Guidelines for choosing peer institutions for Idaho public four-year institutions
May 14, 2019

Board staff are providing the following guidelines to the four-year institutions regarding the determination of peer institutions. The State Board uses peer institutions to give context to each institution's performance metrics, specifically, graduation and retention measures. This analysis focused on identifying attributes (of either the institution or the students served by the institution) that have a significant impact on these outcomes.

The 2018 Basic Carnegie Classification[1] is correlated with both institution and student level attributes. However, for Doctoral Universities, the classification still had an impact on outcomes even holding these other attributes constant. Therefore, staff recommends that Idaho institutions choose peers within their Basic Carnegie Classifcation.

Within an institution's Basic Carnegie Classification, attributes identified as having a significant effect[2] on outcomes were:

- 25^{th} percentile score of the standardized math test[3]
- The number of full-time equivalent students (FTE)
- The share of undergraduate, degree-seeking students who attend fulltime
- Share of students who receive a Pell Grant

Standard deviations for each measure were calculated for those institutions within an institution's Basic Carnegie Classification. Table 1 shows the number of institutions within a standard deviation for each attribute.

Table 1: Number of institutions within one-standard deviation of Idaho institutions on select variables

	Number of institutions within:				
		Same Carnegie classification and:			
Institution	Same Carnegie classification	One standard deviation of 25^{th} percentile math score	One standard deviation of FTE	One standard deviation of share of FTE	One standard deviation of share with Pell Grant
Boise State University	90	70	38	37	58
Idaho State University	90	52	57	47	65
University of Idaho	90	71	45	53	67
Lewis-Clark State College	77	47[4]	46	46	55

[1] See Appendix I for more details on the 2018 Basic Carnegie Classification.
[2] I used a stepwise regression function to determine which variables had the most impact on the IPEDS 150% graduation and the IPEDS fulltime retention rate. See Appendix II for more detail.
[3] I considered different measures of ACT and SAT college readiness including scores at the 25th and the 75th percentiles. In most cases, scores at the 25th percentile were more meaningful in the outcomes (graduation rate and retention rates) regression analysis.
[4] Only 53 institutions in LCSC's Carnegie classification had SAT scores in the IPEDS database. Only 50 had ACT scores.

The attribute that most consistently had a large impact on outcomes was the math standardized test score. Table 2 shows how many institutions were within one standard deviation of the math score as well as:

- one standard deviation for math scores plus within one standard deviation of one other attribute,
- one standard deviation for math scores plus within one standard deviation of at least two other attributes, and
- one standard deviation for math scores plus within one standard deviation of all three attributes.

Table 2: Number of institutions that match Idaho institutions (are within one standard deviation)

	Number of institutions that match on:			
Institution	Math score	Math plus at least one other attribute:	Math plus at least two other attributes:	Math plus all three other attributes:
Boise State University	70	63	42	12
Idaho State University	52	51	35	12
University of Idaho	71	70	56	19
Lewis-Clark State College	47	47	38	12

Board staff wanted to structure peer selection guidance in order to balance a uniform methodology with flexibility for the institutions to take into account their unique characteristics. Therefore, staff decided that matching on all four attributes was too restrictive. Staff recommends institutions match on math plus at least two other attributes.

The rest of the document shows the outcomes for your institution compared with all the other institutions in its Basic Carnegie Classification. It also shows the outcomes for your institution compared with the institutions in its Basic Carnegie Classifcation that match your institution on math plus at least two other attributes. Finally, it lists those other institutions and identifies which are current peers.

It is not staff intent that each institution is completely contrained to the institutions listed for their peers. For instance, there may be a peer which is just outside the one standard deviation benchmark but shares a unique characteristic important to the institution.

Staff requests that each institution choose ten peer institutions taking this guidance into account. Each institution should then submit that list to the Board staff along with an explanation of why they chose that institution as a peer. If staff guidance was not followed, then a detailed explanation for why it was not followed should be given. Each institution should also provide an explanation of how they achieved balance among all their peers. For instance, if an institution completely followed staff guidance, there should be some sort of balance between all the peers in terms of which two other attributes were chosen to match on.

Each institution can also submit up to three institutions to be designated as aspirational peers. Each institution can develop its own methodology for choosing aspirational peers.

