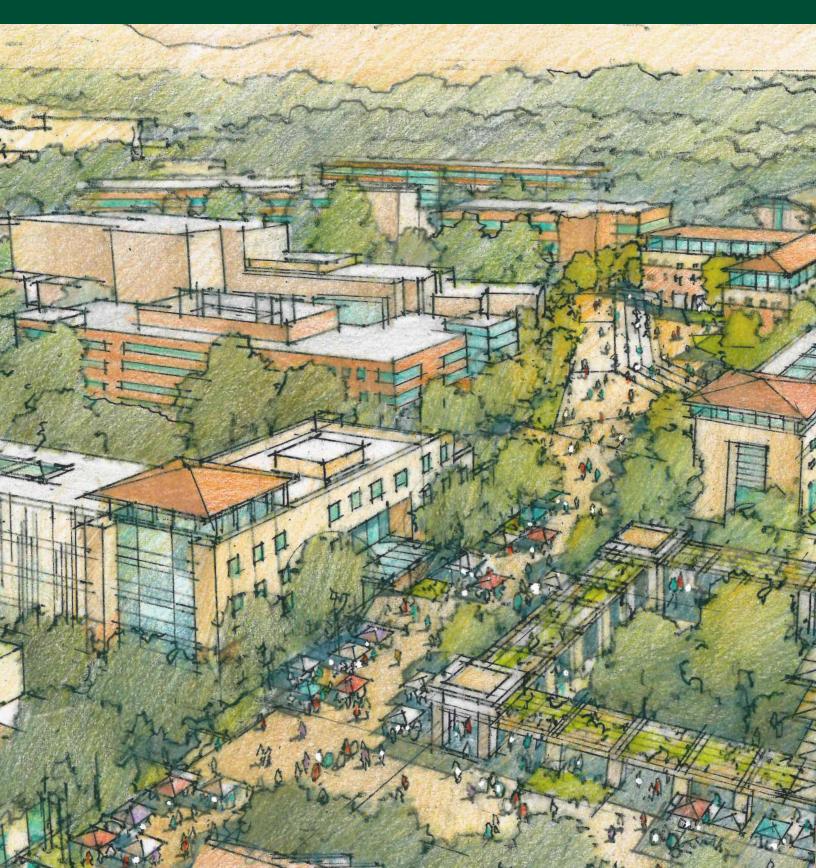
# CAL POLY MASTER PLAN ABRIDGED

PUBLIC REVIEW DRAFT | NOVEMBER 2017



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# CAL POLY

## A Note from the President

I am delighted to see the publication of Cal Poly's Master Plan. Using the guiding principles in Vision 2022, our community engaged in a thoughtful process to develop the dynamic Master Plan, which will serve as a road map. While we are unwavering in our Vision 2022 commitment to create a more residential, diverse and inclusive community, we have produced a plan that over the next 20 years can adjust to our changing needs.

Implementing the Master Plan will enhance our ability to provide Learn by Doing opportunities for our students. We will build state of the art facilities in which our faculty and students will innovate, learn, and grow as life-long learners. Our new infrastructure will enhance Learn by Doing not only in our classrooms, labs, and creative spaces, but also in work on senior projects, undergraduate research, and for student clubs and organizations. Faculty and staff will be able to focus better on their important work because they will be working in environments that are designed to fit their needs.

We will support pedagogical activities by providing an inclusive on-campus, residential lifestyle for all first- and second-year students, and for faculty and staff. Our buildings will be built to meet the highest sustainability standards we possibly can and their ensuing care will support the environment. Our buildings will not only be sustainable, they will be designed to serve all members of our campus community. They will encourage and support diversity through the careful selection of decorative aspects such as art, thoughtful and purposive design of internal facilities and amenities, and, when appropriate, food facilities and vendors.

Cal Poly's academic programs are in high demand and are poised to be in even more demand over the next 20 years as our programs continuously improve and as the work-force needs of California change. Cal Poly will be ready to grow with those work-force needs. Each year for the past several years the number of applicants to Cal Poly increases. Today we are able to accept only one in ten students, making Cal Poly one of the most selective public universities in the country. The students who attend Cal Poly are highly motivated individuals. Our faculty and staff are committed to ensuring that we are providing them with an environment in which they can thrive.

We will put our land to the best possible use for a diverse and inclusive faculty, staff and student body, and for the environment. Implementing the Master Plan will allow us to host even more events open to the wider community, increase our ability to have an impact on the local economy and provide students with more on-campus jobs and co-curricular activities. It will also allow us to increase our capacity to graduate resourceful professionals and caring, contributing, inter-culturally adept members of society.

## - President Jeff Armstrong

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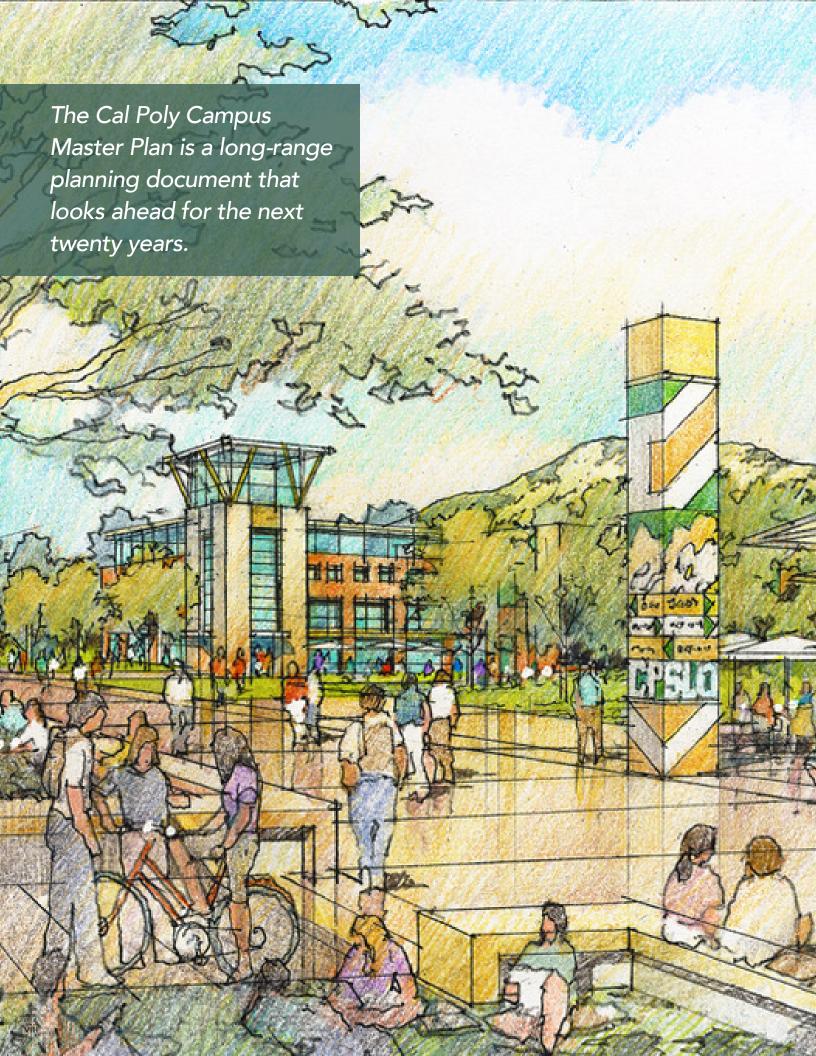
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# MASTER PLAN

# INTRODUCTION

California Polytechnic State University, Cal Poly, founded in 1901, is a comprehensive polytechnic university with a unique tradition of Learn by Doing education. The University occupies over 6,000 acres in San Luis Obispo County, and approximately 3,200 acres in Santa Cruz County. These lands provide hands-on opportunities for students to apply their classroom knowledge to real-life situations.

As the future of Cal Poly unfolds, the University must take advantage of opportunities to enhance academic programs and increase student success by creating contemporary learning spaces and inclusive support facilities for a more diverse community of students, faculty, and staff. Learn by Doing is more than a motto – it is a way of life at Cal Poly – and is integrated into both the academic and support areas of the campus. Learning happens everywhere – inside traditional classrooms, in state-of-the-art laboratories and "maker spaces," in places for socializing, recreation, and interactive study, as well as in outdoor teaching and learning (OTL) facilities such as agricultural production fields and living laboratories like our "Tree Campus USA."

