SELECTING COMPARATOR INSTITUTIONS FOR
THE FOUR CAMPUSES OF THE
UNIVERSITY OF MISSOURI

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The use of inter-institutional comparative data by administrators and policy analysts in higher education continues to increase as many colleges and universities experience financial and programmatic constraints and are increasingly held accountable for management decisions. Inter-institutional comparisons are often incorporated into the strategic planning and decision-making process of institutions. Comparative data provide administrators with a useful tool for gauging competition, for assessing institutional performance, and for guiding policy development. Comparative data also can be used to explain and justify budget requests, salary increases, teaching loads, tuition increases, and numerous other policy issues (Teeter and Brinkman, 1992).

The usefulness of inter-institutional comparisons hinges on selecting an appropriate set of institutions with which to compare the "home" institution. The process of selecting comparator institutions can, at times, be very political and fraught with problems (Prather and Carlson, 1991). Typically, comparison institutions consist of peer entities, however, other types of comparison groups can be identified and legitimately used in planning and policy decision-making.

Type of Comparator Groups

Brinkman and Krakower (1983) provide a convenient typology of comparator groups: *competitor*, *aspiration, predetermined*, and *peer*. More often than not the particular issue being addressed will govern the selection of a specific type of comparator group.

In the Brinkman and Krakower typology, a *competitor group* consists of institutions that compete with the "home" institution for students, faculty, dollars, and other similar resources. Frequently, a competitor group consists of institutions that are substantially different in terms of mission, role, and scope. The usefulness of this type of comparison group often hinges on the degree to which dissimilarities within the group can be tolerated for analytical purposes.

An *aspiration group* consists of institutions that are similar to the "home" institution, but worthy of emulation on a number of measures and characteristics. An aspiration group is thus an appropriate group to use when it is critical to examine differences between the "home" institution and the comparator group.

A *predetermined group* consists of institutions that are typically compared because they share a common affiliation, political, organizational, regional, or otherwise. Comparator groups with common membership in athletic conferences, regional compacts (SERB), educational associations (AAU and ASCU), or by institutional classification (Carnegie Classification), are examples of predetermined comparison groups.

A *peer group* consists of institutions that are similar in mission, role, and scope. In developing a peer group, it is unrealistic to expect to find a perfect match with the "home" institution. Rather, the goal is to find a group of institutions that are sufficiently similar to the "home" institution on a number of critical characteristics. Clearly, the operative word in developing a peer group is "similar" not "identical".

According to Brinkman and Krakower (1983), an institution may develop several different peer groups, each appropriate for a particular issue. However, this approach is often seen as self-serving and is not easily explained to or understood by legislative committees and governing bodies, who are typically not well informed about comparative analytical processes. From a practical point of view, it is advisable to develop a "general purpose" peer group that can be used on most occasions and for multiple purposes.

Comparator Groups Used by the University of Missouri

Historically, the four campuses of the University of Missouri (UM) have used common comparator groups despite dissimilarities in the mission, role, and scope of each campus. Over the past fifteen to twenty years, the University has used different "common" comparator groups. However, all have been *predetermined comparator groups* defined by membership in an athletic conference or educational association. Data from these comparator groups have driven numerous analyses and influenced many policy decisions.

For a number of years, the Big 8 and Big 10 athletic conference institutions functioned as the comparator group for all four campuses. In later years, the comparator group was Big 10 institutions, and more recently public AAU institutions. For the most part, Big 10 or public AAU institutions represent *aspiration* rather than *peer* groups for the UM campuses.

While these comparator groups may have served a useful purpose in the past, there is little evidence to suggest that comparative data drawn from these groups will provide the essential information needed for planning and policy decisions in the future. This is particularly true when one considers the different environmental and organizational dynamics operating on the four UM campuses. Thus, continued use of one common comparator group whose linkage is common affiliation with an athletic conference or educational association may be so heterogeneous that any comparative data developed from the group would lack credibility.

It seems prudent to consider developing separate and distinct peer comparator groups for each of the four campuses. Comparative data developed from separate peer groups could greatly improve individual campus planning, evaluation, and decision-making. Furthermore, data developed from separate peer groups would allow for a more realistic assessment of campus performance by system administration.

In recognition of these principles and in light of the fact that campuses must report some strategic planning performance indicators in comparison to peers, the University embarked on an effort to define comparators in the summer of 1999. Specifically, the Chancellors were instructed by President Pacheco on July 1 to propose an initial set of peers for comparison by August 9. Campuses were given the initial results from use of the strategy described in this report and the August 9 list could include those institutions but were not required to do so. Campus selected institutions not appearing on the Planning & Budget list were then added to the analysis and the data were processed again for informational purposes. Campuses had until September 30 to make final selections, had final say in picking peer groups, and described their reasoning in selecting other institutions in more or less detail. This report will concern itself with the method used by Planning & Budget but the resulting tables will also include institutions selected by campuses.

Planning & Budget's Strategy for Developing Peer Groups

Planning & Budget's strategy followed the principle that those variables that will be the subject of comparison should not be used in the peer selection process. For example, measures of resource allocation and productivity are frequently used when comparing institutions. To employ these variables as criteria for selecting peers would introduce a circular logic or self-fulfilling prophecy into the selection process -- The peer group would be very similar on any measure used to select peers. Because, Planning & Budget was offering "general purpose" peer groups, the analysis focused on dimensions that reflected the fundamental nature of institutional mission, programmatic orientation, student clientele, and institutional environment. These variables, in turn, often determine patterns of resource utilization, productivity, and other related measures of interest in comparative analyses.

Several methods are available for selecting peer institutions: cluster analysis, discriminate analysis, factor analysis, sectoring, threshold, and panel review. The method presented here and used in developing peer groups for each of the UM campuses represents a hybrid approach employing both sectoring and threshold techniques. The specifics of this approach are described as follows.

Sectoring permits an initial selection of possible peers by focusing on key variables; for example, governing control (public vs. private), land-grant status, geographic location, presence of specific programs, or any other combination of appropriate nominal variables. With the addition of the threshold technique, the number of institutions initially identified through sectoring are rank-ordered by determining how similar they are to the "home" institution on a series of interval and ratio variables. This is accomplished by first establishing a range of acceptable variation for each of the "home" institution's actual value on each variables. The same

variables for each peer candidate are then screened to determine if their value lies within the acceptable range of variation. For each variable whose value lies outside the range, the peer candidate is penalized in the selection process according to the importance assigned to the variable. The ranking that results from this process can then be used to identify institutions most similar to the "home" institution.

The specific threshold technique used to select peers for each of the UM campuses was adopted from the work of the National Center for Higher Education Management Systems (Teeter and Christal, 1987). In employing this approach relevant interval and ratio variables were selected, the relative importance of each variable was determined, and the acceptable range of values for each variable was specified.

For each of the UM campuses, different variables were used in the sectoring phase to select the initial peer set of institutions. A common set of interval and ratio variables with similar weights but different ranges was then used to rank the initial set of peer candidates. This process was accomplished by determining if the value of each peer candidate's variables was within an acceptable range of variation from the "home" institution. A peer candidate was assigned a point score of one each time the value for a variable fell inside the specified range. This score was then weighted by the relative importance of the variable. The sum of the weighted scores functioned as a measure of similarity and was used to rank-order the initial peer set.

Key variables used to initially screen peer candidates varied by campus and included such factors as governing control, research status, presence of selected professional programs, and location. Variables common to all campuses and used to determine the degree of similarity of the peer candidates to the "home" institution included enrollment variables (headcount; FTE; percent undergraduate, graduate, and first-professional; percent full-time), degree level variables (percent of degrees at associate, baccalaureate, graduate, and first-professional levels), and program variables (percent of degrees awarded in selected fields of study).

Enrollment and degree level variables were assigned weights ranging from 4.0 to 1.0, based on their relative importance. Weights assigned to the program variables ranged from 3.0 to 1.0 and were also based on the relative importance of the variable. In all cases, a higher weighted value indicated the variable was of greater importance. Establishing threshold ranges, assigning weights, and setting initial selection criteria required judgment and were determined based on consensus of opinion among Planning & Budget staff and campus suggestions.

As previously noted, the sum of the weighted scores, or more accurately the maximum weighted score possible minus the weighted score, was then used to rank-order the peer candidates. A peer candidate's rank, therefore, represented how well it fit the weighted criteria, or

in other words, how closely it matched the characteristics of the "home" institution. Peer candidates with low scores were more similar to the "home" institution, while those with high scores were more dissimilar.