Figure 1: 150% graduation rates for bachelor degree seeking cohort for all institutions classified as "R2: Doctoral Universities – High research activity", sorted by value of graduation rate

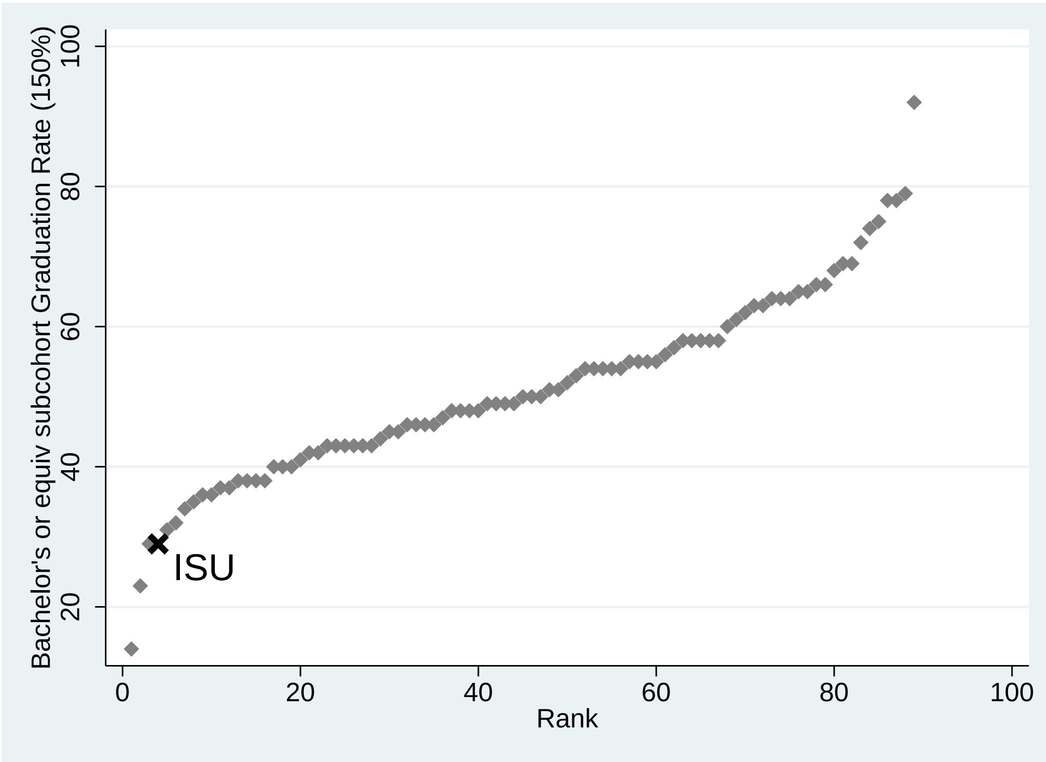

Figure 2: Fulltime retention rates for all Institutions classified as "R2: Doctoral Universities – High research activity", sorted by value of fulltime retention rate

