\$ 13,667,744,894	65.1%	16.2%	18.7%	

To read this table: Colleges in Region 1 (New England) spent \$606 million on new buildings completed in 2004, \$163 million on additions to existing buildings and \$210 million on retrofit of existing buildings, for a total of \$980 million on all construction. More than 61.8 percent of Region 1's college construction dollars were spent on new buildings. Region 1 colleges spent 7.1 percent of all the money spent on college construction last year.

Note: All tables in this report were developed by the author based upon material provided by Market Data Retrieval.



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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 9, including Texas, Oklahoma, Louisiana and Arkansas, put the greatest amount of construction in place in 2004, a total of \$1.64 billion. Region 9 colleges spent more than a billion dollars on new buildings; about 70 percent of the region's total spending. Additions to existing Region 9 buildings cost almost \$300 million which retrofit of existing structures cost just over \$200 million. Colleges in Region 9 were responsible for 11.8 percent of total college construction spending last year.

Region 11 (California, Nevada, Arizona and Hawaii) was the second most active region with colleges there completing almost \$1.58 billion worth of construction in 2004, including more than \$1 billion on new buildings. Region 4 colleges (Kentucky, North Carolina, South Carolina and Tennessee) and those in Region 2 (New York, New Jersey and Pennsylvania) were very active last year. Each region spent more than \$1.4 billion.

Colleges in Region 5 (Alabama, Florida, Georgia and Mississippi) combined to complete \$1.34 billion, and those in Region 7 (Illinois, Minnesota and Wisconsin) matched them. Region 6 colleges (Ohio, Michigan and Indiana) completed work valued at \$1.25 billion. No other region completed as much as \$1 billion worth of construction last year, but Region 1 (New England) came close at \$980 million as did Region 3 (Delaware, District of Columbia, Maryland, Virginia and West Virginia) with \$979 million.

While the emphasis across the nation was on

constructing new buildings, there were differences in how the money was used. Colleges in Regions 10, 4 and 8 put more than a quarter of their spending towards upgrading existing buildings. Region 2 put almost 25 percent of its funds into enlarging its existing buildings.

What's Underway

Construction completed in 2004 is history. Construction expected to be put in place during 2005 is what's going on right now.

Colleges report that they will complete almost \$14 billion worth of construction this year (see Table 3). Of that amount, \$9.5 billion (69.8 percent) will go into new buildings. About \$1.9 billion will be used to provide additional space in existing buildings. Better than \$2.6 billion will be used to retrofit, renovate, and upgrade existing structures.

Colleges in Region 11 expect to complete the most work this year, almost \$2 billion. Region 9 will be putting almost \$1.6 billion in place in 2005. Region 2 colleges also expect to spend more than \$1.5 billion. Region 5 will put the largest percentage of its funds into new buildings (83.4 percent). Region 4 will continue to put significant funding into retrofit projects.

At the Starting Line

What's coming next? Colleges were asked to describe their plans for construction to get underway during 2005 (see Table 4). With more than \$14.5 billion projected to start this year, the indication is that construction in the future will continue to increase. Based on previous surveys, it is predictable

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TABLE 3: College Construction Projected to Be Completed in 2005 Nationally and by Region

Region	New Bldgs	Additions	Renovations	Total	% of Spending for			% of Nation
					New Bldgs	Additions	Renovations	
1	\$ 570,278,268	\$ 88,261,185	\$ 149,119,854	\$ 807,659,307	70.6%	10.9%	18.5%	5.8%
2	\$ 961,196,464	\$ 238,772,864	\$ 333,216,691	\$ 1,533,186,019	68.8%	13.0%	18.2%	13.1%
3	\$ 674,533,747	\$ 282,394,581	\$ 216,376,287	\$ 1,173,304,615	57.5%	24.1%	18.4%	8.4%
4	\$ 832,031,936	\$ 180,067,870	\$ 397,083,667	\$ 1,409,183,473	59.0%	12.8%	28.2%	10.0%
5	\$ 984,273,378	\$ 241,295,418	\$ 134,586,935	\$ 1,360,155,731	83.4%	6.7%	9.9%	9.7%
6	\$ 994,614,542	\$ 112,283,251	\$ 146,867,869	\$ 1,253,765,662	79.3%	9.0%	11.7%	8.9%
7	\$ 999,206,489	\$ 112,729,326	\$ 225,230,983	\$ 1,337,166,798	74.7%	8.5%	16.8%	9.5%
8	\$ 287,495,569	\$ 49,382,100	\$ 122,429,702	\$ 459,307,371	62.6%	10.7%	26.7%	3.3%
9	\$ 1,064,296,425	\$ 219,883,742	\$ 274,705,032	\$ 1,558,885,199	69.9%	13.0%	17.1%	9.3%
10	\$ 440,028,716	\$ 60,059,109	\$ 92,340,225	\$ 592,428,050	74.3%	10.1%	15.6%	4.2%
11	\$ 1,366,468,428	\$ 228,925,809	\$ 394,696,521	\$ 1,990,090,758	68.7%	11.5%	19.8%	14.2%
12	\$ 319,268,843	\$ 53,107,676	\$ 135,928,164	\$ 508,304,683	62.8%	10.5%	26.7%	3.6%
National	\$ 9,493,692,805	\$ 1,867,162,931	\$ 2,622,581,930	\$ 13,983,437,666	69.8%	11.9%	18.3%	

