# Traditional Tracking Approach vs. Last Major Tracking Approach
*(Prepared: 2/21/2018)*

Retention and graduation has been used as primary measures of student success and examined whether or not students are on track to earn a degree on time. When student progress is tracked, three possible outcomes could occur: graduation, departure, or continuing enrollment. Exhibit 1 below shows the flow of entering students through an institution (SF SU). For example, the first-time freshmen count at year 0 (labeled A) go through a process that could have three possible outcomes at the end of a 6-year period: graduated from SFSU (B); left SFSU without SFSU degrees (C); or still enrolled at the beginning of the 7th year (D).

## Exhibit 1: Tracking Students Institution-wide (University Level)
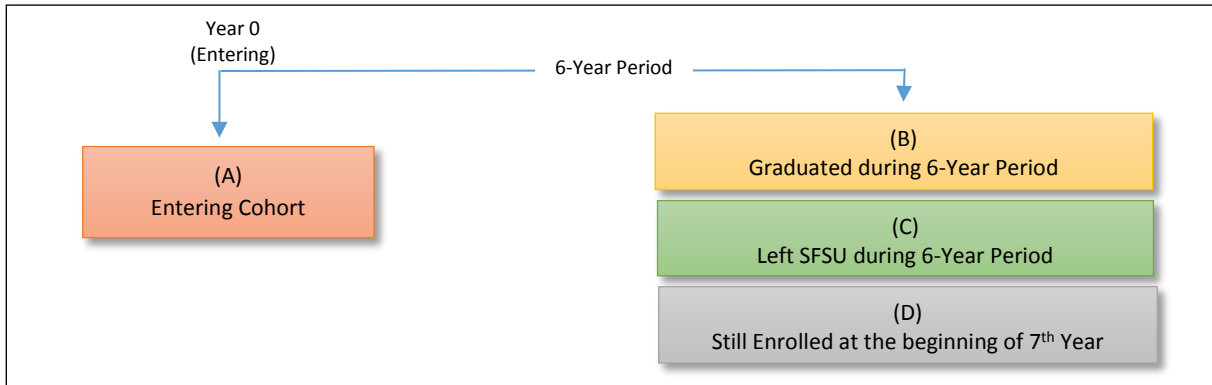
- Graduation rate is the percentage of entering students and completed a degree. It is computed by dividing the number of graduates by their entire entering cohort. It does not considered students who were still enrolled at the beginning of the 7th year. → | 6-Year Graduation Rate = B / A |

- Retention rate is the percentage of entering students and completed a degree as well as were still retained at the beginning of 7th year. It is computed by dividing the number of students who either continued on or graduated by the entire entering cohort → | 6-Year Retention Rate = (B + D) / A |

Exhibit 2: Fall 2010 First-time Freshman Tracking
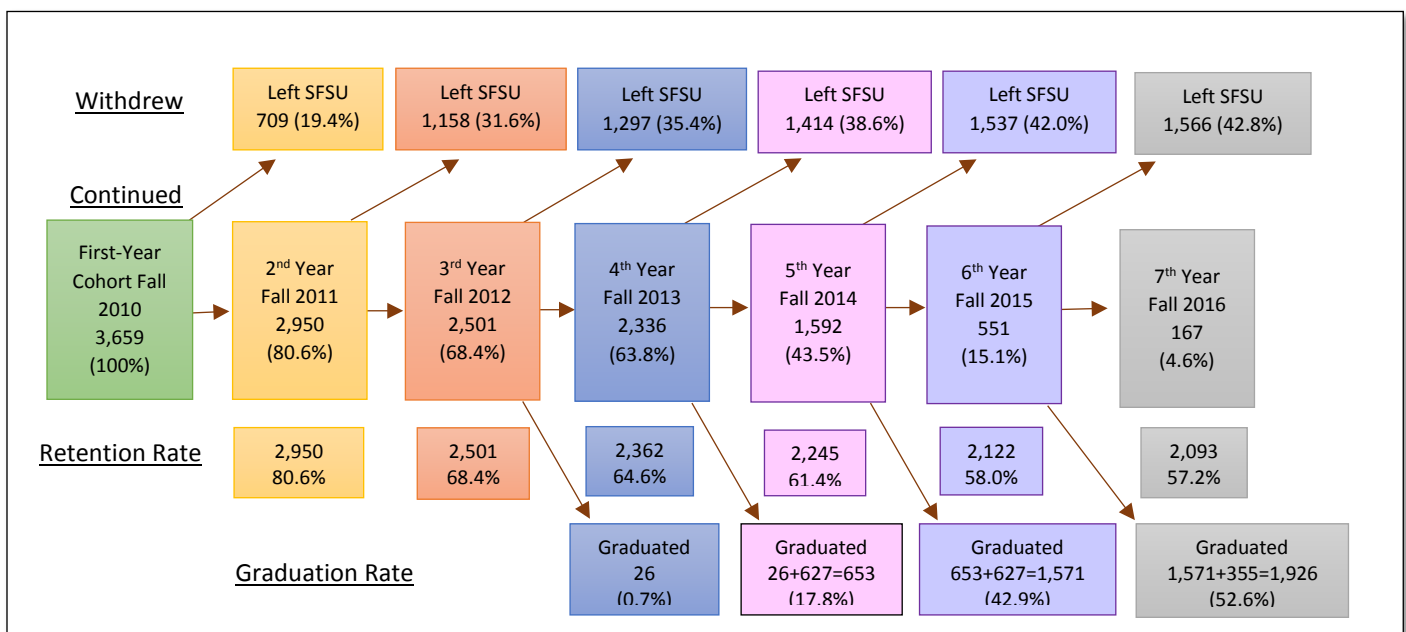
Tracking Students by Discipline or Major