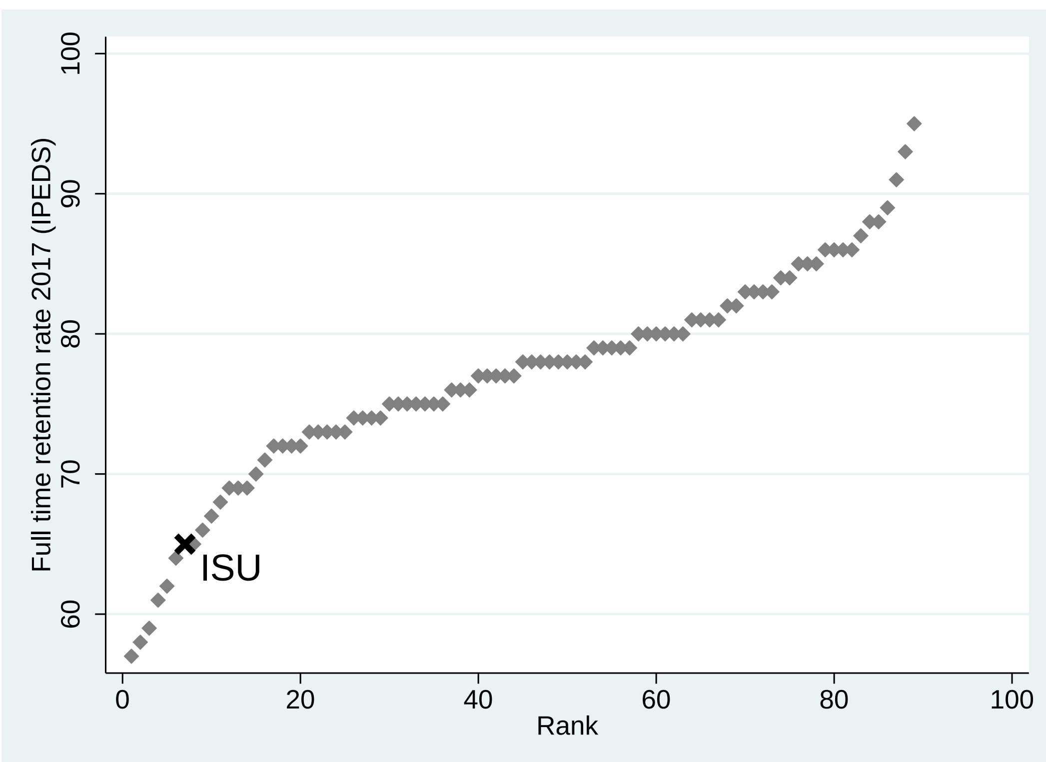

Figure 3: Parttime retention rates for all Institutions classified as “R2: Doctoral Universities – High research activity”, sorted by value of parttime retention rate

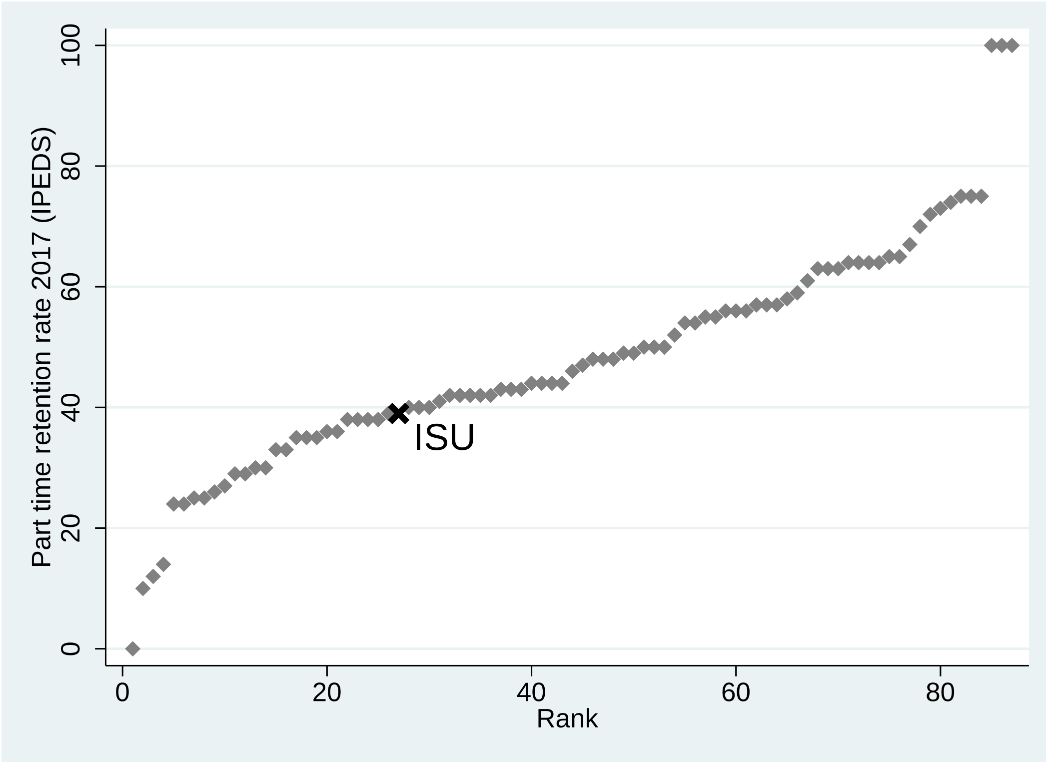

Figure 4: 150% graduation rates for bachelor degree seeking cohort for all institutions classified as “R2: Doctoral Universities – High research activity” and for those that match Idaho State University on at least two other groups, sorted by value of graduation rate

