PASADENA CITY COLLEGE

PASADENA CITY COLLEGE

TECHNOLOGY MASTER PLAN / 2021-2025

Gensler

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Executive Summary

Plan Objective

The Pasadena City College (PCC) Technology Master Plan (TMP) provides a framework for the implementation of technology training, hardware, software, services, and processes from 2021-2025 in support of the District's Mission, Educational Master Plan, strategic goals, and accreditation standards.

Development of the Plan

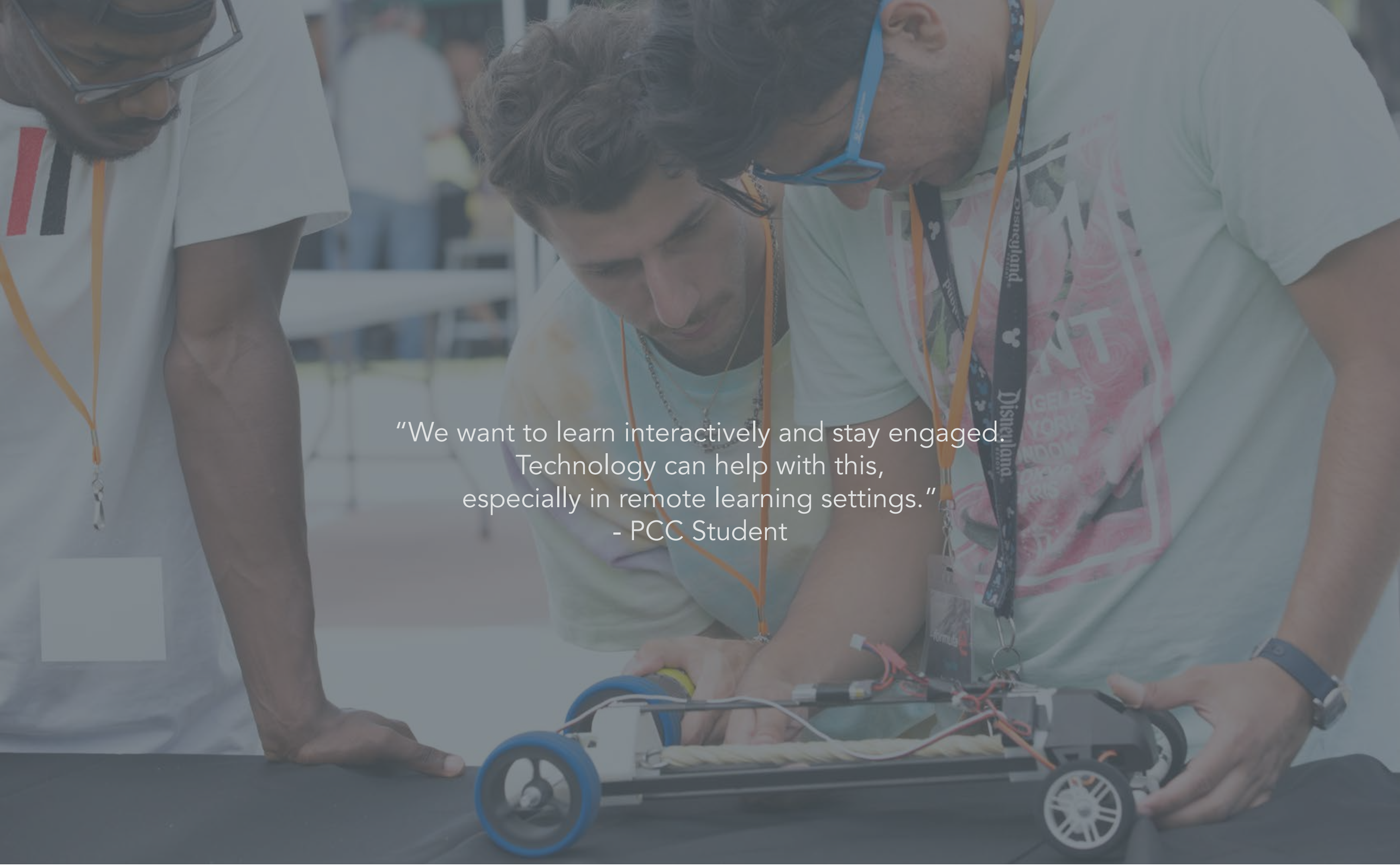
Pasadena City College's Technology Master Plan (2021-2025) is framed around an innovative approach to re-imagining how information technology can foster PCC's commitment to diversity, equity, and inclusion. This marks a shift from a conventional focus in IT planning, which emphasizes technical bits and bytes, towards placing student success at the center of the TMP's strategies and objectives.

This shift in planning focus called for a comprehensive and collaborative planning methodology. Environmental data scans, both external (i.e., US Census, California EDD, 2020 EDUCAUSE) and internal (e.g., student characteristics, enrollment patterns) provided foundational information to frame the TMP's structure. Moreover, the intentional engagement of the PCC community served to augment and validate the quantitative environmental scan information.

Surveys administered to students, faculty, and staff paralleled those of EDUCAUSE (the largest nonprofit community of higher education technology, academic, industry, and campus leaders). These survey results served to benchmark PCC constituents' technology experiences and aspirations with those of other colleges and universities.

Additionally, virtual Town Hall sessions provided participants with a sampling of the latest dynamic tools to transform and enhance teaching, learning, and student support at PCC while an interactive polling feature gathered immediate feedback on these emerging technologies.

To augment the survey and Town Hall observations, small focus group sessions with faculty, staff, and students contributed additional information regarding the alignment of the TMP to PCC's Educational Master Plan. Ultimately, this broad array of stakeholder feedback resulted in a learner-centered, comprehensive, and integrated Technology Master Plan.


“We want to learn interactively and stay engaged.
Technology can help with this,
especially in remote learning settings.”
- PCC Student

CHAPTER 1:

Plan Background and Purpose

The Pasadena City College Technology Master Plan 2016-2020 established comprehensive recommendations for the College's information technology, which aligned with its Educational Master Plan and Accrediting Commission for Community and Junior Colleges (ACCJC) standards. The expiration of this plan in December 2020, as well as the adoption of a new Educational Master Plan in 2020, prompted the development of this Technology Master Plan for 2021-2025. While a Core Planning Team assumed the primary responsibility for guiding this plan to its completion, stakeholders from across the College contributed critical input via presentations, focus group sessions, town halls, and surveys, which ultimately informed its strategies and objectives, which are grounded in student equity and success.

The purpose of the Technology Master Plan is to provide Pasadena City College with a framework for the implementation of technology training, hardware, software, services, and processes in support of the District's mission, Educational Master Plan, strategic initiatives, and accreditation standards.

CHAPTER 2:

Pasadena City College Mission, Core Values, and Correlations to the Technology Master Plan

Mission: Pasadena City College is an equity-minded learning community dedicated to enriching students' academic, personal, and professional lives through an array of degree and certificate programs, campus engagement, and customized student support.

Core Values: Pasadena City College's students, faculty, staff and administration share these essential and enduring educational values:

- **A Passion for Learning —**
  We recognize that each one of us will always be a member of the community of learners.

- **A Commitment to Integrity —**
  We recognize that ethical behavior is a personal, institutional and societal responsibility.

- **An Appreciation for Diversity —**
  We recognize that a diverse community of learners enriches our educational environment.

- **A Respect for Collegiality —**
  We recognize that it takes the talents, skills and efforts of the entire campus community, as well as the participation of the broader community, to support our students in their pursuit of learning.

- **A Recognition of Our Heritage —**
  We recognize that we draw upon the College's long-standing tradition of excellence to offer innovative services to our students and communities.

Correlations to the Pasadena City College Technology Master Plan 2021-2025

The Pasadena City College Technology Master Plan 2020-2025 supports the District' Mission and Core Values by delineating and implementing information technology strategies and objectives centered upon:

- fostering equitable access to information technology and deploying technology resources that are critical to the academic, personal, and professional success of all students;

- enhancing campus engagement and strengthening opportunities to build a community of learners;

- supporting innovation and excellence in delivery of the District's instructional and customized student support programs; and,

- providing opportunities for faculty, staff, and students to expand their technical knowledge, skills, and talents.

CHAPTER 3:

Summary of the Technology Master Plan Development Process

The Technology Master Plan's development process began with the establishing of clear project outcomes for the Technology Master Plan, specifically, the creation of strategies and objectives, which align with and support the Educational Master Plan and Facilities Master Plan. Consequently, the Process Overview details key components of the planning process, which the Core Planning Team deployed to ultimately accomplish these overarching outcomes.

Process Overview

- To coordinate activities and ensure the timely completion of the Technology Master Plan, established the plan production process, timeline, roles and responsibilities, key benchmarks, and expected outcomes.
- To document the accomplishments of the prior Technology Master Plan and determine the continued relevancy of initiatives to be carried forward, closed the assessment loop via an outcomes assessment of the District's previous Technology Master Plan. (See Appendix D.)
- For the purpose of building a comprehensive and integrated view of the current information technology environment, conducted both external and internal environmental scans using quantitative and qualitative data. Surveys administered to students, faculty, and staff paralleled those of EDUCAUSE (the largest nonprofit community of higher education technology, academic, industry, and campus leaders benchmarked PCC constituents' technology experiences and aspirations with those of other colleges and universities.
- Through interactive Town Hall sessions, explored emerging technology options, including, but not limited to applications, such as:
  - learning analytics software to monitor student progress;
  - expanded use of social media software in existing courses;
  - integrating mobile technologies in instruction;
  - creating genres of courses with blended or flipped classrooms;
  - adaptive learning software;
  - simulation and project-based application technologies;
  - artificial Intelligence; virtual assistants; virtual reality;
  - tools and technologies that serve as scaffolds to help students apply self-regulated learning strategies, access to College resources, prompts/nudges, tutoring, monitor progress; and,
  - technologies to streamline communication and records management throughout the institution.
- Through small focus group sessions with faculty, staff, and students, explored targeted questions regarding the alignment of the TMP to PCC's Educational Master Plan.
- To ensure the alignment of the TMP's strategies with the College's other key plans, reviewed the technology related goals and/or initiatives in both the Educational Master Plan goals and the Facilities Master Plan and documented the implications for the Technology Master Plan. (See Appendix A.)
- Developed the TMP strategies and objectives, as captured in this document, and facilitated the approval through the College's participatory governance processes.

TMP Development Timeline & Key Activities

JULY 2020

Organize Team

- Form Core Planning Team
- Establish schedule of regular meetings and communication plans
- Identify institutional information needed

JULY - AUGUST 2020

Assess the College's previous Technology Master Plan outcomes; review college plans; determine data and additional information needed.

- Assess prior TMP outcomes
- Identify IT outcomes from prior EMP
- Identify IT implications of EMP and Student Equity Plan

JULY - OCTOBER 2020

Surveys

- Development, distribution, and collection of students, faculty, and staff surveys

AUGUST - OCTOBER 2020

External and Internal Scans

- Conduct External Data Scan Review (e.g., ethnicity, gender, age, disability status, poverty); local household computer and broadband access
- Conduct Internal Data Scan Review:
  - enrollment patterns
  - student demographics and enrollment characteristics trends
  - course success by delivery method (disaggregated by ethnicity, gender, age, disability status)
- College IT Assessment of Conditions
- Coordinate settings/delivery method and dates for town halls and/or focus groups

OCTOBER - NOVEMBER 2020

Surveys, town halls, focus groups

- Explore emerging technology options
- Analyze survey results and themes; use survey themes to frame key questions for town halls and focus groups
- Conduct town halls/focus groups
- Assess the institution's current status and the specific features of its vision for the future and align to EMP goals and objectives
- Develop TMP goals and objectives aligned with EMP

NOVEMBER - DECEMBER

Goals, objectives, and manuscript

- Draft TMP outline and manuscript.
- Reviews and approvals of TMP outline and manuscript drafts

