

Cradle-to-Career Governing Board Staff Report

Date Report Issued: April 17, 2024
Attention: Members of Cradle-to-Career Governing Board
Subject: **Data and Tools Advisory Board Proposals and Feasibility Study**
Staff Contact: Ryan Estrellado, Director of Data Programs

At this meeting, the Governing Board will have the opportunity to hear from Data and Tools Advisory Board Member Reddy about proposed changes to the P20W data system.

Possible Action:

Please review the feasibility study, Attachment A, about proposals made by the Data and Tools Advisory Board. For this item, the Governing Board may consider the proposed data points and metrics, in context of the limitations and implications described in the Office of Cradle-to-Career Data's (Office) feasibility study and in the context of Member Reddy's presentation. After discussion, the Governing Board will vote on which of the proposed data points and metrics they wish to request from data providers and the Office.

Motion 1:

- ❖ Move to request the Office to create the following metrics from information already available in the P20W data set:
 - Expansion of Postsecondary Retention Data Beyond a Single Year
 - AP and IB Course Offerings
 - Early College Course Offerings (Dual Enrollment)

Motion 2:

- ❖ Move that the Office add the following disaggregation option to the College/Career Readiness Dashboard, which could be calculated from information already available in the P20W data set:

- Whether students enrolled in postsecondary, based on the type of high school exit or by AP/IB coursetaking

Motion 3:

- ❖ Move to recommend that once the necessary information is required for CALPADS reporting and the data meet CDE's data quality standards, a-g Course Offerings, Availability, and Completion data points be requested by the Governing Board to be provided by the California Department of Education as part of the P20W data set.

Motion 4:

- ❖ Move to request the Office to calculate a within-major retention metric by comparing students' field of study in their first year to the field of study in which they graduated.

Background:

The Data and Tools Advisory Board develops suggestions about “whether the data system is providing actionable information and identifying ways to improve access to that information” ([Education Code 10865 \(b\)\(1\)\(A\)](#)). The Cradle-to-Career (C2C) [Governance Manual](#) designates the Data and Tools Advisory Board as the entity that provides suggestions related to:

- The usability, accessibility, and usefulness of dashboard visualizations
- Practical tools
- Data points to include in centralized data sets

When the Data and Tools Advisory Board proposes a recommendation to the Governing Board for a request of an additional data point for the C2C P20W data set, the Office conducts a feasibility study to provide context to the Advisory Board and the Governing Board. Upon completion of the feasibility study, the Office shares the results with the Data and Tools Advisory Board, which can decide whether or not to advance the proposal to the Governing Board. During the October 12, 2023 Data and Tools Advisory Board meeting, three proposals advanced to the feasibility study stage. The proposals can be found using the following links:

- [Anthony Jr. Proposal](#)
- [Orlick Proposal](#)
- [Reddy Proposal](#)

When conducting feasibility studies, the Office works with data providers to consider four factors: data availability, data reliability and data validity, cost, and compliance.

Feasibility Study:

Please find the attached feasibility study, Attachment A, that the Office conducted in response to proposals from the Data and Tools Advisory Board meeting on October 12, 2024.

Motions from March 5, 2024 Data and Tools Advisory Board Meeting:

During the March 5, 2024 Data and Tools Advisory Board meeting, the Office shared and discussed the results of the feasibility study with the Data and Tools Advisory Board members.

The following motions were passed at the March 5, 2024 Data and Tools Advisory Board meeting:

Motion 1A: Data Points that are Not in the System but Can be Calculated & Not in the System and Would Require an Expansion of the Planned Dashboards

- Move to present the following metrics, which could be calculated from information already available in the P20W data set to the Governing Board at the May 1, 2024 Governing Board meeting and request that the Office create the metrics:
 - Expansion of Postsecondary Retention Data Beyond a Single Year
 - AP and IB Course Offerings
 - Early College Course Offerings (Dual Enrollment)

- And that the Office add the following disaggregation option to the College/Career Readiness Dashboard, which could be calculated from information already available in the P20W data set:
 - Whether students enrolled in postsecondary, based on the type of high school exit or by AP/IB coursetaking

Motion 1B: Data Points that are Already in the P20W Data Set

- Move to emphasize for the Governing Board the importance of the following data points that are already included in the P20W Data Set and planned data tools:
 - Career readiness: K-12 Individual Student College/Career Indicator Level
 - AP course completion: Completed a K-12 Advanced Placement Course
 - IB course completion: Completed a K-12 International Baccalaureate Course
 - Dual enrollment: Completed a College Course While in High School
 - Earned a special education diploma (a component of Completed High School)
 - Cross-institution postsecondary persistence metrics
 - K-12 students who enrolled in postsecondary, with disaggregation options based on early college credit, career and technical education coursetaking, and student demographics

Motion 1C: New Data Points on College Eligibility (a-g Courses)

- Move to recommend that a-g Course Offerings, Availability, and Completion data points be requested by the Governing Board to be added to the P20W data set by the California Department of Education, once the data meet CDE's data quality standards and the field is required for CALPADS reporting.