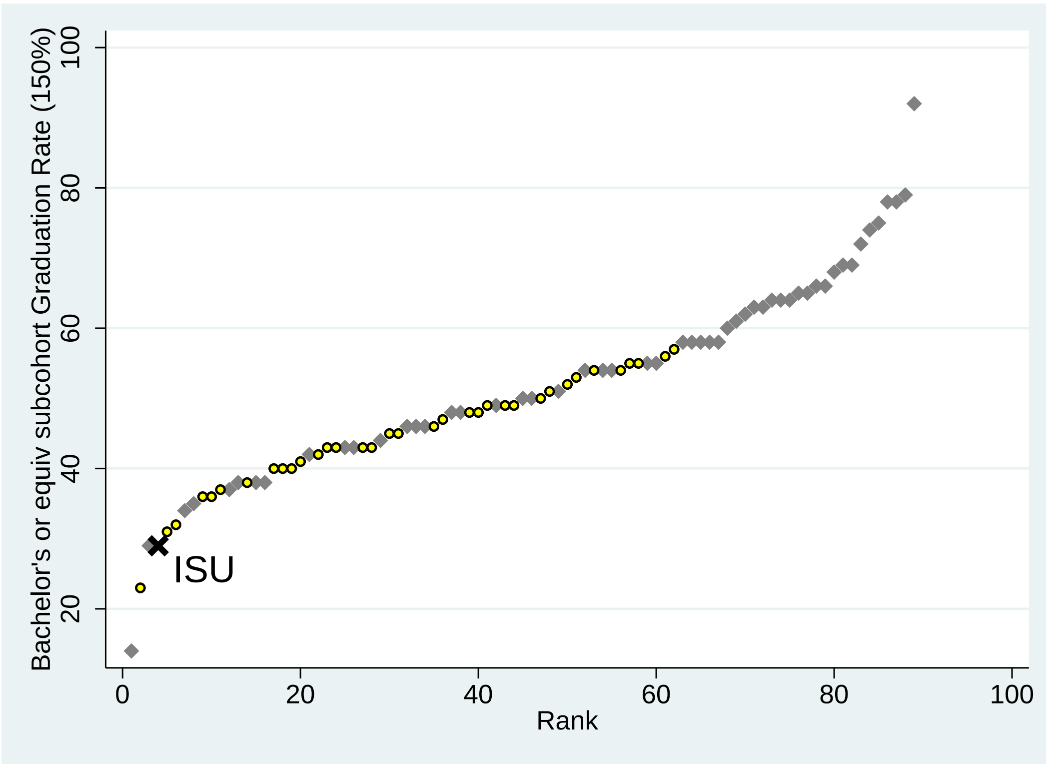

Figure 5: Fulltime retention rates for bachelor degree seeking cohort for all institutions classified as “R2: Doctoral Universities – High research activity” and for those that match Idaho State University on at least two other groups, sorted by value of retention rates

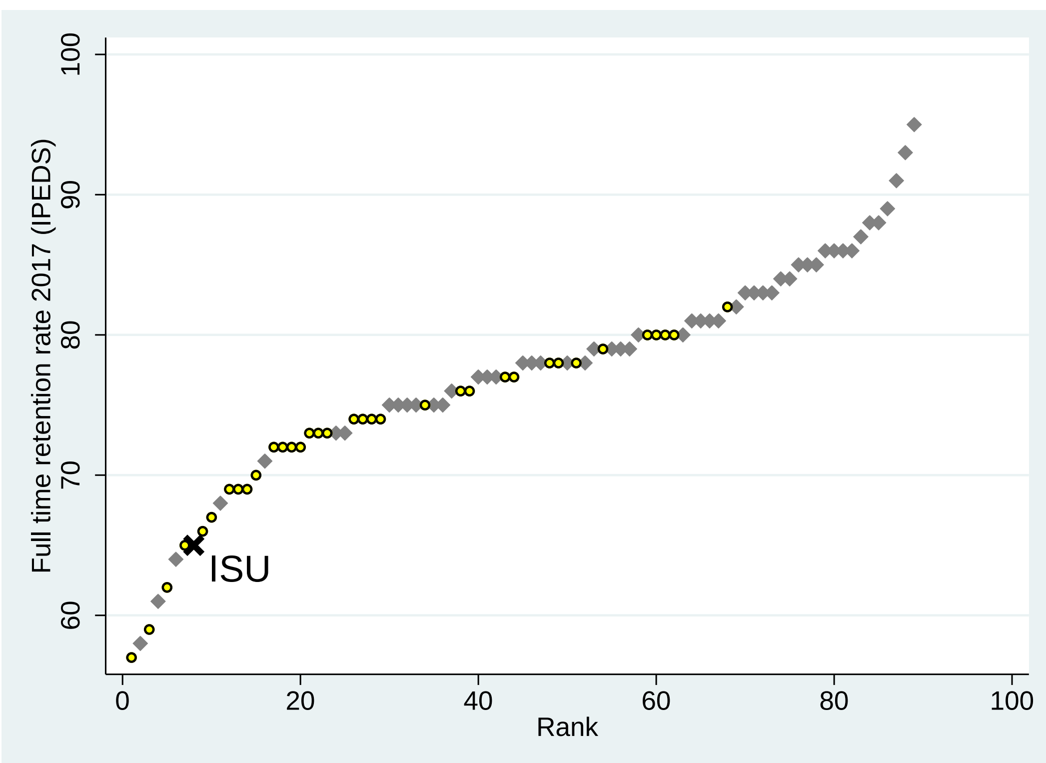

Table 3: List of institutions that match Idaho State University on at least two groups

