Board of Regents

Funding Formula Process Manual

Revised April 2020

Funding Formula Documentation

I. Calculating Core Cost Component

A. Weighted Student Credit Hours

Source and fields used:

Statewide Student Profile System (SSPS) – reported by the campuses at the end of each semester/term

- Institution or Campus code;
- Student level (i.e., PR, FR, SO, JR, SR, etc.);
- Student SSN;
- Course enrollment, including course number, student credit hours (SCH's), and 6-digit **Classification of Instructional Program (CIP)** code;
- Designation of out-of-state/100% on-line student

Texas Based* Weighted Cost Group Matrix – downloaded from the Texas Higher Education Coordinating (THEC) Board, containing a crosswalk of CIP codes to Cost groups (See figure 1)

- 6-digit CIP code;
- Cost groups (clustered by cost of delivering course level instruction);
- Cost weighting factors, by cost group and level (i.e., lower level, upper level, etc.)

*Louisiana, with the agreement of Management Board CFO's and the assistance of consultants, has disaggregated cost groups in the Technical Skills Area and adjusted weights based on those recommendations.

Step 1:

Using the data provided in the SSPS file submissions, Information Technology staff generates a **student credit hour (SCH)** course file. This provides summary information by institution and aligns the SCH's to the respective student level and course CIP codes. This is done for the all SCH's generated annually and again separately for the 100% on-line, out of state student course data, which are removed in the overall cost calculations.

Step 2:

Using the SCH course file generated in Step 1, the course CIP codes are linked to the Texas Matrix file by CIP code and student level and the appropriate weighting factor is multiplied by the associated SCHs, creating a summary of **weighted student credit hours** by institution and cost group. This information is compiled for two academic years and an overall average is used to adjust for annual fluctuations in enrollment.

Figure 1.

Group Name	Lower Level Undergrad	Upper Level Undergrad	Masters	Spec/Prof
Liberal Arts	1.00	1.69	3.91	9.23
Science	1.75	2.93	7.97	21.08
Fine Arts	1.42	2.33	5.41	7.22
Teacher Education	1.41	1.74	2.27	7.37
Agriculture	2.02	2.54	7.13	9.62
Engineering	2.42	3.70	7.46	16.03
Home Economics	1.03	1.66	2.89	7.24
Law	1.00	1.96	4.15	
Social Service	1.88	2.09	2.98	14.70
Library Science	1.44	1.12	2.69	9.64
Veterinary Science			20.04	20.04
Physical Training	1.38	1.18		
Health Services	1.19	1.81	3.15	9.75
Pharmacy	1.48	5.02	23.28	34.24
Business Administration	1.11	1.71	3.16	23.34
Technology	2.10	2.45	3.87	2.84
Vocational Training: Data Processing	1.51	3.00	3.00	
Vocational Training: Precision Trades	1.85	2.25		
Vocational Training : Transportation	3.25	4.00		
Vocational Training: Personal Services	1.28	1.55	2.89	
Vocational Training: Health Services	2.65			
Nursing	3.12	5.32	6.49	16.32

Note: weights are based on the relative cost to that of a lower level undergraduate (LLU) liberal arts SCH (which has a weight of "1"). This is determined by annually collecting expenditures by discipline and dividing by the SCH production for each and comparing that amount to the cost of liberal arts LLU.

B. Determining the Basic Unit Factor Cost Estimates

Source and data used:

1. Southern Regional Education Board (SREB) classification (Four-Year 1, Four-Year 2, etc.) with the following information from each category updated annually:
   - Annual average faculty salary data
   - State appropriation per **full-time equivalent (FTE)** student or state share as a percentage of revenues including tuition and fees

2. Integrated Postsecondary Data System (IPEDS) Data for colleges in the sixteen SREB States, categorized by SREB category:

- Academic/Student Services Support (as a percentage of campus expenditures by SREB group)

3. Related benefits percentage which includes state retirement, health insurance, and Medicare:
   - Medicare payroll percentage of 1.45%;
   - Retirement rate based on a combination of Louisiana State Employees' Retirement System (LASERS) & Teachers' Retirement System of Louisiana (TRSL) employer contribution rates. Source is Public Retirement Systems' Actuarial Committee (PRSAC); and
   - Health insurance based on Office of Group Benefits (OGB) highest cost plan for employee only. Source is OGB website, rate sheets.
4. Colleges and Universities Professional Association (CUPA) Cost Study by faculty discipline, to determine differential of total average faculty salary to that of liberal arts faculty salary;
5. Regents contracted with and independent consultant Special Study to determine comparative average class size

Step 1: Annual Updates

Based on SREB Category, faculty salaries (see footnotes in following table), and state share are updated using the average for all 16 member states.