TENTATIVE:
JANUARY - FEBRUARY 2021

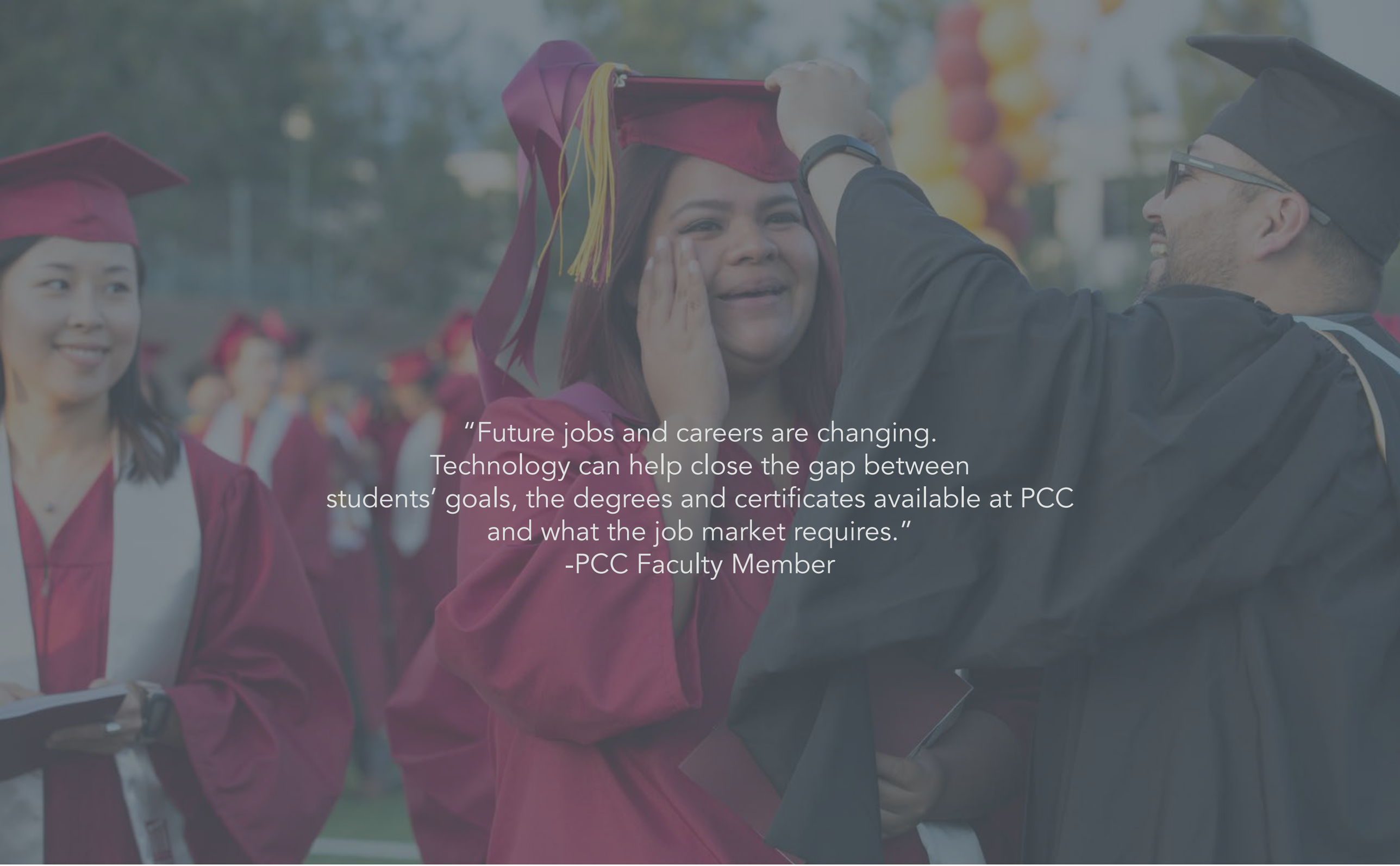
Finalize, Review, and Approval

- Finalize TMP manuscript
- Graphic Design
- College Governance reviews of TMP

JANUARY - APRIL

Governing Board Approval

- Governing Board information and action



"Future jobs and careers are changing.
Technology can help close the gap between
students' goals, the degrees and certificates available at PCC
and what the job market requires."
-PCC Faculty Member

CHAPTER 4:

Summary of External and Internal Environmental Scans and Implications

A variety of factors impact students' access to the technologies they need to enroll at Pasadena City College, persist, and successfully complete programs of study. To support PCC's commitment to addressing equity gaps, providing all students with access to exceptional academic programs, and customizing student support, an understanding of underlying demographic and socio-economic conditions, as well as student characteristics and success outcomes provided a wealth of information, which ultimately helped inform this plan's strategies and objectives. Consequently, the external and internal environmental data sets offered key insights into not only IT challenges and potential needs, but also possible opportunities for technology planning that will improve access to programs and services while fostering equitable outcomes for PCC's students.

Digital Equity and Inclusion

Pasadena City College's commitment to achieving digital equity and inclusion compels the College to consider in its technology planning the strategies and resources necessary to eradicate structural barriers – both external and internal - to the access and use of technology, which all students need to complete programs of study and fully participate in the economy and civic life. As the National Digital Inclusion Alliance aptly noted, "[D]igital Equity is a condition in which all individuals and communities have the information technology capacity needed for full participation in our society, democracy and economy. Digital Equity is necessary for civic and cultural participation, employment, lifelong learning, and access to essential services." Moreover, digital equity is predicated upon key principles of digital inclusion, which "refers to the activities necessary to ensure that all individuals and communities, including the most disadvantaged, have access to and use of Information and Communication Technologies (ICTs) [and includes]… 1) affordable, robust broadband internet service; 2) internet-enabled devices that meet the needs of the user; 3) access to digital literacy training; 4) quality technical support; and 5) applications and online content designed to enable and encourage self sufficiency, participation and collaboration." (See Appendix C.)

With Digital Equity in mind, PCC's exploration of external and internal environmental conditions helps the College identify technology barriers for current and future students so that TMP strategies will help create digital equity. The data reviewed in the external environmental scan provided critical background information to help address fundamental questions, which inform this plan's equity and inclusion focused strategies:

- Who are PCC's students in 2020 and who will be the students PCC serves in 2030?
- What socio-economic conditions and trends in the communities impact residents' information technology capacities?
- What challenges or barriers obstruct full, equitable, and inclusive access to PCC's programs and services?

To address these questions of digital equity and inclusion, the Core Team reviewed US Census Bureau demographic data (i.e., ethnicity, gender, age, disability status, median income, poverty, household computer and broadband access), as well as information regarding unemployment trends from the California Employment Development Department. The cities reviewed in this environmental scan included PCC's primary service area cities (i.e., Pasadena, El Monte, Arcadia, Rosemead, Altadena/CDP, Temple City, and South Pasadena). Because PCC draws students from outside the service area, the Core Team also examined data for six additional cities in which a significant number of PCC students reside (i.e., Alhambra, Arcadia, Burbank, Glendale, Huntington Park, and Monterey Park). Notably, trends for both in-District service area cities and out-of-District were markedly consistent.

The data reviewed in this scan not only underscored the daunting economic challenges, which impacted equitable access to instructional technologies prior to the Covid-19 pandemic, but also revealed the exacerbation of economic and living conditions wrought by this public health crisis. Thus, the economic and social challenges current and future students face impact their access to the information technologies and support needed for full participation in PCC's programs and services. Thus, the TMP's strategies and objectives are designed to address the digital divide through the removal of barriers that negatively impact student academic success and opportunities for personal and professional advancement.

In addition, to understand equity and inclusion barriers from an internal viewpoint, the Core Team examined current student demographics and enrollment characteristics over the previous five years, as reported in the PCC Observations 2018-2019. This data included age trends (Credit and Non-credit Programs), ethnicities trends (Credit and Non-credit Programs), characteristics for reported special populations (e.g., Financial Aid, First-Year experience, EOPS/CARE, DSPS, Veterans and Military), retention and success trends by course type, and completion outcomes. Some of the notable trends with implications for technology planning include:

- increases in "under 20" age group;
- significant increase in educational goal of "transfer w/AA/AS"
- major "pre-pandemic" increase in distance education program participation
- decreases in First Year Experience students who identify as Hispanic, Two or more Ethnicities, and In-District residency;
- major increase in DSPS students, ages 20 to 24, with learning disabilities
- slight decreases in degree awards for African American, Asian, Native American, and students of Two or More Ethnicities.

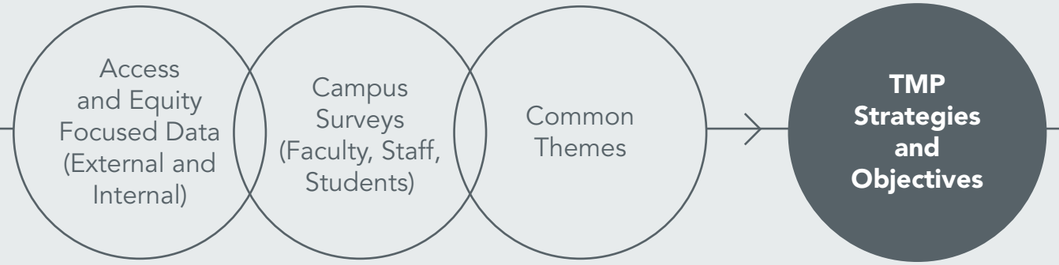
Qualitative information garnered in focus groups validated what the external and internal trend data revealed. In sum, PCC serves a diverse population, many of whom experience twin economic challenges of poverty and unemployment, which the Covid-19 pandemic only exacerbated. Disabilities, particularly learning disabilities, also pose challenges for an increasing number of students. At the same time, PCC students have high aspirations, particularly their desires to complete of degrees and transfer to four-year colleges and universities. However, as noted in the Educational Master Plan, disparities such as program completion rates, among different student groups point to the urgency to leverage information technology in ways that reduce or eliminate opportunity and achievement gaps. Accordingly, this Technology Master Plan's strategies and objectives are intentionally framed to accomplish the overarching goal of the EMP by deploying technology to foster equitable access and outcomes for all of PCC's students.

EXTERNAL DATA

Approach:
- High level "snapshot" overview
- 10 primary service area cities + additional 6 out-of-District
- "Equity Focused" measurements
- Most Relevant Implications for Technology Planning
- Not duplicating EMP or Factbook Data

Purpose:
- Develop a broad understanding of the current and future population PCC serves.
- Help understand underlying demographic and socio-economic factors that contribute to digital divides.
- Provide background information needed for the analysis of survey results.
- Establish baseline information that ultimately helps frame TMP Strategies and Objectives
- Benchmark PCC students with other 2-year / 4-year counterparts

Data Sets:
- Ethnicities
- Age (pending!)
- Poverty
- Median Household Income
- Household Technology (Computer and Broadband/Internet)
- Unemployment
- Disabled Population
- EDUCAUSE



INTERNAL DATA

Approach:
- Broad overview of most notable or significant trends
- Previous five years (2014-2015 to 2018-2019)
- Equity focused data
- Omitting data with tenuous or tangential planning implications

Purpose:
- Note challenges, identify potential needs, and ascertain possible opportunities for technology planning.
- Help understand underlying factors that contribute to digital divides.
- Identify potential issues requiring contextualizing or additional information.
- Provide background information needed for the analysis of survey results.
- Inform and frame TMP Strategies and Objectives

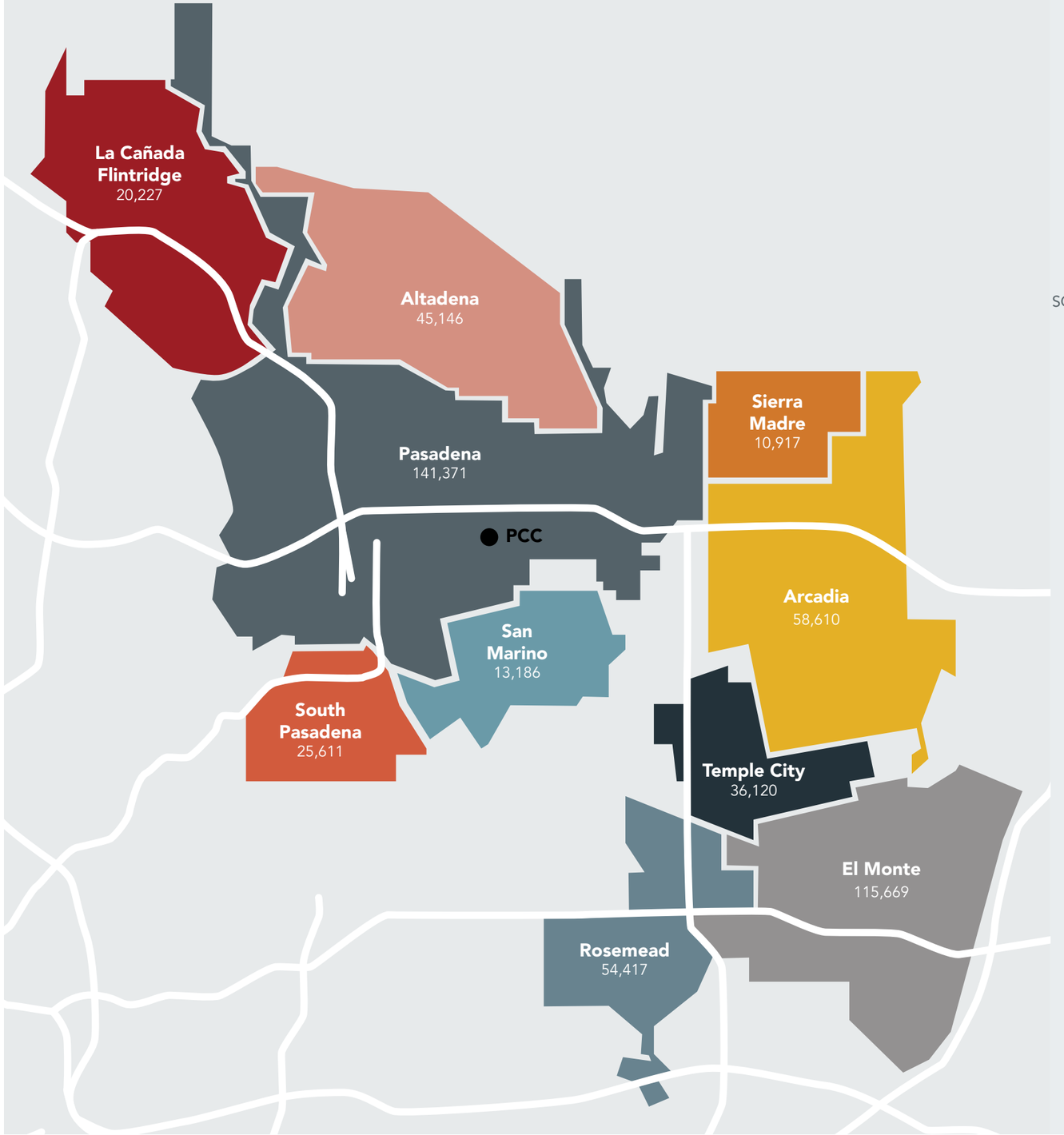
Data Sets:
- Age Trends: Credit and Non-credit Programs
- Ethnicities Trends: Credit and Non-credit Programs
- Special Population Trends:
  - First-Year Experience Pathway
  - EOPS
  - DSPS
  - Veterans and Military
  - Financial Aid Status
- New Student Characteristics
- Distance Education Program Trends (Pre-Pandemic)
- Outcomes: Success and Retention Trends – Degree Applicable, Transfer and CTE Programs, Basic Skills
- Program Completion Outcomes

Pasadena City College consists of seven primary service areas which include Arcadia, a portion of El Monte, La Canada Flintridge, Pasadena, Rosemead, San Marino, Sierra Madre, South Pasadena, and Temple City. Understanding basic demographic data of PCC's primary service areas - regarding poverty, unemployment, and household computer and broadband availability - is important in anticipating future technology needs.

