

SAN MATEO COUNTY COMMUNITY COLLEGE DISTRICT

2022 FACILITIES MASTER PLAN

JULY 2022



SAN MATEO COUNTY
COMMUNITY
COLLEGE DISTRICT

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01

INTRODUCTION

**LETTER FROM THE
CHANCELLOR**

[To be included at a later date.]

“ Success, Equity, and Social Justice for our students are longstanding goals of the San Mateo County Community College District.”

San Mateo County Community College District Strategic Plan, (2021-2026)



© San Mateo County Community College District

INTRODUCTION

In March 2021, the San Mateo County Community College District (SMCCCD) launched a process to develop a Facilities Master Plan (FMP) for each of the three Colleges in the District – Cañada College, College of San Mateo, and Skyline College.

The FMP aims to translate the foundational goals of the District Strategic Plan and the individual Colleges' Education Master Plans into recommendations for the planning of physical space on the campuses.

The plan also draws on qualitative and quantitative analyses of campus

systems to identify opportunities for the short- and long-term future of the Colleges. Recommendations for facilities, space use, circulation, wayfinding, and development opportunities are included in the FMP.

The involvement of a wide range of stakeholders, including students, faculty, staff, administrators, and community members, has been essential to the development of the FMP. The District believes that the FMP should reflect the dynamic community it serves and strove to involve participants at every stage of the planning process.

PROCESS

PURPOSE

Developed to guide short- and long-term planning, the SMCCCD FMP proposes projects that shall enhance the experience and success of the future students, faculty, staff, and the San Mateo community as a whole for the next 10 years.

Building on the wealth of existing studies and planning efforts initiated by the District and Colleges, the FMP update is a working document for continual use by the District and each College to guide the implementation of the

plan, for promotion of the projects, and for fundraising.

As defined by stakeholders throughout the process, the FMP examines several focus areas, including facilities and maintenance, post-pandemic learning environments, sustainable best practices, and an emphasis on interculturality, equity, and inclusion to support student success.



METHODOLOGY

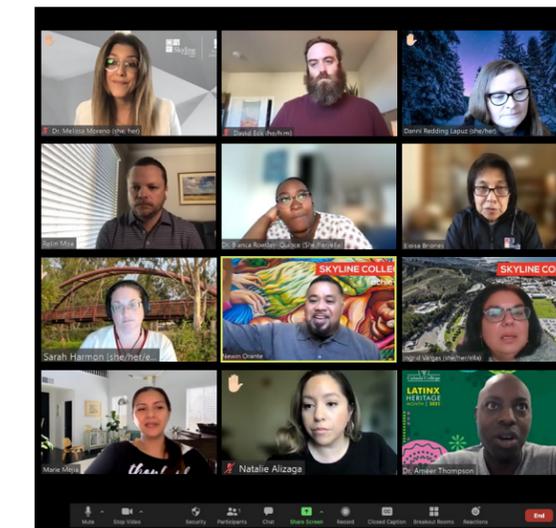
The planning process was a collaborative effort among a vital group of constituents. The planning team worked closely with the Colleges to conduct analysis, determine needs, establish goals, identify opportunities, and ultimately make recommendations that comprise the FMP.

The process began in March 2021 with a Visioning and Scoping exercise. This pre-phase established a strong foundation for the planning process by initiating conversations with more than 25 stakeholder groups regarding

scope, necessary assessments, and engagement strategy for the FMP.

The resulting strategy consisted of a four-phase process that included Discovery and Assessment, Concept Alternatives, Draft Master Plan, and Final Master Plan and Documentation.

The first phase, Discovery and Assessment, officially launched the FMP process and included interviews, meetings with stakeholders, data analysis, and assessments. The planning team studied the campus and surrounding context to evaluate campus organization, mobility

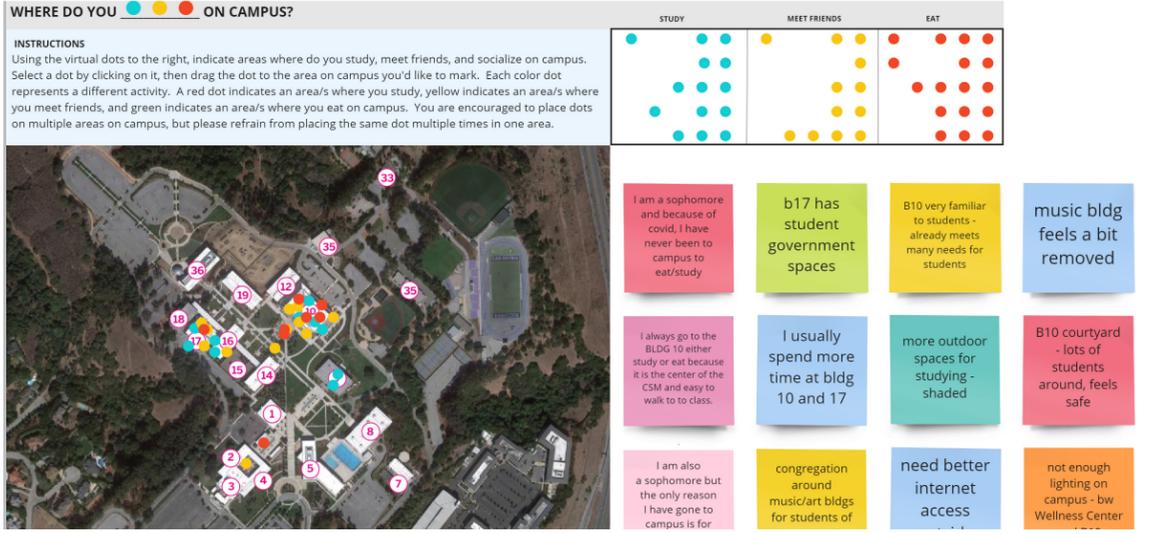
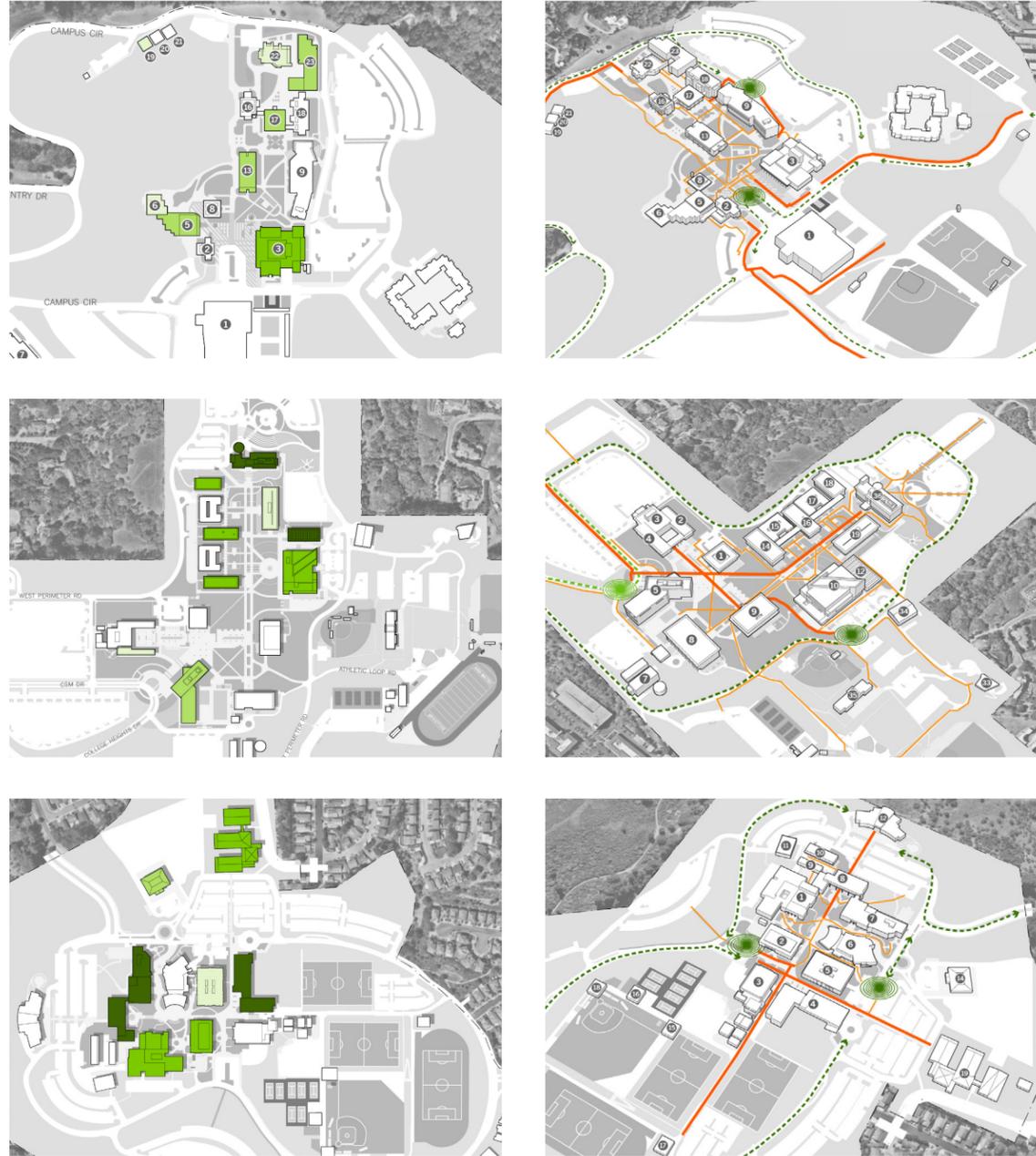


networks, and sustainability goals. This phase included in-depth analyses of space use and needs, facilities condition assessment, utilities and infrastructure, and wayfinding and signage.

Discovery and Assessment also included interviews with students, members of the administration, academic leadership, and the campus community to learn about campus operations and further develop the principles and goals of the FMP.

During the second phase, Concept Alternatives, the planning team utilized the findings from the Discovery and Assessment phase to develop a series of preliminary options and concepts for review, including space use and reprogramming strategies and alternatives for the future physical development of all three College campuses.

Based on feedback from the Concept Alternatives phase, the Draft Master Plan phase provided draft options for priorities, projects, and phasing for stakeholders to evaluate and further refine. This evaluation and feedback ultimately led to the production of the final Facilities Master Plan.



ENGAGEMENT

The most critical element of the planning process was the extensive, iterative engagement with students, faculty, staff, leadership, and community members throughout the planning process. Collaboration occurred during each of the four planning phases, from the initial visioning to the analysis and draft and final plans.

Not only did the FMP's stakeholders offer invaluable knowledge of campus systems, operations, and user experience, they also articulated challenges, opportunities, and key

goals for the future of the Colleges. It was essential that their voices, desires, and needs were heard and reflected in the Facilities Master Plan.

Engagement consisted of working groups, one-on-one interviews, interactive workshops, and community forums. To help stakeholders participate in a virtual venue, the engagement sessions utilized virtual tools including visual board voting, live surveys, text polling, and mapping exercises. The planning team translated the feedback drawn from these meetings and tools into strategies for design, space use, and

placemaking that are supported by stakeholder consensus.

In defining the FMP engagement strategy, it was particularly important to District and College leadership that students be prioritized as the primary stakeholders. The interactive interviews conducted with each College's Associated Students group were highly valuable to understanding the ways students access, learn, work, and collaborate on campus.

STRATEGIC PLAN ALIGNMENT

Students First: A Strategic Plan of the SMCCCD (2021-2026) serves as a guide for the next five years as the District invests in the strategic development and allocation of resources.

With a focus on equity, social justice, and completion, the Strategic Plan is organized around four major goals for the District and supported by District-wide initiatives. The following Strategic Goals are intended to continue the work of the SMCCCD to be an innovative, effective, and equity focused institution of higher education.

Source: San Mateo County Community College District Strategic Plan, (2021-2026)

The Strategic Plan, along with individual college Education Master Plans, serve as the foundation for facilities planning. The goals and principles of the 2022 FMP are rooted in and informed by these District-wide priorities.

1



Develop and strengthen educational offerings, interventions, and support programs that increase student access and success.

2



Establish and expand relationships with school districts, 4-year college partners, and community-based organizations to increase higher education attainment in San Mateo County.

3

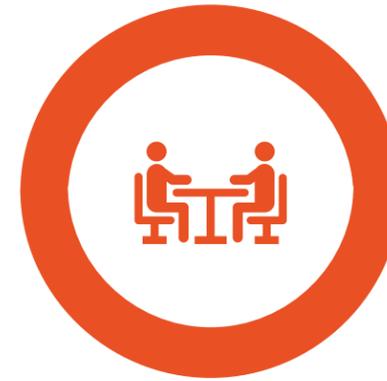
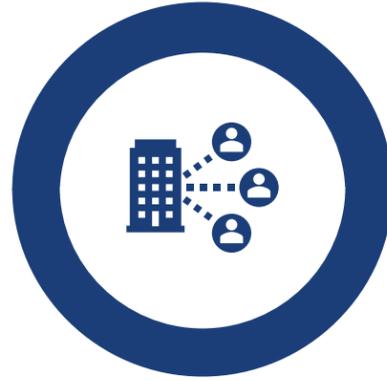


Increase program delivery options, including the expanded use of instructional technology, to support student learning and success.

4



Ensure necessary resources are available to implement this strategic plan through sound fiscal planning and management of allocations.



PLANNING PRINCIPLES

Iterative engagement with District and College stakeholders helped to determine a series of planning principles.

The five principles provide a foundation on which to root the FMP's goals, objectives, and strategies. They guide recommendations and ensure that all elements of the FMP cohesively support District priorities.

STUDENT-CENTERED FACILITIES

The District is recognized for its iconic architecture and quality of facilities. It is a priority that campus facilities are focused on supporting student needs.

Projects shall enhance the experience of campus facilities for all users while ensuring the Colleges use resources sustainably.

BELONGING + ACCESS

The SMCCCD Colleges shall foster a sense of belonging for students, employees, and visitors.

An emphasis on equity, inclusion, and interculturality is critical to all elements of the FMP, from creating new affinity spaces to considering universal access and wayfinding.

21ST CENTURY CAMPUS

The pandemic has led to a paradigm shift in how we approach the delivery of education and student services.

As hybrid modalities become the “new normal,” the District shall pursue projects to support new ways of learning, collaborating, and working for students.

SUSTAINABILITY

Sustainability is a priority District-wide. By focusing on efficiently utilizing existing space, the master plan is inherently sustainable.

Key projects shall prioritize sustainable practices in facilities use and maintenance in alignment with state and national net zero goals.

COMMUNITY ENGAGEMENT

The District is situated among a dynamic community of residents, businesses, institutions, and organizations.

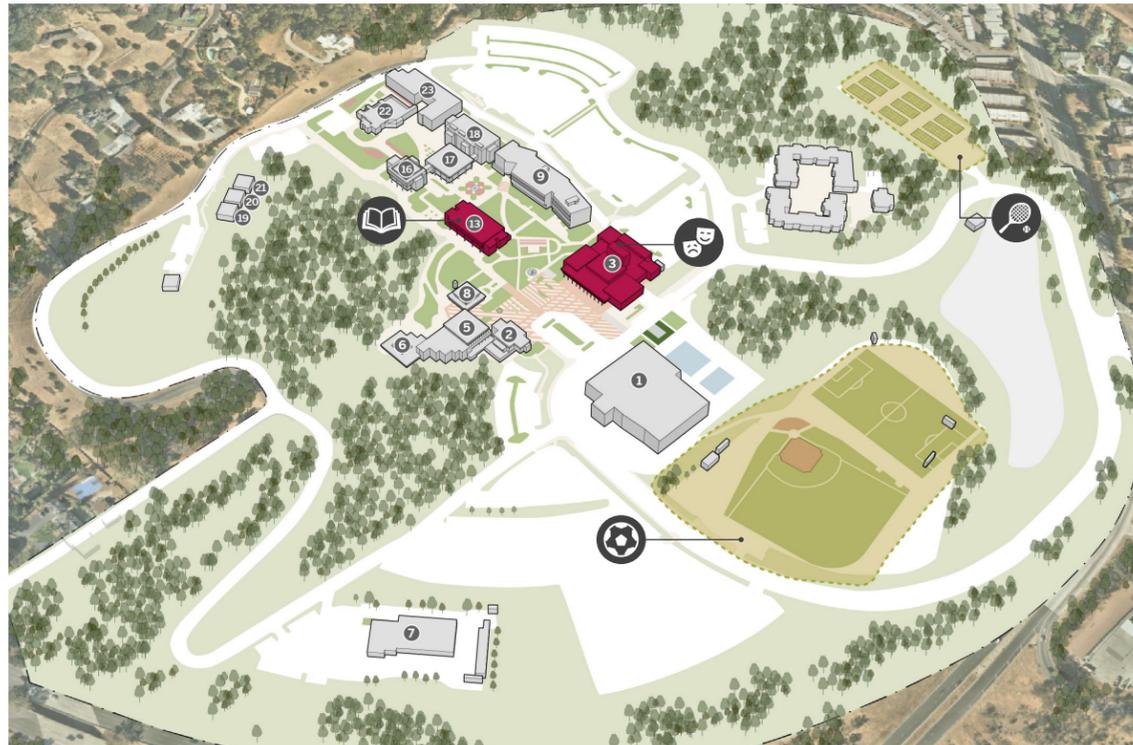
The FMP shall aim to improve access to campus, deepen external relationships and continue the College's legacy as a community institution.



COLLEGE VISIONS

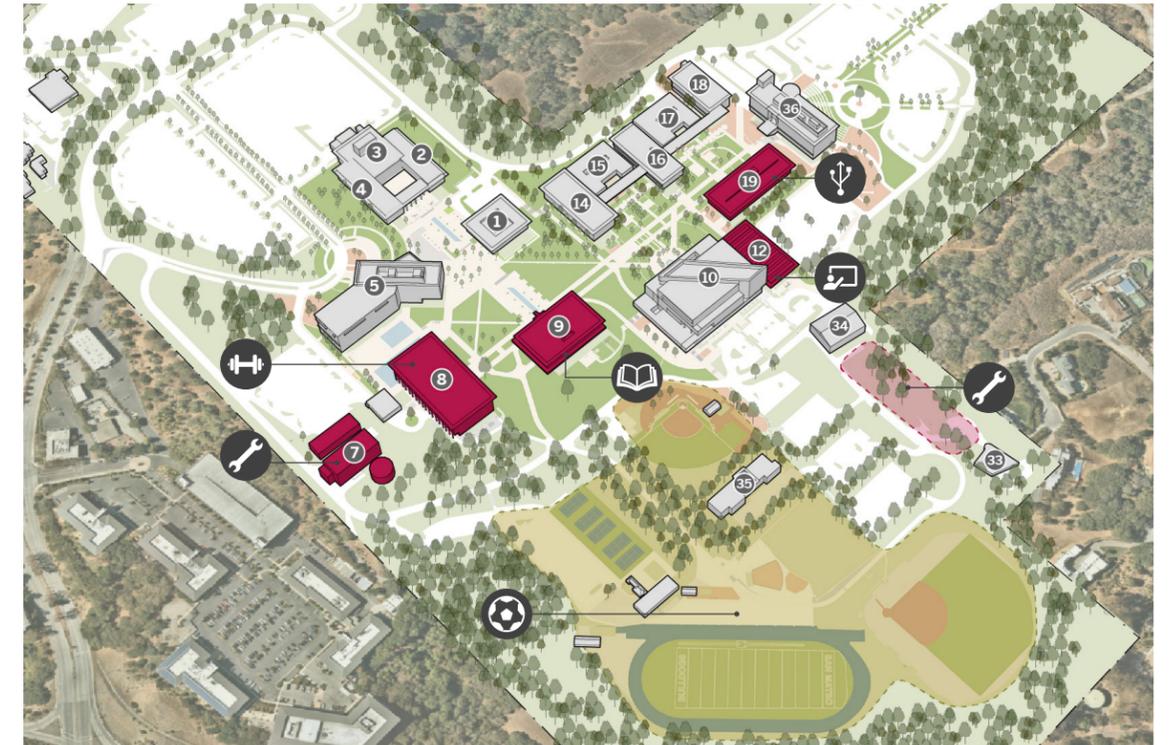
CAÑADA COLLEGE

The FMP for Cañada College looks forward 10 years to anticipate ever-evolving needs of students, faculty, staff, and the community. To further the College's goal of fostering a sense of belonging across campus, the plan identifies opportunities to strengthen the connection to the campus core, construct future phases of housing, reimagine spaces to connect students with resources, and develop welcoming and accessible affinity spaces that support campus life.



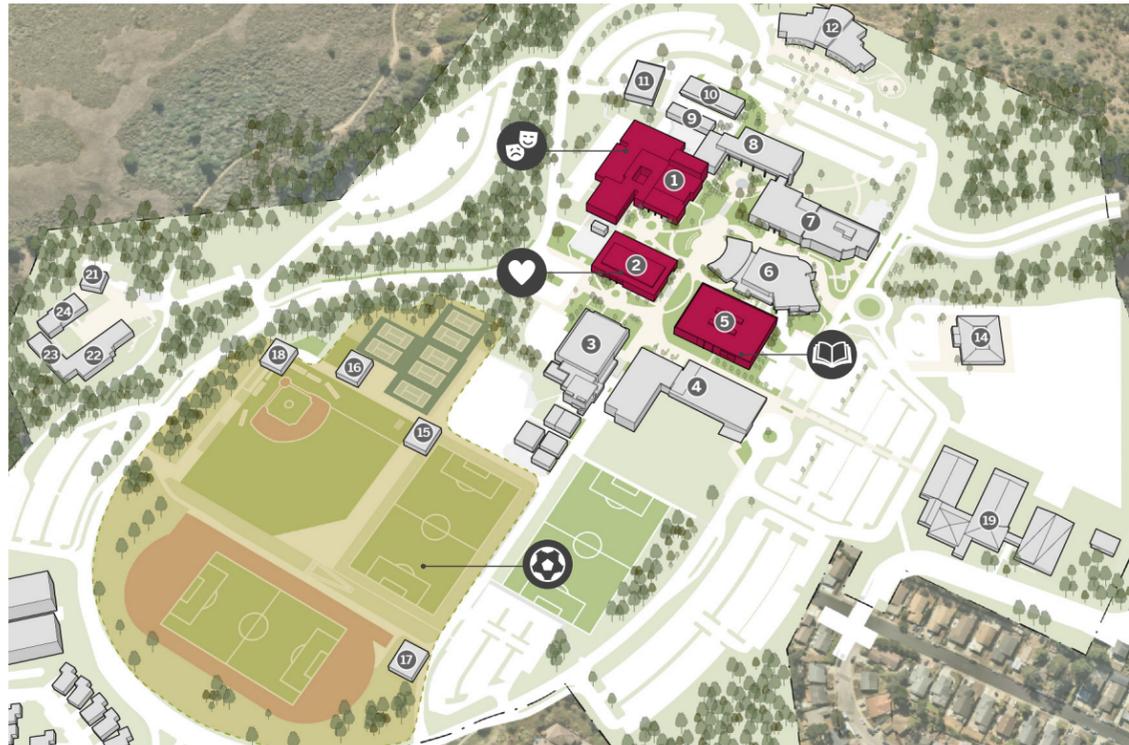
COLLEGE OF SAN MATEO

College of San Mateo's FMP aims to support the College's mission to serve as the community's center for enrichment, civic engagement, and cultural well-being. Developed through involved stakeholder feedback, its goals include developing spaces to promote collaboration, providing state-of-the-art student resources, and being a leader in renewable energy technologies. Key projects include new student housing, mobility upgrades, and improved utilization of learning spaces.



SKYLINE COLLEGE

The mission of Skyline College's FMP is to reinforce the College's identity as a 21st-century educational destination by grounding the plan in the values of belonging, equity, and anti-racism. In addition to developing a long-term vision for potential future projects to support student housing demand and the needs of academic programs, the FMP also identifies several short-term opportunities to enhance the campus experience for students of all backgrounds, from an intercultural public art program to an improved pedestrian realm.



PARTICIPANTS

EXECUTIVE TEAM

Michael Claire
Chancellor

Richard Storti
Executive Vice Chancellor of Administrative Services

Aaron McVean
Vice Chancellor of Educational Services and Planning

Mitchell Bailey
Vice Chancellor and Chief of Staff

Kim Lopez
President, Cañada College

Jennifer Taylor-Mendoza
President, College of San Mateo

Melissa Moreno
President, Skyline College

CAMPUS COMMITTEES/GROUPS

The full lists of Campus Committees and Groups met with are located in each respective College chapter.

MANAGEMENT GROUP

Marie Mejia
Interim Director of Capital Projects

Michele Rudovsky
Director of Maintenance and Operations

Karen Pinkham
Facilities Manager, Cañada College

Robert Gutierrez
Facilities Manager, College of San Mateo

John Doctor
Facilities Manager, Skyline College

CONSULTANTS

Steinberg Hart, Architects

Rob Barthelman

Nicole Friend

Jessa Ross

Vikas Shrestha

Tannaz Tahmassebi

Bureau Veritas, Facilities Condition

Matt Anderson

Aren Hofland

Clearstory, Wayfinding

Julie Vogel

Alan Kriegel

Interface, Engineering

Steve Gross

Thomas Jun

Hormoz Janssens

Shane McCarthy

TBD Consultants, Cost Estimating

Gordon Beveridge

Suniya360, Space Planning

Suniya Malhotra

02

DISTRICT
OVERVIEW



© San Mateo County Community College District

ABOUT THE DISTRICT

Established in 1922, the San Mateo County Community College District (SMCCCD) operates three colleges, Cañada College in Redwood City, College of San Mateo in San Mateo, and Skyline College in San Bruno. The District's Colleges provide access to higher education for the students and communities of San Mateo County, the Silicon Valley, the greater Bay Area, and beyond.

The Colleges offer the first two years of college-level instruction in a wide variety of transfer programs and career-technical programs, as well as robust services for Middle College

High Schools at each campus, dual enrollment, and concurrent enrollment for high school students.

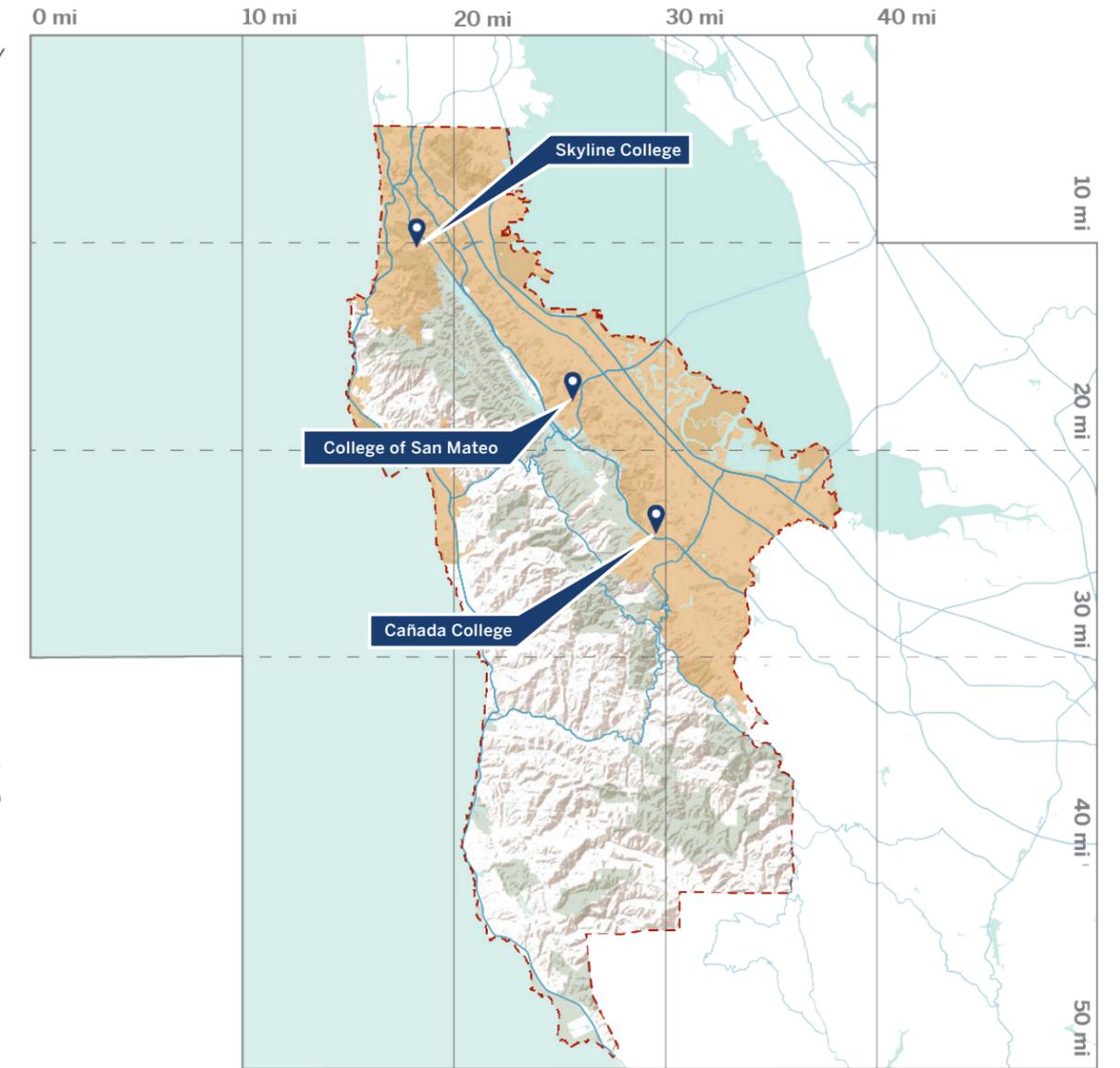
The District is committed to the principles of social justice and equity with an intentional focus on ensuring students complete their educational goals, from certification in career education to associate degrees and transfer to four-year universities.

DISTRICT CONTEXT

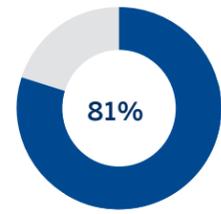
San Mateo County is located between San Francisco and San Jose in Silicon Valley and is home to a vibrant and diverse community. The total population of San Mateo County grew from 720,000 to over 760,000, a 6.44% increase, since 2010 and is projected to continue growing.

The SMCCCD Service Area is coterminous with San Mateo County. The Colleges are located in the areas of the county with relatively high population density, which are concentrated around I-280 and CA-101.

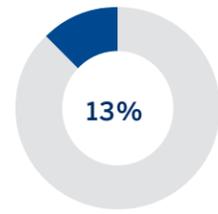
-  San Mateo County Boundary/ SMCCCD Service Area
-  Urban Area
-  SMCCCD College



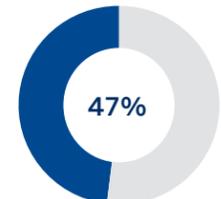
District Demographics



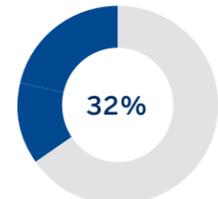
FROM SAN MATEO COUNTY



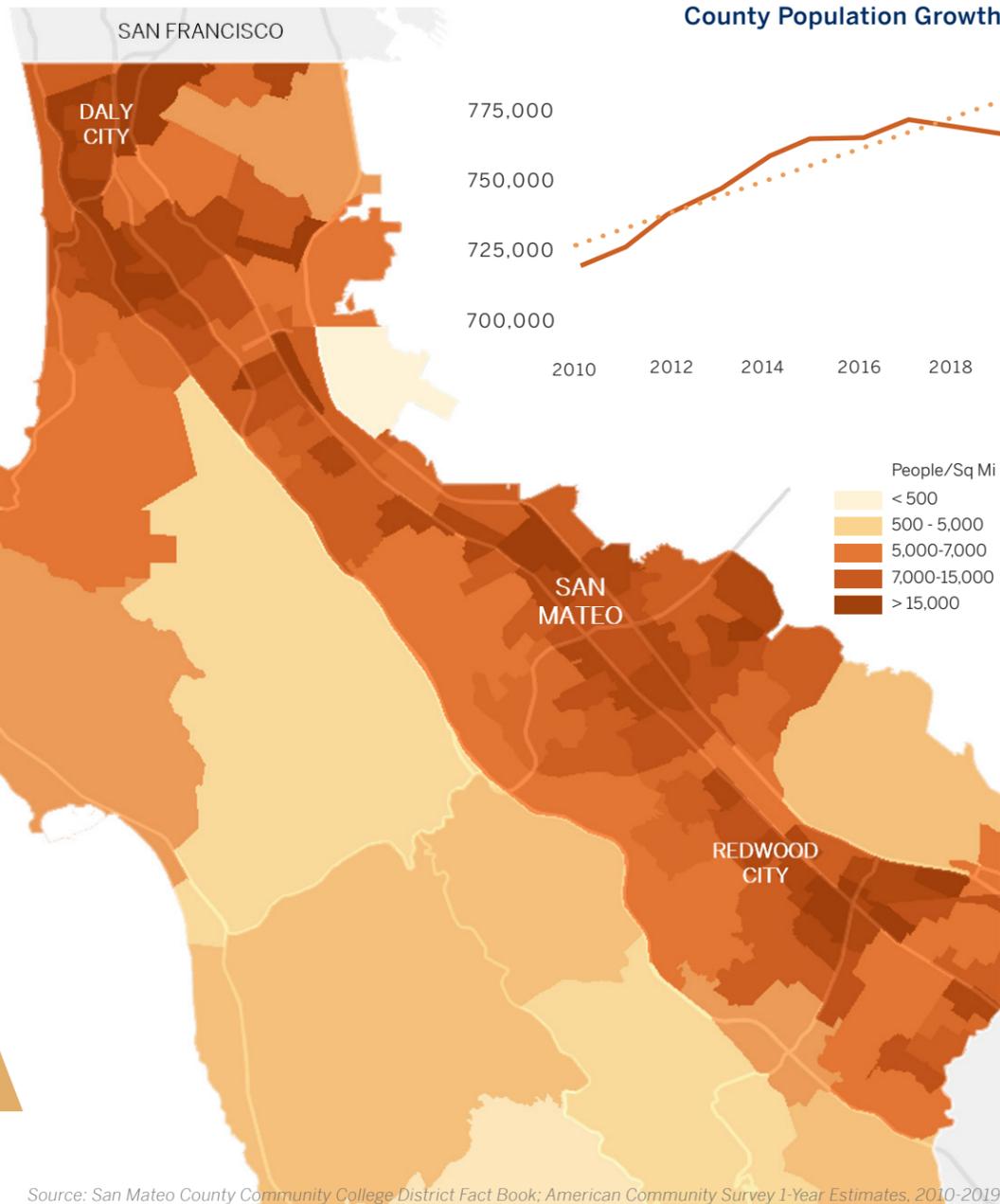
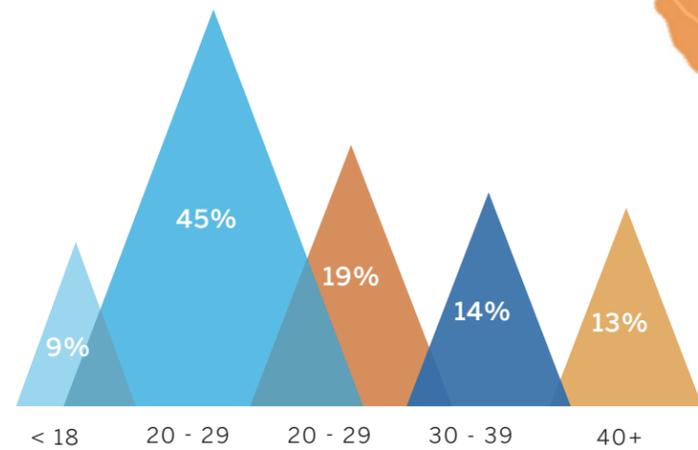
INTERNATIONAL STUDENTS



FIRST GENERATION

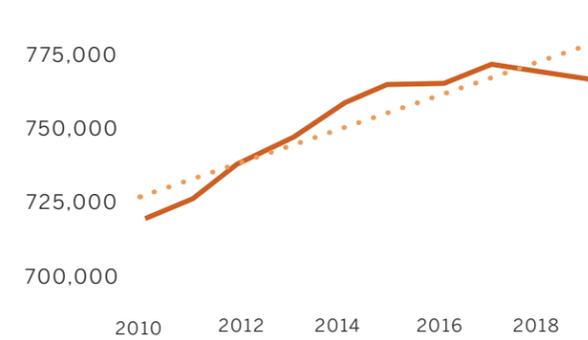


HISPANIC (HISPANIC-SERVING INSTITUTION)



Source: San Mateo County Community College District Fact Book; American Community Survey 1-Year Estimates, 2010-2019

County Population Growth



District Headcounts



Cañada
CSM
Skyline

Source: San Mateo County Community College District Provided Data

The District is home to a dynamic community of students, faculty and staff members of various backgrounds, which contributes to the District's unique culture.

81% of the students come from the urban areas within San Mateo County, followed by San Francisco and Alameda County.

The District serves about 30,000 students each year with a wide range of degree and transfer programs. Students can earn either Associate in Arts or Science degrees or receive Certificates of Proficiency in their chosen fields.

The District's Colleges provide a wide variety of programs and courses online, an offering that increased significantly during the 2020-2021 academic year.

Although all the individual colleges witnessed a modest decline in the number of student served between 2015 and 2019, student enrollment increased during the pandemic. This may have resulted from distance-learning that allows more students to enroll at multiple colleges.

Such inter-college enrollment may continue to be popular among students, as the system allows for flexible course scheduling, an attractive benefit to both full-time and part-time students.

DISTRICT-WIDE CONCEPTS

The 2022 FMP District-wide Concepts represent areas of consideration to facilities planning that are relevant across the District's Colleges. These potential project areas are informed by themes that emerged through strategic and educational master planning efforts, stakeholder engagement, and qualitative and quantitative assessments of campus needs.

Many of these concepts address previously identified priorities, such as building renovations and sustainability, with a post-pandemic perspective. Other concepts

reflect newly identified needs that arose during the analysis and feedback phases of the facilities master planning process. Each concept includes an emphasis on understanding the implications of the new educational paradigm, considering issues like hybrid instruction, technology infrastructure, and creating an accessible campus experience.

This section provides a high-level summary of each concept. Campus-specific recommendations are elaborated upon in each College plan.

STUDENT + EMPLOYEE HOUSING

Housing affordability is a key issue countywide. Students reported difficulty finding housing close to the District's campuses, and part-time students expressed interest in enrolling full-time if housing were available.

The construction of future student and employee housing has the opportunity enhance the experience of campus for students and support their success by connecting them to key resources.



With these considerations in mind, potential sites for future phases of student and employee housing are identified as part of this FMP and located on each of the three campuses. These potential sites will guide conversations around future development to complement existing residential assets at each College.

The District recently initiated a study of potential housing at CSM, proposed to be located in the lower Parking Lot 2 (formerly the Beethoven Lot) on a 3.8-acre site adjacent to the main campus entrance. This project would provide affordable housing options

to students. The project will be developed as appropriate funding is identified.

Continuing to explore additional housing to support students and employees of the San Mateo County CCD community is a goal of the FMP.



BUILDING MODERNIZATIONS

The condition of facilities plays an important role in determining the highest and best use of the campus. Before considering the construction of new buildings, it is critical to understand how well existing facilities are operating and whether they require updates to best serve the needs of users.

Input from students, faculty, and staff along with analysis of facilities condition, space use, and program needs led to the proposal of several building modernization projects to enhance existing facilities across the

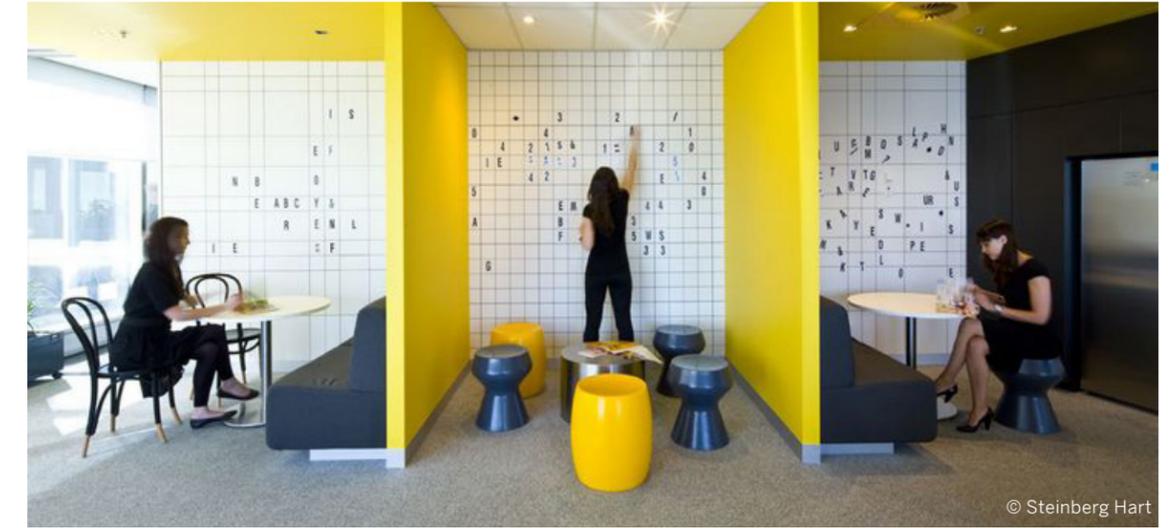
District. These projects enable the Colleges to best support evolving academic programs and student life.

Select building modernizations at each campus will strategically renovate facilities to provide updated and efficient space for a variety of College needs, including libraries, performing arts centers, and academic classrooms and labs. Many of these projects were outlined in the 2023-2027 Five-Year Capital Construction Plan.

The Facilities Master Plan identifies these key projects as priorities for the next 10 years. Specific building design and programming will be developed with input from constituents as each project approaches its implementation phase.

SPACE USE UPGRADES

Efficient space utilization is a key concern for higher education institutions. Now exacerbated by pandemic-related changes in course scheduling and delivery, many colleges are finding that some traditional learning spaces may be underutilized. Exciting opportunities exist for reimagining classrooms, labs, and other campus spaces to better serve students, whether participating in remote courses or taking class in-person.



Efficient space use is critical to supporting student-centered facilities, prioritizing belonging and access, and achieving a 21st century campus. It is also key to achieving the Colleges' long-term goals. The California Community Colleges Chancellor's Office (CCCCO) provides targets for space utilization; striving to align with these targets better positions the Colleges to qualify for State funding. Reimagining existing spaces and focusing on right-sizing classrooms and class labs is the most significant way to improve the utilization of campus facilities.