Disaggregating retention and graduation rates by discipline is not a straightforward process. While defining these rates institution-wide is relatively simple, there are multiple approaches to define retention and graduation rates by major. At SFSU, the traditional tracking and last major tracking approaches are available to determine pathways for student success.
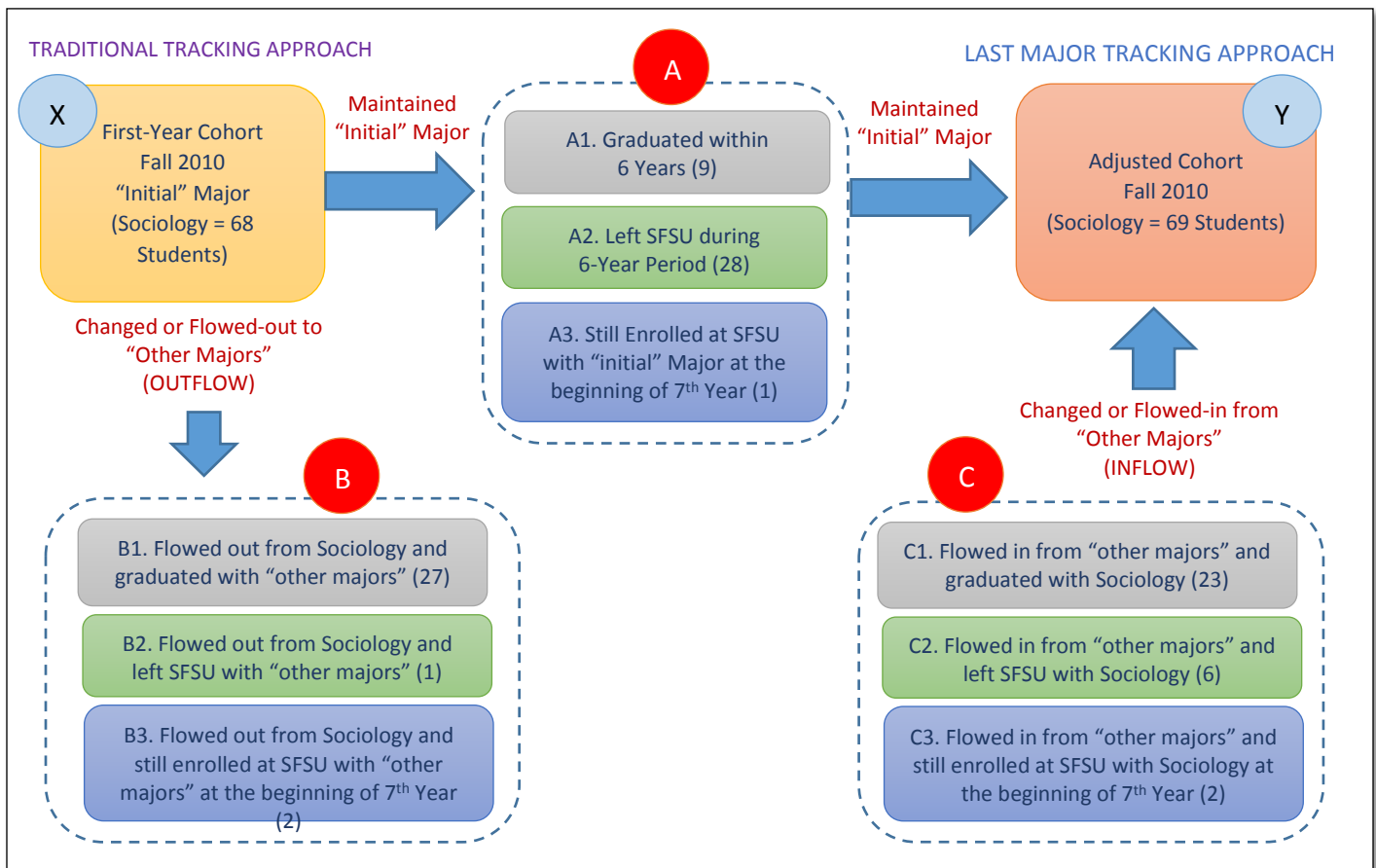
- *The traditional tracking approach* is to track student progress based on the initial major upon matriculation.

