

CHAFFEY COLLEGE

ONTARIO CAMPUS MASTER PLAN

DECEMBER, 2023

CONSULTANT TEAM

DLR Group | Master Planning
Kimley-Horn | Transportation Planning
Fuscoe | Civil Engineering
HLCM | Cost Estimation

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MISSION

Chaffey College improves lives and our communities through education with a steadfast commitment to equity and innovation to empower our diverse students who learn and thrive through excellent career, transfer, and workforce education programs that advance economic and social mobility for all.

ABOUT CHAFFEY COLLEGE



Chaffey Community College District (Chaffey CCD) is a single-college district that serves the growing communities of western San Bernardino County. Chaffey College has a rich history as one of California's earliest colleges. Founded in 1883 as a private institution, Chaffey College has been a publicly funded college since 1916. Today, Chaffey College is nationally recognized as a center of learning

excellence. It serves approximately 20,000 students annually on three campuses, at many teaching sites in its communities, and online. It offers a full complement of general education, transfer level, and career and technical education classes leading to an associate degree or career technical certificate. Students are supported in these instructional programs with a full range of services.

ACKNOWLEDGMENTS

EXECUTIVE COMMITTEE

- Henry D. Shannon, Ph.D.
Superintendent/President
- Troy Ament, Associate
Superintendent, Administrative
Services and Emergency Operations
- Myriam Arellano, Director, Accounting
Services
- Lisa Bailey, Associate Superintendent,
Business, Human Resources, and
Information Technology Services
- Mike Fink, Chief Technical Officer
- Laura Hope, Associate
Superintendent, Instruction and
Institutional Effectiveness
- Eva Ramirez, Executive Assistant
II, President's Office/Administrative
Services and Emergency Operations
- Sarah Riley, Manager, Facilities
Development
- Alisha Rosas, Associate
Superintendent, Students Services
and Strategic Communications
- Jim Rogers, Senior Project/
Construction Manager
- Samir Shah, Manager, Bond Program
- Mike Villegas, Bond Advisor

FOCUS GROUP

- Tina Altis, Senior Accounting
Technician
- Kim Erickson, Executive Director,
Business Services
- Janeth Rodriguez, Executive Director,
Enrollment Services and Student
Support
- Julie Sanchez, Executive Assistant II,
President's Office
- Neil Watkins, Faculty, English and
Faculty Senate President

USER GROUP

- Angela Burk-Herrick, Faculty, Biology
and Curriculum Chair
- Sam Gaddie, Sustainability and
Environmental Safety Officer
- Julie A. Law, Counselor/Articulation
Officer
- Jeff Laguna, Faculty, Gerontology and
Interim Dean, Health Sciences
- Sergio Lopez, Manager, Grounds
- Rich Levine, Manager, Maintenance
- Matt Morin, Interim Dean, Workforce
Innovations
- Ashira Murphy, Interim Director,
Purchasing Services
- Heather Parsons, Interim Director,
Foundation, Community Partnerships
and External Relations
- Rob Rundquist, Dean, Institutional
Effectiveness
- Angela Sadowski, Faculty, Psychology

01

PROJECT OVERVIEW AND INTRODUCTION

PURPOSE OF THE PLAN

The purpose of the plan is to create the vision and strategy for a new Chaffey College campus in Ontario. This new campus was outlined in the College's Vision 2025 Facilities Master Plan and funded when voters approved Measure P, a general obligation bond. The new campus will help keep pace with the growth and evolving needs of the community and will reestablish Chaffey College's presence in Ontario. In 2021, The District purchased two parcels of vacant land totaling approximately 19 acres at Ontario Ranch Road and Hamner Avenue. This Ontario Campus Master Plan provides a vision for the new property

The purpose of this master plan is to:

- Return Chaffey College to Ontario
- Create a vision for a new Ontario Campus that aligns with the strategic direction of Chaffey College.
- Support academic planning to relocate, expand, and add new programs to the new Ontario Campus.
- Establish a roadmap for informed decision making around project implementation.



KEY ELEMENTS TO THE PLAN



INCORPORATING PAST PLANNING

The Ontario Campus Master Plan is informed by past planning completed by the College, such as the Vision 2025 Facilities Master Plan and Addendum.



A COLLECTIVE VISION

The Ontario Campus Master Plan is an ambitious yet realistic vision for the College, crafted by listening to the needs of campus stakeholders.



DATA-INFORMED

The Ontario Campus Master Plan is informed and supported by analyzing space needs and physical site conditions.



FLEXIBLE FRAMEWORK

Planning is an ongoing process and requires a flexible framework to respond to current and future needs. The Ontario Campus Master Plan is developed to adapt to the changing needs of the institution.



MEASURE P

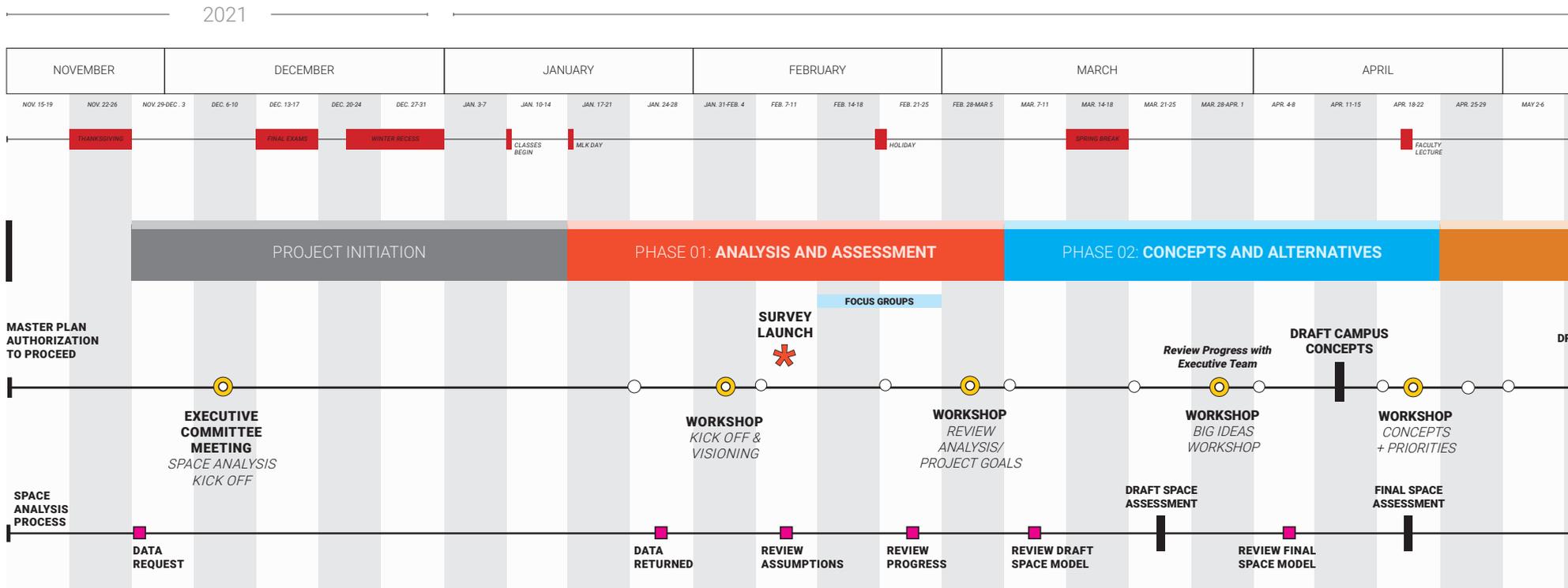
In November 2018, voters in the District approved Measure P – a general obligation bond. Measure P provided Chaffey College with up to \$700 million for significant upgrades for vocational, science, computer classrooms, and other labs; student safety; and facilities supporting veterans and other student services. The projects funded from Measure P are outlined in the District’s Vision 2025 Facilities Master Plan addendum, approved by the Governing Board in June of 2018. The District plans to implement the Master Plan addendum over the next 5-10 years.

PLANNING PROCESS AND SCHEDULE

The planning process began in December 2021 and concluded in September 2023. The Master Plan was developed through a comprehensive planning process led by College administrators.

Phase 01 - Analysis and Assessment: The planning process began with collecting baseline data and working with campus stakeholders to create a vision for the new campus and define objectives for the plan. The planning team analyzed site conditions to shape the physical requirements of the site plan. The planning team also partnered with College leaders to define space and parking needs once the enrollment and campus program were determined.

MASTER PLANNING PROCESS AND SCHEDULE

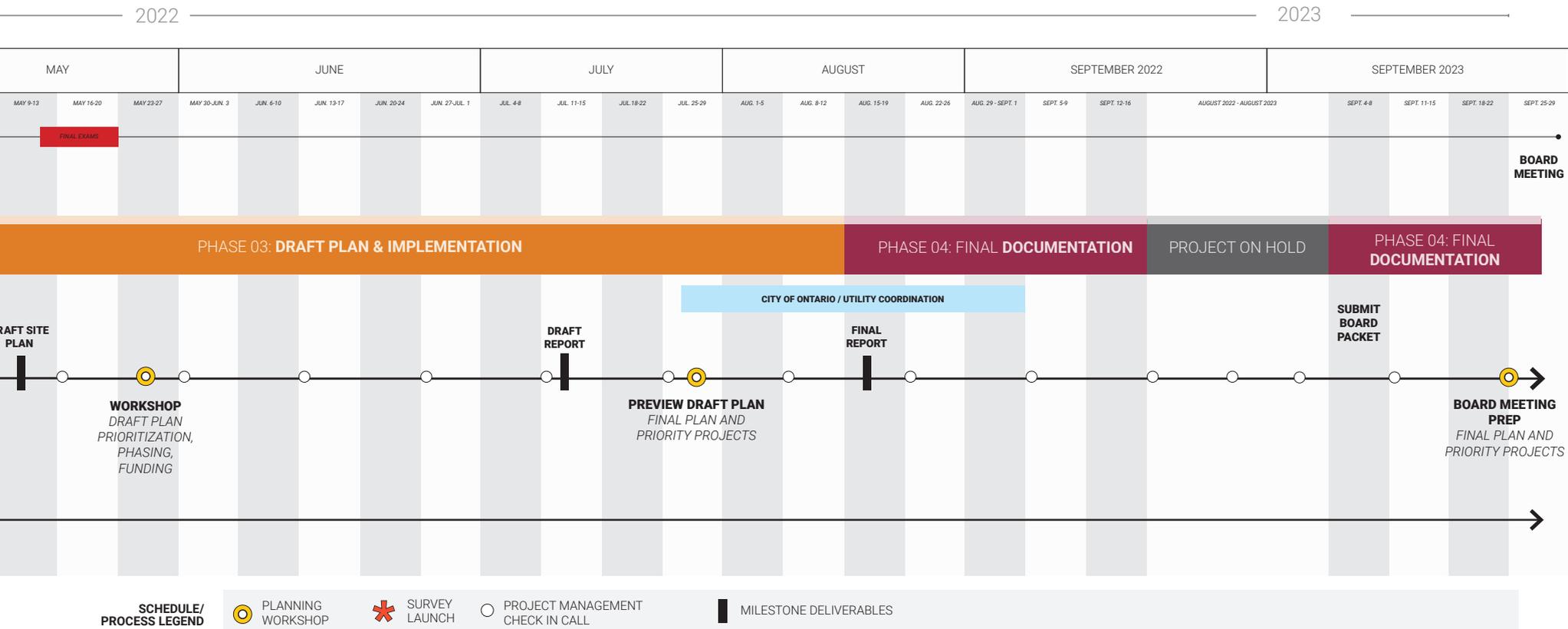


Phase 02 - Big Ideas and Concepts: In this phase, the planning team and stakeholder groups explored a range of planning and design strategies for the campus to synthesize the best ideas of the concepts into a single draft plan.

Phase 03 - Planning for Implementation: Once the draft site plan was established, it was refined as the planning team received feedback from campus stakeholders. The planning team and College

collaborated on program priorities to develop a phasing strategy for the campus over the next 20 years.

Phase 04 - Documentation and Approvals: Documentation and Approvals: The planning team documented the final Master Plan and presented the plan to the campus community plan for final feedback. The Draft Master Plan was presented to the Governing Board in September 2023 and approved in December 2023.

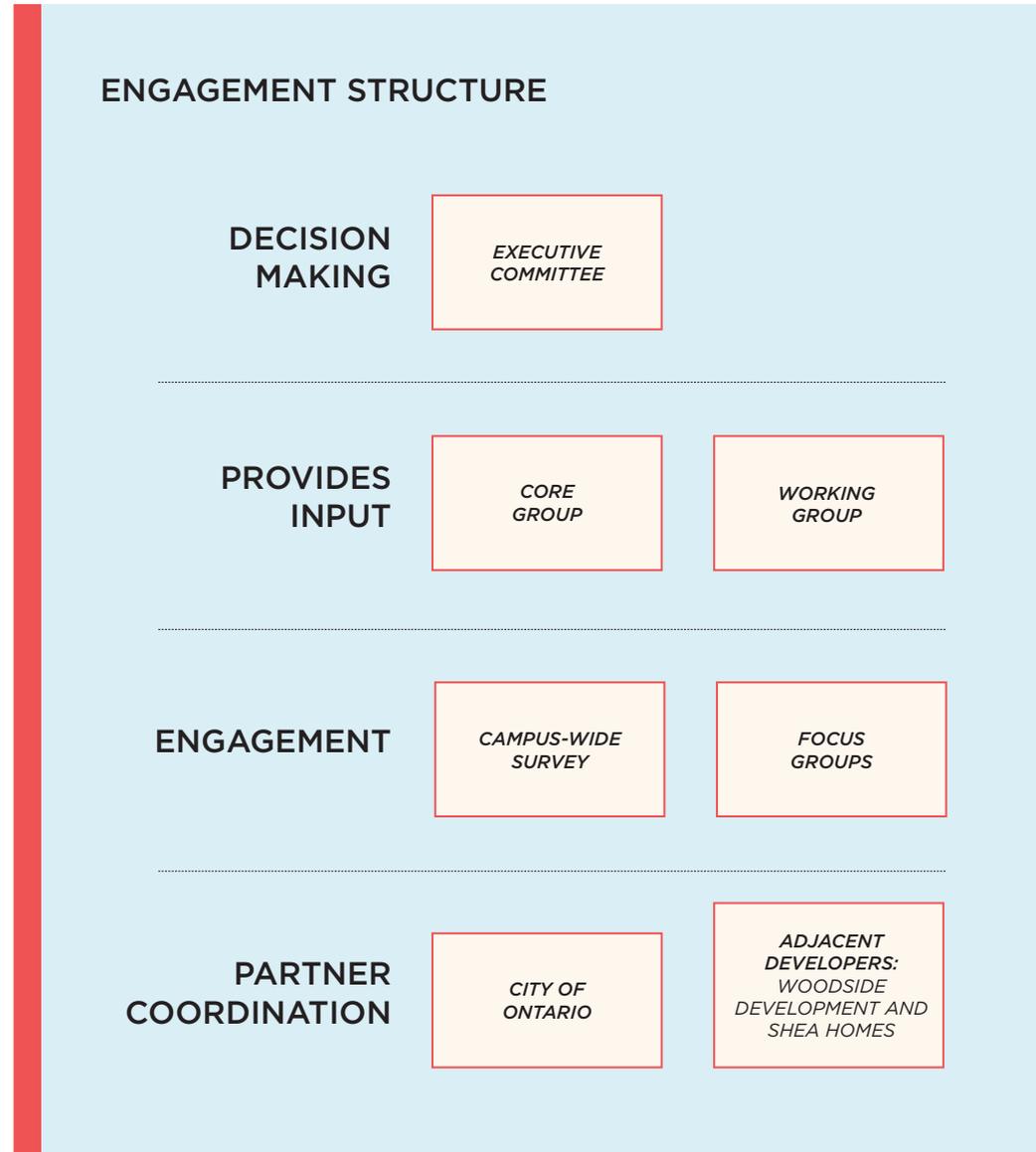


ENGAGEMENT OVERVIEW

Through stakeholder engagement, the planning process defined goals, prioritized solutions, and encouraged participatory decision making. A master plan is strengthened by including participants who have a vested interest in the future success of the campus. The collaborative approach to the new Ontario Campus Master Plan provided opportunities for campus stakeholders to envision a new campus through a dynamic process that crafted a shared vision for the future.

Interactive workshops, focus group sessions, surveys, and presentations were used to connect with stakeholders. These interactions included interactive workshops where stakeholders worked alongside the planning team to progress the plan in real time.

At the beginning of the project, a structure for planning and approvals was established to establish roles and responsibilities and focus on standing committees. This structure allowed for comprehensive input from the campus and coordination with concurrent planning efforts.



FOCUS GROUPS

The planning team met with four focus groups – sustainability, faculty, staff, and students. Each focus group answered a series of high-level questions regarding the elements of other Chaffey College campuses and completed a categorization activity by selecting images they believed would be successful at the new Ontario Campus. Throughout the sessions, active discussions captured ideas and desires. In summary, the focus groups stated the following views:

KEY TAKEAWAYS

CAMPUS IDENTITY

Chaffey College can cultivate a campus identity using the following methods:

- An entry sign that clearly identifies the Ontario Campus
- Acknowledgment of historic components
- Signage and artwork that reflects the community and says - We're Back!

FLUID WORKSPACE

Chaffey College can create fluid workspaces by implementing the following:

- Interconnected workspace between multiple campuses (hoteling stations)
- Protocols and considerations in place for shared spaces
- Classroom settings - host outdoors!

SUSTAINABILITY

Chaffey College can support sustainability through the following:

- Reducing reliance on Natural Gas
- Acknowledge the impacts of water in Ontario's development
- LED lighting on Campus
- Shading trees

SPACES THAT WORK

Chaffey College can establish spaces that work for everyone through the following methods:

- Provide large, flexible classrooms
- Provide ample student spaces and dining throughout the campus
- Lounges create space to build campus community

TECHNOLOGY

Chaffey College can create a technology rich environment by supporting the following:

- Ensure 'face to face' support - want to feel connected
- Meeting rooms with properly and seamlessly integrated technology

STUDENT-CENTRIC SPACES

Chaffey College can facilitate a student-centric environment by establishing the following spaces:

- Bookstore
- Recreation Center / Game Room
- Spaces that simultaneously support communal and alone time

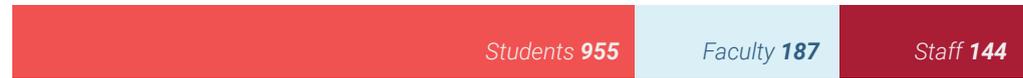
CAMPUS WIDE SURVEY

A campus wide survey was administered in February 2022. The survey drove a large portion of the Master Plan's engagement process and outreach. Due to the global pandemic, this survey was in lieu of a campus forum for visioning. The purpose of the survey was to gather feedback about the campus from the current campus users (students, faculty, and staff). Topics focused on services and resources, circulation, services, wellness, dining and retail, and points of interest.

SURVEY PARTICIPANTS

The Chaffey College Ontario survey had a strong response rate, **1,286 participants total.**

WHO TOOK THE SURVEY?



SURVEY KEY FINDINGS



Students would like more quiet and private spaces where they feel they can concentrate.



All users would like to see the use of native, drought resistant plants around campus.



Collaboration spaces that also promote some socialization would be welcomed by all users.

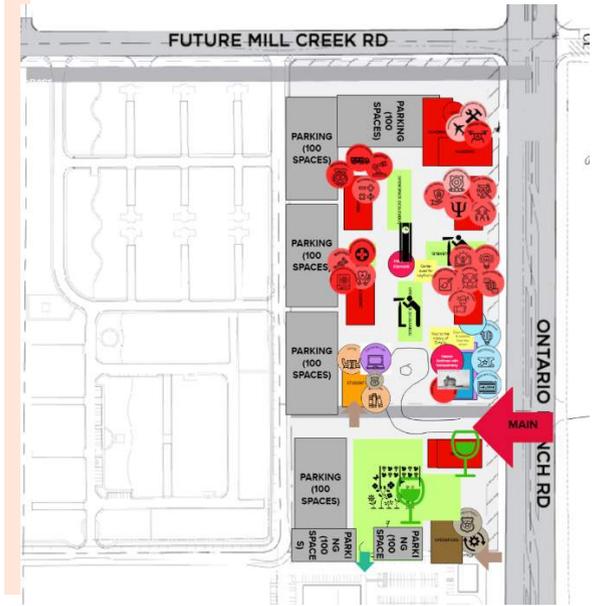
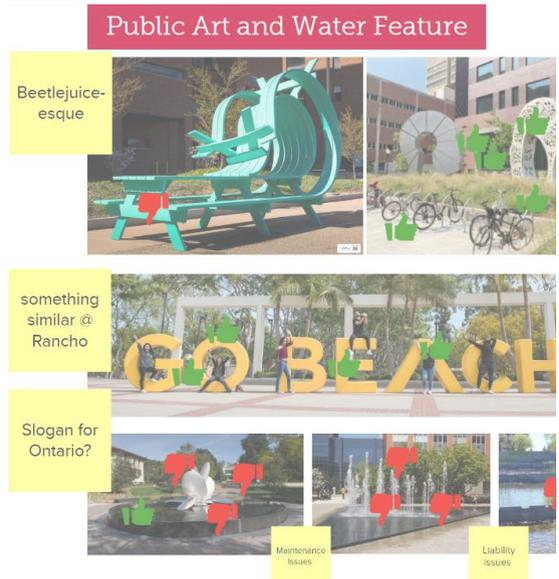
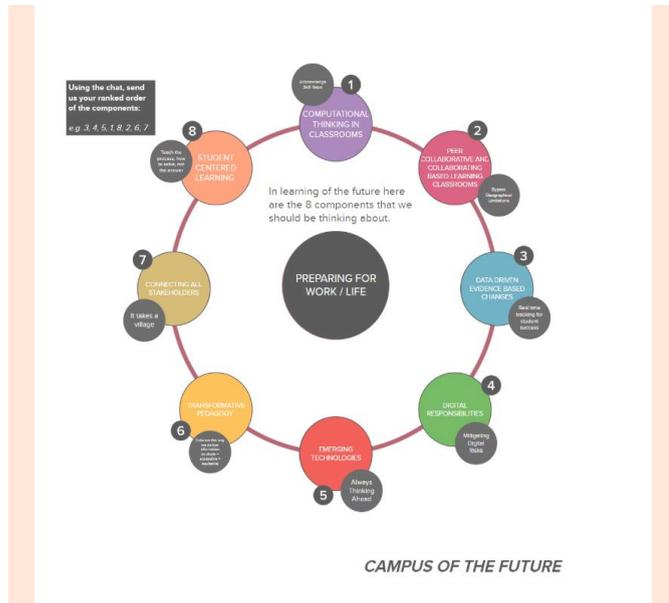


The new campus should prioritize wellness through access to programs and reasonably priced, nutritious meals.



More shaded outdoor spaces that all users can be used for extended periods of time.

WORKSHOP-BASED APPROACH



VISIONING

WORKSHOP 01

Campus stakeholders participated in various activities to envision a new campus by identifying successful and unsuccessful elements of other campuses and anticipating what future students may expect. Participants were asked to stretch their thinking around stewardship and environmental responsibility, effective use of space, and campus identity in a headline activity.

PRIORITIZING IDEAS

WORKSHOP 02

After ideas were collected in Workshop 01 and the campus wide survey, stakeholders worked to prioritize those ideas from 'vital' (must be considered first) to 'important' (considered as supporting other efforts). The ideas identified as 'vital' were translated into the plan's guiding principles (see chapter 04, beginning on page 52). Some ideas were identified as low priority and not applicable to the new campus.

BIG IDEAS

WORKSHOP 03

After the campus program and needs were established, small participant groups worked together to ideate a future campus. The activity revealed critical adjacencies, circulation elements, open space integration, and desired edge conditions. These "Big Ideas" were translated directly into the site planning concepts.



CONCEPTS

WORKSHOP 04

During the Concepts Workshops, the planning team presented three site planning concepts and alternatives. Each of the themed concepts organized the framework of the campus differently, testing different ideas for discussion. Participants were tasked with choosing the best ideas from each concept that would form the draft site plan through an activity.



DRAFT PLAN

WORKSHOP 05

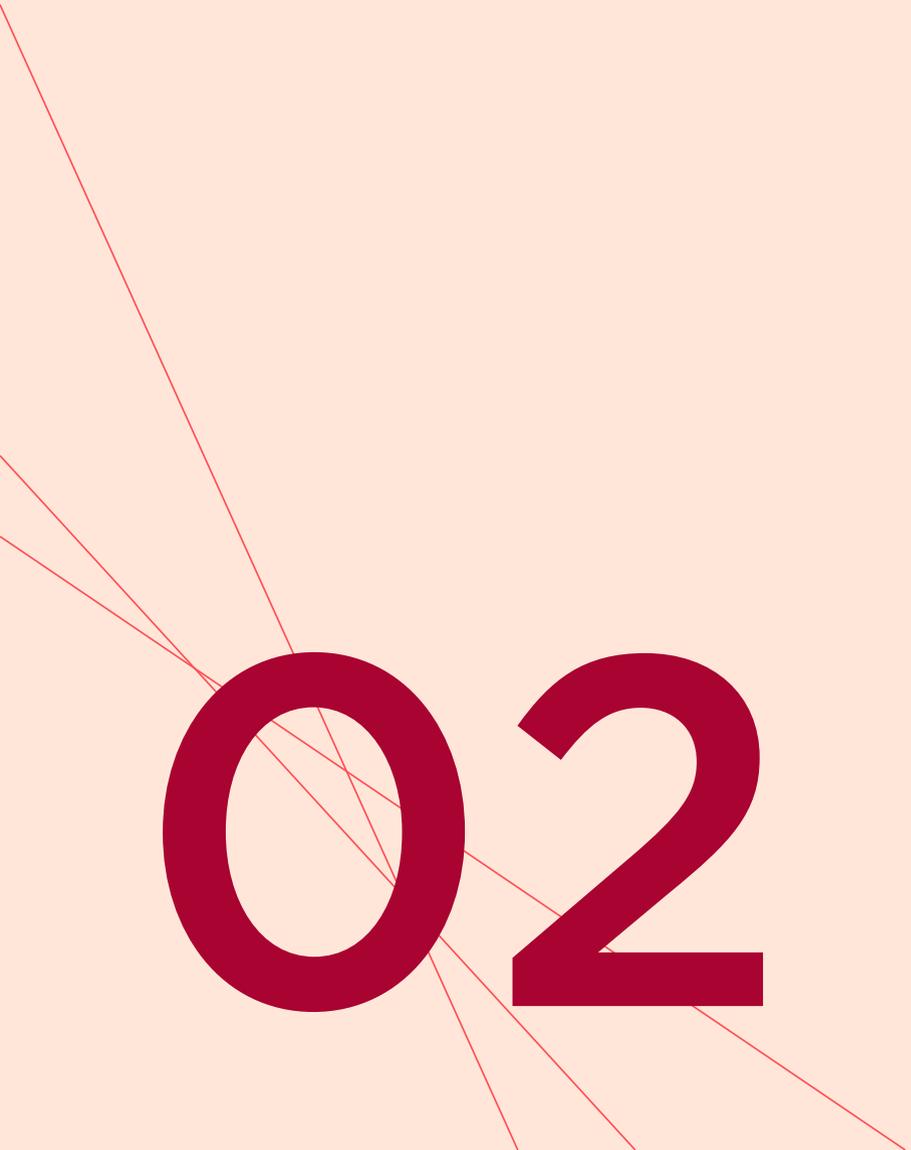
Stakeholders reviewed the draft site plan and provided feedback on the plan's strengths and weaknesses. This feedback was integrated into the final site plan. Campus leadership also worked to identify priority programs that need to be located on the new campus in the first phase.



FINAL PLAN & IMPLEMENTATION

WORKSHOP 06

During the final workshop, the planning team presented the final site plan with phasing diagrams for final feedback. The City of Ontario also reviewed the plan for initial comments. In September 2023, the final plan will be presented to and approved by the Governing Board.



02

CAMPUS CONTEXT AND SITE ANALYSIS

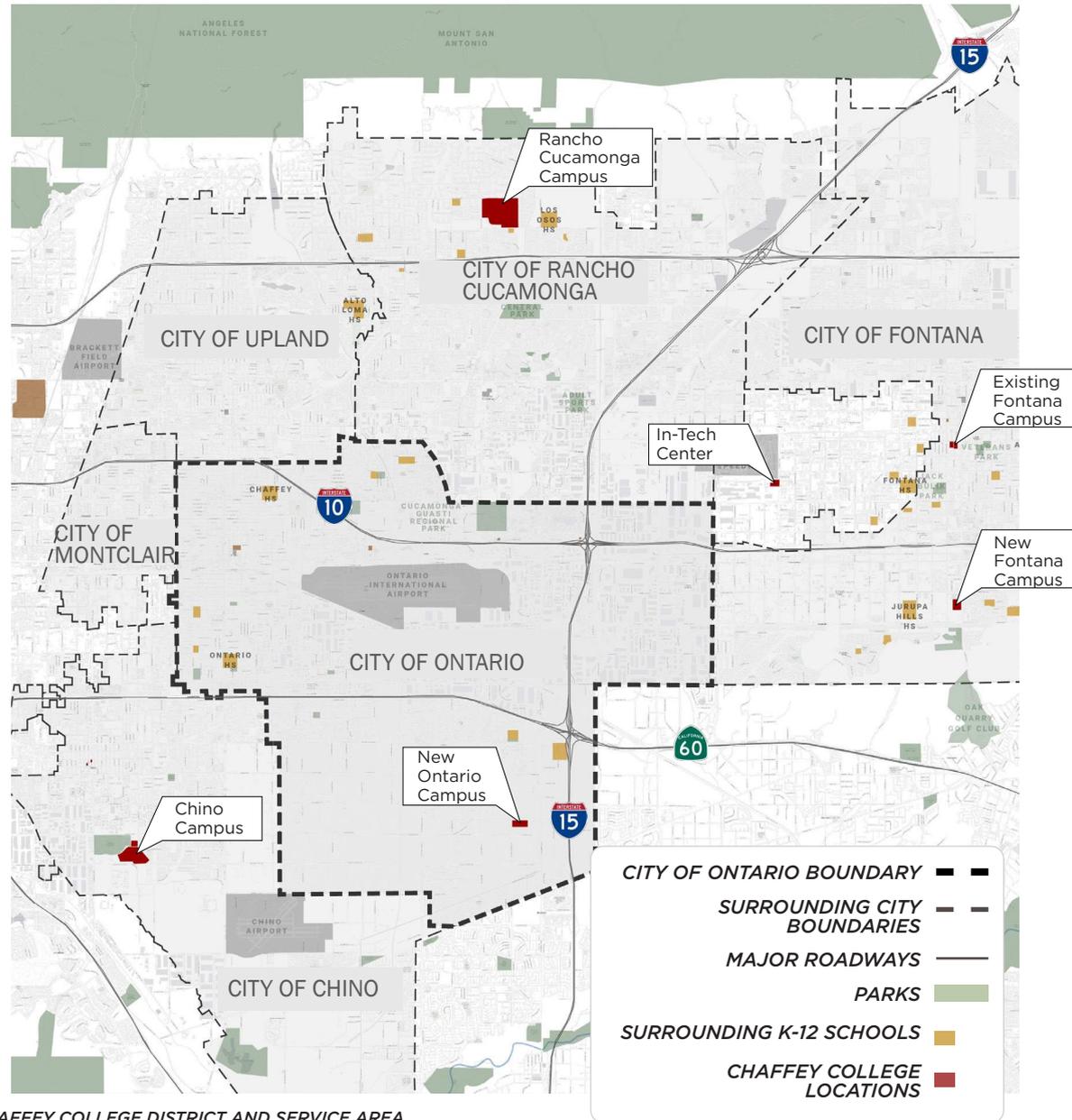
CAMPUS CONTEXT

DISTRICT INFORMATION

The District Service Area encompasses 310 square miles and includes Chino Hills, Fontana, Guasti, Montclair, Mt. Baldy, Ontario, Rancho Cucamonga (Alta Loma, Cucamonga, and Etiwanda), and Upland. Chaffey College has campuses in Rancho Cucamonga, Chino, and Fontana and serves four school districts: Chaffey Joint Union High School District, the Chino Unified School District, the Fontana Unified School District, the Ontario-Montclair School District, and the Upland Unified School District.

Since its establishment in 1883, Chaffey College has integrated itself in the region through various partnerships and communities. The College serves approximately 20,000 students in various academic, career, and vocational programs delivered in person and online.

As the College continues to grow geographically, the College's service area has expanded to have a heavier regional presence with many academic and career opportunities. From an academic perspective, the College supports dual enrollment opportunities for students at 25 local high schools within four high school districts. Partnerships with local manufacturing and distribution companies, ranging from minor to large employers, have provided a career perspective with an excellent employment platform for current and future students.