To read this table: Colleges in Region 1 (New England) expect to spend \$570 million on new buildings to be completed in 2005, \$88 million on additions to existing buildings and \$149 million on retrofit of existing buildings, for a total of more than \$807 million on all construction. More than 70 percent of Region 1's college construction dollars will go for new buildings. Region 1 colleges are projected to spend 5.8 percent of all the money spent on college construction to be completed this year.

TABLE 4: College Construction Projected to Start in 2005 Nationally and By Region

Region	New Bldgs	Additions	Renovations	Total	% of Spending for			% of Nation
					New Bldgs	Additions	Renovations	
1	\$ 571,531,435	\$ 322,048,877	\$ 179,439,359	\$ 1,073,019,671	53.3%	30.0%	16.7%	7.4%
2	\$ 1,026,341,969	\$ 325,545,852	\$ 223,129,504	\$ 1,575,017,325	65.2%	20.6%	14.2%	10.9%
3	\$ 719,510,354	\$ 157,021,125	\$ 324,893,414	\$ 1,201,424,893	59.9%	13.1%	27.0%	8.3%
4	\$ 951,602,396	\$ 215,289,771	\$ 371,644,496	\$ 1,538,536,663	61.8%	14.0%	24.2%	10.7%
5	\$ 1,099,667,254	\$ 172,348,427	\$ 105,467,209	\$ 1,377,482,890	79.8%	12.5%	7.7%	9.6%
6	\$ 799,344,255	\$ 187,766,294	\$ 195,461,753	\$ 1,182,572,302	67.6%	15.8%	16.5%	8.2%
7	\$ 871,093,088	\$ 251,144,953	\$ 273,127,831	\$ 1,395,365,872	62.4%	18.0%	19.6%	9.7%
8	\$ 409,699,343	\$ 82,191,528	\$ 154,506,708	\$ 646,397,579	63.4%	12.7%	23.9%	4.5%
9	\$ 1,066,336,460	\$ 126,737,196	\$ 182,371,715	\$ 1,375,445,371	83.6%	9.9%	6.5%	8.9%
10	\$ 496,722,968	\$ 54,615,981	\$ 39,876,300	\$ 591,215,249	84.0%	9.3%	6.7%	4.1%
11	\$ 1,197,999,876	\$ 255,204,857	\$ 514,868,046	\$ 1,968,072,779	60.9%	13.0%	26.1%	13.7%
12	\$ 360,010,811	\$ 193,685,989	\$ 29,344,516	\$ 583,041,316	61.7%	33.3%	5.0%	4.0%
National	\$ 9,569,860,209	\$ 2,343,600,850	\$ 2,594,130,851	\$ 14,507,591,910	66.4%	16.3%	17.3%	

To read this table: Colleges in Region 1 (New England) expect to spend \$571 million on new buildings being started in 2005, \$322 million on additions to existing buildings and \$179 million on retrofit of existing buildings, for a total of \$1.073 billion on all construction. More than 53 percent of Region 1's construction dollars are destined to be spent on new buildings. The construction plans of Region 1 colleges starting in 2005 account for 7.4 percent of all college construction projects.



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that more work will start than has so far been delineated and that, when next reported as work being completed, will cost more than projected. College construction could easily surpass \$15 billion annually in the next few years.