The criteria and actual weights used to screen and rank-order potential peer institutions for each campus are presented in subsequent sections. Also included is a brief discussion of the peer comparison groups resulting from the sector-threshold method. In all tables, underlined institutions were those selected by the campus for its final list of peers for comparative purposes. There are 5 tables for each of the 4 campuses. The first tables (1C, 1K, 1R, 1S) describe the specifications and weights used to rank peers. The second tables (2C, 2K, 2R, 2S) in the series list peers in rank-order and displays critical features of the comparators (i.e., Carnegie Classification, urban location, Land Grant status, etc.). The third table in each series (3C, 3K, 3R, 3S) shows enrollment characteristics of the potential peers: headcount, FTE, and percentage distribution by student level. The fourth table in the series (4C, 4K, 4R, 4S) reports composition of degrees produced by level and the fifth (5C, 5K, 5R, 5S) shows disciplinary composition of those degrees.

UM-Columbia

The selection criteria for UM-Columbia resulted in a large initial set and was limited to about 50 institutions. It is clear from the ranks that the Columbia campus was very similar to National Association of State Universities and Land Grant College members in composition but was considerably smaller than many of the higher ranked schools. The Columbia campus elected to use Land Grant schools only and only those fairly close in size to the Columbia campus. The 11 schools selected by Columbia were Kentucky, Tennessee, Georgia, LSU, Nebraska, West Virginia, Virginia Tech, UC-Davis, Colorado State, NC State, and Iowa State.

UM-Kansas City

Imposition of selection criteria for UM-Kansas City immediately produced a relatively small set of 14 institutions. To be included, schools must be public urban universities with strong professional programs but could not be major research institutions. The Kansas City campus agreed with the top 6 institutions produced by the Planning & Budget strategy: Louisville, Temple, Wisconsin-Milwaukee, Alabama at Birmingham, University of Houston, and University of Illinois at Chicago; then added Virginia Commonwealth, Wayne State, and IUPU-Indianapolis. UM-Kansas City is significantly smaller than all of these institutions and the tendency for rankings and research production to correlate with size will need to be controlled.

UM-Rolla

The University's Rolla campus is very unique. To find a group of 17 institutions to rank, it was necessary to open comparison to private schools. The 8 universities selected by Rolla were

Worcester Polytechnic, Clarkson, Colorado School of Mines, Kettering, Michigan Tech, Rensselaer Polytechnic, Rose-Hulman, and the South Dakota School of Mines. Even among these, only Rose-Hulman has as heavy an engineering concentration. It will be interesting to note whether the inclusion of private schools has a significant impact on the usefulness of comparative statistics.

UM-St Louis

The St Louis comparator set was restricted to public universities with graduate instruction through the doctoral level whether classified as comprehensive or doctoral. St Louis selected 9 Doctoral II, Doctoral I and Research II institutions from the pool of 26 institutions resulting from the restriction. The comparative set for St Louis was Wright State, Florida International University, UT at Arlington, San Diego State, University of Akron, Wisconsin-Milwaukee, University of Toledo and University of Memphis.

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Table 1C: UM-Columbia Comparator Candidate Institution Specifications

	UM-Value	Range	Importance (Weight)		

Institutional Characteristics (Peer set restrictions)
- Public Universities
- Carnegie Research 1 or Research 2
- Medical and/or Veterinary Program
- Plus UM-Columbia's initial list

Enrollment Variables			4	3	1
Total Headcount	22,552	20,000-35,000		X	
FTE Enrollment	20,154	17,600-30,800		X	
Undergraduate HC % Total	77%	70%-80%	X		
Graduate HC % Total	18%	15%-25%	X		
1st Professional HC % Total	5%	3%-8%	X		
FT Undergraduate HC % Undergraduates	91%	87%-97%	X		
FT Graduate HC % Graduates	48%	40%-55%		X	

Degree Level Variables			4	3	1
% AA Degrees		0%-2%			X
% Baccalaureate Degrees	67%	60%-75%		X	
% Masters Degrees	21%	17%-27%	X		
% Doctoral Degrees	6%	3%-7%	X		
% First-Professional Degrees	6%	4%-8%		X	

Program Variables			3	2	1
Agriculture	6%	3%-9%		X	
Avocational		0%-2%			X
Business	10%	7%-13%	X		
Communications	8%	5%-11%		X	
Computer Science	1%	0.1%-4%			X
Education	13%	10%-16%	X		
Engineering	10%	7%-13%	X		
Fine Arts	1%	0.1%-4%			X
Foreign Language	2%	0.1%-5%			X
Health -- 1st Professional	3%	0.1%-6%	X		
Health -- Other	8%	5%-11%	X		
Home Economics	5%	2%-8%	X		
Humanities	6%	3%-9%		X	
Life Science	5%	2%-8%			X
Mathematics	1%	0.1%-4%			X
Other Professional	4%	1%-7%		X	
Physical Sciences	2%	0.1%-5%			X
Public Service	4%	1%-7%			X
Science Related		0%-2%			X
Social Sciences	12%	9%-15%		X	
Vocational		0%-2%			X

Enrollment data were taken from IPEDS Fall Enrollment reports for 1997-98. Degree information was from the IPEDS Completions report for 1996-97.

Table 2C: Disciplinary and Compositional Comparator Candidates for UM-Columbia

Rank	Institution	Weighted Score	Carnegie Classification	Institutional Characteristics			
				Land Grant	Medicine	Vet. Med.	AAU
	University of Missouri-Columbia		R1	X	X	X	X
1	University of Kentucky	8	R1	X	X		
2	University of Tennessee-Knoxville	8	R1	X		X	
3	University of Georgia	14	R1	X		X	
4	Ohio State University-Main Campus	14	R1	X	X	X	X
5	University of Florida	15	R1	X	X	X	X
6	Michigan State University	16	R1	X	X	X	X
7	Louisiana State University	18	R1	X		X	
8	University of Nebraska at Lincoln	19	R1	X			X
9	University of Cincinnati-Main Campus	20	R1		X		
10	West Virginia University	20	R1	X	X		
11	University of Wisconsin-Madison	20	R1	X	X	X	X
12	University of Arizona	21	R1	X	X		X
13	Southern Illinois University-Carbondale	22	R2		X		
14	Oklahoma State University-Main Campus	22	R2	X		X	
15	University of Utah	22	R1		X		
16	University of Minnesota-Twin Cities	24	R1	X	X	X	X
17	Virginia Polytechnic Institute and State Univ	25	R1	X		X	
18	Washington State University	25	R2	X		X	
19	University of Washington	28	R1		X		X
20	University of Iowa	30	R1		X		X
21	University of North Carolina at Chapel Hill	30	R1		X		X
22	University of California-Davis	31	R1	X	X	X	X
23	Colorado State University	31	R1	X		X	
24	University of Illinois at Urbana	32	R1	X		X	X
25	Oregon State University	32	R1	X		X	
26	Auburn University Main Campus	34	R2	X		X	
27	Kansas State University	34	R2	X		X	
28	SUNY at Buffalo	34	R1		X		X
29	University of South Carolina at Columbia	34	R2		X		
30	University of Virginia-Main Campus	34	R1		X		X
31	University of Hawaii at Manoa	35	R1	X	X		
32	University of New Mexico-Main Campus	35	R1		X		
33	Mississippi State University	36	R2	X		X	
34	North Carolina State University at Raleigh	36	R1	X		X	
35	Wayne State University	37	R1		X		
36	University of California-Los Angeles	38	R1		X		X
37	University of South Florida	38	R2		X		
38	Iowa State University	41	R1	X		X	X
39	University of Pittsburgh-Main Campus	41	R1		X		X
40	University of Vermont	41	R2		X		
41	Temple University	42	R1		X		
42	University of Michigan-Ann Arbor	43	R1		X		X
43	Virginia Commonwealth University	44	R1		X		
44	Purdue University-Main Campus	44	R1	X		X	X
45	University of California-San Diego	45	R1		X		X
46	University of California-Irvine	48	R1		X		X
47	University of Illinois at Chicago	49	R1		X		
48	SUNY at Stony Brook	51	R1		X		
49	University of Alabama at Birmingham	52	R1		X		
50	Texas A & M University	52	R1	X	X	X	
51	University of California-San Francisco	70	R1		X		

Weighted score is actually maximum score minus specification table weights based on similarity.