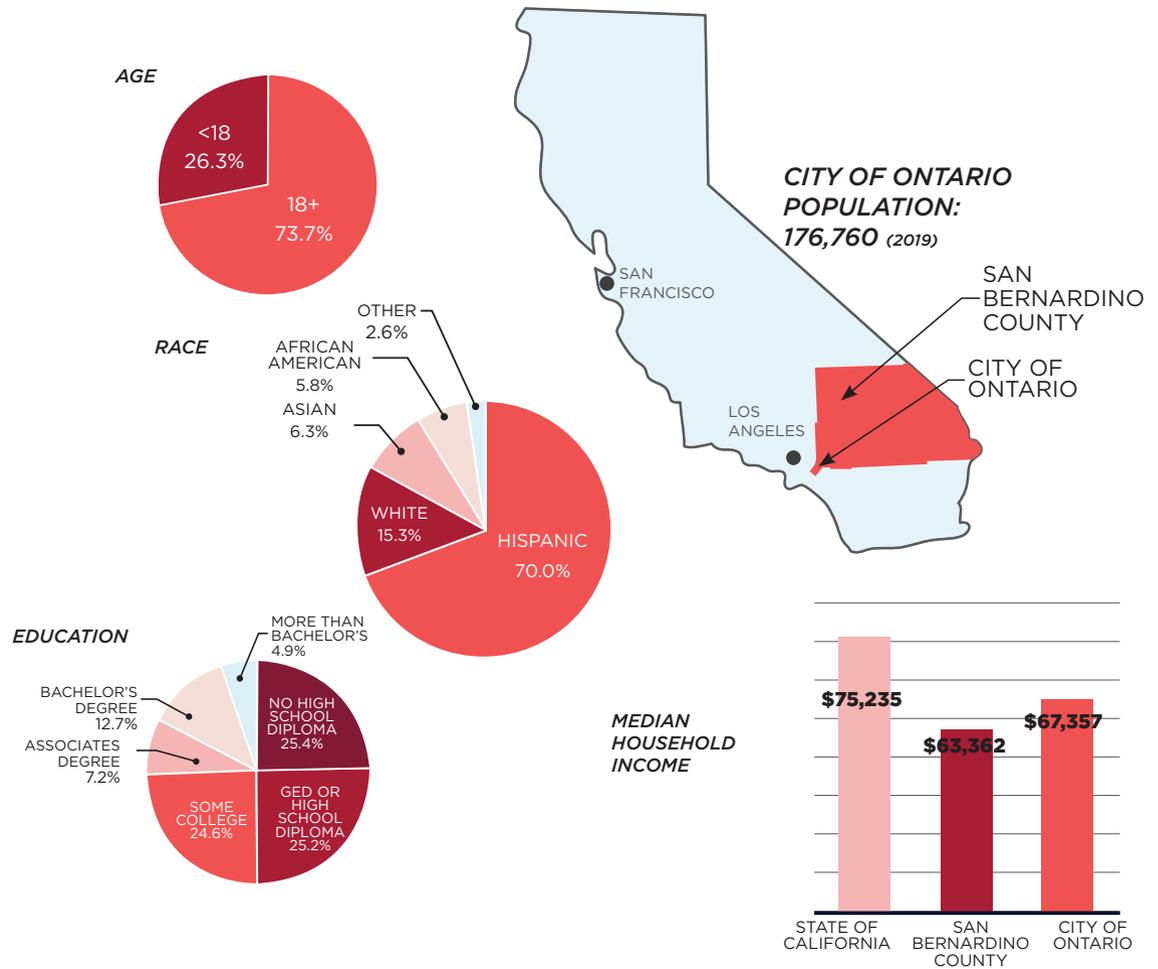
CHAFFEY COLLEGE DISTRICT AND SERVICE AREA

CITY OF ONTARIO

The City of Ontario is a rapidly growing metropolis in San Bernardino County, within California's, the Inland Empire. With the city's successful development, its general plan, "The Ontario Plan," has been updated to the year 2050 with the vision of encouraging a prosperous community that supports its population in every facet of life. Aspects include a thoughtful approach to a comprehensive design recognized by its foundational blocks: dynamic balance, prosperous economy, distinctive leadership, and recognized leadership. These foundational blocks highlight the prominent goals of the vision incorporating dynamic regional growth, technological advancement, community prosperity, perspectival acknowledgment, and promotion of a governance that best serves the people.

CITY OF ONTARIO DEMOGRAPHICS

(CENSUS 2019)

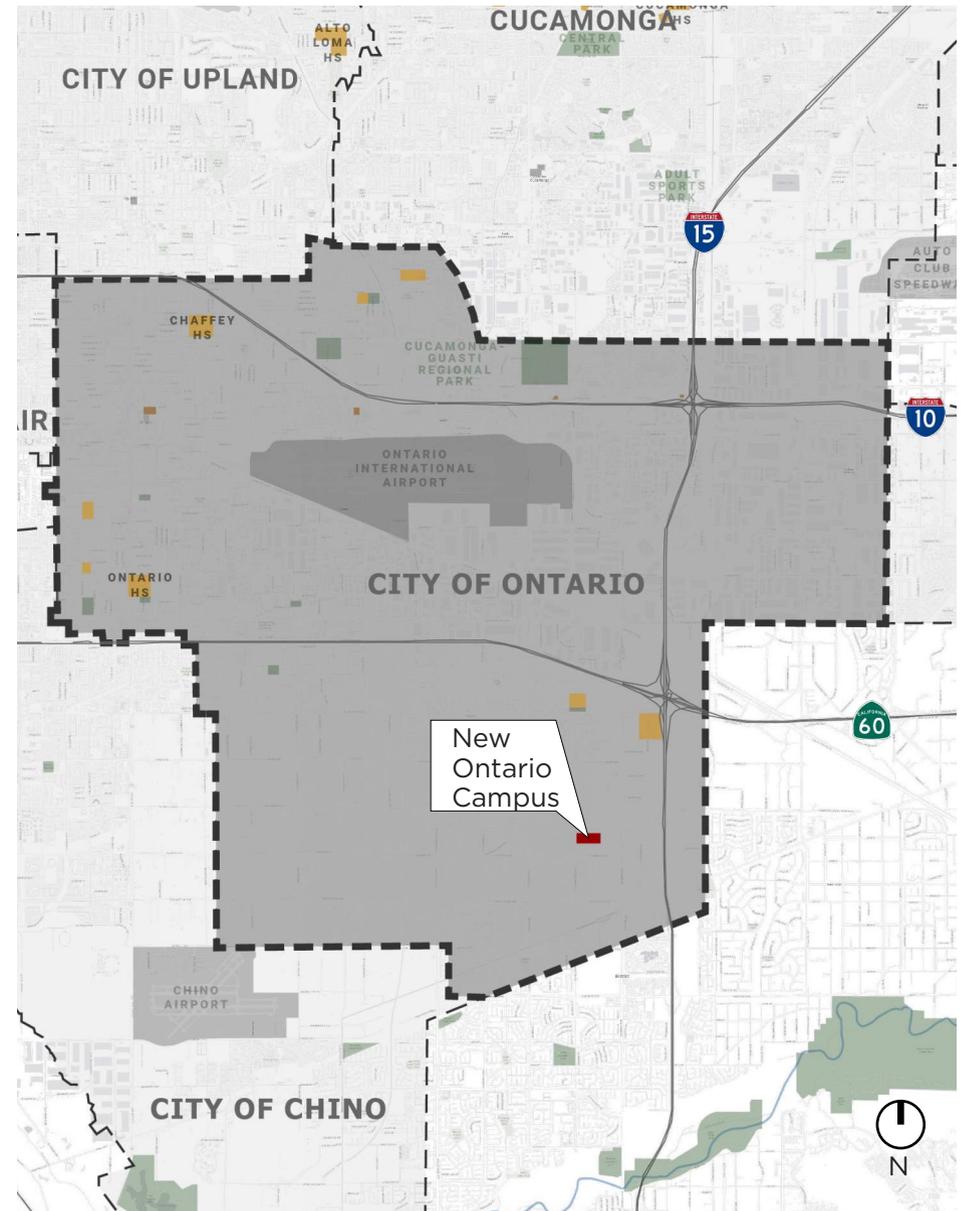


THE ONTARIO CAMPUS

Since its inception in 1883, Chaffey College has established campuses supporting the north, east, and west sides of the Inland Empire. Following the success of the New Fontana Master Plan, the reestablishment of Chaffey College in the southern portion of Ontario aims to create a strong partnership with the City of Ontario, much like its peer campuses.

This plan intends to embody the notion of “We’re Back!”, it’s widely recognized that the original Chaffey College campus was located in Ontario, along Fourth and Euclid. Throughout the design process, intentional decisions were made in direct response to the original Euclid Ave; most notably trees lining either side of the prominent thoroughway.

- CITY OF ONTARIO BOUNDARY** ———
- SURROUNDING CITY BOUNDARIES** - - -
- MAJOR ROADWAYS** ———
- PARKS** ■■■■
- SURROUNDING K-12 SCHOOLS** ■■■■
- CHAFFEY COLLEGE LOCATIONS** ■■■■



NEW ONTARIO CAMPUS SITE INFORMATION

With sweeping northern views of the San Gabriel Mountains, the new Ontario campus will contribute to the flourishing community by providing a full service, exciting, and inspirational learning environment that embodies accessibility, safety, and sustainability. The educational resources facilitated by the future campus are anticipated to drive its economy for future commercial development. As a destination for students, faculty, staff, and community members, the campus will provide a platform for future success.

As planned, the new Ontario campus will be close to two other significant future projects – a multi-family housing development to the north and a large retail development to the east.



NEW ONTARIO CAMPUS AND SURROUNDING CONTEXT



1 LOOKING WEST ON ONTARIO RANCH ROAD, AWAY FROM THE SAN BERNARDINO MOUNTAINS WITH PARCEL ON LEFT



2 LOOKING NORTH FROM PARCEL/ONTARIO RANCH ROAD TO A VIEW OF MT. SAN ANTONIO



3 LOOKING SOUTHWEST AT THE PARCEL FROM ONTARIO RANCH ROAD

NEW ONTARIO CAMPUS SITE PHOTOS

Drone images captured of the new Ontario Campus site.



1. LOOKING WEST OVER PARCEL AND ONTARIO RANCH ROAD

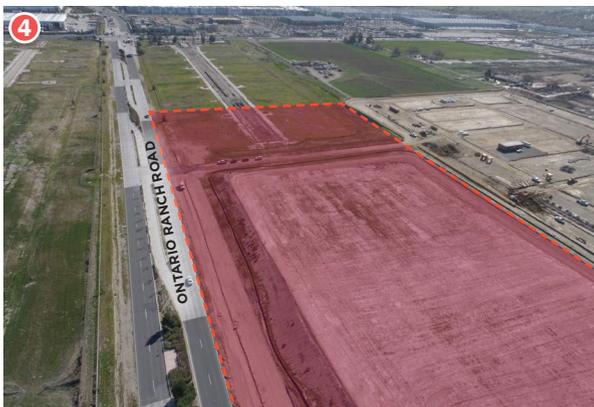


2. LOOKING SOUTH OVER PARCEL



3. LOOKING SOUTHEAST TOWARDS HAMNER AVE

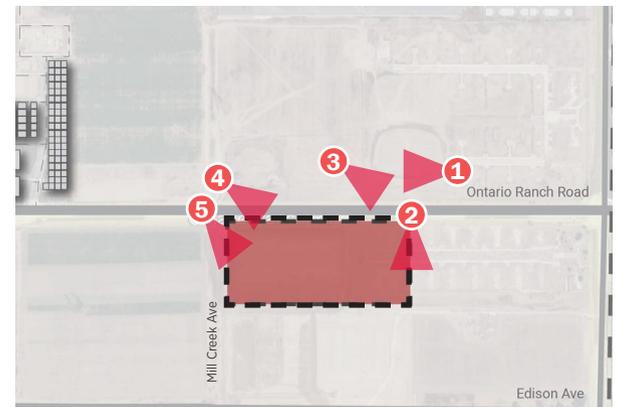
4. LOOKING SOUTHEAST OVER PARCEL TOWARDS HAMNER AVE



5. LOOKING SOUTH OVER PARCEL TOWARDS THE FUTURE MILL CREEK AVE.



VIEW KEY





6. LOOKING SOUTHWEST OVER PARCEL TOWARDS FUTURE MILL CREEK AVE.



7. LOOKING SOUTHEAST OVER PARCEL TOWARDS HAMNER AVE.



8. LOOKING EAST FROM EDGE OF PARCEL TOWARDS HAMNER AVE.

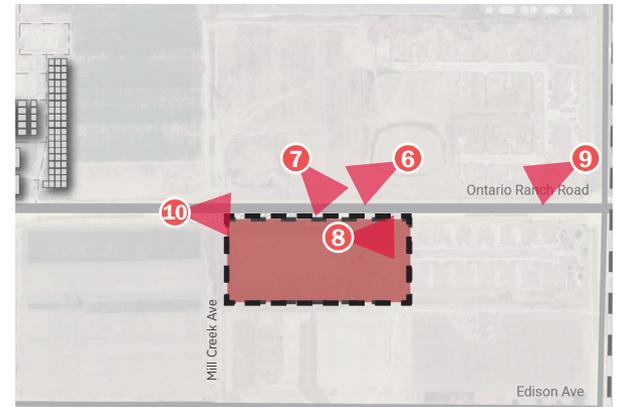
9. LOOKING SOUTHWEST FOR FULL VIEW OF PARCEL AND FUTURE MILL CREEK AVE.



10. LOOKING EAST OVER PARCEL TOWARDS HAMNER AVE



VIEW KEY

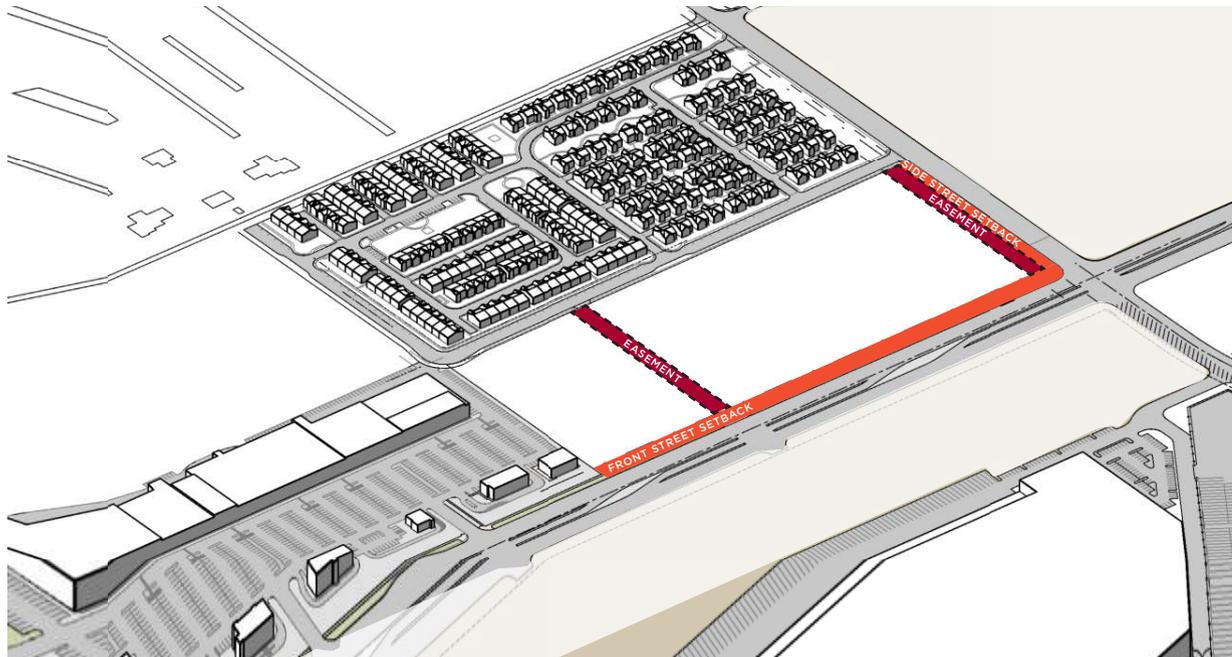


CITY OF ONTARIO DESIGN GUIDELINES AND DRIVERS

The Ontario Plan encompasses the ideal vision for the future of the city - including diverse regional growth, advancing technology, acknowledgment of all its residents' perspectives, and a governance practice that best serves the people all in support of a thriving community. As a part of the planning process, the city established several land use districts throughout the southern area surrounding Ontario Ranch Road. The planned site for the new campus is located within the Regional Commercial/Mixed Use: Rich Haven land use district, which is intended to provide for a vibrant and viable mix of retail, office, hospitality, civic, and residential uses. The new campus will serve as a civic anchor and provide activity to support the broader mix of uses.

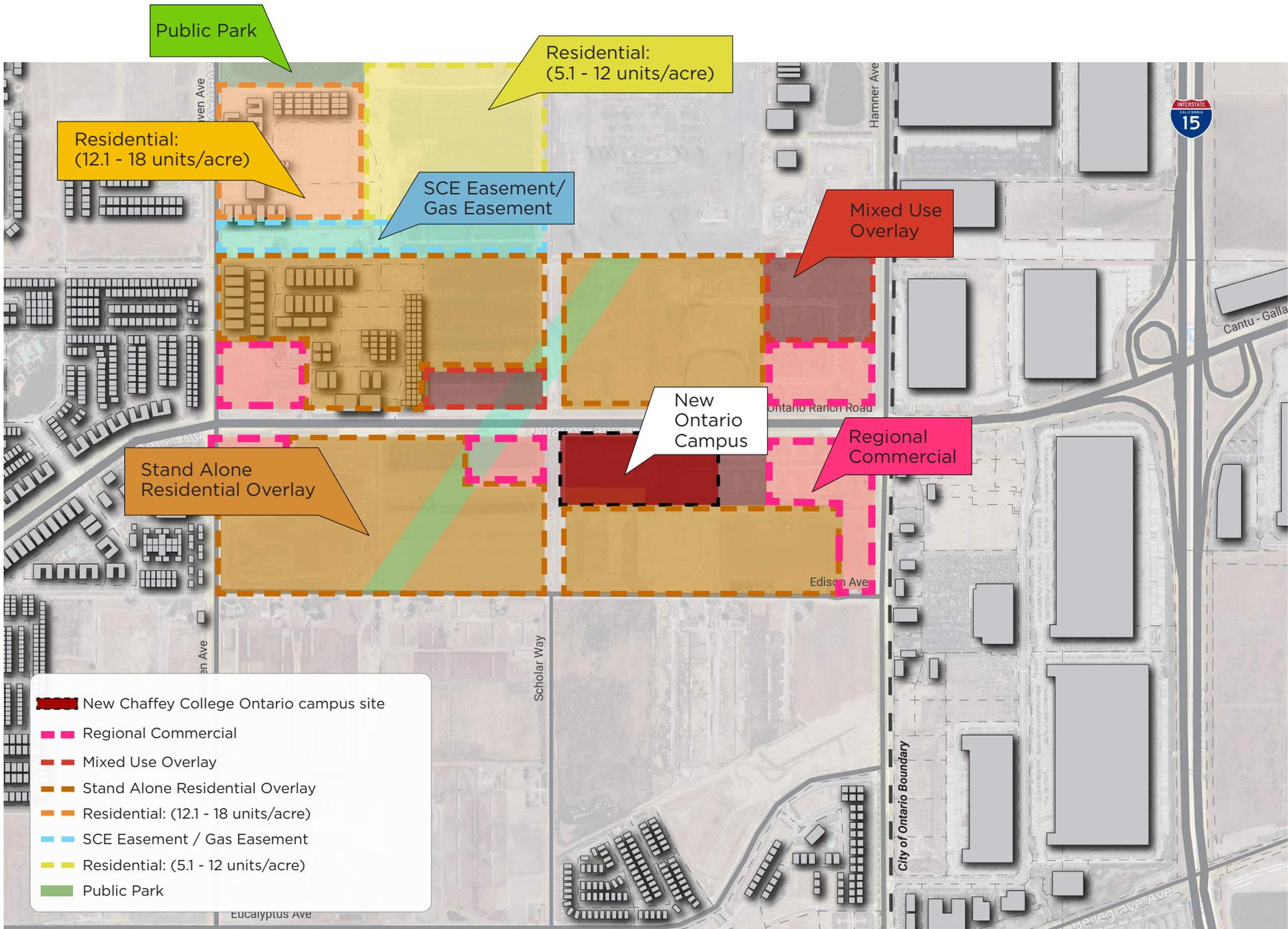
In complement to The Ontario Plan, the city developed multiple plans focused on sustainability with the intention of developing the healthiest community possible for its residents, including the Climate Action Plan with the completion of an Environmental Impact Report. As a state agency, the College is not required to follow these standards; however, many of the standards were used as a baseline for the new Ontario campus site, addressing important planning and place-making standards.

SOURCE: ONTARIO ZONING AND LAND USE



CHAFFEY COLLEGE SITE ZONING ANALYSIS

TRADITIONAL ZONING DISTRICT	
SITE	APPROX. 16 ACRES
BUILDING DEVELOPMENT CODE	
BUILDING HEIGHT	75' MAX.
SETBACKS	50' FROM NEIGHBORHOOD EDGE, 35' FROM BACK OF SIDEWALK
	18' MIN. FROM MILL CREEK AVENUE
	10' MIN. FROM SOUTH CALIFORNIA EDISON (SCE) EASEMENT
	IN BETWEEN BUILDINGS ON SITE: MIN. 2/3 HEIGHT OF THE BUILDING OR 25'
PARKING	0.5 SPACES PER STUDENT PLUS 1 SPACE PER EMPLOYEE DURING THE LARGEST SHIFT
OPEN SPACE	15% MIN.
FAR (BUILDING/SITE RATIO)	2.0 MAX.



RICH HAVEN SPECIFIC PLAN - LAND USE PLAN

PEDESTRIAN CIRCULATION

Creating an accessible, attractive, and safe pedestrian environment is a critical part of prosperous campus communities. The City of Ontario has proposed sidewalks along the front of the campus, and a network of walking trails within the vicinity to connect to the broader region and local parks. The Active Transportation Master Plan (ATMP) is a citywide effort aimed at improving pedestrian, bicycle, and transit-related safety, accessibility, and connectivity to destinations throughout Ontario and beyond.

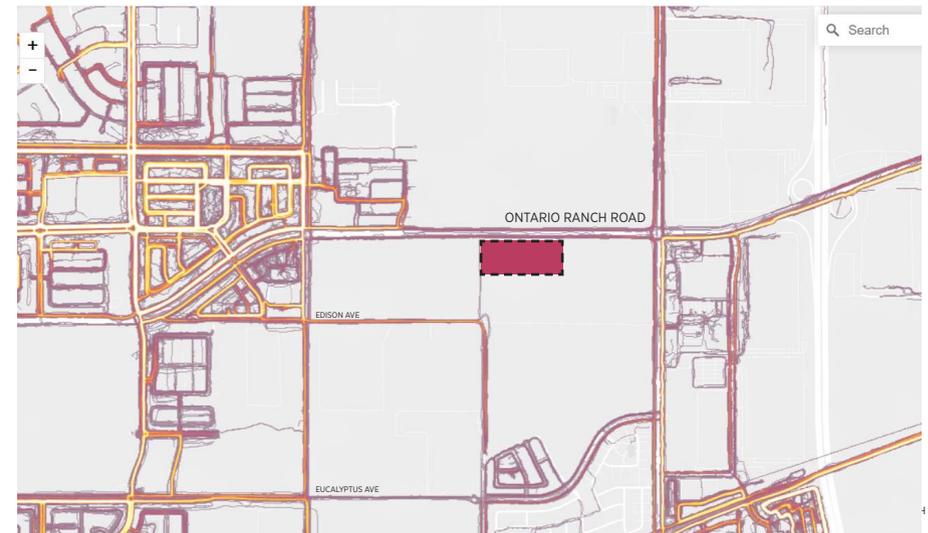
Challenges

- Lack of crosswalk infrastructure directly interacting with the campus edge
- Audio/visual impairment and distraction due to the adjacency of Ontario Ranch Road

Opportunities

- Sidewalk accessibility surrounding site that connects to all nearby community amenities
- Ability to design safe and optimal pedestrian connection to campus and community
- Ample sidewalk along the campus edge

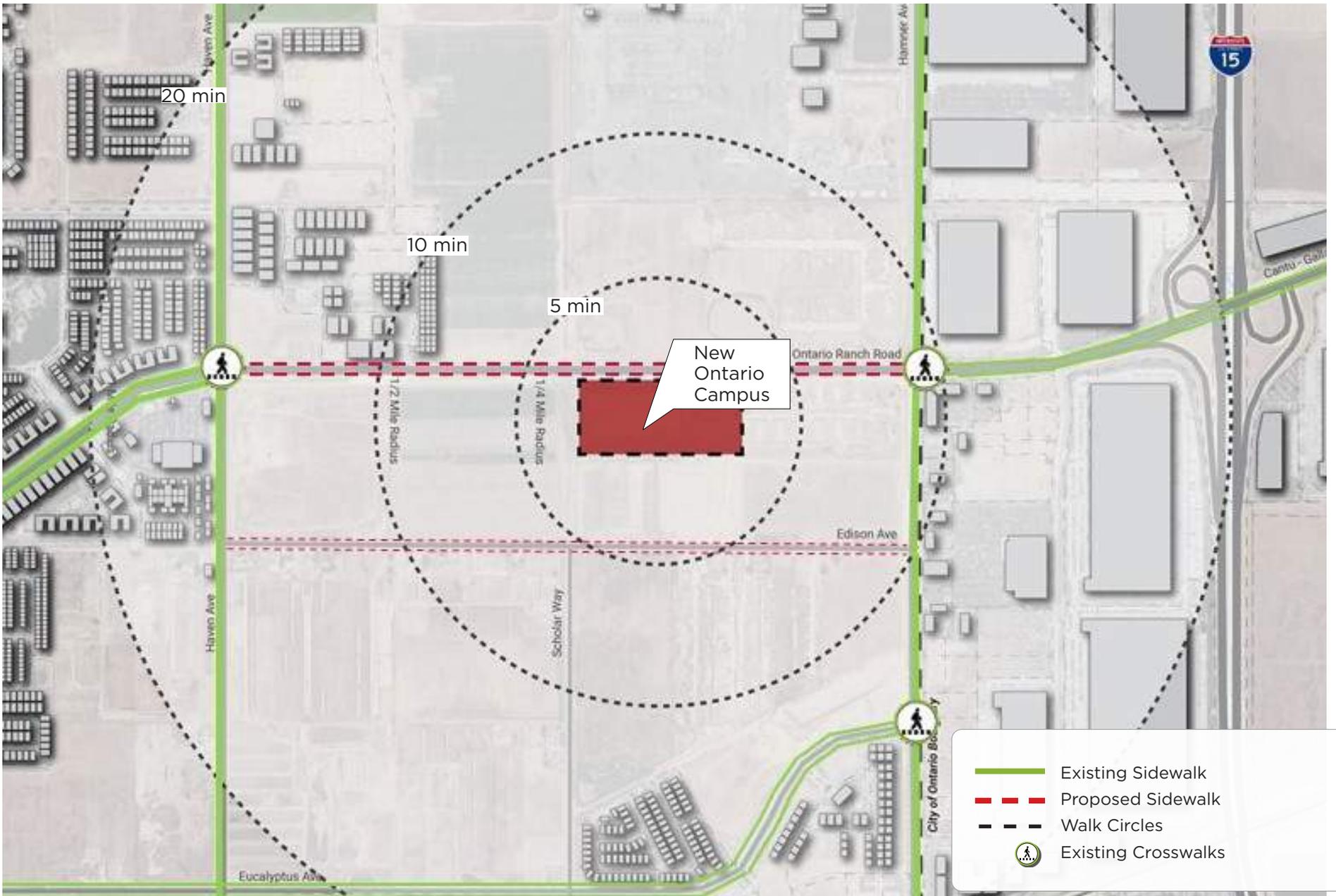
The campus is designed to prioritize the pedestrian experience through a central promenade and open space protected from the wind and sun and a circulation system that limits pedestrian and vehicle interaction.



PEDESTRIAN HEAT MAP

- Popular pedestrian movement
- Moderate pedestrian movement

Source: City of Ontario Active Transportation MP Pedestrian Heat Map



BICYCLE CIRCULATION

As part of the City of Ontario's overall vision of a sustainable future plan, more efficient and safe bicycle transportation choices are key. Prioritizing a bicycle transportation route would not only capitalize on commuter views of the San Gabriel Mountains but also facilitate healthy lifestyles through easy access to physical activity, food, and community along the route.

Challenges

- Lack of currently developed infrastructure along Ontario Ranch Road

Opportunities

- Future bicycle infrastructure by the City to help improve regional connectivity to the campus

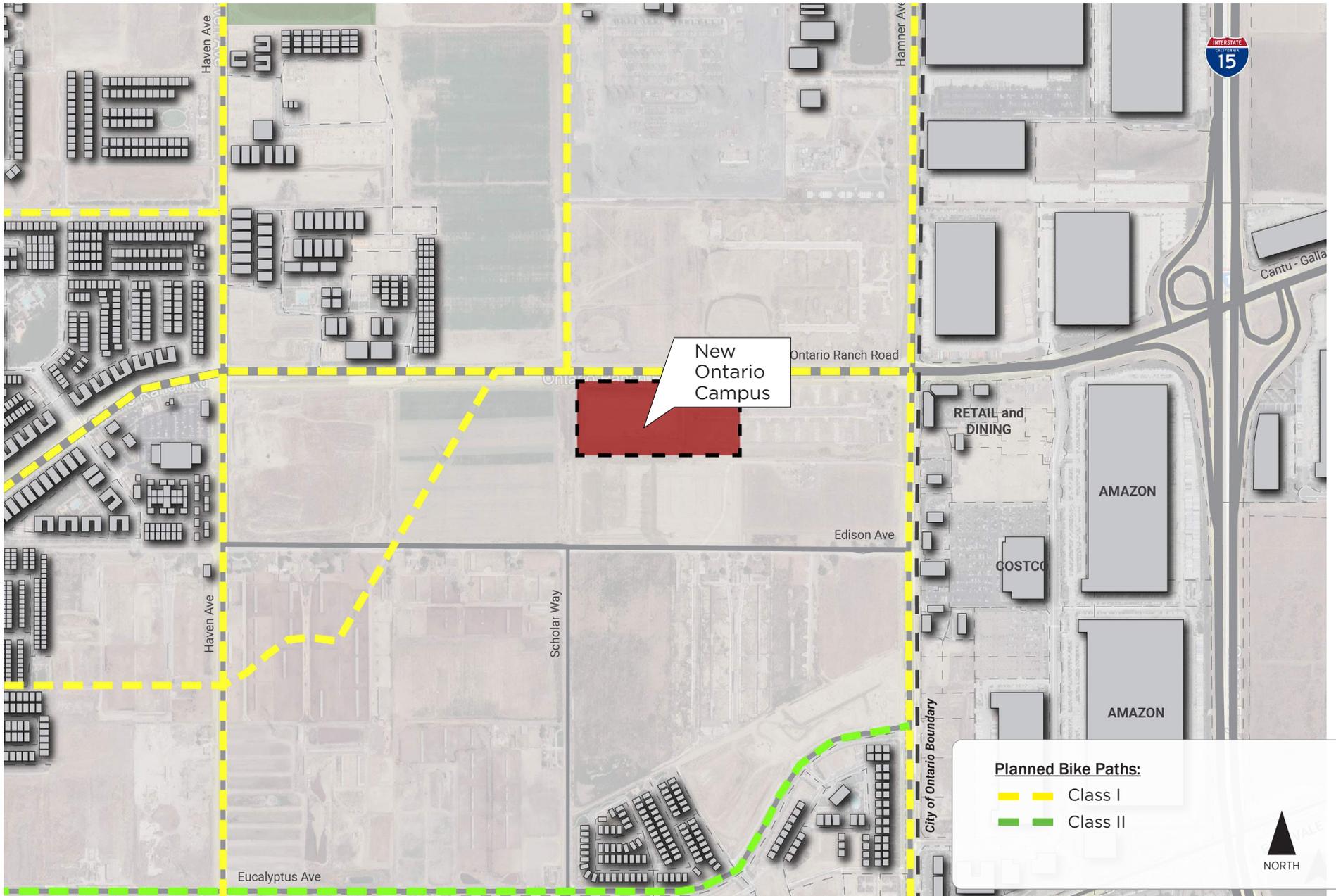
At present, there are Multipurpose Trails, planned by the City of Ontario, along Ontario Ranch Road and a Class II Bike Path along Eucalyptus Ave with plans, from San Bernardino County, to upgrade to Class I Bike Paths along Ontario Ranch Road and Class II Bike Paths along Eucalyptus Ave.