So far, colleges are projecting that they will start work on almost \$9.6 billion worth of new buildings this year and have scheduled just under \$5 billion to be spent on existing buildings, with emphasis on retrofit. Region 11 expects to become the largest spending region, while Region 9 colleges, based on what has been reported, may slow down.

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 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, or student union or 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 10 building types. For example, the School Construction

Alert survey identified 86 new academic buildings in construction. Among those 86, the median size was 53,215 sq. ft., and the median cost was \$8,000,000. In terms of cost per square foot, the building right in the middle is being constructed for \$172.82 per sq. ft. One quarter of the academic buildings are being constructed for \$132.41 per sq. ft. or less, while one quarter at the other end of the scale are being completed for \$221.11 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, you may well be spending \$200 a 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 Louisiana and it is costing \$200 a sq. ft., you may want to take a hard look at the reasons why. Similarly, if you are in Pennsylvania or Michigan and your cost per square foot is below \$125, even if it is a very plain building, you may ponder whether you are just lucky or if you are getting a building that is poorly built or may be expensive to operate.

Looking at some of the other building types identified, performance buildings with their large stages, mechanical sophistication and extensive lighting, tend to be far more expensive than any other building type. The median among 25 projects reported cost \$378 per sq. ft. and one out of four reported costs above \$400 per sq. ft. The median performance building will encompass 80,000 sq. ft. and cost \$27 million. Science buildings tend to be the largest (96,000 sq. ft.) and second most expensive at \$240 per square foot. The median library and the

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TABLE 5: Profile of New Buildings Currently Underway

Building Type	Median Size (Sq. Ft.)	Median Cost	Cost per Square Foot			Buildings in Sample
			Low Quartile	Median	High Quartile	
Academic	78,500	\$ 14,250,000	\$ 125.71	\$ 174.82	\$ 216.67	64
Academic	53,215	\$ 8,000,000	\$ 129.09	\$ 172.82	\$ 221.11	86
Child	11,000	\$ 2,100,000	\$ 132.41	\$ 146.93	\$ 181.82	8
Library	70,000	\$ 16,000,000	\$ 191.48	\$ 235.29	\$ 326.62	19
Office	34,000	\$ 6,500,000	\$ 107.64	\$ 138.44	\$ 235.29	18
Performance	80,000	\$ 27,000,000	\$ 228.67	\$ 378.37	\$ 413.44	25
Physical Education	63,000	\$ 12,000,000	\$ 142.86	\$ 170.63	\$ 273.15	30
Residence Halls	53,750	\$ 6,000,000	\$ 101.35	\$ 123.80	\$ 150.52	53
Science	92,000	\$ 20,000,000	\$ 201.83	\$ 240.00	\$ 294.05	71
Student Union	55,000	\$ 15,000,000	\$ 196.25	\$ 214.29	\$ 257.52	29
Technology	53,000	\$ 8,850,000	\$ 116.48	\$ 160.00	\$ 239.99	27

To read this table: The median academic building in this sample of buildings currently being constructed will contain 53,215 sq. ft. and will cost \$8 million. The median cost will be \$172.82 per sq. ft. One quarter of the academic buildings will cost \$129.09 per sq. ft. or less. At the other end of the scale, one out of four academic buildings will cost \$221.11 per sq. ft. or more. This information was gathered from a sample of 86 academic buildings.

median student union building also cost more than \$200 per square foot. Residence halls at \$123.80 per sq. ft. were the least expensive building type.


The samples shown here tend to be small, and the differences within each building type are wide. There are some cases where there is an obvious split between large universities and smaller colleges.

What's Being Renovated?

With one in five construction dollars going into renovation of existing buildings, what kinds of work are most often undertaken? The list in the green box to the right shows the result of that investigation.

When renovation projects are started on a college campus, more than half of them involve overhauling the buildings' HVAC (heating, ventilating and air conditioning) systems. Electrical upgrades are also

included in better than half of the projects. Lighting (44 percent), flooring/carpeting (39 percent) and plumbing (38 percent) are included in more than one of three projects, as is ADA compliance (33.7 percent). Alarm systems (32.4 percent) are also fairly common aspects of retrofit projects.