Motion 2: New Metric on Retention by Student Major

- Move to recommend that Retention by Student Major be requested by the Governing Board to be added as data points from the California State University (CSU) and University of California (UC) by providing information on students' majors in each year of enrollment.

Note on the New Metric on Retention by Student Major:

In the initial proposal to the Data and Tools Advisory Board, the following methodology was proposed for calculating retention by student major on an annual basis for the five-years subsequent to a student's initial major declaration:

- *Returned for a Second Year in Postsecondary with the Same Declared Major* - The number of students who started in the fall and declared a major were enrolled in the second subsequent fall in the same discipline as their major or had earned an academic award.
- *Returned for a Third Year in Postsecondary with the Same Declared Major* - The number of students who started in the fall and declared a major were enrolled in the second subsequent fall in the same discipline as their major or had earned an academic award.
- *Returned for a Fourth Year in Postsecondary with the Same Declared Major* - The number of students who started in the fall and declared a major were enrolled in the third subsequent fall in the same discipline as their major or had earned an academic award.
- *Returned for a Fifth Year in Postsecondary with the Same Declared Major* - The number of students who started in the fall and declared a major were enrolled in the fourth subsequent fall in the same discipline as their major or had earned an academic award.
- *Returned for a Sixth Year in Postsecondary with the Same Declared Major* - The

number of students who started in the fall and declared a major were enrolled in the fifth subsequent fall in the same discipline as their major or had earned an academic award.

Since the Data and Tools Advisory Board meeting, the Office has worked with UC and CSU to further examine how retention by student major could be calculated. The Office would recommend changing the proposed methodology based on this additional information.

The CSU and UC systems use the same data coding system for academic disciplines: [Classification of Instructional Programming](#) (CIP) codes. CIP codes can be thought of as a taxonomy that groups disciplines and provides greater specificity based on the number of digits in that code. For example, Health-related majors are assigned the “51” designation, the Public Health field is listed as “51.22,” and the specific program of Occupational Health and Industrial Hygiene is assigned “51.2206.”

Award data (data collected and shared once a student graduates): CSU and UC report award data to the P20W data set after a student graduates. In that award data, both CSU and UC report up to three awards (i.e. up to a double or triple major) for each student using the six-digit CIP codes.

Enrollment data (data collected and shared while a student is still enrolled): While UC and CSU use CIP codes for academic disciplines, the ability to track majors during a student's enrollment differs substantially. UC tracks the three most recently declared majors using the six-digit CIP codes. The CSU instead tracks only a student's primary major using the six-digit CIP code (e.g. Engineering or Health Professions and Clinical Science). As CSU students move into concentrations within the major later in their academic careers, the six-digit CIP codes become more specific (e.g. Structural Engineer or Community Health and Preventive Medicine).

The distinctions between how CSU and UC report this enrollment data make

direct comparisons across institutions more challenging. In particular, the fact that CSU tracks only one major and UC tracks up to three makes comparison on an annual basis more difficult.

For example, consider a student who declared a double-major in communications and sociology at CSU. If communications was listed as their chosen major and the student earned a single degree in sociology, it might appear that they did not graduate in the discipline they had originally intended. Because CSU and UC collect these data differently, crafting a single metric in the P20W data set for major retention is challenging.

Data and Tools Advisory Board members voted on the proposal with the intention that users of the P20W data would better understand pathways to high-demand fields like STEM through this metric. Given the structure of the CSU and UC data, this question could be answered by:

- Aggregate reporting to the two-digit CIP code level (e.g. Engineering or History) with existing enrollment data from CSU and UC
- Calculating within-major retention on a six-year horizon to align with existing standards on graduation reporting
- Calculating these metrics upon a student's completion with award data rather than on annual basis with enrollment data

With these modifications, measuring how many students declared an academic discipline and subsequently obtained a degree in that field would provide a comprehensive measure of major retention, based on data available once a student completes their degree or has exited the university. However, it would not provide information about the factors that might contribute to students leaving the program of study, such as courses that may weed out students or whether specific majors cannot accept all interested students.