BICYCLE HEAT-MAP

- Popular bicycle movement
- Moderate bicycle movement

Source: City of Ontario Active Transportation MP Bicycle Heat Map



VEHICULAR CIRCULATION

Ontario Ranch Road is the main arterial highway traveling east-west in southern Ontario. There are surrounding interconnected streets that are existing and under development, directly adjacent to the site. Currently, there are not any planned improvements to the immediately surrounding streets, except for the addition of Mill Creek Road which will bisect Ontario Ranch Road between Haven and Hamner Avenue.

Ultimately, there is an understanding that the surrounding interconnected street system can benefit from level of service improvements for all modes of transportation. With the addition of Mill Creek Road, the campus will have the opportunity for three access points. One main entry from Ontario Ranch Road will have a traffic signal. This entry and exit will be for drop offs as well as access to the main parking lot. A secondary access point from Mill Creek Road will provide an alternate entrance/exit to the main parking lot, as well as access for deliveries.

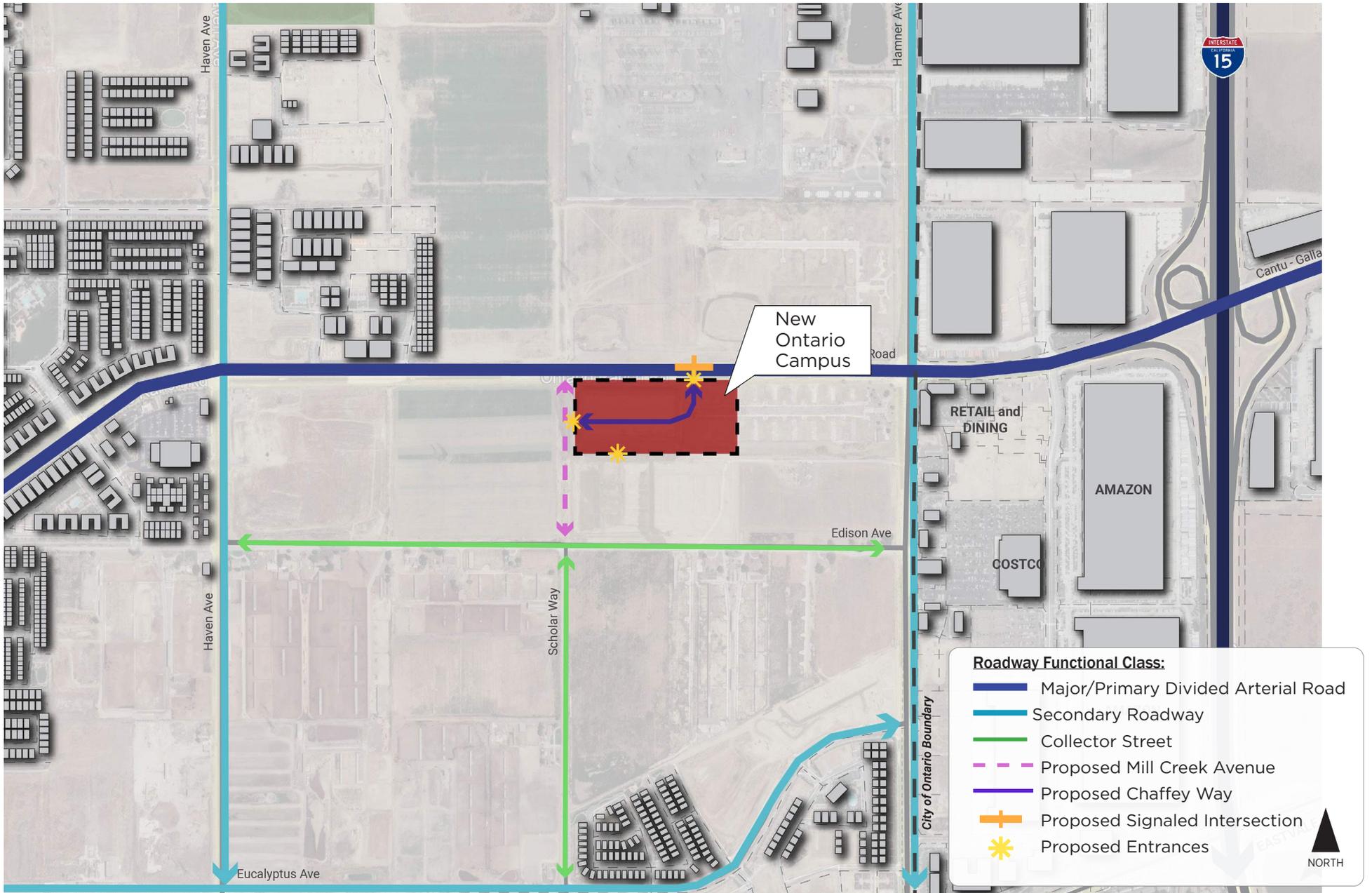
Opportunities

- Main Entry point right off the high traffic arterial highway, Ontario Ranch Road
- Main Entry will host a traffic signal providing 4-way access to the campus
- The Mill Creek Road entrance will serve as an additional access point to the campus
- Discuss the potential of having the entry section of Ontario Ranch Road deemed Chaffey Way

A final access point along Almond Blossom Street to the south will be closed with bollards on most days to prevent cut-through traffic from or through the adjacent residential neighborhood, but open for graduation and other major events to better handle higher traffic volumes. This entrance will also accommodate emergency vehicles. The central pedestrian promenade will also be closed with bollards but designed to allow emergency vehicles to easily access each building.



LOOKING EAST OVER PARCEL TOWARDS HAMNER AVE



VEHICULAR INFRASTRUCTURE

TRANSIT

It is important that students, employees, and community members without access to a vehicle or who choose to ride public transportation have easy access to the campus. Proposed Omnitrans bus stops at the northeast corner and east of the campus is located a few minutes' walk from core campus buildings, and should be designed with amenities such as shade, bus schedule information, and to make it a pleasant and appealing place. This will also make transit an attractive and affordable alternative to driving to campus, which will help reduce the carbon footprint of commuters. There are currently no existing bus routes in the area.

Challenges

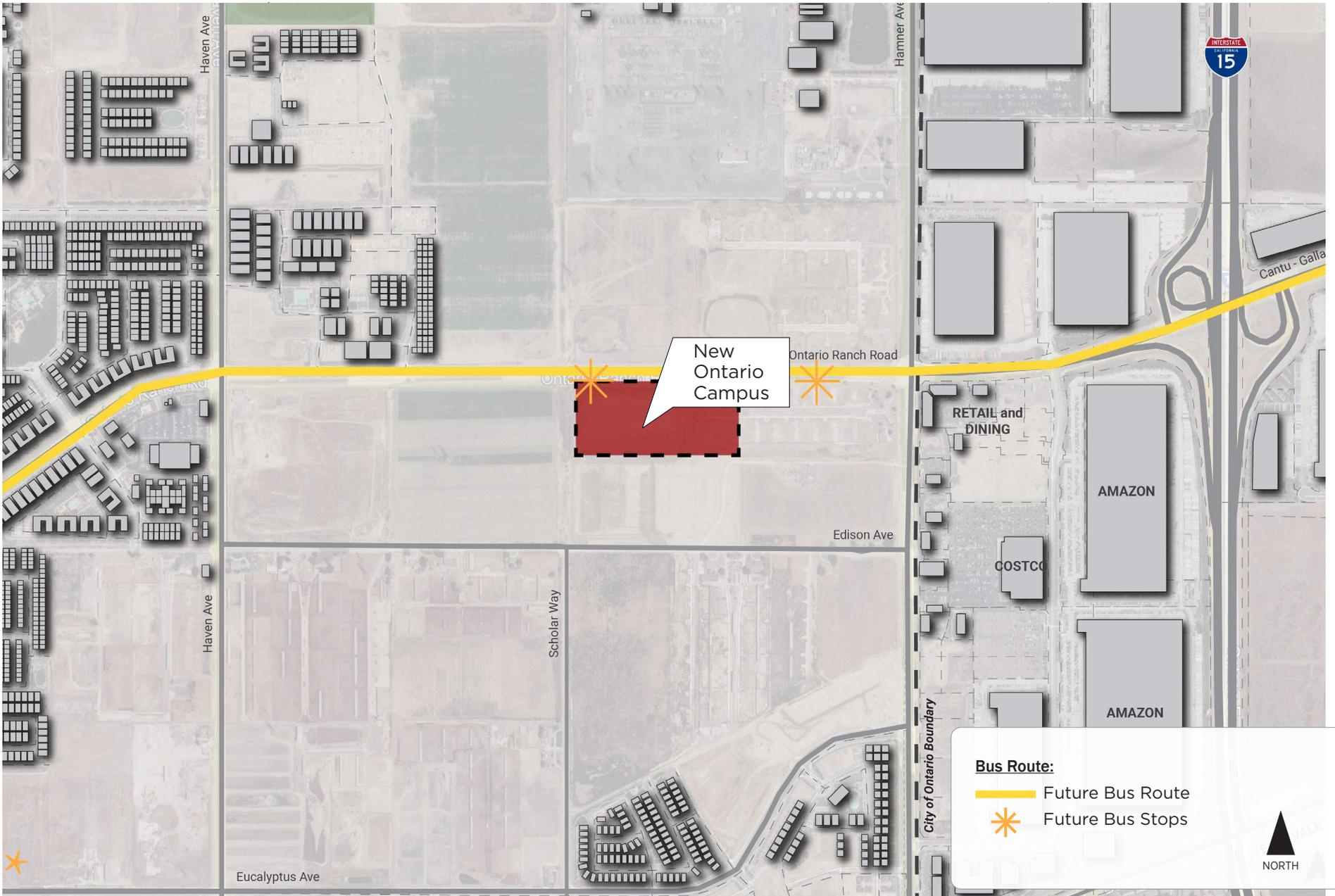
- Lack of secondary bus stop on any of the auxiliary roads adjacent to campus.

Opportunities

- Bus stop located in between Haven and Hamner Ave. on the corner of what will become Mill Creek Road and Ontario Ranch Road.
- Bus stop located at the east end of campus.



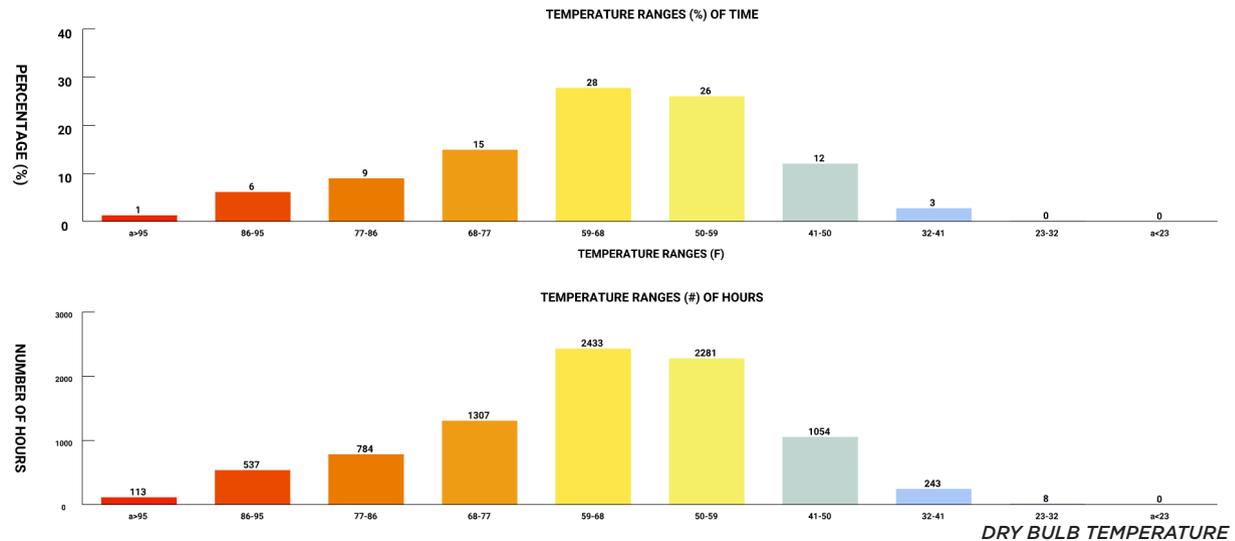
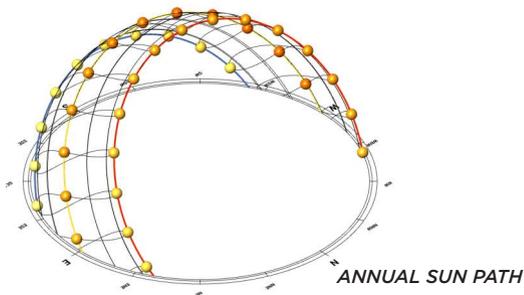
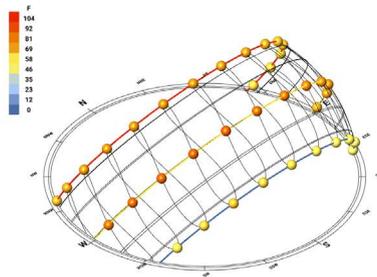
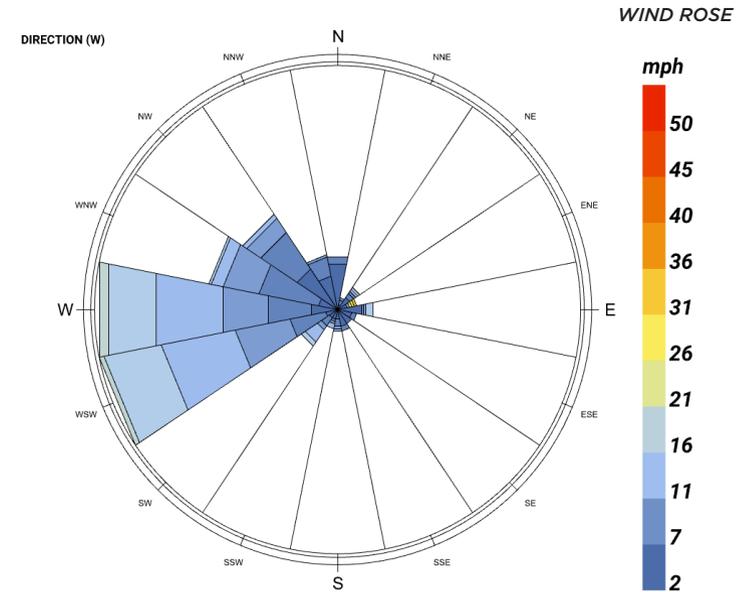
LOOKING WEST OVER PARCEL AND ONTARIO RANCH ROAD



TRANSIT ROUTES

ENVIRONMENTAL ANALYSIS

The future campus site is located in ASHRAE Climate Zone 3B, experiencing warm and dry weather for most of the year. The temperature varies from 26°F in the winter months to 110°F during the summer months. The wind experienced at any given location is highly dependent on local topography and other factors, and instantaneous wind speed and direction vary more widely than hourly averages. The average wind speed in Ontario typically ranges between 4 and 15 mph. The winds are typically strong from midday/afternoon to evening. The wind patterns for this site are typically Westerly winds, commonly known as the Santa Ana Winds: a strong set of dry downslope winds that affect the coastal area of Southern California, mainly from October to March. Users reported feeling the effects of these strong winds throughout Ontario and expressed a desire for outdoor spaces that are protected from the winds.



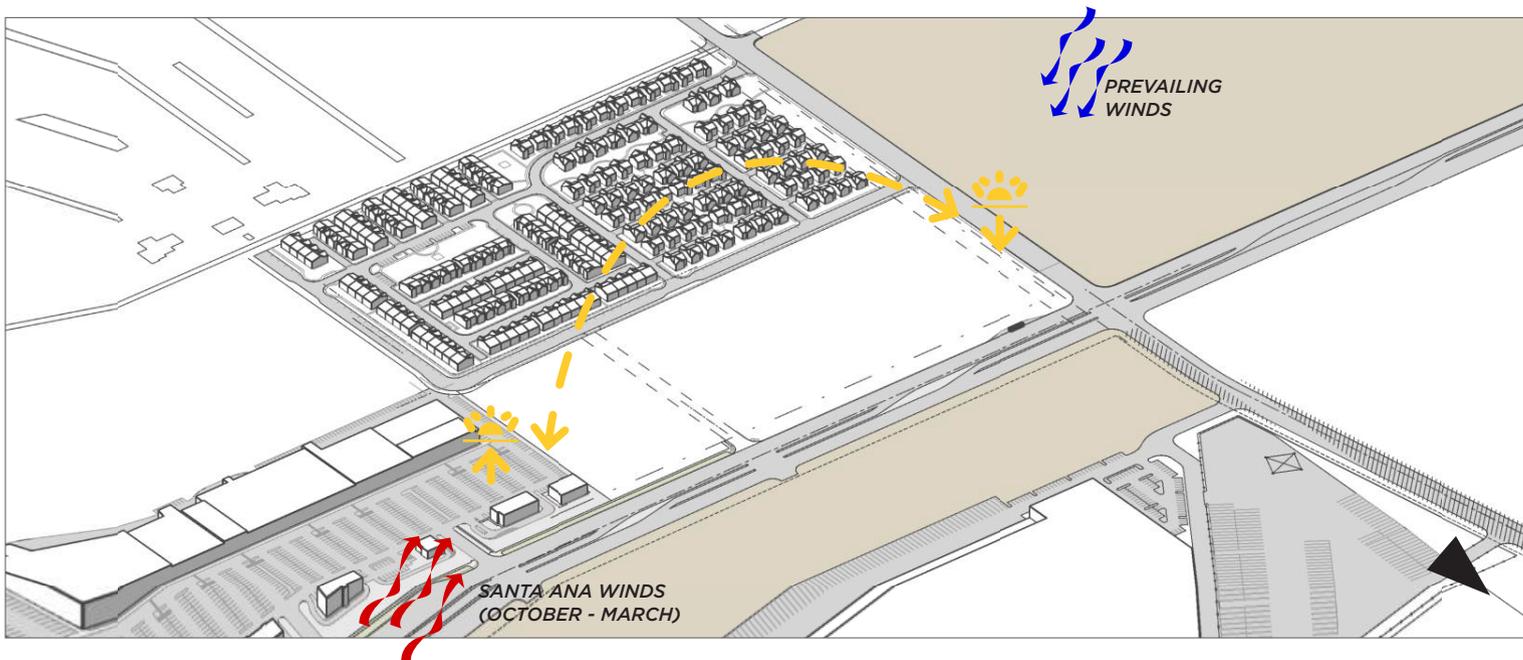
Challenges

- Heat Gain: Minimize heat gain through design by orienting the buildings along E/W axis, optimizing wall/window ratios, identified landscape areas and tree selections, and site materials.

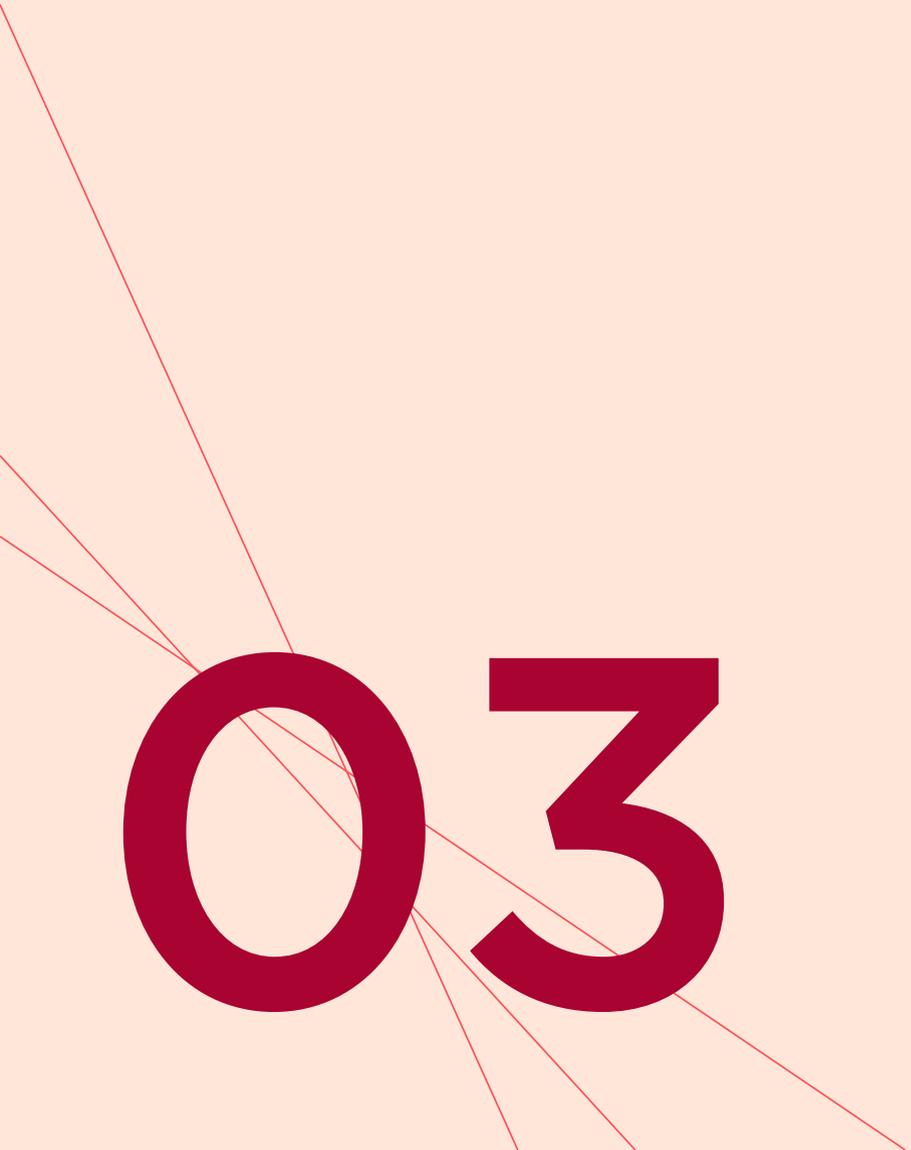
Strong Winds: The site may experience Santa Ana winds between October and March. These are strong, dry, warm winds that blow westward through Southern California toward the coast. These winds with average speed of 40mph could dry out vegetation and create critical fire weather conditions.

Opportunities

- Building Orientation: Elongate blocks E/W to create shaded campus pathways and open spaces.
- Shading: Narrow N/S pathways for shade. This will help reduce surface heat up and shade pedestrians.
- Urban Heat Island: Decrease Urban Heat Island by increasing building heights, increasing presence of vegetation, planning for light colors, and high albedo for roofs and parking areas.
- Green Areas: Campus green areas will act as heat sinks (transpiration) and wind modifiers, while filtering/controlling dust, reducing pollution. The green areas located upwind on the edge of urban areas will help cool the incoming prevailing winds.



03



CAMPUS PROGRAM AND SPACE NEEDS

ONTARIO CAMPUS PROGRAM

Expanded Transfer Programs

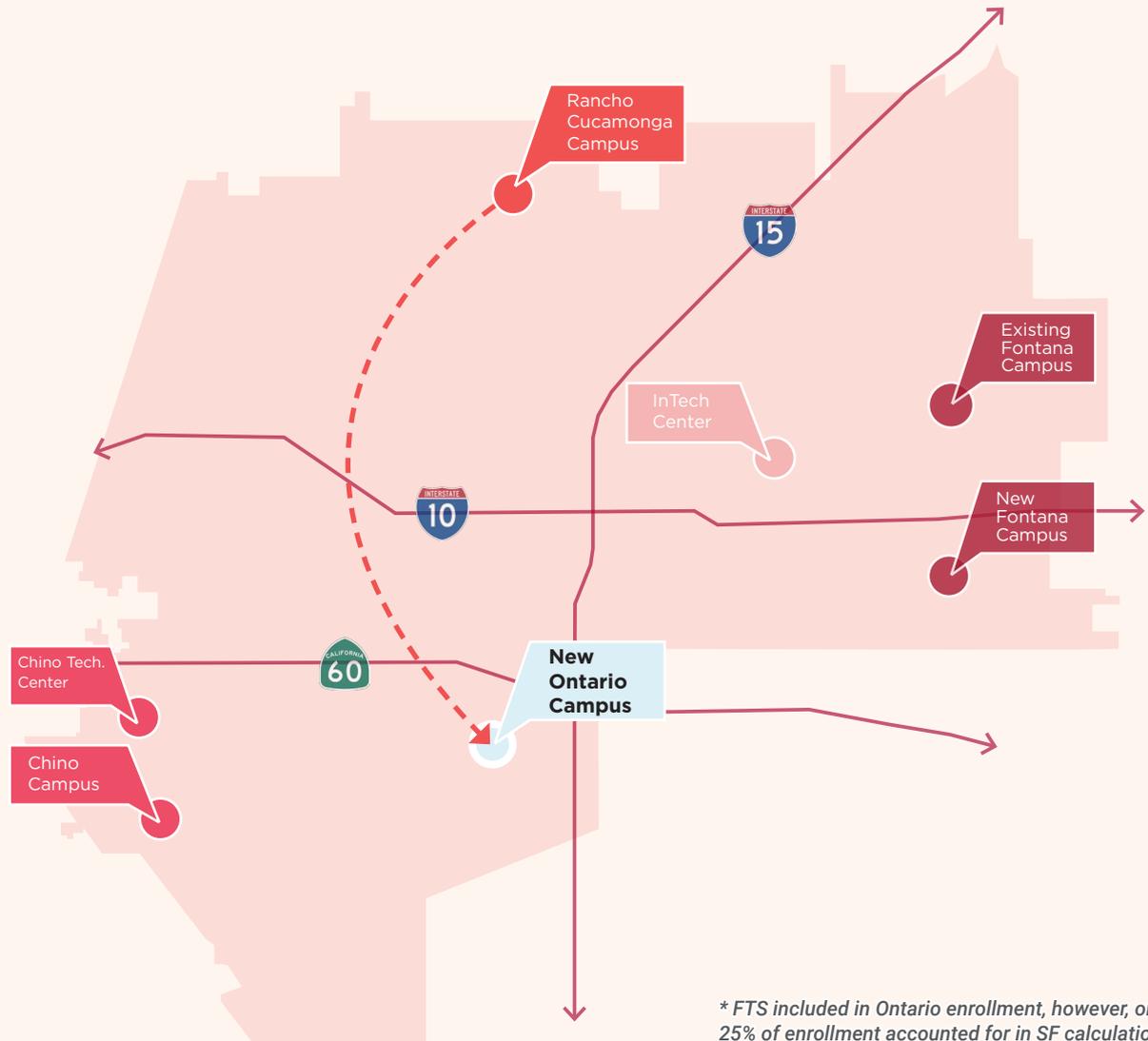
- Biological Sciences
- Business and Management
- Media and Communications
- Information Technology
- Education
- Fine and Applied Arts
- Foreign Language
- Health
- Family and Consumer Science
- Humanities
- Mathematics
- Psychology
- Public and Protective Services
- Social Sciences

Relocated from Rancho Campus

- Homeland National Security
- Aviation Maintenance Tech *

New Programs - Ontario Campus

- Health Information Management
- Public Health Information and Technology
- Transportation Logistics
- Drone Technology *



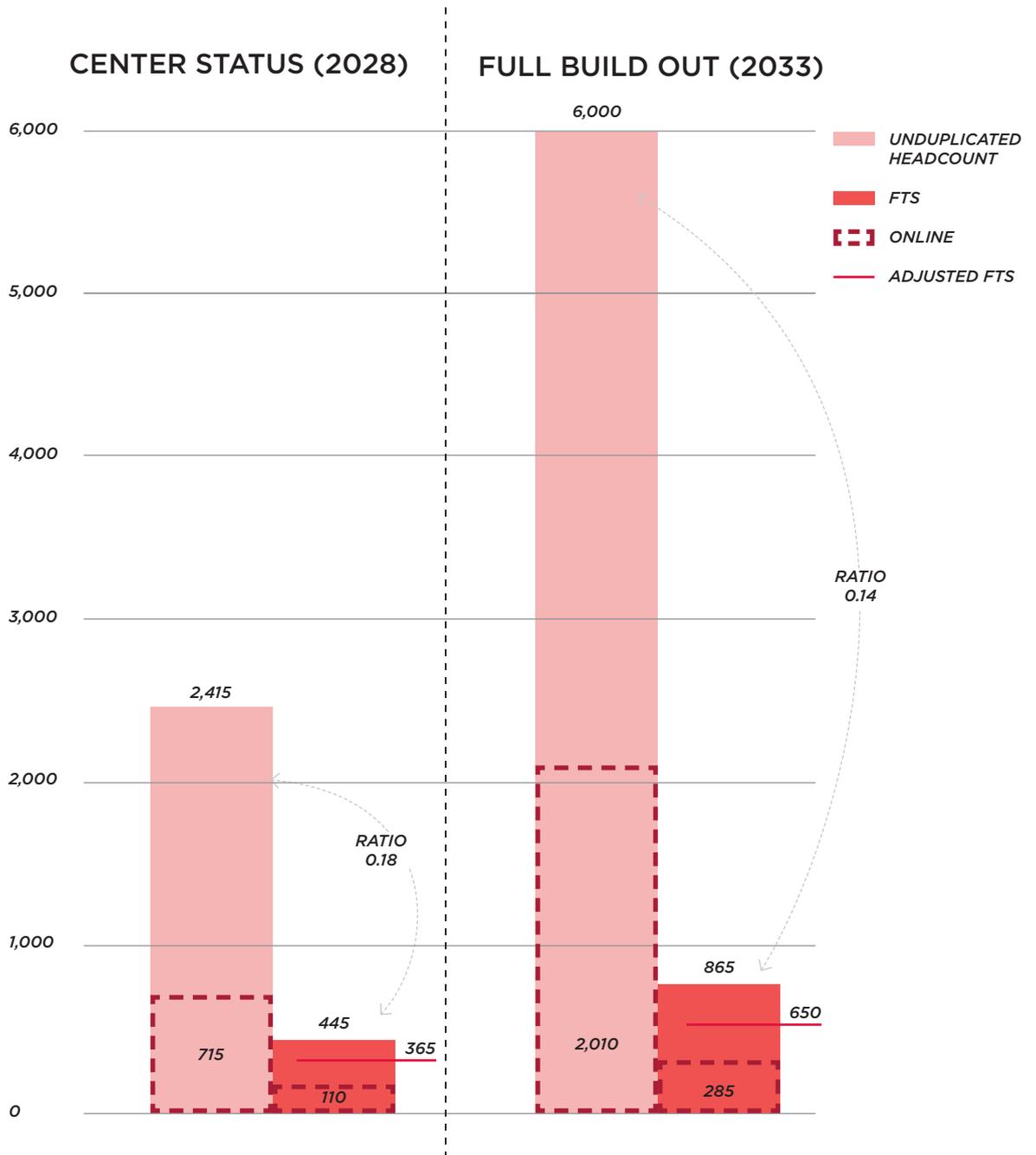
* FTS included in Ontario enrollment, however, only 25% of enrollment accounted for in SF calculations due to off-site lab location.

CAMPUS ENROLLMENT PROJECTIONS

Two enrollment targets were established for planning purposes. The first would allow the campus to reach Center Status and could be achieved as early as Fall 2028. The second would not occur for another five years. It is important to note that Center Status is measured by annualized full time students (FTS), and the space needs analysis is based on Fall semester, unduplicated FTS.

Approximately 40% of enrollment is expected to be online. While in-person learning is not the only reason students come to campus, it is certainly a primary driver. It can reasonably be deduced that increasing online courses will reduce time spent on campus and therefore reduce the amount of space required. For this campus, we are using a factor of 25% to accommodate the space needs of students taking courses partially or completely online, as well as 25% of the Aviation Maintenance Technology and Drone Technology enrollment which will have lab space off-site.