Table 3C: UM-Columbia Comparator Candidate Institution Enrollment Distributions

		Total Headcount	FTE	% Undergrad	% Graduate	% 1st Prof.	% Full-Time Undergrad	Graduate
	University of Missouri-Columbia	22,552	20,154	77%	18%	5%	91%	48%
1	University of Kentucky	23,540	20,227	72%	22%	6%	87%	48%
2	University of Tennessee-Knoxville	25,401	22,042	75%	22%	3%	87%	55%
3	University of Georgia	29,693	26,992	78%	18%	4%	89%	71%
4	Ohio State University-Main Campus	48,278	42,131	74%	21%	6%	85%	61%
5	University of Florida	41,713	37,704	76%	18%	6%	90%	65%
6	Michigan State University	42,603	37,248	78%	19%	3%	87%	54%
7	Louisiana State University	28,686	25,085	79%	18%	3%	85%	62%
8	University of Nebraska at Lincoln	22,827	19,895	80%	18%	2%	88%	48%
9	University of Cincinnati-Main Campus	28,161	22,670	74%	22%	3%	74%	55%
10	West Virginia University	22,238	19,083	67%	28%	4%	94%	39%
11	University of Wisconsin-Madison	39,699	36,092	73%	22%	5%	88%	79%
12	University of Arizona	33,737	28,831	76%	21%	3%	82%	59%
13	Southern Illinois University-Carbondale	21,908	19,406	81%	16%	3%	89%	50%
14	Oklahoma State University-Main Campus	19,332	16,465	76%	23%	1%	90%	36%
15	University of Utah	25,889	20,349	81%	16%	3%	65%	77%
16	University of Minnesota-Twin Cities	45,410	33,937	71%	23%	6%	67%	39%
17	Virginia Polytechnic Institute and State Univ	27,208	25,169	77%	22%	1%	97%	57%
18	Washington State University	20,243	17,939	82%	15%	3%	86%	62%
19	University of Washington	35,367	31,488	73%	23%	4%	84%	78%
20	University of Iowa	28,409	24,125	67%	23%	10%	86%	44%
21	University of North Carolina at Chapel Hill	24,368	21,349	63%	28%	9%	94%	50%
22	University of California-Davis	24,551	22,813	78%	17%	5%	88%	92%
23	Colorado State University	26,365	21,734	76%	22%	2%	84%	34%
24	University of Illinois at Urbana	38,070	35,050	74%	23%	3%	92%	74%
25	Oregon State University	14,490	13,227	81%	19%	0%	90%	75%
26	Auburn University Main Campus	21,505	19,575	85%	13%	2%	92%	50%
27	Kansas State University	20,306	17,497	83%	15%	2%	85%	43%
28	SUNY at Buffalo	23,429	19,654	66%	27%	7%	85%	47%
29	University of South Carolina at Columbia	25,447	20,400	62%	33%	5%	80%	48%
30	University of Virginia-Main Campus	21,942	19,283	60%	32%	8%	94%	54%
31	University of Hawaii at Manoa	17,356	14,173	69%	28%	3%	84%	43%
32	University of New Mexico-Main Campus	23,956	17,782	66%	30%	4%	72%	34%
33	Mississippi State University	15,628	13,535	81%	18%	1%	87%	49%
34	North Carolina State University at Raleigh	28,281	22,474	77%	22%	1%	79%	32%
35	Wayne State University	30,729	20,221	58%	34%	9%	50%	33%
36	University of California-Los Angeles	35,558	34,278	67%	27%	5%	94%	94%
37	University of South Florida	34,036	23,497	76%	23%	1%	60%	31%
38	Iowa State University	25,384	22,853	82%	17%	2%	91%	56%
39	University of Pittsburgh-Main Campus	25,461	21,368	64%	30%	7%	82%	57%
40	University of Vermont	10,368	8,878	85%	12%	4%	82%	44%
41	Temple University	27,652	21,273	65%	26%	8%	78%	28%
42	University of Michigan-Ann Arbor	36,995	34,778	65%	29%	6%	94%	83%
43	Virginia Commonwealth University	22,702	17,249	66%	28%	6%	71%	40%
44	Purdue University-Main Campus	37,447	33,746	82%	16%	2%	89%	65%
45	University of California-San Diego	18,657	18,050	81%	16%	3%	95%	95%
46	University of California-Irvine	17,803	17,075	79%	19%	2%	94%	91%
47	University of Illinois at Chicago	24,921	21,157	65%	26%	9%	86%	50%
48	SUNY at Stony Brook	17,831	15,078	66%	31%	3%	89%	48%
49	University of Alabama at Birmingham	14,933	11,608	69%	24%	7%	65%	62%
50	Texas A & M University	41,461	38,649	82%	16%	2%	93%	73%
51	University of California-San Francisco	3,521	.	1%	58%	41%	100%	100%

Enrollment data were taken from IPEDS Fall Enrollment reports for 1997-98. Degree information was
from the IPEDS Completions report for 1996-97.

Table 4C: UM-Columbia Comparator Candidate Institution Degree Distributions

Rank	Institution	Associates	Bachelors	Masters	Doctoral	First Professional
	University of Missouri-Columbia		67%	21%	6%	6%
1	University of Kentucky		66%	22%	5%	7%
2	University of Tennessee-Knoxville		62%	30%	5%	4%
3	University of Georgia		70%	21%	5%	5%
4	Ohio State University-Main Campus	3%	60%	24%	7%	6%
5	University of Florida	9%	63%	18%	4%	7%
6	Michigan State University	1%	72%	18%	5%	4%
7	Louisiana State University		65%	25%	5%	6%
8	University of Nebraska at Lincoln	1%	71%	18%	7%	3%
9	University of Cincinnati-Main Campus	8%	56%	24%	6%	6%
10	West Virginia University		62%	29%	3%	6%
11	University of Wisconsin-Madison		63%	23%	9%	6%
12	University of Arizona		68%	21%	7%	4%
13	Southern Illinois University-Carbondale	7%	75%	13%	3%	3%
14	Oklahoma State University-Main Campus	<1%	73%	20%	5%	2%
15	University of Utah		73%	18%	4%	4%
16	University of Minnesota-Twin Cities	1%	56%	28%	8%	8%
17	Virginia Polytechnic Institute and State Univ	1%	66%	25%	7%	1%
18	Washington State University		81%	14%	4%	2%
19	University of Washington		68%	22%	6%	4%
20	University of Iowa	<1%	61%	22%	6%	10%
21	University of North Carolina at Chapel Hill	<1%	60%	25%	7%	8%
22	University of California-Davis		77%	10%	7%	7%
23	Colorado State University		75%	18%	4%	3%
24	University of Illinois at Urbana	<1%	64%	25%	8%	3%
25	Oregon State University		73%	20%	5%	1%
26	Auburn University Main Campus		79%	16%	4%	2%
27	Kansas State University	2%	75%	16%	4%	2%
28	SUNY at Buffalo	<1%	58%	27%	6%	9%
29	University of South Carolina at Columbia	<1%	53%	36%	5%	6%
30	University of Virginia-Main Campus		55%	27%	7%	10%
31	University of Hawaii at Manoa	<1%	65%	27%	4%	3%
32	University of New Mexico-Main Campus	1%	62%	28%	4%	4%
33	Mississippi State University		71%	24%	4%	2%
34	North Carolina State University at Raleigh	3%	70%	20%	6%	1%
35	Wayne State University		42%	46%	4%	8%
36	University of California-Los Angeles		62%	25%	7%	6%
37	University of South Florida	3%	71%	23%	2%	1%
38	Iowa State University		77%	16%	5%	2%
39	University of Pittsburgh-Main Campus	4%	51%	31%	6%	8%
40	University of Vermont	1%	77%	15%	2%	4%
41	Temple University	<1%	54%	29%	6%	11%
42	University of Michigan-Ann Arbor		56%	30%	7%	7%
43	Virginia Commonwealth University	1%	59%	31%	3%	7%
44	Purdue University-Main Campus	9%	67%	16%	6%	1%
45	University of California-San Diego		77%	12%	7%	5%
46	University of California-Irvine		79%	13%	6%	2%
47	University of Illinois at Chicago		55%	30%	5%	10%
48	SUNY at Stony Brook		56%	33%	7%	3%
49	University of Alabama at Birmingham	<1%	53%	35%	4%	8%
50	Texas A & M University		78%	14%	6%	2%
51	University of California-San Francisco		11%	27%	16%	46%

Enrollment data were taken from IPEDS Fall Enrollment reports for 1997-98. Degree information was from the IPEDS Completions report for 1996-97.