State share is the portion of state appropriations per annual full-time equivalent (FTE) student. This figure is based on based on 30 SCH's for undergraduate students and 24 SCH's for graduate students, as defined by the SREB.

Regents' finance staff calculates Louisiana retirement and health insurance rates, based on a combination of LASERS & TRSL contributions and OGB premiums.

Step 2: Calculating Unit Cost Estimates

Instruction amount = ((SREB average faculty salary * (1+retirement benefits)) * liberal arts multiplier)/class size/30

Academic/support services amount = instruction amount * academic services %

Total Base SCH Value = instruction amount + academic/support services amount

Calculated state share per SCH or Unit Cost = total base SCH Value * SREB state share %

Funding Formula Documentation

Basic Unit Factor Chart									
								Faculty Benefits Rate: Teacher's Rate and Health Benefits	42.9%
Derivation of Lower Level Undergraduate Liberal Arts Student Credit Hour Value									
By SREB Category	**4 Yr-1**	**4 Yr-2**	**4 Yr-3**	**4 Yr-4**	**4 Yr-5**	**4 Yr-6**	**2-Yr**	**Tech**	
SREB Avg Faculty Salary [1] *2017-18*	$94,911	$80,924	$68,419	$62,829	$63,346	$60,535	$54,681	$41,490	
LA TRSL Avg Faculty Benefits [2]	**42.9%**	**42.9%**	**42.9%**	**42.9%**	**42.9%**	**42.9%**	**42.9%**	**42.9%**	
Liberal Arts Salary % [3]	88%	88%	88%	88%	88%	88%	100%	100%	
Average Faculty Salaries + Benefits *	119,352	101,764	86,038	79,009	79,659	76,124	78,139	59,289	
Undergraduate Avg Class Size [4]	**26**	**26**	**24**	**24**	**22**	**22**	**22**	**22**	
Undergrad Full-Time Student Workloads [5]	30	30	30	30	30	30	30	30	
Instruction/Departmental Research Value									
Proposed Academic Support/Services [6]	36.0%	36.4%	41.4%	41.0%	41.0%	41.0%	44.0%	41.5%	*4,5,&6 same*
Proposed General Support/Services [7]	17.9%	21.5%	22.9%	28.0%	28.0%	28.0%	24.9%	28.2%	*4,5,&6 same*
Instruction Amount *	153.02	130.47	119.50	109.73	120.70	115.34	118.39	89.83	
Academic Support/Services Amount *	55.09	47.49	49.47	44.99	49.49	47.29	52.09	37.28	
Total Base SCH Value *	208.10	177.96	168.97	154.73	170.18	162.63	170.49	127.11	
SREB State Share [7]	36.6%	38.6%	40.3%	46.0%	46.0%	46.0%	62.0%	58.5%	*4,5,&6 same*
Calc $ - State Share per SCH	**$76.17**	**$68.66**	**$68.12**	**$71.21**	**$78.32**	**$74.85**	**$105.76**	**$74.30**	
* - *Calculated Field*									
1 - SREB All Ranks Average Salary 2017-18; *Table 86 SREB State Data Exchange,* ***updated May 2019***									
2 - Division of Administration Teachers Retirements System of Louisisana (TRSL) Benefits Rate + Group Benefits. **Updated 4/2019**									
3 - College and University Professional Association (CUPA) Faculty Salary Study by Discipline									
4 - LA Public Institution Avg. Liberal Arts Class Size, Undergraduate Only, 2-Year Avg. (No Tech.) & 4-Year Avg; *LA Board of Regents' Student Credit Hour (SCH) Data System* . These numbers were validated by an independent consultant.									
5 - SREB Undergraduate Full-Time Workload - 30 annual credit hours									
6 - IPEDS Data Analysis FY 2013 - Updated 10/2015									
7 -SREB Tables 116-131b, Funds for E&G Operations Per Full-Time-Equivalent Student									