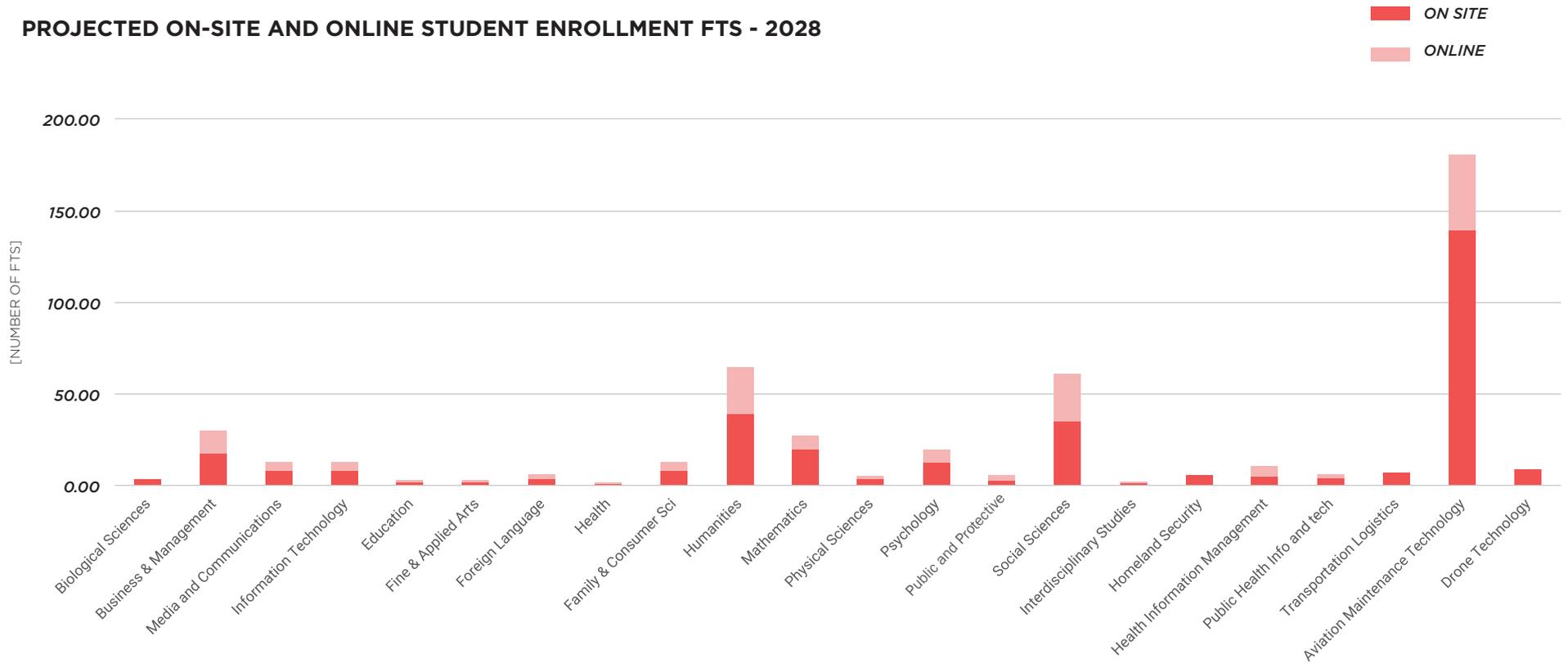
There is extra capacity on the site to construct additional facilities. Growth beyond Center Status will be dependent on the availability of space on the campus.



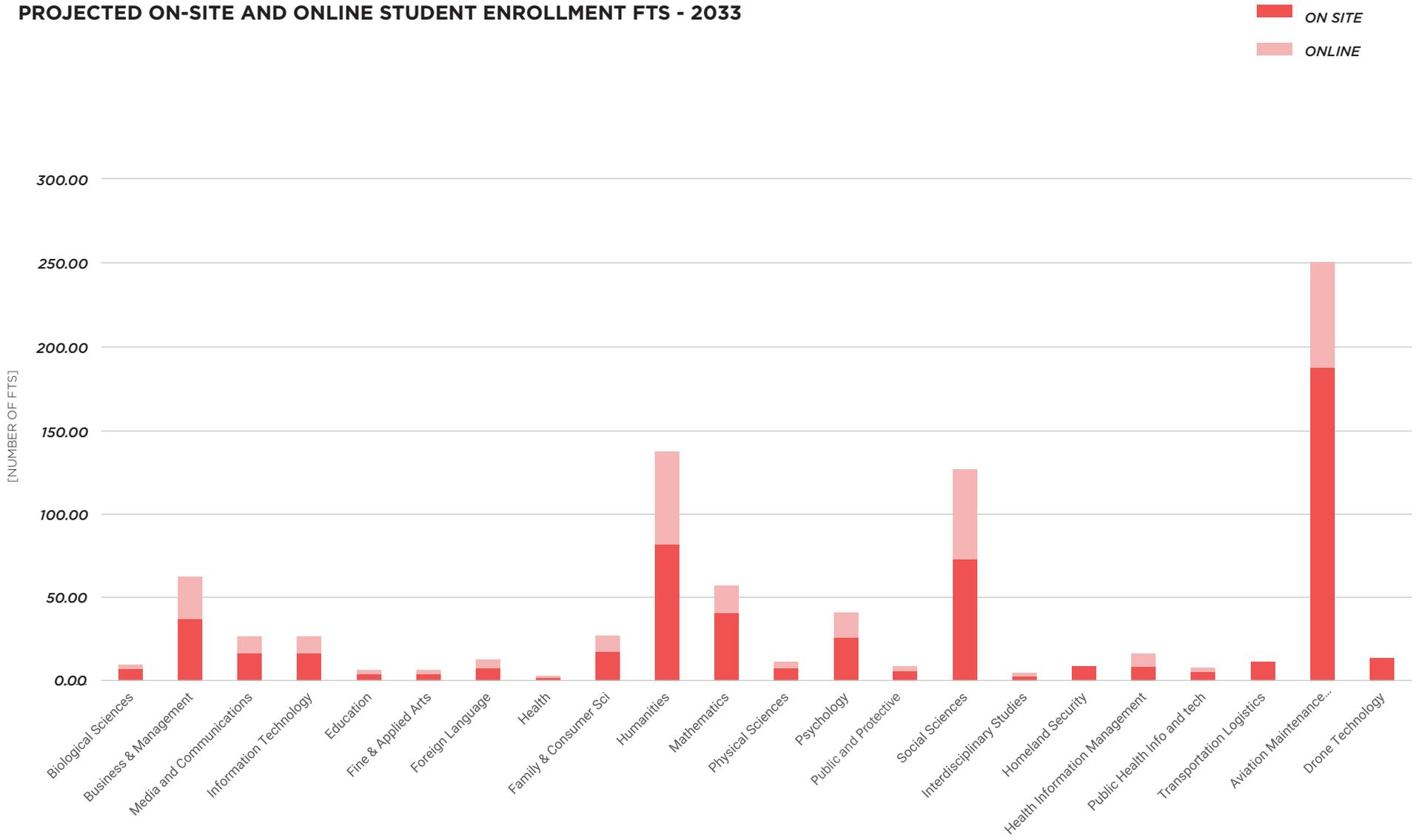
ENROLLMENT BY PROGRAM

Projecting enrollment growth by program helps to determine how much academic space will be needed in the future. While many programs can share general classroom space, some programs require specialized lab spaces that vary in size based on the curriculum.

PROJECTED ON-SITE AND ONLINE STUDENT ENROLLMENT FTS - 2028



PROJECTED ON-SITE AND ONLINE STUDENT ENROLLMENT FTS - 2033



SPACE NEEDS BY TYPE

METHODOLOGY

A space needs analysis enables the planning team and the College to identify the types of space that will be needed on day one as well as how much space will be needed in the future to align with enrollment projections.

The analysis for the Ontario Campus Master Plan studies spaces that are measured by the California Community Colleges Chancellor's Office (CCCCO), including classrooms, instructional labs, offices, library and study, and AV/TV. These space types are measured by Space Capacity/Load (CAP Load) targets, which is the relationship between the amount of space available and the number of students participating in campus programs.

In addition, several 'other' space types are not analyzed by the CCCCCO in relation to utilization and efficiency but are important as part of the college's inventory related to campus experience and operations. These spaces include student space, exhibit and assembly space, and campus support space. These other space categories are analyzed using current, classification-specific metrics informed by Association for Learning Environments

(A4LE) standards, peer institutions, and national trends in higher education as defined by organizations such as Society for College and University Planning (SCUP), Leadership in Educational Facilities (APPA), and others. Similar to those defined by CCCCCO, these metrics also determine whether a surplus or deficit of space exists and provide the data to inform the amount of space needed to support the desired programs.

This campus will focus on prioritizing programs that can utilize flexible and virtual spaces to maximize the number of students who can be served on a relatively small campus.

This will help to keep the campus nimble and able to adapt quickly to curriculum changes without the cost or delay of significant remodeling work. This de-emphasis on traditional highly specialized lab and classrooms spaces reduces the overall building development which reduces density and preserves outdoor space.

While there will still be significant academic space on campus, much of the campus development will focus on improving the student experience and supporting a successful transfer process and career placement.

PROJECTED SPACE NEEDS

When the campus achieves Center Status, the campus will need minimum 69,000 assignable square feet of physical space.

For state-mandated Cap Load categories (Instructional, Lab, Office, AV/ TV and Library), a Cap Load Ratio of 120% was chosen as a planning target. While a 100% Cap Load theoretically meets the demand for a campus population in any given space category, there are some limitations to using this as a planning target for a new campus. Increasing the number up to 120% provides the flexibility that is needed for additional growth should enrollments exceed expectations, and also allows for innovation in program offerings and/or potential partnerships not yet defined.

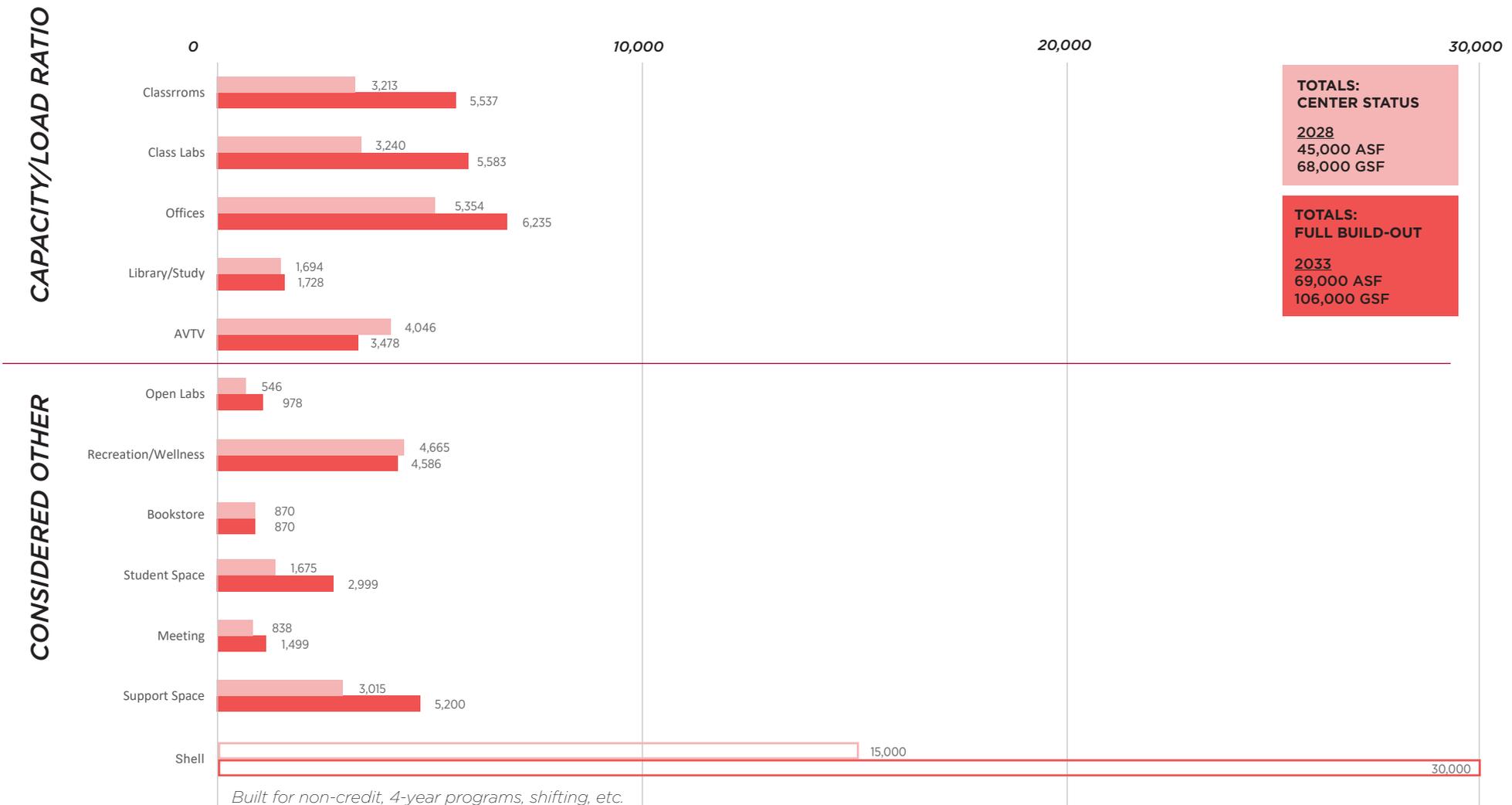
Each space type is outlined in the following pages.

*FTE: FULL-TIME EQUIVALENT
DGE: DAY-GRADED ENROLLMENT
DGS: DAY-GRADED STUDENT*

SPACE METRICS:

<p>CLASSROOMS</p> <p>20 ASF/STUDENT STATION</p> <p>66% STATION UTILIZATION</p> <p>48 HOURS/WEEK</p>	<p>CLASS LABS</p> <p>ASF/STUDENT STATION BASED ON PROGRAM</p> <p>85% STATION UTILIZATION</p> <p>27.5 HOURS/WEEK</p>	<p>OFFICES</p> <p>200 ASF/ INSTRUCTIONAL STAFF FTE;</p> <p>150 ASF/STAFF FTE</p>	<p>LIBRARY/STUDY READER STATIONS -</p> <p>50 STATIONS AT 27.5 ASF</p> <p>+ 0.10 STATION;</p> <p>STAFF STATIONS -</p> <p>3 FTE @ 140 ASF PER STATION + .002 /DGE</p>
<p>AV/TV</p> <p>BASE ALLOWANCE - 3,500 ASF</p> <p>+ 1.50 ASF/DGE</p>	<p>OPEN LABS</p> <p>1.50 ASF/ STUDENT FTE</p>	<p>STUDENT-CENTERED SPACE</p> <p>4.6 ASF/ STUDENT FTE</p>	<p>PHYSICAL SUPPORT</p> <p>5% OF TOTAL SQUARE FOOTAGE</p> <p>+3000 ASF CORE</p>
<p>SPECIAL USE</p> <p>2.3 ASF/ STUDENT FTE</p>	<p>MEETING ROOM</p> <p>2.3 ASF/ STUDENT FTE</p>	<p>STUDENT HEALTH</p> <p>NO PROJECTED STUDENT HEALTH SPACE.</p>	

SPACE NEEDS ASSESSMENT BY SPACE CATEGORY AT CENTER STATUS AND FULL BUILD-OUT



CAPACITY/LOAD RATIO

CLASSROOMS

Weekly Student Contact Hours (WSCH) were calculated using the factors outlined in the California Community College Board of Governors (CCCCO BOG) and Chancellor's Office Policy on Utilization and Space Standards for an institution with < 140,000 WSCH which states that classrooms shall not be used less than 48 hours per 70-hour week.

The space need was determined using projected enrollment and assuming that each on-campus FTE projected generates 15 weekly contact hours. For online FTE projections, each FTE is estimated to average 5.25 weekly contact hours. Of these contact hours, 70 percent of them are assumed to be in a general classroom.

Caveats:

While it may not be intuitive to assume that online FTE projections would generate traditional contact hours, this is meant to accommodate synchronous courses that may require the use of a high flex classroom. This will also accommodate the need for online courses to occasionally meet on campus.

CLASSROOM SIZE AND FEATURES

Campus stakeholders expressed a need for spaces that can easily allow for changes in programs and curricula. **The College is planning to use 40-45 capacity flat-floor classrooms as a typical module for planning purposes.** This results in an 800-900 square foot classroom. This mid size classroom will allow for flexibility in space use and furniture arrangement.

It will be important to plan classrooms and labs for hybrid learning environments as a standard model. Students reported a desire for online lectures and hybrid classes to continue in a post-pandemic campus. Online and remote learning can be more accessible and convenient for many students, given they have adequate technology and wifi access at home. On-campus, a focus on creating technology-rich learning spaces is already happening at other Chaffey locations in both classrooms and labs.

As the College builds academic space over time, **larger and smaller classrooms may be planned to support the specific programmatic needs** within each academic building. This will be explored within programming for each building.

CLASS LABS

The space need was determined using projected enrollment and assuming that each on-campus FTE projected generates 15 weekly contact hours. For online FTE projections, each FTE is estimated to average 5.25 weekly contact hours. Of these contact hours, 30 percent of them are assumed to be in a class laboratory.

OFFICES AND WORKSPACE

Office space is calculated based on two categories of staff. Instructional Staff FTE as outlined by the CCCCCO BOG are factored at 100 ASF/faculty and staff FTE.

Office Configuration and Features

In the plan, faculty offices are arranged as centralized spaces at the top floor of each academic building. Campus stakeholders expressed a desire for multipurpose workspace that includes a variety of space types to support a range of activities, including:

- Secure, and confidential spaces for faculty to work independently and meet with students privately.
- Lounge and community space for informal interactions between faculty of different disciplines and to meet more informally with students.
- Collaboration areas for meetings and small group sessions with students.
- For maximum flexibility the district is planning for hoteling spaces

LIBRARY

Library and Study space need is calculated based on three factors: collection size, staff spaces, and reader stations. It has been determined no library collection space will be located on the campus; therefore, the collection space was removed from the analysis.

Reader stations are factored with a base increment of 50 stations at 27.5 ASF with additional stations added at a rate of 0.1 station per Day Graded Student for institutions with < 3,000 DGE. For institutions with a DGE ranging between 3,000 – 9,000, the additional DGE over the 3,000 base is factored at the lower rate of 0.09 stations/DGE.

Staff Stations are factored with a base increment of 3 FTE at 140 ASF per station. Additional FTEs are factored at a rate of .002 /DGE for the first 3,000 DGE with the incremental DGE over the 3,000 threshold factored at a slightly lower rate of .0015.

AV/TV

A base increment of 3,500 ASF is the initial increment outlined by the CCCCCO BOG. In addition, there is 1.5 ASF/DGE applied for institutions with a DGE enrollment of < 3,000 students. For institutions with a DGE ranging between 3,000 – 9,000, the additional DGE over the 3,000 base is factored at the lower rate of 0.75/DGE.

	ACADEMIC STAFF	NON-ACADEMIC STAFF
2028 - CENTER STATUS	18 FTE; 82 HEADCOUNT	13 FTE; 13 HEADCOUNT
2033 - FULL BUILD-OUT	21 FTE; 95 HEADCOUNT	15 FTE; 15 HEADCOUNT

SPACES CONSIDERED “OTHER”

STUDENT-CENTERED SPACES

Student-centered space includes dining facilities, bookstores, student lounges, and student government, clubs, and organization offices and space. While sometimes referred to as a center or a union, quite often these spaces are dispersed throughout a campus.

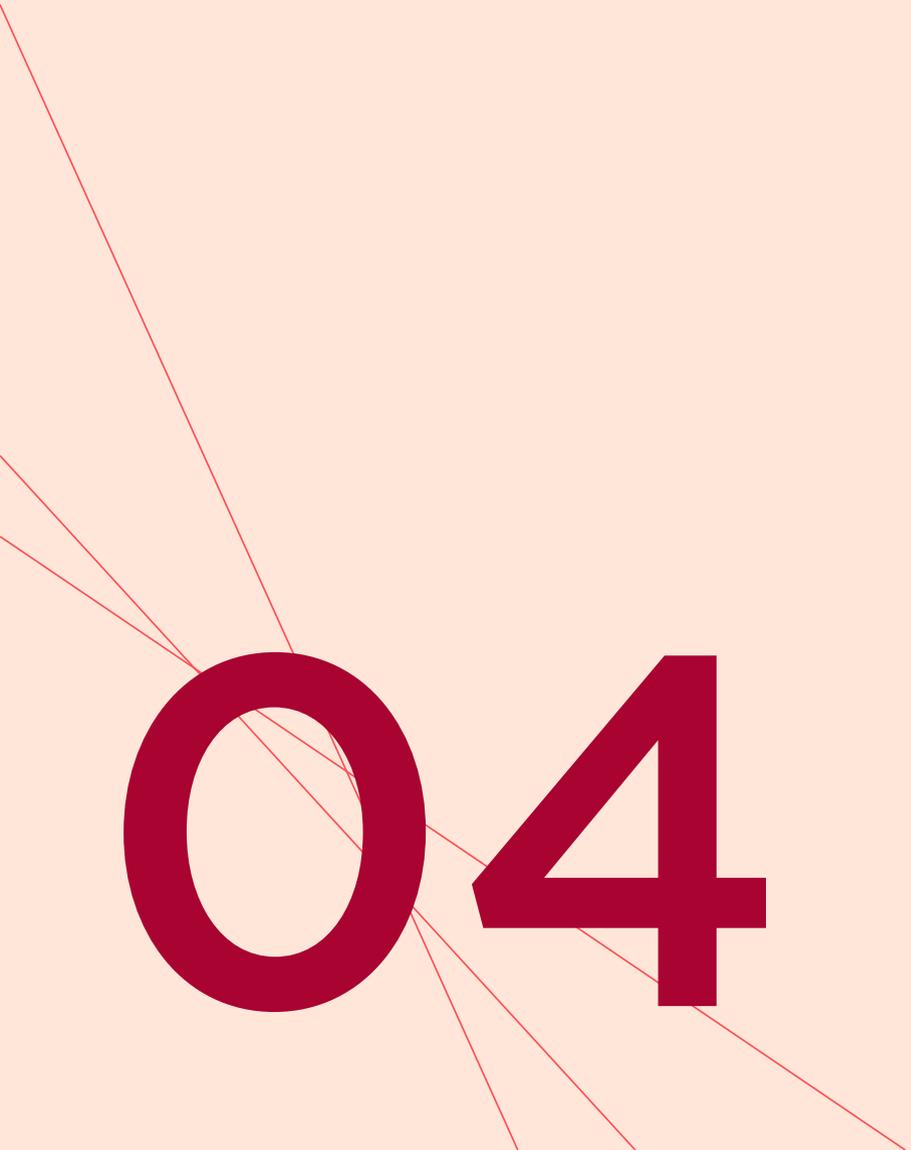
OPEN LABS

Open labs can resemble class labs with the exception that they are irregularly scheduled or are not scheduled at all. This can include open access labs and may provide equipment that serves the particular needs of a discipline for group instruction. It is key for these spaces to typically not be scheduled in a formal manner.

SPECIAL USE

Activities supporting other special use (e.g. media production, demonstration, faculty development and support centers, departmental resource rooms, etc.) are varied in use and are not included in the CCCCC BOG guidelines.





04

ONTARIO FUTURE CAMPUS VISION

CAMPUS VISION

CAMPUS VISION FRAMEWORK

CAMPUS PLANNING VISION



MEASURE P GUIDING PRINCIPLES



CAMPUS OF THE FUTURE



PROJECT GOALS:

- HONOR THE HISTORY OF CHAFFEY COLLEGE IN ONTARIO
- LEVERAGE TECHNOLOGY TO OPTIMIZE SPACE
- SUPPORT TRANSFER AND CAREER JOURNEYS
- PLAN AHEAD FOR SUSTAINABLE INFRASTRUCTURE
- SUPPORT A SAFE AND WELCOMING CAMPUS

CHAFFEY GOALS



Equity and Success



Technology



Learning and Completion



Efficiency



Agility



Community Opportunities and Needs

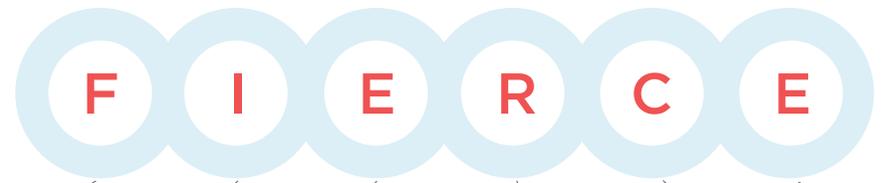


Professional Learning

MEASURE P GUIDING PRINCIPLES

To support and frame the success of the projects completed as part of the Measure P bond programs, a set of guiding principles were established. These became the framework for the vision and objectives created for the new Ontario Campus Master Plan.

FUNCTION DRIVES FORM INSPIRATIONAL CAMPUSES EFFECTIVE SPACE USE RESPONSIBLE STEWARDSHIP COHESIVE IDENTITY ENVIRONMENTAL RESPONSIBILITY



Planning, designing and construction in collaboration with faculty staff and students.

Aesthetically pleasing facilities that engage and inspire.

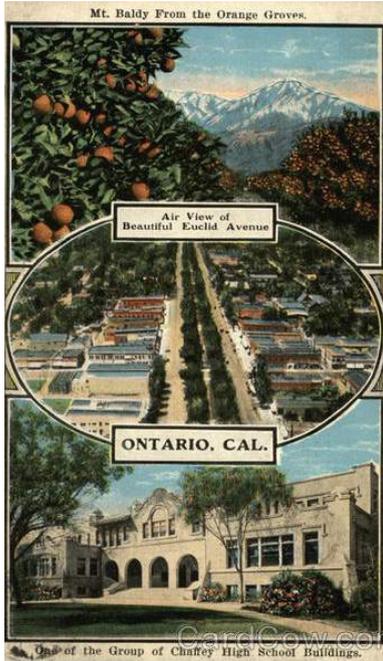
Spaces that connect, welcome, enhance learning, and anticipate future needs.

Best practices that maximize facilities and infrastructure resources.

Connectivity and continuity across campuses.

Energy efficient strategies and sustainable building materials and landscaping.

CITY OF ONTARIO HISTORY



The City of Ontario was founded by two brothers, George and William Chaffey, who brought irrigation and commercial agriculture (particularly citrus) to the area. They also created Euclid Avenue as a tree-lined boulevard with a wide median. Chaffey College was also founded in Ontario, and its historic building (now Chaffey High School) features a colonnade on its facade and a grassy quad. The Ontario Campus Master Plan incorporates references to these elements as a nod to the local history.



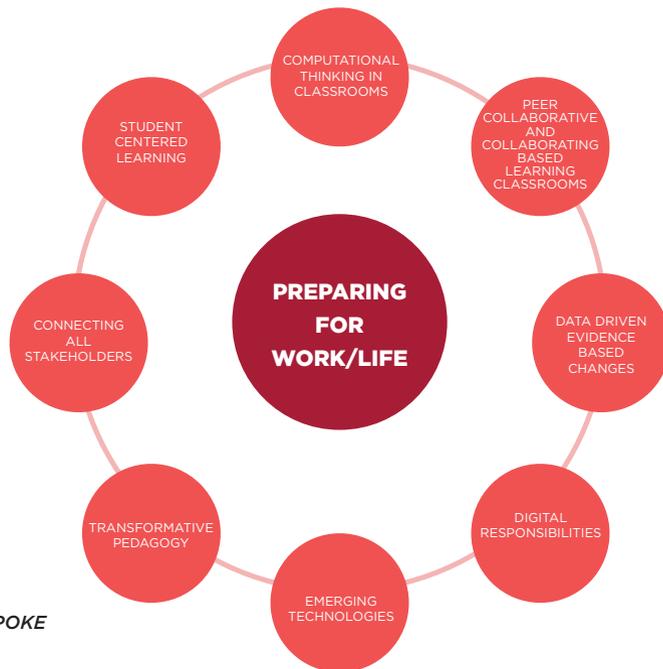
CAMPUS OF THE FUTURE AND GOALS

CAMPUS OF THE FUTURE

Campus of the Future is a research effort completed in a collaboration effort between DLR Group and Panasonic. The goals of the project include:

- Facilitating spaces with new technologies and approaches to support a new pedagogy that best prepares students for the post academic world
- Examined past and current work – including conversations with existing clients and synthesized collected information

Hub and Spoke diagram developed as a product of this research effort. Each circle represents an integral element in supporting student journeys towards success in the professional world



HUB AND SPOKE

COLLABORATIVE BASED LEARNING

- Physical space has a major impact of successful outcomes over the duration of the school year
 - Open-plan spaces shown to drive better opportunities and outcomes
- Peer to Peer and Peer to Professional Learning
- Bypasses limitations of geography – remote work is globally accessible

EMERGING TECHNOLOGIES

- Machine learning brings a new dynamic to the way we interact with the world
- Emerging technologies include augmented, mixed, and virtual realities; high fidelity and performance of multi-media audio and video displays; high-resolution video capture and streaming technologies and much more!

CONNECTING ALL STAKEHOLDERS

- There exists a disparity in awareness regarding a learner’s actual progress and their perceived progress
- Drive for intentional use of technology to better enhance the integration within a student’s learning environment and connection to their educators
- Creating connection so that everyone has a vested interest in the student – facilitating stakeholders (parents, friends, educators) to take interest in the student’s success

DIGITAL RESPONSIBILITIES

- Teaching students to be good digital stewards
- There are innumerable benefits in the use of technology, and with that comes potential hazards that must be mitigated
- Having a digital security plan is something any organization, especially education, cannot afford to be without

STUDENT CENTERED LEARNING

- Teach the process!
- With increasing focus and demand from employers, student autonomy is becoming a key area of attention for transitioning students into post-education society
- Students couple everyday experience, technology, and mentorships as the keys to success outside of traditional classroom dynamics and grades.