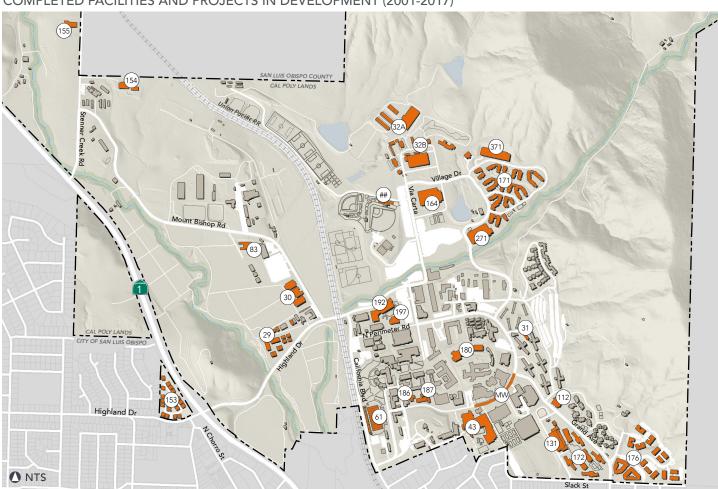
The Cal Poly Campus Master Plan (Master Plan) is a long-range planning document that guides the development and use of these lands looking ahead for the next twenty years. During the next two decades, the campus anticipates increasing the student body, and providing new and replacement academic buildings, additional housing on-campus, event and entertainment spaces, and the other support facilities to accommodate growth and changing times. The California State University (CSU) Board of Trustees (BOT) requires each campus to develop a physical master plan with direction from campus leadership, considering the on- and off-campus communities. Each master plan must show existing and anticipated facilities necessary to accommodate projected future growth, in accordance with approved educational policies and objectives, and reflect the ultimate physical development requirements of academic programs and auxiliary activities during the planning horizon.

The Master Plan is designed to implement the University's strategic *Vision 2022* and its academic mission as a comprehensive polytechnic university. The central focus of Cal Poly's academic plan is to reinforce its identity as a premier undergraduate, Learn by Doing community of the 21st Century while increasing its visibility as a leader in higher education.

#### **Learn by Doing**

At Cal Poly, Learn by Doing is a deliberate process whereby students, from day one, acquire knowledge and skills through active engagement and self-reflection inside the classroom and beyond it.

Academic Senate Resolution on Working Definition of Learn by Doing, AS-727-11



#### COMPLETED FACILITIES AND PROJECTS IN DEVELOPMENT (2001-2017)

#### Built Projects

- 29 Horticulture
- 30 Fermentation Science
- 31 University Housing Office
- 32A Oppenheimer Equestrian Facilities
- 32B Oppenheimer Equestrian Facilities
- 43 Recreation Center
- 61 Alex G. Spanos Stadium Expansion
- 83 Technology Park
- 131 Yak?it<sup>y</sup>ut<sup>y</sup>u Residential Community Parking Structure
- 153 Bella Montaña
- 154 Animal Nutrition Center
- 155 Lau Family Meat Processing Center
- 160B Dignity Health Baseball Clubhouse
- 164 Oppenheimer Equestrian Center
- 171 Poly Canyon Village
- 172 Yak?it<sup>y</sup>ut<sup>y</sup>u Residential Community
- 176 Faculty and Staff Workforce Housing
- 180 Warren J. Baker Center for Science and Mathematics

- 186 Construction Innovations Center
- 187 Simpson Lab
- 192 Engineering IV
- 197 Bonderson Engineering Center
- 271 Village Parking
- 371 Canyon Parking
- MW Mustang Way

Fifteen years after the adoption of the 2001 Master Plan, the campus has realized the majority of anticipated development and now teaches over 20,000 students. However, the demand for a Cal Poly education continues to grow and this Master Plan update accommodates future space needs to serve a future student enrollment of an approximate 25,000 headcount or 22,500 full-time equivalent students (FTES).

Under the 2001 Master Plan, the campus saw great success in development and construction of planned facilities. The map above illustrates all of the work completed between 2001 and 2017 (and under construction).

# BACKGROUND AND EXISTING CONDITIONS

#### **ENROLLMENT HISTORY**

The California State Legislature authorized Cal Poly's founding in 1901. Student enrollment grew slowly until after World War II. In 1950 there were fewer than 3,000 students. Enrollment more than doubled by 1965, and doubled again to over 15,000 students by 1975. Enrollment reached a temporary peak of 17,756 in 1990. Due to state budget reductions, enrollment then dropped to below 15,500 in the early 1990s. But by 2001 enrollment recovered to 18,000 and in 2014 the fall headcount exceeded 20,000. Despite some short-term fluctuations, annual enrollment growth during the last twenty years averaged about 200 students per year. The Master Plan used this annual average to project the 2035 University enrollment.



Cal Poly Rodeo

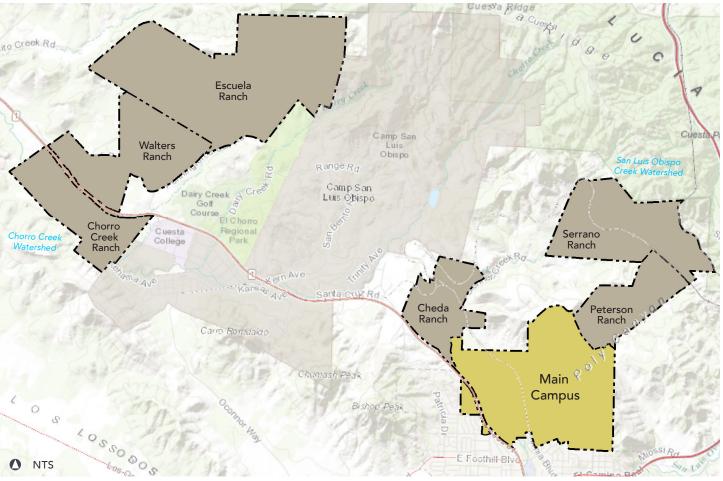
#### **LANDS**

Cal Poly's historical land acquisitions and development patterns reflect the University's polytechnic focus, particularly to accommodate a full range of agricultural operations that support the University's Learn by Doing approach and emphasis on applied student projects. Cal Poly's initial site of 281 acres encompasses the Academic Core to this day. Major additions, beginning in 1918 and continuing into the 1980s, have increased the University's land holdings in San Luis Obispo County to over 6,000 acres. About half of that acreage is contiguous to the City of San Luis Obispo and makes up the extended campus, including Cheda, Peterson, and Serrano Ranches.

An additional 3,000 acres lie halfway between San Luis Obispo and Morro Bay, along Highway 1, including Chorro Creek, Walters, and Escuela Ranches. Most of this acreage is rangeland, with small portions near Chorro Creak planted in vineyards or dry farmed with forage crops.

Cal Poly has acquired additional lands primarily from donors who support the University's mission. The largest is Swanton Pacific Ranch in Santa Cruz County (1993) with about 3,200 acres of farmland, rangeland, and forests. The most recent donations include the Cal Poly Pier at Avila Beach (2001), a small coastal parcel near Ragged Point (2002), and the 448-acre Bartleson Ranch and Conservatory near Arroyo Grande. These satellite properties are not addressed in this Master Plan update, it is assumed they will continue to function under their current uses..

#### CAL POLY REGIONAL LAND HOLDINGS



Vehicular access to the main campus is limited to three major entrances – Grand Avenue, at the southeast corner of campus, with direct connection to Highway 101, Highland Drive directly at Highway 1 (Santa Rosa Street) at the west side of campus, and California Boulevard off Foothill Boulevard at the south west corner of campus. The Union Pacific railroad right-of-way bifurcates the campus from Foothill Boulevard to Highland Drive, and beyond to the north, limiting other entrances from the west.

Steep topography at the north and east areas of campus constrains development due to landslide potential, grading impacts, higher construction costs, and aesthetic impacts.

