



## Metro Cost Efficiency Study

### Summary

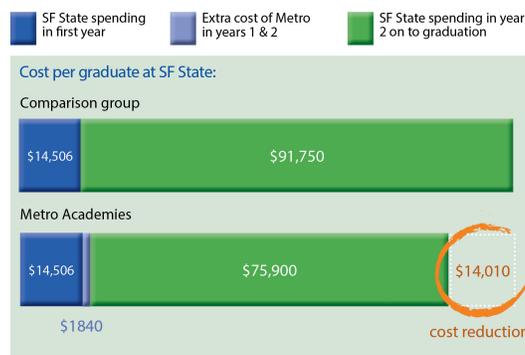
Founded in 2007, Metro College Success Program (Metro) at SF State is a redesign of the first two years of college to increase equity in bachelor's graduation rates. Metro's outreach focuses on high school graduates who are low-income, first-generation and/or underrepresented. The program now serves 33% of first-time full-time freshman (FTFTF) and 49% of FTFTF underrepresented students (URMs). A cost study conducted in collaboration with the National Center for Inquiry and Improvement found that by reducing attrition, Metro reduces the cost per graduating student by 13.2%, or \$14,010. Using institutional data from the 2018-19 academic year, the study found that the program's modest extra costs are more than outweighed by net cost reductions per graduate. The program also helps to stabilize university tuition and full-time equivalent student (FTES) enrollment revenue. Factoring in the program's annual cost of \$920 per student per year, for two years, and the university's ongoing operating costs of serving continuing students, the program still shows a return on investment (ROI) of 203%.

### Metro program features

Metro organizes students into academies of up to 140 students. Metro's distinguishing feature is that students participate in a long-duration cohort, creating a personalized educational home with peers, faculty and a counselor who know them well. Each cohort has a coordinator who follows students closely over time, proactively intervening if anyone starts to falter. Coordinators build a community-oriented culture of mutual aid among students. Students take a "home base" general education class together each term over four semesters, with student services tied to this class (e.g., tutoring, counseling and financial aid reminders). Other GE classes are also set aside for Metro students, allowing them to satisfy graduation requirements in all CSU majors. The classroom is the instructional core of students' college experience. To impact the classroom itself, Metro provides a faculty learning community focused on the use of engaging and relevant pedagogies, along with a sequenced curriculum on academic writing skills and critical thinking.

### Cost reduction per graduate

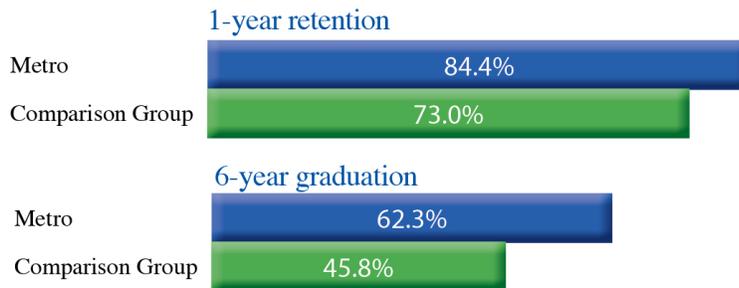
Metro requires an additional investment of \$920 per student per year for two years—a 6.3% increase—yet ultimately **reduces overall costs per graduate by 13.2%, or \$14,010, leveraging each dollar of investment almost eight times.**



### Increased enrollment + retention = increased revenue

Because less funding is expended on unfinished degrees and excess units, Metro reduces the cost per graduating student. To illustrate this point, if a student drops out after their first year at SF State, more than \$14,000 has been spent between student tuition and state-allocated FTES funding—but without resulting in a degree. Among Metro students, retention into the second year is 11.4 percentage points higher than their matched comparison peers. The effects of this intervention continue long after students complete the two-year program. The majority of Metro students have graduated by the five-year mark, with a **six-year graduation rate that is 16.5 points higher than their peers**. Additionally, Metro students graduate with five fewer units than SF State students overall—approximately 126 vs. 131 units—because they receive close guidance to stay on path.