The following strategies summarize opportunities for activating learning spaces and meeting state targets.

- Strategically repurpose/reclassify classrooms
- Subdivide large classrooms
- Reimagine other spaces, like libraries and meeting rooms
- Base future renovations of class labs on existing and projected course enrollment data



© John Underwood/Purdue University



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MULTI-MODAL CAMPUSES

The pandemic has entirely changed the way we learn, instruct, interact, and collaborate. Moving forward, classrooms and labs must be equipped with the resources necessary to support students, whether in the classroom or at home.

- As buildings are renovated, instructional spaces should be upgraded with the technology and resources necessary to support hybrid learning.
- Upgraded spaces should be flexible and allow for multiple instructional methods, including lectures, group work, and discussions serving in-person and remote students.
- Rooms should have streaming capabilities for class and event access.
- Computer-assisted classrooms, where students can work on computers with their instructors and get hands-on help, are recommended.
- Classrooms can more easily be transformed into flexible layouts compared to class labs.

TECHNOLOGY

Improvements to campus-wide technology infrastructure are necessary to support the bandwidth needs of users. While not included in the scope of this Facilities Master Plan, a full technology assessment is recommended for future study in order to ascertain specific infrastructure needs.

Several priority areas were raised by stakeholders. Achieving upgrades to these areas will support District and College goals, planning initiatives, growth, safety, and equity.

- Extended and improved wireless access throughout each campus, inside and outside facilities
- Extended and improved cellular services District-wide
- Network support for upgrading learning environment equipment



WAYFINDING + SIGNAGE

Whether a new student, a longtime employee, or a community member attending a special event, all visitors must interpret wayfinding signage to access and move around campus. A clear system of wayfinding and signage is crucial for fostering a safe, navigable, and welcoming experience for College users.

Quality signage is essential for ensuring the campus is universally accessible. It also helps to affirm the College's identity as a community center for learning.

The assessment of existing wayfinding on each campus found that while the systems were reasonably clear and well-developed when they were implemented, over time some of the sign messages and aesthetics of the program have become dated, cluttered, and hard to understand.

Updates must comprehensively consider the distribution and legibility of both vehicular and pedestrian signage to improve circulation on campus for years to come.

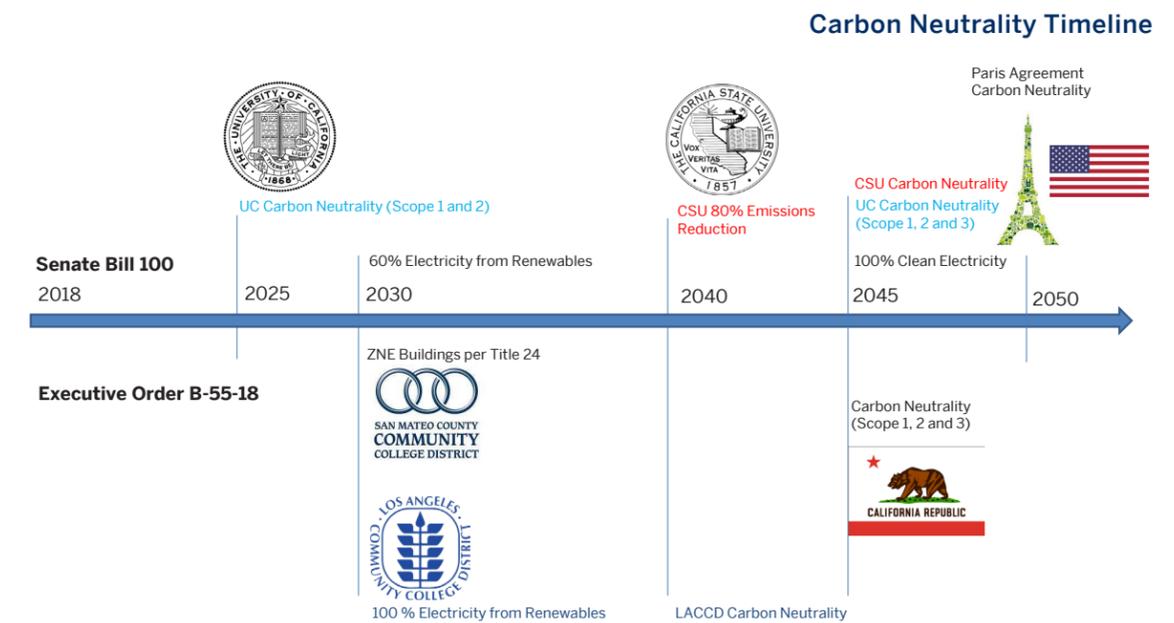
Key points for future wayfinding improvements on the campus include:

- Simplifying of vehicular sign messages
- Improving design of building identification
- Clarifying pedestrian navigation
- Using consistent accessibility signage
- Reducing excessive signage

SUSTAINABILITY

The District deeply recognizes the environmental, economic, and social benefits of resource efficiency and sustainability. In addition to District-managed initiatives, each College adopted a Sustainability Plan to incorporate sustainability into the curriculum and facilities operations.

Building upon these existing plans, the Facilities Master Plan further outlines complementary goals and best practices to achieve District-wide sustainability goals.



Carbon Neutrality Timeline

California’s timeline for carbon neutrality has been shaped by AB-32 Global Warming Solutions Act of 2006, Senate Bill SB 100 of 2018 that set the target of 100% carbon-free electricity by 2045 and Executive Order B-55-18 of 2018, signed by Governor Brown targeting Carbon Neutrality by 2045, five years ahead of the target set by Paris Agreement.

Defining Carbon Neutrality

It is a concept which can be better understood as Net-Zero Carbon Emission. There are three basic steps to achieve net zero carbon emissions:

1. Reduction of carbon emissions through efficiency
2. Moving toward zero emission renewable energy sources
3. Offsetting remaining emissions by reducing carbon emissions elsewhere

It is also important to note that the term carbon emissions implies all anthropogenic greenhouse gas emissions including carbon dioxide (CO₂) emissions, the major culprit for global warming and climate change.

In order to achieve carbon neutrality, tracking emissions is essential. Emissions fall under one of three categories:

Scope 1: Direct Emissions

These emissions are released from the fuels that a campus burns directly, such as natural gas for space heating, water heating, and fossil fuel emissions by campus-owned vehicles.

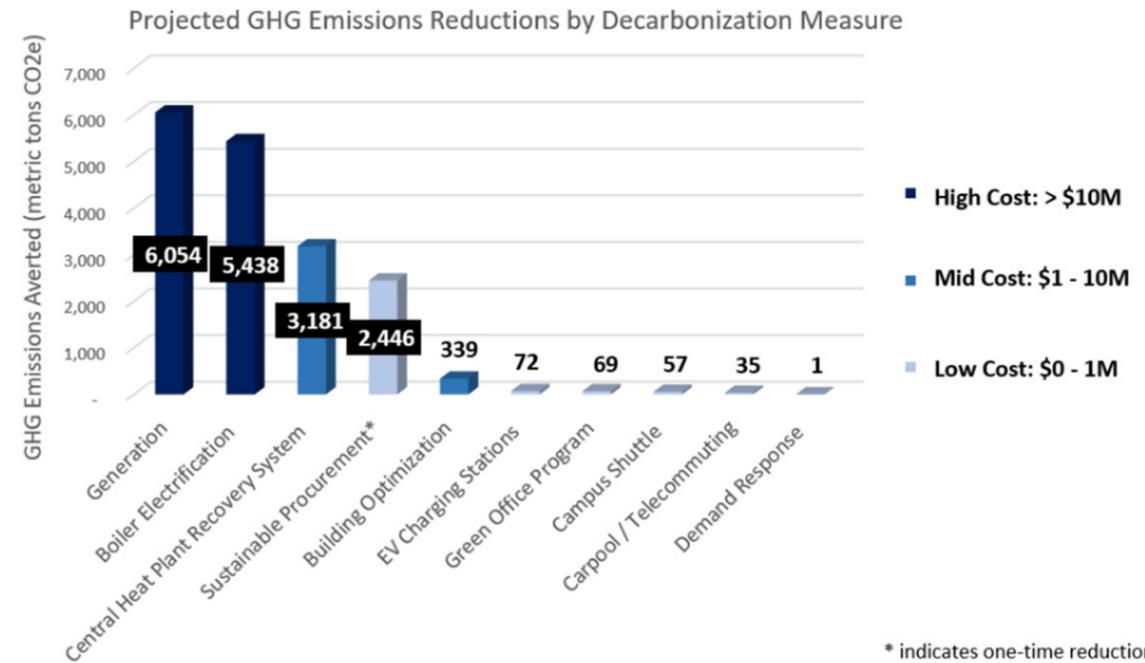
Scope 2: Indirect Emissions

This type of emissions results from purchases of electricity from a utility

provider mainly for building and site operations.

Scope 3: Indirect Emissions

This category includes all other emissions associated with commuting, transportation, purchased goods, waste disposal, etc. Embodied carbon which is emissions associated with manufacturing, transportation and installation of building materials also falls into this category.



District’s Plan for Carbon Neutrality

The District published a comprehensive Decarbonization Strategy in Spring 2020 that laid out strategic framework advancing established programs, policies, and practices that deliver results in three key areas—Optimization, Electrification, and Decarbonization—to set the District in the path to carbon neutrality. The proposed decarbonization measures were

estimated to reduce 17,000 metric tons of CO₂e. While the report noted that it was unclear what percentage of total District emissions this represents, it indicated that this was a significant and necessary step in the right direction. Upon review of Scope 1 and Scope 2 emissions data of the three campuses, the planning team found that this total emission amounts to 12,614 MT CO₂e. Based on this data, we can conclude that the decarbonization measures planned in the abovementioned

document will completely neutralize the carbon emissions of Scope 1 and 2 and will offset about 4,400 MT of CO₂e associated with Scope 3 emissions. This offset will be equivalent to 948 gasoline-based passenger vehicles driven for year or a total of 11.5 million miles driven. A framework for tracking Scope 3 Emissions is another necessary step for the District to address its state-mandated goal of carbon neutrality by 2045.

4,400 MT of CO₂e =

948 passenger vehicles driven for one year OR 554 homes energy use for one year OR 495,105 gallons of gasoline consumed

Source for GHG Emissions Factor: Energy Star Portfolio Manager - Greenhouse Gas Emissions

Rough Estimate of District’s Scope 3 Emissions (Commuting Only):

Assuming the average two-way commute is 20 miles, average number of commutes per week is 4, and a total of 30 weeks of classes per academic year, we can estimate that per commuter (student, faculty, staff) the average mileage would be 2,400 miles per year. Based on these assumptions, the offset of 4,400 MT CO₂e discussed above will neutralize the emissions from 4,791 gasoline-based passenger vehicles commuting to and from the three colleges.



Circular Economy

Prioritizing reuse, renovation, and optimization of existing building stock over new construction is a very important strategy of circular economy to reduce embodied carbon. The District's mandate for this Facilities Master Plan to focus on optimizing its facilities by improving utilization and optimization upholds the principle of circular economy.

This Facilities Master Plan lays out the long-term plan to modernize the existing building stock, extending their life span, thereby greatly reducing embodied carbon emissions, and optimizing existing buildings' functional performance as well as energy performance, that in turn reduce operation carbon emissions.



Embodied Carbon Reduction

The Facilities Master Plan puts forward the goal to reduce embodied carbon reduction through following strategies:

1. Resource efficient design – structural and envelope design to reduce material quantities in new construction or retrofits.
2. Design for flexibility to reduce embodied carbon emissions in future.
3. Reuse and repurposing of building materials, e.g., reuse of crushed concrete from demolition for base material, reuse of reclaimed wood, etc.
4. Use design and specifications to reduce embodied energy of concrete and steel.
5. Leverage Environmental Product Declarations (EPD) to select and specify materials with lower embodied carbon.
6. Utilize Building Life Cycle Assessment (LCA) for reducing embodied carbon in major renovations and new constructions.



Health and Wellness

Promote health and wellness of occupants, construction workers and manufacturing workers and supply chain by avoiding materials with red-list chemicals, e.g., materials with ILFI's Declare Red-List Free label.

Give preference to certified products for health and safety, e.g., Living Product Certified or Cradle to Cradle Bronze, and at a minimum specifying products only with Health Product Declaration (HPD), a nutrition label of material ingredients.

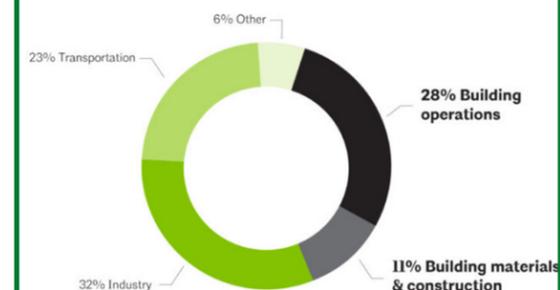


Social Health and Equity

Support social health and equity by preferring products from manufacturers that secure human rights in their own operations and in their supply chains, positively impacting their workers and the communities they operate.

Strategies include asking manufacturers for supplier codes of conduct and making sure that they require their supply chain sources to comply with human rights guidelines.

Global Emission by Sector



Globally 11% of carbon emissions are associated with building materials and construction process, which is known as embodied carbon. While this may seem a smaller percentage relative to carbon emissions from building operations, which accounts for 28% of global carbon emissions, embodied carbon is emitted all upfront before even a building is occupied, whereas, operation carbon of a building is spread over its life time of several decades. Since time is of the essence in the combat against climate change, reducing embodied carbon is a critical measure that needs to be included in District's Climate Action Plans.

03

CAÑADA
COLLEGE



INTRODUCTION



Goal 1
 Student Access,
 Success and
 Completion



Goal 2
 Community
 Connections



Goal 3
 Equity-Minded
 and Antiracist
 College Culture



Goal 4
 Accessible
 Infrastructure
 and Innovation

INTRODUCTION

Cañada College is a public, two-year community college located in Redwood City in the heart of Silicon Valley. Cañada has operated for more than 50 years, offering diverse educational opportunities for the residents of San Mateo County. The College offers day, evening, and weekend courses in more than 40 instructional programs, including sciences, business, medical assisting, the arts, and technical training. The College also provides extensive basic skills training and student support services in counseling, orientation, certificate and degree planning, transfer assistance, and tutoring.

MISSION

“Cañada College provides our community with a learning-centered environment, ensuring that all students have equitable opportunities to achieve their transfer, career education, and lifelong learning educational goals.

The College cultivates in its students the ability to think critically and creatively, communicate effectively, reason quantitatively, and understand and appreciate different points of view within a diverse community.”

VALUES

- Social Justice and Racial Equity
- Transforming Lives
- Community Partnerships
- Academic Excellence
- Sustainability
- Transparency and Authenticity
- Adaptability and Resilience
- Student Centered
- Cultural Empathy

EDUCATION MASTER PLAN LINKAGES

The 2022-2027 Cañada Education Master Plan (EMP) provides the framework for setting college priorities and for making decisions and resource allocations on campus. The EMP is informed by analysis of internal and external data, as well as feedback from the College’s students, employees, industry partners, educational partners, and members of the surrounding community.

It serves as a guide for developing goals and initiatives of the College’s other college-wide plans, including the Facilities Master Plan.

It aligns with and supports the achievement of the San Mateo County Community College District (SMCCCD) Board of Trustees’ 2021 Strategic Plan.

As part of the 2022 EMP development process, the Cañada College community developed four goal statements that are meant to establish a broad, strategic direction.

COLLEGE GOALS

The Cañada College Facilities Master Plan Goals were determined through extensive feedback from student, faculty, staff, administrative, and community representatives. The goals have informed the recommendations contained within the FMP and will continue to guide the implementation and prioritization of projects.

1 FOSTER A **SENSE OF BELONGING** FOR STUDENTS, FACULTY, STAFF, AND COMMUNITY OF ALL BACKGROUNDS

3 DEVELOP WELCOMING AND ACCESSIBLE AFFINITY SPACES THAT **SUPPORT CAMPUS LIFE**

5 **MODERNIZE** THE PERFORMING ARTS CENTER TO SUPPORT CREATIVE ARTS PROGRAMS

7 ENHANCE **WAYFINDING AND PEDESTRIAN EXPERIENCE** THROUGHOUT CAMPUS

2 MAXIMIZE **FLEXIBILITY** OF FACILITIES TO SERVE EVER-CHANGING COLLEGE NEEDS

4 ENHANCE **LEARNING ENVIRONMENTS** TO SUPPORT MULTIPLE MODALITIES

6 REIMAGINE THE **FUTURE OF THE LIBRARY AND LEARNING CENTER** TO BEST CONNECT STUDENTS TO SERVICES AND RESOURCES

8 **STRENGTHEN CONNECTION** TO THE CAMPUS CORE



EXISTING CAMPUS

- 1. Kinesiology & Wellness
- 2. Bookstore
- 3. Fine Arts
- 5. Student Center
- 6. Classrooms
- 7. Facilities Maintenance Center
- 8. Administration
- 9. Library/LRC
- 13. Classrooms
- 16-18. Science Classrooms
- 19-21. Modulars
- 22. Public Safety/Multimedia
- 23. Science & Technology

RECENT PROJECTS PRIOR TO 2022 FMP

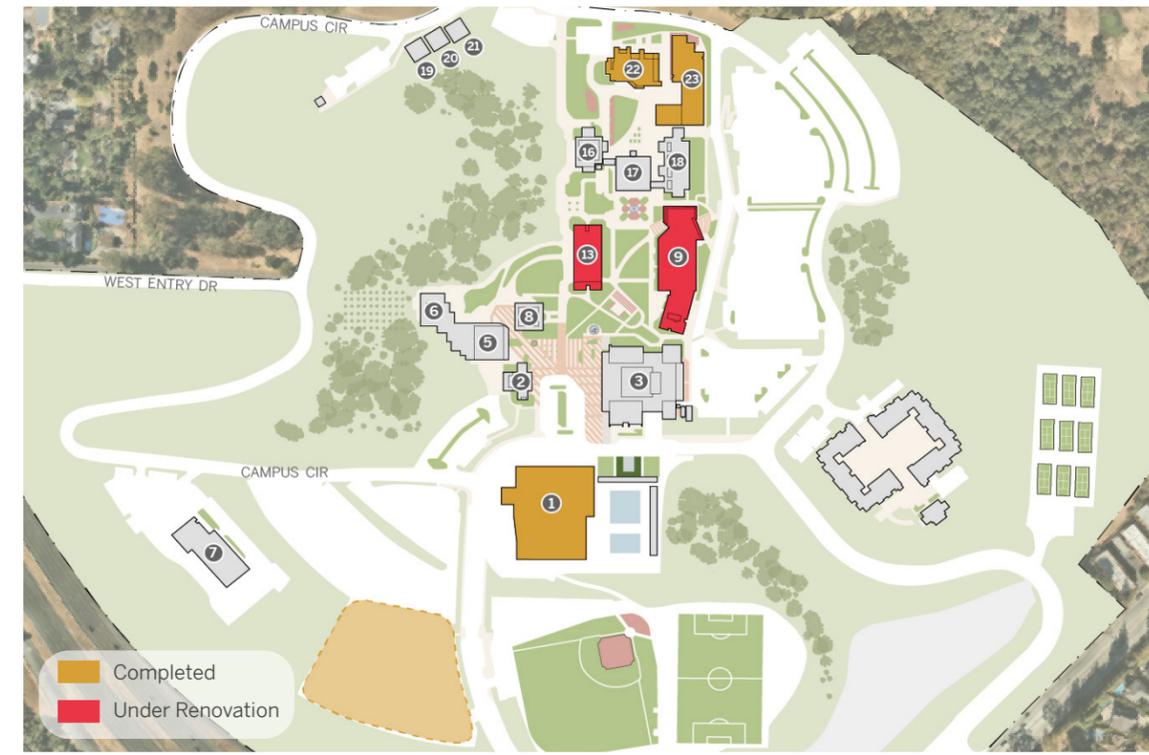
Since the previous FMP in 2015, several projects have been completed or initiated.

Completed

- B1 - Kinesiology & Wellness
- B23 - Science & Technology
- B22 - Animation Lab Relocation
- Parking Expansion

Under Renovation

- B9 - Library/LRC - minor reconfiguration
- B13 - Multi-Disciplinary Instructional Center





KEY ANALYSIS &
TAKEAWAYS

ENGAGEMENT TAKEAWAYS

Engagement with Cañada stakeholders informed every phase of the Facilities Master Planning process, from Discovery and Analysis to Draft and Final Plan preparation.

Interviews with key programs and departments, working groups with students, and community forums resulted in a diversity of voices shaping the content of the FMP.

Several key themes emerged from the early listening sessions with participants. These included questions about multi-modal instruction, desires to improve the pedestrian experience,

and interest in developing affinity spaces for students. Feedback also emphasized that the plan should focus on enhancing the experience of campus to be welcoming and accessible for all visitors.

These concepts led to the development of the FMP goals and priority projects for the campus short- and long-term vision.

STUDENT ENGAGEMENT

Cañada leadership identified students as the primary stakeholder for the FMP. An interactive workshop conducted with Cañada's Student Senate was highly valuable to understanding more about the ways students access and use campus.

Students indicated areas where they enjoy spending time and described what made these spaces successful. They also provided valuable feedback on pedestrian and public transit access.



- WHERE DO YOU...**
- Study
 - Meet Friends
 - Eat

COMMUNITY FORUM

Civic engagement is a key goal of the College and the FMP. To seek feedback from the College's greater community, a public forum held in October 2021 to share master plan progress, purpose, and goals and solicit feedback. Attendees answered survey questions regarding method and frequency of campus access and ideated opportunities for the College and community to deepen their relationship.

A subsequent forum was held in May 2022 to share the draft plan and obtain feedback.

How can Cañada College support its community?



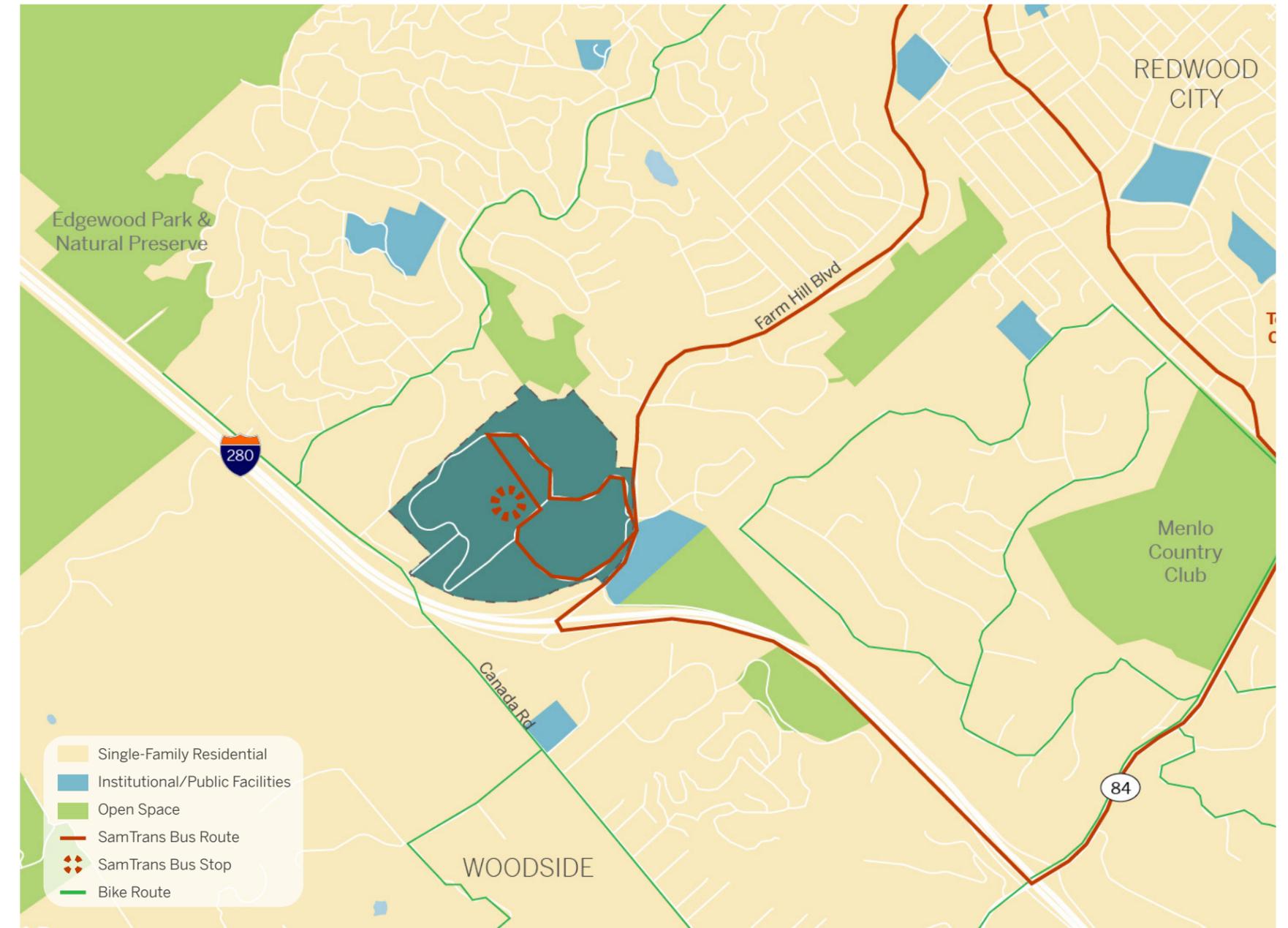
Farmer's market every week like CSM	Farmers market	Clear walking and fitness paths that integrate nearby open spaces.
advertise the college offerings and embrace collaboration with youth groups	better public transportation	Farmer's market, more events
expanded bookstore	The college seems to already be a welcome destination for community residents due to its outdoor spaces with expansive views	Weekend/evening classes leading to a certificate - ready to work experience for Youth, Adults & Seniors

CAMPUS CONTEXT

Constructed in 1968, Cañada College is located on a hillside overlooking the bay in the southern area of San Mateo County.

The College is located within Redwood City near Woodside. The campus is situated in a neighborhood of mostly low-scale, single-family residences. Cañada is served by a SamTrans bus line that links the campus to the Redwood City Transit Center and CalTrain. It is easily accessed by I-280, connecting the school to other parts of the county and greater Bay Area.

The College is situated within Silicon Valley, which poses some challenges for Cañada students and staff. The region's high costs of living, lack of affordable housing, and limited public transportation are important issues to understand from a facilities planning perspective. The FMP seeks to integrate this context into analysis, recommendations, and implementation strategies.

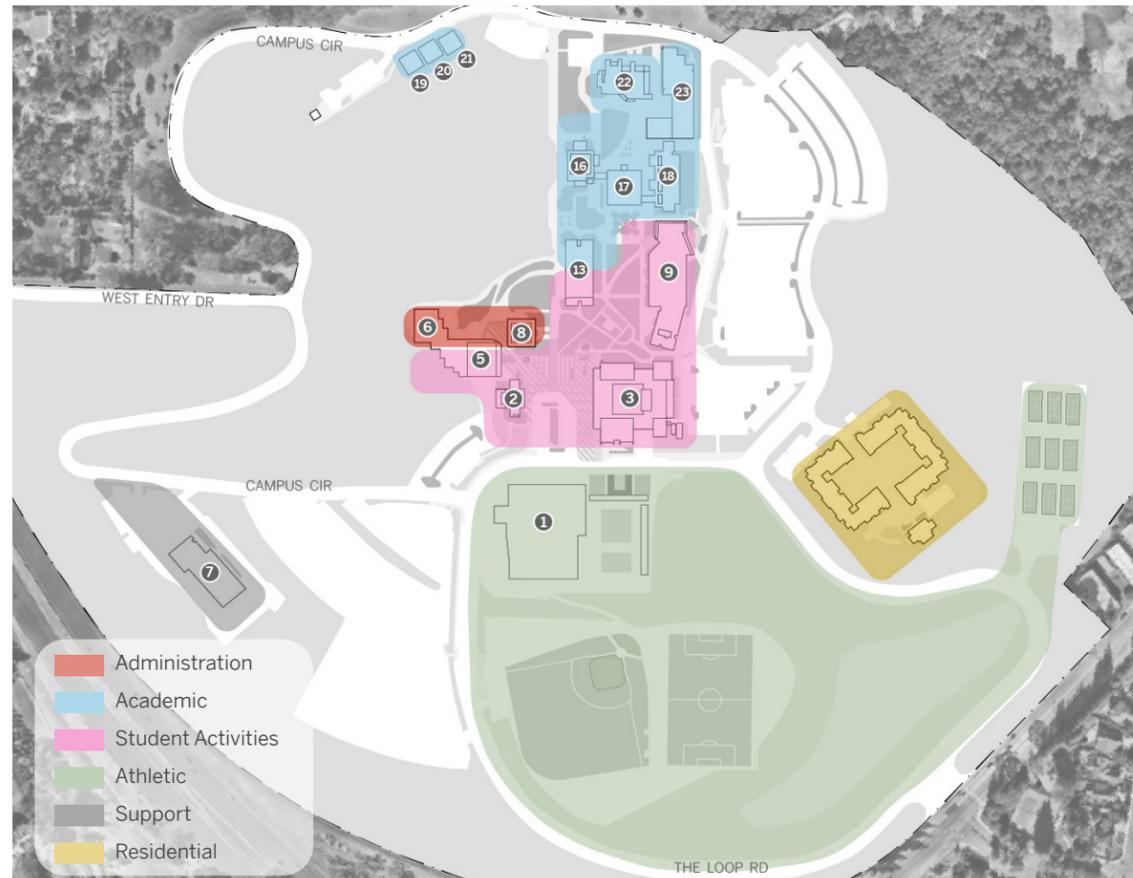


CAMPUS USE

CAMPUS ZONES

Cañada has 34 buildings, totaling 451,335 gross square feet (GSF). The campus is organized into several zones that influence the network of activity and user experience on campus.

These include a student activity zone comprising the heart of campus, an academic zone to the north, and athletics to the south.

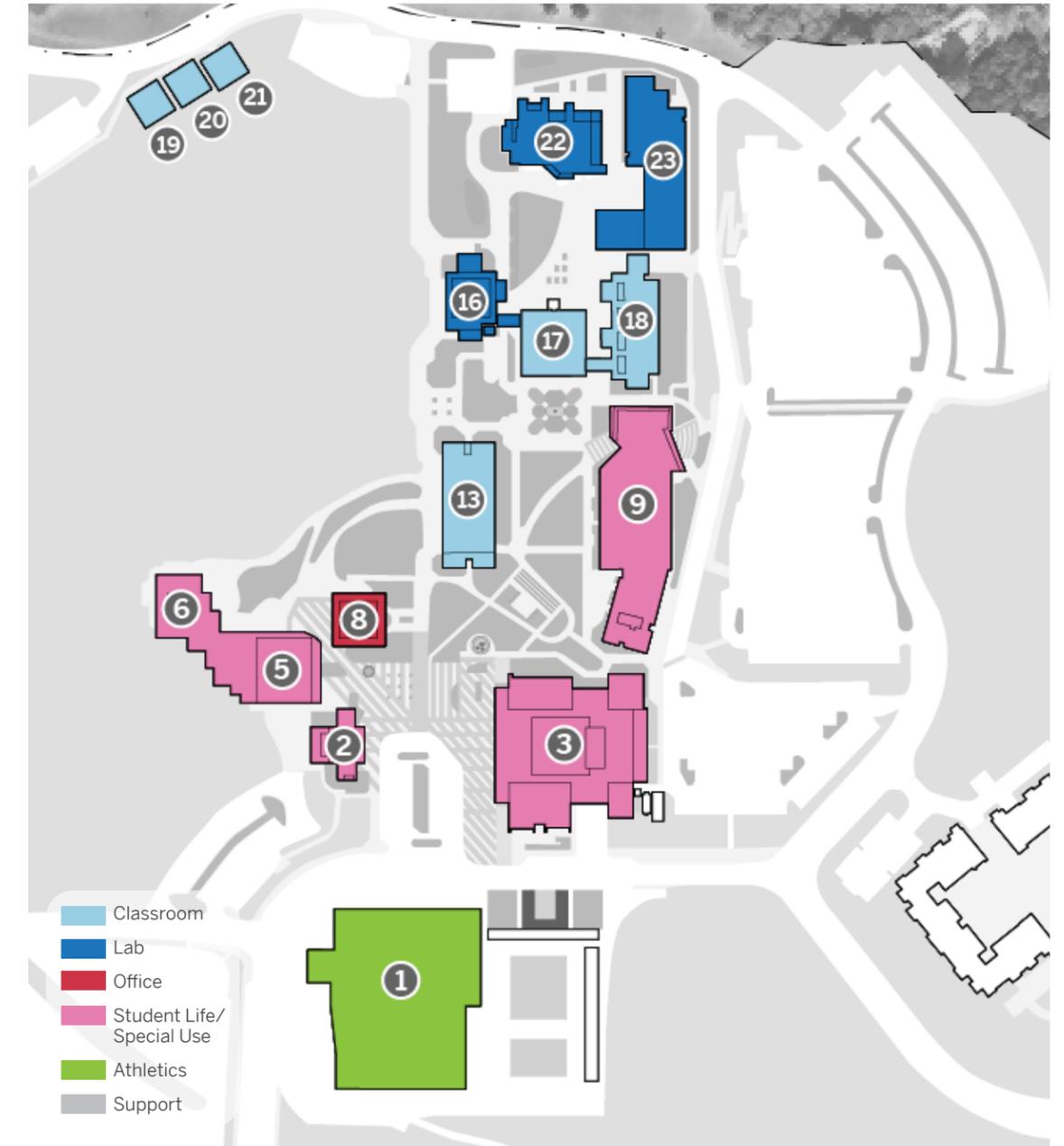


BUILDING USE

This diagram depicts the predominant use by building, recognizing that most of these facilities include a mix of classrooms, offices, and other spaces.

Student services are clustered in the core of campus; most are located in B9, the Library/LRC.

#	Use	Division
1	Athletics	Kinesiology, Athletics & Dance
2	Student Life	
3	Student Life	Humanities & Social Science
5	Student Life	Middle College
6	Classroom	
8	Office	
9	Student Life	Academic Support & Learning Technologies
13	Classroom	Business, Design & Workforce
16-18	Lab/Classroom	Science & Technology
19-21	Classroom	
22	Lab	
23	Lab	Science & Technology



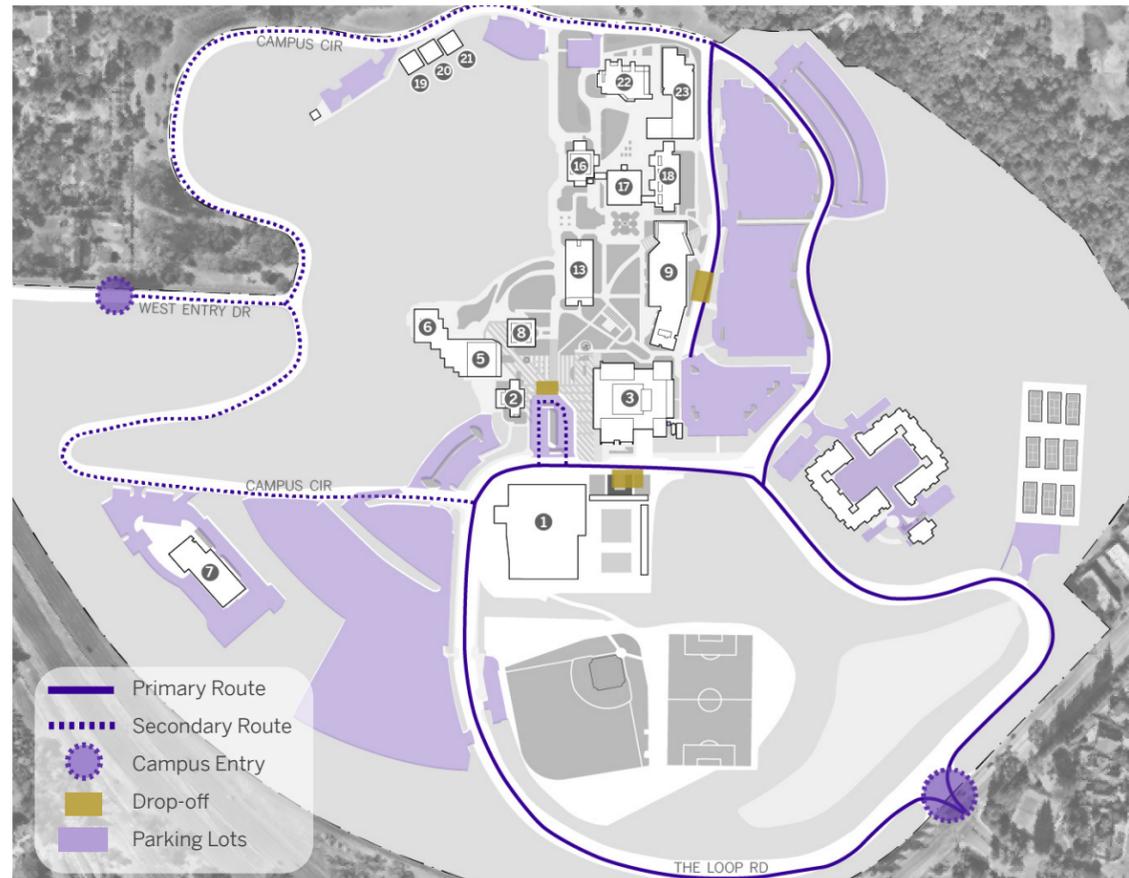
MOBILITY

VEHICULAR

Cañada is accessed via two vehicular entries: one on Farm Hill Boulevard and one on West Entry Drive. Farm Hill Boulevard links the campus to Redwood City's center and to I-280.

The majority of students and staff access the campus by automobile.*

- 60% drive alone
- 24% are dropped off
- 15% use ride share
- 5% carpool



TRANSIT

Cañada is served by a SamTrans bus line that connects the campus to the Redwood City Transit Center and CalTrain. These connect to other Silicon Valley communities and Bay Area transit centers.

Over quarter of Cañada students use public transit to access campus. Trip length is the primary reason students do not utilize transit.

* Survey respondents were invited to select all applicable responses

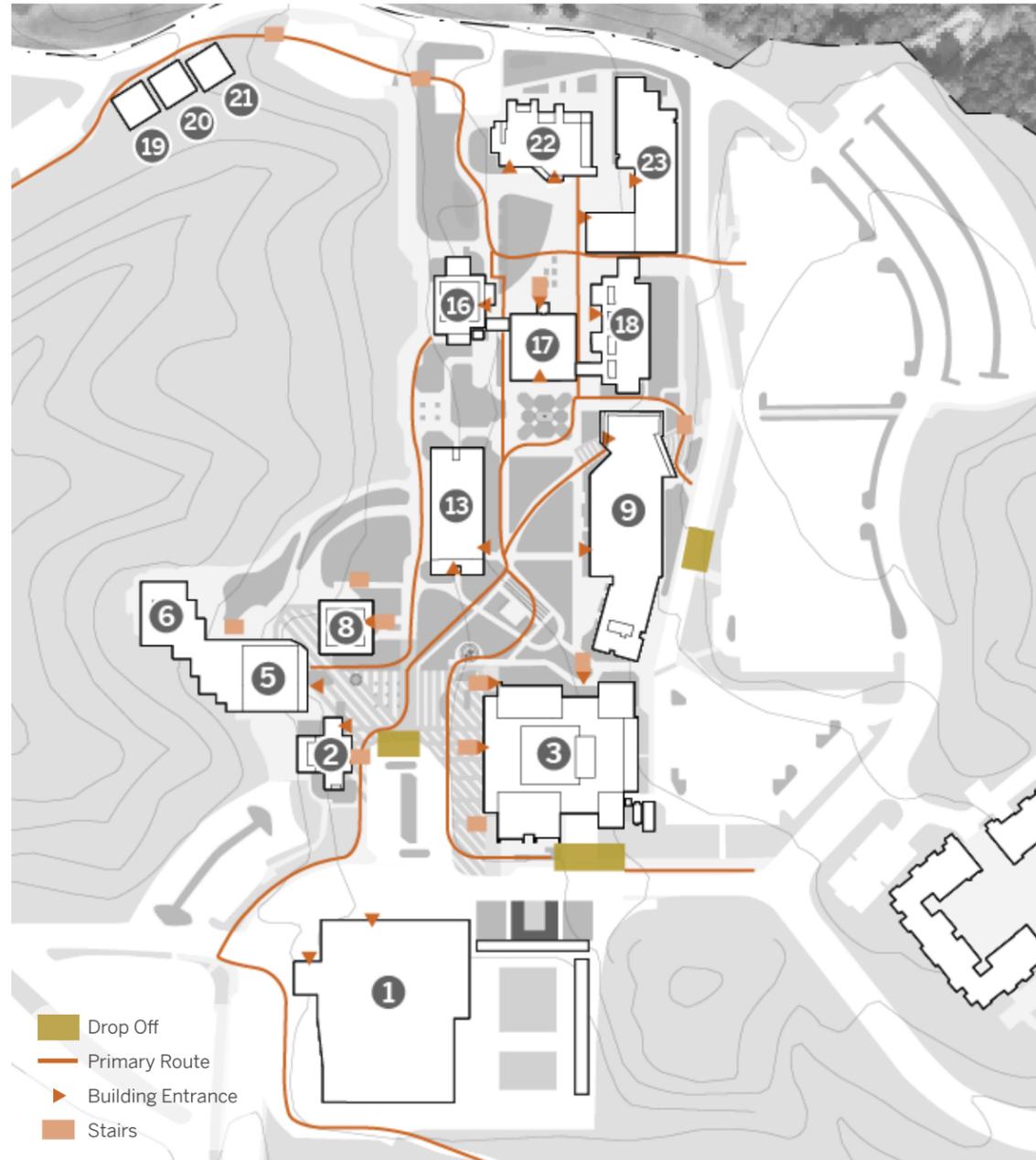


PEDESTRIAN

Cañada's hillside siting overlooking the Bay presents challenges for pedestrian access to and navigation on campus.

Due to factors including topography, trip distance, and trip origin, few students and staff arrive to campus on foot. The pedestrian network thus begins at vehicular drop-off areas and parking lots and is most robust within the campus core. Sidewalks extend to some of the campus periphery but are relatively less utilized. Other areas lack sidewalks.