The soils on Cal Poly's flat lands and along the creeks comprise some of the University's greatest assets for agriculture. There are approximately 250 acres of Prime Farmland, of Class I soils within the Main Campus. The Master Plan minimizes impacts to prime agricultural land by intensifying development in the Academic Core, locating new development in the North and West Campuses on less productive soils, and preserving existing cropland in active production for student and faculty use. Any new development that must be located on prime soils will be concentrated near existing development, reducing encroachment into undisturbed areas.

#### **BUILDINGS**

The age, condition, and quality of Cal Poly's spaces range from facilities built early in the last century, to the Warren J. Baker Center for Science and Mathematics, which opened in the fall of 2013. Additional facilities are currently under construction, slated to open in 2018, including a new dormitory and dining hall. While some older buildings have been remodeled, the floor plans and other structural features often limit the extent to which they can accommodate current pedagogies, technology trends, and changing student and staffing needs. Further, funding limitations have led to accumulated deferred maintenance, with some buildings needing such extensive repairs that they cannot be cost-effectively renovated or are simply not usable.

#### Academic and Instructional Space

With the completion of the Warren J. Baker Center, Cal Poly has facilities to accommodate approximately 16,500 net College Year (CY) FTES. In 2015, scheduled instruction had already grown to over 18,000 net CY FTES, significantly exceeding California State University System capacity standards. Most of the existing shortage is in general purpose classroom space; another significant deficit is in research space and related instructional facilities.



Simpson Strong-Tie



Warren J. Baker Center for Science and Mathematics



#### Agricultural Operations and Facilities

Cal Poly's agricultural land includes both cropland and grazing land. Irrigated row crops are generally grown on soils classified as prime or Class I with dry land crops on less fertile soils and rangeland on hilly areas. A number of agricultural support facilities are located within these areas as well, including barns, the feed mill, food processing facilities, and the farm shop. In addition, the agricultural lands support accessory functions including rodeo, equestrian, and other event facilities that contribute to the education of students and showcase agricultural activities.

Cal Poly's agricultural lands encompass a wide variety of activities reflecting the breadth of the industry, including orchards, vineyards, row crops, silage, ornamental plants and turf; and animal units for dairy cows, beef, sheep, goats, swine, horses, and poultry.

#### AGRICULTURAL LANDS IN ACRES (2015)

CAMPUS FARM
Row Crops
Orchards/Vineyards
Silage Production
Irrigated Pasture
Non-irrigated Pasture
Sub-Total 808

RANCHLANDS
Peterson Ranch 650
Serrano Ranch 544
Chorro Creek Ranch (including Vineyard) 538
Walters Ranch 743
Escuela Ranch
Sub-Total 4,294

## Institutional Support Facilities

Just as Cal Poly has not been able to keep up with providing sufficient academic space to meet the needs of current students, facilities for institutional support have fallen behind. Furthermore, many buildings housing key functions such administration, university police, facilities services and technology services are more than 50 years old.

#### Housing

Cal Poly currently houses approximately 37 percent of the student body on-campus with almost 7200 beds, mixed between first year dormitory-style units and apartment-style units for older students. Since the year 2000, Cal Poly has built two major suite and apartment complexes, Cerro Vista and Poly Canyon Village, which together house about 3,500 students. By 2018, with the completion of a new dormitory project, Cal Poly will have housing for approximately 8,200 students, or 40 percent of all undergraduates.

The majority of students, however, currently live off-campus. Student-oriented apartment buildings, including Mustang Village and The SLO Student Housing (formerly Stenner Glen), are located just off-campus and primarily house Cal Poly and Cuesta College students. An important goal of the Master Plan is to eventually accommodate at least 65 percent of undergraduates on-campus.

Housing availability for faculty and staff is also an issue for Cal Poly as high housing costs in the region can impede recruiting and keeping qualified applicants. In 2005, Cal Poly opened Bella Montaña with 69 condominium-style units intended for faculty and staff. After some initial difficulties tied largely to the recession and the after effects, the project has enjoyed continued success and high rates of occupancy. The Master Plan includes areas that may be suitable for additional on-campus housing projects for faculty and staff.



Walkway to Poly Canyon Village Apartments



Cal Poly's Women's Soccer, Alex G. Spanos Stadium

#### Recreation and Athletics

Most of Cal Poly's indoor athletic facilities are aging. The Natatorium has been filled in and converted to office space, and Crandall Gym is badly in need of repair. The Robert A. Mott Athletics Center continues to house the basketball, volleyball, and other athletic programs in an obsolete facility.

In contrast, the Recreation Center, built with student funds in 1993, was fully renovated and expanded in 2012 and accommodates the most up-to-date facilities and fitness equipment, an indoor track, an Olympic size recreational swimming pool and a large leisure pool. Poly Canyon Village also has a small multi-purpose indoor facility and recreational pool that is open to all students.

Important outdoor venues, however, are attractive and functional. The competition swimming pool has recently been rebuilt and the Bob Janssen Field (softball) and Baggett Stadium (baseball) were added in 2001 as part of the larger Sports Complex north of Brizzolara Creek. The recreational playing fields in the complex area are also relatively new, but the artificial turf will require repair or replacement in the foreseeable future. Since the 2001 Master Plan, the west side of Alex G. Spanos Stadium enjoyed a significant renovation; future improvements are proposed to better accommodate soccer and football.



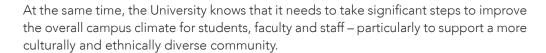
Baggett Stadium

# **PROCESS**

#### **ACADEMIC STRATEGY**

In 2014, Cal Poly published *Vision 2022*, emphasizing the University's comprehensive polytechnic mission and a set of values stressing the importance of its residential community, student success, diversity, and faculty as teacher-scholars. This Vision provided a framework for both a new academic plan and the physical Master Plan.

Cal Poly's academic plan explicitly recognizes that "learning occurs everywhere." National research has demonstrated that undergraduate student success depends upon engagement with co-curricular activities and support systems that complement and extend the formal curriculum such as internships, service learning, field work, and travel study. Cal Poly has also found that living on-campus for at least the first two years of college improves student retention and timely degree completion. Further, Cal Poly's continuing residential emphasis also contributes to a holistic, interdisciplinary educational experience among students as well as faculty and staff mentors. Thus, the academic plan explicitly encompasses the residential learning community as a central component of undergraduate education.





Community Workshop

#### **COMMUNITY ENGAGEMENT**

Cal Poly followed a thorough, inclusive process to update the University's campus Master Plan. Beginning in 2014 the University recognized a wide range of stakeholders and designed a varied engagement process to reach the broadest audiences, to communicate timely information and to receive comments.





Campus workshop



Campus workshop

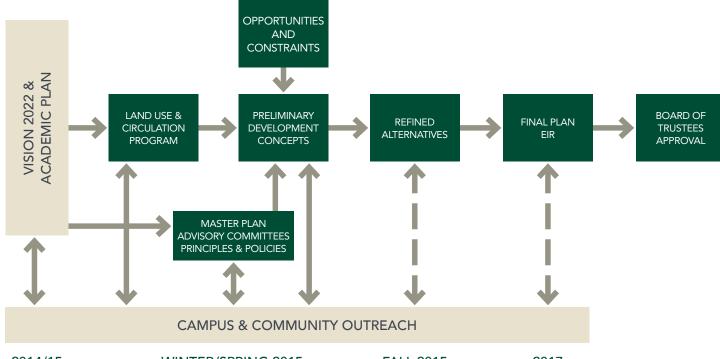
The Cal Poly President's Cabinet (senior leadership team) provided the primary direction for the plan. The Master Plan Professional Team comprised both internal and external professional staff. The president appointed six advisory committees to review policies from the 2001 Master Plan and make recommendations for the new plan. Members represented the six colleges, Academic Senate, ASI, all administrative divisions, local public agencies, and the broader community. The committees worked intensively over the first six months in preparing their recommendations for the plan.