There is a long list of other concerns that are worked on in at least 10 percent of the reported retrofit efforts, including upgrading bathrooms, replacing controls and installing fiber optics. Only 17 percent of the projects involved roofs and 14 percent windows. Increasing fuel costs may drive those projects much higher on the list in the future. 

Paul Abramson is the education industry analyst for College Planning & Management magazine and the president of Stanton Leggett & Associates, an education consulting firm located in Larchmont, N.Y. He can be reached at <intelled@aol.com>.

Retrofit

When Colleges Renovate a Building, Here Is the Work They Most Often Undertake (% of projects)

HVAC	55.5%
Electric Overhaul	52.6%
Lighting	44.1%
Flooring/Carpeting	39.0%
Plumbing	38.0%
ADA Compliance	33.7%
Alarms	32.4%
Bathrooms	22.7%
Controls	22.2%
Fiber Optics/Cable	22.0%
Tile	21.8%
Storage	20.3%
Security Equipment	18.7%
Roofing	17.4%
LANs	17.0%
WANs	14.5%
Offices	14.3%
Windows	13.7%
Classrooms	12.8%
Code Violations	10.4%

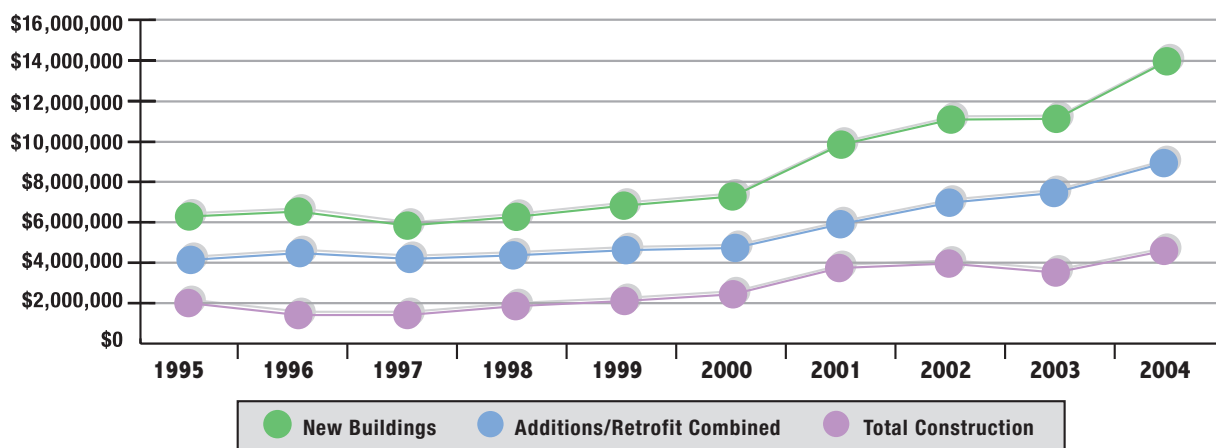
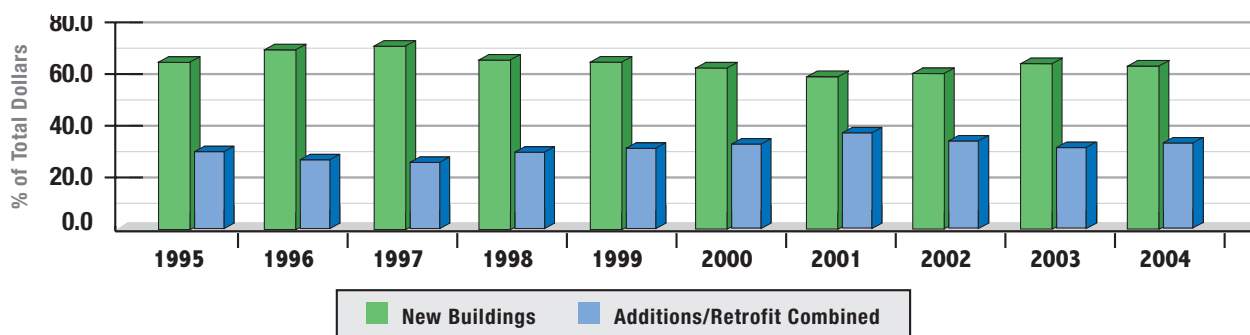
* Retrofit undertaken in at least 10% of reported projects



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History of College Construction

College Construction completed, 1995 Through 2004



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