TRANSFORMATIVE PEDAGOGY

- Acknowledging the use of advanced technology in the classroom
- Preference is to enhance the way in which the educator conveys information rather than as a tool to assist in a more collaborative expression and investigation of information

COMPUTATIONAL THINKING IN THE CLASSROOM

- Logic based thinking about the technology that we interface with daily and their associated parameters
- Acknowledging the skill gap between students, stakeholders and faculty
- Cultivates an environment where educators and supporting stakeholders are prepared to properly guide students

DATA DRIVEN DESIGN

- Integrating technology into the classroom further augments the available data for educators
- Modifications in collecting and understanding data through smart technologies pave the way for success from every participant
- Real time ability to track student success and modify lessons

KEY TAKEAWAYS

The following components of Campus of the Future were determined as high priority in the further design of the Ontario Campus Master Plan:

1 COLLABORATIVE BASED LEARNING Bypass geographical locations

2 EMERGING TECHNOLOGIES Always thinking ahead

3 CONNECTING ALL STAKEHOLDERS It takes a village

4 DIGITAL RESPONSIBILITIES Mitigating digital risks

5 STUDENT CENTERED LEARNING Teach the process and how to solve

GOAL #1

HONOR THE HISTORY OF CHAFFEY COLLEGE IN ONTARIO

- *Return to Ontario*
- *Chaffey Brothers*
- *Showcase the history of water through outdoor public art and water features*
- *Photo-worthy moments*



GOAL #2

LEVERAGE TECHNOLOGY TO OPTIMIZE SPACE

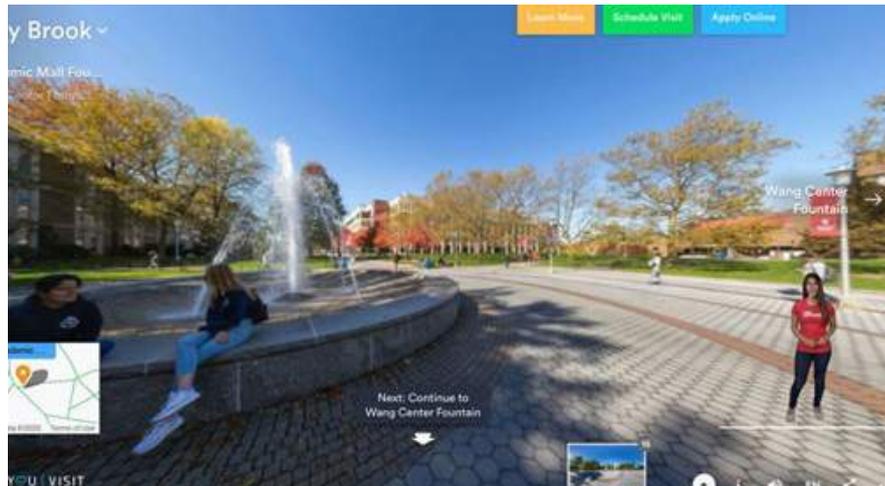
- *Emerging instructional technologies*
- *Faculty and student content creation spaces*
- *Hybrid Workspaces + Hoteling + Hyflex Classrooms*
- *Parking needs offset*



GOAL #3

SUPPORT TRANSFER AND CAREER JOURNEYS

- *Streaming and immersive experiences*
- *Full-service transfer / career support - physical and digital environments*
- *Store-like concierge spaces*



GOAL #4

**PLAN AHEAD
FOR
SUSTAINABLE
INFRASTRUCTURE**

- *Smart Campus*
- *Zero-Net Energy*
- *Innovation around water*
- *Shading*
- *Interpretive Signage*



GOAL #5

SUPPORT A SAFE AND WELCOMING CAMPUS

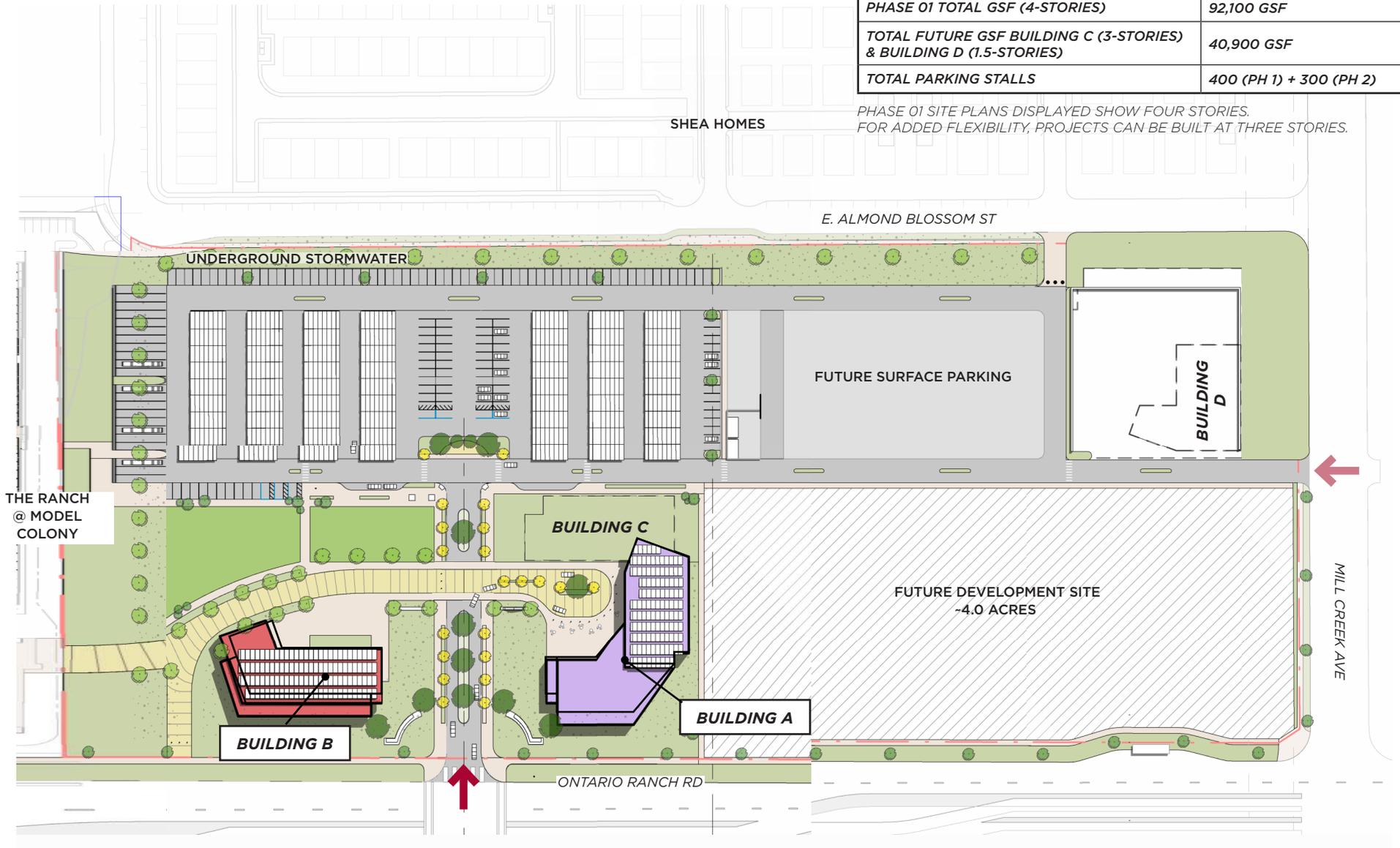
- *Clear point of entry*
- *Pedestrian connections to parking, transit and surrounding retail*
- *Obvious front-door for visitors and services*



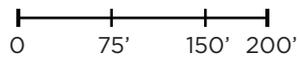


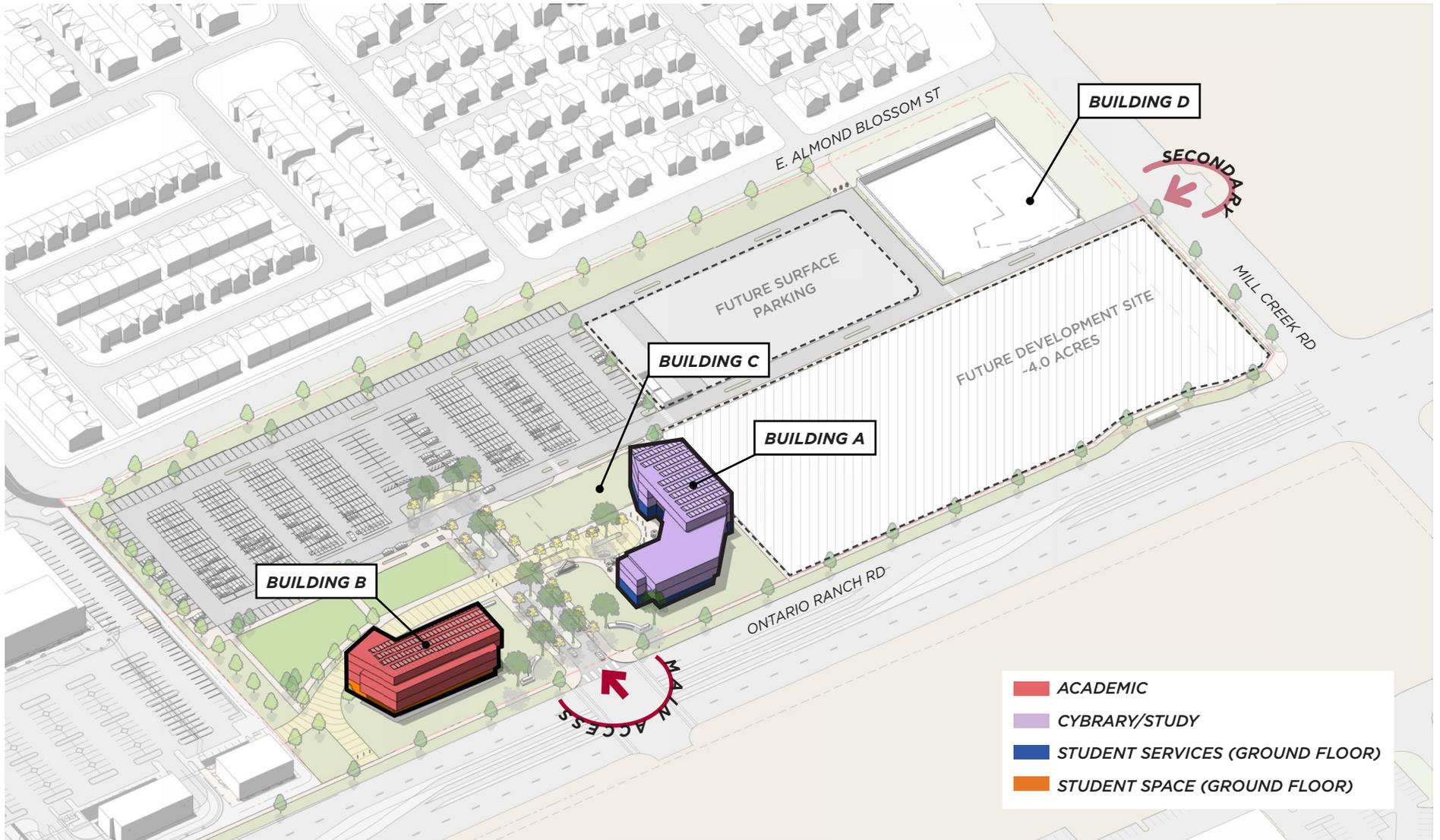
SITE PLAN	
PHASE 01 TOTAL GSF (3-STORIES)	69,075 GSF
PHASE 01 TOTAL GSF (4-STORIES)	92,100 GSF
TOTAL FUTURE GSF BUILDING C (3-STORIES) & BUILDING D (1.5-STORIES)	40,900 GSF
TOTAL PARKING STALLS	400 (PH 1) + 300 (PH 2)

PHASE 01 SITE PLANS DISPLAYED SHOW FOUR STORIES.
FOR ADDED FLEXIBILITY, PROJECTS CAN BE BUILT AT THREE STORIES.



SITE PLAN





FINAL CONCEPT



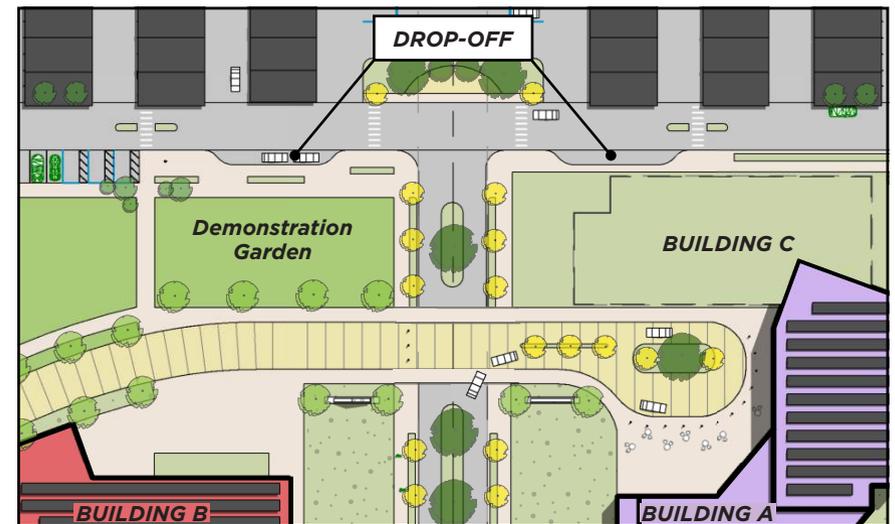
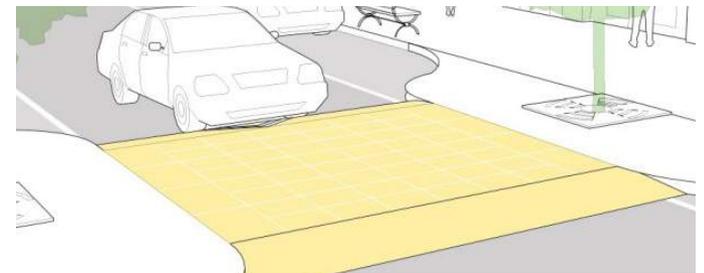
SITE PLANNING DRIVERS

The Campus Vision Plan was developed based upon:

- Listening to the needs of campus stakeholders
- An analysis of campus space needs and the physical site conditions
- The intent to address each of the planning principles and planning objectives

A major driver of the plan is to create a collegiate campus where students and staff feel supported and inspired to be their best. To achieve this, organization of the site plan is designed to support academic success:

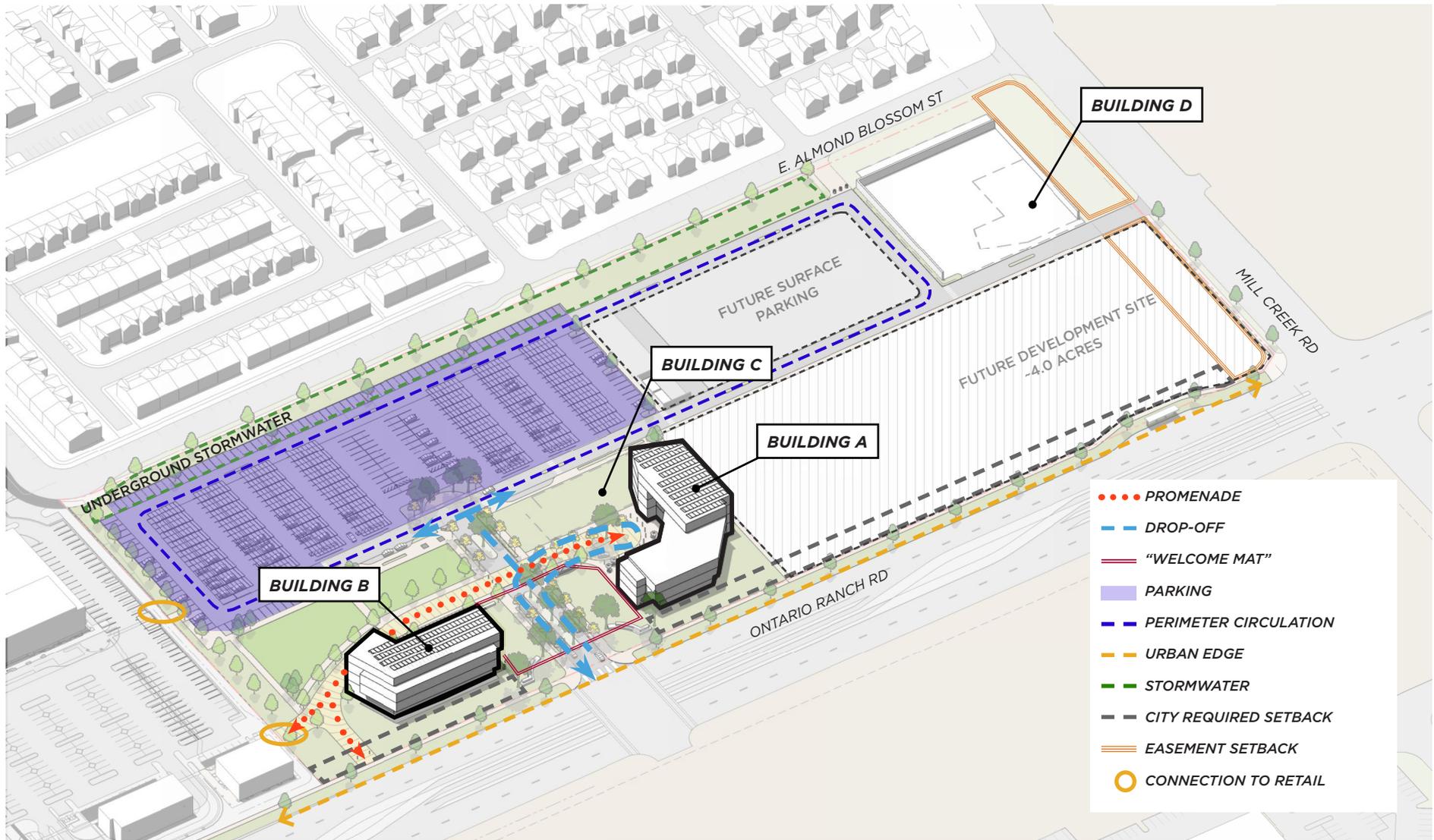
- A defined “urban edge” that provides a strong distinction between the campus and Ontario Ranch Road and the rest of the surrounding area.
- A strong sense of arrival to Chaffey College, with an iconic “welcome mat” of space, monuments and plaza.
- A visually interesting “terminus” to the entry drive and front door experience to screen parking from view.
- A central pedestrian Promenade for simple organization of circulation and ease of access to facilities and way-finding.
- Connection from the Promenade to the adjacent future retail development at the east end of the site.
- A series of unique outdoor gathering spaces distributed along the Promenade to enable the campus community to gather and learn, study, eat, socialize, and rest.
- Face Ontario Ranch Road to ensure that this campus is welcoming and serves as a gateway to the broader Ontario community.
- Coordination with easements at the west end of the campus and zoning setbacks along Ontario Ranch Rd.



ENLARGED SITE PLAN
ENTRY DRIVE AND CROSSWALK

0 75' 150'





PLANNING DRIVERS MAP



BUILDING USE

The central pedestrian Promenade and linear site organization allows for an intuitive placement of the first phase buildings to energize the main entry with active ground-floor uses and pedestrian connectivity.

PHASE ONE BUILDINGS

Building A - The **Welcome Center and Cybrary** building is proposed be sited prominently as an iconic building, to the right of the entry drive with a vibrant drop-off plaza. Library and study spaces, as well as welcome functions to maximize the prospective student and first-time visitor experience, are proposed to activate the ground plane. Study and gathering spaces will be concentrated in this building but also distributed throughout campus for easy access.

Building B - The **Instructional and Student Support** Building is proposed as a “one-stop shop” for general student services and administration as well as senior administration offices. The proposed program for the Instructional and Student Support Building includes teaching spaces, with highest and active use programs on the ground level, as well as faculty offices on upper levels.

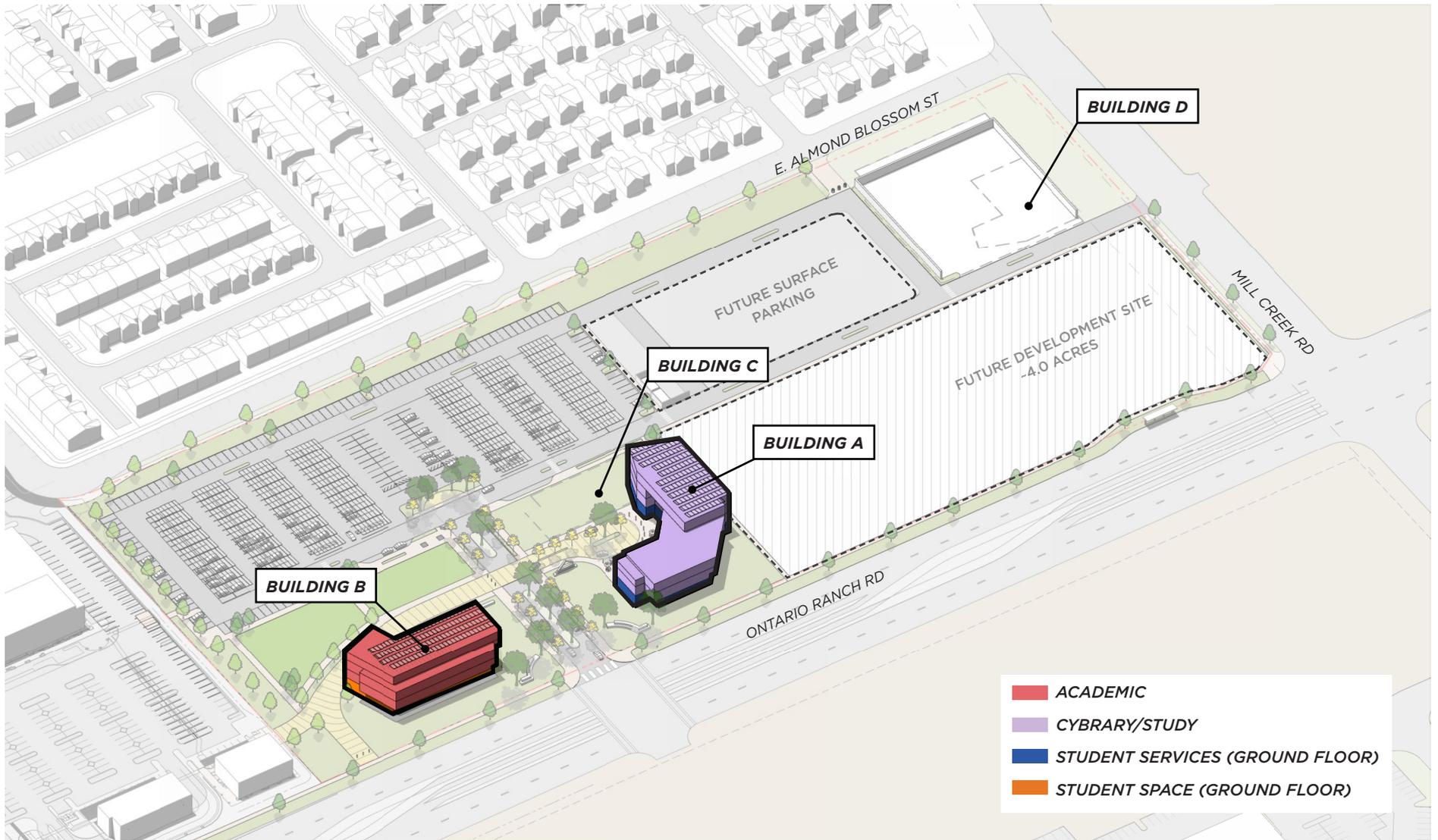
Faculty Offices will be located in a consolidated space in each academic building. These multipurpose spaces will enhance cross-disciplinary collaboration between faculty, and provide for easier student-faculty interactions. Both buildings on campus should provide **dedicated areas for study and collaboration**, including open

labs with computer access. This will allow students to study, work on group projects, or take breaks between classes in a convenient area. Larger study areas will be provided in the Cybrary (Building A).

FUTURE PHASE

Building C - As the campus expands, an additional academic building is planned, primarily for additional classrooms and labs. While teaching spaces will be provided in Buildings A and B in Phase 01, the additional space in this building will accommodate the higher course loads with future increased enrollment in future expansion. Faculty offices and collaborative areas should also be a part of this building’s program.

Building D - The Operations and Maintenance building will be located in the southwest corner of the campus, away from the most active areas on campus. This building will house campus police, central deliveries, operations and maintenance, and their fleet space. This support center will minimize impact to adjacent neighborhood development as a consolidated facility located at the edge of the campus.



BUILDING USE MAP



SITE PLAN	
PHASE 01 TOTAL GSF (3-STORIES)	69,075 GSF
PHASE 01 TOTAL GSF (4-STORIES)	92,100 GSF
TOTAL FUTURE GSF BUILDING C (3-STORIES) & BUILDING D (1.5-STORIES)	40,900 GSF
TOTAL PARKING STALLS	400 (PH 1) + 300 (PH 2)

PHASE 01 SITE PLANS DISPLAYED SHOW FOUR STORIES.
FOR ADDED FLEXIBILITY, PROJECTS CAN BE BUILT AT THREE STORIES.

VEHICULAR CIRCULATION

The primary vehicular entrance into campus will be from Ontario Ranch Road, at a planned signaled intersection that has yet to be installed. The entry drive is proposed as a tree-lined road flanked with monumental signage that takes its inspiration from the large Hollywood sign style letters at the existing Chaffey Rancho Cucamonga Campus.

A drop-off plaza has been designed to allow for passenger drop-off and quick deliveries. This space is envisioned as a shared vehicular-pedestrian plaza with a curbsless, tabled intersection and safety signage and lighting at the pedestrian crosswalk. This is intended to slow vehicular traffic to enhance the connection between the campus community and its outdoor space and access to neighboring retail and amenities. Bollards at the pedestrian Promenade will limit vehicular access except for emergency and service vehicles, and create a safe drop-off zone at the Welcome Center. A secondary drop-off zone is proposed to the rear of the Phase 01 buildings to allow for overflow in the event of a large number of simultaneous drop-offs.

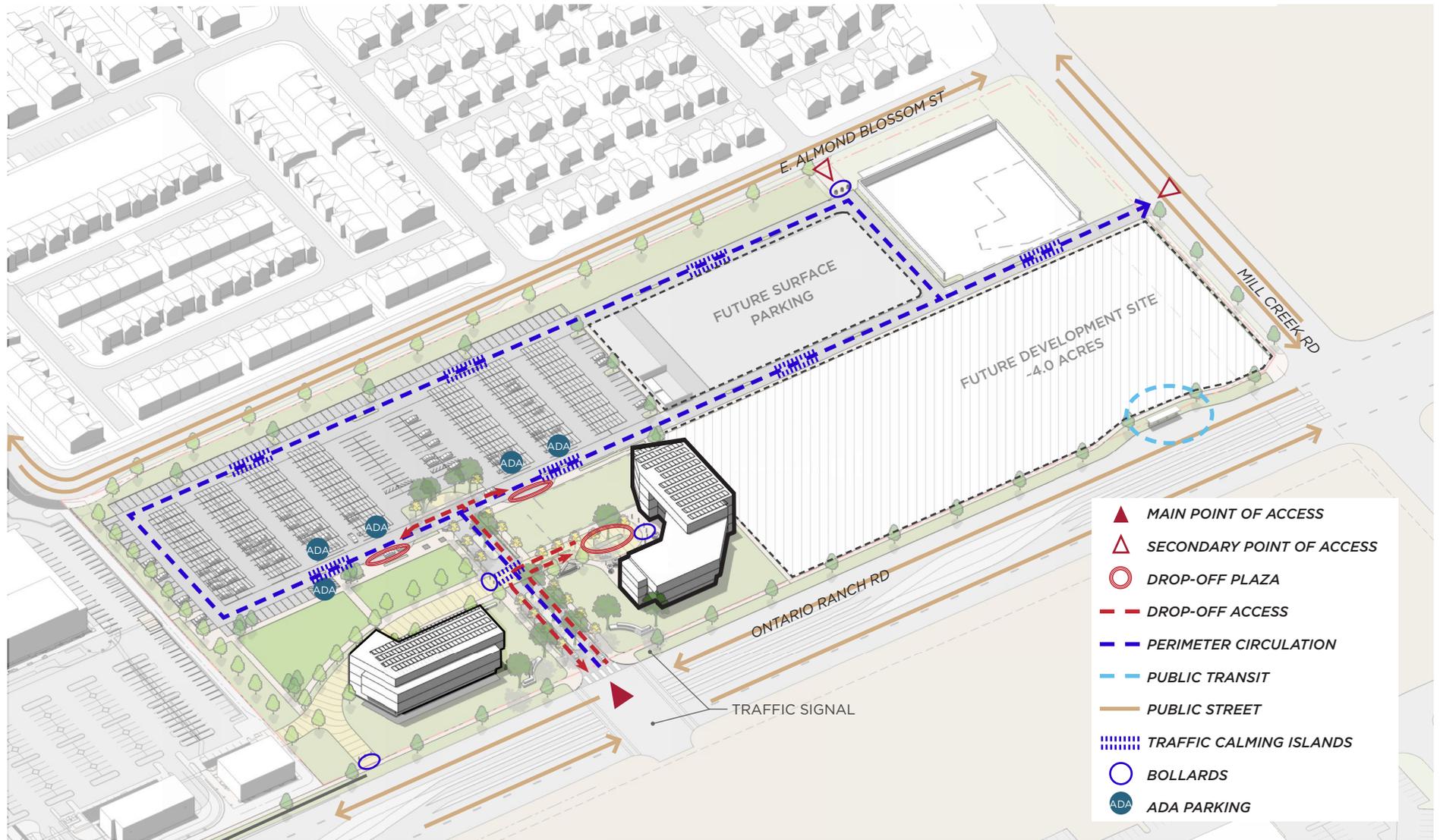
The main entry drive visually terminates at a landscape feature that will screen views of parking and provide a welcoming sense of arrival. The proposed perimeter drive aisle circles around the single, central parking lot for all campus users, with parking aisles oriented towards direction of pedestrian traffic. Approximately 400 total spaces can be provided in Phase 01, with an additional 300 in Phase 02.

A second vehicular entrance is provided on Mill Creek Avenue, with centered alignment to the opposite-facing proposed street at the residential development to the west. It will allow for alternate access to the campus during peak times, as well as allowing direct access to the Operations and Maintenance building (Phase 02) for deliveries.

A third access point to the campus is recommended in the rear of the campus to Almond Blossom Street. This should be designed with removable bollards so that emergency vehicles have an additional access point. These bollards could also be removed during Commencement or other major events, but on typical days, campus traffic would not interfere with the adjacent residential neighborhood.

Two Omni-trans bus stops are planned for Ontario Ranch Road near the campus site, including at the neighboring retail plaza to the east and near the intersection of Mill Creek Avenue on the west side of the site. These transit stops are envisioned as pedestrian plazas that provide shade structures, native drought-tolerant landscaping to elevate the user experience beyond typical transit stops.

At the proposed future development site, a future right-in, right-out only access point is permitted within a 230 foot clearance from the transit stop and the signaled intersection at the main entry drive to campus. To maximize flexibility for the future use of this site, a specific curb cut location is not defined as a part of this phase.



- MAIN POINT OF ACCESS
- SECONDARY POINT OF ACCESS
- DROP-OFF PLAZA
- DROP-OFF ACCESS
- PERIMETER CIRCULATION
- PUBLIC TRANSIT
- PUBLIC STREET
- TRAFFIC CALMING ISLANDS
- BOLLARDS
- ADA PARKING

VEHICULAR CIRCULATION MAP

BUS STOP: 600 FT



VEHICULAR CIRCULATION - PARKING

The main parking lot will include approximately 400 parking spaces for Center Status including 10 accessible spaces and 24 spaces with electric vehicle chargers. The size of the parking lot was determined based on the Institute of Transportation Engineers metrics for junior and community colleges. Phase 01 parking accommodate all users when the enrollment reaches center status, and a location has also been identified for future surface parking with a capacity for 300 additional spaces.

Estimated parking needs for the campus were determined based on student and employee counts and various factors (peak hours and online and remote courseloads). Parking capacity was based on full buildout of the site to ensure that all buildings, landscaping and parking fit without the need for a parking structure. On-site headcount enrollment was combined with a percentage (25%) of online enrollment and off-site students, as an assumption that these students will come to campus occasionally to use campus resources, amenities, and services.

The student and employee (faculty and staff) population numbers were then multiplied by a factor to account for the fact that not everyone is on campus at the same time, and that some members of the campus community will carpool or arrive by bus, bike, or walking. It is assumed that some spaces near the Welcome Center/ Cybrary will be reserved for faculty, staff, and visitors, as well as for ADA spaces.

PARKING DEMAND AND CAPACITY

YEAR	TOTAL PARKING DEMAND	TOTAL PARKING CAPACITY
2028	305	400 *
2033	697	+300

700 TOTAL

PHASE I PARKING *	
366	STANDARD
10	ADA
24	EV (6% OF TOTAL)
400	TOTAL

TOTAL ENROLLMENT FOR PARKING CALCULATIONS

USER TYPE	ADJUSTED HEADCOUNT	%	DAY GRADED ENROLLMENT	PARKING METRIC	NEED (SPACE COUNT)
Student - 2028	1,877	74%	1,389	0.2	278
Student - 2033	4,494	74%	3,326	0.2	665
Employee - 2028	73	74%	54	0.5	27
Employee - 2033	87	74%	64	0.5	32

PEDESTRIAN CIRCULATION

The pedestrian experience is a primary driver of the campus open space concept, with the pedestrian Promenade prominently featured as a center of activity. This generous pedestrian mall will connect the major building entrances and incorporate quality materials near seating and areas of activity.

A raised intersection and curbless environment is proposed at the promenade and entry drive crosswalk. Signaled pedestrian safety crossing signage and lighting is recommended for additional safety during busy commuting hours and events.

A connection to the neighboring retail development's services, amenities and food establishments is proposed to discourage students from driving between the two parking areas. An additional pedestrian connection to the south of the pedestrian Promenade is proposed for quicker access to and from the campus parking area.

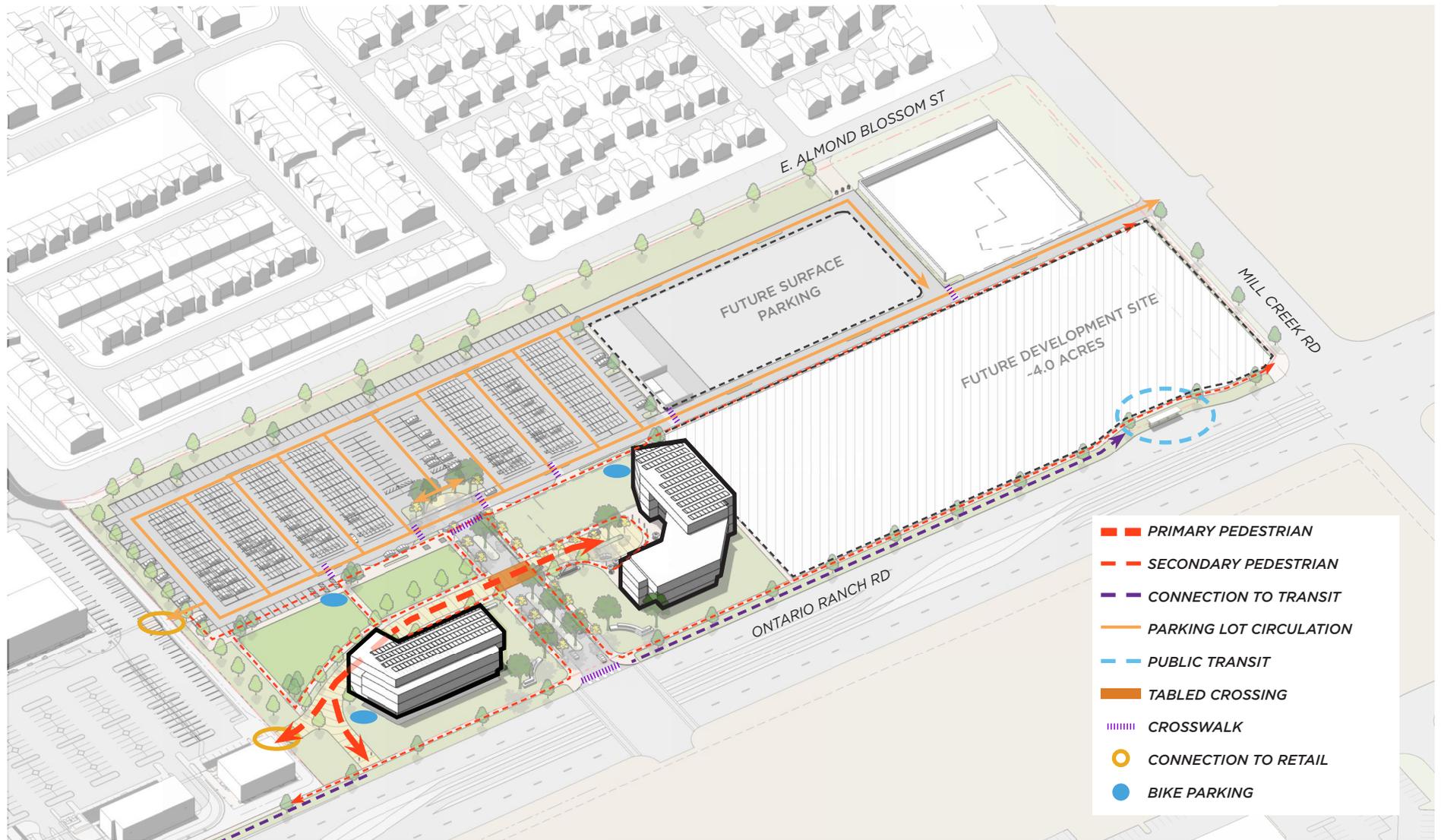
The Promenade should be rich with pedestrian amenities, including shade trees and other plantings, seating walls and furniture, charging stations for devices, public art, and an outdoor classroom. This will ensure that the Promenade is active and takes advantage of the local climate to provide opportunities for outdoor learning, studying, and socializing.