The 6-year graduation rate is computed by dividing number of entering cohort students who had graduated from their initial major within the next six years by the entire entering cohort.

$$\text{6-Year Graduation Rate} = (A1 + B1) / X$$
$$= (9 + 27) / 68 = 52.9\%$$

A1 = # students who graduated with their "initial major" within the 6 years
B1 = # students who flowed out from their "initial major" and graduated with "other major" within the 6 years
X = # cohorts who entered with the "initial" major at Year 0

The 6-year retention rate is computed by dividing number of entering cohort students who had graduated from their initial major within the next six years or still enrolled at the beginning of the 7th year by the entire entering cohort.

$$\text{6-Year Retention Rate} = ((A1 + B1) + (A3 + B3)) / X$$
$$= (9+27) + (1+2) / 68 = 57.3\%$$

A1 = # students who graduated with their "initial major" within the 6 years
B1 = # students who flowed out from their "initial major" and graduated with "other major" within the 6 years
A3 = # students who still enrolled at SFSU with "initial" major at the beginning of the 7th Year
B3 = # students who flowed out from their "initial major" and still enrolled at SFSU with "initial major" at the beginning of the 7th Year
X = # cohorts who entered with the "initial major" at Year 0

- *The last major tracking approach* is an alternative way to track student progress using the major in which the student either graduated or dropped out. The advantage of this approach is to captures the contributions of retention and graduation rates by graduating major regardless of change of majors.

  The 6-year graduation rate is computed by dividing number of students who had graduated from their initial major or those who flowed in from other majors within the next six years by number of the adjusted cohort.

$$\text{6-Year Graduation Rate} = (A1 + C1) / Y$$
$$= (9 + 23) / 69 = 46.4\%$$

  A1 = # students who graduated with their "initial major" within the 6 years
  C1 = # students who flowed out from their "initial major" and graduated with "other major" within the 6 years
  Y = # adjusted cohorts who maintained the "initial major" as well as those who flowed in from "other majors" during the 6 years.

  The 6-year retention rate is computed by dividing number of students who had graduated from their initial major or those who flowed in from other majors within the next six years as well as those who still enrolled at the beginning of the 7th year from the initial major and from other majors by number of the adjusted cohort.

$$\text{6-Year Retention Rate} = ((A1 + C1) + (A3 + C3)) / Y$$
$$= (9+23) + (1+2) / 69 = 50.7\%$$

  A1 = # students who graduated with their "initial major" within the 6 years
  C1 = # students who flowed out from their "initial major" and graduated with "other major" within the 6 years
  A3 = # students who still enrolled at SFSU with "initial" major at the beginning of the 7th Year
  C3 = # students who flowed out from their "initial major" and still enrolled at SFSU with "initial major at the beginning of the 7th Year
  Y = # adjusted cohorts who maintained the "initial major" as well as those who flowed in from "other majors" during the 6 years.

Appendix

- First-time freshman is a student who was not formally admitted to nor attended a college or university after graduating from high school.
- New undergraduate transfer is a student who has attended a community college or university and enrolled at SFSU for the first time. Transfer credits were allowed to be added to their total cumulative earned units.
- Graduation rate is the percentage of entering students and completed a degree. It is computed by dividing the number of graduates by their entire entering cohort. It does not considered students who were still enrolled at the beginning of the 7th year.
- Retention rate is the percentage of entering students and completed a degree as well as were still retained at the beginning of 7th year. It is computed by dividing the number of students who either continued on or graduated by the entire entering cohort.
- Continuation rate is the percentage of entering students and were retained at the beginning of the following year. It does not include students who completed a degree.