Feasibility Study for Fall 2023 Proposals from the Data and Tool Advisory Board

This document provides background information to support the review of potential new data points for the Cradle-to-Career (C2C) Data System P20W data set. P20W data points include data uploaded directly by data providers, as well as metrics that are calculated from the information shared by data providers. P20W data points will be used to populate dashboards and a query builder tool. When the data request process becomes available, users may request other formulations of metrics that are generated from the information shared by data providers.

This report is broken into six sections:

1. Background
2. Requested Data Points Already Included in the P20W Data Set
3. Requested Data Points Already Included in Planned Dashboards or Query Builder Functionality
4. New Data Points that Could be Calculated Based on Data Already in the Data Set
5. Expansions of Planned Dashboards Using Data Already in the Data Set
6. Proposed Metrics with Feasibility Concerns

Background

The Data and Tools Advisory Board develops suggestions about “whether the data system is providing actionable information and identifying ways to improve access to that information” ([Education Code 10865 \(b\)\(1\)\(A\)](#)). The C2C [Governance Manual](#) designates the Data and Tools Advisory Board as the entity that provides suggestions related to:

- The usability, accessibility, and usefulness of dashboard visualizations
- Practical tools
- Data points to include in centralized data sets

When the Data and Tools Advisory Board proposes a recommendation to the Governing Board for a request of an additional data point for the C2C P20W data set, the Office of Cradle-to-Career Data (Office) conducts a feasibility study to provide context to the Advisory Board and the Governing Board. Upon completion of the feasibility study, the Office will share the results with the Data and Tools Advisory Board, which can decide whether or not to advance the proposal to the Governing Board.

During the October 12, 2023 Data and Tools Advisory Board meeting, three proposals advanced to the feasibility study stage. The proposals can be found using the following links:

- [Anthony Jr. Proposal](#)
- [Orlick Proposal](#)
- [Reddy Proposal](#)

When conducting feasibility studies, the Office considers four factors: data availability, data reliability and data validity, cost, and compliance.

Data Availability

- **Data Sources and Historical Range:** Identifying where the data originates from and the span of years for which data is available.
- **Coverage, Scalability, and Future Relevance:** Evaluate the scalability of incorporating the new data and its relevance in the long term. Will it remain useful as the P20W dataset evolves? Is it likely to be collected in the future?

Data Reliability and Data Validity

- **Data Consistency and Standardization:** Ensuring that data across various institutions follows a uniform format and standard. Inconsistent data, particularly in metrics, can significantly hinder data analysis and reliability.
- **Institutional Variability:** Variations in administrative practices and data recording across different institutions can lead to inconsistencies in data, affecting both its reliability and validity.
- **Data Integration Across Institutions:** The Office assesses the feasibility of consolidating data from multiple institutions. This includes understanding

the compatibility of data formats, the synchronization of data collection methods, and the logistics of merging datasets from different sources.

Cost

- **Startup Costs:** Costs to begin collection including both direct costs and associated staff time for the Office and its data providers.
- **Ongoing Costs:** Costs necessary to maintain collection of the stated data elements for the Office and data providers.

Compliance

- **Legal Requirements:** The feasibility study will assess any potential legal hurdles or considerations related to the proposal. This includes ensuring compliance with privacy laws, intellectual property rights, and any other relevant regulations.
- **Scope:** The study will gauge whether the proposal is consistent with the scope of work that is described in the [Cradle-to-Career Act](#).
- **Neutrality of the Office:** Ensuring the impartiality of the Office is paramount. The feasibility study assesses if the proposal might jeopardize the Office's neutral stance in any way.
- **Suppression and Regulatory Feasibility:** Assessing the impact of compliance policies on access to data based on the Office's data [suppression policy](#) and other regulatory concerns such as reidentification risks.
- **Stewardship and Participation Agreement:** This set of considerations addresses concerns regarding the participation agreement and stewardship on the proposed data element and its applications.

In the sections below, information is only provided in places where there were significant findings of the Office or concerns raised by relevant data providers.