Secondary pedestrian circulation routes run from each parking aisle into the campus. Traffic islands will help to slow vehicles and provide pedestrians a safe place to cross driveways.

Sidewalk improvements are planned by the City along Ontario Ranch Road and will provide pedestrian access to and past the campus.

The pedestrian experience within the campus boundary is one of the primary drivers of design, and the experience outside the campus boundary was also closely considered, especially with regard to connections to the proposed adjacent retail development. The campus is designed to prioritize the pedestrian experience by featuring a central Promenade to provide access to outdoor space, enhance walk-ability and provide educational signage and experiential graphics for native garden plantings and the history of Ontario and Chaffey College. The Promenade and its open space is defined by strategically located academic buildings and a line of medium sized, medium density trees to provide shaded outdoor areas. Bike parking, outdoor seating and rest areas are located near primary building entrances to consolidate pedestrian activity.

The pedestrian circulation system is internal to the campus to provide a collegiate feel independent from the traffic on Ontario Ranch Road. The Promenade also connects the core of campus to the proposed retail and restaurants in the development to the east, allowing students to safely walk to those destinations. Street-scape improvements along Ontario Ranch Road will also allow students and community members to safely access the campus by foot.



- PRIMARY PEDESTRIAN
- - - SECONDARY PEDESTRIAN
- - - CONNECTION TO TRANSIT
- PARKING LOT CIRCULATION
- - - PUBLIC TRANSIT
- TABLED CROSSING
- ||||| CROSSWALK
- CONNECTION TO RETAIL
- BIKE PARKING

 BUS STOP: 600 FT

PEDESTRIAN CIRCULATION MAP



OPEN SPACE

The Ontario campus is envisioned to be built along a central linear open space that follows the pedestrian Promenade. This space is a reference to the quad on the historic campus where Chaffey College was founded, and which is now home to Chaffey High School. The Promenade should also be lined with a double row of trees to provide shade and echo the design of Euclid Avenue in downtown Ontario.

A wide variety of outdoor spaces is planned on the campus. These range from the drop-off plaza, where the highest volume of activity is expected, to an outdoor recreation area, an outdoor classroom, and passive outdoor spaces that will allow for more quiet studying or gathering. Buildings are oriented to protect the most used spaces from the elements, especially the afternoon sun and Santa Ana winds.

Plantings should vary based on the type of open space. The street-facing sides of campus should have more urban landscaping including street trees. Areas adjacent to the pedestrian Promenade should have drought-tolerant lawns to maximize the visual impact and usability of those spaces. Most of the other landscaped space on campus should consist of native or drought-tolerant species to avoid the need for irrigation and reduce the carbon footprint.

Smaller bioswales and channels should also be installed in the main pedestrian areas of campus to help manage stormwater. These can be designed as a reference to the historic irrigation canals to connect to Ontario's history and daylight stormwater to serve as an educational opportunity. The city plans to utilize reclaimed water for irrigation.

The underground power lines on the western edge of campus establish, not only a necessary easement, but provide an opportunity for additional greenspace and stormwater detention areas that could also serve for future viticulture education and program space. This could also provide space for a potential future viticulture program.





OPEN SPACE MAP



N

SUSTAINABILITY

Various decarbonization and sustainability measures are proposed to comply with the Board of Governors Climate Action and Sustainability Framework and in order to mitigate the environmental impact of greenfield site development.

The site slopes from north to south, therefore stormwater would need to be captured or treated at the rear of the site through a combination of underground cisterns and bioswales. This area also forms a buffer between the parking lot and neighboring residential development.

Transportation

Bicycle parking will also be provided at key locations throughout campus to accommodate alternative means of commuting to campus. Anticipated facilities and amenities for bicycle commuters may include lockers/storage and bike racks.

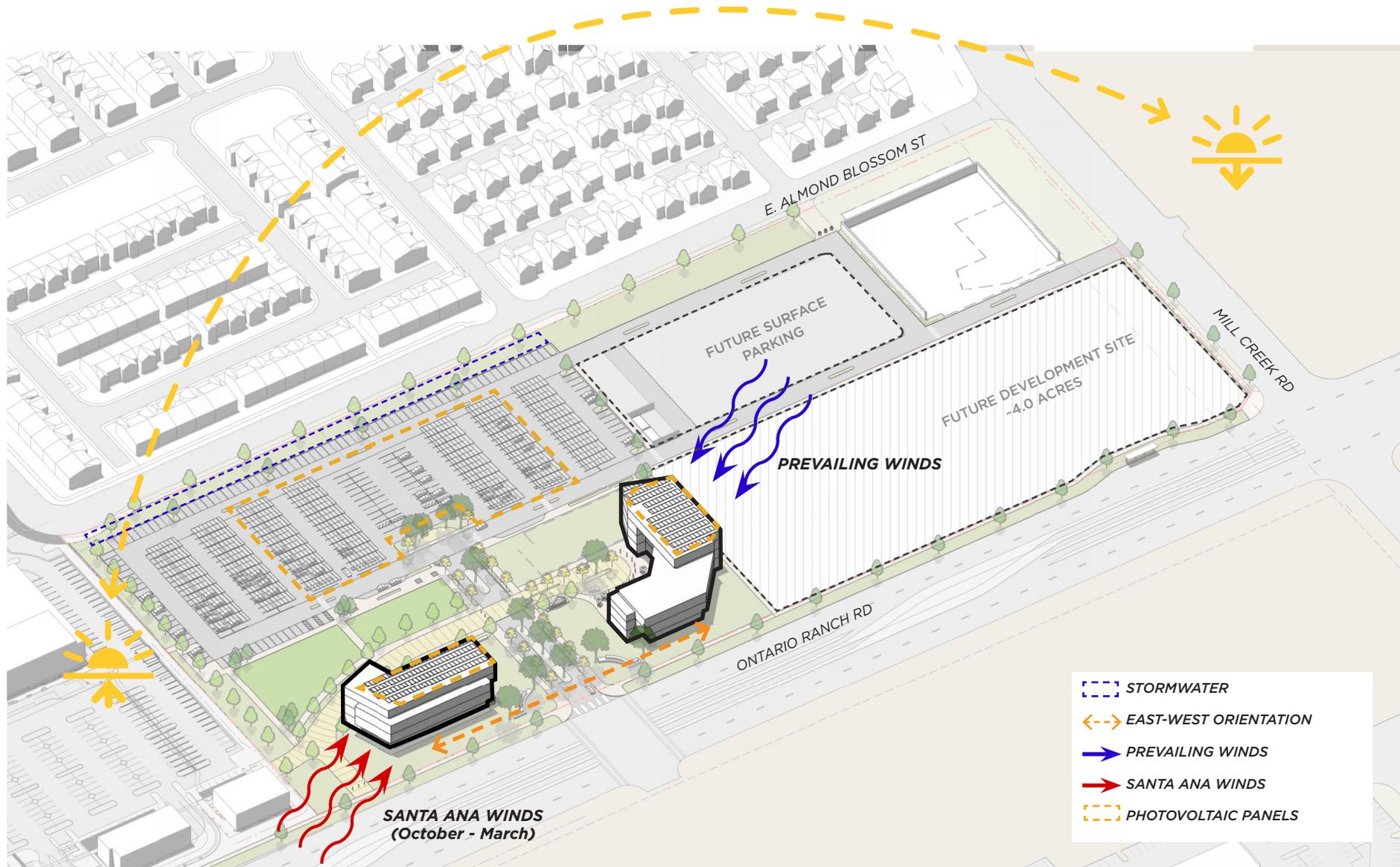
Bus transit stops are located in proximity to mixed-use and residential development to enhance walk-ability and encourage ridership.

Energy

Electricity generation is proposed to be sourced through both rooftop photovoltaic solar panels and shading structures, covering roughly 40,000 SF at parking lot carports and roughly 15,000 SF at building rooftops.

Site and Landscape

Chaffey College plans to remove approximately 28,000 cubic yards of soil from the existing stockpile located west of the existing asphalt access road that bisects the project site. The College plans on maintaining the existing drainage pattern and stabilizing the site with erosion control methods already in place.



SUSTAINABILITY MAP



IMPLEMENTATION PLAN - PHASE 01

In the short term, initial sitework and campus implementation projects will house the first programs on campus, provide necessary non-academic spaces, and complete most of the site work and infrastructure, including utilities, parking, driveways, and walkways.

Welcome Center/Cybrary

This prominent building will house library and study spaces, as well as welcome functions. It should include: library and media spaces, campus police satellite location, administrative offices, meeting spaces.

Instruction and Student Support Building

This building will also feature prominently as part of the arrival sequence on campus and closely complement the Welcome Center/Cybrary. It should include: student services, health services, informal study and gathering spaces, and the majority of classroom space on campus.

SITE PLAN	
PHASE 01 TOTAL GSF (3-STORIES)	69,075 GSF
PHASE 01 TOTAL GSF (4-STORIES)	92,100 GSF
TOTAL PARKING	400 SPACES

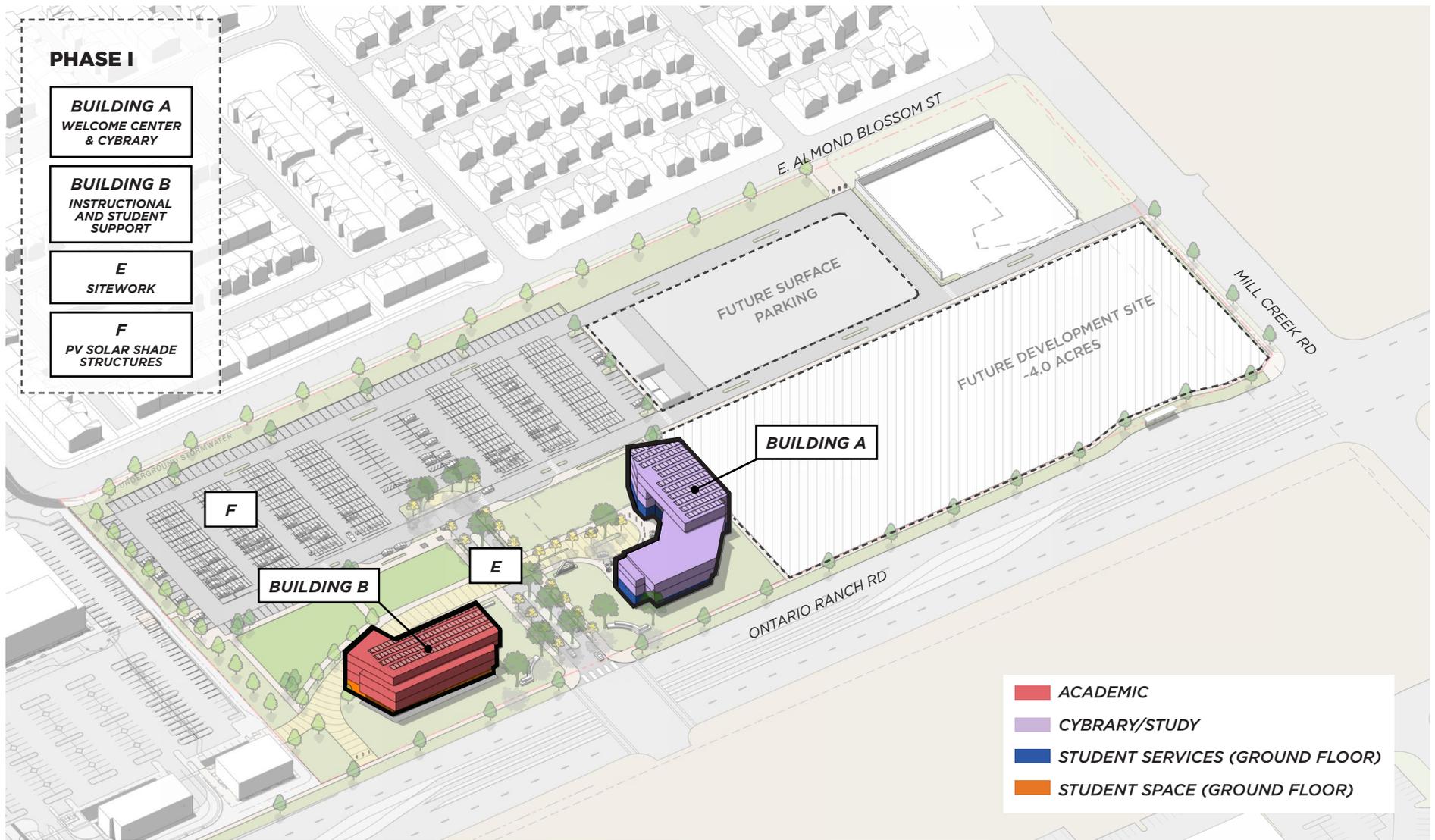
*PHASE 01 SITE PLANS DISPLAYED SHOW FOUR STORIES.
FOR ADDED FLEXIBILITY, PROJECTS CAN BE BUILT AT THREE STORIES.*

Site Work and Infrastructure

All site grading should occur during this initial phase, as well as the construction of all parking lots, parking lot solar canopy, driveways, and pedestrian walkways. All utilities should be constructed underground during this phase, including water, sewer, electricity, and data. Open space improvements, including landscaping, trees, and furniture should be provided as this stage, with a lower investment made on future building sites since that landscaping will be removed in the long term and may be used as construction staging areas for future buildings.

PV Solar Shade Structures

Electricity generation is proposed to be sourced through both rooftop photovoltaic solar panels and shading structures, covering roughly 40,000 SF at parking lot carports and roughly 15,000 SF at building rooftops.



IMPLEMENTATION - PHASE 01



IMPLEMENTATION PLAN - PHASE 02

Academic Instruction Building

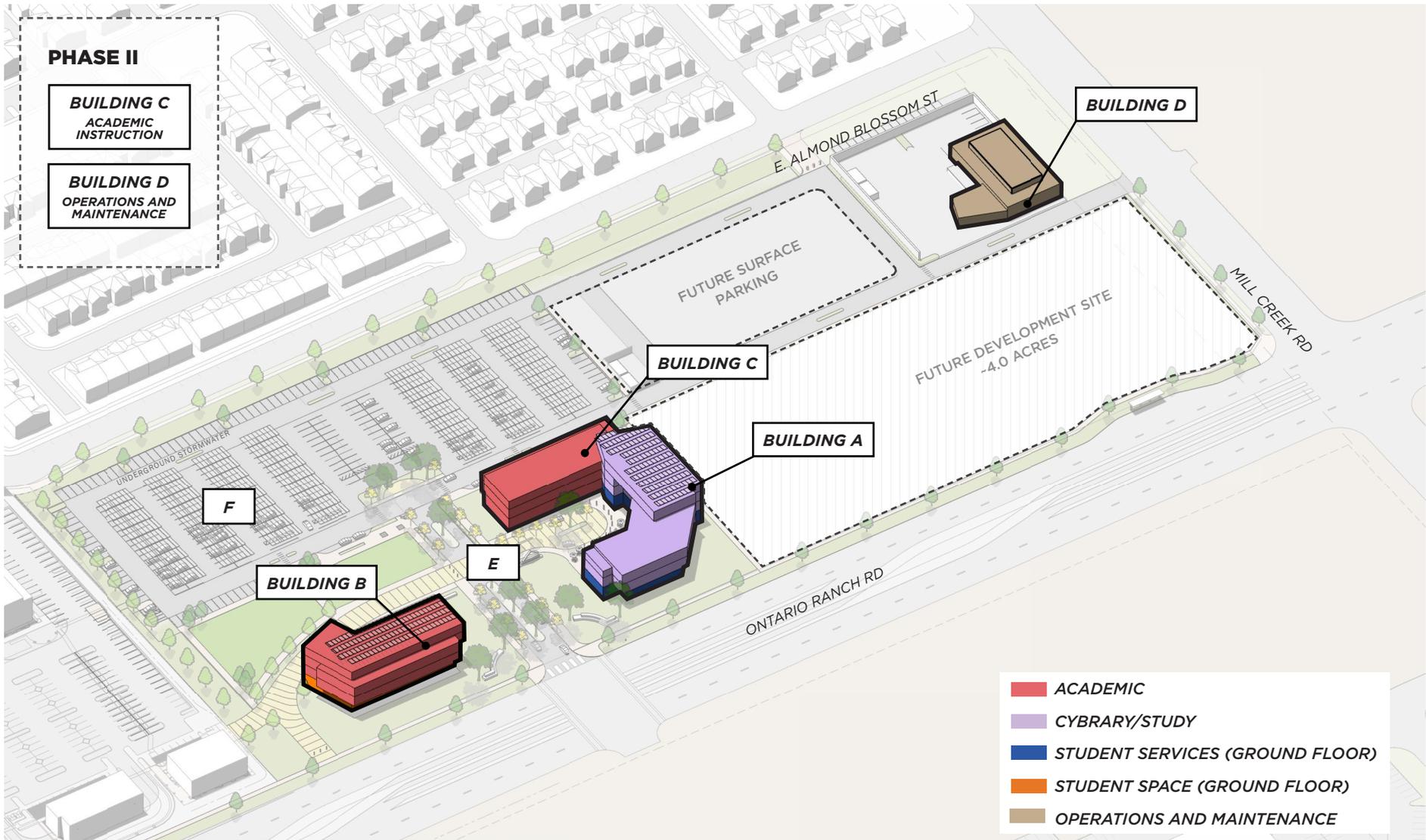
This purpose-built facility will provide a variety of classroom and lab spaces. Its design will skillfully build off the Welcome Center/Cybrary for a seamless transition of program.

Operations & Maintenance Building

The O&M Building will include offices for campus police and facilities staff, as well as space for facilities storage, a maintenance shop, and waste collection.

SITE PLAN	
PHASE 01 TOTAL GSF (3-STORIES)	69,075 GSF
PHASE 01 TOTAL GSF (4-STORIES)	92,100 GSF
TOTAL FUTURE GSF BUILDING C (3-STORIES) & BUILDING D (1.5-STORIES)	40,900 GSF
TOTAL PARKING	+300 SPACES (700 TOTAL)

PHASE 01 SITE PLANS DISPLAYED SHOW FOUR STORIES.
FOR ADDED FLEXIBILITY, PROJECTS CAN BE BUILT AT THREE STORIES.



IMPLEMENTATION - PHASE 02



COST ESTIMATES

PHASE	INDICATOR	BUILDING	NAME	TYPE	TYPE (2)	QUANTITY	QUANTITY (2)	UNIT COST	TOTAL	TOTAL (2)
1	A	BUILDING A	CYBRARY & WELCOME CENTER	4-STORY STEEL STRUCTURE	3 - STORY STEEL STRUCTURE	54,000 GSF	40,500 GSF	\$1,216	\$65.7 MILLION	\$49.2 MILLION
1	B	BUILDING B	INSTRUCTION AND STUDENT SUPPORT	4-STORY STEEL STRUCTURE	3 - STORY STEEL STRUCTURE	38,100 GSF	28,575 GSF	\$1,194	\$45.5 MILLION	\$34.1 MILLION
2	C	BUILDING C	ACADEMIC INSTRUCTION BUILDING	3 - STORY STEEL STRUCTURE	3 - STORY STEEL STRUCTURE	30,900 GSF	30,900 GSF	\$1,270	\$39.2 MILLION	\$39.2 MILLION
2	D	BUILDING D	OPERATIONS AND MAINTENANCE	1.5 - STORY STEEL STRUCTURE	1.5 - STORY STEEL STRUCTURE	10,000 GSF	10,000 GSF	\$1,000	\$10.0 MILLION	\$10.0 MILLION
1	E	SITEWORK				474,700 SF	474,700 SF	\$57-\$114	\$30.9 MILLION	\$30.9 MILLION
1	F	PV SOLAR SHADE STRUCTURES				33,000 SF	33,000 SF	\$232	\$7.6 MILLION	\$7.6 MILLION

Dependent on future program needs, swing space, educational and industry partnerships, etc. Phase 01 buildings may be sized to 3-4 stories for flexibility upon implementation.

INTEGRATING TOTAL COST OF OWNERSHIP

Total Cost of Ownership (TCO) is an analysis of the true total cost of a capital acquisition through its life cycle. This cost includes each phase of ownership including purchasing and operating costs as well as costs related to replacement or upgrades at the end of the life cycle.

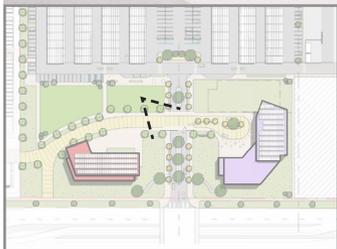
Chaffey College's approach to long-term facility and equipment planning is managed by the Office of Administrative Services, Emergency Operations and Facilities. This department is responsible for a range of tasks including managing active construction projects, monitoring district annual reports pertaining to construction, space and repairs, and applying and monitoring energy saving incentive programs. Total Cost of Ownership is integrated into long-range capital facilities and equipment plans in support of Chaffey's goals.

The College also develops master plans, such as this document, that guide the future development of the campuses and allocation of resources. During each facilities master planning process, the District convenes a broad-based shared governance planning work group. This group reviews District goals and planning principles, conducts facilities planning forecasts, and reviews master planning space and sustainability programs.

At the initial stages of conceptualizing a new building, a stakeholders group is established to prepare a criteria document that follows the Functional, Inspirational, Effective, Responsible, Cohesive, Environmental Stewardship, or "FIERCE" planning principles. When a new building reaches 50% completion, the Executive Team commences a TCO review to evaluate the short and long-term costs anticipated over the facilities lifespan.

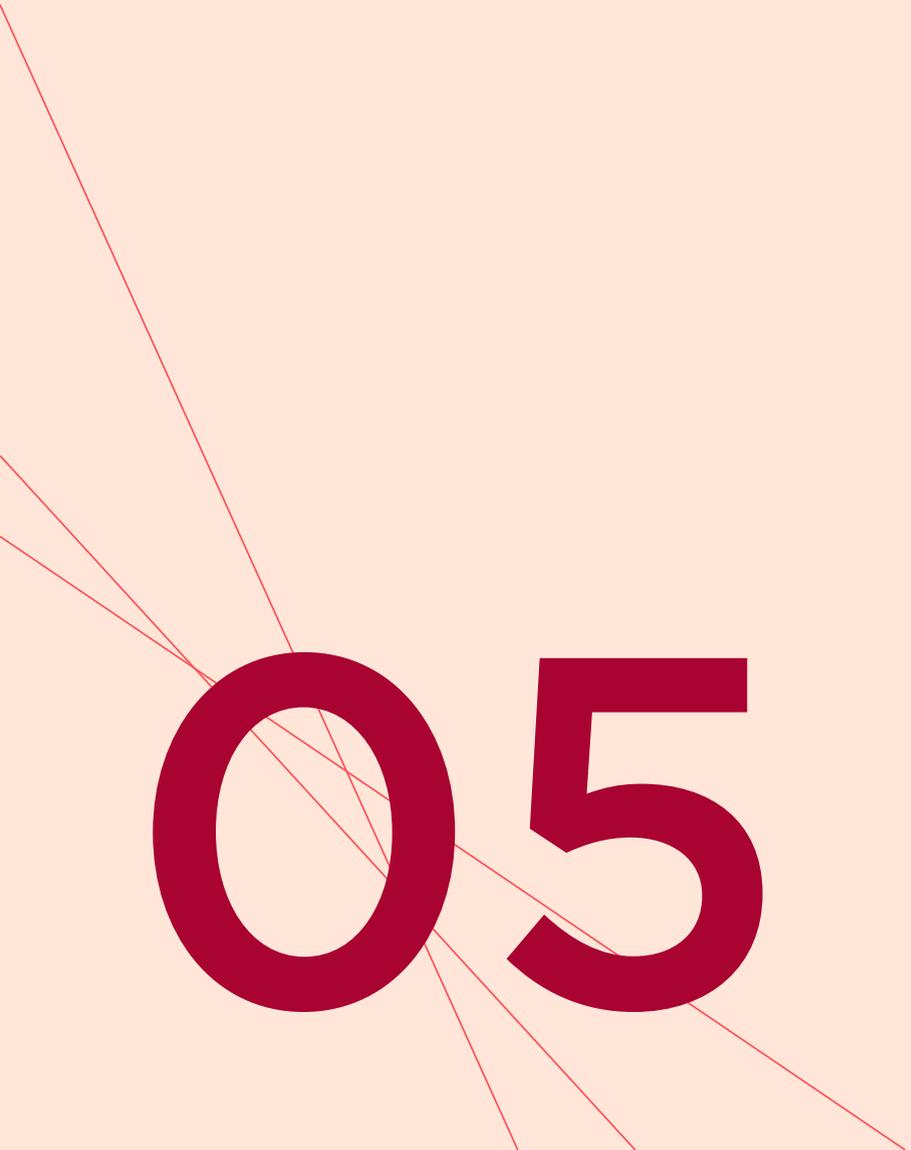


AERIAL VIEW - PHASE ONE BUILDINGS A AND B, AS SEEN FROM NORTHWEST



VIEW TOWARDS WELCOME CENTER AND CYBRARY AND DROP-OFF PLAZA, AS SEEN FROM SOUTH PARKING AREA.

05



CAMPUS EXPERIENCE GUIDELINES

CAMPUS EXPERIENCE GUIDELINES

ARCHITECTURE AND PLANNING GUIDELINES	01
SITE AND LANDSCAPE GUIDELINES	02

01 ARCHITECTURE & PLANNING GUIDELINES

INTRODUCTION

The campus guidelines provide standards and direction for development on the new campus. This document establishes basic premises and intentions for site and architectural guidelines to guide creative design decisions. Guidelines help ensure the implementation of the principles established by the approved Campus Master Plan. The over-arching rationale for their inclusion is to safeguard the framework of the campus plans by providing a coherent approach to the physical plan including holistic sustainability, (a few examples including massing, shading, protection for wind, passive solar strategies) access, circulation, open space, and building architecture. Specific criteria are designed for flexibility, allowing a range of creative solutions to be applied to each proposed project. Professionals hired by the College must commit to implementing the guidelines for future campus projects. It is important to reference other documents supporting the Ontario Campus Development. Vision 2030: Chaffey College Educational Master Plan outlines the College's energies and resources for the coming decade, including the following:

- Equity and Success
- Learning and Completion
- Community Opportunities and Needs
- Technology
- Efficiency
- Agility
- Professional Learning

The Vision 2025 plan provides guidance on a number of aspects related to the Ontario campus, including the following:

- Prominent campus entry gateway features
- Welcome Center
- Signature street-front presence that puts activities on display
- Facility and outdoor courtyards designed to welcome students and community members with spaces that support gathering and collaboration
- Multiple modes of access, including drop-off/pick-up zones, shuttle/bus stops, and vehicular parking
- Flexible classrooms and program-specific laboratories that support active learning
- Instructional spaces organized around academic and student support that would help students find their pathways and achieve their goals
- Food service, study, and gathering space to help working students to stay on campus and integrate learning into their busy schedules
- Meeting and outdoor space for student gathering and community events linked to the pedestrian-friendly street front

The Vision 2025 plan, actively undergoing an update, provides sustainability strategies and targets, including the following:

- Reduce energy usage through efficiency and renewable energy
- Use renewable/recyclable building materials
- Start an alternative transportation program, reduce emissions, and reduce the number of gasoline-powered vehicles
- Reduce waste production
- Increase sustainability awareness, engagement, and stewardship
- Reduce indoor and outdoor water consumption

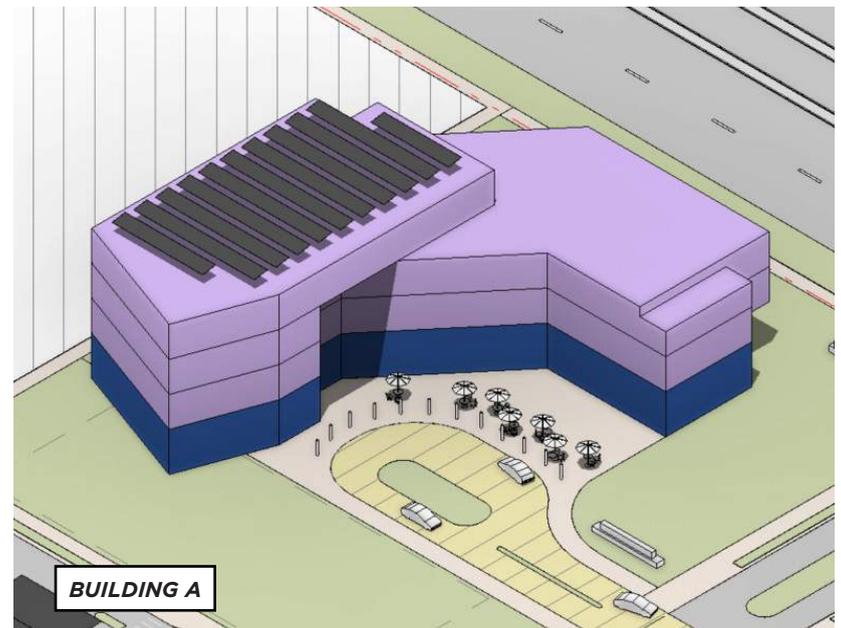
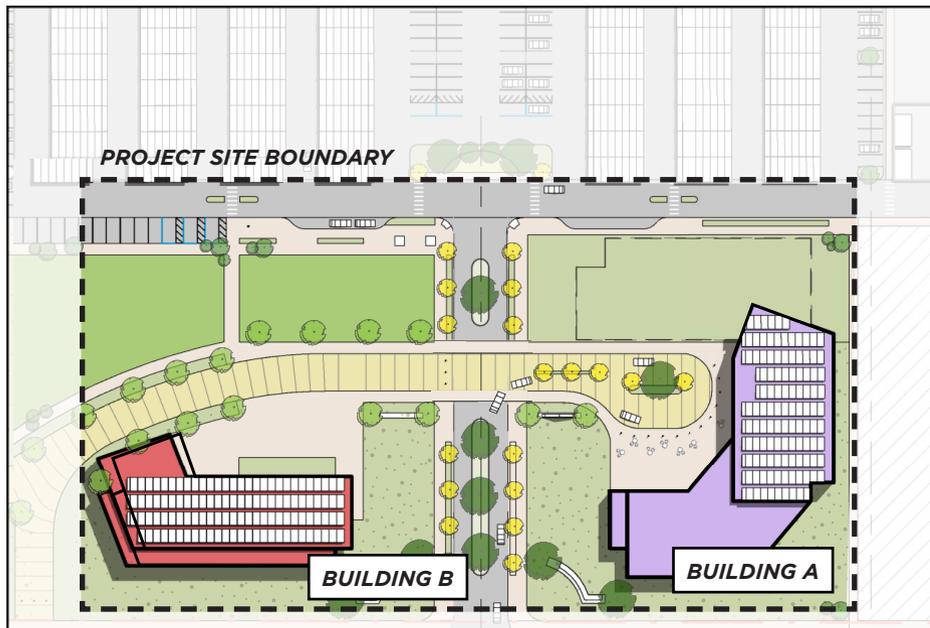
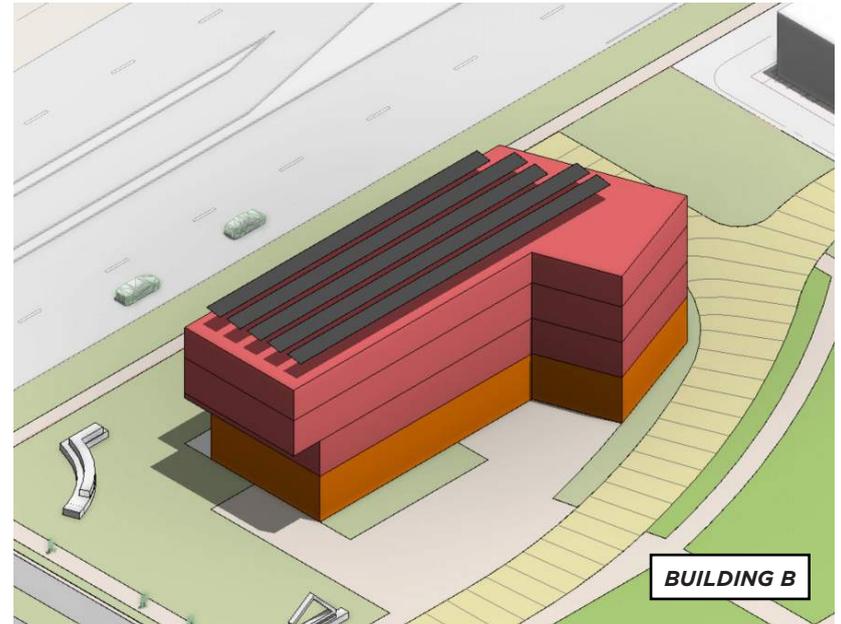
The development of a comprehensive Climate Action Plan is recommended specifically for the New Ontario Campus, to include when possible Scope 3 emissions. This action plan shall provide guidelines for the campus over the first decade of development and into the future. Until the Climate Action Plan is developed, the campus shall follow the Chaffey Community College District's Sustainability Master Plan.