Pasadena City College draws 74% students from outside the service area. Therefore, the Core Team also examined data for six additional cities in which a significant number of PCC students reside (i.e., Alhambra, Arcadia, Burbank, Glendale, Huntington Park, and Monterey Park). Notably, trends for both in-District service area cities and out-of-District cities were markedly consistent.

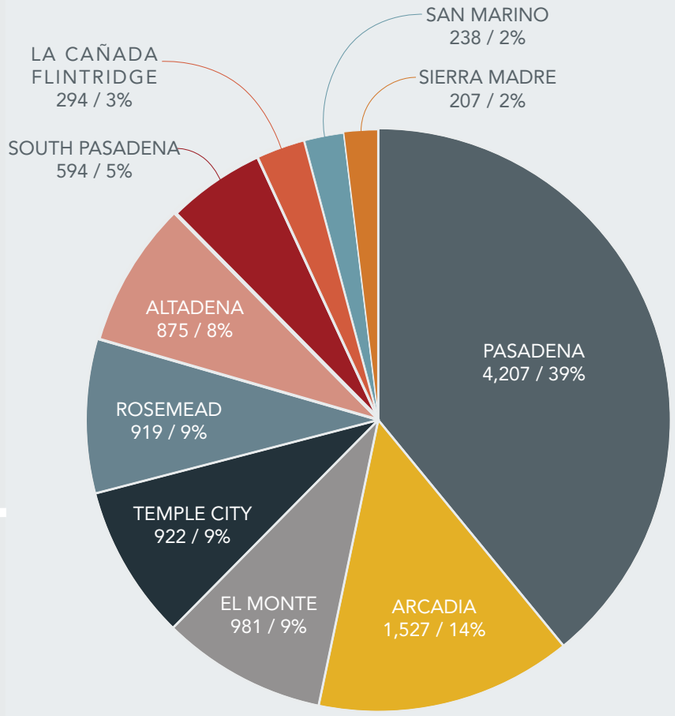
Population of Primary Service Area Cities

Source: US Census 2019 ACS 5-Year Survey



PCC Student Headcount by City

Note: Numbers Rounded to Nearest Whole

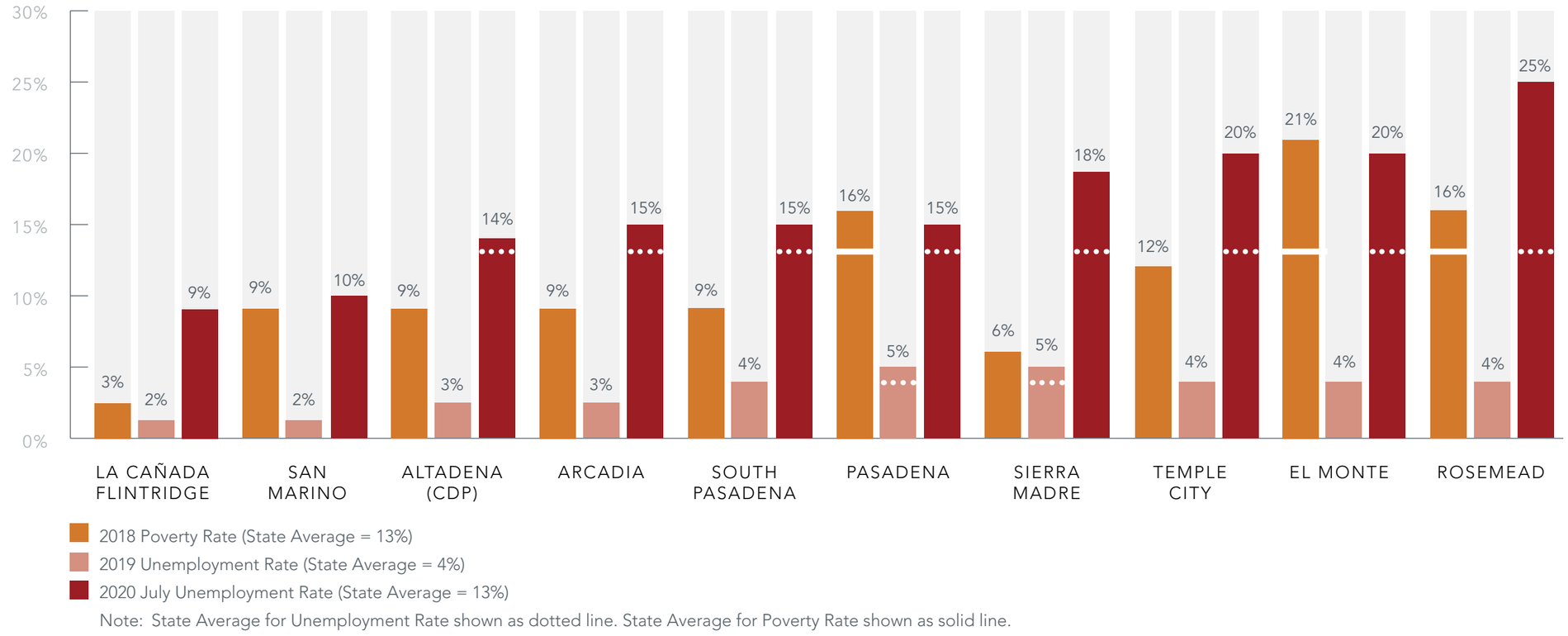


As is the case in communities across the United States, socioeconomic factors, particularly poverty and unemployment, significantly influence area residents' access to the information technologies needed for full and equitable participation in PCC's programs and services. Put simply, when faced with limited financial resources, many individuals must focus on providing for their households' basic needs (e.g., housing, food), and thus, are not in a financial position to purchase technology, such as computers and broadband.

As the graphic information here illustrates, the Covid 19 pandemic only exacerbated existing economic challenges for many local people, which may have placed access to higher education even further out of reach, especially as PCC shifted to all remote learning.

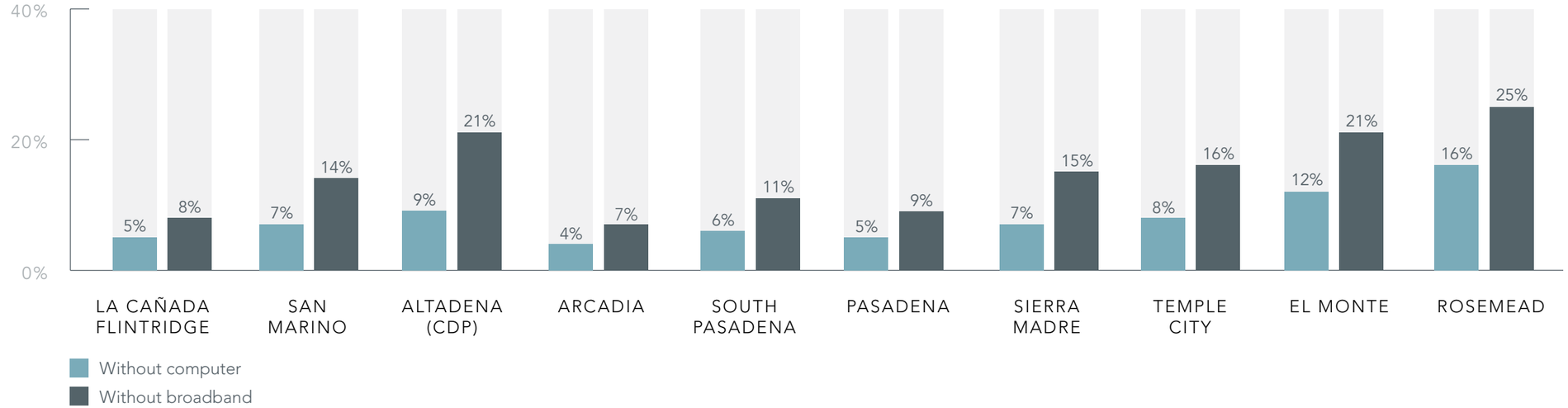
- Three out of the ten service cities have a higher than Poverty Rate than the California state average.
- In all of our service cities, the Post-Pandemic unemployment rate was three to five times greater than the pre-pandemic rates.
- Household Computer and Internet access has a direct correlation with our service cities that have the highest poverty rates.

Poverty & Pandemic Impact



2018 Poverty Rate (State Average = 13%)
2019 Unemployment Rate (State Average = 4%)
2020 July Unemployment Rate (State Average = 13%)
Note: State Average for Unemployment Rate shown as dotted line. State Average for Poverty Rate shown as solid line.

Household Computer & Broadband/Internet



Without computer
Without broadband

PCC students' experience with information technology aligns with the findings of the EDUCAUSE 2020 Student Technology Report. This study included 16,162 undergraduate students from 71 US institutions.

- 52% of students did not receive an early alert or nudge
- 92% of PCC students share WiFi is single most important technology
- 70% of students connect 2 devices to PCC networks per day
- Students report the following learning preferences:
  - 47% all or mostly face-to-face,
  - 24% half face-to-face and online,
  - 20% mostly or completely online, and
  - 9% with no preference.
- 26% of disabled students report PCC has areas of growth in services offered

EDUCAUSE 2020 Student Technology Report: Supporting the Whole Student

STUDENT SUCCESS

Students generally want their institution to use technology to help them achieve their goals. But while they find these tools helpful, they also want more positive feedback in alerts and nudges.

Students define success in multiple ways...

Earning a degree is the top measure of success for students. Securing a job becomes more important for students closer to graduation.

- Attaining a degree 38%
- Securing a job 24%
- Achieving a high GPA 14%
- Securing a high starting salary 11%

...which their institutions support...

6 in 10 students say their institution supports them with advising that is culturally responsive and sensitive to diverse student needs.

...with useful tools...

A majority of students who received a nudge or alert took action on the suggested task.

55%

...if students are aware of them.

Half of students say they are not aware of student success tools at their institution.

54% Are not aware of alerts and nudges at their institution

SECURITY AND PRIVACY

Students have low understanding of how their data are being used, which may contribute to their low levels of trust in their institution's collection and use of those data.

A majority of students are comfortable with using personal data to achieve academic goals...if it benefits them.

I am comfortable with my institution's use of...

...my personal data	...others' personal data	To help achieve...
53%	26%	...my educational goals
28%	30%	...others' educational goals

LEARNING ENVIRONMENTS

With spring and fall semesters changing dramatically, many students aren't learning the way they prefer.

... but they prefer to connect face-to-face.

Prior to COVID-19 campus closures, students expressed a strong preference for in-person learning.

Learning environment preferences

- 10% Mostly or completely online
- 21% About half online, half face-to-face
- 69% Mostly or completely face-to-face

Students are connected online... Wi-Fi is the single most important technology.

Students connect 2 devices to networks per day.

ACCESSIBILITY

The needs of students with disabilities are often not being met by institutions, due to underreporting or other hurdles.

Institutions aren't always aware of student needs...

Nearly half of students who said they had a disability had not registered with their institution's disability services office.

Not registered 44%

Not aware of disability services 5%

...but disabilities are common...

13% of respondents reported having a disability or impairment

32% of these students had two or more types of disabilities

...and institutions have room for improvement

1/3 of disabled students do not rate the support received from their institution positively for reasons such as:

- Difficulty of accommodation process
- Limited resources of disability services

ONLINE HARASSMENT

Only 16% of respondents said they experienced any online harassment, and most occurred off of school platforms.

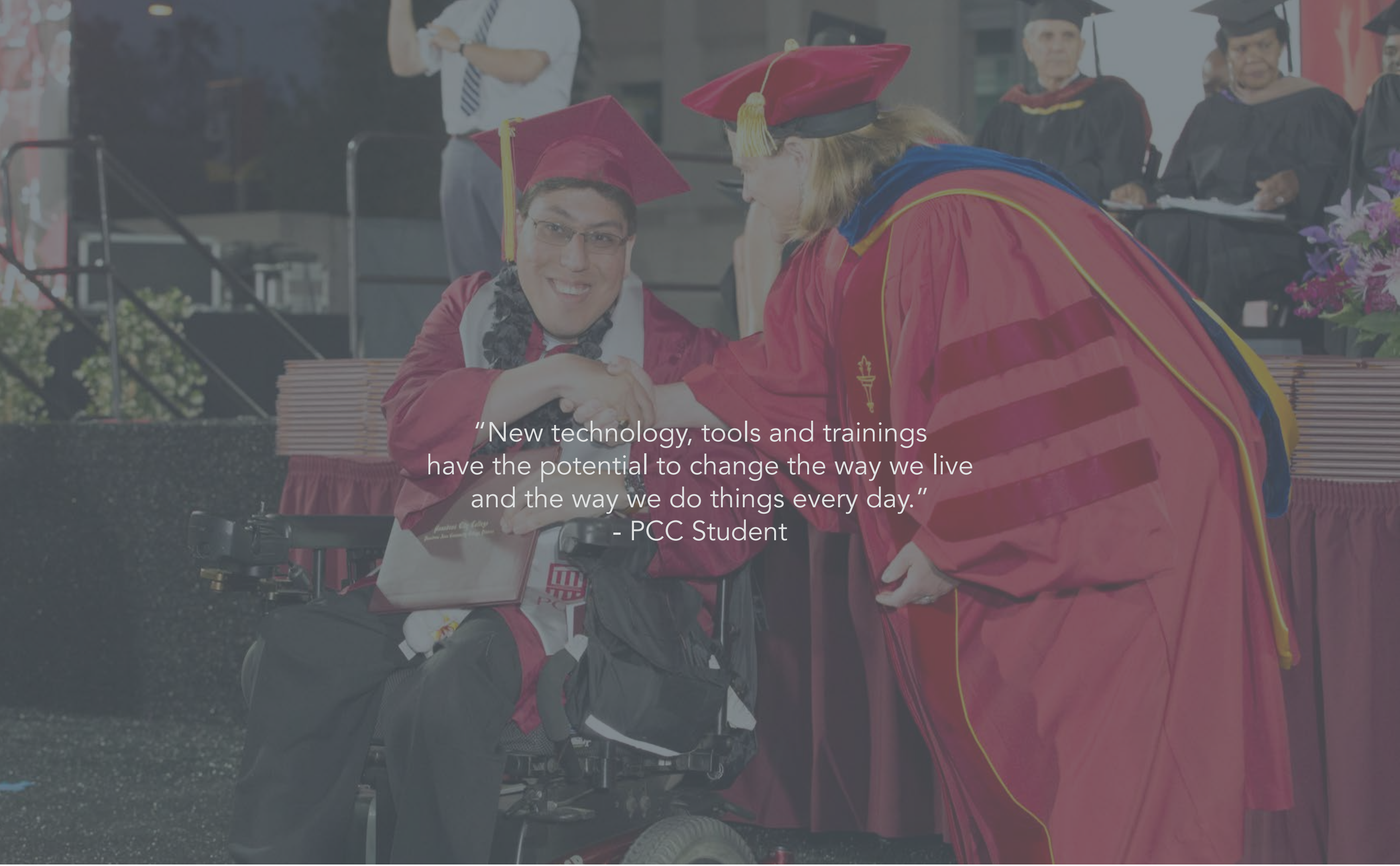
- @ 30% Hateful speech
- ! 29 Trolling
- # 23 Hacking
- 19 Message bombing

The four most common kinds of harassment students encounter online

Students generally try to handle harassment on their own

50% of people who experienced harassment blocked or muted the source. Another third ignored the harassment or took no action about it. Fewer than half were satisfied with the outcome of the action they took, however.