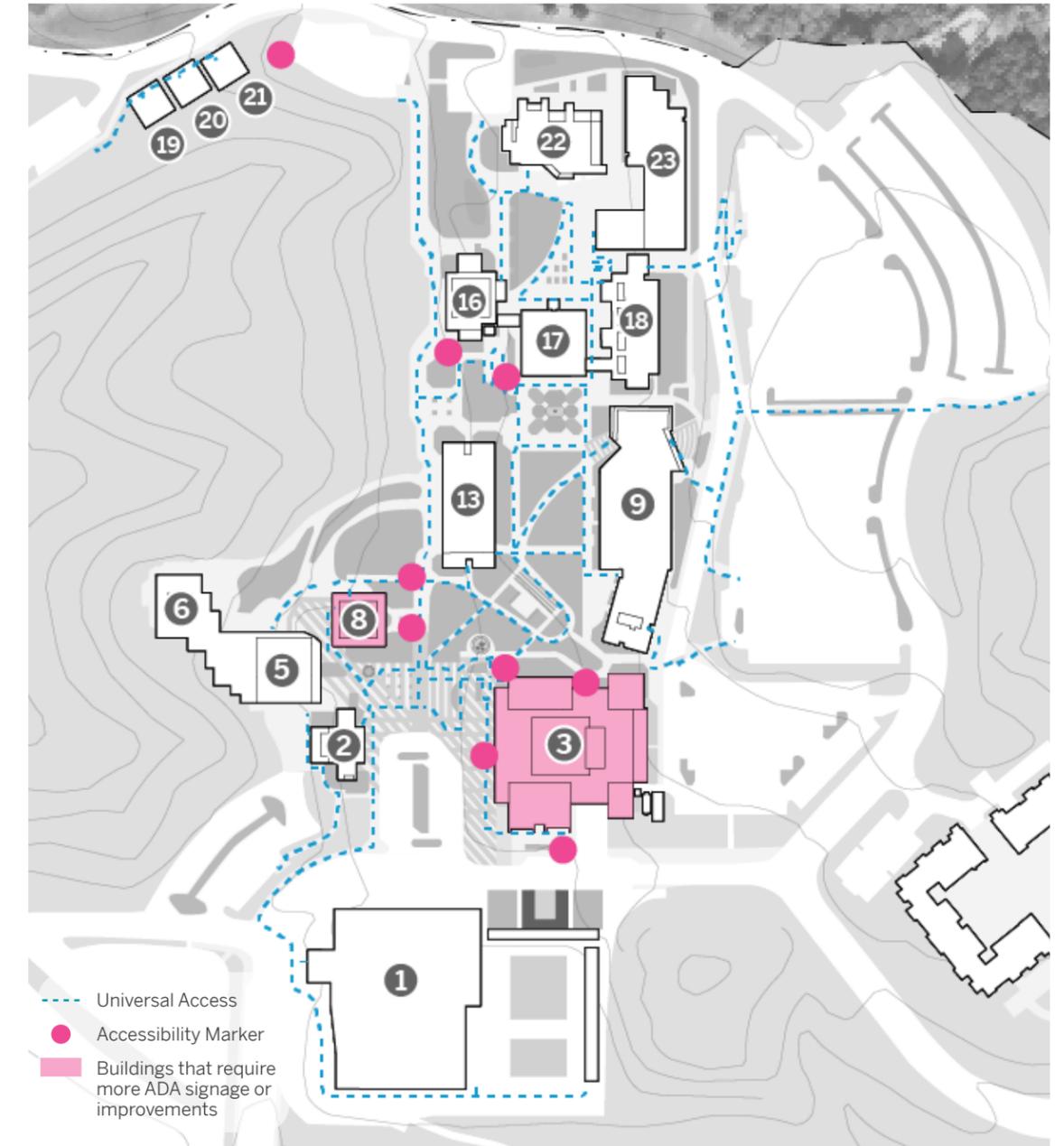
Pedestrian circulation would benefit from greater connectivity and the addition of amenities such as shade, lighting, and signage.



ACCESSIBILITY

The FMP drew upon findings from the 2020 SMCCCD Americans with Disabilities Act (ADA) Self-Evaluation and Transition Plan, which evaluates existing policies, procedures and practices as they pertain to the District's programs, services and activities. The plan specifies the mitigation steps necessary to achieve compliance.

The Transition Plan found that access throughout campus can improve. While the campus core features relatively strong access compared to the peripheries, some buildings require more signage or improvements for disabled access. Additionally, the downhill slope from B13 to B5 is not accessible. The universal access route has been revised to remove that path. Additional wayfinding can reinforce a more accessible route to B5 by using elevators.



SPACE UTILIZATION

The space utilization assessment provides an overview of classroom and lab space use metrics to help inform future planning decisions. This data was used to evaluate the current and future needs of learning spaces of the Cañada campus.

Understanding that the pandemic affected enrollment patterns across higher education institutions over the last two years, the assessment analyzed classroom and class lab utilization data for a typical week during the Spring 2019 and the Fall 2019 semesters only.

The following graphics represent the data of Fall 2019 classroom and lab utilization rates. The analysis and recommendations are focused on classrooms, with only a light review of the class labs, as labs require a deeper understanding of each discipline's curriculum to formulate recommendations.

Classroom utilization is measured by determining the following and is expressed as a percentage of the state standard target.

The following terms are used when calculating utilization rates:

Weekly Room Hours (WRH): number of hours per week a room is scheduled

Station Occupancy (%): percentage of stations occupied in a room

Weekly Student Contact Hours (WSCH): hours per week a station is occupied

These state standards are based on a classroom availability of 70 WRH (Mondays - Fridays, 8:00am - 10:00pm).

CLASSROOMS

Classroom Utilization Standards

WRH: 75% scheduled = 48 hours

% station occupancy: 66%

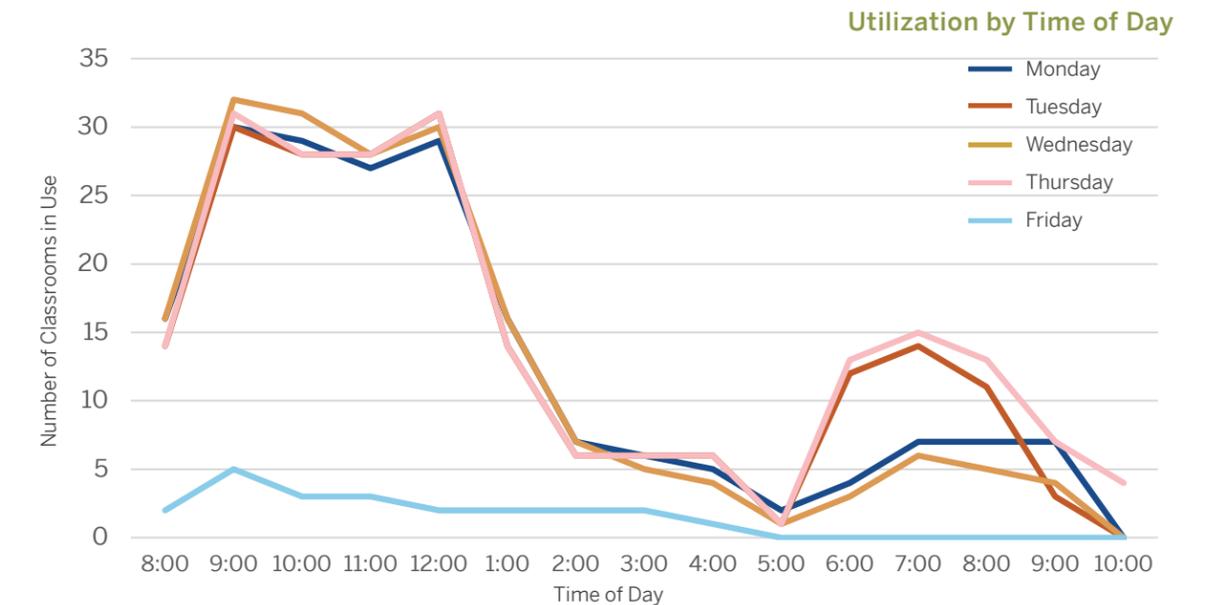
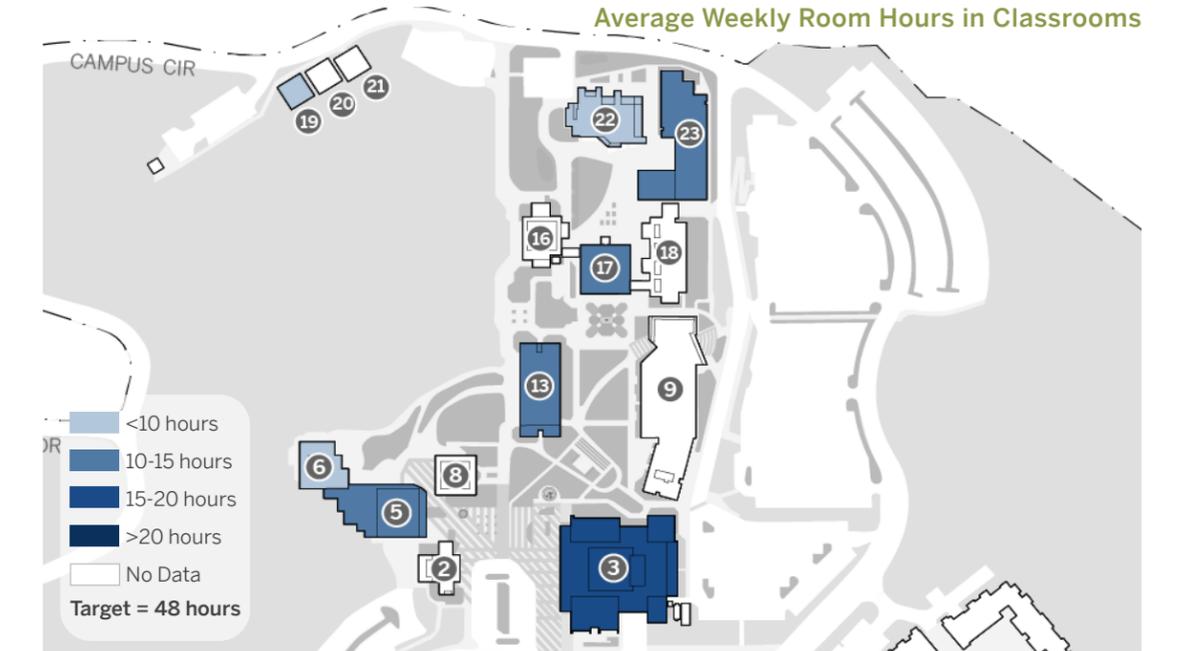
WSCH: 35 hours

Weekly Room Hours

There are 45 classrooms on CAN campus. In Fall 2019, no classrooms met the state target of 48 hours per week. While this data might suggest there are excess classrooms on the campus, it is also important to look at the peak demand for classrooms.

Peak demand for classrooms during 2019 semesters requires 32 classrooms (71%). The majority of community college students attend college part-time to facilitate their ability to work, and these students tend to want classes either as a morning or an evening block of time, with few students attending during the afternoon.

This finding suggests that if there are not significant increases in enrollment over the next several years, the College could afford to repurpose some classrooms on campus.



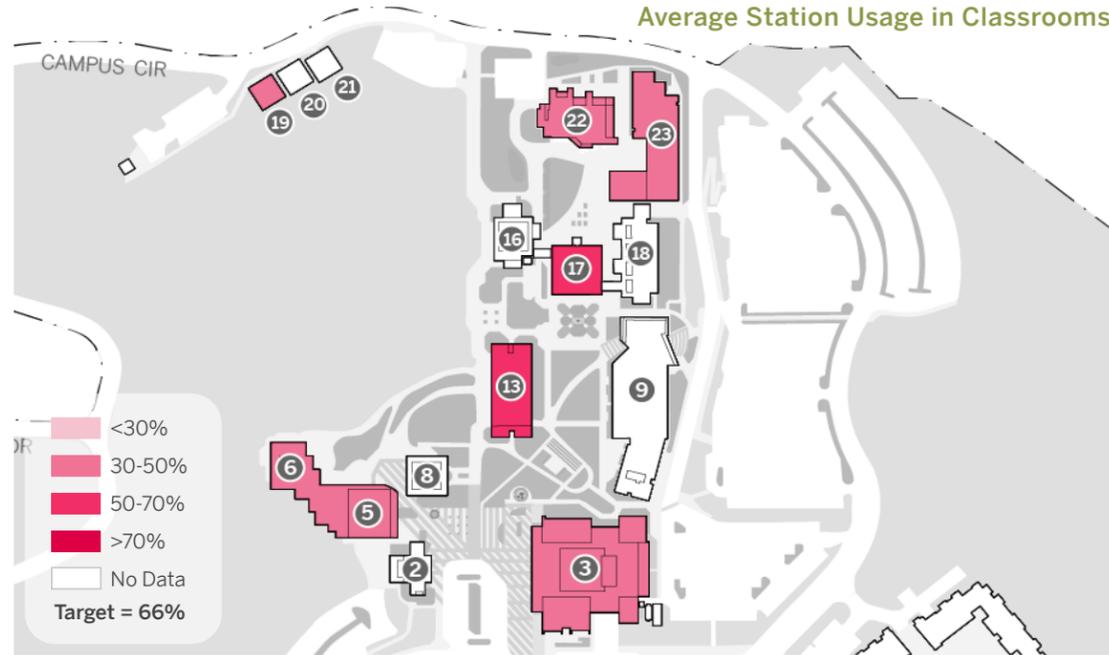
Station Usage

Assessing station usage in classrooms allows us to understand what size classrooms should be and how they should be distributed throughout campus.

Of the 45 total classrooms, only 10 met the 66% occupancy target. This indicates that most classrooms have more student seats than are needed by the actual course enrollments.

For example, 20 students learning in a classroom sized for 45 students results in a 44% (20/45 x 100) occupancy rate. To achieve the 66% occupancy target set by the state, the classroom would have a maximum of 30 seats.

The graph on the right confirms the discrepancy between course enrollment patterns and classroom size distribution on campus. For instance, 76% of the classrooms on campus seat 40-99, yet only 7% of the Fall 2019 courses had enrollments in the 40-99 range.



CLASS LABS

Lab Utilization Standards

WRH: 34% scheduled = 27.5 hours

% station occupancy: 85%

WSCH: 23 hours

Of the 29 class labs on campus, only 1 met the 27.5 hours per week target set by the state. With regard to station usage of class labs, 14 out of 29 class labs are meeting the 85% occupancy target

Since the majority of class labs are set up to teach particular discipline curricula, the most significant way their utilization can be improved is by following state guidelines for ASF per student when labs are renovated or replaced.

BUILDING PRODUCTIVITY

It is helpful to understand which buildings on campus are producing the most amount of WSCH, and in particular the most amount of WSCH per station.

Per the table below, even though B13 has more WSCH and more stations, it is actually B3 that produces more WSCH per student station. This is an indication that the classrooms and class labs in B13 could be resized to match the demand of current class sizes. If this were addressed, then the WSCH per station in these B13 would improve significantly.

Building	Stations	WSCH	WSCH per station
B3	318	3,202	10.07
B13	741	5,890	7.95
B20	25	184	7.36
B23	674	4,910	7.28
B17	395	2,713	6.87
B18	161	1,104	6.86
B22	217	1,272	5.86
B5	251	1,444	5.75
B6	54	175	3.24
B21	65	181	4.24
B16	173	475	2.74
B9	95	9	0.09

KEY FINDINGS

Recognizing the limitations of pre-pandemic data while also assuming enrollment will not significantly increase above 2019 levels, the following findings informed the space use recommendations.

- Cañada College needs 36 classrooms based on peak usage of 32 (plus a 10% safety factor), and could afford to repurpose 9 of its existing classrooms.
- Based on course enrollments the 36 classrooms should have the following distribution:
 - 30% should be in 20 seaters
 - 40% should be 30 seaters
 - 20% should be 40 seaters
 - 10% should have 50+ seats
- Future renovations/additions of class labs should be based on course enrollment data and use the state standards for ASF per student seat.



ASSESSMENTS & RECOMMENDATIONS

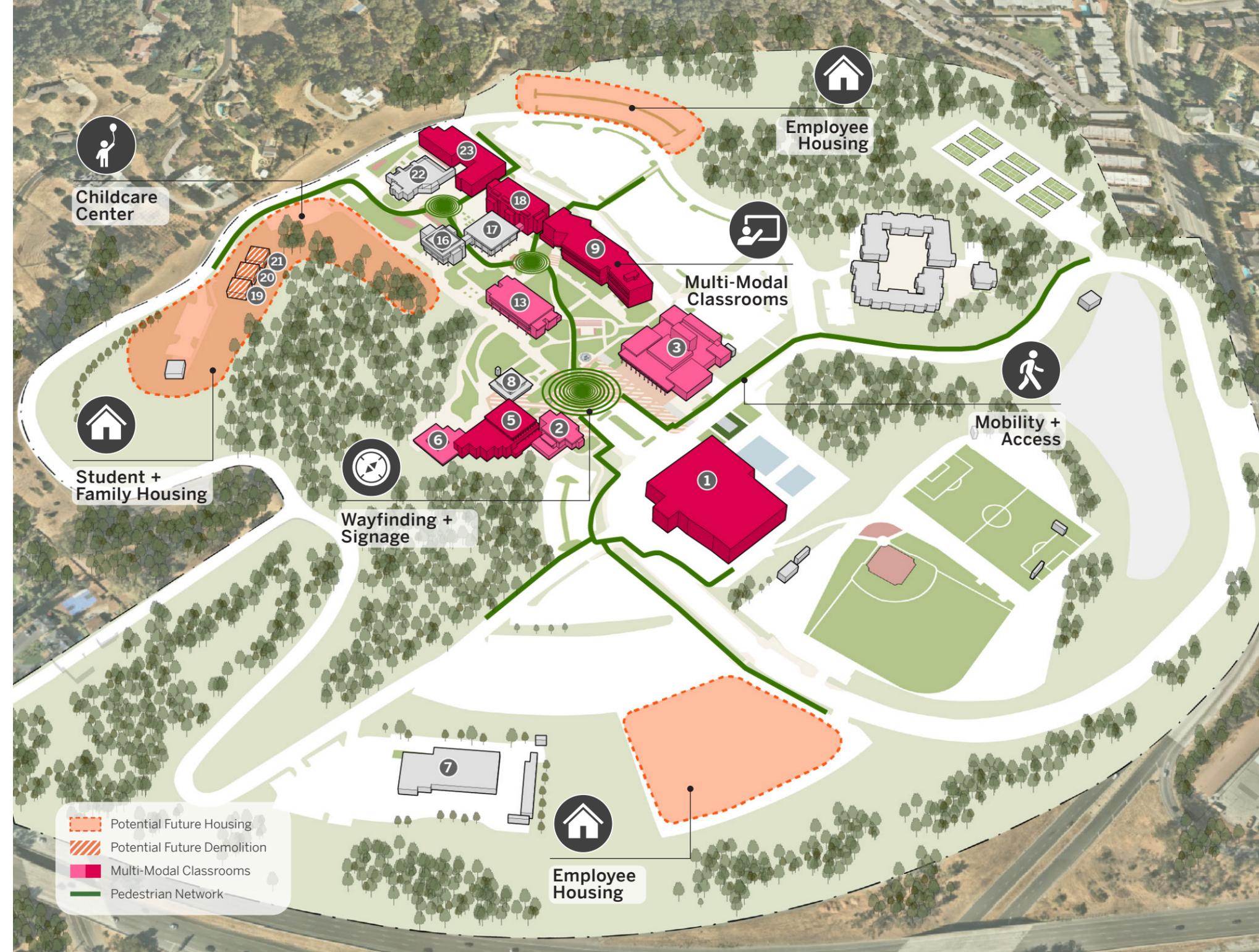
ASSESSMENTS & RECOMMENDATIONS

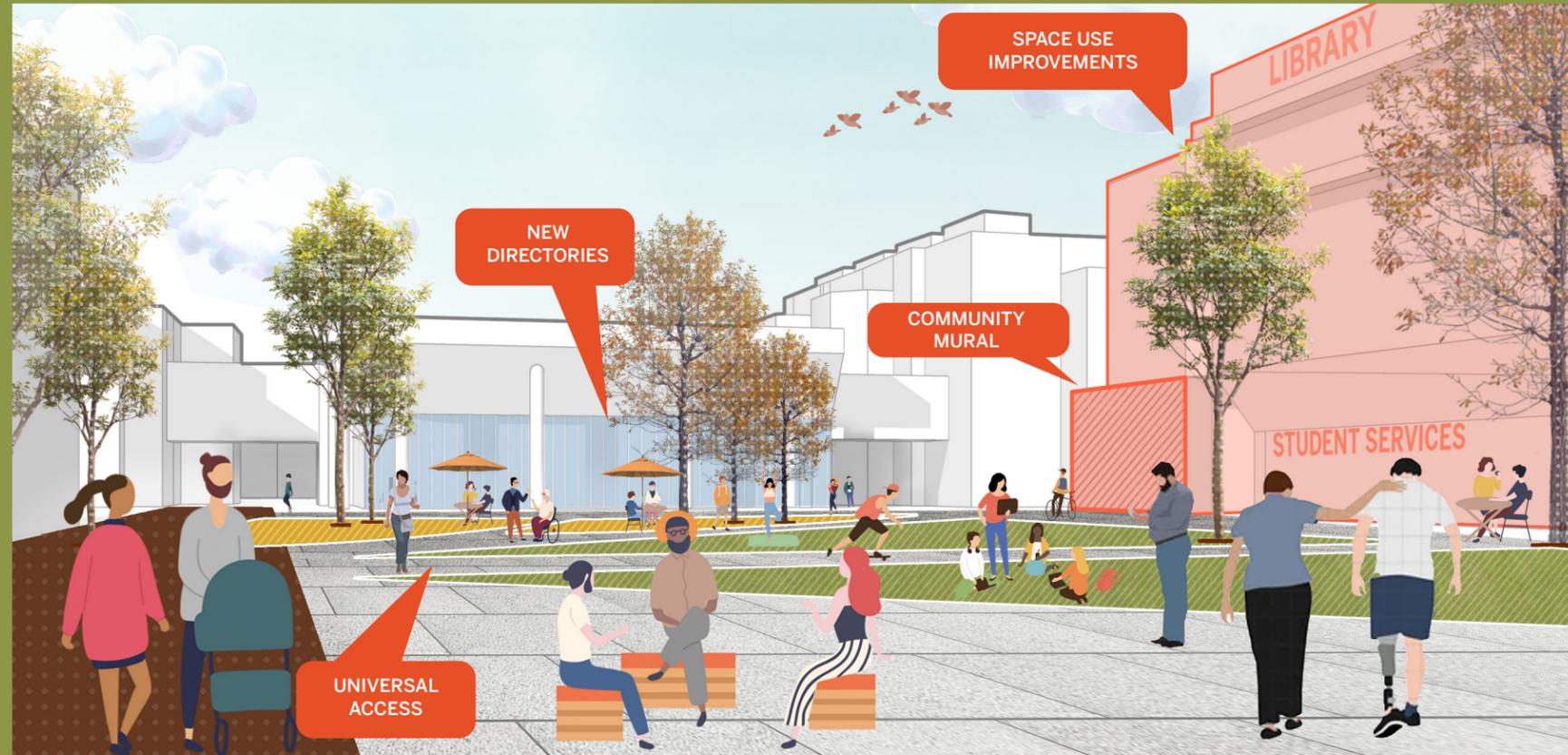
Key analysis and stakeholder feedback provided the foundation for several assessments that took place in the fall of 2021. These studies assessed areas including facilities and infrastructure condition, energy use, space utilization, wayfinding, and signage.

The assessments resulted in recommendations for campus improvements and future development that are detailed in this section of the report.

The long-term vision for Cañada College considers the overall connectivity of campus, imagining opportunities for open space, infrastructure, and circulation improvements that may be made possible as the campus evolves. All new projects should serve to strengthen the connection to the core of campus. Improvements to wayfinding, accessibility, and learning technology can also enhance the campus experience for students, employees, and community members.

This visioning ensures that future development results in a holistic, accessible, and cohesive campus.





Proposed View of the South Quad

Throughout this section, perspective imagery is provided to envision how recommended strategies and improvements might look and feel across campus.

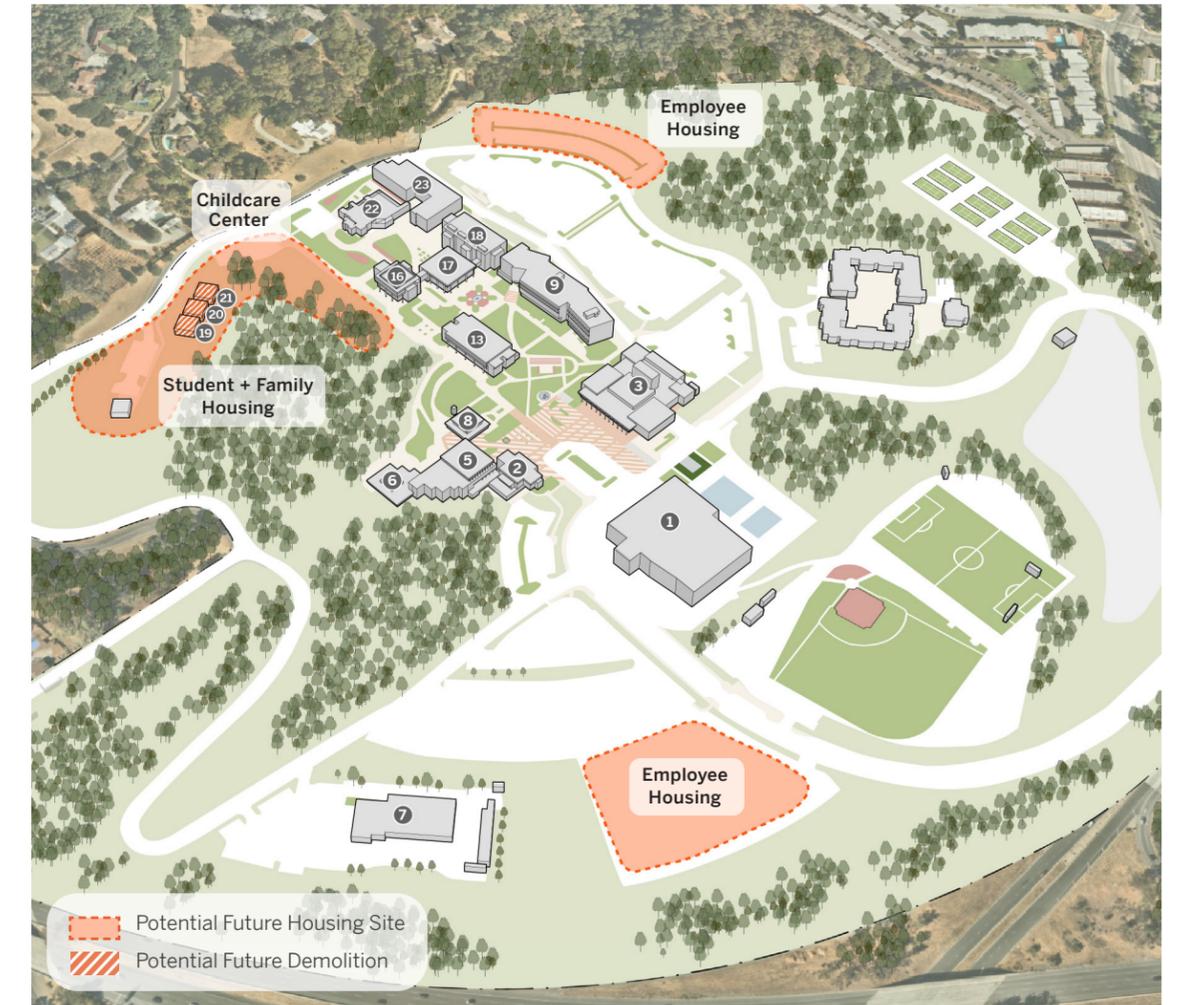
Featuring key points of gathering and circulating, these perspectives imagine ways that these spaces can be even more active and welcoming to the Cañada community.

The beautiful landscaping of the South Quad, across from the Library and LRC, invites students, faculty, and staff to spend time between classes.

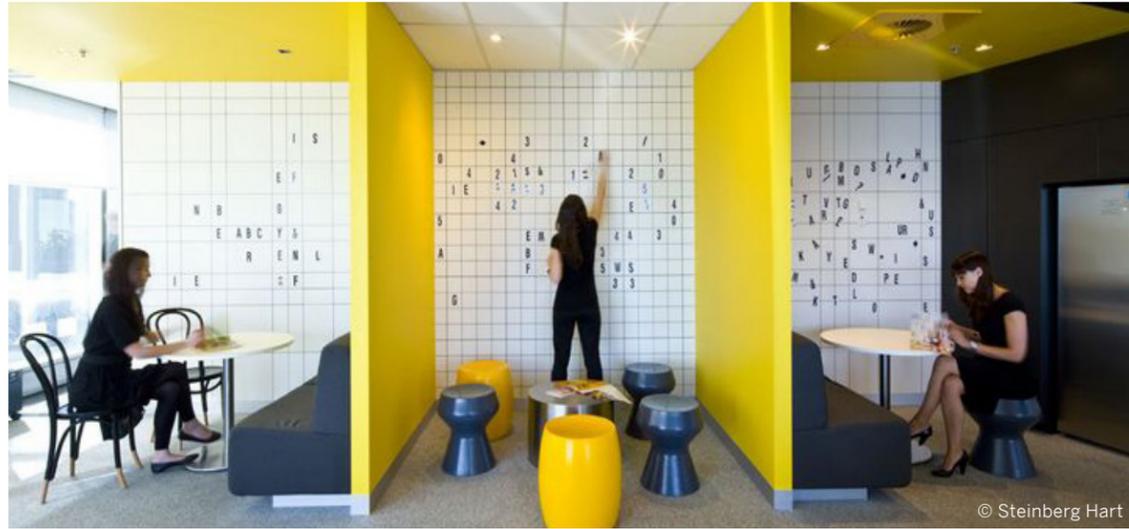
The addition of new directories, enhanced pedestrian paths, and a community mural (currently in development) will assist wayfinding and contribute to a sense of belonging for all.

HOUSING

The provision of housing to support students and employees is a strong interest of the College and the District. To prepare Cañada for future development, the FMP identifies opportunity areas for new phases of campus housing. While the FMP does not yet propose new housing projects or provide detailed recommendations for programming, the selected sites will allow stakeholders to evaluate challenges, opportunities, assets, and trade-offs when future projects come forward. Stakeholders also noted the need for the inclusion childcare facilities in new housing programming to support students and employees.



CLASSROOM USE



Space needs of learning environments and other spaces on campus are ever-evolving, especially post-pandemic. It is important that existing facilities are utilized to their full extent, activating opportunities for the highest and best use of space.

Based on the key findings from the space utilization assessment, the FMP identifies opportunities for reimagining underutilized space on campus.

STRATEGY 1: REPURPOSE ROOMS

This strategy consists of reclassifying classrooms for other purposes, such as meeting rooms, collaboration spaces, individual remote learning spaces, storage, and more.

The benefits of this strategy are twofold. First, reducing the number of classrooms on campus will improve space utilization metrics, specifically Weekly Room Hours (WRH). This will help the College align with state targets for WRH.

Additionally, reimagining classrooms for other uses will serve the need for adaptable spaces for learning, gathering, and collaborating.

There are several advantages of this strategy. Because repurposing would require only light renovation (reconfiguration/addition of furniture, painting, changing signage/fixtures), it does not require a full-scale building renovation to execute. It may be implemented incrementally as the College requires.

Moreover, it is a flexible approach; the approach does not require a permanent change, and rooms can easily be converted back into classrooms as needs evolve.

Collaboration Spaces

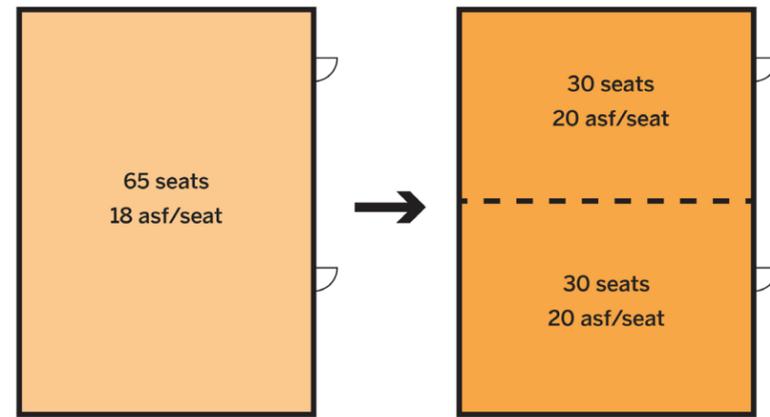
Numerous stakeholders expressed a desire for more informal gathering spaces on campus where students, faculty, and staff can come together to work and socialize. Such spaces are critical to support the College's goal of developing spaces to foster a

sense of belonging among the Cañada community. They are also critical in creating a welcoming atmosphere on campus, and one that attracts students to spend time on campus and participate in all the school has to offer.

Individual Remote Learning Spaces

Another potential use for reimagined classrooms is the creation of individual remote learning spaces. Student schedules look different on a post-pandemic campus.

Some students may arrive for an in-person class at 10:00 AM, followed by a course with remote instruction at noon. This type of hybrid schedule presents the need for spaces serving students participating in remote courses while physically on campus.



STRATEGY 2: SUBDIVIDE LARGE CLASSROOMS

A secondary strategy aims to improve station usage by right-sizing learning spaces through the subdivision of select large, underutilized classrooms.

While if executed independently, this measure would increase the number of classrooms on campus, when coupled with the first strategy of repurposing certain classrooms, it would have the effect of aligning station usage with state targets.

This strategy would demand a relatively heavier intervention as compared to flexibly repurposing the space. It requires the construction of an additional partition wall and associated work such as electrical, lighting, egress reconfiguration.

As the College's needs continue to evolve, the desire for smaller learning spaces may fluctuate. As such, this strategy is but one that the College may wish to pursue to maximize the efficiency of existing space on campus.



Proposed View of the North Quad

ACTIVATING THE PUBLIC REALM

The recommendations for improved space use are proposed approaches to help the College further its goals of maximizing the flexibility of facilities to support ever-changing needs and developing welcoming and accessible affinity spaces that support campus life. Other strategies, such as wayfinding improvements

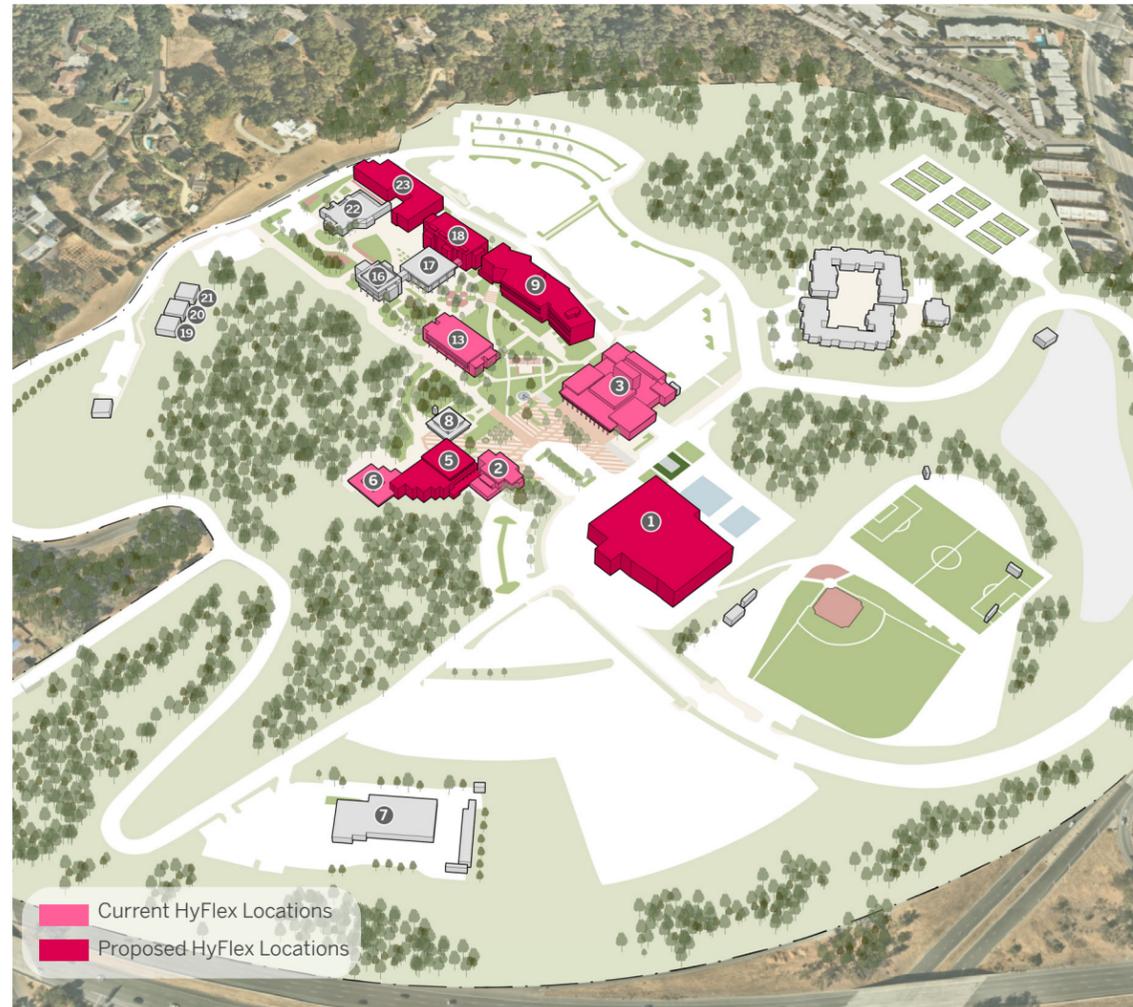
and updating learning environments to support multiple modalities complement facilities projects to ensure the campus is welcoming and usable by all. These strategies are depicted in part above and discussed on the following pages.



MULTI-MODAL CAMPUS

Options for remote instruction of courses were popularizing before 2020, but now, these offerings are even more critical for students and faculty alike. Classrooms and labs must be equipped with the resources necessary to support hybrid delivery of education. The FMP recommends expanding the number of classrooms and labs that accommodate multiple modalities.

This project may be strategized alongside building renovations and space use upgrades for maximum efficiency.



New HyFlex technology implemented in B1



HyFlex class in session

For instance, as B3 and other facilities are modernized in the next several years, instructional spaces should be upgraded with the technology and resources necessary to support multiple instructional methods, from lectures and group work, to discussions serving in-person and remote students.

Other proposed additional locations of multi-modal spaces include B9, to support the needs of the Library/LRC, and B23, to serve the Science & Technology division.