Table 5C: UM-Columbia Comparator Candidate Institution Disciplinary Distributions

Percentage of Degrees Awarded by Field

Rank	Institution	Agric	Avoc	Busn	Comm	CSci	Educ	Engr	FArt	FLng	H1st	HOth	Home	Humn	Life	Math	OPrf	Phys	Publ	SRel	SocS	Voca
	University of Missouri-Columbia	6%		10%	8%	1%	13%	10%	1%	2%	3%	8%	5%	6%	5%	1%	4%	2%	4%		12%	
1	University of Kentucky	4%		15%	5%	2%	8%	9%	2%	1%	4%	10%	3%	4%	4%	1%	6%	1%	7%		12%	
2	University of Tennessee-Knoxville	5%		13%	4%	1%	12%	10%	3%	1%	1%	5%	4%	7%	4%	1%	4%	1%	8%	<1%	14%	
3	University of Georgia	6%		16%	6%	1%	19%	<1%	4%	2%	2%	5%	4%	7%	5%	1%	4%	1%	5%		12%	
4	Ohio State University-Main Campus	5%		12%	5%	2%	12%	9%	3%	2%	4%	7%	4%	6%	4%	1%	3%	2%	3%	<1%	14%	
5	University of Florida	6%		13%	6%	1%	10%	11%	2%	1%	3%	8%	1%	12%	4%	1%	6%	2%	3%	1%	11%	
6	Michigan State University	9%		17%	8%	1%	7%	8%	2%	1%	4%	4%	4%	5%	5%	1%	1%	2%	5%		14%	
7	Louisiana State University	7%		14%	3%	2%	12%	10%	4%	1%	2%	3%	2%	9%	6%	1%	8%	2%	2%	1%	13%	
8	University of Nebraska at Lincoln	10%		17%	5%	1%	13%	9%	2%	1%		2%	6%	5%	5%	1%	6%	2%	<1%	2%	12%	
9	University of Cincinnati-Main Campus	<1%		12%	3%	2%	7%	12%	7%	2%	3%	11%	1%	7%	3%	2%	5%	2%	7%	3%	9%	
10	West Virginia University	5%		10%	5%	1%	15%	9%	3%	2%	3%	12%	3%	6%	3%	<1%	4%	1%	5%	2%	10%	
11	University of Wisconsin-Madison	5%		10%	5%	2%	5%	12%	3%	3%	2%	9%	2%	4%	7%	1%	5%	3%	4%		17%	
12	University of Arizona	3%		14%	5%	1%	9%	10%	5%	2%	2%	4%	3%	5%	7%	1%	6%	4%	2%		16%	
13	Southern Illinois University-Carbondale	3%	<1%	9%	3%	1%	20%	3%	4%	1%	1%	8%	2%	6%	3%	<1%	3%	1%	7%	9%	8%	<1%
14	Oklahoma State University-Main Campus	8%	<1%	23%	3%	2%	14%	12%	1%	1%	2%	1%	5%	4%	5%	1%	1%	1%	3%	2%	9%	<1%
15	University of Utah	<1%		13%	3%	1%	5%	7%	4%	3%	2%	9%	4%	6%	3%	1%	4%	3%	7%		25%	
16	University of Minnesota-Twin Cities	4%	<1%	11%	2%	2%	11%	10%	4%	2%	5%	9%	2%	7%	5%	1%	5%	2%	3%	<1%	14%	<1%
17	Virginia Polytechnic Institute and State Univ	9%		14%	3%	2%	9%	25%	1%	<1%	1%	<1%	7%	4%	6%	2%	3%	3%	1%	<1%	9%	
18	Washington State University	6%		17%	5%	1%	13%	9%	1%	1%	2%	6%	3%	5%	5%	1%	3%	1%	4%	<1%	15%	
19	University of Washington	2%		11%	2%	1%	3%	11%	5%	3%	2%	8%		8%	7%	1%	5%	3%	3%		24%	
20	University of Iowa			14%	6%	2%	11%	6%	6%	2%	5%	9%		8%	3%	1%	5%	2%	2%		16%	
21	University of North Carolina at Chapel Hill			12%	8%	1%	4%	<1%	2%	2%	4%	15%	<1%	6%	10%	2%	6%	4%	3%		22%	
22	University of California-Davis	10%		1%		1%	2%	10%	2%	2%	4%	<1%	2%	14%	19%	1%	5%	3%	<1%		22%	
23	Colorado State University	12%		13%	3%	2%	2%	8%	4%	1%	3%	3%	6%	5%	9%	1%	<1%	3%	8%	2%	16%	
24	University of Illinois at Urbana	4%	<1%	15%	2%	3%	8%	17%	3%	2%	1%	3%	1%	5%	7%	1%	6%	2%	4%		15%	<1%
25	Oregon State University	12%		12%		2%	12%	14%	1%	1%	1%	7%	6%	12%	6%	1%		3%	1%	<1%	10%	
26	Auburn University Main Campus	8%		19%	3%	<1%	14%	17%	2%	1%	2%	8%	4%	4%	4%	1%	2%	1%	2%	<1%	8%	
27	Kansas State University	11%		14%	4%	2%	15%	8%	3%	1%	2%	2%	4%	2%	6%	1%	3%	2%	3%	2%	12%	
28	SUNY at Buffalo			13%	3%	2%	6%	11%	2%	1%	4%	10%		13%	4%	1%	9%	2%	3%	<1%	16%	
29	University of South Carolina at Columbia			17%	3%	1%	12%	5%	3%	1%	2%	9%		9%	5%	1%	7%	2%	10%		13%	
30	University of Virginia-Main Campus	3%		12%		1%	9%	10%	2%	3%	3%	4%		11%	6%	1%	12%	3%	<1%		21%	
31	University of Hawaii at Manoa	1%		19%	3%	1%	14%	5%	3%	2%	1%	7%	2%	8%	4%	<1%	4%	2%	5%		18%	
32	University of New Mexico-Main Campus			11%	1%	2%	20%	6%	5%	2%	2%	11%	1%	10%	5%	1%	4%	2%	3%	<1%	15%	
33	Mississippi State University	11%		23%	2%	1%	25%	14%	1%	1%	2%	<1%	2%	3%	4%	1%	2%	2%	1%	1%	6%	
34	North Carolina State University at Raleigh	12%		10%	4%	3%	6%	27%		<1%	1%	2%		6%	7%	2%	4%	4%	4%		8%	
35	Wayne State University		1%	12%	3%	2%	17%	12%	3%	1%	5%	11%	1%	4%	3%	<1%	7%	2%	9%	1%	9%	1%
36	University of California-Los Angeles			8%	1%	1%	2%	8%	5%	2%	3%	4%		11%	11%	2%	6%	3%	1%		32%	
37	University of South Florida	<1%		20%	2%		21%	7%	2%	1%	1%	6%		12%	3%	<1%	2%	1%	6%	<1%	16%	
38	Iowa State University	11%		15%	3%	2%	9%	19%	4%	<1%	2%	1%	4%	7%	6%	1%	4%	2%	3%	<1%	8%	
39	University of Pittsburgh-Main Campus			11%	1%	4%	7%	8%	2%	2%	4%	14%	1%	11%	3%	1%	6%	2%	7%		17%	
40	University of Vermont	13%		8%		1%	13%	5%	2%	1%	4%	9%	2%	8%	7%	1%		2%	3%		21%	
41	Temple University	<1%		16%	5%	2%	15%	3%	6%	1%	5%	9%		3%	2%	1%	9%	1%	9%		12%	
42	University of Michigan-Ann Arbor	1%		10%	1%	<1%	3%	18%	5%	2%	3%	6%		9%	6%	1%	7%	3%	6%		18%	
43	Virginia Commonwealth University			11%	3%	3%	10%	<1%	11%	<1%	7%	16%	<1%	5%	5%	1%		2%	14%		12%	
44	Purdue University-Main Campus	7%		14%	4%	3%	8%	23%	2%	1%	1%	6%	3%	2%	3%	2%	<1%	2%	3%	11%	7%	
45	University of California-San Diego			2%	4%	3%	<1%	11%	5%	1%	5%	<1%		10%	21%	2%		6%			30%	
46	University of California-Irvine			6%		4%		8%	5%	3%	2%	<1%		14%	22%	1%	2%	5%			28%	
47	University of Illinois at Chicago			14%		<1%	7%	9%	3%	1%	10%	14%		5%	5%	1%	4%	1%	11%		13%	
48	SUNY at Stony Brook			5%		4%	1%	5%	3%	2%	3%	13%		17%	8%	4%		5%	4%		24%	
49	University of Alabama at Birmingham			15%	1%	1%	19%	4%	1%	<1%	8%	26%	1%	1%	6%	1%	1%	6%			9%	
50	Texas A & M University	11%		19%	2%	2%	2%	15%	<1%	<1%	2%	2%	1%	13%	4%	4%	3%	3%	3%	3%	11%	
51	University of California-San Francisco							<1%			46%	42%			8%			3%			1%	

Agri=Agriculture
Avoc=Avocational
Busn=Business
Comm=Communications

CSci=Computer Science
Educ=Education
Engr=Engineering
FArt=Fine Arts

FLng=Foreign Language
H1st=Health (1st Professional)
HOth=Health Other
Home=Home Economics

Humn=Humanities
Life=Life Science
Math=Mathematics
OPrf=Other Professional

Phys=Physics
Publ=Public Service
SRel=Science Related
SocS=Social Sciences
Voca=Vocational

Enrollment data were taken from IPEDS Fall Enrollment reports for 1997-98. Degree information was
from the IPEDS Completions report for 1996-97.