Note: Copying is by permission of EDUCAUSE



"New technology, tools and trainings have the potential to change the way we live and the way we do things every day."
- PCC Student

CHAPTER 5:

Technology Master Plan Strategies and Objectives

Pasadena City College's Educational Master Plan 2020 establishes the following four institutional priorities – each with a correlating set of goals:

1. Exceptional Academic Programs and Delivery
2. Equity-Minded Learning Community
3. Campus Engagement and Environment
4. Customized Student Support

To ensure that Technology Master Plan provides for the effective implementation of the technology training, hardware, software, services, and processes needed to support the District's Educational Master Plan, the Core Planning Team ascertained the information technology implications associated with the College's initiatives and the corresponding goals. These identified inferences, which serve to inform the TMP's strategies and objectives, as well as future planned actions and resource allocations, are captured in Appendix A.

Institutional Priority 1:

Exceptional Academic Programs and Delivery

STRATEGY 1

Deploy the information technology needed to support exceptional delivery of instruction in a variety of modalities.

Objectives:

1. Develop standards for classroom technology that support various learning modalities.
2. Collaborate with divisions to develop standards for the review, purchase, and maintenance of instructional software by academic discipline.
3. Develop institutional policy and procedures for grant proposals which include technology.

Modalities Include:

- In-person (physically on campus)
- Remote (Online synchronous delivery of course content during scheduled days and times)
- Online (Fully asynchronous, web-based delivery and interaction; not requiring access to campus or participation in scheduled activities);
- Hybrid In-Person/Online and/or In Person/ Remote (A combination of synchronous and asynchronous: courses follow a set schedule with required on-campus meetings)
- HyFlex courses (delivered both in person and online at the same time by the same faculty member)

ACCJC Accreditation Standard III.C.1. and 3. [Technology Resources]

1. Technology services, professional support, facilities, hardware, and software are appropriate and adequate to support the institution's management and operational functions, academic programs, teaching and learning, and support services.
3. The institution assures that technology resources at all locations where it offers courses, programs, and services are implemented and maintained to assure reliable access, safety, and security.

STRATEGY 2

Expand technology professional development and learning opportunities for faculty and staff.

Objectives:

1. Develop and implement an information technology professional learning community to support faculty and staff innovations in the use of technologies that foster active, collaborative learning techniques and spaces.
2. Develop and implement a knowledge base for easily accessible solutions to common challenges and how to effectively use available teaching and learning tools.
3. Embrace Universal Design Principles and train Faculty and Staff on the development of flexible learning environments and learning spaces that can accommodate individual learning differences.

ACCJC Accreditation Standard III.C.4. [Technology Resources]

4. The institution provides appropriate instruction and support for faculty, staff, students, and administrators, in the effective use of technology and technology systems related to its programs, services, and institutional operations.

STRATEGY 3

Utilize educational technologies to provide students with effective, efficient learning experiences and support services.

Objectives:

1. Integrate technologies into all facilities to increase and support collaborations and computer-intensive learning and research.
2. Provide access to electronic communication systems and reliable broadband wireless connectivity throughout all campus locations and facilities.
3. Support teaching excellence and student success by regularly assessing, implementing, and promoting the use of emerging technologies.
4. Provide faculty and staff, and students with training and support services on all adopted technologies.
5. Enhance the effectiveness of the Learning Management System (LMS) by evaluating and integrating instructional resources and technologies within Canvas.

ACCJC Accreditation Standard III.C.1., 3., and 4 [Technology Resources]

1. Technology services, professional support, facilities, hardware, and software are appropriate and adequate to support the institution's management and operational functions, academic programs, teaching and learning, and support services.
3. The institution assures that technology resources at all locations where it offers courses, programs, and services are implemented and maintained to assure reliable access, safety, and security.
4. The institution provides appropriate instruction and support for faculty, staff, students, and administrators, in the effective use of technology and technology systems related to its programs, services, and institutional operations.

STRATEGY 4

Adopt a systematic approach to assessing information technology initiatives and implementation, resources (e.g., ITS asset inventory and tracking), services, support, and ITS policies and procedures, including replacement and refresh cycles.

Objectives:

1. Enhance technical strategies to support business continuity planning objectives to maintain District operations in the event of natural disaster, power or facility failures, or other catastrophic, emergency events.
2. Develop an infrastructure roadmap that embraces a cloud-first strategy, provides robust access to Wi-Fi and cellular services in administrative, instructional, and public areas, articulates refresh cycle for core infrastructure assets, and outlines standards on equipment, cabling, and installation.
3. Develop and incorporate into the annual planning and resource allocation processes Total Cost of Ownership (TCO) calculations.

ACCJC Accreditation Standard III.C.1 and 2 [Technology Resources]

1. Technology services, professional support, facilities, hardware, and software are appropriate and adequate to support the institution's management and operational functions, academic programs, teaching and learning, and support services.]
2. The institution continuously plans for, updates, and replaces technology to ensure its technological infrastructure, quality and capacity are adequate to support its mission, operations, programs, and services.

Institutional Priority 2:

Equity-Minded Learning Community

STRATEGY 1

Provide all students with timely, equitable access to the computing technologies, training, and the IT supports needed for successful engagement in instructional activities and connection with critical support services.

Objectives:

1. Develop policies, procedures, and IT resources to provide students with essential computing technologies.
2. Provide students with opportunities to acquire or enhance information technology knowledge and skills.
3. Expand institutional support of student success through the development and promotion of Open Educational Resources (OER).

ACCJC Accreditation Standard III.C.1., 4., and 5. [Technology Resources]

1. Technology services, professional support, facilities, hardware, and software are appropriate and adequate to support the institution's management and operational functions, academic programs, teaching and learning, and support services.
4. The institution provides appropriate instruction and support for faculty, staff, students, and administrators, in the effective use of technology and technology systems related to its programs, services, and institutional operations.
5. The institution has policies and procedures that guide the appropriate use of technology in the teaching and learning processes.

STRATEGY 2

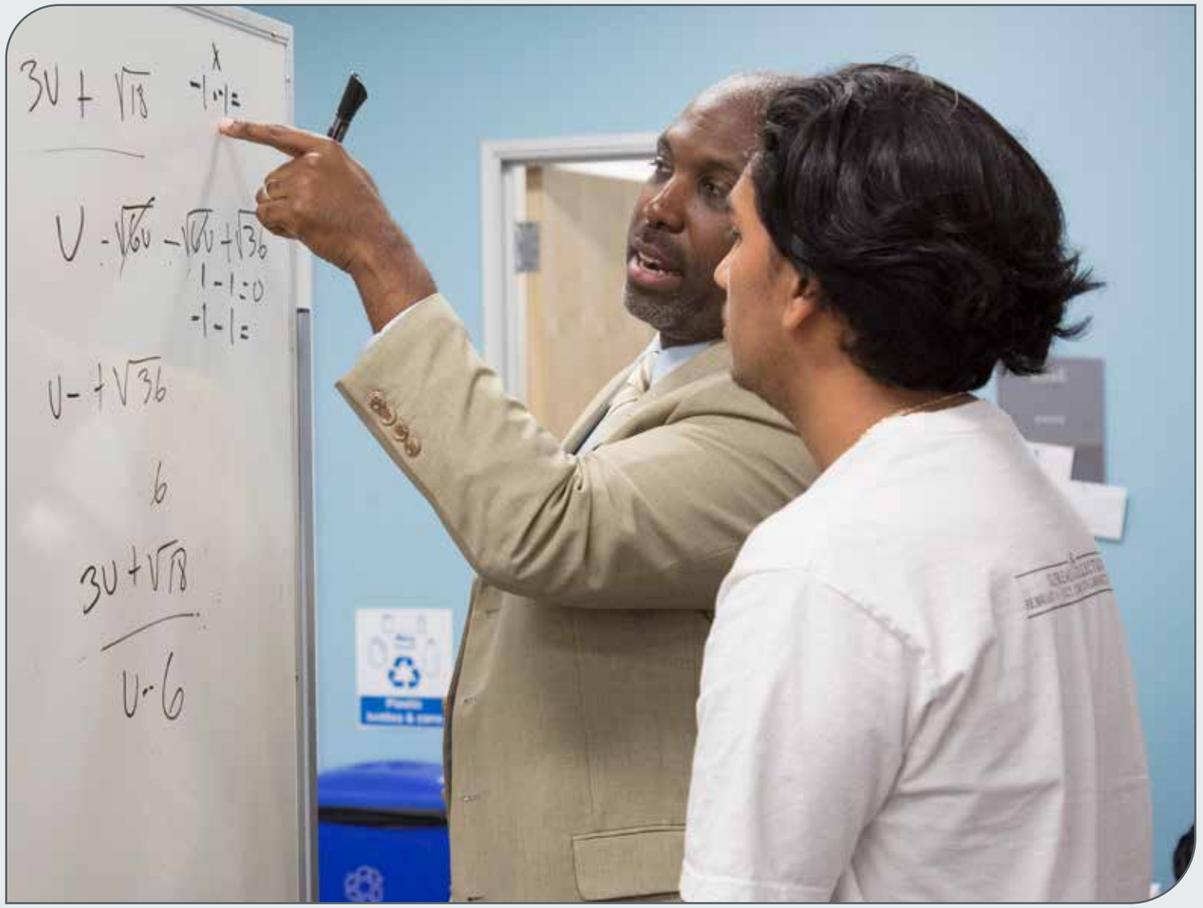
Implement a comprehensive and adaptive learning technologies using data and aspects of artificial intelligence to tailor material to the specific students and learning styles.

Objectives:

1. Conduct assessments of College technology based upon Web Content Accessibility Guidelines (WCAG) to measure digital accessibility.
2. Develop or enhance assistive technology, adaptive tutoring systems and tools (e.g., screen readers, screen magnifiers, color contrast analyzers, speech-to-text and text-to-speech software, keyboard only and alternative keyboard devices).

ACCJC Accreditation Standard III.C.1. [Technology Resources]

1. Technology services, professional support, facilities, hardware, and software are appropriate and adequate to support the institution's management and operational functions, academic programs, teaching and learning, and support services.



Institutional Priority 3:

Campus Engagement & Environment

STRATEGY 1

Establish and maintain information technology resources for the development of social networks, student life, College organizations.

Objectives:

1. Develop and maintain a consolidated, mobile-friendly integrated approach to digitizing student services (e.g., processing applications, submitting required documents, setting appointments).

ACCJC Accreditation Standard III.C.1. [Technology Resources]

1. Technology services, professional support, facilities, hardware, and software are appropriate and adequate to support the institution's management and operational functions, academic programs, teaching and learning, and support services.
3. The institution assures that technology resources at all locations where it offers courses, programs, and services are implemented and maintained to assure reliable access, safety, and security.
4. The institution provides appropriate instruction and support for faculty, staff, students, and administrators, in the effective use of technology and technology systems related to its programs, services, and institutional operations.
5. The institution has policies and procedures that guide the appropriate use of technology in the teaching and learning processes.

STRATEGY 2

Develop or enhance systems, practices, policies, and procedures to protect data, including cyber security, identity and access, privacy, governance, and risk management.

Objectives:

1. Develop Information Security Training tutorials and regular communications regarding information security and data privacy policies, procedures, best practices, and training opportunities.
2. Develop information technology resources for faculty, staff, and students.
3. Enhance the use of security controls that promote best practices.
4. Establish protocols for regular IT Risk and Security assessment.

ACCJC Accreditation Standard III.C.1., 4., and 5. [Technology Resources]

1. Technology services, professional support, facilities, hardware, and software are appropriate and adequate to support the institution's management and operational functions, academic programs, teaching and learning, and support services.
4. The institution provides appropriate instruction and support for faculty, staff, students, and administrators, in the effective use of technology and technology systems related to its programs, services, and institutional operations.
5. The institution has policies and procedures that guide the appropriate use of technology in the teaching and learning processes.

STRATEGY 3

Develop or Enhance policies and procedures for prioritizing and implementing Help Desk services to ensure the consistent and timely delivery of excellent technology support services.

Objectives:

1. Expand education technology support services to enrolled students across all instructional modalities. enrolled in online courses.
2. Expand education technology support services to faculty across all instructional modalities teaching online courses, particularly for those faculty who are part-time and teach a large number of courses at PCC as well as those who are new to PCC.