In addition, Cal Poly set up a range of communication and outreach activities, including a Master Plan website, press releases, multiple on- and off-campus interactive workshops, and individual meetings with each of the colleges and administrative divisions, the Cal Poly Foundation, the Academic Senate and its Budget and Long-Range Planning Committee, and the Associated Students, Inc. Further, the team shared the process and updates with the San Luis Obispo County Board of Supervisors; the San Luis Obispo City Council and Planning Commission; and public agency staff. The team also met neighborhood and community organizations including Residents for Quality Neighborhoods, the San Luis Obispo Chamber of Commerce, and other local business associations.

All told, the process involved over 200 meetings including the Master Plan Advisory Committees' work and a multitude of presentations over three years prior to the refined plan concept and formal environmental review process.

The following diagram depicts how the Master Plan process unfolded.

#### MASTER PLAN AND EIR SCHEDULE



2014/15 ····· WINTER/SPRING 2015 ···· FALL 2015 ···· 2017



Community workshop



Equestrian program

# **FUTURE CAMPUS VISION**

#### **MASTER PLAN GOALS**

The Goals of the Master Plan help shape Cal Poly's future image within the academic setting, the community, and the environment. Cal Poly's leadership has developed the following goals for the future of the campus to guide the Master Plan:

#### PRIMARY GOAL

D1 Lay out the land use, circulation, and physical development of the campus to educate a future student enrollment of 25,000 headcount (22,500 FTES).

IN ADDITION, THE MASTER PLAN SUPPORTS THE UNIVERSITY'S INTENTION TO:

- 02 | Enhance academic quality and student success through Learn by Doing;
- 03 | Increase the diversity of students, faculty, and staff
- O4 STRENGTHEN THE CAMPUS' COMPACT, CROSS-DISCIPLINARY ACADEMIC CORE;
- 05 House more students in residential communities on campus;
- Offer more vibrant evening and weekend events and activities on campus;
- O7 ATTAIN A MODAL SHIFT FROM CARS TO MORE PEDESTRIAN, BICYCLE, AND TRANSIT USE:
- REINFORCE CAMPUS-WIDE ENVIRONMENTAL SUSTAINABILITY; AND
- GENERATE REVENUES FROM PUBLIC AND PRIVATE SOURCES TO REALIZE

#### **GUIDING PRINCIPLES**

While the expression of a physical Master Plan is most easily seen in maps and accompanying diagrams, those visual elements are based on numerous ideas about what a campus should look like and how it should function. Those ideas have been largely articulated in Cal Poly's Master Plan as "principles."

The following "Guiding Principles" were developed early on in the process by the Master Plan professional team with input from campus leadership, including the college deans, and based largely on the current (2001) Master Plan. Guiding Principles can be thought of both as starting points for the plan process as well as overarching directives relevant to all or most Master Plan topics.



Poly Canyon Village Apartments

#### GP | ACADEMIC MISSION AND LEARN BY DOING

O1 Cal Poly's land and resource uses should advance the University's academic mission.

Planning should preserve and encourage the Learn by Doing approach to Cal Poly's academic curriculum and reflect that approach in the overall campus character, including outdoor teaching and learning (OTL).

Planning should consider not only current needs and trends, but also changing academic priorities and new pedagogical techniques.

#### GP | RESIDENTIAL COMMUNITY AND UNIVERSITY LIFE

The percentage of students living in on-campus housing should be increased and Cal Poly should continue to develop into a livable residential campus, where academic facilities, housing, recreation, social places, and other support facilities and activities are integrated.

#### GP DESIGN CHARACTER

GΡ

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04

GP

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GP

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Cal Poly's scenic setting – a campus surrounded by open spaces – should be preserved; its open lands and the surrounding natural environment are highly valued and should be considered in campus planning efforts.

Open space should be incorporated into the core campus and integrated into the scope of every new building project, for aesthetics, leisure, social interactions, and activities contributing to a healthy lifestyle.

Land uses should be suitable to their locations considering the environmental features of the proposed sites.

The siting of new land uses and buildings should always be considered within the context of the greater campus; functional connections among related activities should be considered, including the nature of activities, "adjacencies" and paths of travel.



Julian A. McPhee University Union plaza

GP The siting and design of campus buildings and other features should reflect and enhance visual and physical connections to the surrounding 09 natural environment and outdoor spaces on-campus, and should maintain, enhance or create aesthetically pleasing views and vistas.

Campus buildings should incorporate the best design elements regarding massing, human scale, materials, articulation, architectural interest, sustainability and connections with surrounding buildings and spaces; design should reflect authenticity and attention to details in materials, historical context and architectural style.

#### GP **SUSTAINABILITY**

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Cal Poly should be sustainable with regard to its land and resource planning, as well as site and building design, and operations. Cal Poly should meet or exceed all state and system-wide sustainability policies.

GP As an important element of Cal Poly's academic mission, the University should be a proactive leader in wise and sustainable land and resource 12 management.

#### TRANSPORTATION AND CIRCULATION GP

13 Access to and around campus should be safe, efficient and effective for all modes, while shifting to an active transportation system that gives priority to walking, bikes and electric bikes, (and similar technologies), and transit and intracampus shuttles over cars.

#### GP **IMPLEMENTATION**

Cal Poly should evaluate both past investment and the need for future 14 expansion when planning for new and redeveloped facilities.

GP In cases where an activity must be relocated, new sites should be identified and replacement facilities developed prior to the move. 15

GP Cal Poly should consider potential impacts – including but not limited to traffic, parking, noise and glare - on surrounding areas, especially nearby 16 single-family residential neighborhoods, in its land use planning, building and site design, and operations.

GP Cal Poly should inform local agencies and the community prior to amending the Master Plan or developing major new projects, and provide 17 opportunities for comments.

GP Cal Poly should maintain open communication with neighbors, stakeholders, and local public agencies, respecting the community context and potential impacts of campus development.

#### VIA CARTA TOWARD NORTH AND CREEKSIDE VILLAGE CONCEPT

Via Carta, the primary north/south artery through the Academic Core, will be enhanced as a lively pedestrian and bicycle oriented street. Both instructional and student support facilities will be oriented to open onto Via Carta, encouraging visual connection and ease of access to the activities inside. Creekside Village will serve as the northern activity hub accessible from Via Carta.

A larger number of "Master Plan Principles" (MPPs) generally address more specific issues in the physical plan, although many are relevant to several topical areas. The Master Plan includes maps, figures, principles, implementation programs, future development projects that will enable Cal Poly to accomplish these goals in order to accommodate future students, faculty, and staff, and to provide the spaces necessary for Cal Poly to educate the leaders and innovators of tomorrow.

#### **MASTER PLAN DIRECTION**

The Master Plan guides the physical development of the campus to support a future student headcount of 25,000. The plan intensifies development within the Academic Core, and phases new growth north of Brizzolara Creek while protecting natural environmental features and prime agricultural lands that form the character of campus.

The Plan organizes the main campus into the Academic Core, surrounded by the Residential East Campus, North Campus, and West Campus. Each of these areas is discussed below.

# 000 000 North Campus West Campus Residential East Campus Academic NTS Academic Core North Campus

#### MAIN CAMPUS AREA DESIGNATIONS

Residential East Campus

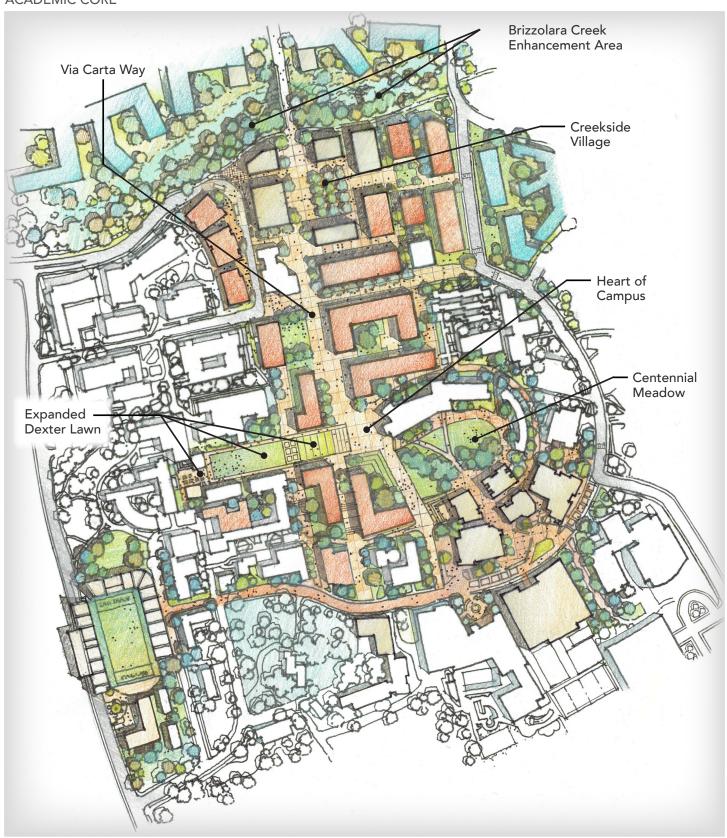
#### **ACADEMIC CORE**

West Campus

The Academic Core encompasses the majority of academic teaching and learning facilities. The core is roughly defined by Brizzolara Creek to the north, the southern edge of campus to the south, Grand Avenue, and Perimeter Road to the east, and the Union Pacific Railroad tracks to the west. Support services for students, faculty and staff are also located in the core.