Table 1K: UM-Kansas City Comparator Candidate Institution Specifications

	UM-Value	Range	Importance (Weight)		

Institutional Characteristics (Peer set restrictions)
 Public urban universities with strong
 professional programs, but not major
 research institutions.
 Plus UM-Kansas City's initial list.

Enrollment Variables			4	3	1
Total Headcount	10,444	0,000-20,000		X	
FTE Enrollment	7,423	7,500-15,000		X	
Undergraduate HC % Total	57%	55%-80%	X		
Graduate HC % Total	32%	20%-35%	X		
1st Professional HC % Total	12%	10%-20%	X		
FT Undergraduate HC % Undergraduates	64%	55%-75%	X		
FT Graduate HC % Graduates	28%	20%-45%		X	

Degree Level Variables			4	3	1
% AA Degrees		0%-2%			X
% Baccalaureate Degrees	47%	45%-70%		X	
% Masters Degrees	36%	25%-45%	X		
% Doctoral Degrees	2%	1%-5%	X		
% First-Professional Degrees	15%	10%-20%		X	

Program Variables			3	2	1
Agriculture		0%-2%		X	
Avocational		0%-2%			X
Business	16%	13%-19%	X		
Communications	2%	0.1%-5%		X	
Computer Science	3%	0.1%-6%			X
Education	15%	12%-18%	X		
Engineering		0%-2%	X		
Fine Arts	7%	4%-10%			X
Foreign Language	1%	0.1%-4%			X
Health -- 1st Professional	8%	5%-11%	X		
Health -- Other	7%	4%-10%	X		
Home Economics		0%-2%	X		
Humanities	11%	8%-14%		X	
Life Science	6%	3%-9%			X
Mathematics	1%	0.1%-4%			X
Other Professional	8%	5%-11%		X	
Physical Sciences	2%	0.1%-5%			X
Public Service	3%	0.1%-6%			X
Science Related		0%-2%			X
Social Sciences	11%	8%-14%		X	
Vocational		0%-2%			X

Enrollment data were taken from IPEDS Fall Enrollment reports for 1997-98. Degree information was
from the IPEDS Completions report for 1996-97.

Table 2K: Disciplinary and Compositional Comparator Candidates for UM-Kansas City

Rank	Institution	Weighted Score	Carnegie Classification	Institutional Characteristics		
				Medicine	Dentistry	AAU
	University of Missouri-Kansas City		D1	X	X	
1	University of Louisville	8	D1	X	X	
2	Temple University	11	R1	X	X	
3	University of Wisconsin-Milwaukee	14	R2			
4	University of Alabama at Birmingham	17	R1	X	X	
5	University of Houston-University Park	20	R2			
6	University of Illinois at Chicago	21	R1	X	X	
7	SUNY at Buffalo	21	R1	X	X	X
8	Virginia Commonwealth University	21	R1	X	X	
9	Wayne State University	22	R1	X	X	
10	University of Nevada-Reno	22	D2	X		
11	Wright State University-Main Campus	26	D2	X		
12	Univ of Cincinnati-Main Campus	27	R1	X	X	
13	Indiana Univ-Purdue Univ- Indianapolis	29	D2	X	X	
14	Univ of Pittsburgh-Main Campus	29	R1	X	X	X

Weighted score is actually maximum score minus specification table weights based on similarity.

Table 3K: UM-Kansas City Comparator Candidate Institution Enrollment Distributions

		Total Headcount	FTE	% Undergrad	% Graduate	% 1st Prof.	% Full-Time Undergrad	Graduate
	University of Missouri-Kansas City	10,444	7,423	57%	32%	12%	64%	28%
1	University of Louisville	20,283	15,296	72%	22%	6%	66%	44%
2	Temple University	27,652	21,273	65%	26%	8%	78%	28%
3	University of Wisconsin-Milwaukee	21,951	16,572	79%	21%		71%	35%
4	University of Alabama at Birmingham	14,933	11,608	69%	24%	7%	65%	62%
5	University of Houston-University Park	31,602	23,638	75%	21%	4%	66%	43%
6	University of Illinois at Chicago	24,921	21,157	65%	26%	9%	86%	50%
7	SUNY at Buffalo	23,429	19,654	66%	27%	7%	85%	47%
8	Virginia Commonwealth University	22,702	17,249	66%	28%	6%	71%	40%
9	Wayne State University	30,729	20,221	58%	34%	9%	50%	33%
10	University of Nevada-Reno	12,442	9,086	73%	25%	2%	67%	35%
11	Wright State University-Main Campus	14,994	11,639	73%	25%	2%	77%	33%
12	Univ of Cincinnati-Main Campus	28,161	22,670	74%	22%	3%	74%	55%
13	Indiana Univ-Purdue Univ- Indianapolis	27,036	18,285	74%	17%	9%	54%	23%
14	Univ of Pittsburgh-Main Campus	25,461	21,368	64%	30%	7%	82%	57%

Enrollment data were taken from IPEDS Fall Enrollment reports for 1997-98. Degree information was
from the IPEDS Completions report for 1996-97.

Table 4K: UM-Kansas City Comparator Candidate Institution Degree Distributions

Rank	Institution	Associates	Bachelors	Masters	Doctoral	First Professional
	University of Missouri-Kansas City		47%	36%	2%	15%
1	University of Louisville	6%	53%	29%	2%	10%
2	Temple University	<1%	54%	29%	6%	11%
3	University of Wisconsin-Milwaukee		68%	29%	3%	
4	University of Alabama at Birmingham	<1%	53%	35%	4%	8%
5	University of Houston-University Park		65%	23%	4%	8%
6	University of Illinois at Chicago		55%	30%	5%	10%
7	SUNY at Buffalo	<1%	58%	27%	6%	9%
8	Virginia Commonwealth University	1%	59%	31%	3%	7%
9	Wayne State University		42%	46%	4%	8%
10	University of Nevada-Reno		74%	20%	3%	2%
11	Wright State University-Main Campus		62%	33%	1%	3%
12	Univ of Cincinnati-Main Campus	8%	56%	24%	6%	6%
13	Indiana Univ-Purdue Univ- Indianapolis	15%	54%	17%	1%	14%
14	Univ of Pittsburgh-Main Campus	4%	51%	31%	6%	8%

Enrollment data were taken from IPEDS Fall Enrollment reports for 1997-98. Degree information was from the IPEDS Completions report for 1996-97.