BUILDING MASSING

The massing of the building will align with the functional needs of its program, while also relating to the campus and surrounding context. Buildings shall utilize appropriate forms, heights, and proportions as generally shown in the master plan. Typical building footprint modules are used to form the site plans, and new buildings shall be planned to the modules, in alignment with desire for larger and more adaptable spaces; more specifically, deeper and more square in space, by adhering to the best practice in higher education settings following these general guidelines:

- Academic Building: 75'-80' typical width
- Science / Specialized Academic: 85' typical width
- Administrative / General Use: 65'-75' typical width, varies

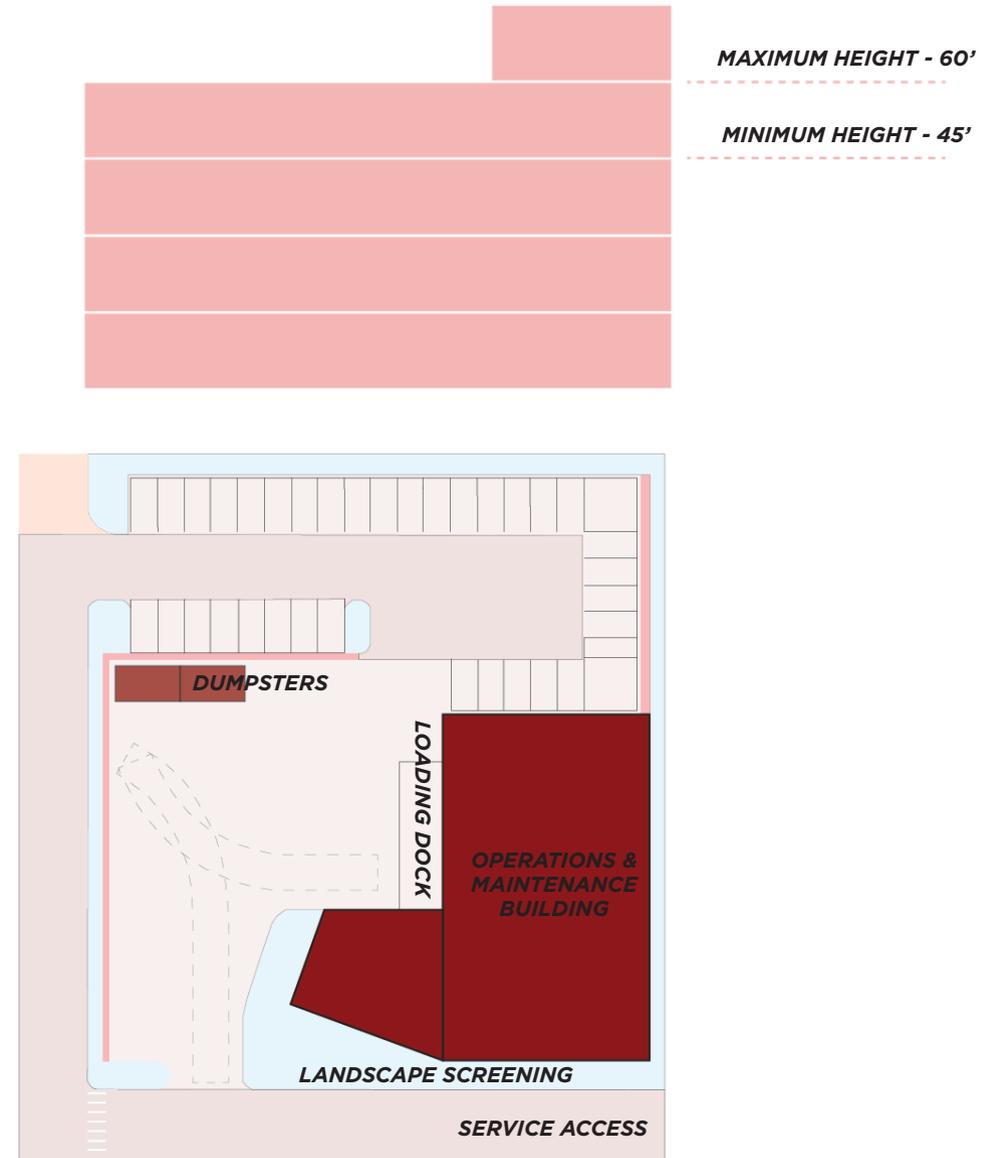


BUILDING HEIGHT

Maximum Building Height is defined by the maximum number of building stories. The height of the campus buildings shall relate to the surrounding campus and follow local jurisdiction requirements. Campus buildings shall have a typical floor height of 15-feet tall, with a majority of the buildings ranging from three stories (45 feet) to four stories tall (60 feet). However, the centrally located iconic Welcome Center/Cybrary shall be the tallest building on campus and will have elements that exceed 60 feet tall. To maintain the highest and best use of the land, no building is to be one-story, with the exception of the Operations and Maintenance Building, shown in the full buildout. In addition, the increase in building heights reduces the urban heat island effect.

SERVICE AREA

Once the campus is fully built out, campus deliveries and services shall be from one central location at the Operations and Maintenance Building (acknowledging that Phase 01 will include dumpsters). For mechanical equipment infrastructure, screening should be integrated into each building design to compliment the building's architecture. Where building screening is not possible, screening shall be designed with built enclosures, softscape, or fencing systems. All equipment and associated screening shall be kept out of public sight, while still providing proper ventilation as required.

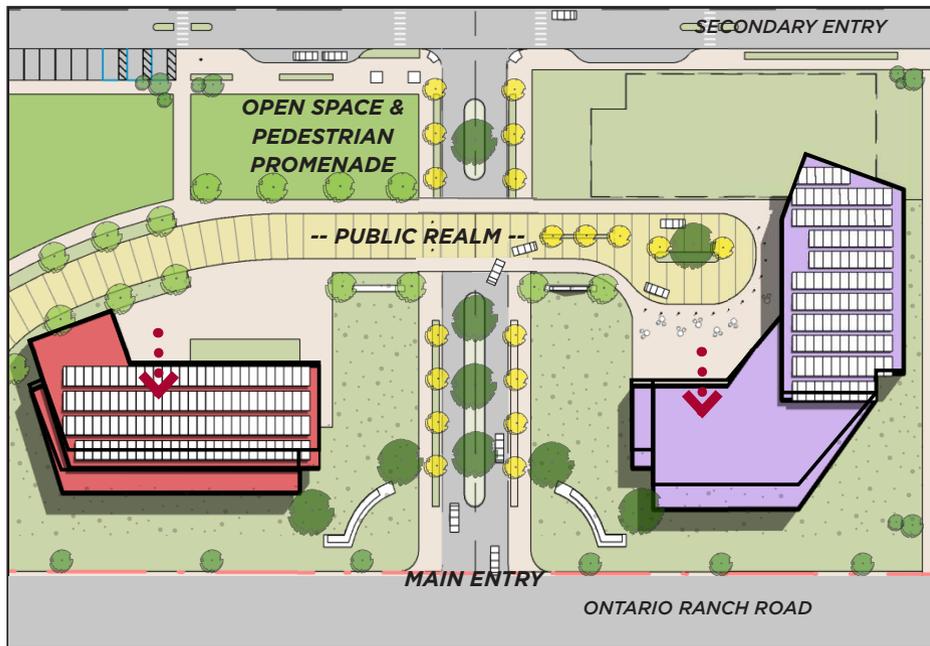


BUILDING SITING, ORIENTATION, AND ENTRY

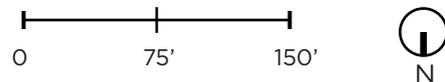
Building orientation and location shall strengthen the definition of the campus and open space, with emphasis on strong pedestrian connections. Building orientation can influence the character, perception, and activity of the campus. Generally, campus buildings shall be oriented to welcome visitors and encourage activity throughout the campus. Main entries shall face the public realm along Ontario Ranch Road and major pedestrian promenades on the east, center, and west sides of campus. All main entries shall be clearly defined and accessible to all. Secondary entries will align with open spaces and adjacent plazas or outdoor workspaces.

Based on the environmental design analysis of the new Ontario Campus, a building shall be positioned to orient east/west to create shaded campus pathways and open space. To reduce strong full Santa Ana winds, avoid narrow passageways between buildings and provide off-sets where possible.

PROJECT SITE BOUNDARY



ENLARGED SITE PLAN
ENTRY EXPERIENCE



SUSTAINABILITY CONSIDERATION

Buildings shall be oriented east/west to maximize solar energy purposes and create shaded areas where possible.

ACTIVE USE

Building engagement with the surrounding pedestrian circulation and use zones is a critical element of an activated campus. Buildings should orient towards the major centrally-located pedestrian promenade, central quad, and outdoor plazas, especially on the ground floor level. Building layout and orientation shall create outdoor spaces of various scales and purposes to support the campus uses.

BUILDING DEVELOPMENT GUIDELINES

The building development guidelines are based in part upon what we learned from staff, faculty, and students to meet academic and functional needs. The building learning spaces must accommodate ever-changing technology, and provide for maximum flexibility for a variety of academic programming. This section will provide guidance for construction of new buildings with recommendations for materials, architectural character, energy sustainability, office spaces, classrooms and labs, and collaboration spaces.

CONTEXTUAL AESTHETICS

New buildings should reflect a contemporary architectural aesthetic that is representative of our place and time. Students and faculty want to be a part of a higher education institution that reflects the thriving Southern California environment and the forward-thinking world in which we live. This perspective should be applied to building exteriors, interiors, and outdoor spaces.

The building massing and footprint should not only relate to the building's function and program but should also work to give form to inviting and authentic outdoor spaces. Special care should be given to creating thoughtful spaces between buildings, appropriately mitigating any wind tunnels, especially as they relate to the creation of the campus quad. All buildings, especially those that interface with the campus quad area, should strive to create well-designed and landscaped outdoor areas for student and faculty collaboration and social gathering.





SUSTAINABILITY CONSIDERATION
Document material sourcing . Provide local building materials, ingredients, and sourcing. Utilize recyclable material and end-of-life use.

The building envelope systems should further support the notion of a contemporary higher education environment and communicate the activities within with appropriate levels of transparency, especially at the ground level where visual connections between interior and exterior can create a more cohesive campus experience. The enclosure systems will need to be energy-efficient and durable as well, providing a long service life of heavy use in the Southern California environment. Consider the use of primary materials that are complementary and timeless and make appropriate reference to existing campus buildings. Building materials should be locally sourced and utilize recyclable ingredients. Primary materials to be employed can include:

- Cast-in-place concrete
- Architectural brick
- Architectural metal wall panels
- Fiber cement board
- Stucco
- Aluminum storefront and curtain wall glazing systems
- Metal or glass sun-shading elements for glazing

Buildings should maximize the visual impact or effects of particular materials in order to be strategic in an articulation of the building massing and the creation of visual hierarchy. Formal and material delineation should emphasize key moments such as an entry sequence or areas of high visual transparency for greater visual continuity between indoor and outdoor spaces.

HEALTHY BUILDINGS

Studies have demonstrated that healthy building environments can enhance the student experience and promote learning and engagement. The implementation of sustainable design best practices is one avenue to creating a healthy building environment. Buildings should provide adequate natural daylighting to interior spaces, create appropriate thermal conditions, maximize indoor air quality, and address acoustics. Where feasible, buildings should seek to encourage physical movement by prioritizing the use of open, appropriately located stairs or ramps that connect complementary programs, over elevator use.

Studies have also identified positive relationships between learning and a visual connection with nature. Buildings should create these visual connections while also considering biophilic design elements that can be deployed in the interior of the building.

OCCUPANT SECURITY

All buildings should provide a safe and comforting environment for students, faculty and visitors. The facility's design should employ the use of passive and active strategies and systems for user security that address the contemporary challenges of providing security on college campuses. The physical building design can contribute to a safe environment by considering visibility internally between various spaces, as well as visibility from inside to outside. Equal consideration should be given to exterior spaces around the building and between adjacent buildings.



SUSTAINABILITY CONSIDERATION
Buildings should provide natural daylighting, indoor air quality, and connections to biophilic design elements.



TECHNOLOGY FLEXIBILITY

Technology systems should be designed with the future in mind and look beyond current needs. The recent and rapid shift to virtual and remote learning has demonstrated a need to design systems that are adaptable and scalable to meet a variety of teaching modalities. Consideration should be given to accommodating hybrid models of in-person and virtual learning, from the perspective of both the educator and the student. Technology and teaching methods will continue to evolve at a rapid pace, as will career paths and their associated skill sets, making it necessary to plan as best we can for that change.

Every effort should be made to incorporate the necessary forward-looking technology into all spaces, from the classroom to common areas and corridors. Designs should take into consideration the needs of contemporary students and their mobile digital technology and the need to use and charge them flexibly throughout the building.



LEARNING ENVIRONMENTS

Learning spaces should provide an enriching environment that mirrors the workplace to equip students with the state-of-the-art skills that will enable them to confidently transition from student to working professional. These real-world, academic environments can attract opportunities to collaborate with external industry partners and local corporations who often express an interest in pursuing specialized training and internship programs. Providing students with access to current workforce technologies and processes positions them to succeed during and after their education. To accommodate changes in technologies, applications, and partnerships, flexible space planning is necessary. Spaces that can readily transform through easily movable partitions and furniture are desirable. Consideration should be given to the adaptability of audio-visual and communications technologies in this context.





STUDENT ENGAGEMENT AND COLLABORATION

Environments that foster collaboration and discussion between students and faculty can lead to a more engaging educational experience for students and further lead to deeper understanding in their studies. Students require real-world scenarios where they can practice team-based problem solving and develop inter-disciplinary working skills.

Collaborative learning spaces should be incorporated into every building where feasible. These spaces should allow faculty and students the opportunity to adapt their environment to their immediate needs and accommodate various types of interaction and active learning. Such spaces can be flexible, multi-use spaces that accommodate both informal and formal collaboration as well as spaces dedicated to this purpose. The spaces should be open and inviting with a variety of work areas and built-in seating as well as soft, movable furniture to provide enhanced flexibility. These areas should be technology-rich and designed to be reflective of the disciplines they support.



STUDENT LIFE AND SUPPORT

College campuses are increasingly focusing on student-centered services and student wellbeing to enhance the on-campus experience. This is accomplished through programs and amenities that create and foster a sense of community, encourage social interaction and engagement, and support the students' physical and mental wellness. Where feasible, buildings should provide facilities that enhance physical and mental wellbeing, such as fitness and wellness rooms. Offering social spaces on campus that are embedded with technology can allow students to study and socialize together, supporting each other in their studies. These spaces can be in a dedicated library facility, they can be in the lobby of an academic building, or located outdoors. There are many possibilities to explore.

Buildings should take into consideration the location of the campus and the proximity of goods and services that students require on a daily basis. Easy access to the bookstore, basic supplies, dining, and snacks is critical. A clear understanding of the accessibility of these services and how students reach them through various modes of transportation is invaluable to the robust development of these services.





FACULTY SPACES

Recent trends in higher education administrative spaces are reflective of the shifts observed in workplace environments to increase collaboration and maximize spatial efficiency. New academic office environments for faculty and staff need to provide the same opportunities for casual encounters and cross-department collaboration as student-oriented spaces do. These faculty spaces also require consideration of new workplace models that involve hybrids of virtual and physical workspace. Each project should develop an understanding of the different work modalities anticipated and ensure that technology and space plans work to establish as equal an experience for each faculty and staff person as is feasible. Spatial models should take into consideration that faculty are often teaching across campuses, virtually, or on part-time schedules where they may not need a desk every day.

Trends towards smaller and fewer private offices create more opportunities for flexible, open lounge spaces that invite collaboration and accommodate a range of working models through movable furniture and flexible technology. Open office models can be augmented with teaming stations, various sized meeting rooms, and supplemental collaborative lounges that allow for scheduled or impromptu meetings. Focused work can be supported by the creation of private rooms or workstations. This shared space model can promote a shared sense of ownership and elevate inter-departmental communication and cooperation.

02 SITE AND LANDSCAPE GUIDELINES

INTRODUCTION

Open spaces on campus are defined and developed into specific uses including connections, large and small gathering areas, educational spaces, and recreational spaces. Consistency and continuity are keys to establishing a pleasant site landscape experience throughout a campus. Materials and planting shall reflect the larger campus aesthetic. A sense of order and place can be applied through the repetition of hardscape and softscape materials. Campus plantings should be native or adaptive species. Materials should be locally sourced whenever possible.

Providing site development guidelines for outdoor spaces is essential to creating the look and feel for the new Ontario Campus. A unified appearance can be attained by following the general guidelines which include Pedestrian Promenade, Drop-Off Plaza, Green Spaces, Outdoor Plazas, Outdoor Learning Spaces, and Parking Lot Connections.





PEDESTRIAN PROMENADE

The pedestrian promenade serves as the primary pedestrian axis of the campus, and is a nod to Euclid Avenue in downtown Ontario. The promenade connects all major building entrances with outdoor gathering spaces and restaurants in the neighboring development. The promenade shall include a higher level of design and finishes to easily distinguish from secondary pedestrian circulation walkways. Heavy-duty decorative pavement shall be used along the promenade. Integrated seating areas and shade trees shall line both sides of the walkway. Establishing a safe and welcome environment shall be accomplished by using pedestrian-scale lighting elements and a unique planting design. As the promenades also serve as a limited-access emergency drive, they shall be kept clear for a minimum 26-foot width.



DROP-OFF PLAZA

This area provides not only a place for students to be dropped off and picked up, but also the central outdoor gathering place for the campus. It should be designed for pedestrians first, but also take into consideration the needs of vehicles and stacking. High quality paving materials should be consistent between vehicular and pedestrian areas, with bollards rather than curbs or material changes used to distinguish pedestrian from vehicular areas. High-quality furniture and seating areas should be combined with shade from trees and manmade structures. Public art, unique plantings, fountains, or other elements should provide visual interest and draw people into the space.

GREEN SPACES

A campus quad is an important feature in a campus setting, typically becoming the iconic feature of the campus experience and an expression of the College's unique identity. The proposed Ontario campus design includes a designated area of turf lawn complemented with large shade trees and landscape planting. The use of shade trees provides a great canopy and can create a "room" feeling. Maintenance of the lawn, plantings, and trees are essential for a successful green space to encourage continued use. Open lawn spaces provide flexibility in campus use. Students are provided a space for reading, social gatherings, and light recreational use. Green spaces also function as locations for events such as graduation, performances, community gatherings, and festivals.



OUTDOOR PLAZAS

Outdoor plazas provide gathering spaces for students, faculty, and the community to socialize in large or small groups. The primary outdoor plaza is the drop-off plaza described above, but smaller plazas should be located adjacent to the Transfer & Student Center building, and all proposed campus buildings. Various types of flexible seating are essential, refer to the site furnishings section for recommendations. Providing outdoor WiFi and charging stations will encourage student and faculty use of the space for learning purposes. Incorporating plantings such as shade trees, flowering trees, shrubs, grasses, and perennials will enhance visual interest and add to the aesthetic of the space.





OUTDOOR LEARNING SPACES

Outdoor learning spaces are an important feature for the campus setting, by providing a different learning atmosphere for all students. Spaces must be strategically placed on campus adjacent to academic buildings with classrooms or labs. While they can be located near the pedestrian promenade or the open green spaces, outdoor learning spaces should generally not be adjacent to loud gathering spaces.

Learning spaces should be flexible in nature to accommodate various class sizes, designed with work areas and seating. Access to WiFi, charging stations, and writable surfaces shall be considered for a successful learning space. Flexible seating can include movable tables and chairs or some permanent features. Incorporating trees can provide shade while also creating an outdoor “room” feeling. Planting should be kept open to surrounding walkways for safety while also creating an enclosed atmosphere. All outdoor spaces must be accessible in order to be used formally as education spaces.



PARKING LOTS & CIRCULATION

Providing an aesthetically pleasing and easy-to-understand parking lot circulation is essential for the campus experience. Entrance into the site and parking lot areas shall be from two easy-to-identify locations. The parking lot shall be connected to the campus buildings with clear pedestrian paths. ADA accessible parking stalls shall be provided near frequented campus buildings for easy access. The inclusion of electric vehicle charging stations shall also be provided near frequented campus buildings.

Parking lot medians shall be provided at terminus ends and the middle of each parking aisle, with a minimum of 5-foot wide planting bed areas. Plantings shall include overstory shade trees and native plantings at a 2- to 3-foot height. Additional 4-foot diamonds can be incorporated throughout the parking area to allow for shade tree plantings.

Pedestrian circulation shall be clearly defined between visitor and accessible spaces and the primary buildings. Crosswalks in key locations should provide a safe zone for pedestrians to cross over vehicular circulation paths. Design elements for crosswalks may include decorative pavement, elevated surfaces, and signage that will help slow vehicular traffic. The College should consider utilizing light pavement colors and additional shading features throughout parking lots to reduce urban heat island effects.

ACCESS AND TRANSPORTATION

An equitable experience shall be provided on campus for all modes of transportation to include public transportation, personal vehicles, pedestrians, and bicycles. Implement policies to encourage reduction of vehicular commuter trips and increased use of public transit. Improvements to the proposed bus stop should ensure that it is an attractive gathering space and provides protection from the elements to promote ridership. The local public transit, OmniTrans, is recommended to continue to provide bus passes for all student.

Bicycle parking, including some areas with lockers and protection from the sun and rain, should be provided as close as feasible to each building entrance.

SUSTAINABILITY CONSIDERATION

Parking lots shall incorporate the use of solar panels or additional shade trees in bump-outs for shaded parking stalls. Provide electrical vehicle charging stations throughout campus.



SUSTAINABILITY CONSIDERATION

Review Virtual & Hybrid courses to reduce trips to campus and/or align with Public Transit schedules.



WASTE MANAGEMENT

As described under the Architectural Guidelines, the service areas will be contained in one central location at the Operations and Maintenance building. Easy to identify receptacles shall be provided for landfill waste and recyclable materials throughout campus. Within the first year of operation at the new campus, it is recommended to track and establish the baseline of the campus waste following current guidelines. Chaffey College shall then create a future Campus Waste Reduction Plan with targets of non-biodegradable waste and non-recyclable items.



SUSTAINABILITY CONSIDERATION
Develop a Campus Waste Reduction Plan for the new campus.

LANDSCAPE AESTHETICS

Landscape aesthetics provide a cohesive look and feel across the campus. While this section provides guidelines, all current local and state requirements must be followed and take precedent. A Landscape Master Plan shall be considered for the campus to follow, including a comprehensive planting palette. The planting palette should be uniform and connect through campus, while still providing variety for different spaces and uses. Maintaining one aesthetic through campus provides a cohesive experience.

According to the most recent Plant Hardiness Zone Map, the proposed campus location falls into Plant Hardiness Zone 10a. All plant materials used on the campus must have a proven record of high survivability, ability to acclimate, low-water requirements, and no fire risk. Native plantings must be used to the fullest extent. Most plantings shall be located within a decomposed granite or gravel material to minimize fire risk. Plantings in organic hardwood mulch should be kept to a minimum and located at prominent locations on campus. Turf sod shall solely be located in key green spaces. Landscaping adjacent to Ontario Ranch Road and similar entrance areas that will have less heavy use can be planted with ornamental grasses or other plants needing less water.

Layering of plant material from larger to smaller plants along pedestrian or vehicular corridors helps create visual interest and serves as an inviting link throughout campus. Low plantings help maintain large spaces and open views across the core of campus. Large shade-trees with a canopy create “outdoor rooms,” while the



SUSTAINABILITY CONSIDERATION
Document material sourcing . Provide local site materials, ingredients, and sourcing. Utilize recyclable material.





use of ornamental flowering trees provides interest and focal points. Large palm trees should be avoided for maintenance concerns and potential danger during wind storms. Evergreen trees provide an excellent wind-block as well as screening for service areas. Per the environmental site analysis, the building orientation must be considered to provide comfortable shaded outdoor spaces. The increased presence of vegetation will reduce the urban heat island effect. Green areas will act as heat sinks (transpiration) and wind modifiers, while filtering/controlling dust, and reducing pollution.

SUSTAINABILITY CONSIDERATION

Reduce the heat island effect with increased vegetation and shade trees.



SUCCULENT AND CALIFORNIA NATIVE DESERT DEMONSTRATION GARDEN

The new Ontario Campus provides an educational opportunity in the landscape and outdoor space that showcases a native xeriscape plant palette. In addition to being used by Chaffey's science programs, the gardens will provide low-maintenance groundcover in high-traffic areas with educational science providing data and information regarding irrigation and water usage.

Other groundcover types should use low water use alternatives to ornamental lawns, and shade-tolerant groundcover in areas with trees.

STORMWATER MANAGEMENT

Best management practices for Stormwater control are proposed for the college to maintain a safe and healthy campus site. Above-grade stormwater treatment is proposed at street level as a way to showcase detention through bioswales that divert water to designated detention areas.

Below Grade Stormwater: An 8 foot diameter underground storage chamber is proposed towards the site lowpoint, along the southeastern edge of the property line along E Almond Blossom St. The College will work with a Civil Engineer and a Landscape Architect to maximize function and aesthetic effectiveness of the stormwater management practices. A comprehensive stormwater analysis is recommended for the campus to show proposed calculations for Best Management Practices.

Sewer Calculations: Calculations of City of Ontario Sewer volume, based on a total of 4 acres and long-term, full-time enrollment, can be found in the Appendix.

IRRIGATION

Designing a sustainable landscape and irrigation system for minimal water use is recommended. The irrigation system shall incorporate water-efficient heads, water application rates which only apply the needed amount of water, and systems responsive to weather conditions. Smart irrigation control programs reduce planting bed maintenance and water use, while increasing the success and survivability of new plant materials.

STORMWATER CALCULATIONS

For sizing and placement above and below-ground infrastructure

UNDERGROUND STORAGE CHAMBER SIZE

- 8-foot diameter Corrugated metal pipe 131'x32' footprint
- Underground Storage volume = 20,100 CF

ABOVE GROUND SEDIMENTATION BASIN FOR FUTURE 4-ACRE SITE

- Foot print 114'x65' 4 foot deep basin.
- Volume = 11,800 CF

SUSTAINABILITY CONSIDERATION

Develop a Community Water Partnership plan. Engage the City of Ontario on measures to implement on campus. Investigate use of city gray water. Utilize smart irrigation controls.





Site Grading: Approximately 28,000 cubic yards of soil will be removed from the existing stockpile located west of the existing asphalt access road that bisects the project site. Anticipated maintenance of the existing drainage pattern and stabilizing the site with erosion control methods that are already in place are recommended.

SITE FURNISHINGS

An important component of creating a unique campus feeling is a complementary family of site furnishings along with wayfinding and signage. Elements strategically located throughout the campus will create a higher quality experience for students and visitors. The elements shall complement the look and feel of other Chaffey College campus experiences. A consistent appearance is important, so to not appear as visual clutter or lead to confusion. The style and design should be timeless, complement the surrounding architecture, and be low-maintenance. Chaffey College should follow their standard of site furnishings family including, but not limited to, the following items:

- Fixed Tables and Chairs
- Flexible Tables and Chairs
- Benches
- Bike Racks
- Waste and Recycling Receptacles
- Shade Structures
- Security Bollards
- Light Bollards
- Pedestrian Light Poles
- Planters
- Umbrellas
- Outdoor Power

Outdoor seating shall include both fixed and flexible seating, providing options based on location and type of use. Picnic-style tables are recommended to encourage socialization, in lieu of round-style tables. Tables with minimal holes for drainage are acceptable; however, flat surfaces will increase study use by students on the outdoor furniture. Benches may be a traditional design, or more flexible and organic to promote socialization. Separate litter and recycling receptacles will also encourage sustainable practices.





WAYFINDING & SIGNAGE

Various types of signage are needed to help navigate the campus, while either in a vehicle or as a pedestrian. Chaffey College should follow their standard of signage elements to include, but not be limited to, the following signage types along with a Signage Location Plan:

- Monument Signage
- Vehicular Wayfinding
- Pedestrian Wayfinding
- Building Sign
- Information Kiosk
- Banners

Monument signage shall be located at the main vehicular entrance into the campus from Ontario Ranch Road. Secondary signage shall be considered at the secondary vehicular entrance drive from Mill Creek Road.

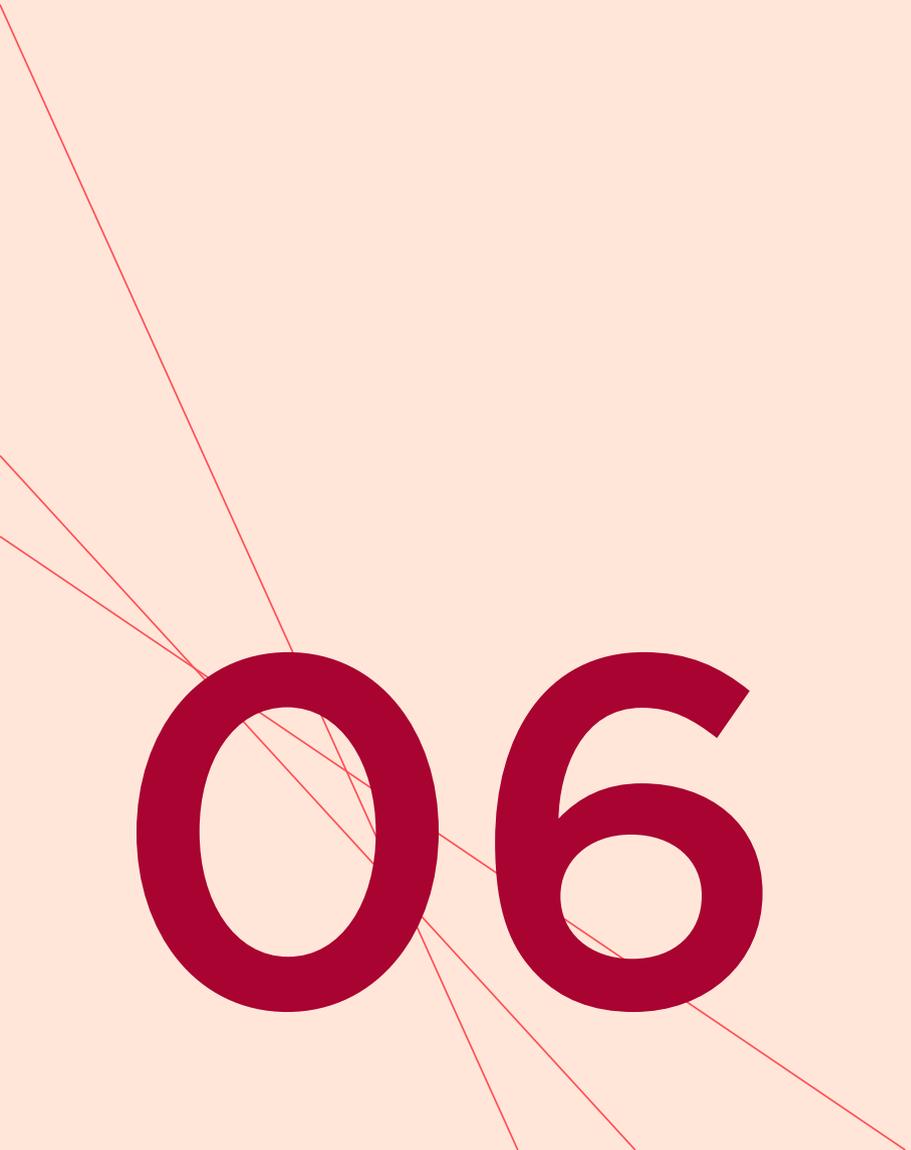
Vehicular wayfinding signage is to be located along the primary vehicular routes around campus, directing users to appropriate locations on campus such as drop-off areas and main buildings. Lettering on signage must be legible while driving in a vehicle.