Retention and Graduation Outcomes in AY 2018-19:  
Metro vs. Comparison Group



Next, we take a deeper look at the financial implications of enrollment and retention for the university. We note that the CSU does not operate on a performance funding basis, in which the state allocates university revenue on a "per graduate" basis. However, full enrollment helps stabilize state FTES funding at its current level. SF State experienced approximately a 25% drop in enrollment for first-year students in the fall of 2020 (we assume this is largely because of the Covid-19 pandemic). This loss involves a significant loss of student tuition income and, over time, could potentially lead to a decrease in state FTES funding. A hypothetical example conveys a sense of the order of magnitude of this issue. In the fall of 2020, Metro filled at 100% capacity, serving 900 first-year students, or 32% of the 2020 freshman class. If Metro had experienced a similar 25% decline of its 900 FTES, that would equal a loss of 225 FTES. Such a loss could mean a reduction of \$1,563,750 loss in tuition revenue and a potential \$1,700,100 loss in apportionment funding from the state, totaling a \$3,263,850 potential loss in revenue to SF State. Multiply that loss over the five or six years of enrollment until graduation, even when considering attrition, and the result shows a substantial financial cost. By maintaining its full enrollment, Metro helps stabilize the state's continued level of student tuition dollars and FTES funding.

Furthermore, if SF State FTFTF had achieved the same 6-year graduation rate as Metro students in AY 2018-19, the university would have produced an additional 206 graduates. While this is a modest number, the financial implication of simply having those additional students on campus for each of the five or six years until graduation translates to about \$2,988,236 in tuition and state-allocated FTES funding in each of those years. Even if we were to only look at tuition, these students bring almost \$1.5 million each year to the university.

To better understand the potential financial implications of Metro's effect on SF State's six-year graduation rates, let us explore another hypothetical scenario: What if the university would choose to invest another \$644,000 for an additional five Metro academies, serving an additional 350 first-year students, and costing a total of \$322,000 each year for two years? If those Metro students also achieved a 62.3% graduation rate, this investment would bring an additional 218 graduates annually. Between tuition and state-allocated FTES funding, the amount of revenue that these 218 graduates represent is almost \$19 million (\$14,506 annual funding \* 218 students \* 6 years). In a financial market, one would not hesitate to make an investment with such impressive returns—not to mention the many non-economic benefits associated with graduating more students and at a higher rate.

## **Methodology**

The technical expert on this study was Dr. Robert Johnstone of the National Center for Inquiry and Improvement. Dr. Johnstone has carried out cost efficiency studies of higher education programs since 2005. This study identified the annual spending on Metro and non-Metro students and calculated retention and graduation rates for both groups, using fiscal actuals from the 2018-19 academic year and institutional data on costs and student outcomes from the 18-19 AY. The 2018-19 AY was chosen because it was the most recent full year of data, and not affected by the Covid-19 pandemic. With the help of Institutional Research, Metro created a comparison group matched on several variables, including low-income status (Pell-eligibility), URM-status and first-generation status for first-time freshmen. The study compared Metro student outcomes to this matched comparison group.

This study looks at the 'added cost' of the Metro program. Thus, it does not include the cost of the services that all SF State students receive, such as the instruction cost of required GE courses offered in Metro. General education courses are required for *all* students; thus, they are not "added cost." Other general expenses such as the cost of building maintenance are also not included. The calculations do include salaries and benefits for all Metro staff, non-instructional faculty, and coordinators, along with student assistants' costs, faculty stipends for training, software/database costs, printing, and office supplies.

## **Conclusion**

The modest extra costs of the Metro program at San Francisco State (\$920 per student per year, for two years, totaling \$1,840) are more than outweighed by net cost reductions per graduate (\$14,010). Metro students have less attrition, with a retention rate that is typically 10+ percentage points higher than a matched comparison group. Metro's strong enrollment and retention help stabilize the state's continued level of student tuition dollars and FTES funding and for the university, so that the program more than pays for itself.