Table 5K: UM-Kansas City Comparator Candidate Institution Disciplinary Distributions

									Percentage of Degrees Awarded by Field													
Rank	Institution	Agric	Avoc	Busn	Comm	CSci	Educ	Engr	FArt	FLng	H1st	HOth	Home	Humn	Life	Math	OPrf	Phys	Publ	SRel	SocS	Voca
	University of Missouri-Kansas City			16%	2%	3%	15%		7%	1%	8%	7%		11%	6%	1%	8%	2%	3%		11%	
1	University of Louisville			15%	3%	1%	18%	9%	3%	1%	6%	9%		4%	4%	1%	5%	1%	10%	<1%	11%	
2	Temple University	<1%		16%	5%	2%	15%	3%	6%	1%	5%	9%		3%	2%	1%	9%	1%	9%		12%	
3	University of Wisconsin-Milwaukee	<1%		19%	4%	2%	13%	5%	4%	2%		10%		4%	2%	1%	7%	2%	11%		12%	
4	University of Alabama at Birmingham			15%	1%	1%	19%	4%	1%	<1%	8%	26%	1%	1%	6%	1%		1%	6%		9%	
5	University of Houston-University Park			26%	3%	2%	7%	8%	3%	1%	2%	4%	1%	8%	3%	1%	9%	1%	4%	2%	14%	
6	University of Illinois at Chicago			14%		<1%	7%	9%	3%	1%	10%	14%		5%	5%	1%	4%	1%	11%		13%	
7	SUNY at Buffalo			13%	3%	2%	6%	11%	2%	1%	4%	10%		13%	4%	1%	9%	2%	3%	0%	16%	
8	Virginia Commonwealth University			11%	3%	3%	10%	<1%	11%	<1%	7%	16%	<1%	5%	5%	1%		2%	14%		12%	
9	Wayne State University		1%	12%	3%	2%	17%	12%	3%	1%	5%	11%	1%	4%	3%	<1%	7%	2%	9%	1%	9%	1%
10	University of Nevada-Reno	3%		12%	4%	2%	16%	10%	2%	1%	2%	9%	3%	9%	5%	1%	<1%	2%	4%		14%	
11	Wright State University-Main Campus			20%	3%	2%	22%	7%	2%	<1%	3%	12%	<1%	4%	4%	1%		3%	2%		15%	
12	Univ of Cincinnati-Main Campus	<1%		12%	3%	2%	7%	12%	7%	2%	3%	11%	1%	7%	3%	2%	5%	2%	7%	3%	9%	
13	Indiana Univ-Purdue Univ- Indianapolis			10%	2%	1%	9%	2%	2%	<1%	8%	24%		10%	2%	1%	5%	1%	12%	5%	5%	
14	Univ of Pittsburgh-Main Campus			11%	1%	4%	7%	8%	2%	2%	4%	14%	1%	11%	3%	1%	6%	2%	7%		17%	

Agri=Agriculture   CSci=Computer Science   FLng=Foreign Language   Humn=Humanities   Phys=Physics
Avoc=Avocational   Educ=Education   H1st=Health (1st Professional)   Life=Life Science   Publ=Public Service
Busn=Business   Engr=Engineering   HOth=Health Other   Math=Mathematics   SRel=Science Related
Comm=Communications   FArt=Fine Arts   Home=Home Economics   OPrf=Other Professional   SocS=Social Sciences
Voca=Vocational

nrollment reports for 1997-98. Degree information was
pletions report for 1996-97.

Table 1R: UM-Rolla Comparator Candidate Institution Specifications

	UM-Value	Range	Importance (Weight)		

Institutional Characteristics (Peer set restrictions)

Public and private institutions with mission orientation in engineering and science.

Carnegie classification as specialized engineering, R1, R2, D1 or D2.

Limit to 3 then number of specialized engineering institutions from the public sector.

Highest degree offered must be doctorate.

Plus UM-Rolla's intial list.

Enrollment Variables	UM-Value	Range	4	3	1
Total Headcount	4,976	3,500-7,500		X	
FTE Enrollment	4,377	2,500-6,500			X
Undergraduate HC % Total	83%	70%-88%	X		
Graduate HC % Total	17%	12%-30%	X		
1st Professional HC % Total		0%-2%			X
FT Undergraduate HC % Undergraduates	87%	80%-100%		X	
FT Graduate HC % Graduates	58%	50%-75%		X	

Degree Level Variables			4	3	1
% AA Degrees		0%-2%			X
% Baccalaureate Degrees	68%	60%-75%		X	
% Masters Degrees	27%	20%-35%		X	
% Doctoral Degrees	5%	3%-7%		X	
% First-Professional Degrees		0%-2%			X

Program Variables			3	2	1
Agriculture		0%-2%			X
Avocational		0%-2%			X
Business		0%-2%			X
Communications		0%-2%			X
Computer Science	7%	4%-10%	X		
Education		0%-2%			X
Engineering	80%	70%-90%	X		
Fine Arts		0%-2%			X
Foreign Language		0%-2%			X
Health -- 1st Professional		0%-2%			X
Health -- Other		0%-2%			X
Home Economics		0%-2%			X
Humanities	1%	0.1%-4%			X
Life Science	1%	0.1%-4%			X
Mathematics	2%	0.1%-5%		X	
Other Professional		0%-2%			X
Physical Sciences	6%	3%-9%		X	
Public Service		0%-2%			X
Science Related		0%-2%			X
Social Sciences	4%	2%-6%			X
Vocational		0%-2%			X

Enrollment data were taken from IPEDS Fall Enrollment reports for 1997-98. Degree information was
from the IPEDS Completions report for 1996-97.

Table 2R: Disciplinary and Compositional Comparator Candidates for UM-Rolla

Rank	Institution	Weighted Score	Carnegie Classification	Highest Degree
			Institutional Characteristics	
	University of Missouri-Rolla		D1	D
1	University of Alabama in Huntsville	5	D2	D
2	Georgia Institute of Technology	10	R1	D
3	Worcester Polytechnic Institute	10	D2	D
4	New Mexico Institute of Mining and Tech	11	En	D
5	Clarkson University	13	D2	D
6	Colorado School of Mines	14	D2	D
7	Florida Institute of Technology-Melbourne	19	D1	D
8	Kettering University	22	En	M
9	Michigan Technological University	23	D2	D
10	Rensselaer Polytechnic Institute	23	R2	D
11	Rose-Hulman Institute of Technology	24	En	M
12	South Dakota School of Mines and Tech	24	En	D
13	Illinois Institute of Technology	27	D1	D
14	Stevens Institute of Technology	29	D2	D
15	Polytechnic University	30	D1	D
16	California Institute of Technology	31	R1	D
17	New Jersey Institute of Technology	32	D2	D

Weighted score is actually maximum score minus specification table weights based on similarity.

Table 3R: UM-Rolla Comparator Candidate Institution Enrollment Distributions

		Total Headcount	FTE	% Undergrad	% Graduate	% 1st Prof.	% Full-Time Undergrad	% Full-Time Graduate
	University of Missouri-Rolla	4,976	4,377	83%	17%		87%	58%
1	University of Alabama in Huntsville	6,464	4,306	80%	20%		54%	34%
2	Georgia Institute of Technology	12,969	12,059	73%	27%		92%	81%
3	Worcester Polytechnic Institute	3,776	3,289	73%	27%		97%	38%
4	New Mexico Institute of Mining and Tech	1,393	1,222	81%	19%		83%	75%
5	Clarkson University	2,745	2,691	88%	12%		98%	93%
6	Colorado School of Mines	3,801	3,174	77%	23%		78%	65%
7	Florida Institute of Technology-Melbourne	4,135	2,770	45%	55%		91%	18%
8	Kettering University	3,239	2,734	77%	23%		100%	
9	Michigan Technological University	6,302	5,945	90%	10%		91%	96%
10	Rensselaer Polytechnic Institute	6,349	6,031	68%	32%		99%	79%
11	Rose-Hulman Institute of Technology	1,653	1,598	90%	10%		100%	52%
12	South Dakota School of Mines and Tech	2,259	1,888	90%	10%		78%	52%
13	Illinois Institute of Technology	6,100	3,976	30%	49%	21%	73%	23%
14	Stevens Institute of Technology	3,248	2,241	45%	55%		98%	17%
15	Polytechnic University	3,354	2,291	50%	50%		91%	13%
16	California Institute of Technology	1,925		47%	53%		100%	100%
17	New Jersey Institute of Technology	8,133	5,694	61%	39%		68%	34%

Enrollment data were taken from IPEDS Fall Enrollment reports for 1997-98. Degree information was
from the IPEDS Completions report for 1996-97.

Table 4R: UM-Rolla Comparator Candidate Institution Degree Distributions

Rank	Institution	Associates	Bachelors	Masters	Doctoral	First Professional
	University of Missouri-Rolla		68%	27%	5%	
1	University of Alabama in Huntsville		67%	30%	4%	
2	Georgia Institute of Technology		62%	31%	8%	
3	Worcester Polytechnic Institute		72%	27%	1%	
4	New Mexico Institute of Mining and Tech	4%	65%	25%	6%	
5	Clarkson University		75%	21%	4%	
6	Colorado School of Mines		64%	28%	8%	
7	Florida Institute of Technology-Melbourne	<1%	32%	63%	5%	
8	Kettering University		65%	35%		
9	Michigan Technological University	9%	77%	11%	3%	
10	Rensselaer Polytechnic Institute		54%	38%	8%	
11	Rose-Hulman Institute of Technology		90%	10%		
12	South Dakota School of Mines and Tech		76%	22%	2%	
13	Illinois Institute of Technology		28%	45%	4%	22%
14	Stevens Institute of Technology		33%	62%	4%	
15	Polytechnic University		34%	62%	4%	
16	California Institute of Technology		42%	23%	36%	
17	New Jersey Institute of Technology		47%	50%	3%	

Enrollment data were taken from IPEDS Fall Enrollment reports for 1997-98. Degree information was from the IPEDS Completions report for 1996-97.