ACCJC Accreditation Standard III.C.1., 3., 4., and 5. [Technology Resources]

1. Technology services, professional support, facilities, hardware, and software are appropriate and adequate to support the institution's management and operational functions, academic programs, teaching and learning, and support services.
3. The institution assures that technology resources at all locations where it offers courses, programs, and services are implemented and maintained to assure reliable access, safety, and security.
4. The institution provides appropriate instruction and support for faculty, staff, students, and administrators, in the effective use of technology and technology systems related to its programs, services, and institutional operations.
5. The institution has policies and procedures that guide the appropriate use of technology in the teaching and learning processes.

Institutional Priority 4:

Customized Student Support

STRATEGY 1

Deploy streamlined, easily accessible technologies (e.g., single portal, "master dashboard") to fully support all students from entry through goal completion.

Objectives:

1. Adopt and implement technologies that provide timely, personalized automated notifications, information about support services and college resources, steps to enrollment, class schedule options by degree and certificate programs, early alerts and intrusive advising, and course progress toward their educational and career goals.
2. Develop and implement a single portal, "master dashboard" to simplify student access to appropriate resources at the College and in the community.
3. Develop and implement strategies and tools to enhance, automate, and streamline bi-directional communications with students, which potentially save staff and faculty time while providing students with personalized, just-in-time assistance.
4. Create and deploy strategies and tools to enhance, automate, and streamline Enrollment Management and scheduling processes, which that ensure that courses are scheduled in a manner that course scheduling facilitates students transfer timely completion of educational goals.

ACCJC Accreditation Standard III.C.1., 3., and 4. [Technology Resources]

1. Technology services, professional support, facilities, hardware, and software are appropriate and adequate to support the institution's management and operational functions, academic programs, teaching and learning, and support services.
3. The institution assures that technology resources at all locations where it offers courses, programs, and services are implemented and maintained to assure reliable access, safety, and security.
4. The institution provides appropriate instruction and support for faculty, staff, students, and administrators, in the effective use of technology and technology systems related to its programs, services, and institutional operations.

STRATEGY 2

Provide students with readily accessible technology support and opportunities for customized training delivered in a variety of formats to meet students' diverse needs training and support services on adopted technologies.

Objectives:

1. Develop and enhance technical support services for students that address common issues with the learning management system, instructional software and tools, email, and administrative applications.

ACCJC Accreditation Standard III.C.1. and 4. [Technology Resources]

1. Technology services, professional support, facilities, hardware, and software are appropriate and adequate to support the institution's management and operational functions, academic programs, teaching and learning, and support services.
4. The institution provides appropriate instruction and support for faculty, staff, students, and administrators, in the effective use of technology and technology systems related to its programs, services, and institutional operations.

"The technological divide for disproportionately impacted students is real."
- PCC Staff Member

CHAPTER 6:

Educational Master Plan Goals and Linkages to Technology Plan

EMP Goals and TMP Survey Theme Alignment

	EMP GOALS	TECHNOLOGY MASTER PLAN STRATEGIES
Exceptional Academic Programs and Delivery	• Develop/offer courses in multiple modalities • Empower, incentivize pedagogical innovation and excellence • Implement comprehensive, adaptive system of learning support	STRATEGY 1: Deploy the information technology needed to support exceptional delivery of instruction in a variety of modalities, including: • In-person (at on-campus locations); • Remote (online synchronous instructional delivery of course during scheduled days and times); • Online (asynchronous, web-based delivery and interaction); • Hybrid In-Person/Online and/or In Person/Remote (combination of synchronous and asynchronous; set course schedules with required on-campus meetings); and, • HyFlex courses (delivered both in person and online at the same time by the same faculty member). STRATEGY 2: Expand technology professional development and learning opportunities for faculty and staff. STRATEGY 3: Utilize educational technologies to provide students with effective, efficient learning experiences and support services. STRATEGY 4: Adopt a systematic approach to assessing information technology initiatives and implementation, resources (e.g., ITS asset inventory and tracking), services, support, and ITS policies and procedures, including replacement and refresh cycles.
Equity-Minded Learning Community	• Expand instructional efforts and support services for disproportionately impacted students • Continue institutional transformation and opportunities for equity-minded, student-centered professional learning • Braid existing and emerging resources to support equity-minded efforts; communicate a sense of belonging for historically marginalized students • Engage in inquiry and design to strengthen existing resources and services; determine where additional innovations are needed	STRATEGY 1: Provide all students with timely, equitable access to the computing technologies, training, and the IT supports needed for successful engagement in instructional activities and connection with critical support services. STRATEGY 2: Implement a comprehensive and adaptive learning technologies using data and aspects of artificial intelligence to tailor material to the specific students and learning styles.
College Engagement and Environment	• Increase awareness of programs and services • Provide flexible, innovative, culturally affirming, adaptive learning environment • Maintain cutting edge, appropriate instructional equipment and technology • Enhance, strengthen overall college climate; develop a culture of collaboration	STRATEGY 1: Establish and maintain information technology resources for the development of social networks, student life, College organizations. STRATEGY 2: Develop or enhance systems, practices, policies, and procedures to protect data, including cyber security, identity and access, privacy, governance, and risk management. STRATEGY 3: Develop or enhance policies and procedures for prioritizing and implementing Help Desk services to ensure the consistent and timely delivery of excellent technology support services.
Customized Student Support	• Empower students with intuitive and informative self-efficacy tools for tracking educational progress and goals • Streamline all student communication and services to best support the educational goal fulfillment of each student at all locations	STRATEGY 1: Deploy streamlined, easily accessible technologies (e.g., single portal, “master dashboard”) to fully support all students from entry through goal completion. STRATEGY 2: Provide students with readily accessible technology support and opportunities for customized training delivered in a variety of formats to meet students’ diverse needs training and support services on adopted technologies.

CHAPTER 7:

Core Infrastructure, Security and Technology Standards

Pasadena City College maintains sizeable portfolio of software, hardware, and core infrastructure to support administrative operations and instructional activities. Additionally, the College has adopted standards for technology hardware and software in administrative, academic, and instructional areas and classrooms to reduce variation and complexity. These standards allow the College to annually plan for and budget technology upgrades, maximize the purchasing power of the district, and facilitate the efficient delivery of technology services to PCC's students, faculty, staff, and administrators. (See Appendix E.)

Information Technology Services is responsible for managing the College's technology assets in a standard inventory tracking system which includes detailed information on PCC's desktop computers and laptops, printers and copiers, classrooms equipment (e.g., smart boards, projectors, document cameras), security cameras, and physical servers and network devices.

Pasadena City College has made a tactical decision to adopt a "cloud-first" strategy when considering core infrastructure or application purchases (software, physical and virtual servers). The "cloud" provides for the on-demand delivery of IT resources over the internet with pay-as-you-go pricing. Consequently, rather than procuring, owning, and maintaining physical data centers and servers, the College will access technology services, such as computing power, storage, and databases, on an as-needed basis from a cloud provider on the service's remote servers. Pasadena City College's "cloud-first" strategy is an important component of the business and continuity plan, as it facilitates the College's ability to recover the critical IT systems within 24 to 48 hours of a disaster without incurring additional infrastructure expenses associated with the hosting of a second physical data center site.

The College's physical network infrastructure, which must remain on-premises, is composed of the wired and wireless networks, telephony services, and College safety systems. Core infrastructure activities are planned and implemented to support the following overarching objectives:

- Provide open and reliable access to internet and cellular services in all public areas and buildings to support instruction;
- Deliver College safety systems, which help the College maintain a safe, secure, and healthy learning and working environment; and,
- Implement robust security practices that protect the College's digital assets from unauthorized access, use, disclosure, disruption, modification, and inspection.

In an ever changing and evolving cybersecurity landscape, it is imperative the College take proactive steps to educate students, faculty and staff regarding security best practices related to password policies and management, phishing campaigns, and general security awareness. The College maintains and regularly updates a comprehensive set of administrative procedures that follow industry best practices to meet state and federal security requirements. The College regularly reviews the National Institute of Standards and Technology (NIST) Cybersecurity framework which consists of standards, guidelines and best practices to manage cybersecurity risk. (See Appendix E.)

Last, the College annually assesses the staffing needs of the Information Technology Services department through the Integrated Planning Annual Update process to ensure a sufficient number of employees with the appropriate qualifications are hired to support the technological operations of the College. With increased focus on technology innovation, cybersecurity, and end-user support and training, the College will need to re-evaluate staffing plans in relation to the Total Cost of Ownership Assessment Process and Calculation Method.

“Technology has the potential to transform the way we teach, learn and relate to one another.”
- PCC Staff Member

CHAPTER 8:

Total Cost of Ownership Assessment Process and Calculation Method

Total cost of ownership (TCO) refers to the sum of all direct and indirect costs and expenses related to acquiring, implementing, and managing information technology over time, including hardware and software, management, support, communications, end-user expenses, and the costs of downtime, training, and other sources of productivity losses. Given the significant investment of fiscal and human resources in the acquisition of information technology, applying a total cost of ownership analysis will help Pasadena City College assess both the immediate and long-range value of technology-related outlay.

To determine information technology resource investments, PCC will begin with an assessment of which potential initiatives and products directly relate to and support of the District's strategic initiatives. After identifying and considering these mission and master planning-based initiatives and products, PCC will engage in a total cost of ownership analysis deploying the TCO assessment and calculation model and steps described below.

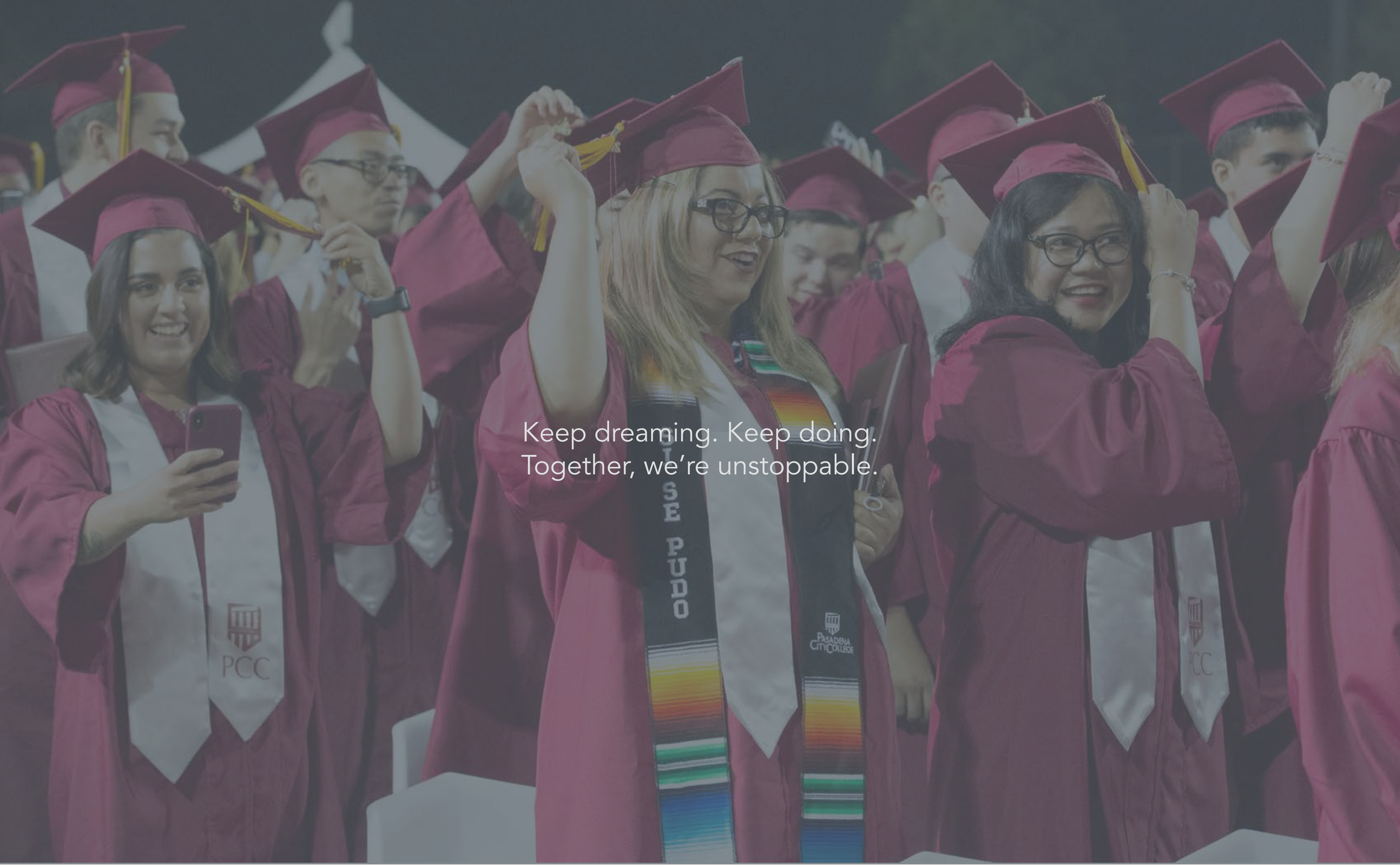
- Determine how many and which initiatives or products to use in a comparative analysis and gather information about the estimated useful life and its end-of-life cycle (e.g., donated, disposed, recycled).
- For products, determine any discounts that may be applied to the initial costs in order to arrive at the net purchase price per unit.
- For information technology systems, determine the total initial costs, such as:
  - Hardware;
  - Software; functionality; architecture; scalability;
  - Data architecture;
  - Time to implementation;
  - User training;
  - Support and maintenance;
  - Service Contract/s;
  - Set-up and Installation;
  - Administrative costs;
  - Testing; and,
  - Licenses.
- Add initial and ongoing training and assistance expenses to the initial outlay; add total training and assistance costs to the calculated per unit cost. Estimate and add any costs for IT staff based on hours required and staff salaries.
- Allocate and add to total costs expenditures for maintenance and support per unit.
- Calculate the average annual energy consumption per unit connected to the power grid and then add to the initial cost of each product.
- Estimate any potential additional cost of purchases or acquisitions needed to manage power consumption.
- Add the cost of upgrades, including price per upgrades and IT staff and/or property management staff labor costs required for the upgrades.
- Calculate the costs involved in carrying out the methods of disposition for the product's end-of-life cycle:
  - Determine administrative expenses in relation to inventory management, paperwork, payment processing, selection of recipients (e.g., recycling contractor, charitable organization) or "take-back" programs, and any costs associated with support provided to recipients (e.g., installation);
  - Removal of equipment;
  - Backing-up the hard drive;
  - Sanitation of items;
  - Recycling fees
  - Packaging and transporting
  - Add trade-in value if any.
- Extract the overall total cost of ownership to the purchase price for initiative or product in the comparative analysis.