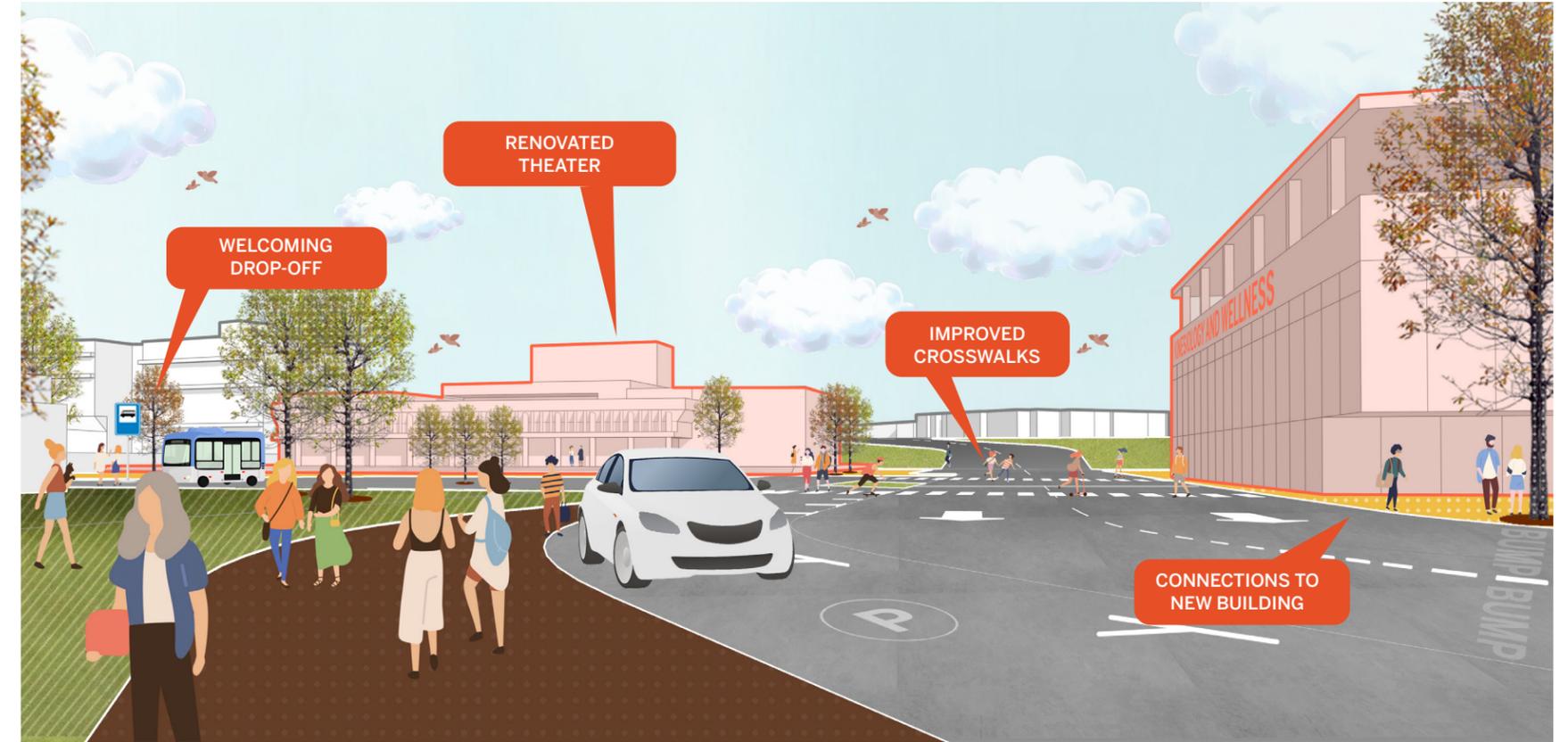
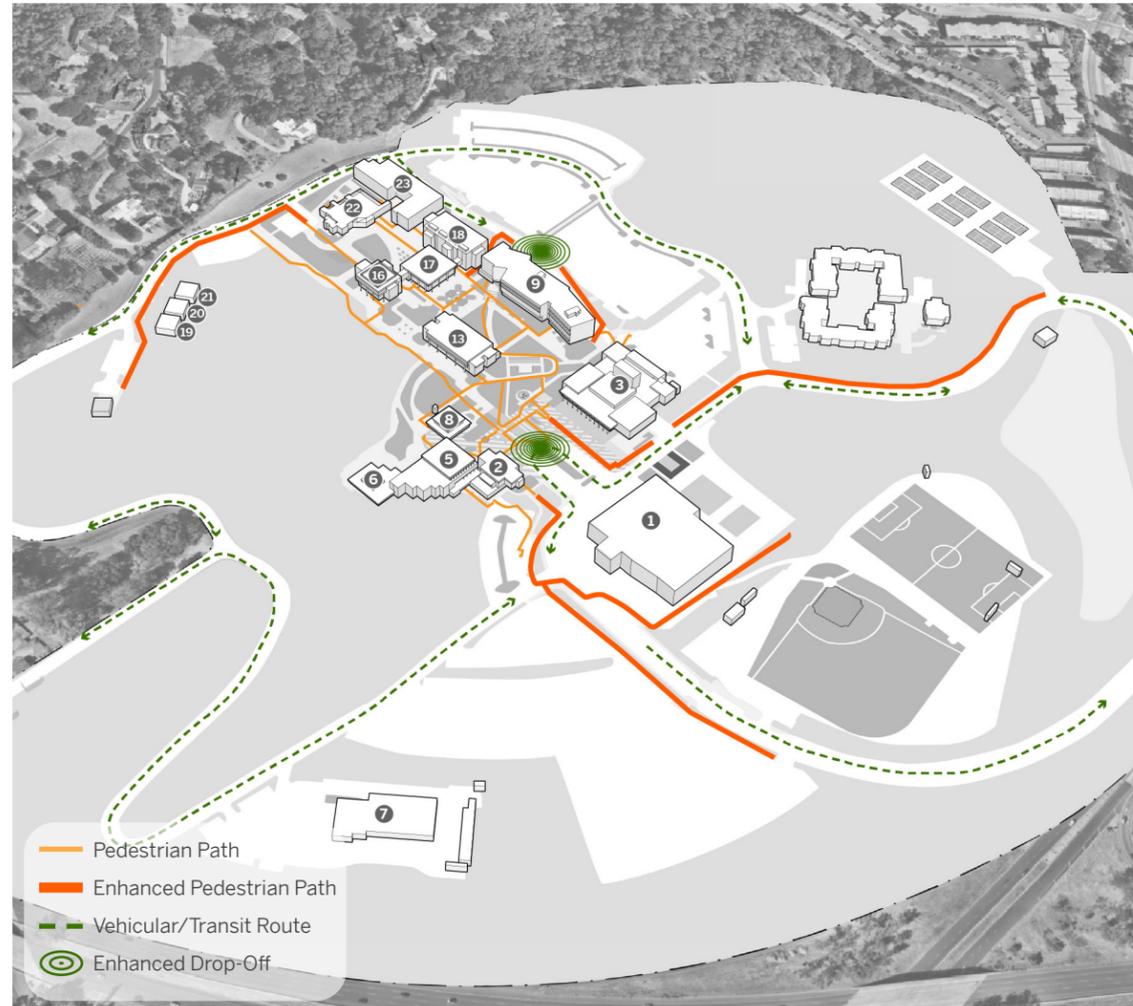
Current HyFlex classroom locations	Proposed additional locations
B1 (1)	B1
B2 (1)	B5
B3 (4)	B9
B5 (2)	B18
B6 (1)	B23
B9 (3)	
B13 (TBD)	
B18 (1)	
B22 (1)	
B23 (1)	

MOBILITY & ACCESS

The vision for mobility at Cañada aims to improve the experience of arriving to and moving through campus for all users, whether on foot, driving a vehicle, or using public transportation. Several projects are recommended to enhance mobility on campus.

ENHANCED PEDESTRIAN REALM

While the core of campus features a strong pedestrian network, the peripheries would benefit from improvements to this realm. Paths highlighted in orange, such as between the tennis courts and B1, lack sufficient sidewalks. Other areas would benefit from the addition of amenities such as shade, achieved by installing new trees or shade structures, and improved lighting, especially leading to parking lots. Sidewalk conditions should be carefully maintained to ensure pedestrian safety.

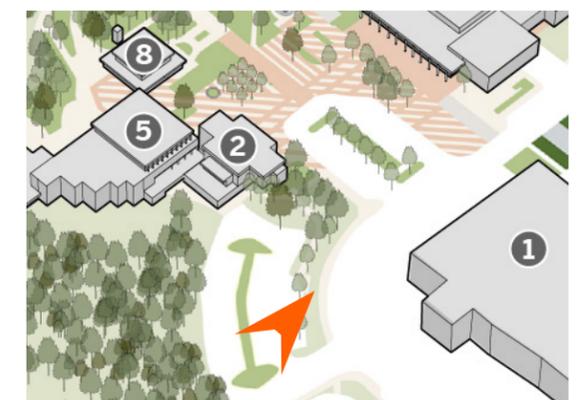


Proposed View of B1 and Drop-Off

IMPROVED DROP-OFF

The central drop-off location along the Campus Loop between B2 and B3 is a key arrival point for those arriving by car and public transit. The newly constructed B1 faces this entry point but lacks robust connection to it. The addition of new crosswalks, strengthened pedestrian paths, and clear wayfinding would improve the

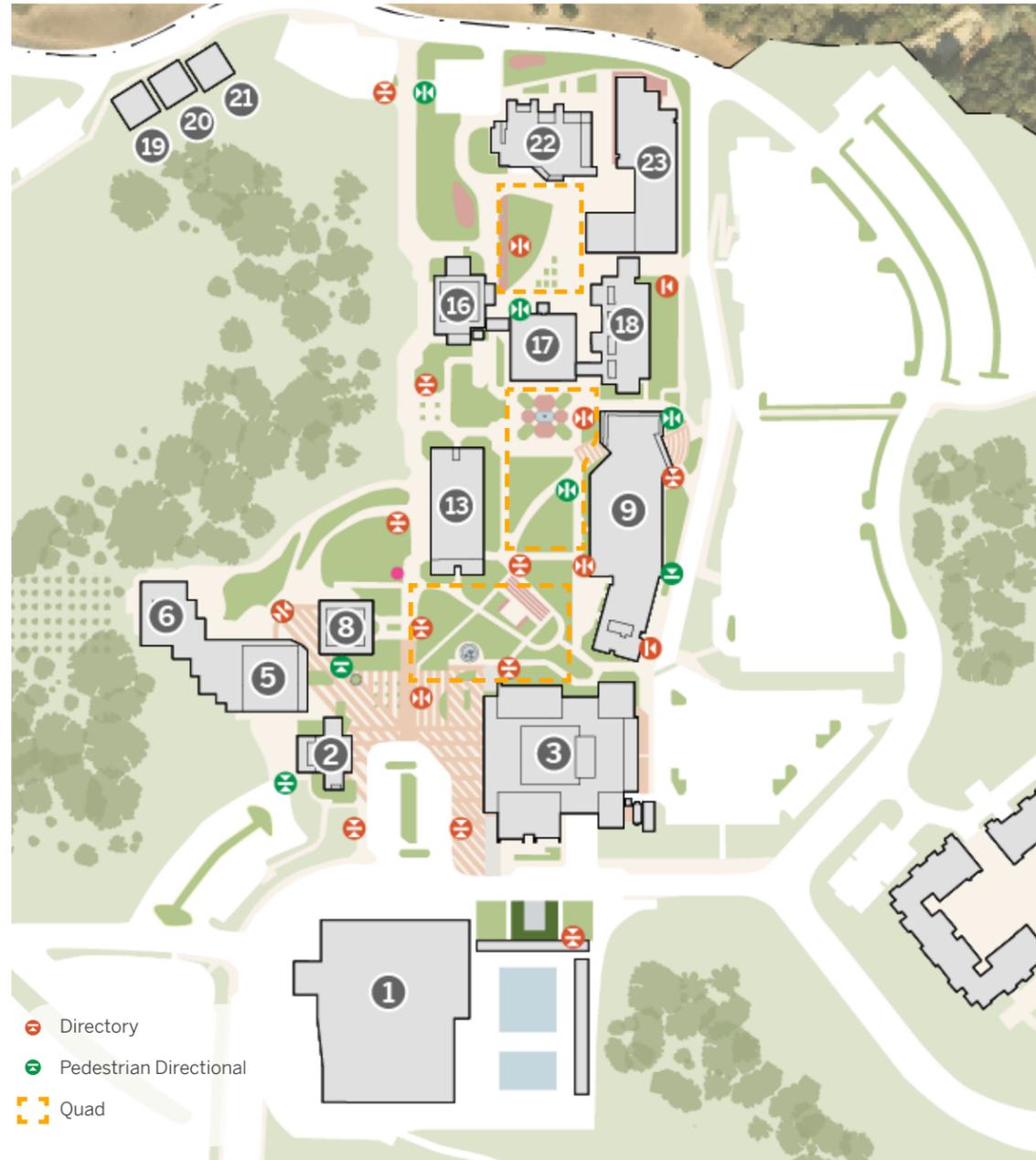
drop-off experience for students and visitors. Shaded seating would serve those waiting on transit or rideshare to arrive. These amenities would also strengthen the connection between the new Kinesiology & Wellness facility and the campus core.



WAYFINDING & SIGNAGE

Recommendations for wayfinding address vehicular and pedestrian signage and building identification, aiming to improve the campus navigation for first-time visitors and long-time users alike.

Cañada's existing wayfinding system was clear and well-developed when it was implemented. However, there is an opportunity to update sign messages and aesthetics of the program to cater to users. Future improvements to wayfinding on the campus should holistically consider several projects. The full wayfinding assessment report can be found in the FMP appendix.



PEDESTRIAN WAYFINDING

There is a high quantity of pedestrian signage on campus, but there is an opportunity for greater cohesion in design and information. The Cañada campus has three “quads,” which result in no clear sight-lines from one end of campus to the other.

Increasing the number of signs with maps will assist with orientation and navigation in a multi-quad campus. Pairing directional information (destinations with arrows) with maps helps with convenient navigation to destinations in close proximity (such as within a quad) and destinations outside of sight-lines with maps.

Additionally, combining the accessible routes signage with other route signage would create a more holistic and inclusive experience for pedestrians. The wayfinding system should prioritize clarity and avoid excess signage that may create clutter.

Navigating the steep terrain of the campus as a pedestrian requires further study beyond this effort. B8, B6, B5, and B2 would benefit from a unique sub-system within the broader wayfinding program.



CONSISTENT SIGN DESIGN

Across campus, there are two different sign family aesthetics, which do not create a cohesive experience for visitors. To create the most logical and clear system for users, a single design language should be chosen and implemented.

Adjusting the design and construction of the directories would also allow the sign panels to be changeable, allowing the content to be updated more easily and frequently.

NAVIGATION TO B9 LIBRARY/LRC

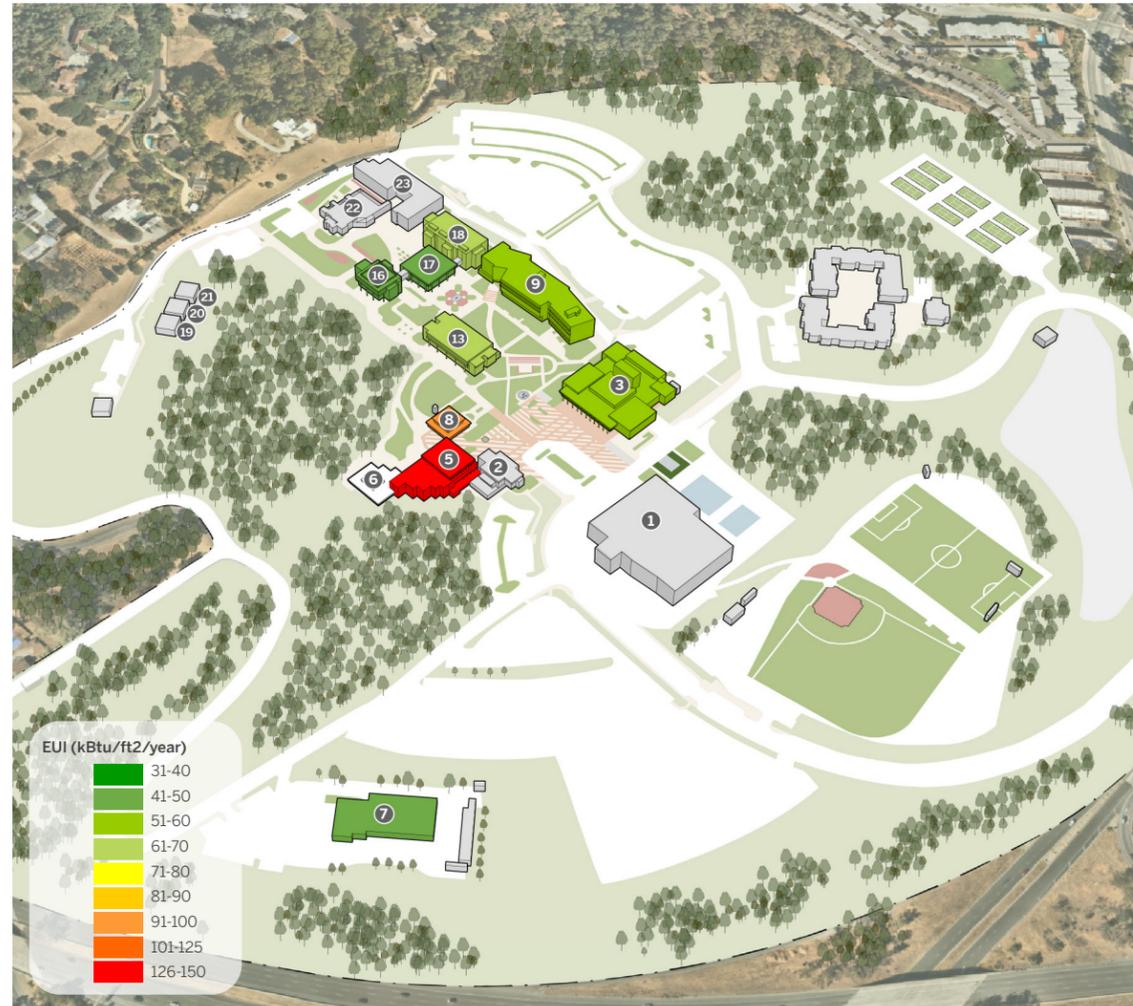
Students often have difficulty finding services within B9 when they are coming from the center of campus (the area around B5 and B8)

The journey to B9 can be reinforced by placing building identification at better sight-lines and using more prominent signage to identify locations like “Student Services” and “Counseling Services.” Additionally, increasing the number of directories and listing all services located in B9 would help orient users.

SUSTAINABILITY

ENERGY USE INTENSITY

Energy Use Intensity (EUI) is a metric of energy performance expressed as energy consumption per gross square foot (GSF). Campus Level EUI for each academic year is determined by dividing annual energy consumption data by campus's GSF. While EUI has improved over the years thanks to energy efficiency measures, it is still high at Cañada College compared to current benchmark for academic buildings in Northern California.



PATH TO CARBON NEUTRALITY

In addition to the optimization measures listed in the Decarbonization Strategy, Spring 2020, the FMP recommends building envelope optimization as an additional measure that can significantly reduce operational energy costs and operational carbon emissions (Scope 1 and 2).

Building optimization can have a much larger potential role in reducing GHG (greenhouse gas) emissions. The FMP includes this preliminary study to understand the relative impacts of envelope upgrade options. Further investigation using detailed energy modeling and cost-benefit analysis is recommended for informed decision making on a project by project basis.

Building Envelope Optimization Study

The study uses a shoe-box energy modeling of a fictitious two story 30,000 SF building resembling the exiting construction of existing buildings. The annual energy use data EUI data shows a very high use of natural gas, indicating space heating being the major energy consumption in these buildings. The energy model

confirmed that heating is the largest consumer of energy, given the climate and the uninsulated nature of the old existing buildings with single pane glazing.

Changing the glazing in the energy model to dual glazed high-performance glazing with low-e coating, reduced the EUI (Energy Use Intensity) from 44.27 to 38.4. This constitutes a 13% energy reduction without changing any other elements.

Adding roof insulation will be more economical measure than changing out the windows, resulting in EUI reduction of 14.9%, which is better than high-performance glazing option.

By combining both the measures—roof insulation and high performance glazing—the EUI drops from original 44.27 to 29.92, which is a 32% reduction. The heating energy use reduced drastically from 22.68 EUI to 9.57 EUI, a 58% reduction of heating energy use.

To move toward carbon neutral campus, it is recommended that the District places further emphasis on energy conservation through envelope upgrades, which can help to downsize

the on-site renewable energy projects and help achieve carbon neutrality in a more economical way.

It is recommended that the District develop a detailed feasibility study for envelope upgrades, including roof insulation, window replacements, and wall insulation in existing buildings using existing metered data of energy use, detail energy modeling and cost-benefit analysis.

Transition to Heat Pump Water Heaters

As a cost-effective decarbonization measure, it is recommended that the District replace existing gas water heaters or electric resistance heaters to electric heat pump water heaters for domestic hot water (DHW).

Transition to all electric buildings will further reduce energy use intensity, as space heating and domestic hot water through electric heat pumps are 3.5 more efficient than gas boilers. They will potentially reduce EUI of buildings by over 2 kBTU/sf/year based on the estimated DHW energy use.



ELECTRICAL STUDY

The Electrical Infrastructure Assessment approached the study with overall goals of improving sustainability, redundancy, and resiliency of the electrical infrastructure and overall College infrastructure. A range of potential electrical infrastructure design options would need to be developed and evaluated outside of this assessment to meet the following specific goals:

1. Eliminating natural gas usage through electrification
2. Reducing the electrical load impact
3. Minimizing life cycle costs of the electrical infrastructure

RECOMMENDATIONS

EV Charging Expansion District Fleet

District is targeting the year 2030 to convert all district vehicle fleet to electrical vehicles.

EV Charging Commuter Expansion

EV Charging Commuter Expansion can certainly be expanded to all parking lots as there is sufficient capacity.

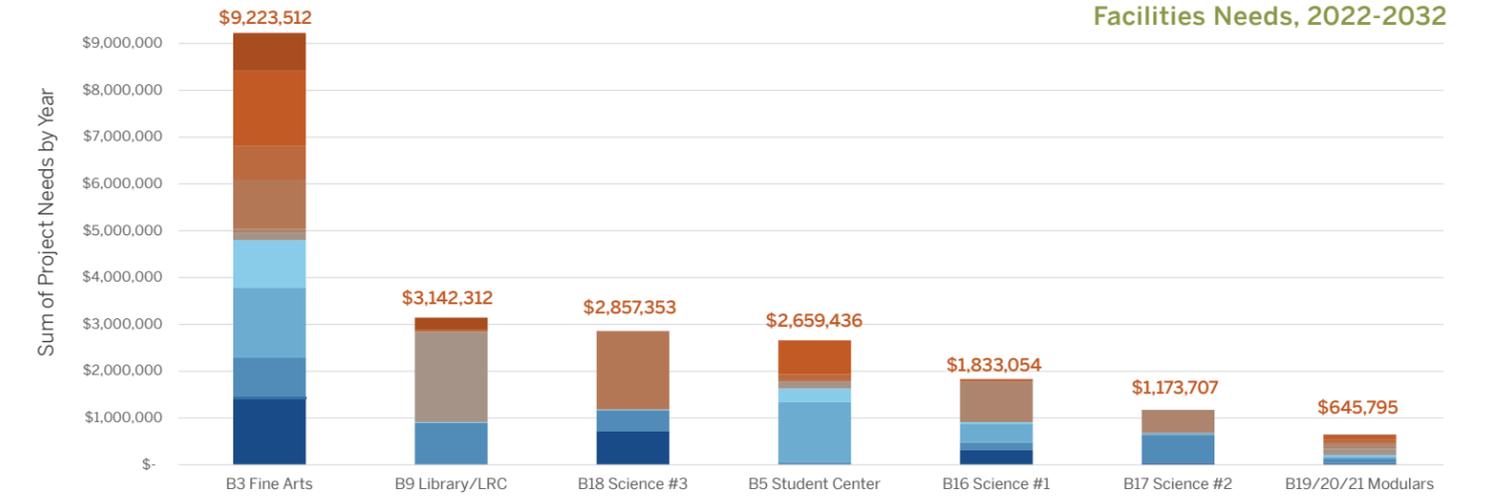
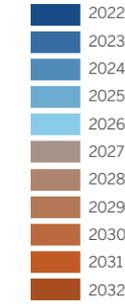
New Electric Boilers

If the campus decides to continue with electrification of the boilers, an expansion of the electrical system will be necessary.

NET ZERO GOALS

One method to reach zero net electrical would be expand the district's renewable energy sources, whether it is district owned or via Power Purchase Agreement (PPA). Based on Zero Net Energy Strategy document produced in 2017, provides an outline strategy to meet and exceed California's goal for all new commercial construction and 50% of existing buildings to be Zero Net Energy by 2030.

The full Electrical Infrastructure Assessment report can be found in the FMP appendix.

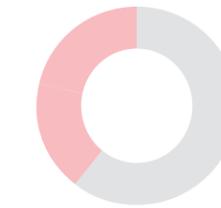


* Only facilities with > \$500,000 of total work are represented.

FACILITIES CONDITION

The Facilities Condition Assessment surveyed facilities on campus, focusing on systems including site and infrastructure elements, structural frame and building envelope, roofing, plumbing, HVAC, fire protection, accessibility.

The data gathered by the assessment is provided to the College's maintenance and operations team to assist in decision-making and project planning. This includes information on system expenditure forecasts, immediate needs, component condition, and priority projects. The full assessment report can be found in the FMP appendix.



41%
of total facilities needs relate to **B3 Fine Arts**

4
buildings with **over \$2m** in needs



14%
of total facilities needs relate to **B9 Library/LRC**

4
buildings with critical projected **Facilities Condition Index (FCI)**



FMP PROJECTS

FACILITIES MASTER PLAN

The Facilities Master Plan presents the recommended projects planned to be pursued at Cañada College for the next 10 years.

Based on the analysis of existing conditions, previous planning efforts, research and assessments, and multiple meetings with College stakeholders, the FMP proposes two modernization projects. These critical projects are the priority of Cañada College and shall be initiated and/or continued over the next decade.

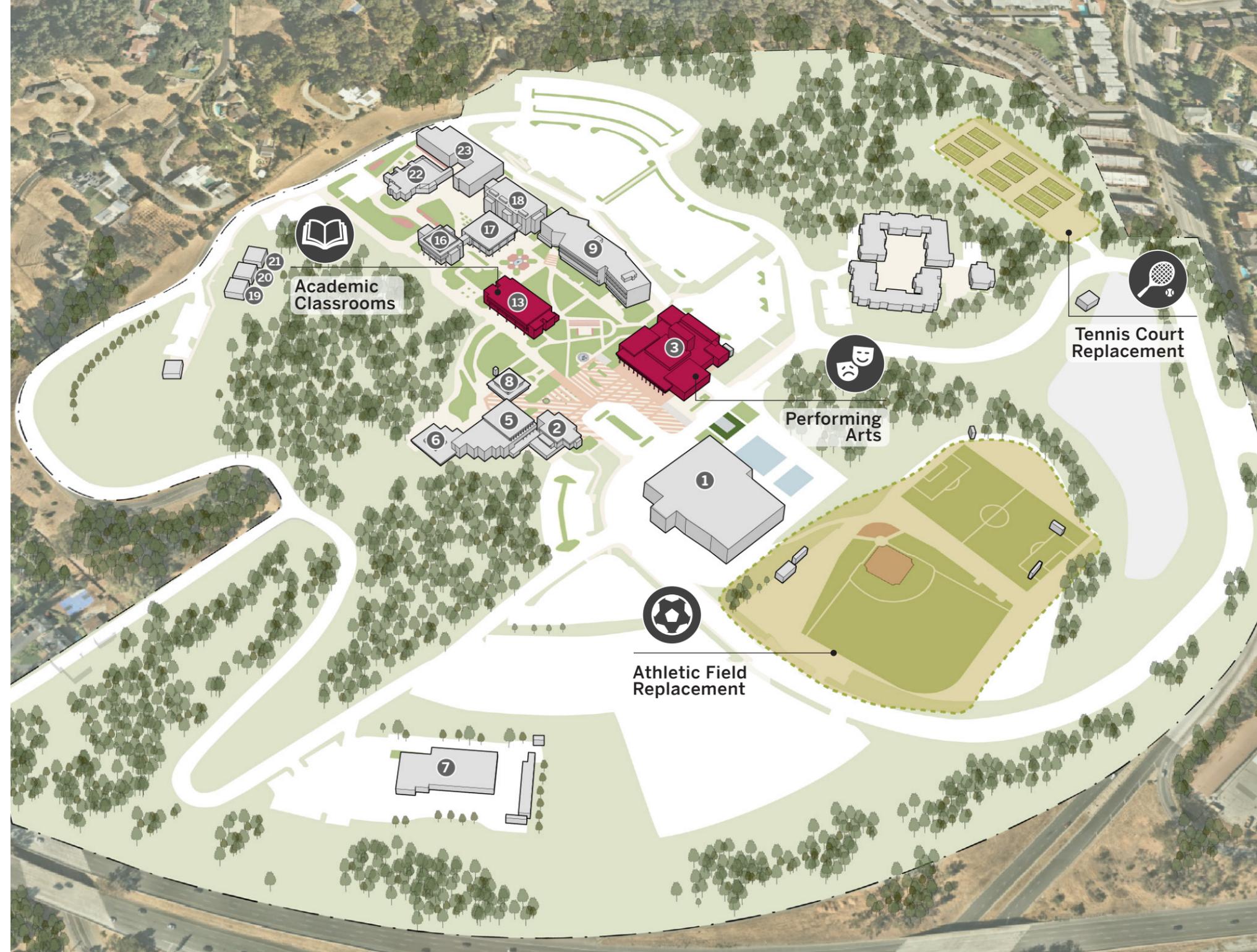
These projects are informed by District-wide Planning Principles and are recommended to support several of the College's FMP Goals, including renovating facilities to anticipate evolving program needs, enhancing learning environments, and developing affinity spaces to support campus life.

Several key buildings on campus have been identified as priority renovation projects.

- B3 - Performing Arts (IPP)*
- B13 - Classrooms (FPP)

* Denotes projects included in 2023-2027 Five-Year Capital Construction Plan.

This work furthers the College's goal of modernizing facilities to support the evolving needs of academic programs and student services.



PROJECTS

BUILDING MODERNIZATIONS



Building 3 Performing Arts: This project will modernize the 50-year old Fine Arts facility so that the visual arts, music and theater programs can be reconfigured for operational efficiencies, and be equipped with the appropriate technology, electrical, data, and mechanical systems required for comfortable, safe environments that increase student performance and learning.



Building 13 Classrooms*: This project, currently underway, will expand the instructional lab space, add distance learning facilities, add conference space for regular and adjunct faculty meetings and collaborations, address ADA compliance, replace building finishes and components that have exceeded their service life expectancy, and replace the aged and undersized mechanical system.

* Cost estimation is not provided for projects initiated before the completion of the FMP.

ATHLETIC TURF REPLACEMENTS



The three synthetic fields, including football field, the soccer field, and the baseball field, will require replacement in the next 10 years in order to remain usable for sports and recreation. The track will also require replacement.

COST ESTIMATION

The FMP provides estimated costs for the building projects identified as priority projects in the next 10 years. Exact costs will be determined as programming and scope of work is confirmed closer to project implementation.

Other cost estimation, including for potential classroom renovations, is included in the FMP appendix.

BUILDING MODERNIZATIONS

#	Building	GFA	\$/SF	Total Cost
3	Fine Arts	63,299	\$660	\$41,777,340

Notes:

1. Construction cost calculated in June 2022 dollars
2. Escalation to midpoint is excluded
3. Hazmat is excluded
4. Soft costs and FF&E are excluded
5. New construction includes adjacent sitework costs

PARTICIPANTS

PRESIDENT'S CABINET

Kim Lopez
President

Tammy Robinson
Vice President of Instruction (past)

Manuel Alejandro Pérez
Vice President of Student Services

James Carranza
Dean of Humanities & Social Science

Karen Engel
Dean of Planning, Research, Innovation and Effectiveness

C. Max Hartman
Dean of Counseling

Hyla Lacefield
Dean of Business, Design & Workforce

Matthew Lee
Interim Dean of Kinesiology, Athletics, & Dance

David Reed
Dean of Academic Support & Learning Technologies

Megan Rodriguez Antone
Director of Community Relations and Marketing

Ameer Thompson
Dean of Science & Technology

COMMITTEES & GROUPS

Associated Students of Cañada College

Academic Senate

Classified Senate

ASLT Division

Science & Technology Division

Business, Design and Workforce Division

Humanities and Social Science Division

Kinesiology, Athletics and Dance Division

Counseling Division

Enrollment Services

Planning, Research & Institutional Effectiveness (PRIE)

Planning & Budgeting Council (PBC)

Instructional Planning Council (IPC)

Student Services Planning Council (SSPC)

Equity and Antiracism Leadership Group

Safety

Technology & Distance Education Advisory Committees

Community Forums

04

COLLEGE OF
SAN MATEO



INTRODUCTION



© College of San Mateo

INTRODUCTION

College of San Mateo (CSM) is a public, two-year community college located in the northern corridor of Silicon Valley in San Mateo County. Since its establishment in 1922, CSM has served students as a gateway to higher education, leading to university transfer, career preparation and advancement, and professional and personal development.

CSM currently serves approximately 10,000 day, evening, and weekend students each fall and spring semester. CSM students reflect the diversity of the Bay Area and have a range of educational goals.

Academic divisions include Academic Support and Learning Technologies, Business/Technology, Creative Arts/Social Science, Kinesiology/Athletics/Dance, Language Arts, and Math/Science.

CSM strives to offer a rich college experience to students, complementing classroom learning with more than 30 clubs, student government, intercollegiate athletic teams, and cultural activities. To ensure student success, CSM also prioritizes a comprehensive selection of academic support services and resources.

MISSION

“College of San Mateo is committed to addressing the broad educational needs of the local and world community. We foster success and ensure equitable opportunities for all our students, while celebrating the diversity of our campus.”

VALUES

- Equity
- Academics
- Community
- Governance



Priority 1
Antiracism/Equity



Priority 2
Community Partnerships



Priority 3
Effective Communication



Priority 4
Strategic Planning



Priority 5
Student-Focused Support



Priority 6
Teaching and Learning

EDUCATION MASTER PLAN LINKAGES

CSM Education Master Planning efforts analyze student enrollment, demographics, and educational paths, considering barriers to student success. The entire CSM community of students, faculty, staff, and administrators participate in defining the strategic priorities for the Education Master Plan.

The resulting six priorities will be further developed during the upcoming 2022-2027 Education Master Planning. The priorities align with the goals of the District Strategic Plan and have opportunities to inform facilities planning.

The 2022 FMP builds on the foundational priorities defined in the District Strategic Plan and the CSM Education Master Plan.

COLLEGE GOALS

The College of San Mateo Facilities Master Plan Goals were determined through extensive feedback from student, faculty, staff, administrative, and community representatives. The goals have informed the recommendations contained within the FMP and will continue to guide the implementation and prioritization of projects.

1 DEVELOP SPACES TO FOSTER A **SENSE OF BELONGING, COLLABORATION & CREATIVITY** AMONG THE CSM COMMUNITY

3 IMPROVE **FLEXIBILITY** OF CAMPUS LEARNING SPACES

5 MODERNIZE THE GYMNASIUM, LIBRARY, EAST HALL, AND CENTER FOR EMERGING TECHNOLOGIES TO **SUPPORT EVOLVING NEEDS**

7 ENHANCE **ARRIVAL AND WAYFINDING EXPERIENCE** FOR ALL VISITORS

2 SERVE AS THE COMMUNITY'S CENTER FOR **ENRICHMENT, CIVIC ENGAGEMENT, & CULTURAL WELL-BEING**

4 PROVIDE **STATE-OF-THE-ART RESOURCES** TO STUDENTS

6 PROVIDE **SUPPORTIVE, ACCESSIBLE STUDENT HOUSING** THAT IS WELL-CONNECTED TO CAMPUS NETWORK

8 BE A LEADER IN **RENEWABLE ENERGY TECHNOLOGIES**



EXISTING CAMPUS

1. Administration
2. Music
3. Theater
4. Fine Arts
5. Health & Wellness
7. Facilities Maintenance Center
8. Gymnasium
9. Library
10. College Center
12. East Hall
14. South Hall
15. Faculty Offices
16. West Hall
17. Student Activities & Government
18. North Hall
19. Emerging Technologies
33. Childcare Development Center
34. Fire Technology
35. Public Safety Center
36. Science & Planetarium

RECENT PROJECTS PRIOR TO 2022 FMP

Since the previous FMP in 2015, several projects have been completed or initiated.

Completed

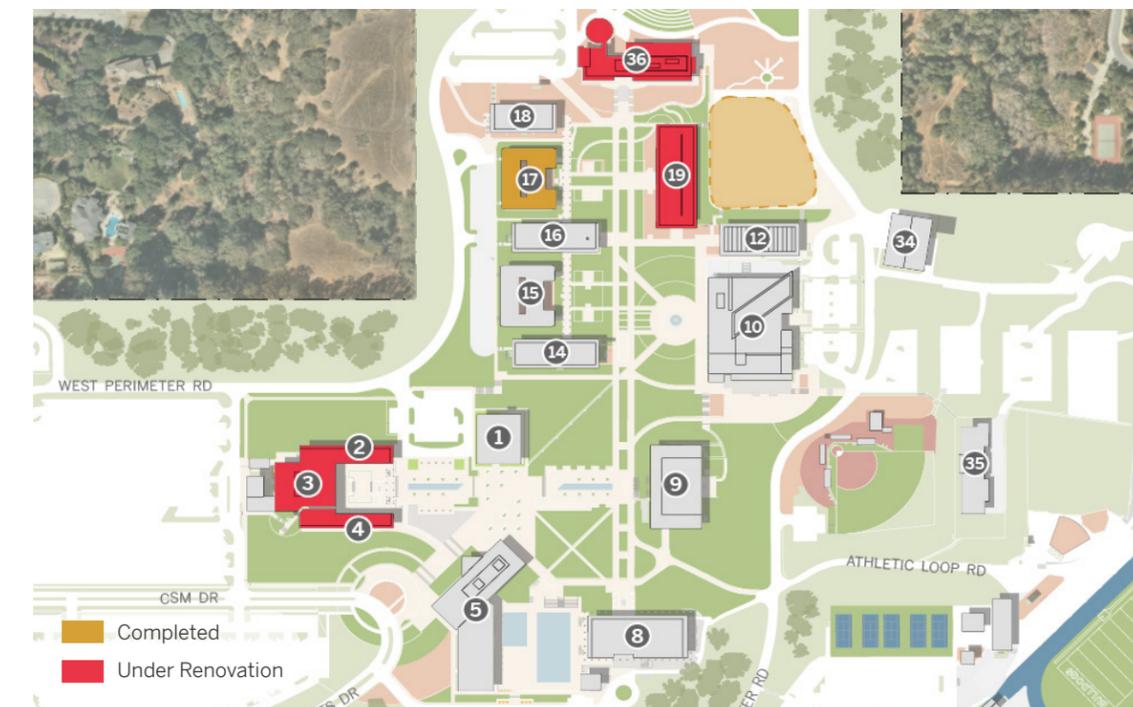
- B17 Renovation
- Edison Lot Construction

Demolished

- B20: Horticulture
- B20A: Greenhouse

Under Renovation

- B3 - Theater - minor upgrades
- B19 - Emerging Technologies - upgrades
- B36 - Science & Planetarium - HVAC upgrade





KEY ANALYSIS &
TAKEAWAYS

ENGAGEMENT TAKEAWAYS

Engagement with CSM stakeholders informed every phase of the facilities master planning process, from Discovery and Analysis to Draft and Final Plan preparation.

Interviews with key programs and departments, working groups with students, and community forums resulted in a diversity of voices shaping the content of the FMP.

Several key themes emerged from the early listening sessions with participants. These included questions about post-pandemic instruction, desires to improve wayfinding and

navigation, and interest in new models of flexible learning spaces. Feedback also emphasized that the plan should focus on enhancing the experience of campus to be welcoming and accessible.

These concepts led to the development of the FMP goals and priority projects for short- and long-term planning on campus.

STUDENT ENGAGEMENT

CSM leadership identified students as the primary stakeholder for the FMP. Interactive interviews conducted with CSM Associated Students were highly valuable to understanding more about the ways students access and use campus.

Students indicated areas where they enjoy studying and working in groups and described what made these spaces successful. They also provided valuable feedback on pedestrian and public transit access.



COMMUNITY FORUM

Civic engagement is a key goal of the College and the FMP. To seek feedback from the College's greater community, a public forum held in October 2021 to share master plan progress, purpose, and goals and solicit feedback. Attendees answered survey questions regarding method and frequency of campus access and ideated opportunities for the College and community to deepen their relationship.

A subsequent forum was held in May 2022 to share the draft plan and obtain feedback.

What would bring you to campus more? Please type in your answer.



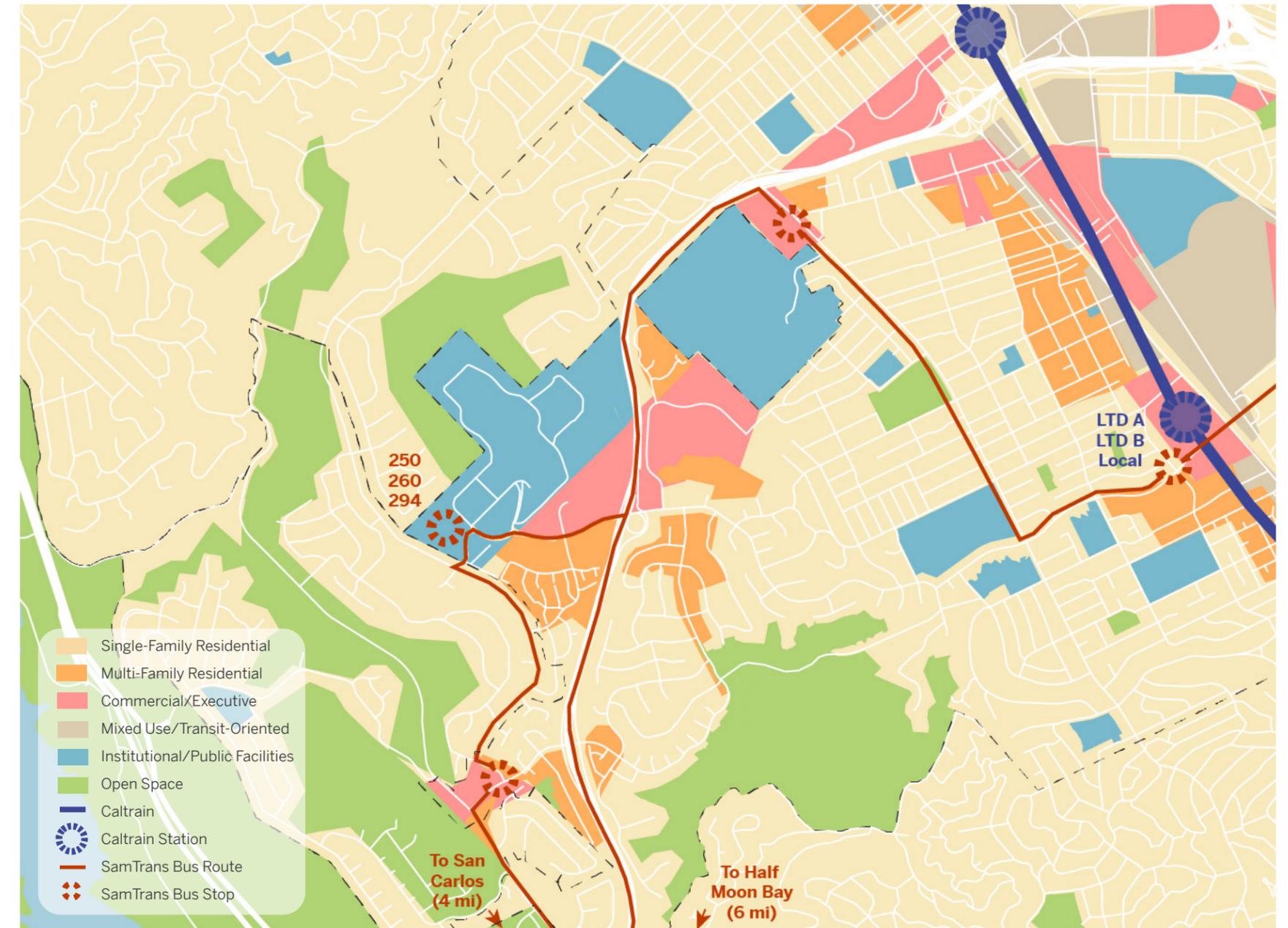
More activity on campus	a variety of cultural community events; more color and diversity	Farmer's Market, Theater events, Sports, Swimming, walks
more places to sit	Modern classrooms and facilities (air conditioning and better ventilation)	The campus is safe and clean.
More support for students	Better food, Events, easier pedestrian access, FOOD, movies, kids activitiesFOOD	Safe & comfortable environment: Buildings 14/16/18 air conditioned

CAMPUS CONTEXT

Located in the heart of the county, College of San Mateo is situated on a beautiful 153-acre hillside site that provides sweeping views of the San Francisco Bay.

The College is located within the City of San Mateo and is less than two miles from the city's central business district. The campus is situated among commercial parcels, single- and multi-family residential uses, and ample open space. It is easily accessed by I-280, connecting the school to other parts of the county and greater Bay Area.

The College operates within Silicon Valley, which poses several challenges for CSM students and staff. The region's high costs of living, lack of affordable housing, and limited public transportation are important issues to understand from a facilities planning perspective. The FMP seeks to integrate this context into analysis, recommendations, and implementation strategies.