II. General Support and Maintenance Cost

Files and fields used:

Facilities Data System– reported by the campuses annually, fields used:

- Institution or Campus code;
- USDOE's National Center for Educational Statistics' Room Use category
- National Association of College and University Business Officers (NACUBO) function;
- Net assignable square feet

Integrated Postsecondary Data System (IPEDS) Data

- General Support (as a percentage of campus expenditures by SREB group)

Allocation amount per assignable square footage (traditional)

Research allocation amount per assignable square footage used for research purposes

Step 1: Calculating Operation, Support and Maintenance (OP&M) Cost Estimates

OP&M Cost = (Applicable square footage (traditional) * Traditional Allocation amount) +

(Applicable square footage (research) * Research allocation amount)

Step 2: Estimating General Support Services

General Support Services Cost =

((Weighted Student Credit Hours – SCH's for 100% on-line out-of-state students) * Total Base SCH Value) + OP&M Cost)) * general support %

Step 3: Total Cost Based Funding Estimates

Estimated Total Cost = ((Weighted Student Credit Hours – SCH's for 100% on-line out-of-state students) * Total Base SCH Value) + OP&M Cost + General Support Services Cost

Step 4: Calculating State Share of Estimated Total Cost

Est State Share of Cost Based Funding = Est Total Cost * State Share %

III. Calculating Underrepresented Minority (URM)Cost

The calculation compares the average cost by race based on FTEs. The difference from the average cost calculation was then multiplied by the FTE counts of underrepresented minorities at each institution which had a population above the statewide institutional average. This is determined for both two-year and four-year sectors.

Source and data used:
FTE data by race from SSPS, each institution's students are documented by race reported.
State Share Cost amount as determined by the information listed above.

Step 1: Calculating Average State Share per FTE, by Race

State Share Cost per FTE = (Institution State Share/total institution FTE)

The proportion of each race category (Institution FTE of certain race/total institution FTE) is then multiplied to calculate a Race Cost per FTE

Step 2: State Share Comparison by Race

Any State Share Race Cost per FTE that is less than the average State Share Cost per FTE is noted and the difference is calculated.

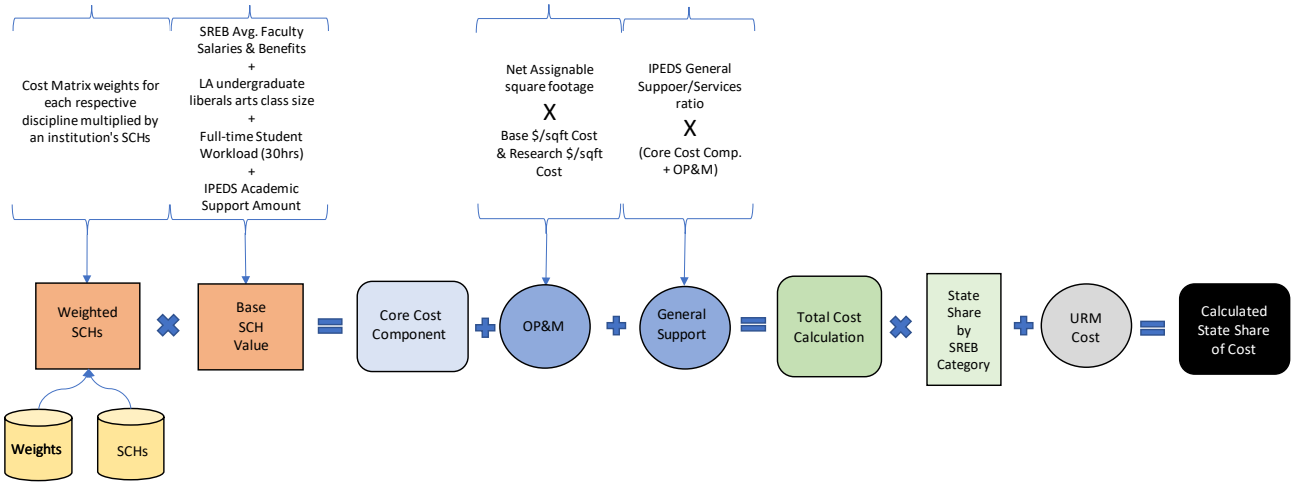
Step 3: Underrepresented Minority Multiplier