CHAPTER 9:

Technology Master Plan Implementation Structure

Since the Technology Master Plan serves as a unit/area plan for the ITS department, the Associate Vice President of Information Technology Services will oversee the TMP implementation process and annual TMP Implementation Plan Reports as described below.

- With input and guidance from the President's Cabinet and the appropriate Shared Governance committee (District Technology Committee), the ITS department will be responsible for reviewing any identified technology requests, which are needed to implement, and thus, accomplish, each TMP Strategy and Objective. The appropriate process owner (position responsible for overseeing the completion of the activity), and the outcome(s) for each technology request/activity will be responsible for completing status updates annually for each technology request / activity through the College's Annual Update process.
- The identification of TMP Implementation Activities for upcoming academic years will be in alignment with PCC's annual planning and budget development cycle.


Keep dreaming. Keep doing.
Together, we're unstoppable.
SE PUDO
PCC
PASADENA CITY COLLEGE
PCC

SUMMARY OF APPENDICES

APPENDIX	DESCRIPTION	PURPOSE
Appendix A: **Pasadena City College Educational Master Plan 2020 Institutional Priorities and Information Technology Implications**	Table which captures the technology implications of the PCC Educational Master Plan 2020 Institutional Priorities.	Ensure that the PCC Technology Master Plan aligns with and supports the College's Educational Master Plan.
Appendix B: **Summary of Information Technology Survey Results and Common Themes**	Overview of the results of information technology surveys administered to faculty, staff, and students.	Identify common themes related to information technology needs, challenges, and opportunities, which help inform the PCC Technology Master Plan Strategies and Objectives.
Appendix C: **External and Internal Data Scan Resources**	Links to U.S. Census, Employment Development Department (EDD), EDUCAUSE, and other source materials.	Identify common themes related to information technology needs, challenges, and opportunities for PCC Service Areas, which help inform the PCC Technology Master Plan Strategies and Objectives.
Appendix D: **End-of-Plan Review – Prior PCC Technology Master Plan (2016-2020)**	Assessment of the prior PCC Technology Master Plan (2016-2020) to document outcomes and determine relevancy of pending items for continuation into the new Technology Master Plan.	Close the loop assessment to document the status of major activities related to the 2016-2020 Technology Master Plan recommendations, which helps inform the new PCC Technology Master Plan Strategies and Objectives while ensure planning continuity.
Appendix E: **Summary Assessment of Current IT Conditions and Existing College Environment**	Table that provides an overview of current information technology conditions at PCC including existing Technology Standards and Administrative Procedures.	Identifies current information technology issues for future planned actions.
Appendix F: **Technology Master Plan Core Planning Team**	Captures information about the Core Team responsible for the development of the PCC Technology Master Plan.	Transparently documents the individuals guiding the development of the Technology Master Plan.

APPENDIX A:

Pasadena City College Educational Master Plan 2020 Institutional Priorities and Information Technology Implications

INSTITUTIONAL PRIORITIES	GOALS	IMPLICATIONS	POTENTIAL TOOLS/RESOURCES
EXCEPTIONAL ACADEMIC PROGRAMS AND DELIVERY	**Develop and offer courses in multiple modalities**	• Technology Needed to Support exceptional delivery of instruction in five general modalities (ref. EDUCAUSE 2020): – In-person (physically on a campus location) – Remote (Online synchronous delivery of course content during scheduled days and times) – Online (Fully asynchronous, web-based delivery and interaction; not requiring access to campus or participation in scheduled activities) – Hybrid In Person/Online and/or In Person/Remote (A combination of synchronous and asynchronous: courses follow a set schedule with required on-campus meetings) – Hybrid Remote/Online (HR) • HyFlex courses (delivered both in person and online at the same time by the same faculty member)	• Canvas • Clickers • Lecture capture • Technology equipped classrooms • Learning integrity/proctoring platform • Video/audio conferencing platform (e.g., Zoom) • Student engagement and content sharing tool (e.g., VoiceThread) • Interactive video and formative assessment tool (e.g., PlayPosit) • Telepresence technology to connect multiple instructional locations • Professional Development for all tools.
	Develop and implement a comprehensive enrollment management process that ensures student-centered class scheduling and course offerings at all locations	• How PCC defines "enrollment management" will inform the ITS implications. For example, if the college adopts an SEM Plan that follows a completion-by-design framework, then strategies and technology needed for each objective (e.g., connection, entry, course, success, completion, transition) will be essential. This kind of SEM class scheduling model would be structured differently than one that examines room usage and efficiency.	• Course scheduling software (e.g., CourseLeaf, Scheduling Studio) • Early alert, text "nudges," program mapping and similar tools to support student retention and completion. • Professional Development for tools.
	Empower and incentivize pedagogical innovation and excellence as a college standard	• Blended learning • HyFlex courses (delivered both in person and online at the same time by the same faculty member) • Adaptive tutoring systems • Use of digital badges and virtual internships	• Artificial Intelligence • Virtual reality • Adaptive learning technologies (uses data and aspects of artificial intelligence to tailor material to the specific students and learning styles) • Digital textbooks with language translation capabilities
	Implement a comprehensive and adaptive system of learning support	• Universal design principles • Assessment based upon Web Content Accessibility Guidelines • (WCAG) - technical guidelines to measure digital accessibility	• Assistive technology • Adaptive tutoring systems • Adaptive learning technologies (using data and aspects of artificial intelligence to tailor material to the specific students and learning styles) • Tools (e.g., screen readers, screen magnifiers, color contrast analyzers, speech-to-text and text-to-speech software, keyboard only and alternative keyboard devices)

APPENDIX A (continued):

Pasadena City College Educational Master Plan 2020 Institutional Priorities and Information Technology Implications

INSTITUTIONAL PRIORITIES	GOALS	IMPLICATIONS	POTENTIAL TOOLS/RESOURCES
EQUITY-MINDED LEARNING COMMUNITY	**Expand instructional efforts and support services for disproportionately impacted students at all locations** **Continue institutional transformation and consistent opportunities for professional learning that are equity-minded and student centered [EP]** **Braid existing and emerging resources to further establish the impact of efforts that are equity-minded and communicate a sense of belonging for students who have been historically marginalized in higher education [EP]** **Engage in inquiry and design to further strengthen existing resources and services, and determine where additional innovations are needed [EP]**	• Ubiquitous access to computers and broadband • First-year experience in remote modality • Online orientations • Universal design for remote teaching and learning • Just-in-time online tutoring • Early alerts • Advising systems • Degree progress tracking • Virtual internships • Applications for students to access campus support resources • Student self-service referral to social/community resources (e.g. food, housing, medical care, mental health services) • Tech resources for the development of social networks, student life, campus organizations.	• Mobile communication tools (e.g. app automatic message-translation for ELL) • Career exploration and planning tools. • Professional learning opportunities for faculty and staff

APPENDIX A (continued):

Pasadena City College Educational Master Plan 2020 Institutional Priorities and Information Technology Implications

INSTITUTIONAL PRIORITIES	GOALS	IMPLICATIONS	POTENTIAL TOOLS/RESOURCES
CAMPUS ENGAGEMENT AND ENVIRONMENT	**Increase awareness of programs and services at all locations**	• Integrated approach to digitizing services and adding more complex services (e.g., intrusive advising) for remote and ubiquitous access. • Mobile computing	• One-stop mobile app offering access to all campus services, including communicating with advisors, mentors, counselors financial aid, jobs, housing, food, and, and information about campus events, clubs, and activities. • AI (e.g., chatbots)
	Provide a flexible, innovative, culturally affirming and adaptive learning environment	SEE PREVIOUS ENTRIES	SEE PREVIOUS ENTRIES
	Maintain cutting edge and appropriate instructional equipment and technology college-wide	• Rubric to assess technology resources, services, support, and professional learning • ITS inventory • ITS policies and procedures, including replacement and refresh cycles • Asset inventory and tracking	• Anonymized analytics tools to collect information on how users interact with PCC apps • Types of assets to track: • o Hardware & Software – Network & Communications infrastructure, servers, & applications – Mobile devices – Critical Enterprise Documentation – CCTV, Alarm Systems – Telephone circuits – Facilities equipment for IT Services (HVAC, Generators, Batteries) • Metadata: vendors, carriers, service providers, locations, licensing, firmware, purchase & disposal info • Reporting requirements: Equipment upgrades or change out plans, issue resolution, integration with other sources (help desk, document management, financial, network support applications)
	Adapt college practices, reporting, and evaluation mechanisms to better measure effectiveness and campus climate	• Tools (e.g., dashboards, portals) to ensure that staff can create accurate and timely reports and communicate the status of student success metrics and initiatives	SEE PRIOR ENTRY (ABOVE)
	Enhance and strengthen the overall college climate and develop a culture of collaboration	• Assess and potentially revise/enhance IT Committee or advisory group charge, scope of responsibility, reporting, and stakeholder communication.	• Collaboration tools (software and online)

APPENDIX A (continued):

Pasadena City College Educational Master Plan 2020 Institutional Priorities and Information Technology Implications

INSTITUTIONAL PRIORITIES	GOALS	IMPLICATIONS	POTENTIAL TOOLS/RESOURCES
CUSTOMIZED STUDENT SUPPORT	**Empower students with intuitive and informative self-efficacy tools for tracking educational progress and goals.** **Streamline all student communication and services to best support the educational goal fulfillment of each student at all locations**	• Strategies and tools to enhance, automate, and streamline bi-directional communications with students, which potentially save staff and faculty time.	• Mobile app that serves as a kind of personal assistant (e.g., plan schedules, manage study time, keep track of assignments, form study groups; connect with on-campus activities, and obtain help) • Tools to facilitate or enhance live webinars and virtual tours and events, one-on-one online chat sessions with admissions and records, counselors, and financial aid advisers, etc… • SMS messaging. • Software or online tools, which, for example: – allow faculty and staff to communicate with students regardless of physical location regarding general information (e.g., programs, term dates, admissions, enrollment, financial aid); – nudge students to complete tasks; – allow students to sign, store, upload and submit completed documents into the SIS; – provide employment and career information, connect with internship opportunities.

APPENDIX B:

Summary of Information Technology Survey Results and Common Themes

SURVEY RESPONSES OVERVIEW: FACULTY

SURVEY FEATURE	KEY TAKEAWAYS
Internet Capable Devices	• Two: 38% (Highest) • Three: 27% (Second)
Critical Technology Needs	• WiFi: 27% • Projector: 22% • Any computer: 11%
Challenging Technology Issues During COVID-19	• Most significant: – Student discomfort/lack of familiarity w/ required technologies/applications. • Second: – Adequate digital replacements for face-to-face collaboration tools (e.g., whiteboards); and, – Faculty discomfort or lack of familiarity with required technologies or applications.
Assistance Needed for Online Instruction	• Information re: how to best support remote students: 16% • Information re services students can access online: 14% • Greater access to digital materials: 13% • Best practices re: working/teaching from home: 14% • Assistance with technology to support online teaching/learning: 12%
Technology Needs Rank Priority	• More time to learn how to use technology and applications to enhance my curriculum and instructional delivery. • More opportunities to collaborate with colleagues on how to effectively use technology to enhance teaching and learning. • Greater variety of professional opportunities to learn how to use technology and applications.
Technology Interests	• Virtual reality and AI technology tools and applications • Opportunities for professional collaboration (e.g., technology “learning community”) • Tools for real-time remote learning • Interconnectivity of enterprise software • Tools to enhance student engagement and interaction • Zero cost digital textbooks
Data Information/Privacy/Security	• Highest Frequency Responses to Data Security Questions: “Neutral” – Indicates need for enhanced communication and/or trainings related to information security practices and safeguarding personal digital information and data

Participation:

- Project Audience: 1,303
- Responses Received: 363
- Response Rate: 28%

Stakeholder Themes:

- Professional development, training, learning opportunities and “learning community;”
- Computer needs of faculty, particularly adjunct;
- Student needs related to access (computers and internet) and training as equity issues;
- Student engagement, interaction, participation, and accountability;
- WiFi reliability in all locations;
- Maintenance and upgrades for computing technology – hardware and software.