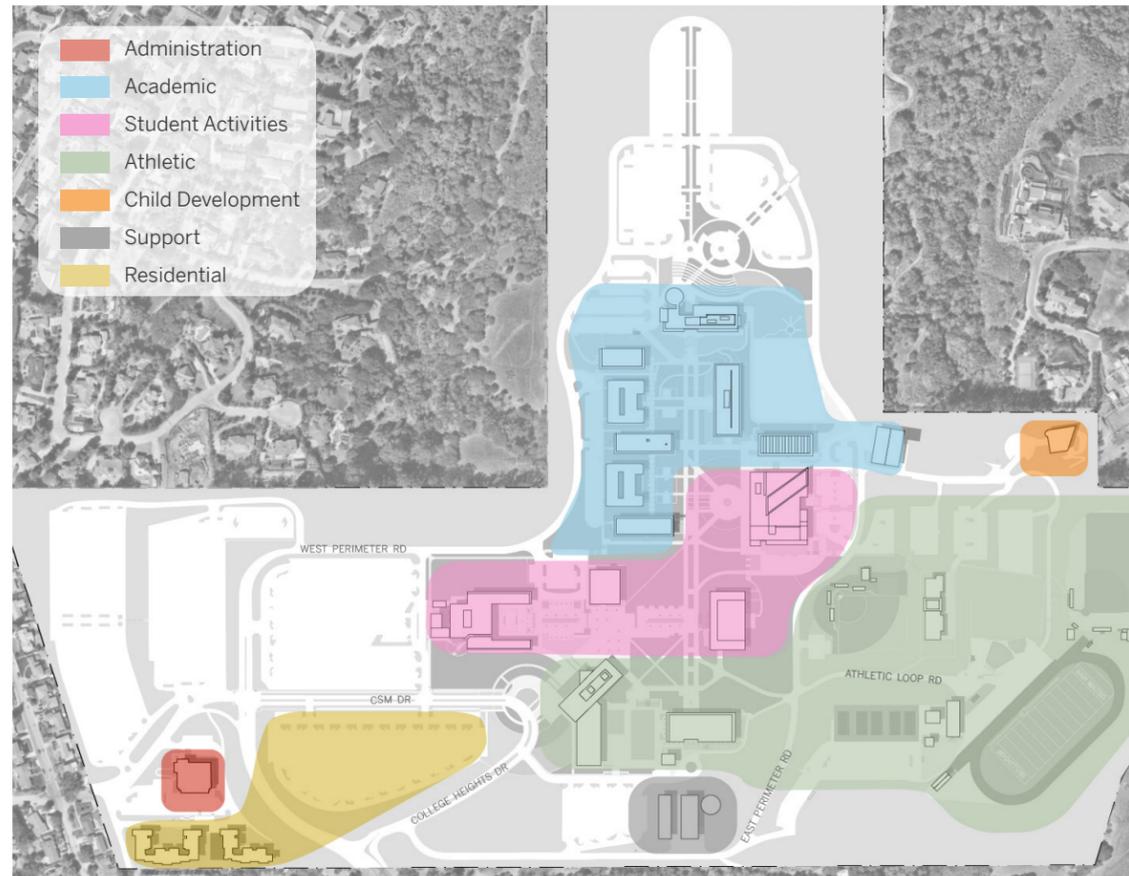


CAMPUS USE

CAMPUS ZONES

CSM has 38 buildings, totaling 710,169 gross square feet (GSF). The campus is organized into several zones that influence the network of activity and user experience on campus.

These include a student activity zone comprising the heart of campus, an academic zone to the north, and athletics to the south.



BUILDING USE

This diagram depicts the predominant use by building, recognizing that most of these facilities include a mix of classrooms, offices, and other spaces.

Student services are clustered in the core of campus; most are located in B10 College Center.

#	Use	Division
1	Office	
2	Lab	Creative Arts & Social Science
3	Student Life	Creative Arts & Social Science
4	Lab	Creative Arts & Social Science
5	Classroom	Kinesiology, Athletics & Dance
7	Support	
8	Athletics	Kinesiology, Athletics & Dance
9	Student Life	Academic Support & Learning Technologies
10	Student Life	Creative Arts & Social Science; Academic Support & Learning Technologies
12	Classroom	
14	Classroom	Business & Technology
15	Office	Language Arts
16	Classroom	
17	Office	
18	Classroom	
19	Lab	Business & Technology
36	Lab	Math & Science



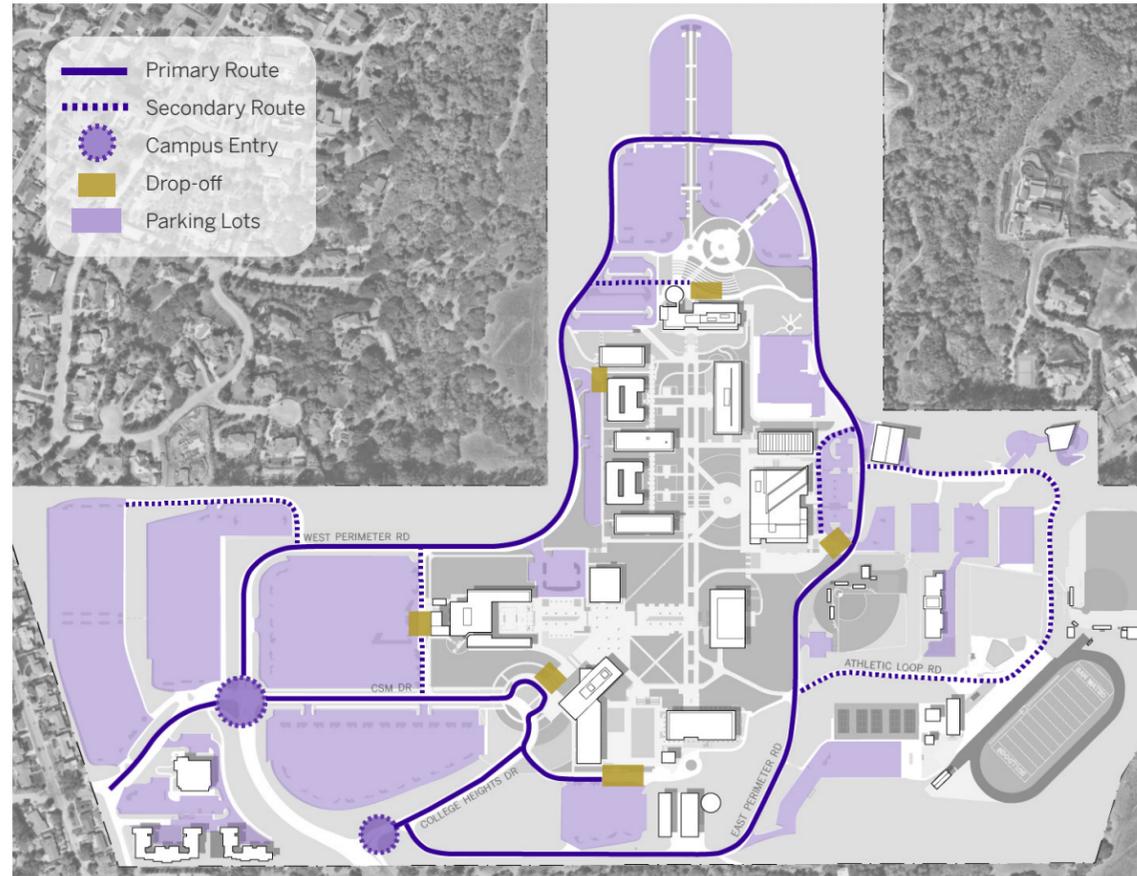
MOBILITY & ACCESS

VEHICULAR

CSM is accessed by the primary entry via West Hillsdale Boulevard and the secondary entry via CSM Drive. West Hillsdale Boulevard connects to CA-92, a major corridor linking the campus to San Mateo's city center and to I-280.

The majority of students and staff access the campus by automobile.*

- 65% drive alone
- 25% are dropped off
- 18% use ride share
- 6% carpool

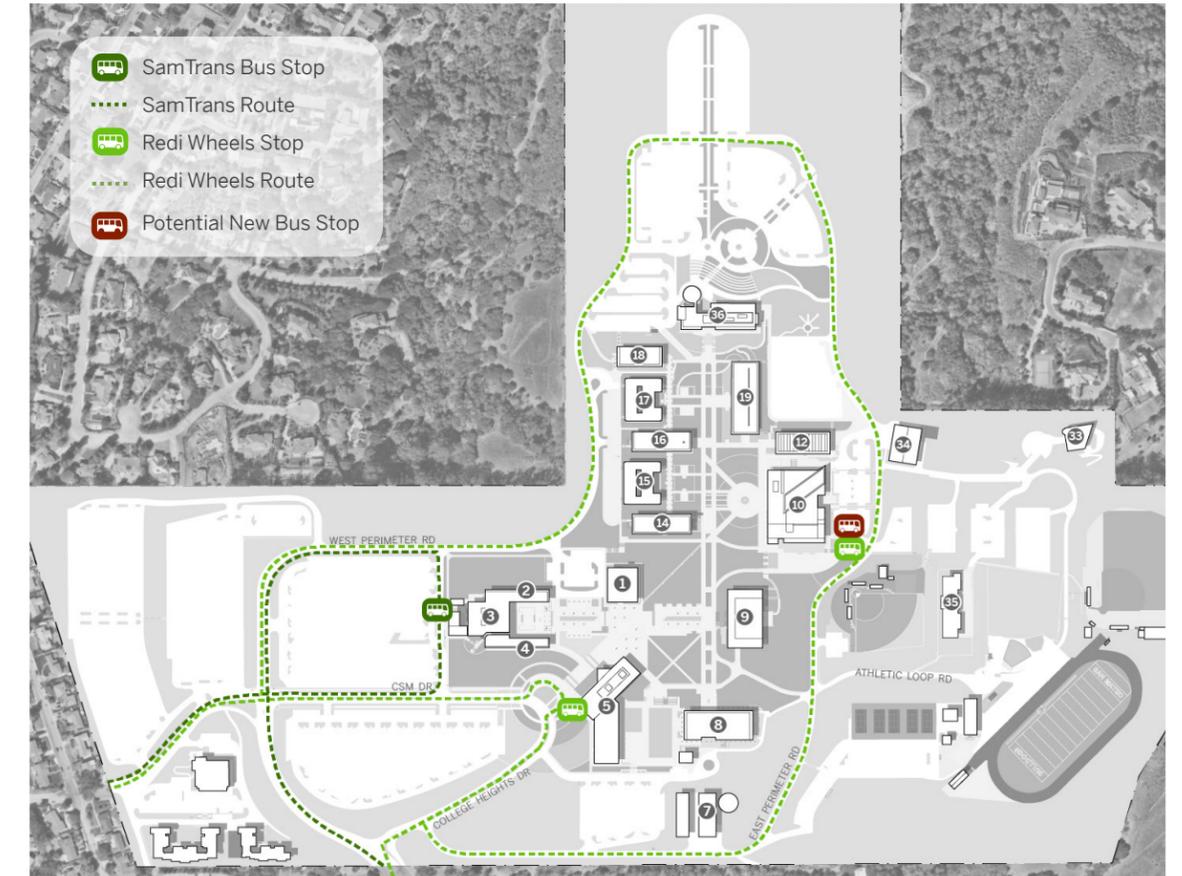


TRANSIT

College of San Mateo is served by 3 SamTrans bus lines, which connect to other Silicon Valley communities and transit centers. The campus is 1.5 miles from the nearest CalTrain Station, Hayward Park.

Nearly a quarter of CSM students use public transit to access campus. Students and other stakeholders noted that the current SamTrans bus stop location is far from the campus core and requires a steep walk uphill. There is an interest in relocation of SamTrans bus stop to B10 College Center.

* Survey respondents were invited to select all applicable responses

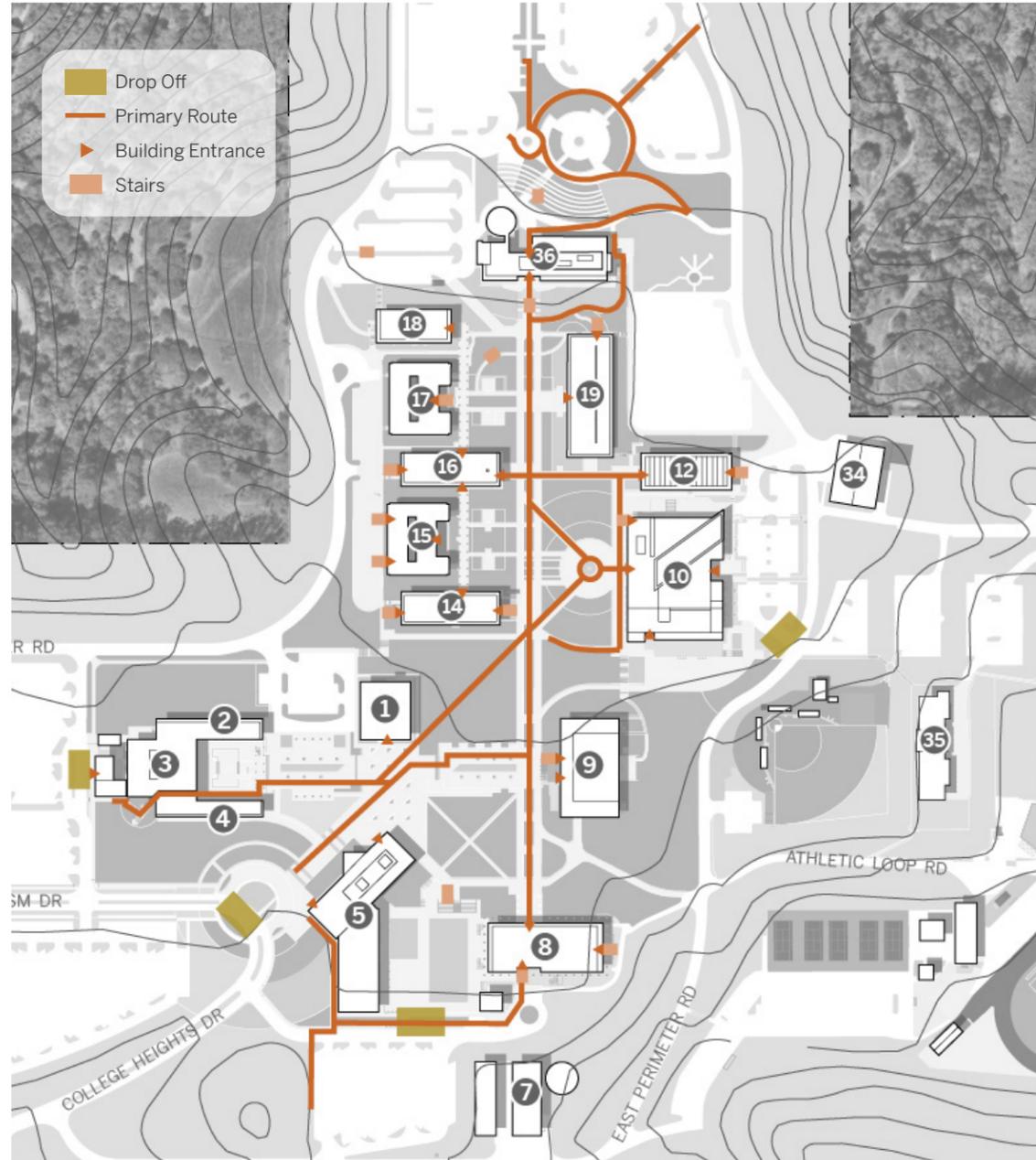


PEDESTRIAN

College of San Mateo's hillside siting presents challenges for pedestrian access to and navigation on campus.

Due to factors including topography, trip distance, and trip origin, few students and staff arrive to campus on foot. The pedestrian network thus begins at vehicular drop-off areas and parking lots and is most robust within the campus core. Sidewalks extend to the periphery of campus but are relatively less utilized.

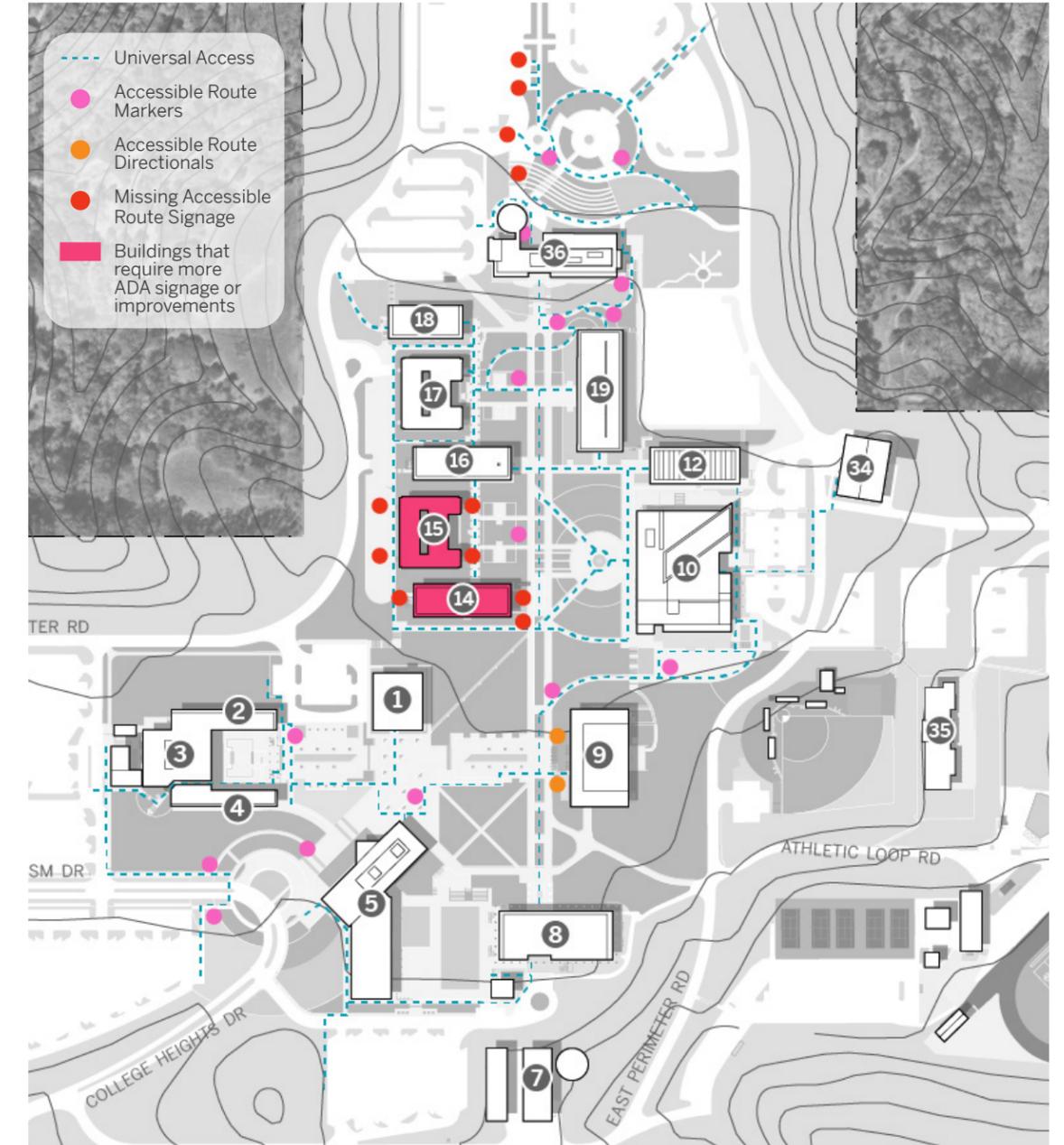
Pedestrian circulation would benefit from greater connectivity and the addition of amenities such as shade, lighting, and signage.



ACCESSIBILITY

The FMP drew upon findings from the 2020 SMCCCD Americans with Disabilities Act (ADA) Self-Evaluation and Transition Plan, which evaluates existing policies, procedures and practices as they pertain to the District's programs, services and activities. The plan specifies the mitigation steps necessary to achieve compliance.

The Transition Plan found that access throughout campus can improve. While the campus core features relatively strong access compared to the peripheries, some buildings require more signage or improvements for disabled access. Additionally, there is missing accessible drop-off signage at Parking Lot 6 and near B14 and B15.



SPACE UTILIZATION

The space utilization assessment provides an overview of classroom and lab space use metrics to help inform future planning decisions. This data was used to evaluate the current and future needs of learning spaces of the CSM campus.

Understanding that the pandemic affected enrollment patterns across higher education institutions over the last two years, the assessment analyzed classroom and class lab utilization data for a typical week during the Spring 2019 and the Fall 2019 semesters only.

The following graphics represent the data of Fall 2019 classroom and lab utilization rates. The analysis and recommendations are focused on classrooms, with only a light review of the class labs, as labs require a deeper understanding of each discipline's curriculum to formulate recommendations.

Classroom utilization is measured by determining the following and is expressed as a percentage of the state standard target.

The following terms are used when calculating utilization rates:

Weekly Room Hours (WRH): number of hours per week a room is scheduled

Station Occupancy (%): percentage of stations occupied in a room

Weekly Student Contact Hours (WSCH): hours per week a station is occupied

These state standards are based on a classroom availability of 70 WRH (Mondays - Fridays, 8:00am - 10:00pm).

CLASSROOMS

Classroom Utilization Standards

WRH: 75% scheduled = 48 hours

% station occupancy: 66%

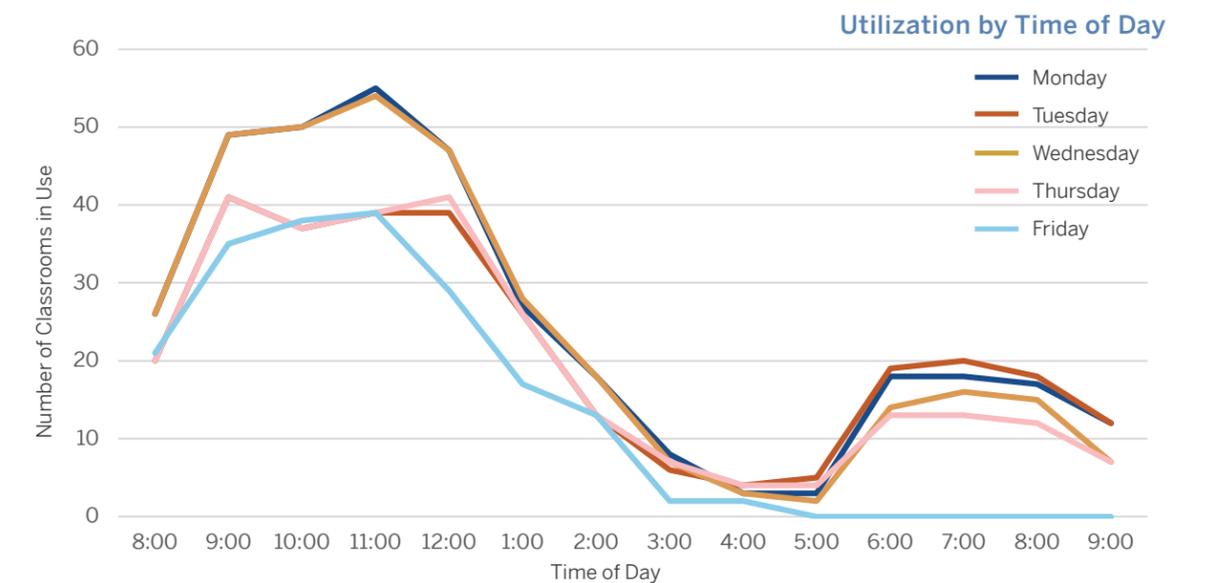
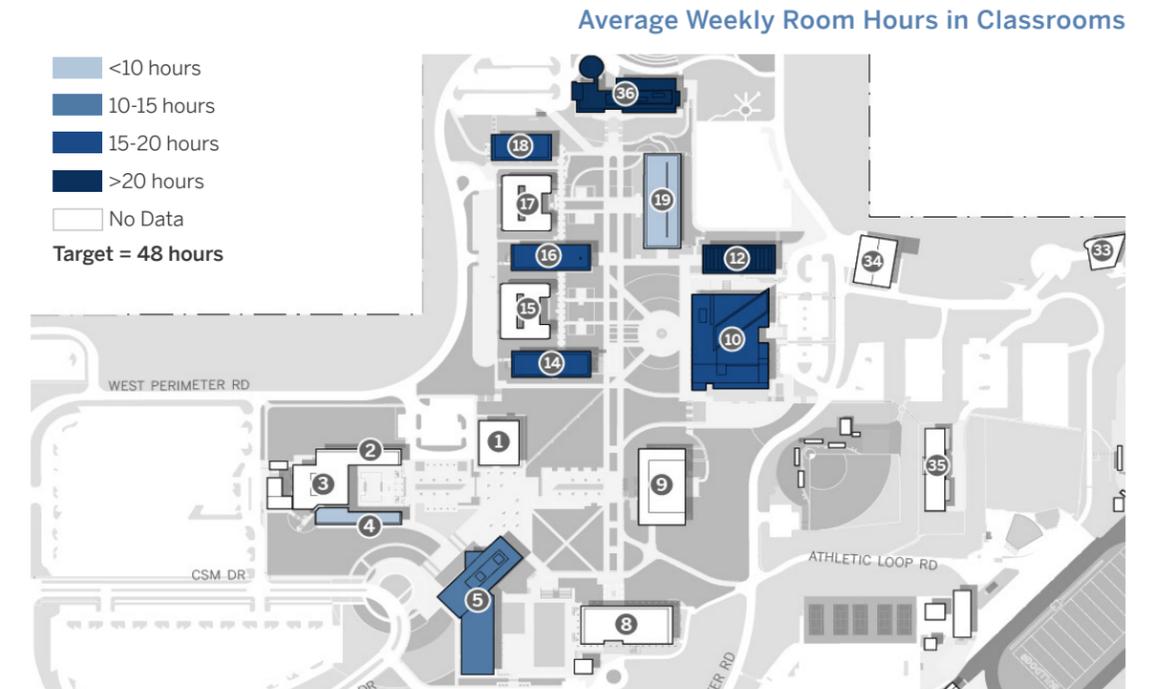
WSCH: 35 hours

Weekly Room Hours

There are 72 classrooms on CSM campus. In Fall 2019, no classrooms met the state target of 48 hours per week. While this data might suggest there are excess classrooms on the campus, it is also important to look at the peak demand for classrooms.

Peak demand for classrooms during 2019 semesters requires 55 classrooms (76%). The majority of community college students attend college part-time to facilitate their ability to work, and these students tend to want classes either as a morning block of time or as an evening block of time, with few students attending during the afternoon.

This finding suggests that if there are not significant increases in enrollment over the next several years, the College could afford to repurpose some classrooms on campus.



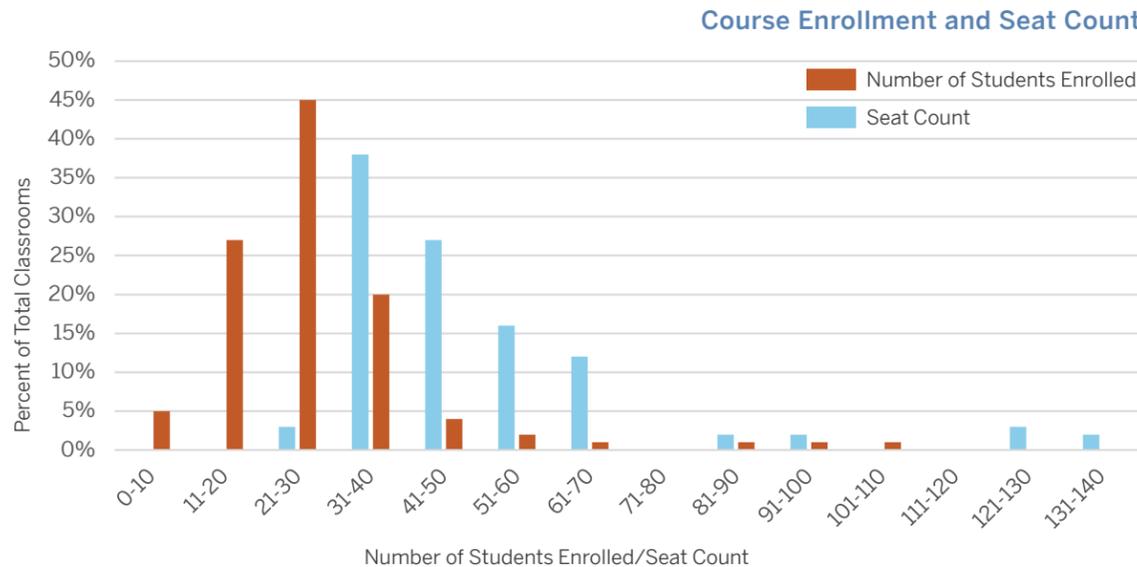
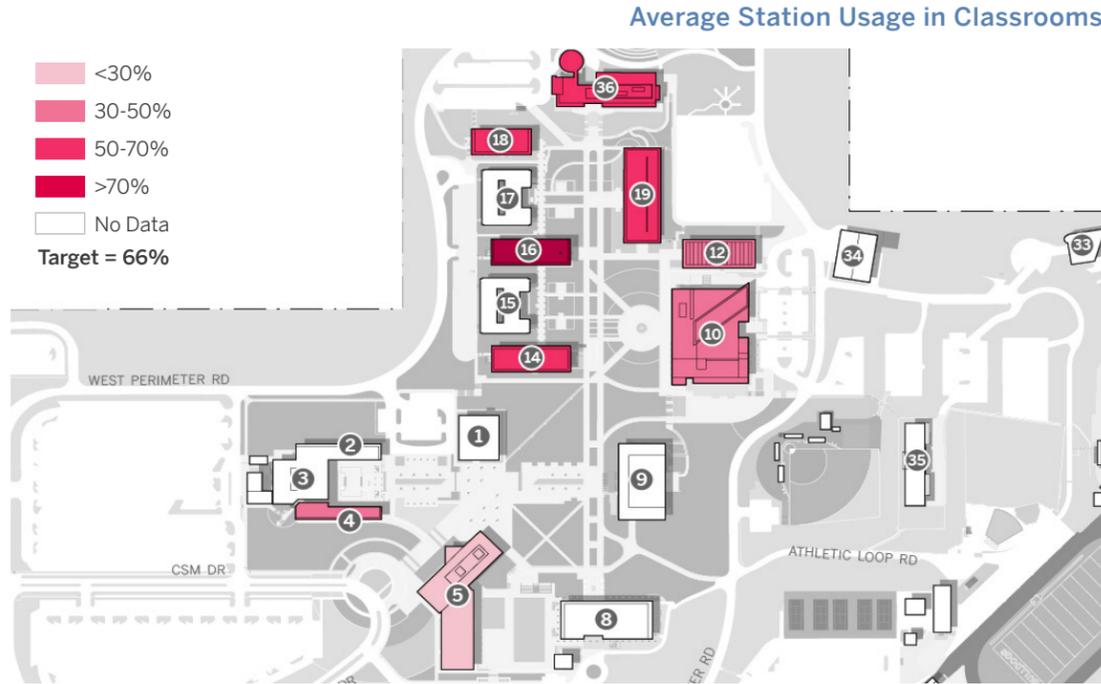
Station Usage

Assessing station usage in classrooms allows us to understand what size classrooms should be and how they should be distributed throughout campus.

Of the 72 total classrooms, only 28 met the 66% occupancy target. This indicates that most classrooms have more student seats than are needed by the actual course enrollments.

For example, 20 students learning in a classroom sized for 45 students results in a 44% (20/45 x 100) occupancy rate. To achieve the 66% occupancy target set by the state, the classroom would have a maximum of 30 seats.

The graph on the right confirms the discrepancy between course enrollment patterns and classroom size distribution on campus. For instance, 59% of the classrooms on campus seat 40-99, yet only 7% of the Fall 2019 courses had enrollments in the 40-99 range. There are no courses requiring more than 99 seats, yet the campus has 3 classrooms with 100+ seats.



CLASS LABS

Lab Utilization Standards

WRH: 34% scheduled = 27.5 hours

% station occupancy: 85%

WSCH: 23 hours

Of the 68 class labs on campus, only 11 met the 27.5 hours per week target set by the state. With regard to station usage of class labs, 15 out of 68 class labs are meeting the 85% occupancy target

Since the majority of class labs are set up to teach particular discipline curricula, the most significant way their utilization can be improved is by following state guidelines for ASF per student when labs are renovated or replaced.

BUILDING PRODUCTIVITY

It is helpful to understand which buildings on campus are producing the most amount of WSCH, and in particular the most amount of WSCH per station.

Per the table below, even though B10, B14, and B16 have more WSCH and more stations, it is actually B5, B12, and B36 that produce more WSCH per student station.

This is an indication that the classrooms and class labs in B10, B14, and B16 could be resized to match the demand of current class sizes. If this were addressed, then the WSCH per station in these buildings would improve significantly.

Building	Stations	WSCH	WSCH per station
B5	594	9,433.5	15.88
B16	823	11,089.5	13.41
B12	155	1,925	12.42
B36	634	7,493	11.82
B18	641	5,774	10.57
B4	208	2,135	10.26
B14	778	7,338.5	9.43
B10	656	4,734.5	7.22
B2	276	1,427	5.17
B19	414	1,755	4.24

KEY FINDINGS

Recognizing the limitations of pre-pandemic data while also assuming enrollment will not significantly increase above 2019 levels, the following findings informed the space use recommendations.

- College of San Mateo needs 60 classrooms based on peak usage of 55 (plus a 10% safety factor), and could afford to repurpose 12 of its existing classrooms.
 - 30% should be in 20 seaters
 - 50% should be 30 seaters
 - 10% should be 40 seaters
 - 10% should have 50+ seats
- Future renovations/additions of class labs should be based on course enrollment data and use the state standards for ASF per student seat.



ASSESSMENTS &
RECOMMENDATIONS

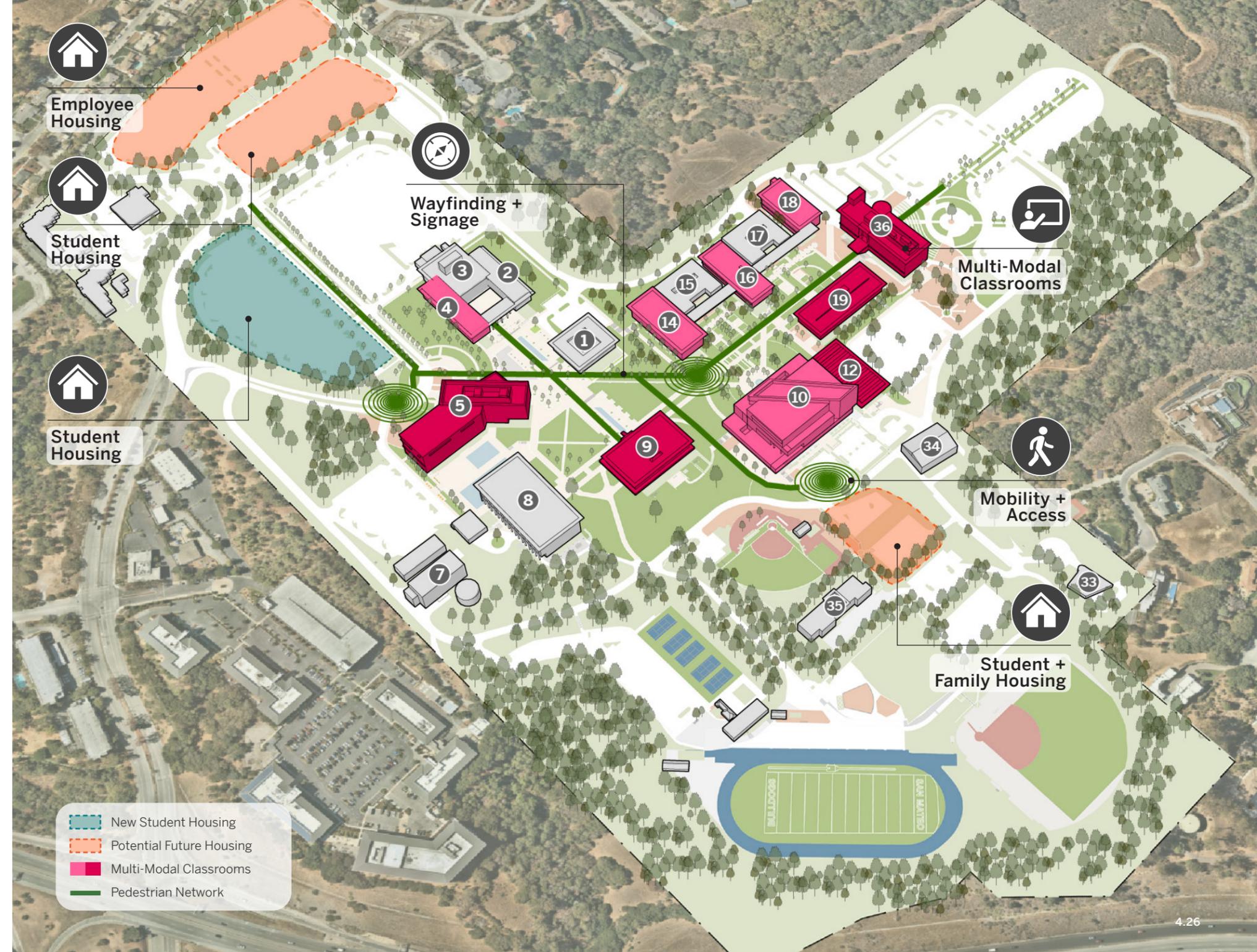
ASSESSMENTS & RECOMMENDATIONS

Key analysis and stakeholder feedback provided the foundation for several assessments that took place in the fall of 2021. These studies assessed areas including facilities and infrastructure condition, energy use, space utilization, wayfinding, and signage.

The assessments resulted in recommendations for campus improvements and future development that are detailed in this section of the report.

The long-term vision for College of San Mateo considers the overall connectivity of campus, imagining opportunities for open space, infrastructure, and circulation improvements that may be made possible as the campus evolves. All new projects should serve to strengthen the connection to the core of campus. Improvements to wayfinding, accessibility, and learning technology can also enhance the campus experience for students, employees, and community members.

This visioning ensures that future development results in a holistic, accessible, and cohesive campus.





Proposed View of B10 College Center

Throughout this section, perspective imagery is provided to envision how recommended strategies and improvements might look and feel across campus.

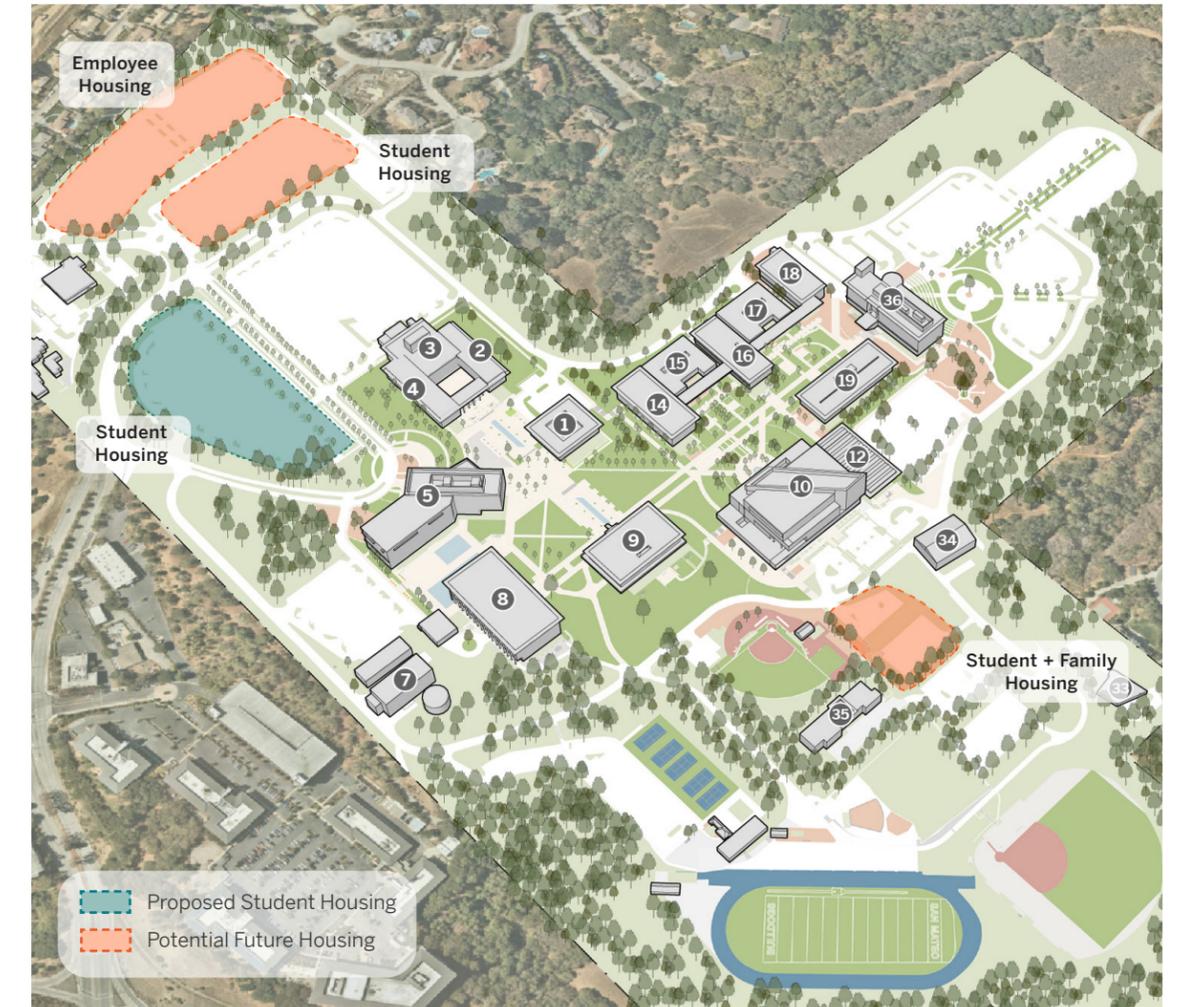
Featuring key points of gathering and circulating, these perspectives imagine ways that these spaces can be even more active and welcoming to the CSM community.

The outdoor space in front of College Center is a dynamic area for students, faculty and staff to convene.

The addition of new directories, signage, and enhanced pedestrian paths will assist wayfinding and contribute to a sense of belonging for all.

HOUSING

The provision of housing to support students and employees is a strong interest of the College and the District. To prepare CSM for future housing development, the FMP identifies opportunity areas for additional phases of housing on campus. While the FMP does not yet propose new housing projects or provide detailed recommendations for programming, the selected sites will allow stakeholders to evaluate challenges, opportunities, assets, and trade-offs. When future projects come forward, site trade-offs, including factors like proximity to amenities and parking availability, can then be determined.