## **For additional resources and information:**

[Rob Johnstone's methodology on ROI and cost efficiency](#)

[Metro student outcomes in Tableau](#)

[Metro Cost Study Calculation Worksheet](#)

[Closing the Equity Gap 10+ Years in Review—Metro Self Study 2020](#)

[Addressing the Retention Gap for URM Students at SF State: Metro's effect on retention](#)

## Metro College Success Program, Cost Analysis Calculations

Using Metro’s financial actuals from AY 2018-19, this cost study shows an annual cost of \$128,809 per academy—an added cost of \$920 per student per year, for two years. This is a 6.3% increase in spending for the two-year period in which a student is enrolled in Metro.

If we apply the student retention and graduation outcomes that occurred in AY 2018-19, the total cost per graduate is \$14,010 lower for Metro students. This is an overall cost reduction of 13.2% per graduate.

Cost Summary	Annual Cost
<b>Total Program Costs per Academy (70 first-year and 70 second-year)</b>	<b>\$128,809</b>
<b>Incremental Costs Per Student per Academy in Program</b>	<b>\$920</b>
<b>Total Costs per Student at SFSU</b> (\$7,556 state allocation + \$6,950 tuition)	<b>\$14,506</b>
<b>Incremental Spending Increase as a %</b>	<b>6.3%</b>

Cost per Degree / Completion	
Annual Comparison Group* Tuition and Allocation per SFSU Student	<b>\$14,506</b>
SFSU Comparison Group Third Semester Retention Rate (actual)	<b>73%</b>
SFSU Comparison Group 6-Year Graduation Rate (predicted based on past performance)	<b>46%</b>
Allocated Costs per Comparison Group Graduate	<b>\$106,256</b>
Annual Metro Academy Spending per SFSU Student (1st & 2nd yrs)	<b>\$15,426</b>
Metro Academy Spending per SFSU Student, Year 3 on	<b>\$14,506</b>
SFSU Metro Academy Third Semester Retention Rate (actual)	<b>84%</b>
SFSU Metro Academy 6-Year Graduation Rate (predicted based on past performance)	<b>62%</b>
Costs/Allocated Costs per Metro Academy Graduate	<b>\$92,246</b>
Cost Reduction/Savings per Metro Academy Graduate	<b>\$14,010</b>
% Cost Reduction/Savings per Graduate for Metro	<b>13.2%</b>

\*With the help of Institutional Research, Metro created a comparison group matched on several variables, including low-income status (Pell-eligibility), URM-status and first-generation in college status for first-time freshmen.

FTES Funding	
Description	Value
Apportionment Funding from State per FTES, AY 2018-19	\$7,556
Incremental Tuition, AY 2018-19	\$6,950
<b>Total Funding per FTES:</b>	<b>\$14,506</b>

### Incremental FTES from Program

Description	Value
1. Students in Comparison Group	140
2. Subsequent FTES from Students in Comparison Group	470.0
<b>3. Percentage Increase in FTES from Program</b>	<b>15%</b>
4. Students in Program Annually	140
5. Subsequent FTES from Students in Program	538.6
6. Incremental FTES from Students in Program	68.6
<b>7. Potential Revenue from Incremental FTES</b>	<b>\$995,402</b>

Cost / Benefit of Program and ROI Estimate	
Description	Value
1. Potential Revenue from Section 7	<b>\$995,402</b>
2. Annualized Cost of Program from Section 5	<b>\$128,809</b>
3. Potential Net: Revenue - Cost	<b>\$866,592</b>
4. Operating Cost / Discounting % *	<b>55%</b>
5. Incremental FTES from Students in Program	<b>\$389,967</b>
6. Estimate of Return on Investment (ROI)	<b>203%</b>

\*Note: The "discounting %" exists to estimate how much of the incremental revenue is "profit" - accounting for incremental costs of successful students

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