SURVEY RESPONSES OVERVIEW: STUDENTS

SURVEY FEATURE	KEY TAKEAWAYS
Internet Capable Devices	• Two: 50.6% (Highest) • One device: 18.69% (Second)
Critical Technology Needs	• Wifi: 92% • Power outlet: 81% • Mobile phone reception: 79% • Laptop: 79% (Note: 75% indicate access to any computer is important)
Use of Online Student Success Tools	• Highest Frequency for All Survey Response Options: Have Not Used (Examples below) – Tools/suggest/improve performance: 63% – Early alert: 66% – Course guidance: 50% – Degree audit: 40% • Early Alerts/Nudges: – No Alert/Nudge Over Past 12 months: 52%
Adaptive Technology	• Majority (@84%) – identified as not having a disability. • Students who identified as differently abled rated PCC's awareness of student needs for accessible technologies or accommodations: – 20% Excellent – 24% Good or Neutral
Technology Interests	• Virtual and AI technologies (e.g., collaborative study spaces, virtual reality tools for instruction and connection to services, blended learning, chatbots) • Accessible technology tutorials and training • Digitized forms and processes • Access to hardware, software, and wifi • Zero cost digital textbooks
Data Information/Privacy/Security	• Highest Frequency Responses to Data Security Questions: "Neutral" – Indicates need for enhanced communication and/or trainings related to information security practices and safeguarding personal digital information and data

Participation:

- Project Audience: 25,379
- Responses Received: 2,452
- Response Rate: 10%

Stakeholder Themes:

- WiFi reliability
- Student needs related to access (computers and internet)
- Enhanced attention to technology needs of differently abled students
- Technical training opportunities for students
- Communication and training related to effective use of success tools

APPENDIX B (continued):

Summary of Information Technology Survey Results and Common Themes

SURVEY RESPONSES OVERVIEW: STAFF

SURVEY FEATURE	KEY TAKEAWAYS
Internet Capable Devices	• Three: 35% (Highest) • Two: 33% (Second)
Critical Technology Needs	• Preponderance identified as "highest" or "second highest" priorities • More opportunities to collaborate with colleagues on effective use of technology • Greater variety of professional opportunities to learn how to use technology • Technology used to maintain connections with colleagues and college activities
Top 5 Technology Training Interests	• Adobe Acrobat Pro and/or Adobe Sign: 13% • Microsoft Office (Word, Excel, PowerPoint): 11% • Cloud file sharing (Google Drive, Dropbox): 9% • Google Docs: 9% • Canvas: 7%
Technology Interests	• Technologies to improve record management: 28% • Virtual assistants: 16% • Expanded use of social media software: 14% • Learning analytics software to monitor student progress: 13% • Adaptive learning software AND Artificial Intelligence (A.I.): 12%
Data Information/Privacy/Security	• Majority (95-98%) engage in good security practices (e.g., letting others use mobile devices unsupervised, using a combination of character types for passwords for online accounts).

Participation:

- FT Classified Professionals: 76%
- PT Classified Professionals: .4%
- FT Manager/Administrator: 24%

Stakeholder Themes:

- Professional development and training – overwhelmingly, the most frequent comment
- Wifi improvements
- Communication and updated information regarding technology

COMMON SURVEY THEMES (FACULTY/STUDENT/STAFF):

- Access to technology (e.g., computers, broadband, reliable/ubiquitous wifi)
- Technical training and skills development for all employees and students
- Communications regarding technology tools and learning opportunities
- Optimizing current IT tools and strategically adopting emerging technologies to foster student engagement, persistence, success, and equity

APPENDIX C:

External and Internal Data Scan Resources

SOURCE MATERIAL	LOCATION
Educational Master Plan 2020	https://pasadena.edu/integrated-planning/emp/docs/EMP_2020_Booklet.pdf
US Census	https://www.census.gov/data/data-tools.html
California EDD	https://data.edd.ca.gov/
EDUCAUSE – 2020 Student Technology Report: Supporting the Whole Student	https://library.educause.edu/resources/2020/10/2020-student-technology-report-supporting-the-whole-student
EDUCAUSE – 2020 Student Technology Infographic	https://library.educause.edu/-/mediafileslibrary/2020/10/2020studentstudyinfographic.pdf?la=en&hash=2CA9DC6878E95AA53E52 FB50386B6390B2C5AB90
PCC Observations 2018-2019	https://pasadena.edu/institutional-effectiveness/research/observations.php
PCC Equity Dashboard	https://pasadena.edu/institutional-effectiveness/research/equity-dashboard.php
PCC Enrollment Information Dashboard	https://pasadena.edu/institutional-effectiveness/research/enrollment-information-dashboard.php
National Digital Inclusion Alliance	https://www.digitalinclusion.org/definitions/
California Community College - Statewide COVID-19 Impact Surveys of Students and Employees, Spring 2020 Results	https://www.cccco.edu/-/media/CCCCO-Website/Files/statewide-covid-survey-results-final-20201211.pdf

APPENDIX D:

End-of-Plan Review – Prior PCC Technology Master Plan (2016-2020)

TMP 2016-2020: COMPLETED ITEMS

COMPLETED ITEM	COMMENT
1. District computers (desktops and laptops) refreshed every five years; specialized areas such as computer aided design (CAD) labs require more frequent refresh cycles of three years.	The District has identified and adhered to refresh schedules
3. When factoring in the quantity of rooms, cost per room, and the reliable life of the equipment installed, an 8 year refresh cycle is recommended for smart classrooms and presentation systems. Funding for campus-wide refresh budgeted for annually at $650,000 per year.	The District has identified and adhered to refresh schedules
4. Replace critical equipment in the central cores and datacenter every 5 years at an annual cost of $80,000 to ensure reliable delivery of services and to keep up with the expected growth in network traffic.	District replaced critical network switches in the 5-year timeline. The District issued and awarded a contract for a larger network switch replacement scheduled for 2021
5. Replace network infrastructure components every 10 years at an annual cost of $150,000 to ensure the consistent delivery of networked services.	District replaced critical network switches in the 5-year timeline. The District issued and awarded a contract for a larger network switch replacement scheduled for 2021
6. Replace wireless networks on a 7-year life cycle upgrading approximately 1/7 of the infrastructure each year at an expected annual cost of $50,000.	The District has identified and adhered to refresh schedules
7. Replace servers on a 5-year cycle to ensure maximum uptime and minimize the disruption of services vital to serving students. The expected annual cost is $100,000 per year.	The District has identified and adhered to refresh schedules
8. [Re campus safety systems, e.g., security cameras, emergency dialers] This equipment is exposed to the elements and eventually requires replacement; estimated annual cost to ensure a high level of reliability is $110,000.	The District has identified and adhered to refresh schedules
9. Reduce the number of print devices and adopt a model of shared devices to lower the district's total printing costs.	The District has identified printer standards and adhered to refresh schedules

COMPLETED ITEM	COMMENT
10. All print devices managed by an outside service to minimize time spent by district employees in buying, storing, installing and disposing of toner/ink.	The District contracted services out to managed service provider. All new printers are standardized on added to the Managed Print Service contract.
11. Implement an online print order solution so faculty, staff, and administrators can submit print requests to Office Services online.	New print order submission process created: https://pasadena.edu/business-administrative-services/office-services/request-for-reprograhic-services-form.php
12. Implement a uniform, Wi-Fi accessible, student pay-per-print environment across the district while being mindful of revenue generated with existing pay-per-print systems used to fund any existing critical student services.	Printing Kiosks that are Wi-Fi accessible installed across the District for student printing
19. Develop a staffing plan to support the Banner ERP and all ancillary systems and hosted services.	Staffing resource needs are reviewed annually. Five new positions were added during the TMP cycle.
20. Develop an implementation plan for Banner XE that is similar in scope to a new product implementation. (Faculty / Staff test groups, training sessions, broad distribution of information – internal marketing.)	The District completed Banner 9 implementation project in 2020
22. Modify LancerPoint to become a true single sign-on environment that will incorporate access to all of the products and tools regularly utilized by college students, faculty and staff behind a single login.	Critical services (email, student records, registration, financial aid) are available in LancerPoint
23. Employee email migrated to the Microsoft Cloud solution known as Office 365. This approach will also significantly expand the current standard mailbox sizes of 3GB.	The District completed Office 365 project in 2018
25. Review SLAs reviewed and adjusted annually as appropriate.	The Distict established Service Level Agreements in 2016
26. Increase staffing levels to adequately support instructional technology.	Staffing resource needs are reviewed annually. Five new positions were added during the TMP cycle.

APPENDIX D (continued):

End-of-Plan Review – Prior PCC Technology Master Plan (2016-2020)

TMP 2016-2020: COMPLETED ITEMS (CONT.)

COMPLETED ITEM	COMMENT
27. 24/7 helpdesk solution for employees and students.	The District contracted services for 24/7 Call Center in 2019.
28. Identify and provide support for specific departments as subject matter experts responsible in fulfilling the ongoing training and support needs of different district user groups (students, faculty and staff) in the use of the LancerPoint system.	The District hired several business analysts who are the subject matter experts assigned to major Banner modules – HR, Financial Aid, Finance, Admissions and Record, Counseling.
29. Offer security training to all employees; required for employees with access to sensitive data prior to access.	The District provides Security Awareness training at each Professional Development Day (Flex Day).
30. Expand ongoing training for technology through recommendations from the Professional Development committee, including training for trainers.	The District provides ongoing technology training at each Professional Development Day (Flex Day).
33. Professional development offered to inform faculty of the existing options for accepting assignments digitally and to provide training in their use to further promote equity, accessibility and sustainability.	Many faculty accept assignments via Canvas. Training offered through Distance Ed department.
34. Invest in Business Analysts and Programmer Analysts where appropriate to document, review and automate district processes to continually increase the district's operational efficiency and capacity.	The District hired several business analysts who are the subject matter experts assigned to major Banner modules – HR, Financial Aid, Finance, Admissions and Record, Counseling.
36. Reduce paper consumption through the use of electronic resources wherever possible.	The District invested in the use of Adobe Signature and workflow solutions to reduce paper consumption

TMP 2016-2020: ADDED ITEMS

ADDED ITEM	COMMENT
Creation of AWS Virtual Learning Environment. Access to specialized software for students and faculty.	The District added this new service in 2020. https://pasadena.edu/business-administrative-services/its/appstream.php
Implement Adobe Signatures for remote operations.	The District added this new service in 2020.

TMP 2016-2020: DISCONTINUED ITEMS

DISCONTINUED ITEM	COMMENT
15. Provide training of communication resources available including resources provided by the Chancellor's office.	Incorporated into professional development training plan

APPENDIX D (continued):

End-of-Plan Review – Prior PCC Technology Master Plan (2016-2020)

TMP 2016-2020: IN-PROGRESS ITEMS CARRIED INTO TMP 2021-2025 PLAN

IN-PROGRESS ITEM	COMMENT
2. Implement a unified method for employees using Macintosh computers to backup files.	Currently, there is no solution for backing up files on Mac Computers currently in place. We are still exploring options that can possibly solve this problem.
13. Plan upgrades of the telephone system to improve integration with email, instant messaging and public announcement systems.	The District has secured funding and started planning for the telephone replacement project.
14. Transition to using Session Initiation Protocol (SIP) connections to utilize external voice over IP services and lower overall telephone service costs.	The District has secured funding and started planning for the telephone replacement project.
16. Identify district recovery point objectives (RPO) and recovery time objectives (RTO) for critical systems.	The District has adopted a Cloud-First strategy and moved core ERP services to Amazon Web Services
17. Develop a backup datacenter to maintain the delivery of services if a catastrophic event were to impact the district's primary.	The District has adopted a Cloud-First strategy and is in the process of moving hosting it's application portfolio to Amazon Web Services. Infrasture services would be highly available with failover between Availability Zones and even Regions.
18. Develop a secondary utility access to enhance redundancy of the district's access to the Internet.	The District has contracted services and is in progress of bringing in alternate internet provider.
21. Develop workflows to automate processes and increase efficiencies (e.g., a single workflow could automate the notification of the required stakeholders and perform a series of actions including dropping students when a class is cancelled).	The District has contracted services and is in progress of bringing in alternate internet provider.
24. After the upgrade to LancerPoint is completed, create a task force to investigate the benefits and demand for a mobile-friendly interface for LancerPoint services.	The District has started a project to create a mobile-friendly interface for LancerPoint services.

IN-PROGRESS ITEM	COMMENT
31. Comprehensive onboarding training process to prepare new staff and administrators in utilizing technology resources at the college; continue to work with the academic senate to support technology training for new faculty.	The District has started a project to create a training program for new staff through the New Employee Orientation program.
32. District Technology Committee develop a Technology Accessibility Plan that provides guidelines to help the college meet accessibility standards per Section 508, W3C and other relevant regulations, and updated annually; each division identify an individual to serve as their primary technology accessibility resource person who advises members of their respective divisions with regards to accessibility issues and provide yearly updates to the District Technology Committee.	The District Technology Committee has made a formal recommendation for an Accessibility position. https://pasadena.edu/governance/college-council/district-technology-standing-committee/docs/1811-2020-5-29-End-of-Year-Report-district-technology-standing-committee.pdf
35. Digitize administrative paper archives such as human resources, fiscal and student records.	The District has contracted scanning serivces to digitize paper archives in 2019.