SPACE USE



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Space needs of learning environments and other spaces on campus are ever-evolving, especially post-pandemic. It is important that existing facilities are utilized to their full extent, activating opportunities for the highest and best use of space.

Based on the key findings from the space utilization assessment, the FMP identifies opportunities for reimagining underutilized space on campus.

STRATEGY 1: REPURPOSE ROOMS

This strategy consists of reclassifying classrooms for other purposes, such as meeting rooms, collaboration spaces, individual remote learning spaces, storage, and more.

The benefits of this strategy are twofold. First, reducing the number of classrooms on campus will improve space utilization metrics, specifically Weekly Room Hours (WRH). This will help the College align with state targets for WRH.

Additionally, reimagining classrooms for other uses will serve the need for adaptable spaces for learning, gathering, and collaborating.

There are several advantages of this strategy. Because repurposing would require only light renovation (reconfiguration/addition of furniture, painting, changing signage/fixtures), it does not require a full-scale building renovation to execute. It may be implemented incrementally as the College requires.

Moreover, it is a flexible approach; the approach does not require a permanent change, and rooms can easily be converted back into classrooms as needs evolve.

Collaboration Spaces

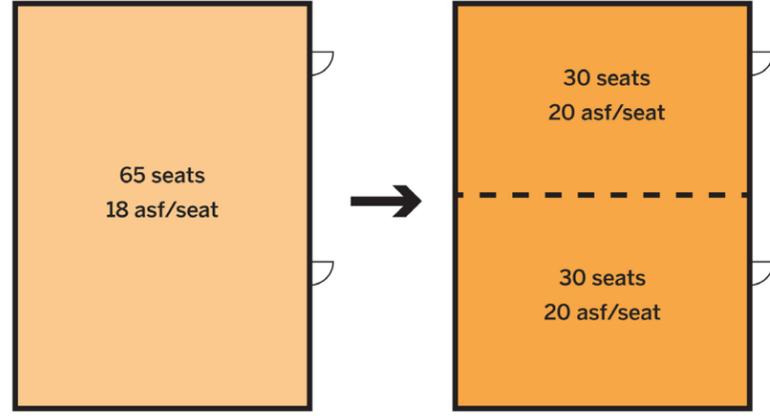
Numerous stakeholders expressed a desire for more informal gathering spaces on campus where students, faculty, and staff can come together to work and socialize. Such spaces are critical to support the College's goal of developing spaces to foster a

sense of belonging among the CSM community. They are also critical in creating a welcoming atmosphere on campus, and one that attracts students to spend time on campus and participate in all the school has to offer.

Individual Remote Learning Spaces

Another potential use for reimagined classrooms is the creation of individual remote learning spaces. Student schedules look different on a post-pandemic campus. Some

students may arrive for an in-person class at 10:00 AM, followed by a course with remote instruction at noon. This type of hybrid schedule presents the need for spaces serving students participating in remote courses while physically on campus.



STRATEGY 2: SUBDIVIDE LARGE CLASSROOMS

A secondary strategy aims to improve station usage by right-sizing learning spaces through the subdivision of select large, underutilized classrooms.

While if executed independently, this measure would increase the number of classrooms on campus, when coupled with the first strategy of repurposing certain classrooms, it would have the effect of aligning station usage with state targets.

This strategy would demand a relatively heavier intervention as compared to flexibly repurposing the space. It requires the construction of an additional partition wall and associated work such as electrical, lighting, egress reconfiguration.

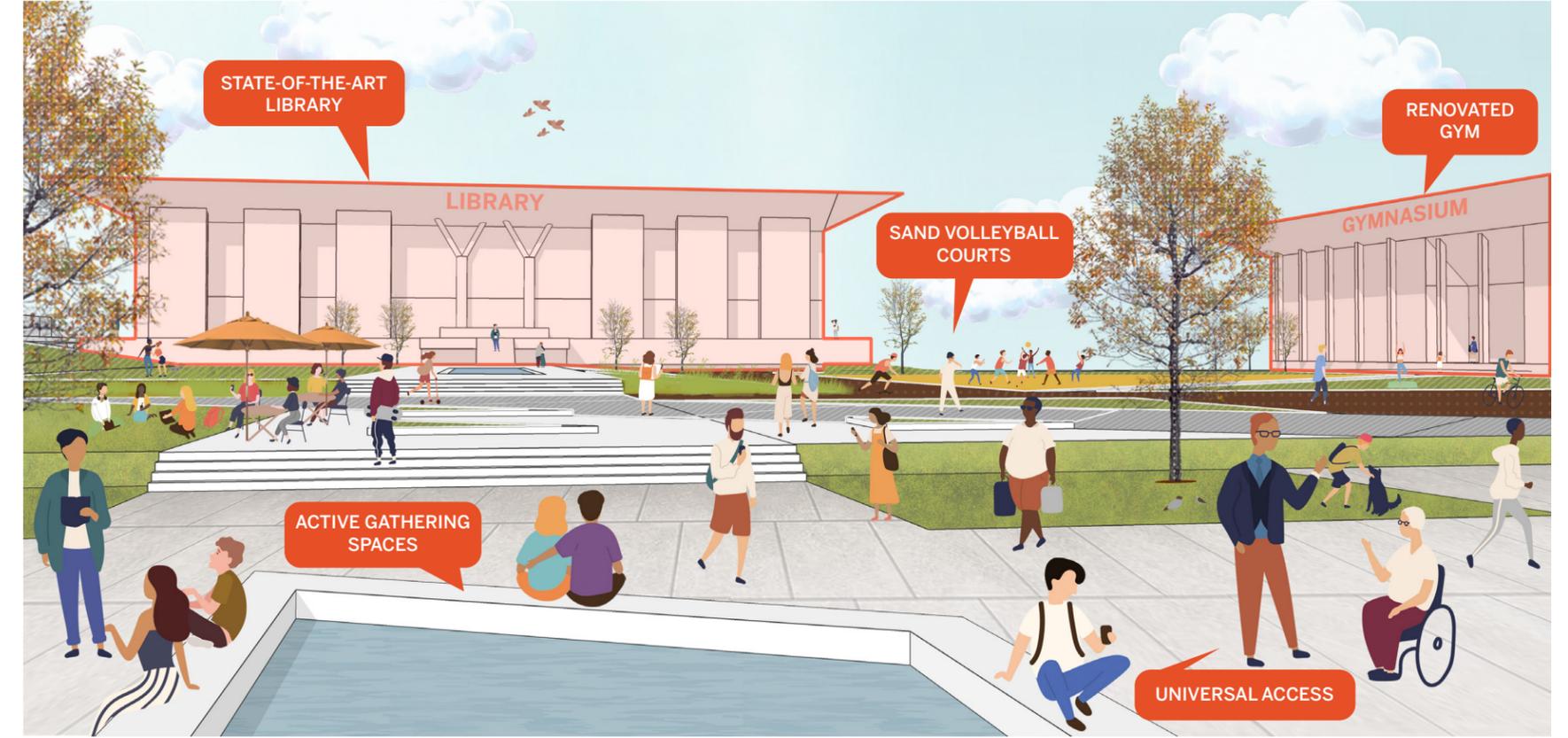
As the College’s needs continue to evolve, the desire for smaller learning spaces may fluctuate. As such, this strategy is but one that the College may wish to pursue to maximize the efficiency of existing space on campus.

OTHER SPACE OPPORTUNITIES

Stakeholders expressed a desire to consider other non-learning spaces to revitalize underused facilities.

Art Gallery

To support the College’s goal of highlighting creativity among the CSM community, the FMP recommends the creation of an art gallery space to showcase work by students. Recommended locations include the Performing Arts complex (B2-4) and B10 College Center. Future study is recommended to determine specific programming and renovation work required to establish a gallery space.



Proposed View of B9 Library Plaza

Library

CSM’s Library is located in the center of campus at the end of a grand plaza. The Library’s mission is to support the lifelong learning needs of its students. While the Library provides access to extensive learning resources, some observed that students are unaware of the facility’s offerings and are unlikely to spend time there.

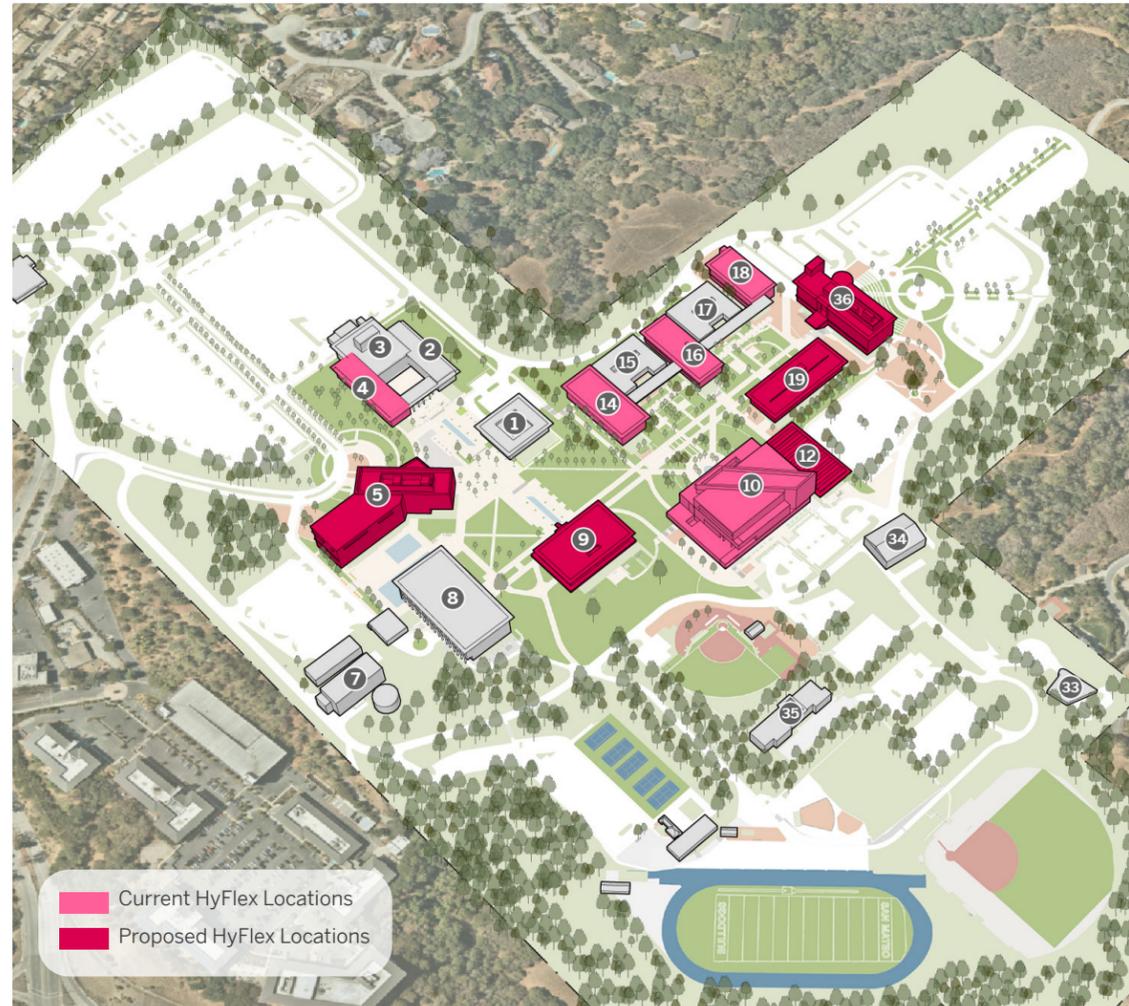
Reimagining the library to include new spaces for collaborative work and individual studying and remote learning would aim to attract students to the library and take advantage of its many offerings.



MULTI-MODAL CAMPUS

Options for remote instruction of courses were popularizing before 2020, but now, these offerings are even more critical for students and faculty alike. Classrooms and labs must be equipped with the resources necessary to support hybrid delivery of education. The FMP recommends expanding the number of classrooms and labs that accommodate multiple modalities.

This project may be strategized alongside building renovations and space use upgrades for maximum efficiency.



New HyFlex technology implemented in Cañada College B1



HyFlex class in session

For instance, as B9, B12 and B19, are modernized in the next several years, instructional spaces should be upgraded with the technology and resources necessary to support multiple instructional methods, from lectures and group work, to discussions serving in-person and remote students.

Other proposed additional locations of multi-modal spaces include B5, to serve the Kinesiology/Athletics/Dance division and B36, to serve the Math/Science division.

Current HyFlex classroom locations	Proposed additional locations
B4 (1)	B5
B10 (5)	B9
B14 (3)	B12
B16 (4)	B19
B18 (13)	B36

MOBILITY & ACCESS

The vision for mobility at CSM aims to improve the experience of arriving to and moving through campus for all users, whether on foot, driving a vehicle, or using public transportation. Several projects are recommended to enhance mobility on campus.

BUS STOP RELOCATION

The FMP recommends that the College work in coordination with SamTrans to relocate the bus stop from its current location near B4 to a new site at B10. The new location is favorable for its accessibility and proximity to the center of campus.



Proposed View of New Housing & Drop-Off

As new student housing is developed, further study may be required to determine whether a secondary bus stop would be desirable near the residential zone. New student housing also presents opportunities to consider vehicular, transit, and bicycle circulation around the site and improve the car/shuttle drop-off area near the campus core.

ENHANCED PEDESTRIAN REALM

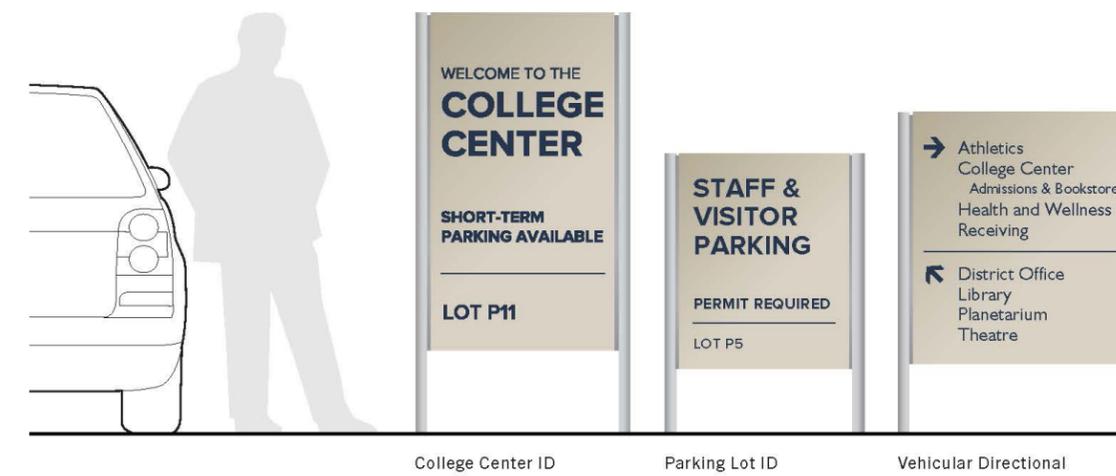
The pedestrian realm would benefit from the addition of amenities such as shade, achieved by installing new trees or shade structures, and improved lighting, especially leading to parking lots. Sidewalk conditions should be carefully maintained.



WAYFINDING & SIGNAGE

Recommendations for wayfinding address vehicular and pedestrian signage and building identification, aiming to improve the campus navigation for first-time visitors and long-time users alike.

College of San Mateo's existing wayfinding system was clear and well-developed when it was implemented. However, there is an opportunity to update sign messages and aesthetics of the program to cater to users. Future improvements to wayfinding on the campus should prioritize several projects. The full wayfinding assessment report can be found in the FMP appendix.



ADDITIONAL PEDESTRIAN DIRECTORY SIGNAGE WITHIN THE CAMPUS CORE

Pedestrian signage is well-placed around the perimeter of campus, but the interior of campus would benefit from more support.

Several large areas of campus have no orientation or directional signage, even when there are major destinations or multiple paths to choose from. Additional signage would improve navigation for users.

UPDATE OF VEHICULAR DIRECTIONAL SIGNAGE

To achieve greater clarity, the graphic layouts of signs should feature listings clearly separated by direction. Multi-line messages and secondary destinations should have consistent design. Redesigning signs to have a higher contrast will aid in legibility.

Additionally, the graphic layouts of the street signs are unique, but can be difficult to read, especially when faded. It is recommended to simplify the design to be a solid color with contrasting text.

IMPLEMENT A "FRONT DOOR" EXPERIENCE AT COLLEGE CENTER

The current parking lot 8, is the "front door" for many new or prospective students. It is also the recommended new location for the campus bus stop. There is an opportunity to increase the visibility and prominence of this parking lot entry to support the "front door" experience.

ADD MORE DETAILED DIRECTORY LISTINGS ON CAMPUS MAPS

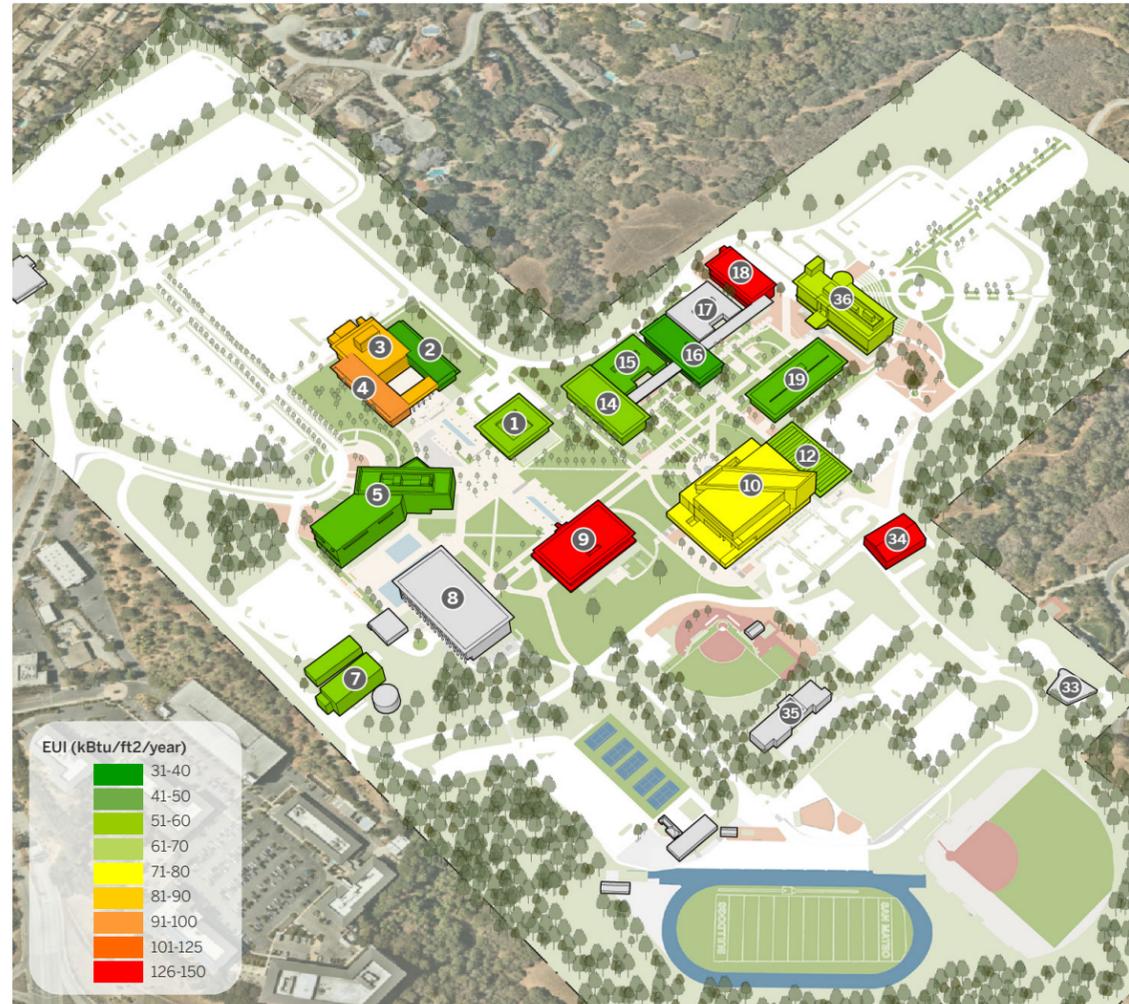
Currently, CSM only provides a map of the buildings with names and numbers listed. There is an opportunity to take advantage of this space to provide more information to visitors.

Directory listings should provide both buildings and major departments. This adds significant value to the investment of the signs. Additionally, adjusting the design and construction of the directories would allow the sign panels to be changeable, in turn allowing the content to be updated more easily and frequently.

SUSTAINABILITY

ENERGY USE INTENSITY

Energy Use Intensity (EUI) is a metric of energy performance expressed as energy consumption per gross square foot (GSF). Campus Level EUI for each academic year is determined by dividing annual energy consumption data by campus's GSF. While EUI has improved over the years thanks to energy efficiency measures, it is still high at CSM compared to current benchmark for academic buildings in Northern California.



PATH TO CARBON NEUTRALITY

In addition to the optimization measures listed in the Decarbonization Strategy, Spring 2020, the FMP recommends building envelope optimization as an additional measure that can significantly reduce operational energy costs and operational carbon emissions (Scope 1 and 2).

Building optimization can have a much larger potential role in reducing GHG (greenhouse gas) emissions. The FMP includes this preliminary study to understand the relative impacts of envelope upgrade options. Further investigation using detailed energy modeling and cost-benefit analysis is recommended for informed decision making on a project by project basis.

Building Envelope Optimization Study

The study uses a shoe-box energy modeling of a fictitious two story 30,000 SF building resembling the exiting construction of existing buildings. The annual energy use data EUI data shows a very high use of natural gas, indicating space heating being the major energy consumption in these buildings. The energy model

confirmed that heating is the largest consumer of energy, given the climate and the uninsulated nature of the old existing buildings with single pane glazing.

Changing the glazing in the energy model to dual glazed high-performance glazing with low-e coating, reduced the EUI (Energy Use Intensity) from 44.27 to 38.4. This constitutes a 13% energy reduction without changing any other elements.

Adding roof insulation will be more economical measure than changing out the windows, resulting in EUI reduction of 14.9%, which is better than high-performance glazing option.

By combining both the measures—roof insulation and high performance glazing—the EUI drops from original 44.27 to 29.92, which is a 32% reduction. The heating energy use reduced drastically from 22.68 EUI to 9.57 EUI, a 58% reduction of heating energy use.

To move toward carbon neutral campus, it is recommended that the District places further emphasis on energy conservation through envelope upgrades, which can help to downsize

the on-site renewable energy projects and help achieve carbon neutrality in a more economical way.

It is recommended that the District develop a detailed feasibility study for envelope upgrades, including roof insulation, window replacements, and wall insulation in existing buildings using existing metered data of energy use, detail energy modeling and cost-benefit analysis.

Transition to Heat Pump Water Heaters

As a cost-effective decarbonization measure, it is recommended that the District replace existing gas water heaters or electric resistance heaters to electric heat pump water heaters for domestic hot water (DHW).

Transition to all electric buildings will further reduce energy use intensity, as space heating and domestic hot water through electric heat pumps are 3.5 more efficient than gas boilers. They will potentially reduce EUI of buildings by over 2 kBtu/sf/year based on the estimated DHW energy use.



ELECTRICAL STUDY

The Electrical Infrastructure Assessment approached the study with overall goals of improving sustainability, redundancy, and resiliency of the electrical infrastructure and overall College infrastructure. A range of potential electrical infrastructure design options would need to be developed and evaluated outside of this assessment to meet the following specific goals:

1. Eliminating natural gas usage through electrification
2. Reducing the electrical load impact
3. Minimizing life cycle costs of the electrical infrastructure

RECOMMENDATIONS

EV Charging Expansion District Fleet

District is targeting the year 2030 to convert all district vehicle fleet to electrical vehicles.

EV Charging Commuter Expansion

EV Charging Commuter Expansion can certainly be expanded to all parking lots as there is sufficient capacity.

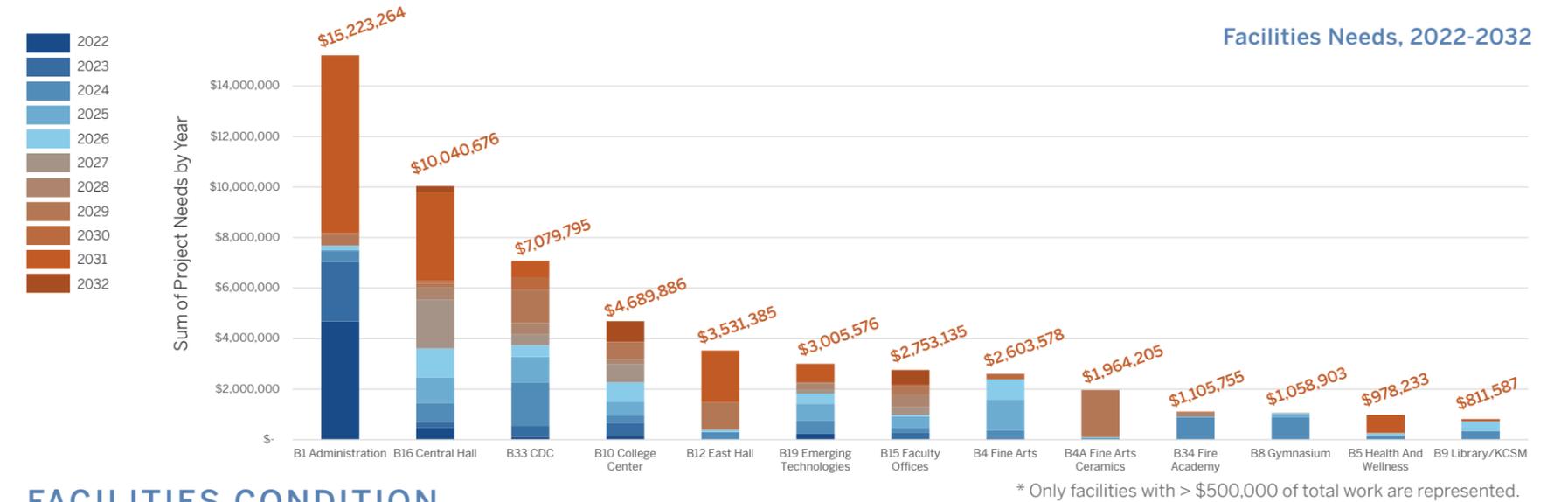
New Electric Boilers

If the campus decides to continue with electrification of the boilers, an expansion of the electrical system will be necessary.

NET ZERO GOALS

One method to reach zero net electrical would be expand the district's renewable energy sources, whether it is district owned or via Power Purchase Agreement (PPA). Based on Zero Net Energy Strategy document produced in 2017, provides an outline strategy to meet and exceed California's goal for all new commercial construction and 50% of existing buildings to be Zero Net Energy by 2030.

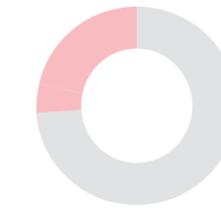
The full Electrical Infrastructure Assessment report can be found in the FMP appendix.



FACILITIES CONDITION

The Facilities Condition Assessment surveyed facilities on campus, focusing on systems including site and infrastructure elements, structural frame and building envelope, roofing, plumbing, HVAC, fire protection, accessibility.

The data gathered by the assessment is provided to the College's maintenance and operations team to assist in decision-making and project planning. This includes information on system expenditure forecasts, immediate needs, component condition, and priority projects. The full assessment report can be found in the FMP appendix.



27%
of total facilities needs relate to **B1 Administration**

4
buildings with **over \$2m** in needs



18%
of total facilities needs relate to **B16 Central Hall**

2
buildings with critical projected **Facilities Condition Index (FCI)**



FMP PROJECTS

FACILITIES MASTER PLAN

The Facilities Master Plan presents the recommended projects planned to be pursued at College of San Mateo for the next 10 years.

Based on the analysis of existing conditions, previous planning efforts, research and assessments, and multiple meetings with College stakeholders, the FMP proposes five modernization projects. These critical projects are the priority of CSM and shall be initiated and/or continued over the next decade.

These projects are informed by District-wide Planning Principles and are recommended to support several of the College's FMP Goals, including renovating facilities to anticipate evolving program needs, providing accessible and well-connected housing for students, and developing spaces to support collaboration among the CSM community.

Several key buildings on campus have been identified as priority renovation projects.

- B7 - Facilities Maintenance Center
- B8 - Gymnasium (IPP)*
- B9 - Library (FPP)*
- B12 - East Hall
- B19 - Emerging Technologies (IPP)*

* Denotes projects included in 2023-2027 Five-Year Capital Construction Plan.

This work furthers the College's goal of modernizing facilities to support the evolving needs of academic programs and student services.



PROJECTS

BUILDING MODERNIZATIONS



Building 9 Library: This project will modernize the 53-year old library so that it can be reconfigured as a one-stop place for information needs, technology needs, and related services that support modern teaching pedagogies that have evolved over the last 50 years since the library was built.



Building 19 Emerging Technologies: This modernization will allow for the construction of new state-of-the-art building for consolidation and centralization of highly active technology programs in Computer Information Science (CIS), Electronics, Engineering, Architecture, Building Technology, and Computer Aided Drafting.



Building 8 Gymnasium: The Gymnasium was listed as a high priority in the Board Adopted 2015 Facilities Master Plan. Originally planned to be a demolition and a replacement with a new building, it has been determined that a modernization of the existing is a more feasible alternative to upgrade the facility as a learning environment that enhances health and wellness.



Building 12 East Hall: This modernization will update the facility to provide flexible learning environments to better serve the Administration of Justice program, Fire Technology classes, Middle College, the Center for Student Life & Leadership Development, and the Associated Students of CSM (ASCSSM).



Building 7 Facilities Maintenance Center and Corporation Yard: Constructed in 1963, the FMC has outdated systems and equipment that require modernization. Renovations to the Corporation Yard will include the expansion of the existing yard and the addition of service vehicle protection and equipment, as well as improvements to paving, lighting and fencing.



ATHLETIC TURF REPLACEMENTS

The three synthetic fields, including football field, the soccer field, and the baseball field, will require replacement in the next 10 years in order to remain usable for sports and recreation. The track will also require replacement.

COST ESTIMATION

The FMP provides estimated costs for the building projects identified as priority projects in the next 10 years. Exact costs will be determined as programming and scope of work is confirmed closer to project implementation.

Other cost estimation, including for potential classroom renovations, is included in the FMP appendix.

BUILDING MODERNIZATIONS

#	Building	GFA	\$/SF	Total Cost
7	FMC	15,245	\$440	\$6,707,800
8	Gymnasium	55,813	\$505	\$28,185,565
9	Library	49,402	\$670	\$33,099,340
12	East Hall	22,376	\$516	\$11,546,016
19	Emerging Technologies	30,856	\$630	\$19,439,280
			Total	\$98,978,001

Notes:

1. Construction cost calculated in June 2022 dollars
2. Escalation to midpoint is excluded
3. Hazmat is excluded
4. Soft costs and FF&E are excluded
5. New construction includes adjacent sitework costs

PARTICIPANTS

PRESIDENT'S CABINET

Jennifer Taylor-Mendoza
President

Mike Holtzclaw
Vice President of Instruction (past)

Micaela Ochoa
Vice President of Administrative Services (past)

Kristi Ridgway
Acting Vice President of Student Services

David McLain
Director of Community Relations & Marketing

COMMITTEES & GROUPS

Management Council

Associated Students

Academic Senate

Classified Senate

PRIE and Equity

Admissions and Records

EOPS

Welcome Center

Disability Resource Center

Promise Scholars

Multicultural and Dream Center

Student Life and Leadership

International

Institutional Planning Committee

Health and Wellness

Child Development Center

Academic Support and Learning Technologies

Math and Science

Business & Technology

Creative Arts and Social Science

Kinesiology, Athletics and Dance

Language Arts

Administration of Justice & Fire Technology

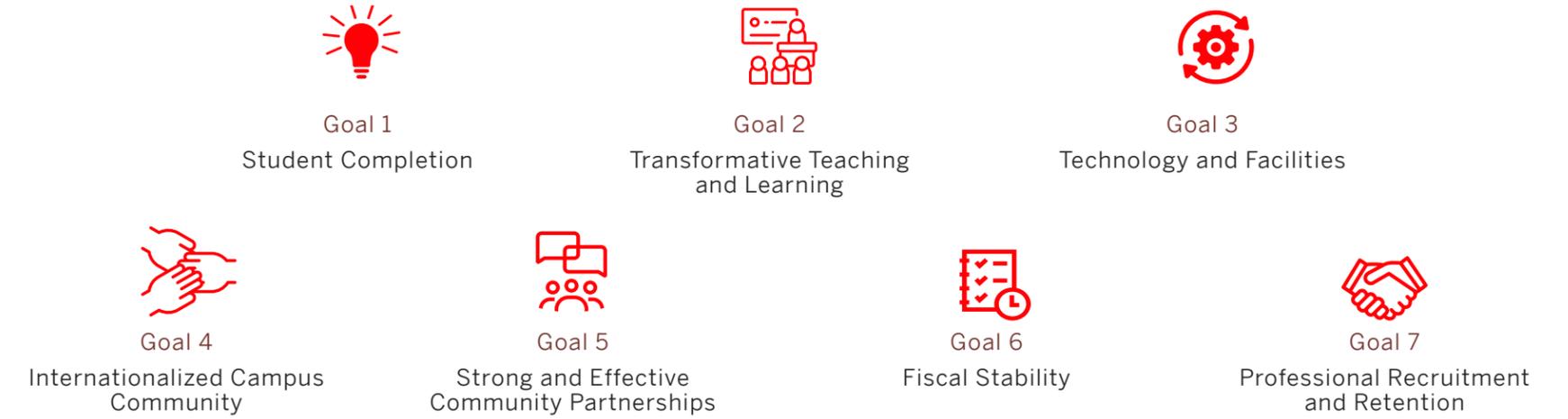
Community Forums

05

SKYLINE
COLLEGE



INTRODUCTION



INTRODUCTION

Skyline College is a public, two-year community college located in San Bruno, California. Established in 1969, Skyline has striven to create opportunities for learners at every level and every age to help lower the barriers to higher education.

Skyline College is committed to developing culturally rich and globally informed educational opportunities for over 17,000 current students. Skyline provides more than 100 degree and certificate programs to support students’ educational goals in an affordable environment. Academic divisions include Academic Support

and Learning Technologies, Science/Technology, Business/Education/Professional Programs, Social Sciences/Creative Arts, Kinesiology/Athletics/Dance, and Language Arts.

Skyline is a top destination for students working to transfer to a four-year college or university due to transfer agreements with a wide range of public and private colleges including UC Berkeley, UCLA, UC Davis and San Francisco State University.

MISSION & VISION

“Skyline College’s mission is to empower and transform a global community of learners. The College also inspires a global and diverse community of learners to achieve intellectual, cultural, social, economic and personal fulfillment.”

VALUES

- Social Justice
- Campus Climate
- Open Access
- Student Success and Equity
- Academic Excellence
- Community Partnership
- Participatory Governance
- Sustainability

EDUCATION MASTER PLAN LINKAGES

The Skyline Education Master Plan (2018-2023) provides a blueprint of expansion areas for the college and a guide to achieving the college’s strategic goals to meet the changing and future needs of students and the community.

The Education Master Plan was developed in consultation with both internal and external stakeholders. It provides an analysis of the student demographic and labor trends and suggests implications for program and service development.

The Education Master Plan outlines seven major strategic goals that are grounded in equity-mindedness, social justice, and the valuing of interculturality.

The 2022 FMP builds on the foundational priorities defined in the District Strategic Plan and the Skyline Education Master Plan.

COLLEGE GOALS

The Skyline College Facilities Master Plan Goals were determined through extensive feedback from student, faculty, staff, administrative, and community representatives. The goals have informed the recommendations contained within the FMP and will continue to guide the implementation and prioritization of projects.

1 REINFORCE SKYLINE'S IDENTITY AS A **21ST-CENTURY EDUCATIONAL DESTINATION** FOR STUDENTS

3 CELEBRATE **INTERCULTURALITY** IN VISUAL IDENTITY WITH A CAMPUS-WIDE PROGRAM OF REPRESENTATIONAL ART AND MONUMENTS

5 **MODERNIZE** THE PERFORMING ARTS BUILDING, LIBRARY, AND CAMPUS CENTER TO **SUPPORT EVOLVING NEEDS**

7 SUSTAINABLY UTILIZE EXISTING FACILITIES FOR **EXCITING AND ADAPTABLE NEW USERS**

2 PROMOTE **BELONGING, EQUITY, AND ANTI-RACISM** IN STUDENT EXPERIENCE

4 ENHANCE THE **COLLEGE'S GATEWAY** TO WELCOME NEW STUDENTS, VISITORS, AND THE GREATER COMMUNITY

6 CONSIDER **LONG-TERM FACILITIES NEEDS** OF CREATIVE ARTS, KINESIOLOGY, AND ATHLETICS PROGRAMS

8 DEVELOP **CELEBRATORY, CLIMATE-ADAPTIVE** OUTDOOR EVENT SPACES



EXISTING CAMPUS

1. Fine Arts
2. Campus Center
3. Physical Education
4. Administration/Intercultural
5. Library/LRC
6. Student & Community Center
7. Sciences & Allied Health
8. Academics
9. Automotive Lab
10. Automotive
11. Automotive Transmission
12. Environmental Science
14. Loma Chica
15. Athletic Field Restroom
16. Team House
17. Track Field House
18. Baseball Press Box
19. Pacific Heights
- 21-24. Facilities Maintenance Center

RECENT PROJECTS PRIOR TO 2022 FMP

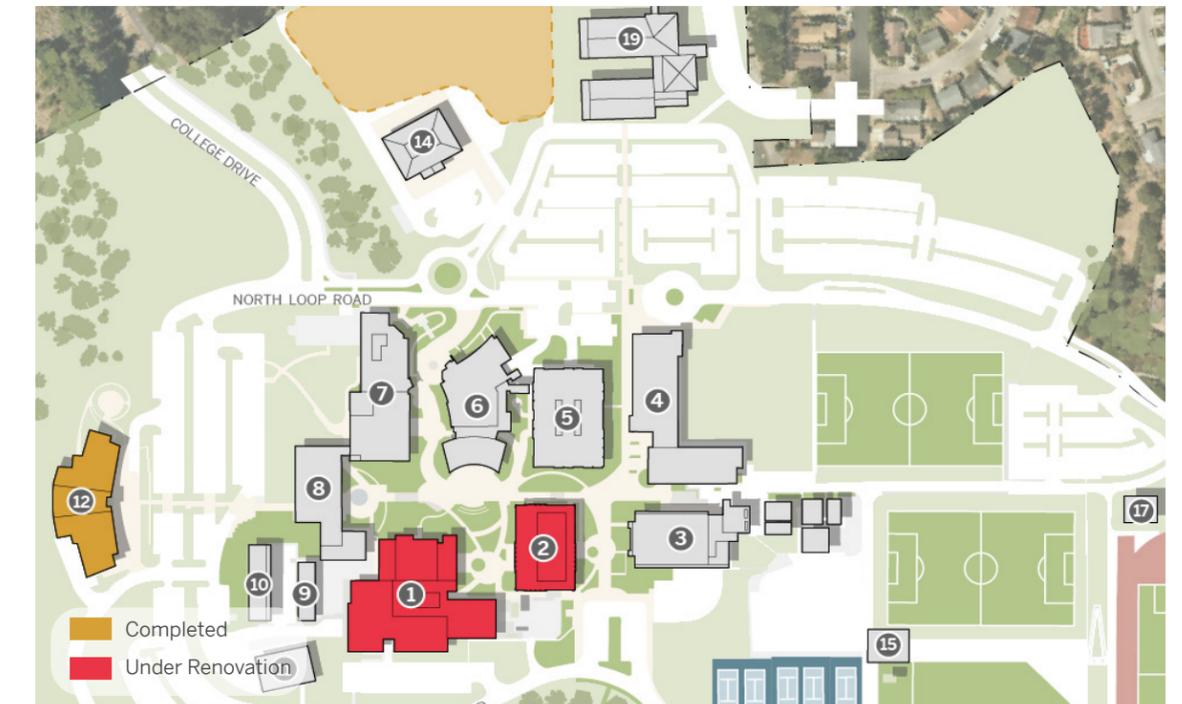
Since the previous FMP in 2015, several projects have been completed or initiated.

Completed

- B12 Environmental Science
- Lot L Expansion

Under Renovation

- B1 Fine Arts (minor upgrades)
- B2 Campus Center





KEY ANALYSIS &
TAKEAWAYS

ENGAGEMENT TAKEAWAYS

Engagement with Skyline stakeholders informed every phase of the Facilities Master Planning process, from Discovery and Analysis to Draft and Final Plan preparation.

Interviews with key programs and departments, working groups with students, and community forums resulted in a diversity of voices shaping the content of the FMP.

Several key themes emerged from the early listening sessions with participants. These included questions about equitable learning and working environments, desires to improve on-

campus technology, and interest in developing a campus-wide program of intercultural art and signage. Feedback also emphasized that the plan should focus on student-centered facilities.

These concepts led to the development of the FMP goals and priority projects for the campus short- and long-term vision.

STUDENT ENGAGEMENT

Skyline leadership identified students as the primary stakeholder for the FMP. Interactive interviews conducted with Skyline Associated Students were highly valuable to understanding more about the ways students access and use campus.

Students indicated areas where they enjoy studying and working in groups and described what made these spaces successful. They also provided valuable feedback on pedestrian and public transit access.



COMMUNITY FORUM

Civic engagement is a key goal of the College and the FMP. To seek feedback from the College's greater community, a public forum held in October 2021 to share master plan progress, purpose, and goals and solicit feedback. Attendees answered survey questions regarding method and frequency of campus access and ideated opportunities for the College and community to deepen their relationship.

A subsequent forum was held in May 2022 to share the draft plan and obtain feedback.

How can Skyline College support its community?



Farmers market, theater shows events	a wellness center	It shares a lot of community space for the residents around that area.
More indoor spaces for gathering in community out of the elements.	Farmers market, wellness events	Dynamic indoor community spaces with internet and collaborative spaces
Bring classes into community spaces, partner with the new rec and aquatic center	heating and cooling centers	More community Events, Wellness Bldg, Farmer's Market, Free Wifi everywhere

CAMPUS CONTEXT

Located in the northern region of San Mateo County near San Francisco, Skyline College is situated on a hillside site that provides beautiful views of the Pacific Ocean.