Based on the CSU system's formulas for calculating space needs, the Master Plan anticipates development of approximately 1.7 million Gross Square Feet (GSF) of new or replacement academic, administrative, and support buildings within the core of campus. Two activity hubs frame the campus core - the Julian A. McPhee University Union (UU), the Rec Center, and Creekside Village, a new mixed-use area at the northern edge of the core at Villa Carta and Brizzolara Creek. Creekside Village will house a mix of uses, including teaching and office spaces, retail and food services, lounge and study spaces, and more.

#### **ACADEMIC CORE**



#### VIA CARTA TOWARD SOUTH AND HEART OF CAMPUS



Via Carta connects the Academic Core with the University Union, Recreation Center, and Mustang Way to the south. It also includes the proposed heart of campus open space where the expanded Dexter Lawn meets Centennial Meadow.

Via Carta, which is already the primary north/south pedestrian and bicycle route for the campus core, will become the central spine of campus, providing access to a variety of interactive gathering places, open spaces of numerous types and sizes, and will be the organizing framework for incorporating new buildings in an integrated, unifying and welcoming manner. The varied topography of the campus core will be capitalized upon to create interesting places and to preserve and enhance views of the surrounding hills, campus lands and buildings. Utilizing the existing topography will allow grade-level access at multiple levels for many of the proposed buildings.

A major focus of the Academic Core land use plan is to create a true "heart" of campus. This area is anticipated to be a confluence of two significant open spaces, Dexter Lawn and Centennial Meadow. This area is anticipated to be a gathering space, a meeting place, and a convergence of campus life.

Learning happens everywhere, and the Academic Core provides opportunities for multidisciplinary, programmed, impromptu interactions and exchange of ideas and knowledge. Older buildings will be replaced with state-of-the-art facilities, like the Warren J. Baker Center for Science and Mathematics, that provide much needed academic space in a more efficient footprint.

The Academic Core will be essentially free of vehicles. Emergency, service, and special vehicle access needs will be accommodated within the pedestrian streets and plazas similar to how they are currently accommodated on Mustang Way and north Via Carta.

#### **HEART OF CAMPUS CONCEPT**



The area where the expanded Dexter Lawn and Centennial Meadow converge at Via Carta is planned to emerge as the Heart of Campus open space. This area will eventually include activity space for major events that might include speakers, concerts, and Commencement ceremonies. The more traditionally formal Dexter Lawn will gradually terrace toward Via Carta, contrasting with the natural landscape of Centennial Meadow. An informal amphitheater and other places for small and large gatherings will highlight this iconic and symbolic convergence of activity and memories.

Bicycle routes will be defined and separate lanes provided, and pedestrian routes will be well demarcated to limit pedestrian and bicycle interaction. Intuitive way-finding will be enhanced by better definition of an informal grid across the campus core, with secondary walkways integrated with smaller scale open spaces and seating areas. An enhanced transit center will help provide convenient connections off-campus.

Parking will be managed to reduce overall demand for spaces. However, parking will be provided at various locations mostly in structures located near future athletic and agricultural venues, as well as on Highland Boulevard near to, but outside of, the core.

#### **NORTH CAMPUS**

The North Campus contains land uses and facilities across Brizzolara Creek from the Academic Core, and is the focus of the physical expansion in the new Master Plan.

Developing student housing in the North Campus will enable Cal Poly to house all first- and second-year students on-campus, as well as approximately 30 percent of upper division students. While first year students will live primarily in dormitory-style

#### ACADEMIC CORE CIRCULATION



Roads with Restricted Access. Transit, and Class II Bike Lanes

Via Carta Walk

Bicycle (Class I Path) and Pedestrian Route

Secondary Bicycle/ Pedestrian Route

Campus Gateways

Heart of Campus



Campus Activity Center



Activity Area



Parking Structure



**Bike Station** 



**Transit Center** 



Transit Stop

housing in the east campus, the goal of bringing older students on-campus requires a significant increase in apartment-style units – and the land for those developments. The plan focuses these major residential complexes near the core, north of Brizzolara Creek. In addition to student housing, new recreation facilities are proposed for the North Campus with both passive and active, programmable spaces. The track and football practice field are relocated near the Union Pacific Railroad tracks, along a proposed extension of California Boulevard. Two parking structures are also proposed, one at Highland Drive and Mt. Bishop Road, and one at Via Carta near the baseball stadium. These structures will replace displaced surface parking lots and provide parking for both events and residential uses in the area.

#### YAK?ITyUTyU RESIDENTIAL COMMUNITY



#### **RESIDENTIAL EAST CAMPUS**

The largest concentration of housing will continue to be on the east side of campus, primarily along Grand Avenue, at the base of the hills. The newest housing development at the Grand Avenue entrance to campus, slated to open in Fall of 2018, will allow all first-year students to live on-campus, in traditional, dormitory-style housing, proximate to support facilities such as dining.

Other housing is also proposed on the edges of campus, intended for faculty and staff, alumni, graduate students, students with families, or other non-traditional students. This housing is anticipated to be apartment-style units.

#### **WEST CAMPUS**

The West Campus includes prime agricultural lands, which are largely preserved under the plan, although some agricultural facilities, buildings, or related uses might be located on adjacent agricultural lands, avoiding areas with the best soils to the extent possible. A new Farm Shop is proposed near Highway 1 and Stenner Creek, nearer to the actual campus farm operations, and the Facilities Management and Development Building will be relocated as well to free up valuable land within the Academic Core for other uses for which a central location is more critical.

Uses important to the University's mission are located throughout the campus. As redevelopment opportunities unfold over the course of the Master Plan's implementation, some existing facilities will need to be relocated or replaced to capitalize on suitable development sites. A central Guiding Principle of the Master Plan is that in cases where an activity must be relocated, new sites should be identified and replacement facilities developed prior to the move. This principle recognizes the importance of maintaining and enhancing facilities for all the activities and functions that support teaching and learning at Cal Poly.



Strawberry Center

#### **LAND USE**

The Land Use map for the campus designates the kinds of development suitable for different areas. All areas of campus have a land use designation that reflects the existing or future use.

**Academic Core (AC)** is the most densely developed area of campus, where instructional spaces are concentrated along with many related service and support functions. The uses in the core generally include activities that engage students, faculty and staff multiple times per day, such as classes and labs, advising services, study areas, food outlets and administrative offices – and will continue to be the focus of campus activity.

**Student Housing (SH)** is focused in the Residential East part of campus, with a first-year student neighborhood encompassing dormitory-style facilities, with new apartment-style housing for older students located in the North Campus, just above Brizzolara Creek.

**Residential Neighborhoods (RN)** are designated predominately for workforce housing, designed for Cal Poly faculty, staff, or other persons employed in the area. Non-traditional students, including, but not limited to, graduate students, married students or students with families, veteran students, or other students needing specific accommodations may also be considered.