Requested Data Points Already Included in the P20W Data Set

The Fall 2023 request process marked the first time that Data and Tools Advisory Board members brought forward requests for changes to data points that will be included in the P20W data set. This process ran in parallel with the act of finalizing the information that data providers were uploading to create the P20W data set. Although the C2C website posted lists of available data points, the

specific metric titles might have obscured which information was included. Perhaps as a result, a number of the ideas proposed by the Data and Tools Advisory Board are already included in the P20W data set:

- Career readiness: [K-12 Individual Student College/Career Indicator Level](#)
- AP course completion: [Completed a K-12 Advanced Placement Course](#)
- IB course completion: [Completed a K-12 International Baccalaureate Course](#)
- Dual enrollment: [Completed a College Course While in High School](#)
- Earned a special education diploma (this variable will be included in the [Completed High School](#) metric, but data will be delayed until 2025-26, given that this diploma will not be awarded until then)

Requested Data Points Already Included in Planned Dashboards or Query Builder Functionality

Another challenge in clarifying the types of information that will be available to the public is that the Office has not yet released the planned dashboards and query builder. However, dashboard and query builder descriptions documented in the [December 2020 report to the legislature](#) indicate that some of the desired information will be available through these tools.

Cross-Institution Postsecondary Persistence Metrics

- The descriptions of the [Pathway Diagram, College and Career Readiness, and Transfer Outcomes](#) dashboards note that users will be able to use a drop down menu that shows results by various geographic domains, such as statewide, district, or region. This will allow users to see results that group together information from multiple institutions. For example, if the user selected the statewide option, totals for the metric [Returned for a Second Year in Postsecondary](#) would show results for students enrolled in the subsequent fall at any postsecondary institution in the P20W data set.
- The *Pathway Diagram* dashboard will show student persistence in education, between segments (such as community college and four-year institutions), over time.
- Descriptions of the [query builder](#) from the planning process indicate that users will be able to select various geographic domains, which would allow users to see results that group together information from multiple institutions.

K-12 students who enrolled in postsecondary, with disaggregation options based on early college credit, career and technical education coursetaking, and student demographics

The College and Career Readiness dashboard description indicates that users will be able to see postsecondary enrollment and success outcomes for students, which can be disaggregated by a variety of characteristics such as earning early college credit, enrolling in career and technical education (CTE) courses while in high school, and a number of demographic variables.

Specifically, it will show the proportion of students enrolling in postsecondary education and institution type, plus separate graphs showing postsecondary outcomes including number of units completed in the first year, completing transfer-level math and English requirements in the first year (community college only), retained fall to spring of first year, continued to second year, earned an award, and median time to award.

Disaggregation options will include a) academic year, b) statewide/region/district/ institution, c) type of K-12 institution, d) student characteristics (including race/ethnicity, gender, parental education level, military status, childhood English language learner, K-12 socioeconomic status, foster status, and homelessness status), and one of the following d) postsecondary institution type, postsecondary institution, completed a college course while in high school, completed a K-12 career and technical education course, completed a K-12 career and technical education pathway, completed high school, time to enrollment in postsecondary.

New Data Points that Could be Calculated Based on Data Already in the Data Set

Several requests for data points are ones the Office could feasibly construct from the data that is already part of the P20W data set.

Expansion of Postsecondary Retention Data Beyond a Single Year

The P20W data set currently includes two retention metrics: Retained from Fall to Spring in Postsecondary and Returned for a Second Year in Postsecondary, which is defined as whether students who started in the fall and enrolled in the

subsequent fall. In addition, as noted above, the *Pathways Diagram* dashboard will show whether students persisted beyond their second year in postsecondary education.

Suggested Metric Definitions

The Office operationalized the proposal to add a data point on postsecondary retention data beyond a single year by creating four additional metrics, which could then be combined with other data points in the query builder to examine outcomes for various cohorts of students:

- *Returned for a Third Year in Postsecondary* - The number of students who started in the fall were enrolled in the second subsequent fall or had earned an academic award.
- *Returned for a Fourth Year in Postsecondary* - The number of students who started in the fall were enrolled in the third subsequent fall or had earned an academic award.
- *Returned for a Fifth Year in Postsecondary* - The number of students who started in the fall were enrolled in the fourth subsequent fall or had earned an academic award.
- *Returned for a Sixth Year in Postsecondary* - The number of students who started in the fall were enrolled in the fifth subsequent fall or had earned an academic award.

For example:

- A student enrolled at community college Fall of 2021 and was still enrolled in Fall of 2023. This student would be defined as having returned for the third year.
- A student enrolled at CSU Fall of 2019 and graduated as of spring of 2024. This student would be defined as having returned for the fifth year and beyond.