Table 5R: UM-Rolla Comparator Candidate Institution Disciplinary Distributions

Rank	Institution	Agric	Avoc	Busn	Comm	CSci	Educ	Engr	FArt	FLng	H1st	HOth	Home	Humn	Life	Math	OPrf	Phys	Publ	SRel	SocS	Voca
	University of Missouri-Rolla					7%		80%						1%	1%	2%		6%			4%	
1	University of Alabama in Huntsville			18%		5%	1%	30%	1%	1%		25%		4%	4%	3%		4%	<1%		3%	
2	Georgia Institute of Technology			11%	<1%	5%		65%	1%			1%		<1%	2%	2%	5%	5%	<1%	1%	3%	
3	Worcester Polytechnic Institute			4%		10%		66%						1%	3%	4%		3%	3%	6%	<1%	
4	New Mexico Institute of Mining and Tech	2%		2%		8%	3%	33%						10%	6%	6%		29%			2%	
5	Clarkson University			21%	1%	1%		59%						8%	4%	1%		3%			1%	
6	Colorado School of Mines							79%								6%		8%			8%	
7	Florida Institute of Technology-Melbourne	2%		42%	<1%	7%	2%	20%				1%		<1%	5%	3%		5%			7%	
8	Kettering University			33%				67%														
9	Michigan Technological University	3%		8%	3%	3%		60%		2%		1%		<1%	4%	2%		4%		8%	1%	
10	Rensselaer Polytechnic Institute			14%	2%	7%		59%	1%	<1%				<1%	5%	3%	4%	5%			1%	
11	Rose-Hulman Institute of Technology					7%		83%								1%		8%			<1%	
12	South Dakota School of Mines and Tech					10%		74%						6%		2%		9%				
13	Illinois Institute of Technology	1%		17%		12%		32%	2%			1%		<1%	3%	<1%	27%	1%	2%		2%	
14	Stevens Institute of Technology			32%		14%		47%							3%	1%		3%			<1%	
15	Polytechnic University			20%	<1%	17%		57%						<1%		2%		3%			<1%	
16	California Institute of Technology					1%		52%							9%	4%		31%			3%	
17	New Jersey Institute of Technology	2%		16%		22%		42%						<1%		1%	7%	1%	<1%	8%		

Agri=Agriculture	CSci=Computer Science	FLng=Foreign Language	Humn=Humanities	Phys=Physics
Avoc=Avocational	Educ=Education	H1st=Health (1st Professional)	Life=Life Science	Publ=Public Service
Busn=Business	Engr=Engineering	HOth=Health Other	Math=Mathematics	SRel=Science Related
Comm=Communications	FArt=Fine Arts	Home=Home Economics	OPrf=Other Professional	SocS=Social Sciences
				Voca=Vocational

Enrollment data were taken from IPEDS Fall Enrollment reports for 1997-98. Degree information was
from the IPEDS Completions report for 1996-97.

Table 1S: UM-St Louis Comparator Candidate Institution Specifications

	UM-Value	Range	Importance (Weight)		

Institutional Characteristics (Peer set restrictions)

Public urban institutions committed to graduate instruction through the doctoral level whether classified as comprehensive or doctoral.

Plus UM-St Louis's initial list.

Enrollment Variables			4	3	1
Total Headcount	15,576	12,500-25,500		X	
FTE Enrollment	8,776	7,500-15,000		X	
Undergraduate HC % Total	82%	76%-90%	X		
Graduate HC % Total	16%	12%-20%		X	
1st Professional HC % Total	1%	>0%-4%			X
FT Undergraduate HC % Undergraduates	38%	30%-55%			X
FT Graduate HC % Graduates	14%	10%-20%			X

Degree Level Variables			4	3	1
% AA Degrees		0%-2%			X
% Baccalaureate Degrees	69%	60%-80%	X		
% Masters Degrees	28%	15%-25%		X	
% Doctoral Degrees	1%	>0%-5%			X
% First-Professional Degrees	2%	>0%-5%			X

Program Variables			3	2	1
Agriculture		0%-2%			X
Avocational		0%-2%			X
Business	21%	18%-24%	X		
Communications	5%	2%-8%			X
Computer Science	1%	0.1%-4%			X
Education	30%	25%-35%	X		
Engineering	<1%	0%-2%			X
Fine Arts	<1%	0%-2%			X
Foreign Language	1%	0.1%-4%			X
Health -- 1st Professional	2%	0.1%-5%		X	
Health -- Other	11%	8%-14%		X	
Home Economics		0%-2%			X
Humanities	6%	3%-9%		X	
Life Science	4%	1%-7%			X
Mathematics	1%	0.1%-4%			X
Other Professional		0%-2%			X
Physical Sciences	2%	0.1%-5%			X
Public Service	2%	0.1%-5%		X	
Science Related		0%-2%			X
Social Sciences	14%	11%-17%		X	
Vocational		0%-2%			X

Enrollment data were taken from IPEDS Fall Enrollment reports for 1997-98. Degree information was from the IPEDS Completions report for 1996-97.

Table 2S: Disciplinary and Compositional Comparator Candidates for UM-St Louis

Rank	Institution	Weighted Score	Institutional Characteristics Carnegie Classification	Highest Degree
	University of Missouri-St Louis		D2	D
1	Univ of North Carolina at Charlotte	12	C1	D
2	Univ of Nebraska at Omaha	13	C1	D
3	Wright State University-Main Campus	13	D2	D
4	Florida International University	14	D2	D
5	Oakland University	14	C1	D
6	The Univ of Texas at Arlington	15	D1	D
7	University of Nevada-Las Vegas	16	C1	D
8	San Diego State University	17	D2	D
9	Wichita State University	17	D2	D
10	University of Akron Main Campus	17	D1	D
11	Univ of Arkansas at Little Rock	18	C1	D
12	Youngstown State University	18	C1	D
13	Univ of Wisconsin-Milwaukee	18	R2	D
14	University of Toledo	19	D1	D
15	Univ of Houston-University Park	21	R2	D
16	The Univ of Texas at San Antonio	21	C1	D
17	Univ of Maryland-Baltimore County	22	D2	D
18	University of Memphis	23	D1	D
19	University of Colorado at Denver	24	D2	D
20	Cleveland State University	24	D2	D
21	University of New Orleans	26	D2	D
22	Univ of Massachusetts-Boston	26	C1	D
23	Georgia State University	27	D1	D
24	Portland State University	28	D2	D
25	Old Dominion University	30	D1	D
26	George Mason University	32	D2	D

Weighted score is actually maximum score minus specification table weights based on similarity.

Table 3S: UM-St Louis Comparator Candidate Institution Enrollment Distributions

	Total Headcount	FTE	% Undergrad	% Graduate	% 1st Prof.	% Full-Time Undergrad	Graduate
University of Missouri-St Louis	15,576	8,776	82%	16%	1%	38%	14%
1 Univ of North Carolina at Charlotte	16,511	12,628	84%	16%		73%	24%
2 Univ of Nebraska at Omaha	13,710	9,543	81%	19%		62%	22%
3 Wright State University-Main Campus	14,994	11,639	73%	25%	2%	77%	33%
4 Florida International University	30,012	19,556	80%	20%		52%	31%
5 Oakland University	14,379	9,916	78%	22%		62%	23%
6 The Univ of Texas at Arlington	19,286	13,854	80%	20%		61%	45%
7 University of Nevada-Las Vegas	19,249	13,364	80%	20%		62%	21%
8 San Diego State University	30,593	24,696	81%	19%		77%	45%
9 Wichita State University	14,061	9,316	78%	22%		54%	31%
10 University of Akron Main Campus	22,153	15,942	82%	16%	3%	59%	47%
11 Univ of Arkansas at Little Rock	10,907	7,448	79%	17%	4%	57%	27%
12 Youngstown State University	12,324	9,859	90%	10%		76%	15%
13 Univ of Wisconsin-Milwaukee	21,951	16,572	79%	21%		71%	35%
14 University of Toledo	20,307	15,928	83%	14%	3%	70%	47%
15 Univ of Houston-University Park	31,602	23,638	75%	21%	4%	66%	43%
16 The Univ of Texas at San Antonio	17,494	12,791	85%	15%		66%	24%
17 Univ of Maryland-Baltimore County	9,863	7,826	86%	14%		74%	39%
18 University of Memphis	19,851	15,214	74%	23%	3%	71%	40%
19 University of Colorado at Denver	13,772	8,387	58%	42%		53%	26%
20 Cleveland State University	15,655	11,214	68%	27%	6%	68%	28%
21 University of New Orleans	15,833	11,588	75%	25%		69%	31%
22 Univ of Massachusetts-Boston	12,828	8,436	75%	25%		57%	23%
23 Georgia State University	24,276	17,172	69%	28%	3%	57%	54%
24 Portland State University	16,997	11,232	67%	33%		58%	32%
25 Old Dominion University	18,557	12,436	66%	34%		62%	29%
26 George Mason University	23,826	15,882	58%	39%	3%	72%	17%