**Venues (V)** include the Performing Arts Center, Cal Poly Athletics formal sport facilities such as Alex G. Spanos Stadium or Baggett Stadium, as well as a new arena for indoor sports, concerts, and other large capacity events. These uses attract both on- and off-campus audiences and contribute to the University's regional draw.

**Sports Fields (SF)** include active recreation space, such as Intermural softball and soccer fields, Athletics practice fields, and tennis courts, as well as swimming pools.

**Services (S)** designates non-academic space used for student support facilities such as the Administration Building, the Recreation Center, and food and retail outlets. A portion of the new Creekside Village is proposed to be designated as Service because student services such as the Cashier's Office or Records, will be decentralized in the future and more proximate to areas where students go on a daily basis.

**Operational (OP)** land use designation covers facilities essential to the day-to-day operation of the University, such as the Mustang Substation, potable water reservoirs, a future water treatment facility, as well as the campus Farm Shop and Facilities Management and Development building.

Agriculture Facility (AF) land use designation includes uses and facilities that are supportive to the campus' agricultural operations. These uses and facilities include such things as the Rodeo facilities, the Equine Unit and other animal units, the Agricultural Event Center, and the Wine and Viticulture facility.

**Cropland** includes fields in agricultural production for purposes of educational programs for the College of Agriculture, Food, and Environmental Sciences. Such areas include the organic farm, the pumpkin patch, the citrus and deciduous orchards, as well as silage areas for growing animal feed.

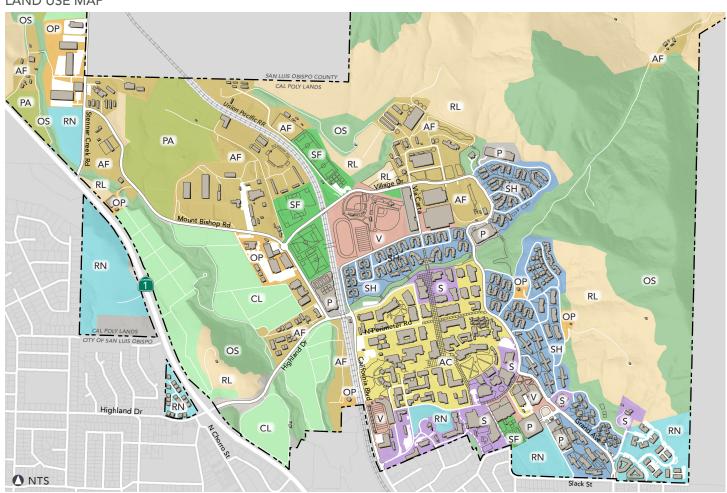
**Pasture (PA)** identifies areas that are often irrigated, where animal units are grazed.

**Rangeland (RL)** is typically grazing area, but less formal than the Pasture designation, and includes some hillsides adjacent to the main campus. These lands are not irrigated.

**Open Space (OS)** includes all the natural areas surrounding the main campus, such as Poly Canyon, the eastern hillside where the Cal Poly "P" is located, creek riparian corridors, and some areas within the North Campus. These areas are often used for outdoor education, hiking and general enjoyment of the outdoors and beautiful surroundings.

**Parking (P)** land use designation identifies existing and future parking facilities, both surface and in structures. Only parking structures are labeled "P".

#### LAND USE MAP





Outdoor teaching and learning lab (OTL)

# PLAN COMPONENTS

#### **ACADEMIC MISSION AND LEARN BY DOING**

#### Teaching and Learning

LEARNING OCCURS EVERYWHERE

Early on in the academic planning process, the faculty identified several key features important to the physical development of the campus. While recognizing that there remains a need for certain specialized teaching, laboratory and research spaces, most faculty desire teaching environments with flexible spaces and equipment. Furthermore, teaching occurs everywhere; therefore, the campus needs more indoor and outdoor places where collaboration and interdisciplinary activities can easily take place, including the integration of co-curricular activities. The Teacher-Scholar Model, "a pedagogical archetype that encourages faculty to embrace opportunities for research, scholarship, and creative activity within their roles as stewards of student success," also encourages interaction among faculty and between faculty and students, and the physical environment must be planned, programmed, and designed, accordingly. In addition, the campus must also accommodate adequately sized offices, meeting and conference facilities.

TEACHING AND LEARNING IN THE ACADEMIC CORE

With this input in mind, the redevelopment of the Academic Core is a major feature of the Master Plan. Teaching and learning is the primary activity in the core and this entails not only building classrooms and laboratories but also accommodating a variety of functions that support teaching and learning, including unstructured and informal space for individual and collaborative study.

To meet future needs as well as address current deficiencies, the Master Plan provides for 2,200 additional lecture seats, nearly 1,000 new lab stations, and nearly 900 graduate student research stations and offices to support nearly 400 more faculty members, along with labs and informal collaboration space where they can work effectively in small teams.

The Master Plan also recognizes the value of providing for neutral and unscheduled spaces interspersed with more formal instructional facilities. Historically, general purpose classroom buildings and the library have served this purpose. In the future, Cal Poly sees an expanded need for such flexible areas, in facilities that are clearly welcoming to students and faculty from all disciplines.

In sum, in order to relieve current academic space deficits and to accommodate future enrollment, the Master Plan calls for nearly three million gross square feet of academic space – for instruction, support, research, library expansion, academic advising and academic administration. After subtracting current academic space and adding new facilities in the Academic Core that replace obsolete buildings, the net new academic space required is over 1.1 million GSF.

#### OUTDOOR TEACHING AND LEARNING SPACE AND FACILITIES

As the University increases its enrollment and as Cal Poly seeks to house a significantly larger proportion of students on-campus, more activities must be clustered around the core. This puts pressure on outdoor teaching and learning activities close to the campus center. The Master Plan relied on two critical parameters when evaluating new uses on open land near the core: (1) the need for proximity or access to the core for outdoor teaching and learning activities that draw students and faculty very regularly, and (2) the specific features of the land and facilities themselves, such as prime agriculture land in production, or ecologically unique areas, that cannot be relocated or replaced.

#### RELOCATION AND REPLACEMENT OF ACADEMIC AND INSTRUCTIONAL SPACE

The Master Plan necessarily includes redevelopment as well as new development. And even some new development will displace existing uses, such as surface parking. Thus, this Master Plan carries forward principles stated in the 2001 Master Plan calling for careful phasing and sequencing to minimize disruption of teaching and learning.

### Agriculture

Agriculture is a fundamental part of Cal Poly's image and a principal land use as well as an area of academic study, industry partnership, and revenue generation. While the University's Learn by Doing approach to education applies across the campus, agriculture represents the epitome of outdoor teaching and learning.

Nearly half of the California college graduates who go into agriculture industries come from Cal Poly; and the industry depends on applied research and training activities at Cal Poly for their development. Thus, the stewardship of the University's agricultural resources for education and research are central to Cal Poly's leadership in the state.



Rodeo Team Arena



Ag lands

#### THE CAMPUS FARM OF THE FUTURE

The Master Plan expands the built campus to the north across Brizzolara Creek for housing, recreation, and new land-intensive agriculturally related buildings. This new development required the rebalancing of how the University supports its agricultural lands while maintaining Cal Poly's commitment to Learn by Doing. Most particularly, it means being very strategic about which uses need to be closest to the Academic Core for regular student and faculty access.

The Master Plan maintains the land use pattern of animal facilities on the flanks of the foothills and croplands in the plains along the lower creeks. The plan accommodates expanded equine facilities in their current location. Access to this area for deliveries as well as visitors will be greatly improved with a new roadway and grade-separated railroad crossing joining Mt. Bishop Road and Poly Canyon Village.

At the same time, the Master Plan calls for consolidation of some of the more dispersed out operations, for example, connecting the beef unit and beef evaluation center, building a new Farm Shop near Highway One and Stenner Creek, closer to the fields where most equipment is used, and moving the ITRC irrigation practices field to the vicinity of Shepard Reservoir.

The remaining changes to agricultural land use will be phased in north and east of Mt. Bishop Road. As new technology develops to process animal waste, fields currently being used for that purpose can be converted to recreation needed for the growing on-campus population. Further, some grazing operations will be relocated, and the new Data Center, Business Hub, and the current facilities operations buildings will be located west of Stenner Creek Road.