Data Availability

- Enrollment data are available from 2009 onwards from California Community Colleges (CCC), California State University (CSU), and the University of California (UC), so the P20W data set could include a 6-year retrospective returning rate starting in 2015 for public institutions.
- C2C staff are in the process of obtaining enrollment data for Association of Independent California Colleges and Universities (AICCU) members through an agreement with the National Student Clearinghouse (NSC).

The necessary fields to compute these metrics are available. However, information may not go back as far as 2015 for all participating institutions.

Data Reliability and Validity

While the underlying data should be sound, data providers noted that metrics will be impacted by the fact that students may not be continuously enrolled over longer periods of time. Specifically:

- CSU encouraged the use of a period-to-period approach (as in the current formulation, which is fall-to-fall) rather than continuous enrollment due to the logistical challenges in accounting for variable attendance across terms.
- However, CCC expressed concern that this metric may be sensitive to point-in-time measurement, given that community college students may not enroll in courses every semester. For example, a student may be retained year-to-year, but may not be retained fall-to-fall.

AP and IB Course Offerings

The P20W data set includes metrics on whether students completed 0, 1, 2, or 3+ AP courses ([Completed a K-12 Advanced Placement Course](#)) or 0, 1, 2, or 3+ IB courses ([Completed a K-12 International Baccalaureate Course](#)).

Suggested Metric Definitions

The Office operationalized this proposal to add data points on college readiness and course access taking by creating two additional metrics to document which AP and IB courses are offered by a local educational agency (LEA).

- *IB courses in which students enrolled*: The list of IB courses in which students enrolled in a given year
- *AP courses in which students enrolled*: The list of AP courses in which students enrolled in a given year

For example:

- *AP courses in which students enrolled* : At Mendocino High School, the following courses would be listed: AP Calculus, AP English Language and Composition, and AP Environmental Science

Data Reliability and Validity

Data provided in the P20W data set by the California Department of Education (CDE) includes the state course codes for AP and IB courses, which could be

used to identify the names of specific classes. Due to changes in how these courses were flagged, it would be more straightforward to make this information available starting in 2019-20.

Early College Course Offerings (Dual Enrollment)

Another proposal sought to identify the dual enrollment courses that high school students are taking (similar to the request for AP and IB courses offered). The P20W data set includes [Completed a College Course While in High School](#), which provides information on early college coursework that is documented by LEAs, such as dual enrollment.

Suggested Metric Definition

The Office operationalized this proposal to add data points on college readiness and course access by creating a metric to document the dual enrollment courses taken by students at an LEA. Note: information is only available for courses that the LEA was aware a student had taken.

- *Early college courses in which students enrolled* - The list of dual enrollment courses in which high school students were enrolled in a given year

For example:

- In the Kern High School District, students took 14 different courses offered by community colleges and 1 course offered by a CSU. All of those courses would be listed.

Data Availability and Reliability

Data provided by CDE includes the state course codes for dual enrollment courses, which could be used to identify the names of specific classes. Due to changes in how these courses were flagged, it would be more straightforward to make this information available starting in 2019-20.

Data Suppression

Given that early college coursework may be pursued either individually or as part of a course that is jointly offered by a high school and a college, some courses may have relatively few students. Information will become publicly available only if there were at least 30 individuals who took each course.

Potential Actions by the Data and Tools Advisory Board

The Data and Tools Advisory Board should determine whether to recommend to the Governing Board that the Office should calculate these metrics.

Expansions of Planned Dashboards Using Data Already in the Data Set

Several requests for data points are ones the Office could feasibly add to planned dashboards.

Whether students enrolled in postsecondary, based on the type of high school exit or by AP/IB coursetaking

As noted above, the [College and Career Readiness](#) dashboard description states that users will be able to see postsecondary enrollment and success outcomes for students, which can be disaggregated by a variety of characteristics. The Office could add existing measures on [Completed a K-12 Advanced Placement Course](#) and [Completed a K-12 International Baccalaureate Course](#) to other course taking variables, such as early college credit and CTE coursework.