For each sector, if an institution has an underrepresented minority (URM) population greater than the state URM average, then that institution is eligible for the URM adjustment cost factor. This is calculated by multiplying the URM FTE and the difference between the State Share Cost per FTE and the Race Cost per FTE.

Funding Formula Documentation

The flowchart of the cost portion of the formula is illustrated below.

Board of Regents Funding Formula: Cost Portion



Definitions

Student Credit Hour (SCH) - The student credit hour is a measurement of instructional workload. (Example: If 10 students are in a 3 hour course, then 30 SCHs are attributed to that course.)
Cost Weights - The multiplier dependent on discipline and level used to calculate cost of instruction vased on the lower level undergraduate liberal arts base of 1.00.
IPEDS Academic Support Amount - An amount compiled from the ration of total budget spent on Academic Support/Services by SREB institutions in each category as reported to IPEDS. Academic support is a functional expense category that includes expenses of activities and services that support the institution's primary missions of instruction, research, and public service.
Base SCH Value - The Base Student Credit Hour Value is calculated using average faculty salaries and benefits, LA average undergraduate class size, full-time student workloads and an academic support/services amount.
OP&M (Operation of Plan and Maintenance) - This amount is determined by using an institution's Net Assignable Square Footage multplied by a per square foot base dollar amount.
IPEDS General Support Ratio - The ratio of total budget spent on General Support/Services by SREB institutions in each category as reported to IPEDS. General support is a functional expense category that includes expenses for the day-to-day operational support, general adminsitrative, fiscal and executive level services of the institution.
SREB Category - Institutions in each Southern Regional Education Board member state are assigned a category based on the level, quantity, and mix of degrees awarded.
State Share by SREB Category - The state's share of total funding for each institution per SREB category.
URM (Underrepresented Minority) Cost - A cost factor added to institutions that have an URM population above the state average to provide additional support to increase outcomes.
Calculated State Share of Cost - The amount calculated to represent the appropriate state share of total funding for each institution per SREB category.

The Board members determine what portion of the State appropriations are allotted for the cost portion of the formula allocation. At that time, Regents' staff provides the dollars associated with the pro-rata share of the allocation for each institution.

IV. Calculating Outcomes Metrics

Files and fields used:

Statewide Student Profile System (SSPS) – reported by the campuses at the end of each semester/term, fields used:

- Institution or Campus code;
- Academic year & term;
- Student level (i.e., PR, FR, SO, JR, SR, etc.);
- SSN or Campus student identifier;
- Student Date of Birth;
- Designation of out-of-state/100% on-line student

Completer Data System (CMPL) – reported by the campuses annually, fields used:

- Institution or Campus code;
- SSN or Campus student identifier;
- Race/Ethnicity identifier;
- Degree/Credential received (i.e., certificate, bachelor's, etc.);
- CIP Code of degree/credential

Financial Aid Data System (FADS) – reported by the campuses annually, fields used:

- Institution or Campus code;
- SSN or Campus student identifier;
- Funding tag to identify student receiving Pell

Louisiana Economic Development (LED) and Louisiana Workforce Created file – updated when applicable, fields used:

- CIP Code;
- Star Rating (1-5);
- LED Priority designation (1-4)

Research Data – *see section K below*

Note that with the exception of the Research Metric, all out-of-state/100% on-line students are removed from the calculations below, as per Board approved recommendation.

A. Progression (both 2 and 4 year)

Using the data provided in the Fall SSPS file submission, students are counted based on annual "progression", measuring enrollment by incremental completion of 30 credit hours. This is proxied by student level (i.e., FR, SO, etc.) with heavier factors applied as students progress from lower to upper level status.