The College is located within the City of San Bruno near the border with Pacifica. The campus is situated among single- and multi-family residential uses, commercial parcels, and ample open space. It is easily accessed by CA-1 and I-280, connecting the school to other parts of the county and greater Bay Area.

The College operates within Silicon Valley, which poses several challenges for Skyline students and staff. The region's high costs of living, lack of affordable housing, and limited public transportation are important issues to understand from a facilities planning perspective. The FMP seeks to integrate this context into analysis, recommendations, and implementation strategies.

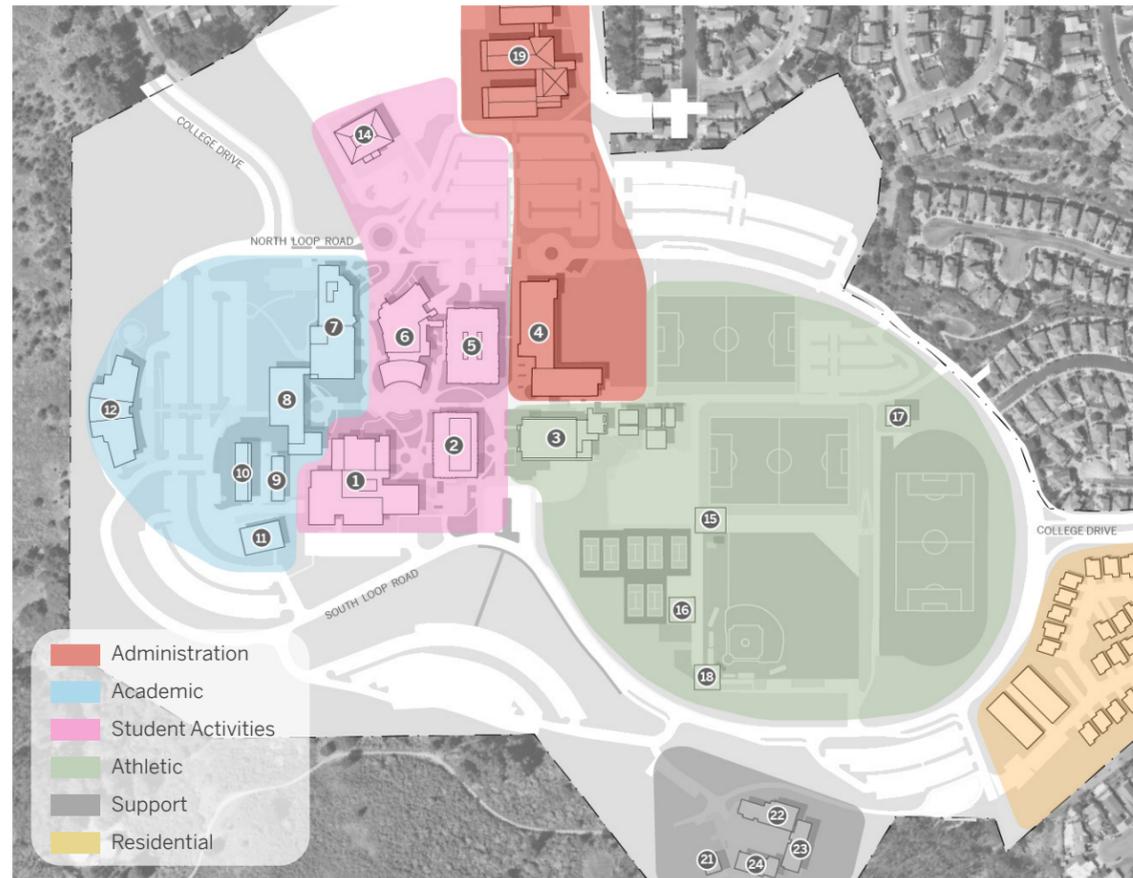


CAMPUS USE

CAMPUS ZONES

Skyline has 35 buildings, totaling 560,698 gross square feet (GSF). The campus is organized into several zones that influence the network of activity and user experience on campus.

These include a student activity zone comprising the heart of campus with an academic zone to the west, and athletics to the east.

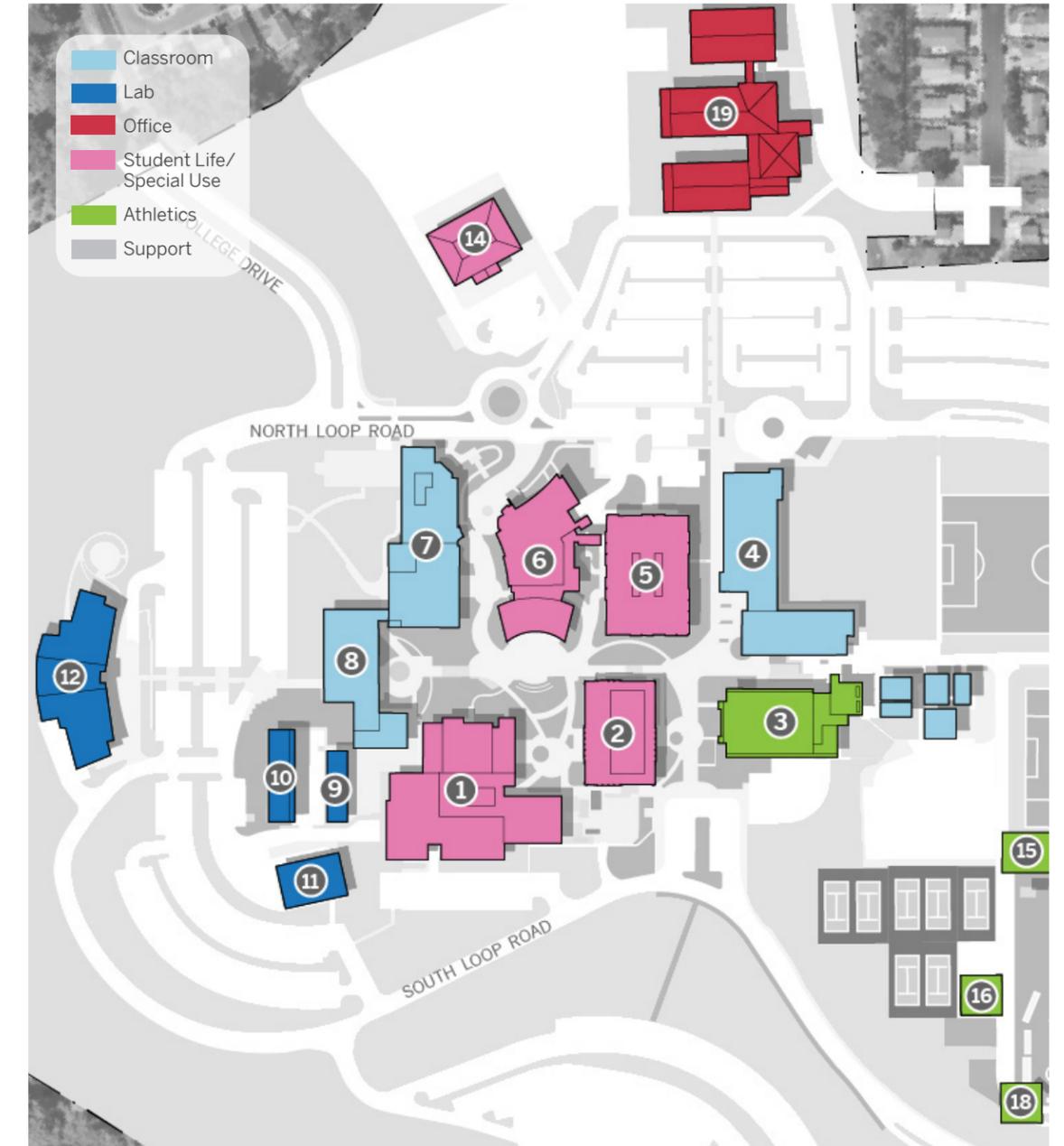


BUILDING USE

This diagram depicts the predominant use by building, recognizing that most of these facilities include a mix of classrooms, offices, and other spaces.

Student services are clustered in the core of campus, with a few, including the Child Development Center and Financial Aid, located in B14 and B19 to the north of the campus core.

#	Use	Division
1	Student Life	Social Sciences & Creative Arts
2	Student Life	
3	Athletics	Kinesiology, Athletics & Dance
4	Office	
5	Student Life	Academic Support & Learning Technologies
6	Student Life	
7	Classroom	Science & Technology
8	Classroom	Language Arts; Business, Education & Professional Programs
9-11	Lab	Automotive
12	Lab	Science & Technology
14	Student Life	
19	Office	



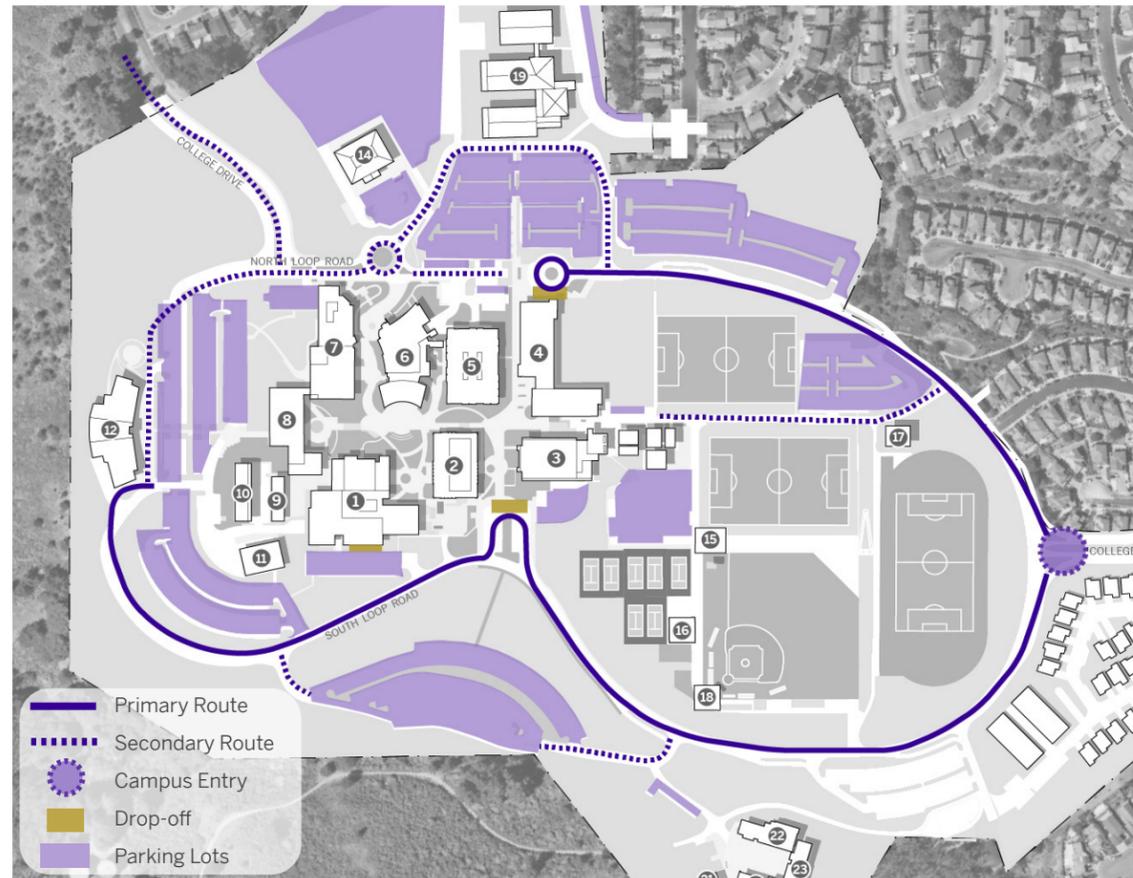
MOBILITY

VEHICULAR

Skyline is accessed via two vehicular entries: one on College Road off Sharp Park Road, and one on College Drive off Skyline Boulevard. These access corridors link the College to major local arteries, including CA-1 and I-280.

The majority of students and staff access the campus by automobile.*

- 64% drive alone
- 24% are dropped off
- 19% use ride share
- 5% carpool

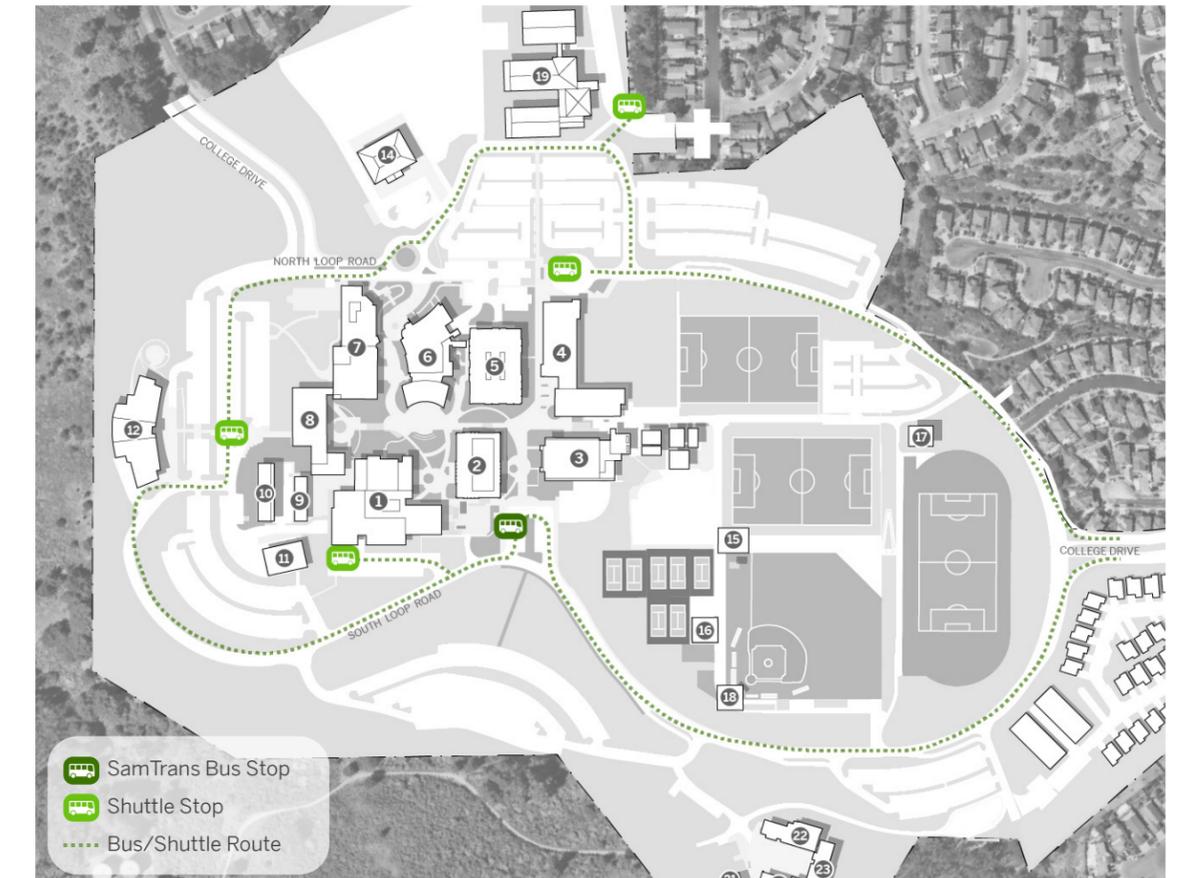


TRANSIT

The College is served by two SamTrans bus lines that connect the campus to BART and CalTrain stations, linking to other Silicon Valley communities and transit centers.

Nearly a quarter of Skyline students use public transit, either SamTrans or the campus shuttle (currently suspended) to access campus.

* Survey respondents were invited to select all applicable responses

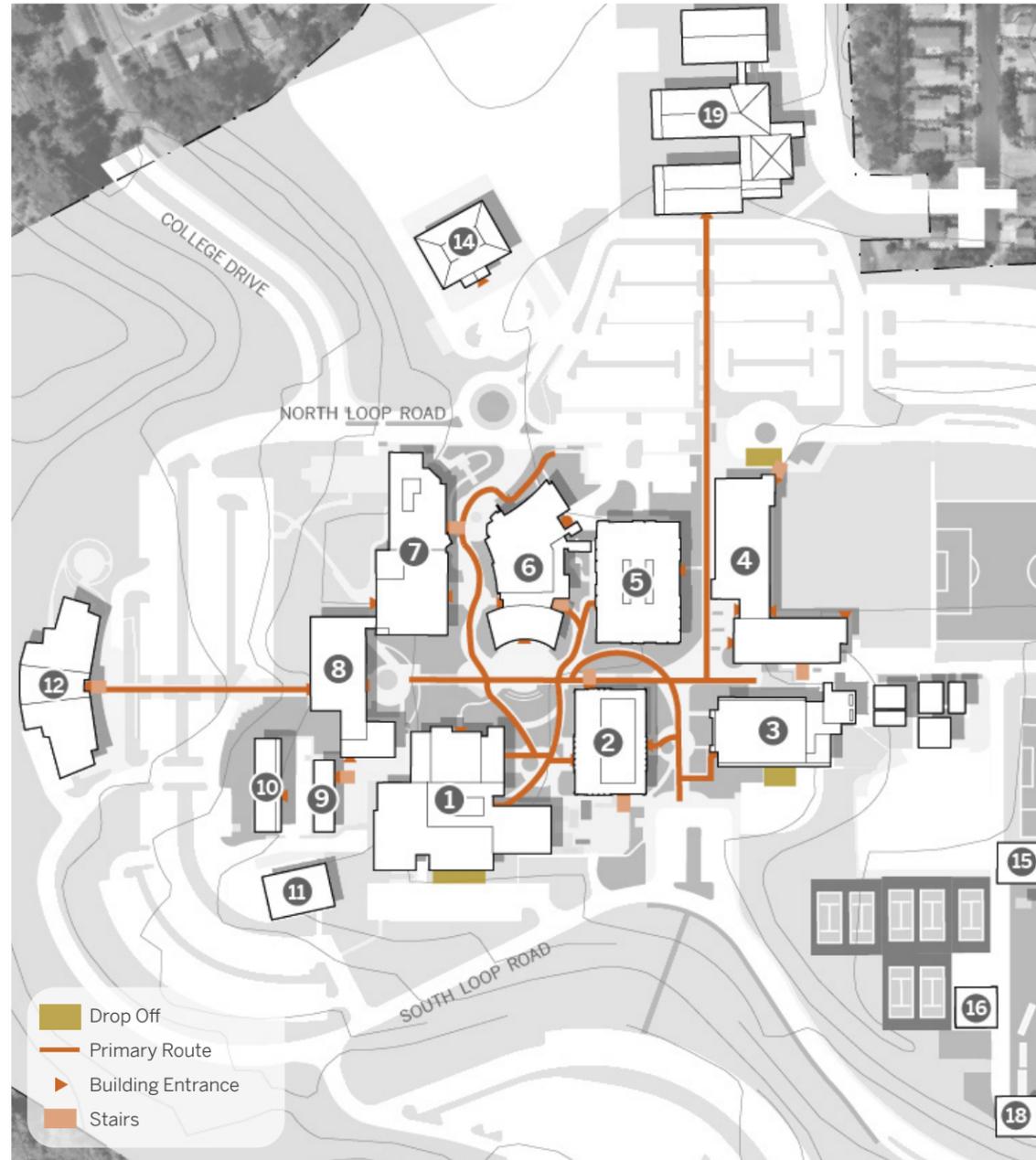


PEDESTRIAN

College of San Mateo's hillside siting presents challenges for pedestrian access to and navigation on campus.

Due to factors including topography, trip distance, and trip origin, few students and staff arrive to campus on foot. The pedestrian network thus begins at vehicular drop-off areas and parking lots and is most robust within the campus core. Sidewalks extend to the periphery of campus but are relatively less utilized.

Pedestrian circulation would benefit from greater connectivity and the addition of amenities such as shade, lighting, and signage.

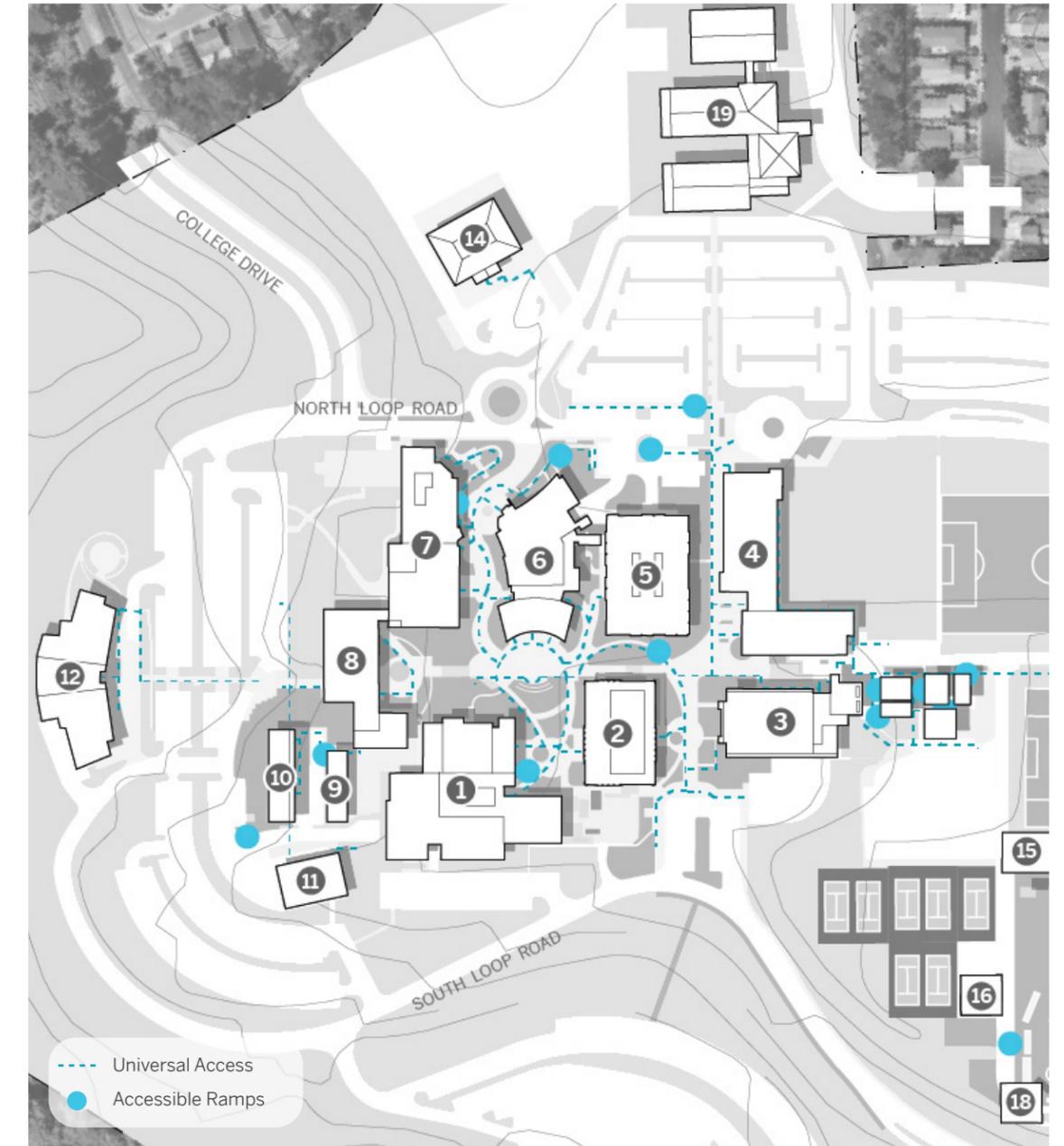


ACCESSIBILITY

The FMP drew upon the 2020 SMCCCD Americans with Disabilities Act (ADA) Self-Evaluation and Transition Plan, which evaluates existing policies, procedures and practices as they pertain to the District's programs, services and activities. The plan specifies the mitigation steps necessary to achieve compliance.

Reviewing the Transition Plan and observing accessible paths on campus led to several findings. The accessible routes through campus are often included on the pedestrian directional signage that is intended for everyone. This is a positive and inclusive feature.

However, there is no campus-wide uniform graphic language for accessible routes, particularly through the Gym and B7. Directional signage along accessible routes through B7 and B8 is difficult to follow and requires improvement.



SPACE UTILIZATION

The space utilization assessment provides an overview of classroom and lab space use metrics to help inform future planning decisions. This data was used to evaluate the current and future needs of learning spaces of the Skyline campus.

Understanding that the pandemic affected enrollment patterns across higher education institutions over the last two years, the assessment analyzed classroom and class lab utilization data for a typical week during the Spring 2019 and the Fall 2019 semesters only.

The following graphics represent the data of Fall 2019 classroom and lab utilization rates. The analysis and recommendations are focused on classrooms, with only a light review of the class labs, as labs require a deeper understanding of each discipline's curriculum to formulate recommendations.

Classroom utilization is measured by determining the following and is expressed as a percentage of the state standard target.

The following terms are used when calculating utilization rates:

Weekly Room Hours (WRH): number of hours per week a room is scheduled

Station Occupancy (%): percentage of stations occupied in a room

Weekly Student Contact Hours (WSCH): hours per week a station is occupied

These state standards are based on a classroom availability of 70 WRH (Mondays - Fridays, 8:00am - 10:00pm).

CLASSROOMS

Classroom Utilization Standards

WRH: 75% scheduled = 48 hours

% station occupancy: 66%

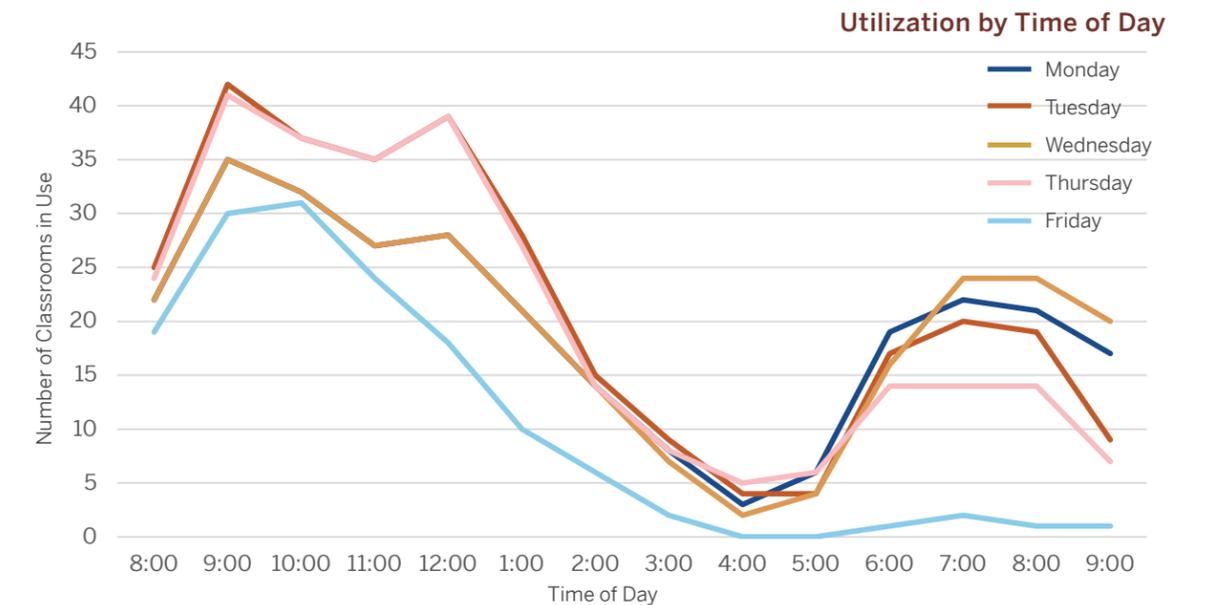
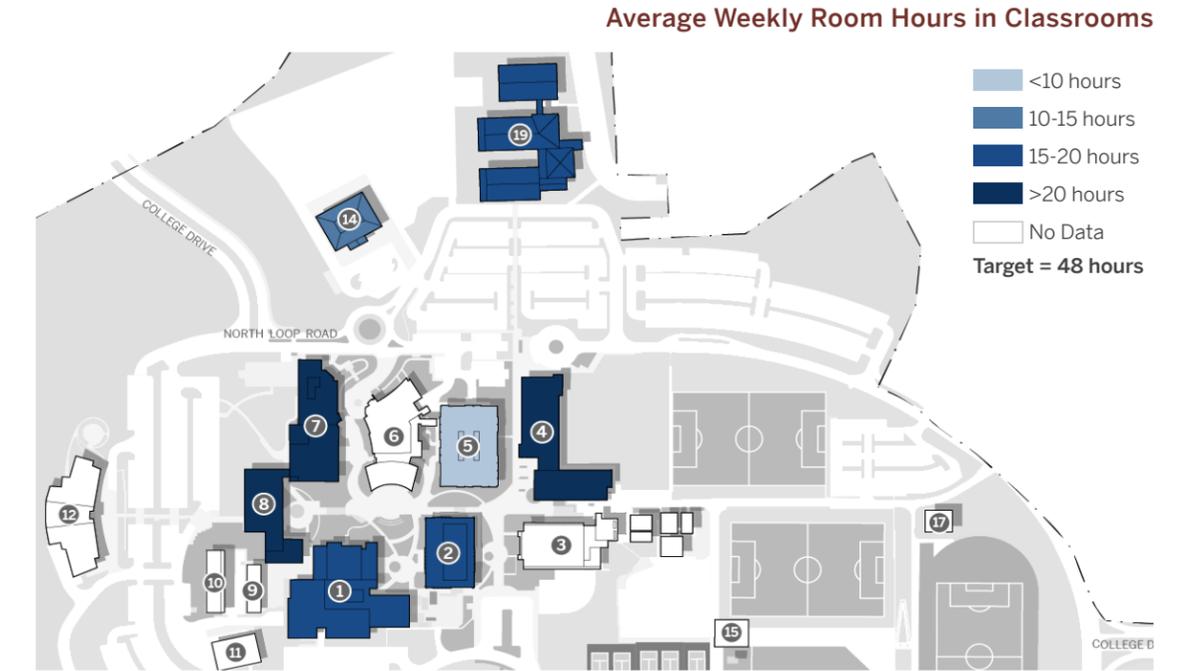
WSCH: 35 hours

Weekly Room Hours

There are 52 classrooms on CAN campus. In Fall 2019, no classrooms met the state target of 48 hours per week. While this data might suggest there are excess classrooms on the campus, it is also important to look at the peak demand for classrooms.

Peak demand for classrooms during 2019 semesters requires 42 classrooms (80%). The majority of community college students attend college part-time to facilitate their ability to work, and these students tend to want classes either as a morning block of time or as an evening block of time, with few students attending during the afternoon.

This finding suggests that if there are not significant increases in enrollment over the next several years, the College could afford to repurpose some classrooms on campus.



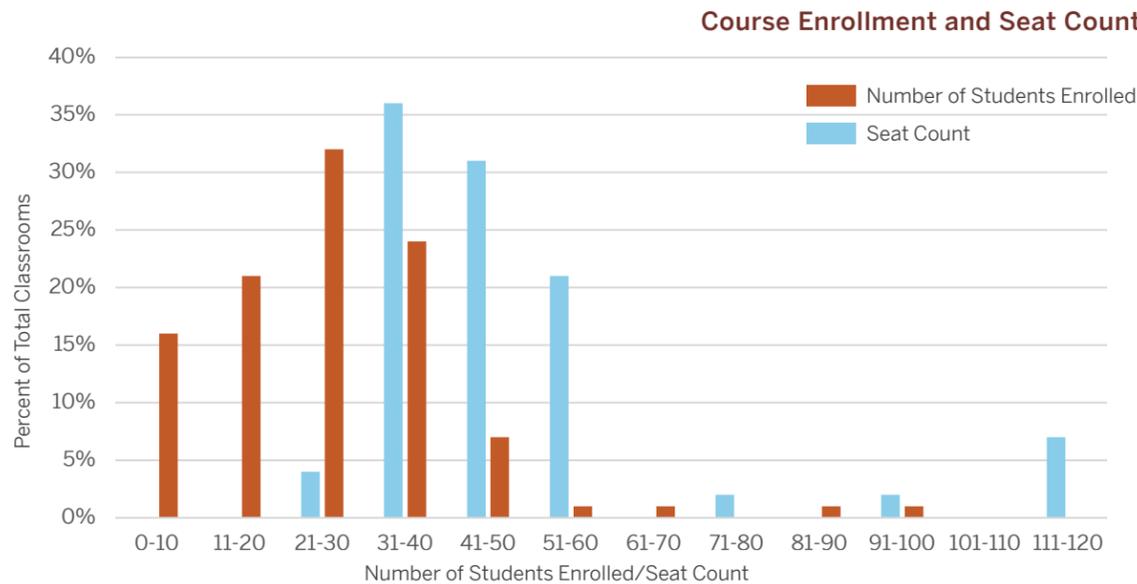
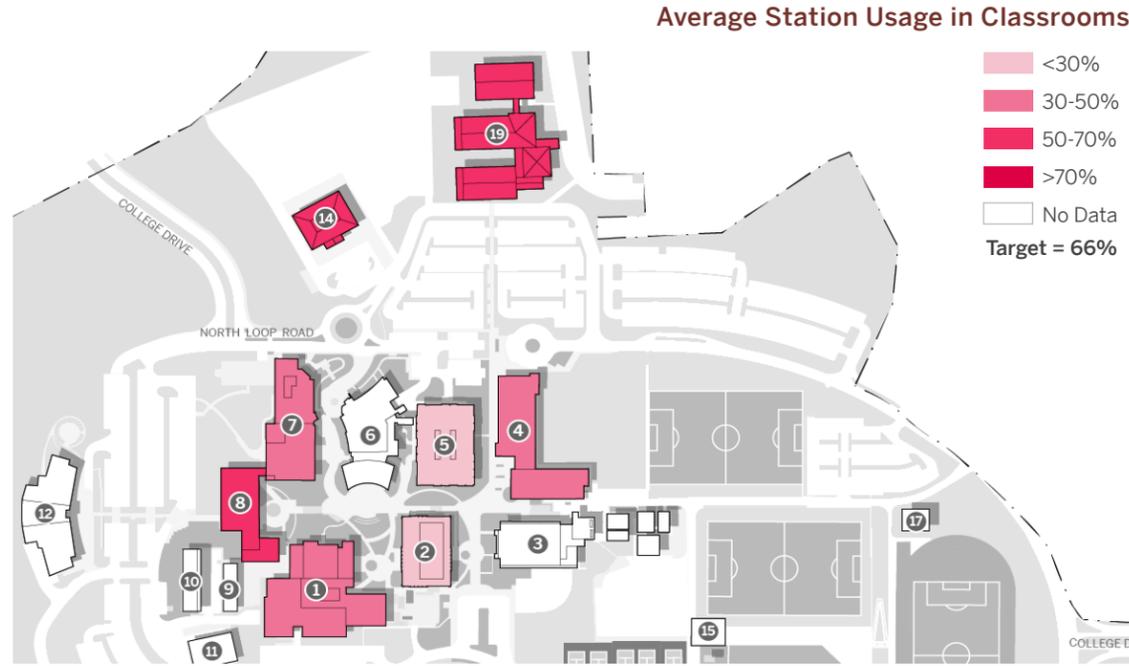
Station Usage

Assessing station usage in classrooms allows us to understand what size classrooms should be and how they should be distributed throughout campus.

Of the 52 total classrooms, only 22 met the 66% occupancy target. This indicates that most classrooms have more student seats than are needed by the actual course enrollments.

For example, 20 students learning in a classroom sized for 45 students results in a 44% (20/45 x 100) occupancy rate. To achieve the 66% occupancy target set by the state, the classroom would have a maximum of 30 seats.

The graph on the right confirms the discrepancy between course enrollment patterns and classroom size distribution on campus. For instance, 53% of the classrooms on campus seat 40-99, yet only 8% of the Fall 2019 courses had enrollments in the 40-99 range. There are no courses requiring more than 99 seats, yet the campus has 3 classrooms with 100+ seats.



CLASS LABS

Lab Utilization Standards

WRH: 34% scheduled = 27.5 hours

% station occupancy: 85%

WSCH: 23 hours

Of the 49 class labs on campus, 15 (31%) met the 27.5 hours per week target set by the state. With regard to station usage of class labs, 13 out of 49 class labs are meeting the 85% occupancy target

Since the majority of class labs are set up to teach particular discipline curricula, the most significant way their utilization can be improved is by following state guidelines for ASF per student when labs are renovated or replaced.

BUILDING PRODUCTIVITY

It is helpful to understand which buildings on campus are producing the most amount of WSCH, and in particular the most amount of WSCH per station.

Per the table below, even though B8 has more WSCH and more stations, it is actually B10 that produces more WSCH per student station. This is an indication that the classrooms and class labs in B8 could be resized to match the demand of current class sizes. If this were addressed, then the WSCH per station in B8 would improve significantly.

Building	Stations	WSCH	WSCH per station
B7	767	14,679.5	19.14
B8	880	12,794	14.54
B10	78	988	12.67
B4	847	10,099.5	11.92
B1	622	6,006	9.66
B14	42	264	6.29
B11	88	432	4.91
B2	437	1,914.5	4.38
B19	606	2,637.5	4.35

KEY FINDINGS

Recognizing the limitations of pre-pandemic data while also assuming enrollment will not significantly increase above 2019 levels, the following findings informed the space use recommendations.

- Skyline College needs 46 classrooms based on peak usage of 42 (plus a 10% safety factor), and could afford to repurpose 8 of its existing classrooms.
- Based on course enrollments the 46 classrooms should have the following distribution:
 - 30% should be in 20 seaters
 - 30% should be 30 seaters
 - 25% should be 40 seaters
 - 10% should be 50 seaters
 - 5% should be 60+ seats
- Future renovations/additions of class labs should be based on course enrollment data and use the state standards for ASF per student seat.



ASSESSMENTS &
RECOMMENDATIONS

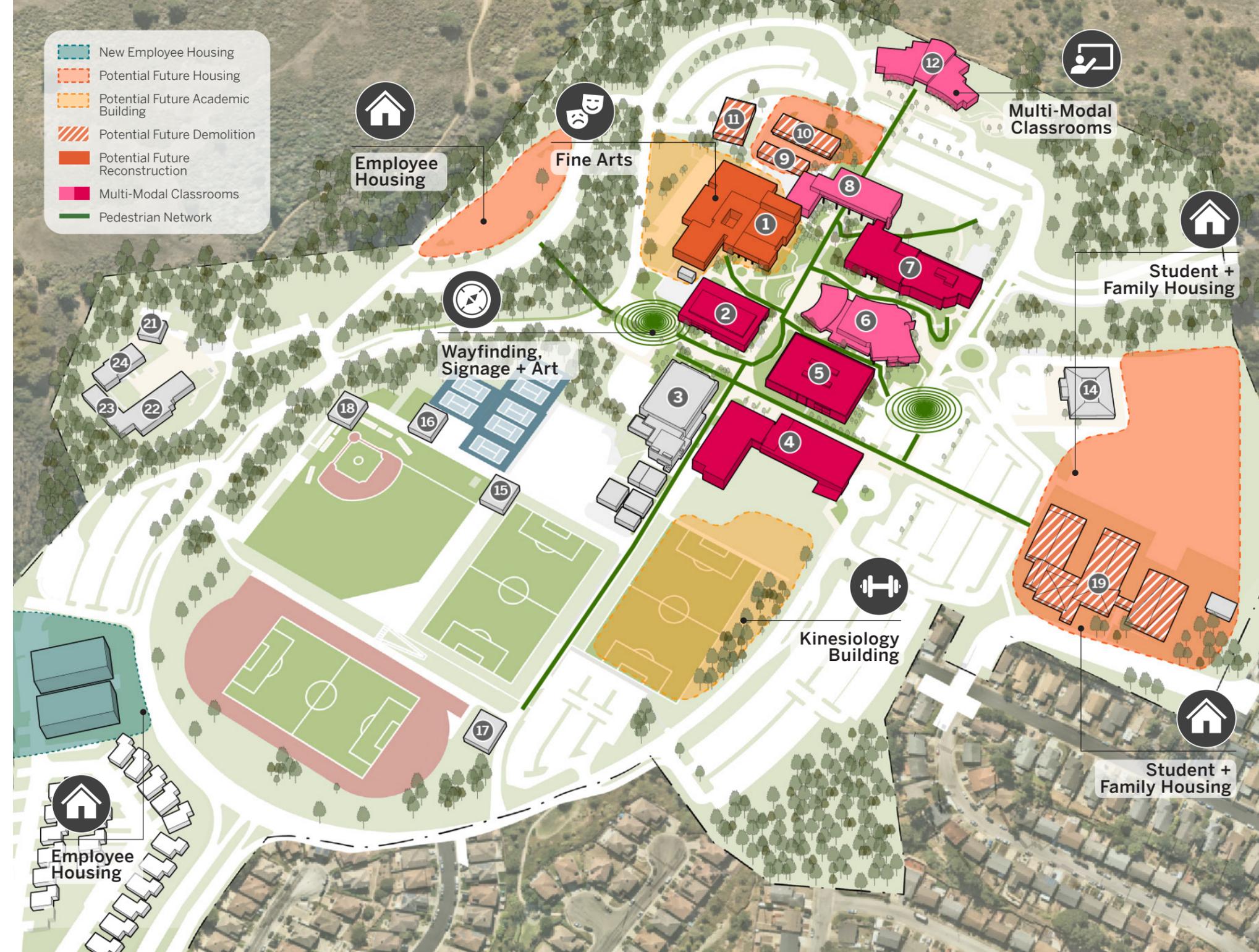
ASSESSMENTS & RECOMMENDATIONS

Key analysis and stakeholder feedback provided the foundation for several assessments that took place in the fall of 2021. These studies assessed areas including facilities and infrastructure condition, energy use, space utilization, wayfinding, and signage.

The assessments resulted in recommendations for campus improvements and future development that are detailed in this section of the report.

The long-term vision for College of San Mateo considers the overall connectivity of campus, imagining opportunities for open space, infrastructure, and circulation improvements that may be made possible as the campus evolves. All new projects should serve to strengthen the connection to the core of campus. Improvements to wayfinding, accessibility, and learning technology can also enhance the campus experience for students, employees, and community members.