APPENDIX E:

Summary Assessment of Current IT Conditions and Existing College Environment

TECHNOLOGY OR POLICY	SUMMARY DESCRIPTION OF CURRENT STATUS
Network and Wireless Infrastructure and Equipment	The College maintains a sizeable inventory of technology equipment and the staffing to support hardware and software. This includes approximately 3200 desktop computers and laptops; 260 classrooms equipped with technology systems; 22 conference/event spaces with presentation systems; over 200 physical and virtual servers; 215 security cameras with 22 recording servers; 1350 Nortel 1120 and 1140E voice over IP telephones; approximately 250 emergency phones; approximately 50 departmental fax machines; and a vast system of printers and network infrastructure.
Servers	There are over 200 physical and virtual servers; In 2019, PCC adopted a "cloud-first" strategy when considering core infrastructure or application purchases (software, physical and virtual servers). The "cloud" is an on-demand delivery of IT resources over the internet with pay-as-you-go pricing. Instead of buying, owning, and maintaining physical data centers and servers, you can access technology services, such as computing power, storage, and databases, on an as-needed basis from a cloud provider on the service's remote servers. PCC has chosen Amazon Web Services (AWS) for cloud hosting partner. Cloud hosting is an important component that enables PCC's disaster recovery and business continuity plans. This strategy facilitates PCC's ability to recover the critical IT systems within 24 to 48 hours after a disaster is contained without incurring an additional infrastructure expense of a second physical site.
ERP Software and Student Information Systems	The District is running the Ellucian Banner ERP system for Student Records, Financial Aid, Admissions, Human Resources, Fiscal / Budget, Purchasing and Accounts Payable/ Receivables.
System Security	There are 215 security cameras with 22 recording servers. The District is transitioning to Verkada which is a new cloud-based security camera system. This allows for security camera footage to be more easily accessed via a web browser and will eventually allow us to eliminate all 22 on-premise recording servers. • Network perimeter is secured by Firewalls • Internal network segmentation implemented to limit exposure • User provisioning and authentication is managed centrally • MFA is in place for critical systems • Patch management is reviewed regularly and automated where possible • Endpoint protection applied to all district computers and servers • Vulnerability scans conducted regularly
Physical Security (e.g., unit or cabled locks, locked cabinets, fire suppression systems)	The District Technology Committee has drafted and passed for College Council approval a new Physical Security policy– AP 3728. • Data centers and network closets physically secured by lock and key
Desktop/Laptop Computers - Employees [e.g., number of computers, types, models, age]	There are approximately 600 employee desktop computers. This includes both Windows and Mac. Employees can choose between Mac or PC with our Windows standard being a Dell 3080 with a Dell 22" monitor and our Mac Desktop standard being a 27" iMac. On the laptop side there are about 375 Mac laptops issued to employees at this time with our standard being an Apple MacBook Air. The current standard for PC laptops is a Dell Latitude 5410 and there are approximately 600 laptops issued to employees. In total there are over 1,500 computers issued to PCC employees being managed by ITS.

APPENDIX E (continued):

Summary Assessment of Current IT Conditions and Existing College Environment

TECHNOLOGY OR POLICY	SUMMARY DESCRIPTION OF CURRENT STATUS
Desktop/Laptop Computers - Students [e.g., number of computers or workstations, types, models, age]	There are approximately 3400 student desktop computers and laptops broken down by type below. • Chrome Desktops - 10 • Chromebook - 600 • Mac Desktop - 324 • Mac Laptop - 142 • Windows Desktop - 1,585 • Windows Laptop - 611 • iPad - 150
Technology to Support the Student Experience (e.g., experience management platforms)	Student experience is typically assessed via surveys, small focus groups or interactions with the Associated Students. Software: AppStream: https://pasadena.edu/business-administrative-services/its/appstream.php
Live Formative Feedback System	Social Sciences uses PollEverywhere to collect real-time feedback during instruction. This tool can be utilized in other areas.
Smart Room/Presentation Systems [e.g., number, type, model, locations, model, age]	In September 2016, the Board of Trustees approved an authorization to accept bids for the institution's smart room technology updates in eight additional classrooms (IIIC2_7_Employee_Comp_Updates_3). At its regular business meeting in June 2017, the Board authorized the awarding of a $119,257 contract to Digital Networks Group, Inc. to carry out the updates (IIIC2_8 Smart_Room_Refresh_2017). At its February 2019 regular meeting, the Board approved an authorization to solicit bids to upgrade or install audio-visual technology in 13 instructional spaces for the Non-Credit Division, BET Division, Health Sciences Division, Library Division, PCA Theater Division, Counseling Division, and Educational Services. Twelve of the updates were for the Colorado campus and one was for Foothill. The projected cost of these updates was $223,711. In May 2019, the Board approved a contract for these updates, and in December 2019, the IT department identified the project as complete (IIIC2_9_Smart_Room_Refresh_2019).
Open Educational Resources [e.g., text, media, digital assets used for teaching, learning, assessment, or research]	OER Project: https://libguides.pasadena.edu/oer/ https://pasadena.edu/news-and-events/news/pcc-named-top-for-open-source-textbooks.php We need to start thinking of software in the same way we think about textbooks. Prioritizing low-cost, free software options. Software that runs in a browser or in our Streaming service (appstream). Software: AppStream: https://pasadena.edu/business-administrative-services/its/appstream.php
Accessibility (re 508 standards) [e.g., computer hardware and software, websites, phone systems, and copiers, online courses platforms]	AP 6365 – Accessibility of Information Technology: https://go.boarddocs.com/ca/pasadena/Board.nsf/public# District Technology Committee recommendation: https://pasadena.edu/governance/college-council/district-technology-standing-committee/docs/1811-2020-5-29-End-of-Year-Report-district-technology-standing-committee.pdf
Anti-Plagiarism Tools	See: https://pasadena.edu/academics/pcc-online/faculty/technology/turnitin.php
Lecture Capture	• Zoom is used • Camtasia • Softchalk • Screencast-O-Matic https://pasadena.edu/academics/pcc-online/faculty/technology/index.php
Online Tutoring	https://pasadena.edu/academics/support/success-centers/online-tutoring.php
Online Counseling	https://pasadena.edu/academics/support/counseling/ask-a-counselor/online-counseling.php

APPENDIX E (continued):

Summary Assessment of Current IT Conditions and Existing College Environment

TECHNOLOGY OR POLICY	SUMMARY DESCRIPTION OF CURRENT STATUS
Technology for capturing student usage of Support Services (e.g., use of student ID card linked to Banner record)	We do not have this today. A one card system would be great. – used for library, events, copy machines, sporting events, etc.
Degree Audit	https://pasadena.edu/academics/support/counseling/academic-planning/view-degree-audit-in-lancerplan.php The degree audit system, Degree Works, not only allows the counselors and students to view courses needed to complete a major, it is also used for auto degree awarding.
Financial Aid Management (e.g., Ellucian Banner Financial Aid)	Financial Aid uses Banner as well as Campus Logic to best accommodate student financial aid needs.
Web applications to allow exploration of career pathways - integrated with meta-majors	https://pasadena.edu/explore-your-career/career-exploration.php The web consultants along with Counseling is working on a more robust Guided Pathways website https://pasadena.edu/student-success/what-is-guided-pathways.php
Catalog and Academic Program Management software	The District just purchased Courseleaf to manage Catalog and Curriculum changes. The first phase of Catalog is currently in progress and the 2021 catalog is expected to be published Spring 2021. https://www.courseleaf.com/?gclid=CjwKCAjw_NX7BRA1EiwA2dpg0pJBxHoPrr6sFM499YR8opMx44ir4DxFd-nKF28fRZmspIL5JWHzoxoCeFQQAvD_BwE
Printing	https://pasadena.edu/current-students/printing-on-campus.php
Telephone and Videoconferencing	The District has set aside funding to replace the 15+ year Nortel telephone system starting in 2021. The District is currently evaluating cloud-based VoIP calling solutions that would allow for flexible mobility options like answering district phone calls from a smartphone or laptop at home or on the go. By upgrading to a new cloud-based telephone system, this would also open the opportunity to eliminate hundreds of AT&T analog telephone lines in use across the District.
Mobile Applications	The College is working to develop a on mobile applications strategy (e.g., having one mobile app that we integrate everything into or different apps by function) At a minimum – the College will deliver web applications that are fully responsive with mobile and tablet devices.
Digital Signage	There are currently 21 digital signage displays across the main campus, CEC, Muir and Rosemead. They operate on the Rise Vision cloud platform and are powered by Raspberry pi signage players.
Campus Safety Systems	Security cameras across campus are going through a refresh cycle. In addition, the College should consider an emergency notification system in the event of campus closures or security issues that notify the campus community of potential threat. PCC currently utilizes Rave alerts, which send email and text messages; however, there are no visual or audio systems at PCC sites locations that can do the same.
IT Support/Help Desk	The District has an IT Help Desk. https://pasadena.edu/business-administrative-services/its/help-desk.php Support operations are from 7:30 a.m. to 5:00 p.m. Monday through Friday. Currently there has not been an expressed need for 24/7 service.
Disaster Recovery and Business Continuity Systems	The District will be moving the ERP system (Ellucian Banner) to the cloud. This will occur in December of 2020. In 2019, PCC adopted a "cloud-first" strategy when considering core infrastructure or application purchases (software, physical and virtual servers). The "cloud" is an on-demand delivery of IT resources over the internet with pay-as-you-go pricing. Instead of buying, owning, and maintaining physical data centers and servers, you can access technology services, such as computing power, storage, and databases, on an as-needed basis from a cloud provider on the service's remote servers. PCC has chosen Amazon Web Services (AWS) for cloud hosting partner. Cloud hosting is an important component that enables PCC's disaster recovery and business continuity plans. This strategy facilitates PCC's ability to recover the critical IT systems within 24 to 48 hours after a disaster is contained without incurring an additional infrastructure expense of a second physical site.

APPENDIX E (continued):

Summary Assessment of Current IT Conditions and Existing College Environment

TECHNOLOGY OR POLICY	SUMMARY DESCRIPTION OF CURRENT STATUS
Computing and Infrastructure Refresh Cycles and Standards	The College adopts a regular replacement schedule for equipment in alignment with ACCJC Standard III. C.2 - The institution continuously plans for, updates and replaces technology to ensure its technological infrastructure, quality and capacity are adequate to support its mission, operations, programs, and services. • Computer Standard: https://docs.google.com/document/d/1UKVdfqrLz6F6SMM_8tcbaERJPxJaomVad9-qBfOM1ys/edit?usp=sharing • Printer and Copier Standards: https://docs.google.com/document/d/1aMghmpzNgWuHVaYRU7-YyMLubUrFINxpG-c1fb0G1KA/edit?usp=sharing • Smart Classroom AV Standards: https://docs.google.com/document/d/1nRnbzvbwv_VclexdIyexOj_OLL-B8UuzMuFcWfdENDo/edit?usp=sharing • Security Camera Standards: https://docs.google.com/document/d/15whJbsg7Ud0TiC7F21RB1h-3dRrEzZL2K3x_auHn-BU/edit?usp=sharing • Core Infrastructure Standards: https://docs.google.com/document/d/1T3hfDerejxA9HVKtp1kgVCGMqPpkGPo2JEkOjFhw0Zo/edit?usp=sharing • Data Cabling Standards: https://docs.google.com/document/d/15FjP3F22YxS-gWjLsx4Z25YlgiDp0NoJ_pvzOszSKRs/edit?usp=sharing
Cybersecurity and Technology Administrative Procedures	The College maintains and regularly updates a comprehensive set of administrative procedures that follow industry best practices to meet state and federal security requirements. (ACCJC Standard III. C.5) • AP 3720 – Computer and Network Use: http://go.boarddocs.com/ca/pasadena/Board.nsf/goto?open&id=ASFLEU561CBF • AP 3721 – Electronic Communications: http://go.boarddocs.com/ca/pasadena/Board.nsf/goto?open&id=BJ5QWL6AFAEE • AP 3722 – Data Classification Standards: http://go.boarddocs.com/ca/pasadena/Board.nsf/goto?open&id=BJ5QYL6B6839 • AP 3723 – Remote Access: http://go.boarddocs.com/ca/pasadena/Board.nsf/goto?open&id=BJ5R4W6C3C93 • AP 3725 – Security Incident Response (internal access only) • AP 6521 – Network Security: http://go.boarddocs.com/ca/pasadena/Board.nsf/goto?open&id=BWDRUG6FAF76 • AP 6522 – Physical Security: http://go.boarddocs.com/ca/pasadena/Board.nsf/goto?open&id=BWDS2D708CE7 • AP 6533 – Logging and Monitoring: http://go.boarddocs.com/ca/pasadena/Board.nsf/goto?open&id=BWDS4V70EBA8)
Technology Training – policies, procedures, activities for faculty, staff, students	New policies created: https://pasadena.edu/governance/college-council/district-technology-standing-committee/docs/1811-2020-5-29-End-of-Year-Report-district-technology-standing-committee.pdf Training: • Faculty – Videos: https://pasadena.edu/business-administrative-services/its/lancerpoint-support/faculty-training-videos.php – Professional Development: https://pasadena.edu/faculty-and-staff/pd/index.php – Online teaching training: https://pasadena.edu/academics/pcc-online/faculty/index.php • Students: – Portal: https://pasadena.edu/business-administrative-services/its/lancerpoint-support/faq.php – Orientation: https://pasadena.edu/get-started/first-time-college-student/orientation.php – Pathways: https://pasadena.edu/get-started/first-time-college-student/attend-open-house.php – Jam: https://pasadena.edu/get-started/first-time-college-student/attend-jam.php – Registration: https://pasadena.edu/get-started/first-time-college-student/register.php • Staff – Professional Development: https://pasadena.edu/faculty-and-staff/pd/index.php – LinkedIn Learning: https://visionresourcecenter.cccco.edu/#learn

APPENDIX E (continued):

Summary Assessment of Current IT Conditions and Existing College Environment

TECHNOLOGY OR POLICY	SUMMARY DESCRIPTION OF CURRENT STATUS
• For Online Instruction • LMS • Fully Online and Hybrid Courses and Programs (e.g., how many courses of each type, what disciplines) • Data Re: Student Success, Retention, and Completion in Fully Online and Hybrid Courses and Programs • Online education accessibility (508) • Training for Online Faculty – policies, procedures • Training for Students – policies, procedures • Training for Classified Staff – policies, procedures	https://pasadena.edu/academics/pcc-online/faculty/index.php Training on changes or new software products is on-going for employees of the District.

APPENDIX F:

Technology Master Plan Core Planning Team

DISTRICT TECHNOLOGY COMMITTEE
Candace Jones, Co-Chair & Associate Vice President **Professor Jeff Winter**, Co-Chair & Business Division
PCC CORE PLANNING TEAM
Joyce Miyabe, Director of Enterprise Applications **Roberto Jurado**, Director of Technical Services **Matthew Camara,** Assistant Director of Technical Services **Nairi Zograbyan**, Security Administrator
ACADEMIC PLANNING AND GRAPHICS
Diane White, Lead Planner (Integrated Academic Solutions) **Heidi Hampton**, Project Manager (Gensler)