	City	**State**
University of South Alabama	Mobile	AL
University of Arkansas at Little Rock	Little Rock	AR
University of Colorado Colorado Springs	Colorado Springs	CO
Boise State University	Boise	ID
University of Idaho	Moscow	ID
Northern Illinois University	**Dekalb**	**IL**
Southern Illinois University-Carbondale	Carbondale	IL
Indiana University-Purdue University-Indianapolis	Indianapolis	IN
Wichita State University	**Wichita**	**KS**
Louisiana Tech University	Ruston	LA
University of New Orleans	New Orleans	LA
University of Massachusetts-Dartmouth	North Dartmouth	MA
Eastern Michigan University	Ypsilanti	MI
Western Michigan University	Kalamazoo	MI
The University of Montana	**Missoula**	**MT**
University of Nebraska at Omaha	Omaha	NE
New Mexico State University-Main Campus	Las Cruces	NM
University of Akron Main Campus	Akron	OH
Bowling Green State University-Main Campus	Bowling Green	OH
Cleveland State University	Cleveland	OH
Kent State University at Kent	**Kent**	**OH**
University of Toledo	Toledo	OH
Wright State University-Main Campus	Dayton	OH
Portland State University	Portland	OR
South Dakota State University	**Brookings**	**SD**
University of South Dakota	**Vermillion**	**SD**
East Tennessee State University	Johnson City	TN
Tennessee Technological University	Cookeville	TN
Texas A & M University-Corpus Christi	Corpus Christi	TX
Texas State University	San Marcos	TX
The University of Texas at San Antonio	San Antonio	TX
Texas Southern University	Houston	TX
Utah State University	Logan	UT
Old Dominion University	Norfolk	VA
Marshall University	Huntington	WV

Institutions in bold are current peers.

Appendix I: Further explanation of Basic Carnegie Classification

The Basic Carnegie Classification is a broad classification based on the types of degrees offered. Institutions are initially classified as Doctoral Universities, Master's Colleges and Universities, Baccalaureate Colleges, Baccalaureate/Associate's Colleges, Associate's Colleges, Special Focus Institutions, and Tribal Colleges.

Three Idaho institutions (BSU, ISU, UI) are classified as Doctoral Universities. This means that these institutions awarded at least 20 research/scholarship doctoral degrees or at least 30 professional practice doctoral degrees in at least 2 programs. Institutions are further categorized as R1: Very high research activity, R2: High research activity and D/PU: Doctoral/Professional Universities. The three Idaho institutions are all classified as R2: High research activity.

LCSC is classified as a Baccalaureate College. That group is further classified by the major field of study for bachelor's degrees awarded, either Arts & Sciences Focus or Diverse Fields. LCSC is specifically classified as a Baccalaureate Colleges: Diverse Fields.

Appendix II: Stepwise regression analysis

In order to determine which variables had the most impact on the outcomes, I used a stepwise regression model. I used IPEDS as a source for the outcomes. I concentrated on the six-year graduation rate and the fulltime retention rate as the parttime retention rate proved difficult to model and the results were not given as much weight.

There were a number of attributes considered in this analysis. The following institution-specific attributes were considered:

- Basic Carnegie Classification
- The share of all students who are graduate students
- The number of full-time equivalent students (FTE)
- Funding per undergraduate FTE

There were also student attributes considered. These are:

- College preparedness as measured by ACT/SAT scores
- The share of undergraduate, degree-seeking students who attend fulltime
- Socioeconomic status as measured by receipt of a Pell Grant

I used two models for each outcome – one utilizing SAT scores and the other utilizing ACT scores.

The variables that were consistently included in the final model and were statistically significant were the:

- 25th percentile score of the standardized math test [5]
- The number of full-time equivalent students (FTE)
- The share of undergraduate, degree-seeking students who attend fulltime
- Share of students who receive a Pell Grant

[5] I considered different measures of college readiness including scores at the 25th and the 75th percentiles. In most cases, scores at the 25th percentile were more meaningful in the outcomes (graduation rate and retention rates) regression analysis.