Strawberry Center

#### RESIDENTIAL COMMUNITY AND UNIVERSITY LIFE

#### Residential Community

The advantages of transitioning the Cal Poly campus into more of a living-learning community are manifold. First, there is substantial evidence that students who live on-campus, especially in their early years of college life, perform better academically and are more likely to graduate, and in a timely way. Studies suggest that on-campus living is often especially valuable for those who are among the first in their families to attend college, for students from more diverse social and economic backgrounds, and for students in Science, Technology, Engineering, and Mathematics (STEM) discipline.

There are potential benefits to the off-campus community as well by reducing overcrowding in neighborhoods and impacts related to parking, traffic, noise, and disruptive student behavior. Thus, the City of San Luis Obispo has long advocated for more student housing on the Cal Poly campus.

Cal Poly envisions an integrated residential experience that encompasses housing, academics, support services, alternative transportation, recreation, dining, convenience retail, entertainment, and other amenities. The University sees students progressing from a highly supported first year toward more independent living on-campus during the second and upper class years.

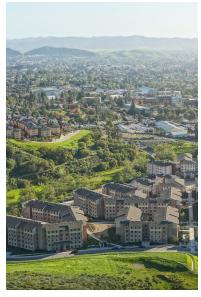
Creating such a residential community requires a wide range functions besides the housing itself. In addition to the student services centered near Mustang Way, the Master Plan includes an additional activity center called "Creekside Village" near the Via Carta and Brizzolara Creek to help create more of a 24/7 living environment.

This will also reduce the need for residents to have cars, making the campus more pedestrian and bicycle friendly. Alternative transportation modes will be enhanced to provide residents with mobility choices when they need to go off-campus.

#### STUDENT HOUSING

The Master Plan identifies locations to accommodate housing for all first and second-year students, plus 30 percent of upper division students. First year students will be provided primarily dormitory-style units, as research and market analysis show that this configuration is preferable for young students new to University life. The Master Plan identifies an area most appropriate for first year housing in the Residential East Campus located proximate to important services such as the University dining complexes.

After first year, a wider variety of living unit types will be provided. This allows for apartment-style units, similar to Cerro Vista and Poly Canyon Village. The locations identified in the Master Plan for such housing are mostly in the North Campus, across Brizzolara Creek but within easy walking and biking distance of the Academic Core.



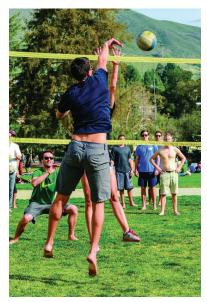
Poly Canyon Village



Julian A. McPhee University Union



Students at Commencement



Student activity on Dexter Lawn

#### FACULTY/STAFF HOUSING AND OPTIONS PRIMARILY FOR NON-STUDENTS

Five locations have been designated on the Master Plan as "Residential Neighborhoods" primarily for non-students. Two of these sites are on the southern boundary of the campus and would provide "buffers" between the campus itself and adjacent off-campus neighborhoods.

As in Bella Montaña, the primary market for these units will be faculty and staff. In addition, this housing may be offered to other groups such as graduate students, veterans, students with families, alumni or retirees.

Further analysis is necessary to determine the feasibility of any of these sites, so the Master Plan is simply indicating that these uses may be options for those locations. In the meantime, they would remain in their current dispositions.

#### **University Life**

Cal Poly's Vision 2022 stresses the importance of a vibrant campus community – engaging all aspects of University life for students in particular, but also for faculty, staff and visitors. With many more students living on-campus, there is a heightened awareness to the needs of a more diverse community. During early Master Plan interactive workshops, students and other members of the community indicated that the Cal Poly campus needs to be more livelier, and offer more activities, particularly for students.

The campus as a microcosm of society must support many different dimensions of diversity including race, ethnicity, gender, sexual orientation, language, culture, religion, mental and physical disability. Only by supporting every student can the University achieve its goals of diversity and inclusion. President Armstrong established an Enhanced Campus Life Working Group in 2012 to set the stage for this more expansive approach; the resulting work recommended that the Master Plan accommodate improved food services, lounge and study spaces, better late hour transportation services, safety, upgraded power and wireless access, and expanded services and hours of operations.

#### CAMPUS LIFE ACTIVITIES AND SERVICES

Cal Poly will always be a partner and participant in the larger San Luis Obispo area. It does not see itself becoming a self-contained community – and indeed welcomes visitors and supports businesses and services in the San Luis Obispo area.

The most intense University life activities need to be in or near the Academic Core because many members of the campus community use them more than once a day. For several decades the primary activity center has been the University Union area adjacent to the Administration Building, and along Mustang Way to the Recreation Center.\*

Other, smaller centers have emerged near the Library, Campus Market, Student Services building and at the larger housing complexes.

In the future, many student-centered activities will continue to converge in the Mustang Way activity area. However, as the campus population grows and more residences

<sup>\*</sup> Concurrent with the development of the Master Plan, the Associated Students, Inc., engaged in a detailed planning process with the Cal Poly Foundation to redevelop the area around the existing University Union and to expand dining facilities and services. However, in February 2016 the students at large turned down a fee referendum intended to fund this project. Nonetheless, the Master Plan sees redevelopment of this area as a future opportunity.

are built on the north side of the core, another major activity center is planned along Brizzolara Creek at Via Carta.

Services will be integrated in new buildings along Via Carta and in the activity centers – typically at the ground floor for visibility and access. These buildings could hold a mix of uses, such as academic space, offices, and even residential on upper floors. Dining and entertainment will also be incorporated in the activity centers. The primary activity centers also can accommodate commercial services (including groceries) for the campus population.

Child care is an increasingly important need for the campus, and the Master Plan calls for existing facilities to remain in current locations. The Health Center site can be expanded to accommodate a wider range of health care services. Ancillary health services may be provided in Creekside Village and/or new student housing north of Brizzolara Creek.

### Recreation and Intercollegiate Athletics

Recreation is an important factor in the University experience as well as for the physical and emotional health of students, faculty, and staff. This includes active recreation, both scheduled and spontaneous, and passive or social recreation (talking with others, reading, or contemplating).

The Master Plan shows a site for a sports and events arena that could accommodate athletic events including scheduled athletic events, tournaments, and concerts and other indoor events that draw large audiences. While the Recreation Center is recent and very popular, increasing the number of on-campus residents will require additional recreational outlets. Creekside Village is proposed to house a recreation center for students, faculty, and staff that could be a satellite facility to the existing Recreation Center.

To accommodate additional student housing, some existing playing fields are proposed to be relocated west of the railroad tracks and other informal recreation areas would be added adjacent to (and incorporated within) new student housing. The track is in poor condition and is near the end of its expected life. To allow for a potential residential neighborhood on the north side of Slack Street, the Master Plan relocates the track and football practice field north of Brizzolara Creek.



20

Mott Athletics Center is currently home to women's and men's basketball



Open House

### **Institutional Support Facilities**

An academic community with a significant residential component requires a wide range of support activities and services. These functions address the needs of four population groups – students and prospective students, faculty, staff, and visitors or guests – and support the physical infrastructure of the campus. Cal Poly provides institutional services through its administrative divisions and auxiliary organizations, all of which serve students, faculty, and staff both directly and indirectly to support Cal Poly as a community.

The Master Plan accommodates institutional support activities and services based on how they function rather than the formal organizational structure of the University. With an additional future increase in student enrollment, institutional support services will need to be expanded. In addition, the types and number support services themselves are increasing to meet evolving student needs and expectations. Thus, to address the current deficit and to meet future needs, the Master Plan calls for an increase of over 500,000 Gross Square Feet of support space for institutional support facilities.

### Regional Connection

As a public University, Cal Poly sponsors a range of events and activities that serve the Central Coast and beyond, and thus attract visitors and participants who are not regular students, faculty or staff. Such activities support the mission by sharing the University's academic, cultural, and environmental assets with the public and by engaging in partnerships with the local community to provide expanded opportunities that neither could offer alone. The Master Plan implications of these activities depend upon their land use, space, and circulation characteristics. Thus, they are addressed based on the size and frequency of events and activities and the venues they use.