Enrollment data were taken from IPEDS Fall Enrollment reports for 1997-98. Degree information was
from the IPEDS Completions report for 1996-97.

Table 4S: UM-St Louis Comparator Candidate Institution Degree Distributions

Rank	Institution	Associates	Bachelors	Masters	Doctoral	First Professional
	University of Missouri-St Louis		69%	28%	1%	2%
1	Univ of North Carolina at Charlotte	<1%	80%	20%	<1%	<1%
2	Univ of Nebraska at Omaha		70%	30%	<1%	
3	Wright State University-Main Campus		62%	33%	1%	3%
4	Florida International University		76%	24%	1%	
5	Oakland University		71%	29%	<1%	
6	The Univ of Texas at Arlington		70%	28%	2%	
7	University of Nevada-Las Vegas		78%	21%	1%	
8	San Diego State University		74%	25%	<1%	
9	Wichita State University	3%	66%	29%	1%	
10	University of Akron Main Campus	17%	54%	22%	3%	4%
11	Univ of Arkansas at Little Rock	9%	59%	24%	1%	7%
12	Youngstown State University	11%	74%	15%	<1%	
13	Univ of Wisconsin-Milwaukee		68%	29%	3%	
14	University of Toledo	15%	59%	19%	2%	5%
15	Univ of Houston-University Park		65%	23%	4%	8%
16	The Univ of Texas at San Antonio		81%	19%	<1%	
17	Univ of Maryland-Baltimore County	2%	80%	15%	3%	<1%
18	University of Memphis	1%	62%	29%	4%	4%
19	University of Colorado at Denver		42%	57%	1%	
20	Cleveland State University		55%	36%	1%	9%
21	University of New Orleans		64%	33%	2%	
22	Univ of Massachusetts-Boston	4%	65%	31%	<1%	
23	Georgia State University	<1%	54%	39%	2%	4%
24	Portland State University		70%	29%	1%	
25	Old Dominion University		59%	39%	2%	
26	George Mason University		58%	36%	2%	4%

Enrollment data were taken from IPEDS Fall Enrollment reports for 1997-98. Degree information was from the IPEDS Completions report for 1996-97.

Table 5S: UM-St Louis Comparator Candidate Institution Disciplinary Distributions

Percentage of Degrees Awarded by Field

Rank	Institution	Agric	Avoc	Busn	Comm	CSci	Educ	Engr	FArt	FLng	H1st	HOth	Home	Humn	Life	Math	OPrf	Phys	Publ	SRel	SocS	Voca
	University of Missouri-St Louis			21%	5%	1%	30%	<1%	<1%	1%	2%	11%		6%	4%	1%		2%	2%		14%	
1	Univ of North Carolina at Charlotte			21%	1%	4%	13%	7%	2%	1%		6%	1%	5%	4%	1%	2%	3%	8%	3%	19%	
2	Univ of Nebraska at Omaha			21%	5%	3%	25%		3%	1%				6%	6%	1%	<1%	<1%	17%		11%	
3	Wright State University-Main Campus			20%	3%	2%	22%	7%	2%	<1%	3%	12%	<1%	4%	4%	1%		3%	2%		15%	
4	Florida International University	1%		26%	4%	3%	16%	5%	1%	1%		10%	1%	4%	2%	<1%	1%	1%	12%	1%	12%	
5	Oakland University			18%	5%	3%	19%	11%	1%	1%		14%		8%	4%	1%		1%	4%		12%	
6	The Univ of Texas at Arlington			25%	5%	3%	1%	12%	2%	2%		9%		8%	4%	1%	3%	1%	13%		11%	
7	University of Nevada-Las Vegas	1%		29%	5%	1%	23%	3%	3%	1%		4%		2%	2%	1%	1%	1%	12%	<1%	10%	
8	San Diego State University	<1%		20%	3%	1%	11%	4%	4%	2%		8%	1%	13%	3%	1%	<1%	1%	10%	<1%	19%	
9	Wichita State University			19%	3%	2%	13%	11%	3%	1%		17%		5%	2%	1%	1%	2%	8%	1%	10%	
10	University of Akron Main Campus		<1%	18%	3%	1%	13%	7%	3%	<1%		13%	3%	3%	2%	<1%	5%	3%	11%	4%	9%	<1%
11	Univ of Arkansas at Little Rock	<1%		18%	4%	1%	15%		2%	<1%		11%		9%	4%	1%	7%	2%	13%	3%	11%	
12	Youngstown State University	<1%		19%	2%	2%	18%	6%	4%	<1%		8%	4%	6%	5%	1%		4%	10%	4%	7%	
13	Univ of Wisconsin-Milwaukee	<1%		19%	4%	2%	13%	5%	4%	2%		10%		4%	2%	1%	7%	2%	11%		12%	
14	University of Toledo			17%	3%	2%	14%	10%	1%	<1%		11%	1%	9%	2%	1%	6%	2%	7%	4%	7%	
15	Univ of Houston-University Park			26%	3%	2%	7%	8%	3%	1%	2%	4%	1%	8%	3%	1%	9%	1%	4%	2%	14%	
16	The Univ of Texas at San Antonio	1%		27%	1%	2%	7%	5%	2%	2%		1%		17%	8%	2%	1%	1%	9%		15%	
17	Univ of Maryland-Baltimore County			2%		19%	4%	5%	7%	2%		4%		6%	10%	3%		2%	7%		30%	
18	University of Memphis			24%	3%	<1%	11%	4%	6%	1%		5%	1%	15%	3%	1%	5%	1%	6%	2%	12%	
19	University of Colorado at Denver	1%		29%	3%	4%	15%	7%	2%	1%		3%		6%	3%	1%	7%	1%	5%		13%	
20	Cleveland State University	<1%		24%	4%	3%	15%	9%	1%	1%		7%		3%	2%	1%	9%	1%	6%		13%	
21	University of New Orleans			26%	3%	2%	24%	8%	5%	1%				12%	4%	1%	1%	3%	<1%		11%	
22	Univ of Massachusetts-Boston	1%		13%		2%	16%	<1%	2%	1%		11%		14%	3%	<1%	1%	1%	7%		28%	
23	Georgia State University			31%	2%	5%	19%		4%	1%		6%	1%	5%	2%	1%	4%	1%	4%		12%	
24	Portland State University	<1%		17%		1%	24%	6%	3%	2%		2%		13%	3%	1%	1%	1%	7%		20%	
25	Old Dominion University			12%		2%	22%	10%	2%	<1%		18%		10%	4%	1%		2%	2%	3%	13%	
26	George Mason University			14%	<1%	6%	14%	7%	2%	1%		6%		14%	4%	1%	4%	1%	5%		21%	

Agri=Agriculture	CSci=Computer Science	FLng=Foreign Language	Humn=Humanities	Phys=Physics
Avoc=Avocational	Educ=Education	H1st=Health (1st Professional)	Life=Life Science	Publ=Public Service
Busn=Business	Engr=Engineering	HOth=Health Other	Math=Mathematics	SRel=Science Related
Comm=Communications	FArt=Fine Arts	Home=Home Economics	OPrf=Other Professional	SocS=Social Sciences
				Voca=Vocational

Enrollment data were taken from IPEDS Fall Enrollment reports for 1997-98. Degree information was
from the IPEDS Completions report for 1996-97.