B. Transfers (both 2 and 4 year)

Using the data provided in the Fall SSPS file submission and the prior full academic year SSPS data), a script (sequence of queries) on the mainframe identifies current students admitted as transfer students to a 4-year Universities (admission status= "transfer"). These students are then matched against prior year enrollment to determine if they were enrolled at any time at a 2-year Institution (visiting students are not included).

C. Cross-Enrollment (2 Year Colleges only)

Using the data provided in the SSPS file submissions, a sequence of queries sums the number of institutions in which a student is enrolled, for those enrolled in more than one, the number of students that are found cross enrolled in both a two-year and four-year College/University is calculated.

D. Completion Time-to-Degree, Bachelors & Associate's only (both 2 and 4 year)

Using the data provided in the Completer file submissions, a sequence of queries takes the cohort of completers in the most recent year and matches the students ID back to that of their initial enrollment at the institution, capturing: year and term; admission status (first-time-in-college or transfer student); and full or part-time enrollment status. The time-to-degree is calculated from the time of admission to completion of the award. This is calculated for Baccalaureate degrees for 4-year Universities and Associate degrees for 2-year institutions.

E. Undergraduate Completers over 25 of unduplicated undergraduate awards (both 2 and 4 year)

Using the data provided in the Completer and SSPS file submissions, the age of the student is calculated by subtracting the year the degree/certificate is completed and the birth year of the student. Fall and Winter completers are based on the start of the academic year, Spring and summer completers use the end of the academic year (or the calendar year). The number of adults (25 or older students) completing an undergraduate credential is calculated.

F. Certificate and/or diploma completion (highest award, 2-Year Colleges only)

Using the data provided in the Completer file submissions, students are counted based on the highest credential achieved. This is due to the stackable nature of certificates, that frequently lead to higher level certificate or a diploma. Increased weighting factors are aligned to higher award level.

G. Graduate level degree completion (4-Year Universities only)

Using the data provided in the Completer file submissions, students are counted for each award level achieved above the Baccalaureate level within the academic year.

H. Racial Equity Group completers at any degree level, unduplicated (both 2 and 4 year)

Using the data provided in the Completer file submissions, in order to address racial inequity educational attainment levels in our state, under-represented minority students are counted uniquely for receiving any award within the academic year. The race categories included: Black (non-Hispanic), Hispanic of any race, Native Hawaiian/Pacific Islander, American Indian/Alaskan Native, and those reported as 2 or more races.

This metric is eligible for increased weights based on the enrollment populations of racial equity groups at each institution. The larger the population, the higher the weight received. This population band is as follows:

- Minority Population less than 50%
- Minority Population equal to or over 50% but less than 75%
- Minority Population equal to or greater than 75%