Pedestrian wayfinding signage must be located at the drop-off plaza and where pedestrians immediately enter the campus from the parking lot. The signs should list all major destinations on campus. At the drop-off plaza, an information kiosk with a campus map and interactive screen shall be provided.

Building signs must be located at the primary entrance into each building. The sign must clearly state the building's name along with the building services and any adjacent outdoor plaza spaces, as outlined in their signage standards.

Banners are located on light poles along the main entrances into the campus, as well as along Ontario Ranch Road. The banners shall clearly identify the Chaffey College logo, and may highlight various events or news for the College.





06

APPENDIX ITEMS

APPENDIX ITEMS

<u>ADDRESSING BOARD COMMENTS</u>	01
<u>DETAILED COST ESTIMATE</u>	02
<u>PHOTOVOLTAIC CALCULATIONS</u>	03
<u>STORMWATER CALCULATIONS</u>	04
<u>BASELINE ENROLLMENT ASSUMPTION DETAIL</u>	05
<u>PROGRAM AND SPACE NEEDS DETAIL</u>	06

01 ADDRESSING BOARD COMMENTS

BOARD COMMENT:

Have we studied options that bridge over the main entry drive to make a more seamless connection for pedestrians between buildings?

RESPONSE:

The planning team studied multiple options at a high level to address the comment, including bridging across the building and flipping the parking to the Ontario Ranch side. These options were eliminated due to feasibility and urban design best practices.

We presented additional options including a freestanding pedestrian bridge, tunneling vehicle traffic under the pedestrian connection, and modifying the site plan.

The decision not to move forward with any of the explored options was fueled by potential high-cost associated strategies and the desire to keep the integrity of the original site plan.

The pedestrian table will nevertheless suffice, and pedestrian connectivity will require further study as the plan moves forward.

Per December 2023 Board Approval, additional studies for the pedestrian crossing will be completed during future planning and design efforts.

PEDESTRIAN CROSSING - COMPARING THE OPTIONS

OPTION	PROS	IMPACTS	COST	NOTES
<p>Current - Pedestrian Table with Hawk Signal</p>	<p>Provides safe ground plane connection across main entry drive.</p>	<p>Potential traffic impacts of cars stacking up at entry to wait for pedestrians moving east-west.</p> <p>Potential conflict point between cars and pedestrians.</p>	<p>Approx. \$200,000</p>	<p>This will need to occur in options with the pedestrian bridge and modifying the site plan as well.</p>
<p>Option A Freestanding Pedestrian Bridge</p>	<p>Provides a secondary option for moving across entry drive.</p> <p>Branding opportunity.</p>	<p>Behaviorally, people may not take the time and effort to go up and over the crossing - our observation from other campuses is that they do what is most convenient.</p> <p>Would need exterior elevators at each end.</p>	<p>\$3M-\$5M</p>	<p>Expensive and may not be fully utilized.</p> <p>Still requires raised pedestrian table with hawk signal.</p>
<p>Option B Tunnel Vehicles Under</p>	<p>Most seamless connection for pedestrians of the options provided.</p>	<p>Conflicts with Utilities Easement.</p> <p>Requires major site and structural work.</p> <p>Would need to sink the tunnel approximately 20' to accommodate fire and service trucks.</p> <p>Stormwater concerns with flooding.</p> <p>Vehicular stretch may be short for ramping down and back up.</p>	<p>Up to \$20M</p>	<p>Most expensive option and would require further feasibility study.</p>
<p>Option C Modify the Plan</p>	<p>No pedestrian crossing needed between buildings.</p>	<p>Lack of symmetry removes the 'welcome mat' entry approach.</p> <p>Inefficient use of the site.</p>	<p>n/a</p>	<p>This would require a major re-work of the master plan document.</p> <p>Still requires raised pedestrian table with hawk signal for connection to retail plaza.</p>

PEDESTRIAN CROSSING - CURRENT STRATEGY

Raised Pedestrian Table with Hawk Signal

A raised pedestrian table at the mid-block crossing slows down vehicle traffic, while the hawk signal is a visual indicator of pedestrians approaching and crossing.



Diagram of Raised Pedestrian Table

Hawk Signal at Case Western Reserve University



OPTION	PROS	IMPACTS	COST	NOTES
Current - Pedestrian Table with Hawk Signal	Provides safe ground plane connection across main entry drive.	Potential traffic impacts of cars stacking up at entry to wait for pedestrians moving east-west. Potential conflict point between cars and pedestrians.	Approx. \$200,000	This will need to occur in options with the pedestrian bridge and modifying the site plan as well.

PEDESTRIAN CROSSING - PEDESTRIAN BRIDGE (OPTION A)

Freestanding Pedestrian Bridge

Additional structure added that provides an additional elevated crossing over the entry drive. The structure must be accessible.



Mt. San Antonio College



Salt Lake City, Utah

OPTION	PROS	IMPACTS	COST	NOTES
Option A Freestanding Pedestrian Bridge	<p>Provides a secondary option for moving across entry drive.</p> <p>Branding opportunity.</p>	<p>Behaviorally, people may not take the time and effort to go up and over the crossing - our observation from other campuses is that they do what is most convenient.</p> <p>Would need exterior elevators at each end.</p>	\$3M-\$5M	<p>Expensive and may not be fully utilized.</p> <p>Still requires raised pedestrian table with hawk signal.</p>

PEDESTRIAN CROSSING - TUNNEL UNDER (OPTION B)

Tunnel Under

Vehicular traffic would enter the campus and drive under an at-grade bridged pedestrian crossing connecting the building level plazas.



**Conceptual Rendering,
Palo Alto, CA**



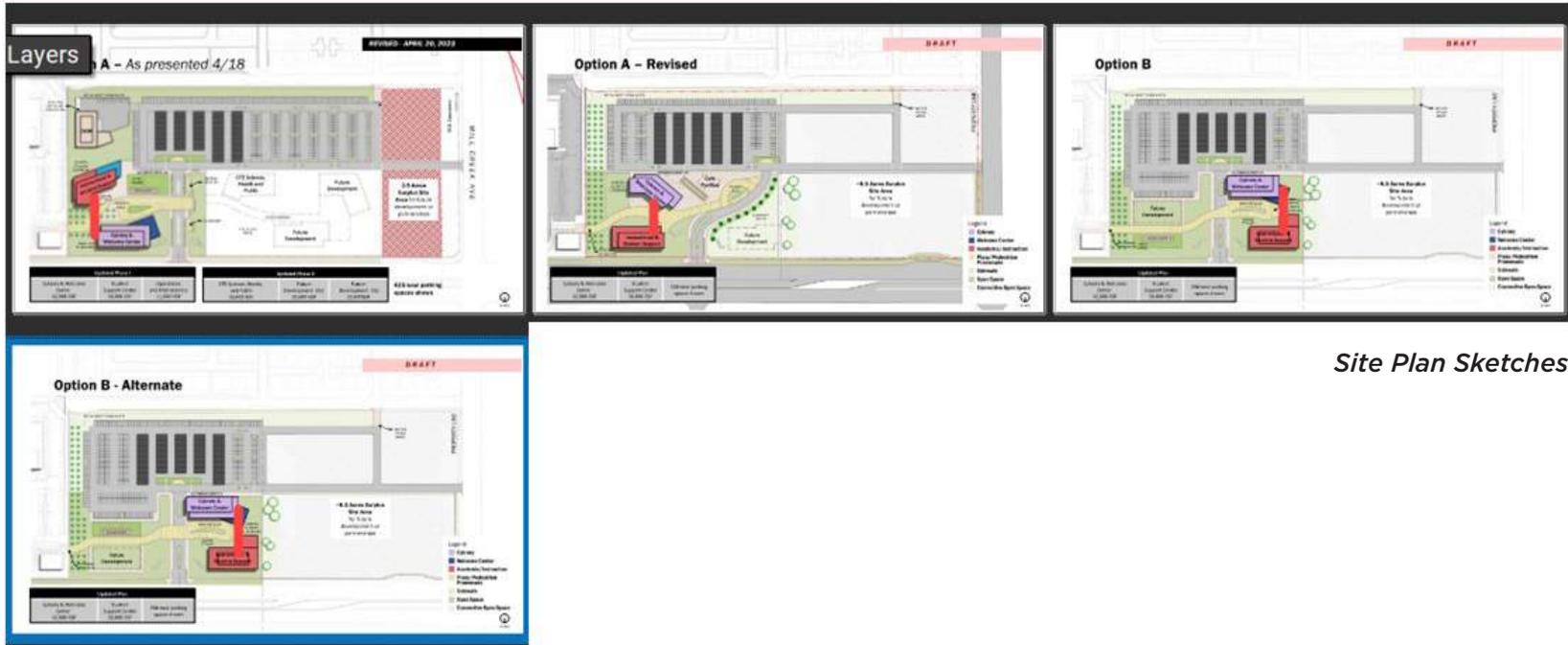
Park Avenue Tunnel, NYC

OPTION	PROS	IMPACTS	COST	NOTES
<p>Option B Tunnel Vehicles Under</p>	<p>Most seamless connection for pedestrians of the options provided.</p>	<p>Conflicts with Utilities Easement.</p> <p>Requires major site and structural work.</p> <p>Would need to sink the tunnel approximately 20' to accommodate fire and service trucks.</p> <p>Stormwater concerns with flooding.</p> <p>Vehicular stretch may be short for ramping down and back up.</p>	<p>Up to \$20M</p>	<p>Most expensive option and would require further feasibility study.</p>

PEDESTRIAN CROSSING - MODIFY THE PLAN (OPTION C)

Modify the Plan

Relocate both buildings to the west side of the entry.



Site Plan Sketches

OPTION	PROS	IMPACTS	COST	NOTES
<p>Option C <i>Modify the Plan</i></p>	<p>No pedestrian crossing needed between buildings.</p>	<p>Lack of symmetry removes the 'welcome mat' entry approach.</p> <p>Inefficient use of the site.</p>	<p>n/a</p>	<p>This would require a major re-work of the master plan document.</p> <p>Still requires raised pedestrian table with hawk signal for connection to retail plaza.</p>

02 DETAILED COST ESTIMATE

Chaffey Community College District: New Ontario Campus
 FMP Cost Estimate
 Ontario, CA

August 22, 2023

INTRODUCTION

1. Basis Of Estimate

This cost estimate is based upon average unit costs developed by HLCM.

2. Excluded Costs

The following cost items are excluded from this estimate.

- 1) Escalation beyond MOC shown for each phase. Phase 1 estimated construction start date is January 2028 and a 24 month construction duration. Phase 2 estimated construction start date is January 2031 and a 24 month construction schedule.
 Estimated Escalation per annum:
 2023: Included in unit costs
 2024: 7.00%
 2025: 6.00%
 2026: 5.00%
 2027: 4.00%
 2028: 4.00%
 2029: 4.00%
 2030: 4.00%
 2031: 4.00%
 2032: 4.00%
- 2) Land purchase costs.
- 3) Off-site work, unless noted otherwise.
- 4) Costs of hazardous material surveys, abatement, and disposal, unless noted otherwise.
- 5) Project Labor Agreements (PLA).
- 6) Specialty foundation systems or soil treatments (i.e. piles, lime treatment, large quantities of engineered fill, etc.)
- 7) Traffic signalization.
- 8) Bus stops.

3. Clarifications

This estimate is based upon the following assumptions.

- 1) A competitive bid environment at design-build contractor level.
- 2) The use of prevailing wage labor rates.
- 3) We are assuming a design-build procurement methodology.
- 4) Unit costs are inclusive of General Conditions, General Requirements, Overhead and Profit, Bonds and Insurance and Design Contingency.

Chaffey Community College District: New Ontario Campus
 FMP Cost Estimate
 Ontario, CA

August 22, 2023

MAIN SUMMARY

	Qty	Unit	Unit Cost*	TOTAL CONSTRUCTION COST	TOTAL PROJECT COST (x1.43)
PHASE 1: ESCALATION TO MOC JAN 2029					
Buildings					
Building A: Cybrary and Welcome Center (4-story steel structure)	54,000	SF	\$ 1,216.37	\$ 65,684,000	\$ 93,928,120
Building B: Instruction and Student Support (4-story steel structure)	38,100	SF	\$ 1,193.62	\$ 45,477,000	\$ 65,032,110
Sitework					
PV Solar Shade Structures	410,416	SF	\$ 57.37	\$ 23,546,000	\$ 33,670,780
	33,000	SF	\$ 231.76	\$ 7,648,000	\$ 10,936,640
TOTAL PHASE 1				\$ 142,355,000	\$ 203,567,650
PHASE 2: ESCALATION TO MOC 2032					
Buildings					
Building C: Academic Instruction (3-story steel structure)	30,900	SF	\$ 1,269.71	\$ 39,234,000	\$ 56,104,620
Building D: O&M Building (1.5-story steel structure)	10,000	SF	\$ 1,000.40	\$ 10,004,000	\$ 14,305,720
Sitework					
	64,314	SF	\$ 114.27	\$ 7,349,000	\$ 10,509,070
TOTAL PHASE 2				\$ 56,587,000	\$ 80,919,410
TOTAL CONSTRUCTION COST (PHASE 1 & PHASE 2)				\$ 198,942,000	
TOTAL PROJECT COST (PHASE 1 & PHASE 2)					\$ 284,487,060

*Unit cost includes varying escalation % shown on subsequent pages

PHASE 1: ESCALATION TO MOC JAN 2029

Elements	Qty	Unit	Unit Cost (2023\$)	Subtotal (2023\$)	Escalation to MOC of Jan 2029 (33.96%)	TOTAL
Buildings						
Building A: Cybrary and Welcome Center (4-story steel structure)	54,000	SF	\$ 908.00	\$ 49,032,000	\$ 16,652,000	\$ 65,684,000
Building B: Instruction and Student Support (4-story steel structure)	38,100	SF	\$ 891.00	\$ 33,948,000	\$ 11,529,000	\$ 45,477,000
Sitework	410,416	SF				
Earthwork, allowance	410,416	SF	\$ 1.00	\$ 411,000	\$ 140,000	\$ 551,000
Parking / drive aisles / islands / drop-off	195,284	SF	\$ 26.00	\$ 5,078,000	\$ 1,725,000	\$ 6,803,000
ADA parking space (5% of parking spaces)	14	EA	\$ 4,320.00	\$ 61,000	\$ 21,000	\$ 82,000
EV charging station infrastructure (charger not included) - 20% of parking spaces	57	EA	\$ 7,938.00	\$ 453,000	\$ 154,000	\$ 607,000
EV charger including feeders (25% of EV spaces)	15	EA	\$ 6,426.00	\$ 97,000	\$ 33,000	\$ 130,000
Temporary lay down area	56,628	SF	\$ 8.00	\$ 454,000	\$ 155,000	\$ 609,000
Concrete paving, pedestrian	38,816	SF	\$ 19.00	\$ 738,000	\$ 251,000	\$ 989,000
Enhanced concrete paving, promenade	17,500	SF	\$ 24.00	\$ 420,000	\$ 143,000	\$ 563,000
Concrete driveways and bus stop, vehicular (includes patch and repair at street)	5,374	SF	\$ 26.00	\$ 140,000	\$ 48,000	\$ 188,000
Pavers, allowance	5,000	SF	\$ 39.00	\$ 195,000	\$ 67,000	\$ 262,000
Bus stops, not included						EXCLUDED
Right-of-way improvements, allowance	1	LS	\$ 567,000.00	\$ 567,000	\$ 193,000	\$ 760,000
Traffic signal, not included						EXCLUDED
Demonstration garden	9,360	SF	\$ 38.00	\$ 356,000	\$ 121,000	\$ 477,000
Recreational open space	13,670	SF	\$ 22.00	\$ 301,000	\$ 103,000	\$ 404,000
Covered outdoor learning area	6,930	SF	\$ 76.00	\$ 527,000	\$ 179,000	\$ 706,000
Landscape area including shrubs, trees, bioretention basins and irrigation	95,457	SF	\$ 19.00	\$ 1,814,000	\$ 617,000	\$ 2,431,000
Site signage and specialties, allowance	410,416	SF	\$ 3.00	\$ 1,232,000	\$ 419,000	\$ 1,651,000
Monumental signage, campus entrance, allowance	1	LS	\$ 189,000.00	\$ 189,000	\$ 65,000	\$ 254,000
Monument at parking, allowance	1	LS	\$ 48,600.00	\$ 49,000	\$ 17,000	\$ 66,000
Bollards	18	EA	\$ 3,780.00	\$ 69,000	\$ 24,000	\$ 93,000
Walls, fences and gates, allowance	1	LS	\$ 1,134,000.00	\$ 1,134,000	\$ 386,000	\$ 1,520,000
Site utilities (storm drain, sewer, domestic and fire water and electrical)	410,416	SF	\$ 8.00	\$ 3,284,000	\$ 1,116,000	\$ 4,400,000
PV Solar Shade Structures	33,000	SF	\$ 173.00	\$ 5,709,000	\$ 1,939,000	\$ 7,648,000
TOTAL CONSTRUCTION COST				\$ 106,258,000	\$ 36,097,000	\$ 142,355,000

PHASE 2: ESCALATION TO MOC 2032

Elements	Qty	Unit	Unit Cost (2023\$)	Subtotal (2023\$)	Escalation to MOC of 2032 (42.5%)	TOTAL
Buildings						
Building C: Academic Instruction (3-story steel structure)	30,900	SF	\$ 891.00	\$ 27,532,000	\$ 11,702,000	\$ 39,234,000
Building D: O&M Building (1.5-story steel structure)	10,000	SF	\$ 702.00	\$ 7,020,000	\$ 2,984,000	\$ 10,004,000
Sitework	64,314	SF				
Site re-development for Building C	10,300	SF	\$ 81.00	\$ 835,000	\$ 343,000	\$ 1,178,000
Site re-development for Building D	54,014	SF	\$ 81.00	\$ 4,376,000	\$ 1,795,000	\$ 6,171,000
TOTAL CONSTRUCTION COST				\$ 39,763,000	\$ 18,824,000	\$ 58,587,000



FMP Cost Estimate
 August 22, 2023

Chaffey Community College District
 New Ontario Campus
 Ontario, CA



Prepared for DLR Group

HLCM INC. ARIZONA | CALIFORNIA | FLORIDA | HAWAII | TEXAS

03 PHOTOVOLTAIC CALCULATIONS

Chaffey New Ontario Campus Solar Estimate

All Figures are ESTIMATES

Building	GSF	Stories	EUI (kBtu/SqFt-yr)	EUI (Wht/Sqft-yr)	Annual Consumption (MWh)	Solar PV Size (kW)	Solar PV Sq ft	Solar PV Production (MWh)	Net Consumption (MWh)	Solar Cost
Cybrary & Welcome Center	42,000	3	44.54	13.05087	548,136	75	7,494	121,353	426,783	\$ 261,100
Academic Instruction	50,000	4	44.54	13.05087	652,543	78	7,389	126,721	525,822	\$ 272,650
								-	-	\$ -
								-	-	\$ -
Carport 1						106	7,322	172,107	(172,107)	\$ 396,750
Carport 2						106	7,322	172,107	(172,107)	\$ 396,750
Carport 3						81	5,525	132,089	(132,089)	\$ 304,500
Carport 4						81	5,525	132,089	(132,089)	\$ 304,500
Carport 5						106	7,322	172,107	(172,107)	\$ 396,750
Carport 6						106	7,322	172,107	(172,107)	\$ 396,750
Subtotal Phase 1	50,000				1,200,680	738	55,222	1,200,680	-	\$ 2,729,750
Subtotal Phase 2	-				-	-	-	-	-	\$ -
Total	50,000				1,200,680	738	55,222	1,200,680	-	\$ 2,729,750

1kBtu = 0.2930145 kWh
 52.4 kBtu/sf for Site EUI CBECs-Education
 15% Below for ZNE Ready
 44.54 kBtu/sf for Site EUI ZNE Ready
 1626.7 Solar Output Ratio kWh / kW

U.S. National Median Reference Values for All Portfolio Manager Property Types

Broad Category	Primary Function	Further Breakdown (where needed)	Source EUI (kBtu/sf)	Site EUI (kBtu/sf)	Reference Data Source - Peer Group Comparison
Building/Financial Services	Bank Branch		209.9	88.1	CBECs - Bank Branch
	Financial Office		110.4	52.4	CBECs - Office & Professional
	Adult Education		110.4	52.4	CBECs - Education
Education	College/University		100.6	51.2	CBECs - College/University
	K-12 School		104.4	48.1	CBECs - Elementary/Middle & High Schools
	Preschool/Daycare		131.8	51.8	CBECs - Preschool
	Vocational School		110.4	52.4	CBECs - Education
	Other - Education		110.4	52.4	CBECs - Education

From CBECs 2018
 West Education

21.9 Cubic Ft./sf Natural Gas
 1.03 kBtu/Cubic Ft. Natural Gas
 22.557 kBtu/sf Natural Gas
 9 kWh/sf Electricity
 30.71519995 kBtu/sf Electricity
 53.27219995 kBtu/sf Electricity + Gas
 15.60652864 kWh/sf All Electric Campus



04 STORMWATER CALCULATIONS

Stormwater calculations to size and place above and below-ground infrastructure

- Underground storage chamber size; 8-foot diameter Corrugated metal pipe 131'x32' footprint
 - Underground Storage volume=20,100 CF
- Above ground Sedimentation basin for Future 4-acre site
 - Foot print 114'x65' 4 foot deep basin. Volume=11,800 CF

Sewer calculations going into city sewer

- Assume 4-acre future site (used neighborhood commercial Land use) and campus site based on the long-term, full-time student count

Sanitary Sewer Analysis Summary Table

Sewer Information				Average Dry Weather Flow (ADWF)			Peak Dry Weather Flow (PDWF)		Peak Wet Weather Flow (PWWF)	
Site	Acres	# of Students *	Ave. Dry Weather unit Factor	Flow [gpd]	Flow [mgd]	Flow [csf]	Flow [mgd]	Flow [csf]	Flow [mgd]	Flow [csf]
Chaffey Site		500	25 gpd/student	12,500	0.012500	0.0193	0.035497	0.0549	0.047565	0.0736
Chaffey site Commercial (NC)	4		1300 gpd/AC	5,200	0.005200	0.0080	0.015840	0.0245	0.021225	0.0328

Unit Factors per Table 1-1 Sewer Plan Mater Plan

*Planned long term # of students (FTS)

Site Grading

- Remove approximately 28,000 cubic yards of soil from the existing stockpile located west of the existing asphalt access road that bisects the project site. Anticipated maintenance of existing drainage pattern and stabilizing the site with erosion control methods already in place.

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F U L L C I R C L E T H I N K I N G *

05 BASELINE ENROLLMENT ASSUMPTION DETAIL

				Enrollment Data																													
Campus	Year	Type	Group	Academic & Student Support	Biological Sciences	Business & Management	Media and Communications	Information Technology	Education	Fine & Applied Arts	Foreign Language	Health	Family & Consumer Sci	Humanities	Mathematics	Physical Sciences	Psychology	Public and PRACTICE	Social Sciences	Interdisciplinary Studies	Adult/Maintenance Technology	Drone Technology	Homeland Security	Health Information Management	Public Health Info and Tech	Transportation Logistics	Administration	Total	On-line Factor	Students	Adjusted Overall Total		
																																Totals	2023
Ontario	2028	On-site	Student Headcount		34.00	147.00	74.00	191.00	25.00	1700	38.00	3.00	72.00	0.00	156.00	25.00	185.00	28.00	265.00	15.00	232.00	101.00	55.00	4.00	30.00	54.00		1698.00					
Ontario	2028	On-site	Student Headcount Holdout		0.00	102.00	0.00	79.00	18.00	0.00	36.00	3.00	67.00	0.00	111.00	12.00	111.00	28.00	0.00	15.00	79.00	0.00	0.00	41.00	15.00	0.00		717.00	25%	178.25			
			Totals		34.00	249.00	74.00	199.00	43.00	17.00	74.00	6.00	139.00	0.00	267.00	37.00	296.00	56.00	265.00	30.00	311.00	101.00	55.00	45.00	30.00	54.00		2415.00					
Ontario	2028	On-site	Student FTE		3.40	17.67	7.81	8.06	1.86	1.86	3.48	0.31	8.17	0.11	14.41	3.51	12.42	2.80	35.12	1.83	191.25	8.59	5.90	5.30	3.90	7.00		236.23					
Ontario	2028	On-site	Student FTE Holdout		0.00	12.25	4.68	4.82	1.13	1.13	2.57	0.34	4.62	0.09	7.73	1.73	7.23	2.80	25.84	0.88	47.14	0.00	0.00	5.30	1.00	0.00		110.31	25%	27.60			
			Totals		3.40	29.92	12.49	12.88	3.00	3.00	6.05	1.65	12.79	0.44	22.27	5.23	19.67	5.60	60.96	2.71	199.25	8.59	5.90	10.30	4.90	7.00		347.00					
Ontario	2028	On-site	Student Headcount		71.00	306.00	153.00	200.00	51.00	3500	80.00	7.00	150.00	312.00	324.00	52.00	355.00	55.00	551.00	31.00	312.00	156.00	83.00	82.00	40.00	85.00		3911.00					
Ontario	2028	On-site	Student Headcount Holdout		23.00	21.00	0.00	163.00	47.00	0.00	74.00	7.00	140.00	804.00	231.00	25.00	231.00	28.00	0.00	31.00	106.00	0.00	0.00	82.00	20.00	0.00		2013.00	25%	509.25			
			Totals		94.00	327.00	153.00	372.00	98.00	3500	154.00	14.00	290.00	1416.00	555.00	77.00	616.00	84.00	551.00	62.00	418.00	156.00	83.00	102.00	40.00	85.00		5904.00					
Ontario	2028	On-site	Student FTE		7.10	36.66	15.35	16.73	4.07	3.86	7.22	1.61	15.94	81.15	40.81	7.28	25.77	5.60	73.87	2.75	187.16	13.60	8.30	8.06	5.00	11.05		280.09					
Ontario	2028	On-site	Student FTE Holdout		2.30	25.41	0.70	4.91	2.35	2.44	5.34	1.12	4.39	51.83	16.15	3.35	15.05	2.80	33.61	1.83	63.42	0.00	0.00	8.06	2.60	0.00		237.21	25%	71.31			
			Totals		9.40	62.07	16.05	21.64	6.42	6.30	12.56	2.73	20.33	132.98	56.96	10.63	40.82	8.40	107.48	4.58	250.58	13.60	8.30	16.12	7.60	11.05		517.30					
Ontario	2028	On-site	Employee Headcount		0.00	3.00	2.00	1.00	1.00	1.00	1.00	2.00	7.00	7.00	3.00	2.00	2.00	1.00	5.00	1.00	3.00	1.00	1.00	1.00	2.00	2.00	13.00	53.00		13.00			
Ontario	2028	On-site	Employee Headcount Holdout		0.00	2.00	2.00	1.00	1.00	1.00	2.00	0.00	5.00	4.00	2.00	1.00	1.00	1.00	0.00	5.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	24.00					
			Totals		0.00	5.00	4.00	2.00	2.00	2.00	3.00	2.00	12.00	11.00	5.00	3.00	3.00	2.00	10.00	2.00	8.00	1.00	1.00	1.00	2.00	2.00	13.00	77.00					
Ontario	2028	On-site	Employee FTE		0.00	0.31	0.33	0.08	0.08	0.08	0.14	0.15	1.46	1.05	0.66	0.28	0.32	0.32	1.07	0.10	5.00	0.10	0.20	0.20	0.20	0.30	12.64		13.00				
Ontario	2028	On-site	Employee FTE Holdout		0.00	0.43	0.24	0.06	0.06	0.06	0.09	0.09	1.36	0.89	0.47	0.19	0.23	0.23	0.88	0.10	0.00	0.00	0.00	0.00	0.00	0.00	4.90						
			Totals		0.00	1.02	0.57	0.14	0.14	0.14	0.23	0.15	2.82	1.95	1.13	0.48	0.55	0.95	2.08	0.20	5.00	0.10	0.20	0.20	0.20	0.30	17.54						
Ontario	2028	On-site	Employee Headcount		0.00	4.00	2.00	2.00	1.00	1.00	1.00	2.00	8.00	8.00	4.00	2.00	1.00	1.00	7.00	1.00	3.00	1.00	1.00	2.00	2.00	2.00	15.00	64.00		15.00			
Ontario	2028	On-site	Employee Headcount Holdout		0.00	2.00	2.00	2.00	0.00	0.00	0.00	0.00	6.00	5.00	3.00	1.00	1.00	1.00	7.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	31.00					
			Totals		0.00	6.00	4.00	4.00	1.00	1.00	1.00	2.00	14.00	14.00	7.00	3.00	2.00	2.00	14.00	2.00	3.00	1.00	2.00	2.00	2.00	2.00	15.00	95.00					
Ontario	2028	On-site	Employee FTE		0.00	0.75	0.42	0.42	0.10	0.10	0.18	0.14	1.85	1.38	0.83	0.33	0.20	0.30	1.35	0.13	5.00	0.10	0.30	0.40	0.30	0.40	14.80		14.80				
Ontario	2028	On-site	Employee FTE Holdout		0.00	0.54	0.30	0.30	0.08	0.08	0.11	0.09	1.34	0.76	0.31	0.24	0.10	0.10	1.24	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.51					
			Totals		0.00	1.29	0.72	0.72	0.18	0.18	0.29	0.19	3.19	2.09	1.42	0.57	0.30	0.30	2.99	0.26	5.00	0.10	0.30	0.40	0.30	0.40	14.80		20.79				

06 PROGRAM AND SPACE NEEDS DETAIL

Estimated Square Feet Calculations									
FIRM	Space Type	Calculation Factor / Identifier	Assumptions and Calculation Reference	Calculation Reference	Recommendation Notes	Percent of Assignable Sqft devoted to FIRM Category		2024	2030
100 Classroom Facilities									
110 / 113	Classroom / Classroom Service			CA 80%				2024	2030
								2,878	9,818
								1.20	1.20
								SAPLEAD FACTOR	
								3,219	5,537
								Total 100 Classrooms	
200 Laboratory Facilities									
210 / 213	Class Lab square feet			CA 80%				2024	2030
220	Open Labs	1.4	1.3 ASF * Student FTE	CA 80%				3,240	3,382
								348	978
								1.20	1.20
								SAPLEAD FACTOR	
								3,787	6,561
								Total 200 Labs	
300 Office Facilities									
310	Workspaces	300	300 for each core for full time faculty equivalent	CA 80%				2024	2030
313	Additional Workspace Flexible	130	200 for 233 remote faculty FTEs and 120 per staff FTE	CA 80%				2,338	2,978
								1.20	1.20
								1,874	2,220
								1.20	1.20
								Total 300 Offices	
								5,354	6,205
400 Study Facilities									
410	Reader/Study	0.7	27.3 ASF * 10 ASF * Student FTE					2024	2030
420	Stack	3	247 * Student FTE					1,611	1,640
								1,879	1,938
								1.20	1.20
								Total 400 Library / Study	
								1,694	1,728
500 Special Use Facilities									
520	Recreation	1.4	1.3 * Student FTE	CA 80%				2024	2030
530	ASPTV	1.4	2,320 of 1,130 * Student FTE	CA 80%				348	978
540	Student Health	0.2	2 * Student FTE	CA 80%				958	2,478
								75	130
								Total 500 Special Use	
								4,665	4,586
600 General Use Facilities									
680	Merchandising	2	247 * Student FTE (minimum of 2,000sf)	OSFP1				2024	2030
690	Student Centered Space	4.4	6.86 * Student FTE	CA 80%				870	870
695	Student Meeting Space	2.3	2.34 * Student FTE	CA 80%				1,873	2,999
								638	1,477
								1.20	1.20
								Total 600 General Use Facilities	
								3,283	5,368
700 Support Facilities									
720	Central Storage	0.48	3% of gross	OSFP1				2024	2030
								Total 700 Support Facilities	
								3,015	5,200
Total Assigned Building Sqft									
								2024	2030
								41	28,216
								0.0	54,178
								Total	
								1,0133	1,70482