Similarly, the [Completed High School](#) metric, includes the following variables, which could be used to provide disaggregated results:

- Graduated with standard high school diploma
- Students with disabilities who completed their Individualized Education Program (IEP) and received a certificate of completion
- Left school and enrolled in an Adult Education Program and received an adult basic education high school diploma
- Left school and received a High School Equivalency Certificate by passing a recognized exam
- Left school after passing the California High School Proficiency Exam (CHSPE)
- Completed grade 12 or exceeded maximum age for high school attendance without meeting state and/or local high school graduation requirements
- Completed a special education diploma [data available in 2025-26]

In addition, the Office could construct the query builder so that users select from existing variables such as [Completed High School](#) and [Enrolled in College](#), and generate the information requested for these new metrics.

Scope

CDE flagged that their current school completion report DataQuest 4 year ACGR Outcome report provides some of the same information. The Office would need to be thoughtful about pointing users to CDE data resources directly as well and work with CDE to prevent confusing the user.

Potential Actions by the Data and Tools Advisory Board

The Data and Tools Advisory Board could make a recommendation to the Governing Board about the construction of the dashboards and query builder. For example, in the query builder, the design could allow for results to be disaggregated by variables associated with individual metrics (such as by specific graduation types). For the *College and Career Readiness* dashboard, a disaggregation option for graduation type could be considered.

Proposed Metrics with Feasibility Concerns

[Retention Metrics by Student Major](#)

One proposal sought to add metrics for the retention of students within a specific major. This information would help to better understand whether postsecondary institutions have students who are making progress within fields that are aligned with labor market demand.

The P20W set includes related metrics, including [Returned for a Second Year in Postsecondary](#), [Declared Two-Year Major](#), and [Declared Four-Year Major](#).

Suggested Metric Definitions

The Office operationalized this proposal to add a data point on postsecondary retention data beyond a single year by creating five additional metrics:

- *Returned for a Second Year in Postsecondary with the Same Declared Major* - The number of students who started in the fall and declared a major were enrolled in the second subsequent fall in the same discipline as their major or had earned an academic award.

- *Returned for a Third Year in Postsecondary with the Same Declared Major* - The number of students who started in the fall and declared a major were enrolled in the second subsequent fall in the same discipline as their major or had earned an academic award.
- *Returned for a Fourth Year in Postsecondary with the Same Declared Major* - The number of students who started in the fall and declared a major were enrolled in the third subsequent fall in the same discipline as their major or had earned an academic award.
- *Returned for a Fifth Year in Postsecondary with the Same Declared Major* - The number of students who started in the fall and declared a major were enrolled in the fourth subsequent fall in the same discipline as their major or had earned an academic award.
- *Returned for a Sixth Year in Postsecondary with the Same Declared Major* - The number of students who started in the fall and declared a major were enrolled in the fifth subsequent fall in the same discipline as their major or had earned an academic award.

For example:

- A student declared a major in Biology at UCLA in Fall 2021. In Fall 2023, the student had not changed their major and was still enrolled. This student would be considered retained.
- A student declared a welding major at LA Trade Tech in Fall 2021. By Fall 2022, the student had earned a welding certificate. They would be considered retained.
- A student declared a Business major at CSU-Long Beach in Fall 2021. In Fall 2023, they changed their major to English but were still enrolled. They would not be considered retained.

Data Reliability and Validity

- Definitions for declared majors:
 - CCC noted that the community college system only collects one declared major in the P20W dataset whereas the CSU and UC system collect the first three majors declared. None of these systems currently capture the timing and occurrence of major declaration data.
- Timeframes for data collection:
 - CCC noted students identify their major during the application process and may not necessarily align with a student's intended

area of study, particularly if they are unfamiliar with academic discipline names. Or, their goal may not be an option in the application form. For example, to become a teacher, students may complete a general studies major and then transfer to a four-year institution to earn an appropriate bachelor's degree and credential. "Teacher Education Program" is not an option that is listed as a community college major .

- Specific institutions may vary regarding whether they update each student's declared major each year.
- Institutions vary in when students can declare a major and the amount of coursework required to make that declaration. For example, it would be difficult to compare a student who declared a physics major their junior-year with a student who was admitted to a physics major upon enrollment.
- Highly competitive majors:
 - CSU expressed concern that students who are accepted into highly competitive majors are likely to have higher retention rates, which would not be explicitly flagged in the metric.
 - [Research](#) on eight UC campuses shows that about three-quarters of majors have some form of admission requirement, be it a general or department-specific GPA requirement or other criteria. It is also noted that the same major often has different admission requirements across these eight institutions. This may impact retention in a major for transfer students.
- Changing majors:
 - CSU noted that students who change majors may have higher retention rates, which would not be visible in the way the metric is constructed.
 - UC indicated that they do not track major-level retention due to the frequent migration of students across majors.
- Double majors:
 - Students pursuing double majors might persist in one major while discontinuing the other.
- Declared major versus coursework:
 - The P20W data set does not include course-level postsecondary information, or lists of which courses are required for each major, so

it would not be possible to use a coursetaking analysis to identify whether a student is enrolling in courses within a specific major.