Funding Formula Documentation

I. Pell Completers at any degree level, unduplicated (both 2 and 4 year)

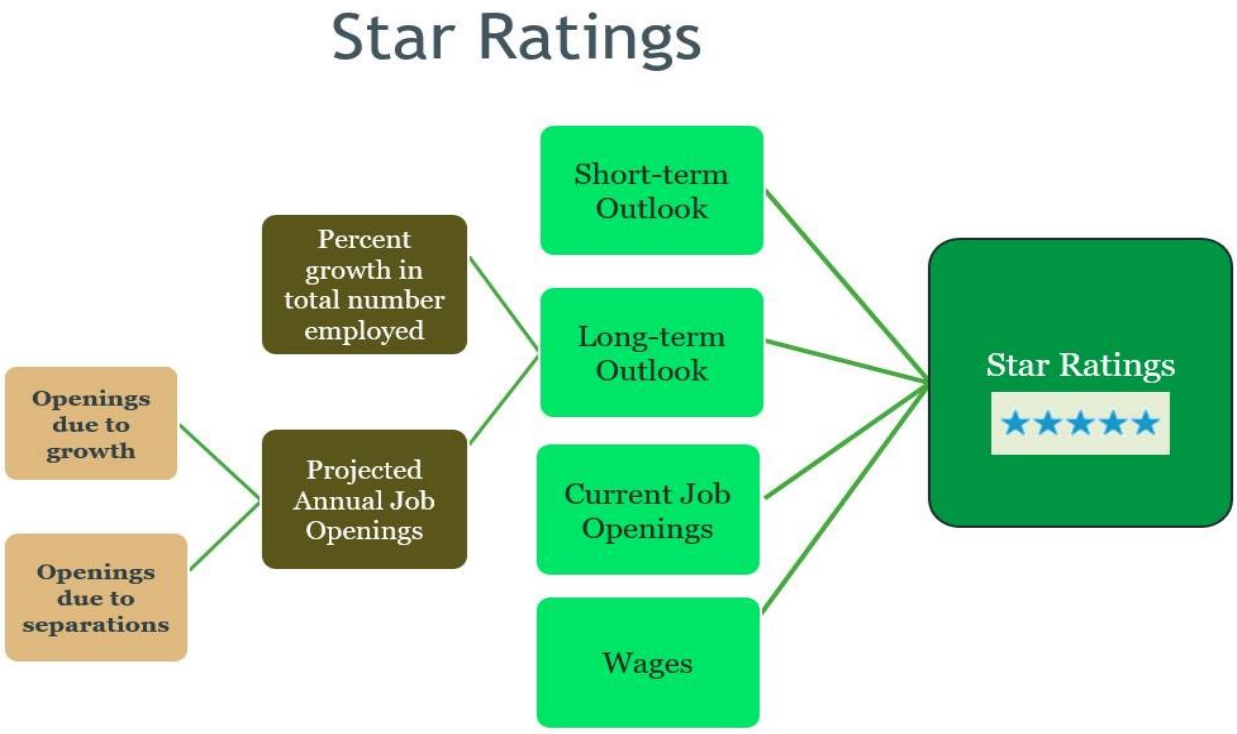
Using the data provided in both the Completer and FADS file submissions, in order to address income inequity educational attainment levels in our state, student ID's are matched between the two files to determine if a student has been a Pell recipient at any time they were enrolled at one of our Colleges or Universities. These students are counted uniquely for receiving any award within the academic year.

This metric is eligible for increased weights based on the enrollment populations of Pell students at each institution. The larger the population, the higher the weight received. This population band is as follows:

- Pell Population less than 50%
- Pell Population equal to or over 50% but less than 75%
- Pell Population equal to or greater than 75%

J. Workforce Alignment at any degree level, unduplicated (both 2 and 4 year)

Using the data provided in the Completer file submissions as well as a comprehensive file sent by the LED, the program CIP codes are matched to determine the classification of a program deemed as leading to a 4-5 star job, and the priority level applied by LED. Students are counted for each award received that aligns to the jobs needed within our state. Student counts may be duplicated if they receive awards in multiple areas in high demand. The process for assigning ratings is below.



Funding Formula Documentation

K. Research – 3-year average (4-Year Universities only)

Data is derived from the National Center for Science and Engineering Statistics (NCSES)for which contains data for the National Science Foundation (NSF). The particular data set is the Higher Education Research and Development Survey (HERD). Once that is selected, a measure must be selected. The measure is "R&D Expenditures for All Institutions" and then click the boxes that titled "By Detailed Field and Detailed Funding Source (Standard Form Only)" and "By Broad Field and Federal and Nonfederal Sources." Under the Survey Dimensions header, select the following variables: Fiscal Year, Funding Source – Federal or Nonfederal. Under the Institution Dimensions header select Institution Name and State. The user then selects the fiscal year needed, "Louisiana" as the state, "Federal" as funding source and all public four-year institutions in Louisiana.

The survey data for LSU include LSU-A&M, LSU Agricultural Center (Ag), and Pennington Biomedical Research Center (PBRC). Contact LSU system office to get the LSU survey submissions to back out Ag and PBRC data.

This data is added to the "Research(4-Yr)" tab in the formula spreadsheet and the three-year average is adjusted to incorporate the latest fiscal year's data.

Flowcharts that illustrate the process of applying the metric weights to the data are displayed on the next page.

Funding Formula Documentation

A weighting factor is applied for each of the outcome metrics and summarized by both the metric and at the institution level. The Board members determine what portion of the State appropriations are allotted for the outcomes portion of the formula allocation. At that time, Regents' staff provides the dollars associated with each metric as well as the pro-rata share of the allocation for each institution.

Four-year Institutions

Two-year Institutions