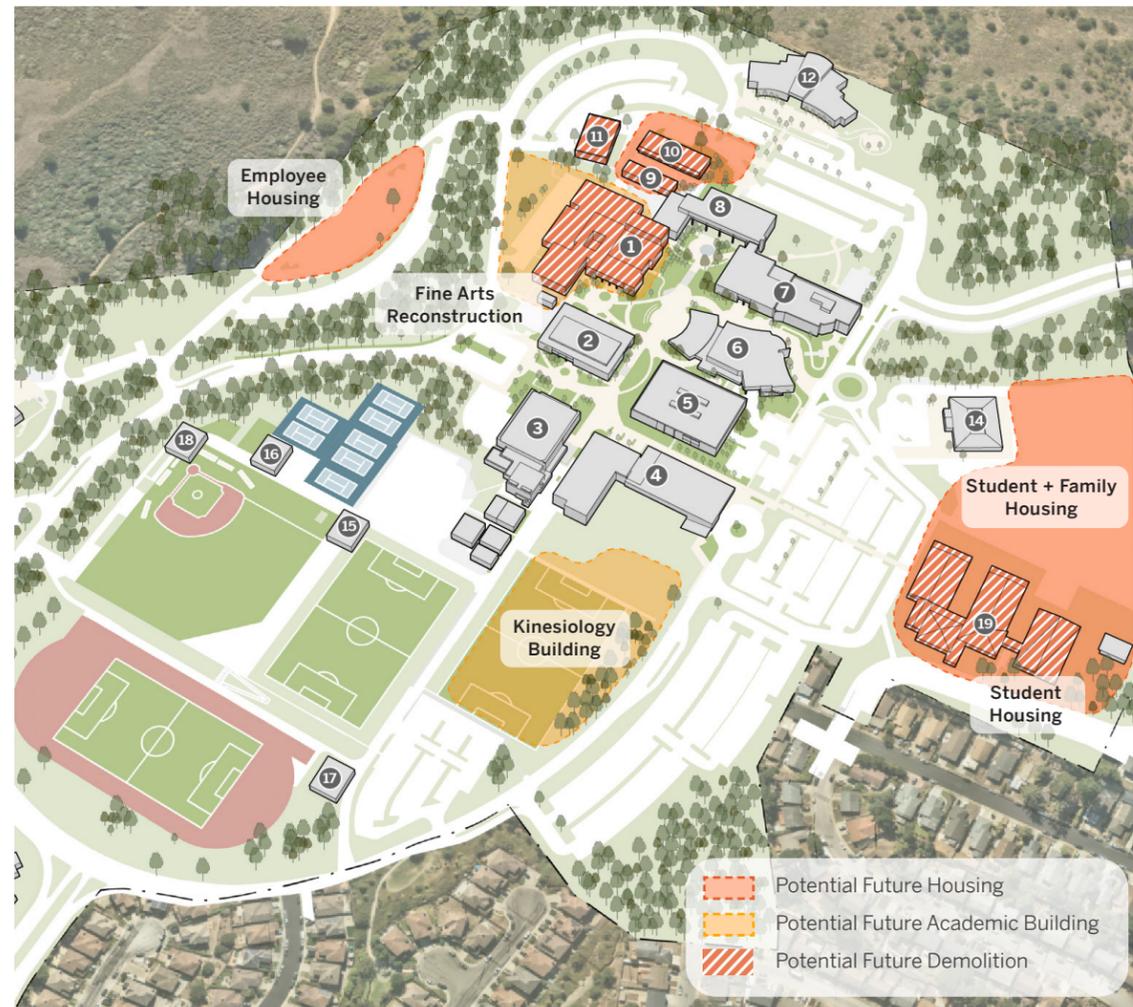
This visioning ensures that future development results in a holistic, accessible, and cohesive campus.



FUTURE DEVELOPMENT

HOUSING

To prepare Skyline for future housing development, the FMP identifies opportunity areas for additional phases of students and employee housing on campus. While the FMP does not yet propose new housing projects or provide detailed recommendations for programming, the selected sites will allow stakeholders to evaluate challenges, opportunities, assets, and trade-offs. When future projects come forward, site trade-offs, including factors like proximity to amenities and parking availability, can then be determined.

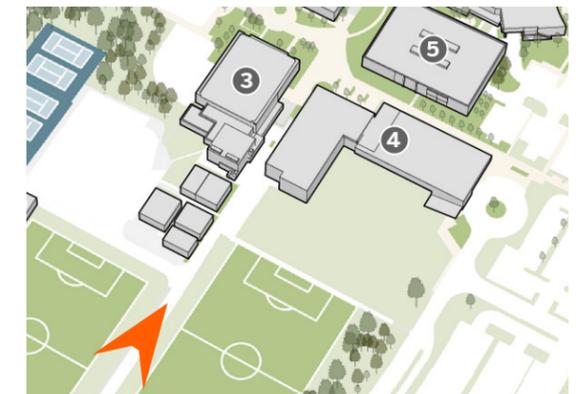


Proposed View of Potential New Building

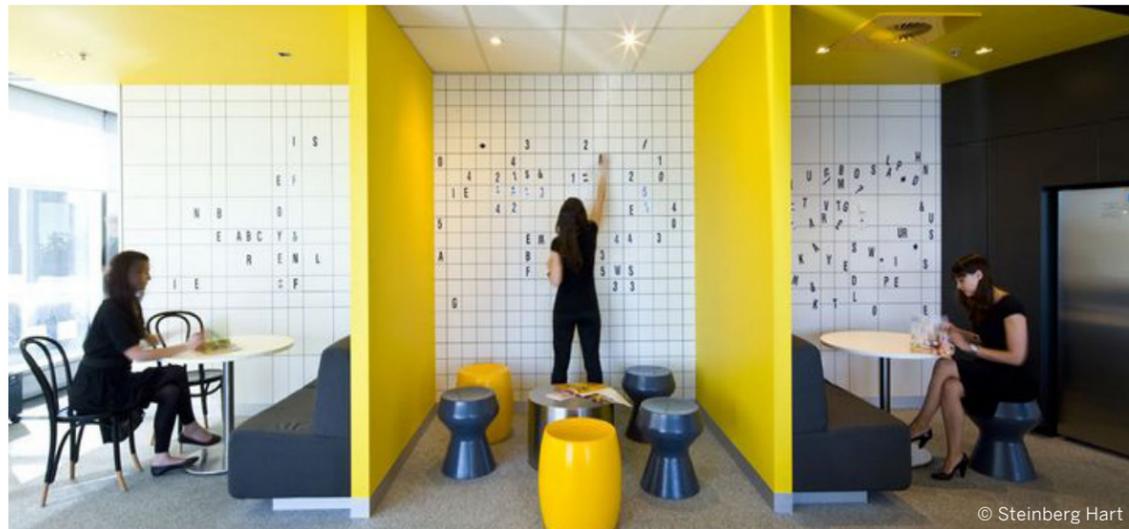
ACADEMIC BUILDINGS

In addition to new housing, two potential new academic facilities were identified as priorities by stakeholders. First, there is desire to demolish and reconstruct the existing Fine Arts Building (B1) to better meet the needs of the social science and creative arts program, from learning environments to event spaces.

To support the Kinesiology, Athletics, and Dance division, a potential new facility is proposed on the site of the existing turf field to the east of B4. The feasibility of these projects will be further explored in the future as funding and resources are identified.



CLASSROOM USE



Space needs of learning environments and other spaces on campus are ever-evolving, especially post-pandemic. It is important that existing facilities are utilized to their full extent, activating opportunities for the highest and best use of space.

Based on the key findings from the space utilization assessment, the FMP identifies opportunities for reimagining underutilized space on campus.

STRATEGY 1: REPURPOSE ROOMS

This strategy consists of reclassifying classrooms for other purposes, such as meeting rooms, collaboration spaces, individual remote learning spaces, storage, and more.

The benefits of this strategy are twofold. First, reducing the number of classrooms on campus will improve space utilization metrics, specifically Weekly Room Hours (WRH). This will help the College align with state targets for WRH.

Additionally, reimagining classrooms for other uses will serve the need for adaptable spaces for learning, gathering, and collaborating.

There are several advantages of this strategy. Because repurposing would require only light renovation (reconfiguration/addition of furniture, painting, changing signage/fixtures), it does not require a full-scale building renovation to execute. It may be implemented incrementally as the College requires.

Moreover, it is a flexible approach; the approach does not require a permanent change, and rooms can easily be converted back into classrooms as needs evolve.

Collaboration Spaces

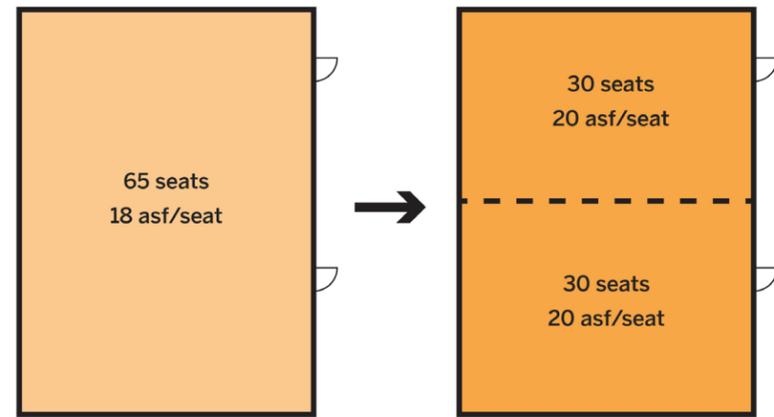
Numerous stakeholders expressed a desire for more informal gathering spaces on campus where students, faculty, and staff can come together to work and socialize. Such spaces are critical to support the College's goal of developing spaces to foster a

sense of belonging among the Skyline community. They are also critical in creating a welcoming atmosphere on campus, and one that attracts students to spend time on campus and participate in all the school has to offer.

Individual Remote Learning Spaces

Another potential use for reimagined classrooms is the creation of individual remote learning spaces. Student schedules look different on a post-pandemic campus.

Some students may arrive for an in-person class at 10:00 AM, followed by a course with remote instruction at noon. This type of hybrid schedule presents the need for spaces serving students participating in remote courses while physically on campus.



STRATEGY 2: SUBDIVIDE LARGE CLASSROOMS

A secondary strategy aims to improve station usage by right-sizing learning spaces through the subdivision of select large, underutilized classrooms.

While if executed independently, this measure would increase the number of classrooms on campus, when coupled with the first strategy of repurposing certain classrooms, it would have the effect of aligning station usage with state targets.

This strategy would demand a relatively heavier intervention as compared to flexibly repurposing the space. It requires the construction of an additional partition wall and associated work such as electrical, lighting, egress reconfiguration.

As the College's needs continue to evolve, the desire for smaller learning spaces may fluctuate. As such, this strategy is but one that the College may wish to pursue to maximize the efficiency of existing space on campus.



Proposed View of Central Pedestrian Axis

The FMP vision for Skyline considers the overall connectivity of campus, imagining opportunities for open space, circulation, and gathering areas.

All projects, from future development to reimagining of existing space, should serve to strengthen the connection to the core of campus.

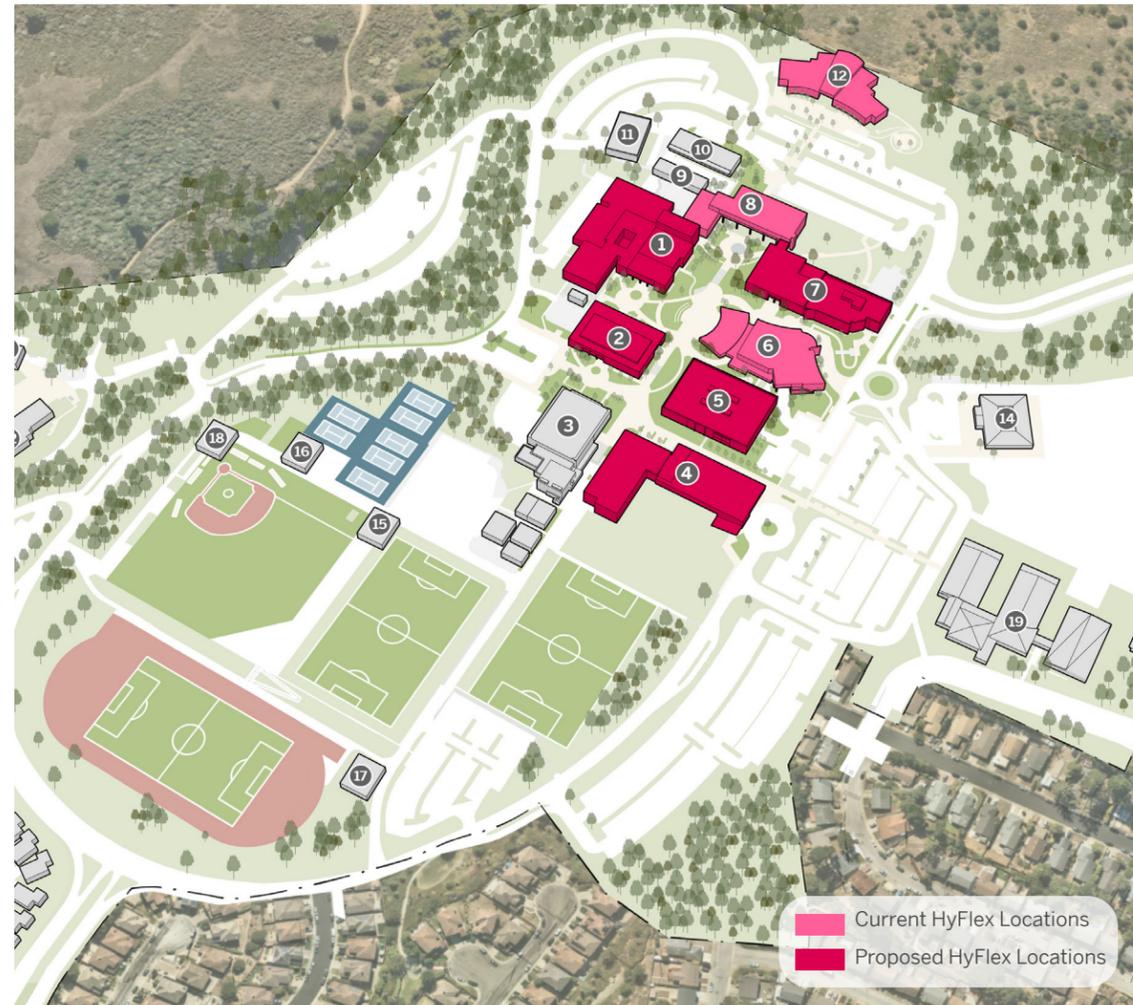
Improvements to wayfinding, accessibility, learning technology, and the addition of a new, representational public art program will also enhance the campus experience for students, employees, and community members.

This visioning ensures that exciting future development results in a holistic, accessible, and cohesive campus.

MULTI-MODAL CAMPUS

Options for remote instruction of courses were popularizing before 2020, but now, these offerings are even more critical for students and faculty alike. Classrooms and labs must be equipped with the resources necessary to support hybrid delivery of education. The FMP recommends expanding the number of classrooms and labs that accommodate multiple modalities.

This project may be strategized alongside building renovations and space use upgrades for maximum efficiency.



New HyFlex technology implemented in Cañada College B1



HyFlex class in session

For instance, as B2 and B5 are modernized in the next several years, instructional spaces should be upgraded with the technology and resources necessary to support multiple instructional methods, from lectures and group work, to discussions serving in-person and remote students.

Other proposed additional locations of multi-modal spaces include B4 and B7 to serve the academic programs using those spaces.

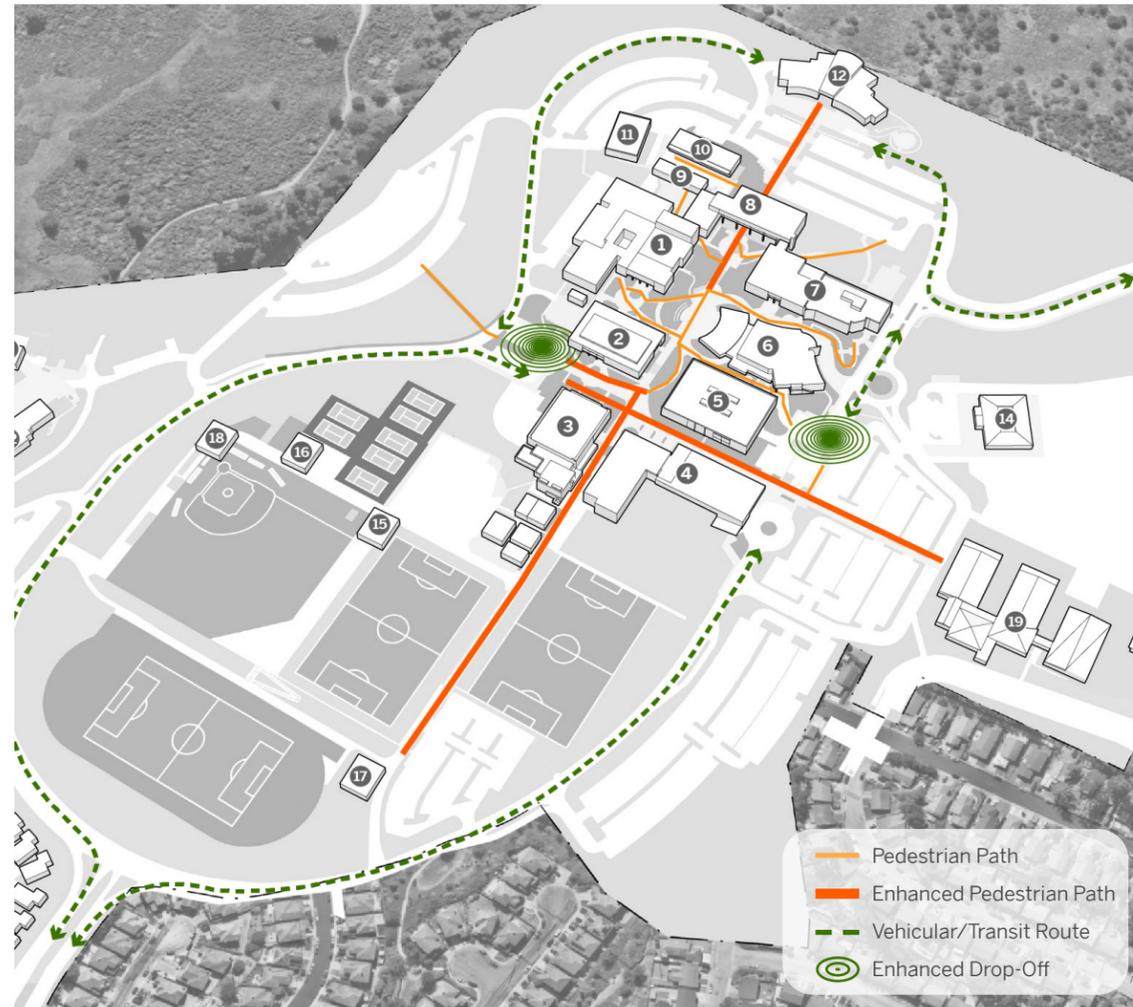
Current HyFlex classroom locations	Proposed additional locations
B1 (1)	B1
B4 (1)	B2
B5 (1)	B4
B6 (6)	B5
B7 (1)	B7
B8 (3)	
B12 (4)	

MOBILITY & ACCESS

The vision for mobility at Skyline aims to improve the experience of arriving to and moving through campus for all users, whether on foot, driving a vehicle, or using public transportation. Several projects are recommended to enhance mobility on campus.

ENHANCED PEDESTRIAN PERIPHERY

While the core of campus features a strong pedestrian network, the peripheries of campus would benefit from improvements to this realm. The areas outside of the campus core lack sufficient sidewalks. Other areas would benefit from the addition of amenities such as shade, achieved by installing new trees or shade structures, and improved lighting, especially leading to parking lots. Sidewalk conditions should be carefully maintained to ensure pedestrian safety.



Proposed View of Drop-Off and B2

IMPROVED DROP-OFF

The drop-off locations at Skyline are key arrival points for those arriving by car and public transit. They represent opportunities to implement welcoming design to greet students and visitors. Strengthening the primary pedestrian axes with improved sidewalks, landscaping, clear wayfinding, and representational

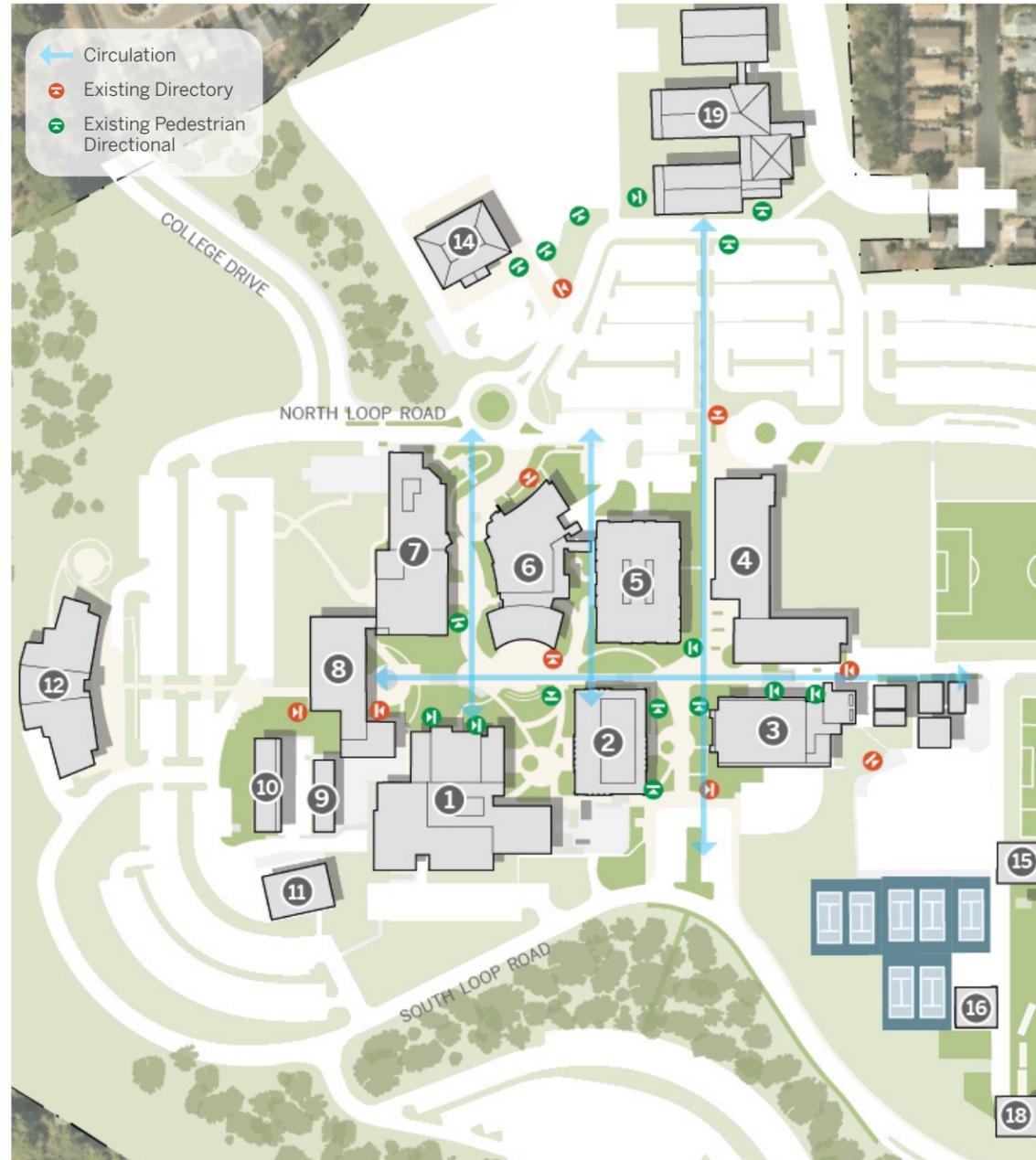
art would improve the drop-off experience for users. Shaded seating would serve those waiting on transit or rideshare to arrive. These points are also opportunities to utilize art, monuments, or installations to welcome visitors and represent Skyline's intercultural identity.



WAYFINDING & SIGNAGE

Recommendations for wayfinding address vehicular and pedestrian signage and building identification, aiming to improve the campus navigation for first-time visitors and long-time users alike.

Skyline College's existing wayfinding system was clear and well-developed when it was implemented. However, there is an opportunity to update sign messages and aesthetics of the program to cater to users. Future improvements to wayfinding on the campus should holistically consider several projects. The full wayfinding assessment report can be found in the FMP appendix.



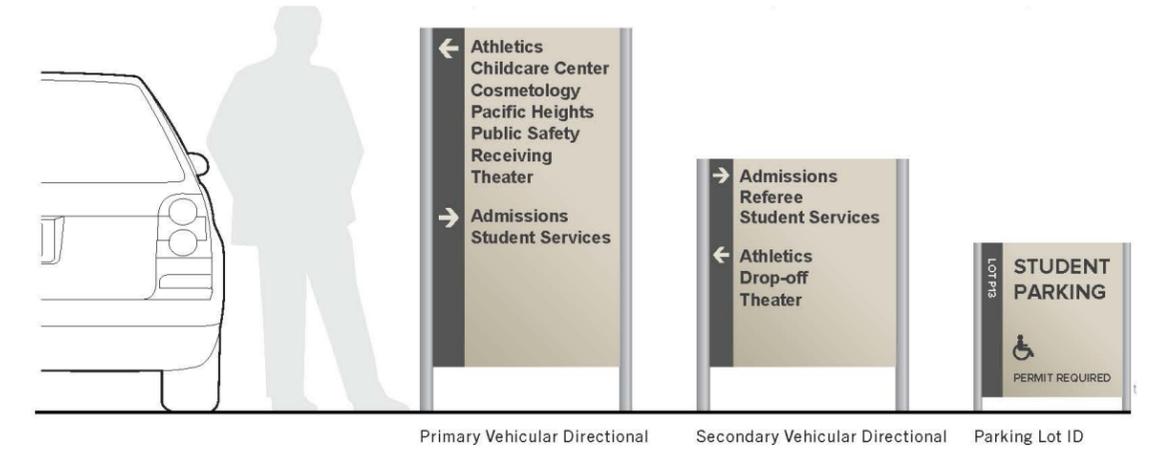
PEDESTRIAN NAVIGATION

The campus has a strong access and central organization making wayfinding and orientation straightforward. Directory signage is well located at primary pedestrian entrances to campus core and major destinations.

However, given this organization of campus, there is an opportunity to reduce the number of pedestrian directional signs. An excess of directional signage requires consistent maintenance to keep messaging current and can visually clutter the campus environment.

Adding more signs with maps would help to alleviate the need for so many locations. Moving forward, reducing the number of signs will curtail visual clutter, elevate the campus experience, and save resources.

Updating signage is also an excellent opportunity to integrate public art and monuments that represent the student body and contribute to Skyline's unique identity, a key interest of College stakeholders. Further study is needed to determine the preferred scope of such a program.



VEHICULAR LEGIBILITY

Vehicular sign messages are generally clear and appropriate; however, some changes will help to clarify and simplify the signs. Directional signs should be simplified to improve legibility, or supplemental signs should be installed. Because parking lots are not a final destination for visitors, it is not necessary to include them on directionals.

The most prominent message should be permit information. Secondary information might include high

volume/first-time visitor destinations that could be accessed from the lot.

BUILDING IDENTIFICATION

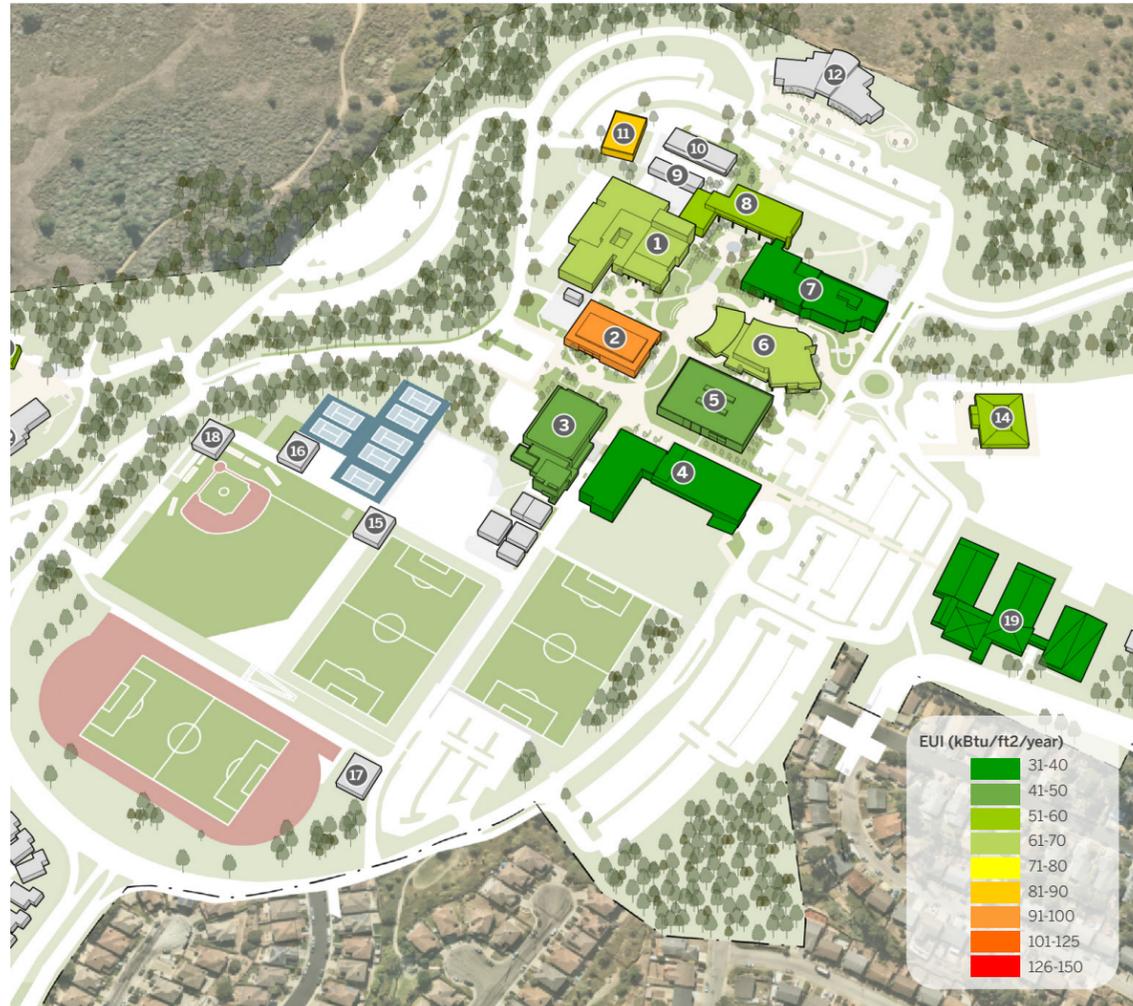
More prominent building identification along the primary pedestrian axis of campus will assist in accessibility, wayfinding, and College identity.

Dimensional letters for building names, especially at B6, would aid in navigation make the destinations feel more prominent and inviting. Identifying specialty buildings such as the Student Center, Library, and Gym by name as well as number will also improve identification.

SUSTAINABILITY

ENERGY USE INTENSITY

Energy Use Intensity (EUI) is a metric of energy performance expressed as energy consumption per gross square foot (GSF). Campus Level EUI for each academic year is determined by dividing annual energy consumption data by campus's GSF. While EUI has improved over the years thanks to energy efficiency measures, it is still high at Skyline College compared to current benchmark for academic buildings in Northern California.



PATH TO CARBON NEUTRALITY

In addition to the optimization measures listed in the Decarbonization Strategy, Spring 2020, the FMP recommends building envelope optimization as an additional measure that can significantly reduce operational energy costs and operational carbon emissions (Scope 1 and 2).

Building optimization can have a much larger potential role in reducing GHG (greenhouse gas) emissions. The FMP includes this preliminary study to understand the relative impacts of envelope upgrade options. Further investigation using detailed energy modeling and cost-benefit analysis is recommended for informed decision making on a project by project basis.

Building Envelope Optimization Study

The study uses a shoe-box energy modeling of a fictitious two story 30,000 SF building resembling the exiting construction of existing buildings. The annual energy use data EUI data shows a very high use of natural gas, indicating space heating being the major energy consumption in these buildings. The energy model

confirmed that heating is the largest consumer of energy, given the climate and the uninsulated nature of the old existing buildings with single pane glazing.

Changing the glazing in the energy model to dual glazed high-performance glazing with low-e coating, reduced the EUI (Energy Use Intensity) from 44.27 to 38.4. This constitutes a 13% energy reduction without changing any other elements.

Adding roof insulation will be more economical measure than changing out the windows, resulting in EUI reduction of 14.9%, which is better than high-performance glazing option.

By combining both the measures—roof insulation and high performance glazing—the EUI drops from original 44.27 to 29.92, which is a 32% reduction. The heating energy use reduced drastically from 22.68 EUI to 9.57 EUI, a 58% reduction of heating energy use.

To move toward carbon neutral campus, it is recommended that the District places further emphasis on energy conservation through envelope upgrades, which can help to downsize

the on-site renewable energy projects and help achieve carbon neutrality in a more economical way.

It is recommended that the District develop a detailed feasibility study for envelope upgrades, including roof insulation, window replacements, and wall insulation in existing buildings using existing metered data of energy use, detail energy modeling and cost-benefit analysis.

Transition to Heat Pump Water Heaters

As a cost-effective decarbonization measure, it is recommended that the District replace existing gas water heaters or electric resistance heaters to electric heat pump water heaters for domestic hot water (DHW).

Transition to all electric buildings will further reduce energy use intensity, as space heating and domestic hot water through electric heat pumps are 3.5 more efficient than gas boilers. They will potentially reduce EUI of buildings by over 2 kBtu/sf/year based on the estimated DHW energy use.



ELECTRICAL STUDY

The Skyline College Electrical Infrastructure Assessment approached the study with overall goals of improving sustainability, redundancy, and resiliency of the electrical infrastructure and overall College infrastructure. A range of potential electrical infrastructure design options would need to be developed and evaluated outside of this assessment to meet the following specific goals:

1. Eliminating natural gas usage through electrification
2. Reducing the electrical load impact
3. Minimizing life cycle costs of the electrical infrastructure

RECOMMENDATIONS

EV Charging Expansion District Fleet

District is targeting the year 2030 to convert all district vehicle fleet to electrical vehicles.

EV Charging Commuter Expansion

EV Charging Commuter Expansion can certainly be expanded to all parking lots as there is sufficient capacity.

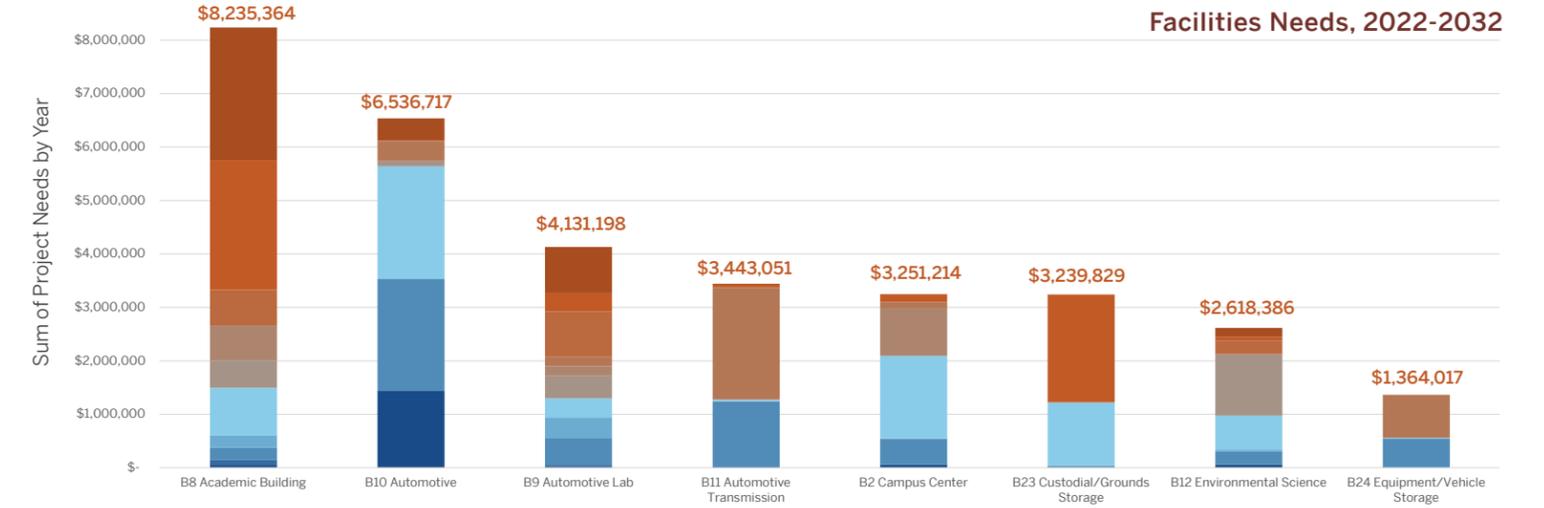
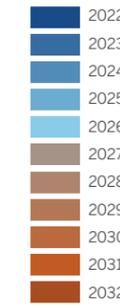
New Electric Boilers

If the campus decides to continue with electrification of the boilers, an expansion of the electrical system will be necessary.

NET ZERO GOALS

One method to reach zero net electrical would be expand the district's renewable energy sources, whether it is district owned or via Power Purchase Agreement (PPA). Based on Zero Net Energy Strategy document produced in 2017, provides an outline strategy to meet and exceed California's goal for all new commercial construction and 50% of existing buildings to be Zero Net Energy by 2030.

The full Electrical Infrastructure Assessment report can be found in the FMP appendix.

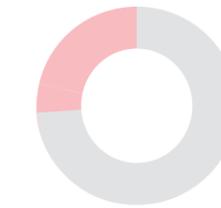


* Only facilities with > \$500,000 of total work are represented.

FACILITIES CONDITION

The Facilities Condition Assessment surveyed facilities on campus, focusing on systems including site and infrastructure elements, structural frame and building envelope, roofing, plumbing, HVAC, fire protection, accessibility.

The data gathered by the assessment is provided to the College's maintenance and operations team to assist in decision-making and project planning. This includes information on system expenditure forecasts, immediate needs, component condition, and priority projects. The full assessment report can be found in the FMP appendix.



24%
of total facilities needs relate to **B8 Academic Bldg**

7
buildings with **over \$2m** in needs



19%
of total facilities needs relate to **B10 Automotive**

1
building with critical projected **Facilities Condition Index (FCI)**



FMP PROJECTS

FACILITIES MASTER PLAN

The Facilities Master Plan presents the recommended projects planned to be pursued at Skyline College for the next 10 years.

Based on the analysis of existing conditions, previous planning efforts, research and assessments, and multiple meetings with College stakeholders, the FMP proposes three modernization projects. These critical projects are the priority of Skyline College and shall be initiated and/or continued over the next decade.

These projects are informed by District-wide Planning Principles and are recommended to support several of the College's FMP Goals, including renovating facilities to anticipate evolving program needs, adapting existing facilities to flexible uses, and developing spaces to foster a sense of belonging among the Skyline community.

Several key buildings on campus have been identified as priority renovation projects.

- B1 - Performing Arts Center (IPP)*
- B2 - Campus Center (FPP)*
- B5 - Library (IPP)*

* Denotes projects included in 2023-2027 Five-Year Capital Construction Plan.

This work furthers the College's goal of modernizing facilities to support the evolving needs of academic programs and student services.



PROJECTS

BUILDING MODERNIZATIONS



Building 1 Performing Arts:

This project modernizes the 1969 building's interior spaces and upgrades equipment of the teaching/learning spaces and the theater to meet program needs of the social science and creative arts programs.



Building 2 Campus Center*:

This project provides a readily accessible integrated service center that responds to the need to link services, benefits, opportunities, and instruction to build on the State's investment in workforce and economic development and to strengthen the connections of the public to benefits and opportunities that help build personal and community economic sustainability.

* Cost estimation is not provided for projects initiated before the completion of the FMP.



Building 5 Library: This project will modernize the Library/LRC facility so that it can be reconfigured appropriately to deliver the support services needed for student success. The Learning Center will be expanded by locating it on the second floor where there is more space and daylighting, while the library stacks, circulation desk, library offices and study areas will be reduced and relocated downstairs.



ATHLETIC TURF REPLACEMENTS

The three synthetic fields, including football field, the soccer field, and the baseball field, will require replacement in the next 10 years in order to remain usable for sports and recreation. The track will also require replacement.

COST ESTIMATION

The FMP provides estimated costs for the building projects identified as priority projects in the next 10 years. Exact costs will be determined as programming and scope of work is confirmed closer to project implementation.

Other cost estimation, including for potential classroom renovations, is included in the FMP appendix.

BUILDING MODERNIZATIONS

#	Building	GFA	\$/SF	Total Cost
1	Fine Arts	77,587	\$660	\$51,207,420
5	Library/LRC	46,872	\$670	\$31,404,240
			Total	\$82,611,660

POTENTIAL NEW BUILDINGS

Building	GFA	\$/SF	Total Cost	
Fine Arts	118,200	\$1,100	\$130,020,000	
Kinesiology	120,000	\$800	\$96,000,000	
			Total	\$226,020,000

Notes:

1. Construction cost calculated in June 2022 dollars
2. Escalation to midpoint is excluded
3. Hazmat is excluded
4. Soft costs and FF&E are excluded
5. New construction includes adjacent sitework costs

PARTICIPANTS

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President

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Vice President, Administrative Services

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Vice President, Student Services

Danni Redding Lapuz
Interim Vice President, Instruction

Cherie Colin
Director, Community Relations and Marketing

COMMITTEES & GROUPS

Management Council

Associated Students

Academic Senate

Classified Senate

Academic Support and Learning
Technologies

STEM

Business Education, and Professional
Programs

Creative Arts and Social Science

Kinesiology, Athletics and Dance

Language Arts

Counseling, Advising, and Matriculation

Enrollment Services

Global Learning Programs and Services

Strategic Partnerships and Workforce
Development

Student Equity and Support Programs

Strategic Planning and Allocation of
Resources (SPARC)

Stewardship Equity, Equal Employment,
and Diversity (SEED)

Advisory Committee for Employee
Development (ACED)

Health, Safety and Emergency
Preparedness Committee

Institutional Effectiveness Committee
(IEC)

Technology Advisory Committee (TAC)

College Design Team

Community Forums