Data Suppression

Some majors have relatively few students, and so information would be publicly available only if there were at least 30 individuals who declared a major in a discipline. Using the number of two-year and four-year degrees (six-digit [Classification of Instructional Program](#)) award data in specific disciplines from the IPEDS 2022 completion file, the Office's analysis found 73% of institution-major degree categories would be suppressed, due to the fact that there are so many programs with relatively few graduates. However, this suppression would only impact around 8% of student degrees. This indicates that most majors are in a handful of degrees, which may make it difficult to extrapolate whether students are being trained for high-demand occupations (particularly in cases where more than one discipline can prepare students for high demand jobs, as is the case for managers and teachers).

Summary of Feasibility Issues

The Office found feasibility concerns based on the various ways major selection occurs and the variety of ways institutions collect data about majors. The Office understood the proposal as requesting data that would help to better understand whether postsecondary institutions have students who are making progress within fields. As detailed above, the processes through which information on majors is collected varies widely, ranging from an informal selection on a drop down menu at the application stage to formal admission into selective majors.

[a-g Course Offering, Availability, and Completion](#)

Another proposal sought to create data points related to [a-g requirements](#) for California State University or University of California admissions eligibility, including:

- a-g courses offered by secondary institutions
- Demographic information on students who took a-g courses
- Whether students met individual components of a-g requirements

Information on a-g course availability and completions could help contextualize students progress relative to their access to coursework opportunities. This

information may also aid district leaders and policymakers in expanding access opportunities.

The P20W data set currently includes a metric on whether students [met a-g course eligibility](#). Additionally, the data set currently documents the [highest K-12 math taken](#) and the [number of math courses taken](#).

Suggested Metric Definition

To identify the a-g courses offered that fulfill specific a-g categories, the Office operationalized this proposal to add data points on college readiness and course access taking as creating seven additional metrics.

- *Courses in which students enrolled that meet history (area a) requirements* - The list of courses in which students enrolled that meet the history a-g requirement in a given year
- *Courses in which students enrolled that meet English (area b) requirements* - The list of courses in which students enrolled that meet the English a-g requirement in a given year
- *Courses in which students enrolled that meet math (area c) requirements* - The list of courses in which students enrolled that meet the math a-g requirement in a given year
- *Courses in which students enrolled that meet science (area d) requirements* - The list of courses in which students enrolled that meet the science a-g requirement in a given year
- *Courses in which students enrolled that meet language other than English (area e) requirements* - The list of courses in which students enrolled that meet the language other than English a-g requirement in a given year
- *Courses in which students enrolled that meet visual and performing arts (area f) requirements* - The list of courses in which students enrolled that meet the visual and performing arts a-g requirement in a given year
- *Courses in which students enrolled that meet college preparatory elective (area g) requirements* - The list of courses in which students enrolled that meet the college preparatory elective a-g requirement in a given year

For example, for the *courses offered that meet History (area a) requirements* metric, at Berkeley High School, the following courses would be listed:

African-American History 1/2, American Government, American Government Cyber High, AP Government and Politics United States, AP United States History, Global Studies, History IB HL1, History of Americas IB HL2, Latinx History, Politics

and Power, U.S. History, U.S. History A Cyber High, U.S. History B Cyber High, World History A Cyber High, World History B Cyber High, World History and Cultures 1/2. In addition, to be able to identify the demographics of students taking specific categories of a-g courses, the Office identified seven additional metrics:

- *Took a history (area a) course* - The number of high school students who took a history course that met the a-g requirement
- *Took an English (area b) course* - The number of high school students who took an English course that met the a-g requirement
- *Took an math (area c) course* - The number of high school students who took a math course that met the a-g requirement
- *Took an science (area d) course* - The number of high school students who took a science course that met the a-g requirement
- *Took a language other than English (area e) course* - The number of high school students who took a language other than English course that met the a-g requirement
- *Took a visual and performing arts (area f) course* - The number of high school students who took a visual and performing arts course that met the a-g requirement
- *Took a college preparatory elective (area g) course* - The number of high school students who took a college preparatory elective course that met the a-g requirement

For example, for the metric “*took a visual and performing arts (area f) course*”, if a student took an AP Art History course, but failed it, the student would still be included in the metric because they enrolled in the course.

Finally, to examine completion of individual a-g courses, the Office identified seven additional metrics:

- *Completed history (area a) requirement* - The number of high school students who completed the history a-g requirement (two years)
- *Completed English (area b) requirement* - The number of high school students who completed the English a-g requirement (four years)
- *Completed math (area c) requirement* - The number of high school students who completed the math a-g requirement (three years)
- *Completed science (area d) requirement* - The number of high school students who completed the science a-g requirement (two years)
- *Completed language other than English (area e) requirement* - The number of high school students who completed the language other than English a-g requirement (two years)

- *Completed visual and performing arts (area f) requirement* - The number of high school students who completed the visual and performing arts a-g requirement (one year)
- *Completed college preparatory elective (area g) requirement* - The number of high school students who completed the college preparatory elective a-g requirement (one year)

For example, for the *completed science (area d) requirement* metric, if a student took biology and chemistry classes that meet the area d requirement and passed both courses with a grade of C or better, they would be included in the metrics as having completed the requirement.

Data Availability

- The [Met a-g eligibility requirements](#) metric in the current P20W data set is a flag that LEAs submit to CDE, based on their local review of overall requirements, as opposed to being calculated by CDE by comparing course-taking patterns to a-g requirements.
- CDE has a-g flags for some courses, but these data are not verified against the [University of California Course Management Portal](#) (CMP). CDE also does not provide this information for the P20W dataset.
- The [University of California Course Management Portal](#) (CMP) documents the a-g status of individual courses that may aid this matching process. CMP data is not currently in the P20W data set and it currently does not exist in a readily transmissible fashion.

Related Efforts

California Education Code 60900.5 (e)(5) states that the California College Guidance Initiative (CCGI) has the role of providing technical assistance to LEAs to help them align a-g course information as listed in their student information system to their CMP course list.

- The [California College Guidance Initiative](#) (CCGI) has information on the a-g status of individual courses, but is not allowed to provide unitary data for the P20W data set due to the structure of its legal agreements.
- The [California College Guidance Initiative](#) (CCGI) is currently engaged in efforts that will help improve the quality of a-g flags in local student information systems (SIS) by identifying when information in the SIS does not match information in CMP. When CCGI finds discrepancies, they support LEAs to align the underlying data, which means that over time,

the a-g flags reported by the LEA to CDE are likely to be more accurate. While CCGI is slated to scale statewide by 2026, it currently reaches 59% of 9-12th graders in the state.

Data Reliability and Validity

- CDE explained that their a-g data is not verified against the CMP which is the authoritative source as to whether a course meets specific a-g requirements. The identifier associated with UC/CSU eligibility for individual courses in the CDE data set is an optional data point for LEAs.
- The Office examined the course section and completion data and found the following:
 - There are approximately 300,000 unique course names in the data
 - Each LEA has approximately 300 courses that would need to be assigned a taxonomy.
 - Because course offerings may vary by year, the Office would need to review course sections each year and ensure new courses had appropriate a-g flags.
 - Each year, the Office would also need to verify these data against the CMP to determine the current eligibility status of each course, which is a system that is not connected to the P20W.

Scope

As described above, Education Code details that it is CCGI's role to work with LEAs on aligning a-g data with the CMP. If the Office were also to work to document course-level a-g flags, it would create a significant duplication of effort. Furthermore, this is out of scope for the Office, which is not tasked with validating the source data reported to data providers.

Summary of Feasibility Issues

The Office found feasibility concerns based on the various ways course-level a-g data is documented. The Office understood the proposal as requesting data that would help to better understand whether LEAs have a full range of a-g course availability. As detailed above, the course-level information about the a-g status of individual courses is an optional field that is not validated at the state level nor verified against CMP. Once CCGI reaches all students, and errors in a-g flags have been corrected at the local level, there would still need to be changes implemented in how LEAs submit data to CDE to enable the creation of the data points that were proposed for this item. For example, CDE would

need to make individual course a-g flags a mandatory (not optional) data point that LEAs submit to CDE, and then CDE would need to subsequently provide this information for the P20W data set.

Potential Actions by the Data and Tools Advisory Board

The Data and Tools Advisory Board should determine whether to recommend to the Governing Board that these metrics should be included in the P20W data set.