The venues for the mid-size and larger events are specifically designed for those purposes. The existing Performing Arts Center and Alex G. Spanos Stadium are located at the edges of the Academic Core. The Master Plan calls for improved access to other outdoor athletic fields and agricultural event facilities with the addition of a new road and grade-separated railroad crossing, connecting Mt. Bishop Road and Via Carta. Also, new parking facilities and adjusted public transportation routes will provide improved access to these large venues.



Cal Poly Spring Dance Show

#### MASTER PLAN CHANGES IN LARGE VENUES

The Master Plan makes some important changes in large scale venues. Most of the indoor facilities will not change in the Master Plan because they are embedded in instructional facilities and/or relative new buildings. Some important new outdoor development will occur nonetheless. These include the following:

- Expansion of Dexter Lawn
- Redesign of Centennial Meadow
- Creation of the heart of campus
- Addition of Creekside Village gathering areas
- Expansion of Alex G. Spanos Stadium
- A future sports and event arena
- Relocation of track and field
- Relocation of recreation fields in the sports complex

#### TECHNOLOGY PARK

In 2010 Cal Poly opened the first phase of the Technology Park, a 25,000-square foot complex where private companies could locate on-campus and take advantage of proximity to certain University facilities as well as the faculty and student talent for which the University is justly known. In 2015, the US EDA approved a second grant to Cal Poly to initiate a second phase of comparable size. Land area for this second phase – and for later phases should the demand continue to grow – was anticipated in the original programming and has been designated for this purpose in the Master Plan.



Technology Park



Commencement



Campus setting



Dexter Lawn

#### **ENVIRONMENT AND INFRASTRUCTURE**

### **Design Character**

#### NATURAL SETTING

Cal Poly is located in a beautiful natural setting including dramatic topography and views that includes the Nine Sisters volcanic morros, rolling hills and outcroppings of trees and vegetation. The Master Plan has considered these features and the campus topography when identifying land use, building siting and open space designations.

#### SENSE OF PLACE

The organization of the Academic Core around significant open spaces, views, and strong and active circulation routes for pedestrians and bicycles will provide the framework for an iconic sense of place for Cal Poly.

Dexter Lawn will be expanded in the character of a traditional collegiate grassy quad and will continue to be a major gathering place. Centennial Meadow will become an informal open space with trees and plantings representative of local species interspersed with seating areas of varying size and character. The design and implementation of the central area linking these two major open spaces will be critical to the success of the sense of place of the Academic Core and will create the important collegiate heart of campus that is currently lacking at Cal Poly. The heart of campus will be an iconic place for large programmed events, informal gatherings, and individual study space. It will be a place for significant and ceremonial University events to occur.

Via Carta from Mustang Way to Brizzolara Creek is a major pedestrian and bicycle thoroughfare that will be strengthened by the implementation of the Master Plan. It is important that the manner in which buildings face and access Via Carta and the major and secondary open spaces adjacent to it create a lively, interactive and important place for Cal Poly. Via Carta will have food, student services, indoor and outdoor seating.

Intuitive wayfinding is important not only for connecting all of the areas of campus but also to make all of the Cal Poly community feel engaged, safe and confident. Building siting and design, open spaces (large and small), and pathways all contribute to connectivity, clear circulation, and wayfinding as well as safety.

#### CHARACTER CONTINUITY

While Cal Poly does not have a prescribed architectural vocabulary, a site-specific modern vernacular is befitting to the Academic Core area around Via Carta using the Center for Science and Mathematics as the reference for materiality. New neighborhoods such as Creekside Village and residential neighborhoods should exhibit a high standard of contemporary architectural excellence. New buildings adjacent to early campus buildings, particularly in the southwest area of campus, should recognize those building design features while not artificially mimicking them. The unique natural setting of Cal Poly should always be the most important element in architectural design decisions.

### Sustainability and Environmental Stewardship

Cal Poly is committed to being a leader in sustainability in its facilities and operations, and views sustainability as an essential element of its academic mission. The plan strives to protect important environmental resources, keeping most prime agricultural land open, creating protective buffers around creeks, and preserving open space and scenic resources that are so important to Cal Poly's image and character. It also requires that new facilities and campus infrastructure be environmentally responsible, energy efficient, and showcase advancements in sustainable technology.

The plan incorporates "smart growth" measures such as the compact form around the core and mixed uses, approaches that reduce the reliance on cars and that improve the efficiency of infrastructure and energy use. The plan includes areas for renewable energy sources such as solar, water reclamation, and waste composting. Furthermore, and importantly, the plan calls for increased housing on-campus that will reduce commuting.

### Transportation and Circulation

The Master Plan calls for circulation infrastructure and related policies and programs that together are intended to provide for the safe and efficient movement of people and things around the campus while also encouraging a more complete shift to an active transportation approach – one that emphasizes walking, bikes, and buses over cars.

This Master Plan continues Cal Poly's efforts to move away from auto-dependency to a more residential, pedestrian, and multi-modal environment.

#### Key Features of the Circulation System

The proposed circulation system reflects Master Plan principles that aim to address current deficiencies, provide for future needs, and continue Cal Poly's movement away from cars to other modes. The following summarizes key features and related principles.

New Roads: As the campus continues to develop northward, the more intensive uses planned north of Brizzolara Creek will require new roads and parking facilities. Two new roads are proposed: the northernmost one connects Village Drive to Mt. Bishop Road (utilizing in part Sports Complex Road). This would require a grade-separated railroad crossing. Another new road would extend from the California and Highland intersection north of the creek and east to Via Carta to access new residential projects in this vicinity. These new routes would not only accommodate vehicles, but also pedestrians and bicycles.



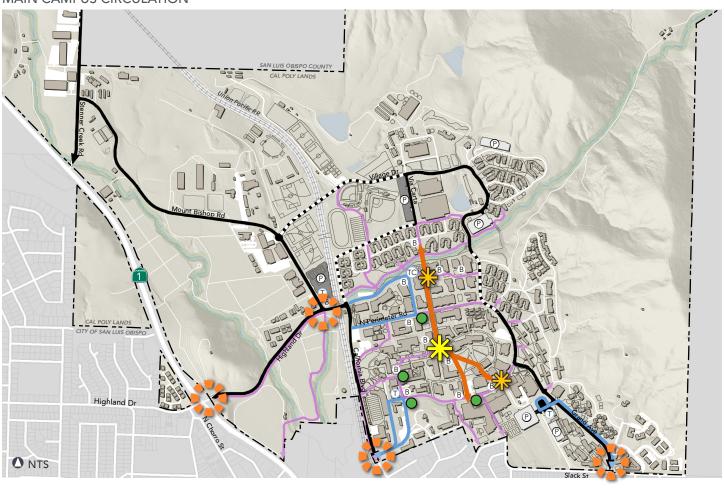
Agricultural reservoir



Via Carta bicycle lane

EXISTING ROADS IN THE ACADEMIC CORE: The plan calls for the redesign of North Perimeter, University Drive, South Perimeter, and the eastern end of Highland Drive to restrict through traffic, to create a stronger pedestrian ambiance and to encourage bicycle use. North Perimeter currently divides the Academic Core and creates significant intermodal conflicts. These roads would continue to accommodate limited vehicle access for transit, shuttles, deliveries, emergencies, maintenance, and persons with disabilities.

#### MAIN CAMPUS CIRCULATION



Roads with Cars, Transit, and Class II Bike Lanes

Proposed Roads with Cars, Transit, and Class II Bike Lanes

> Roads with Restricted Access, Transit, and Class II Bike Lanes

Via Carta Walk

Primary Bicycle/Pedestrian Route

Campus Activity
Center

Activity Area

Existing Parking

**Proposed Parking** 

(P) P

Parking Structure

B) Bi

Bike Station



Transit Center

T

Transit Stop

Campus Gateways



Heart of Campus Parking: A new parking structure would be developed near the intersection of Mt. Bishop Road and Highland to "intercept" most car traffic outside the Academic Core. New structures are also envisioned on Via Carta to serve the sports facilities and Equine Center.

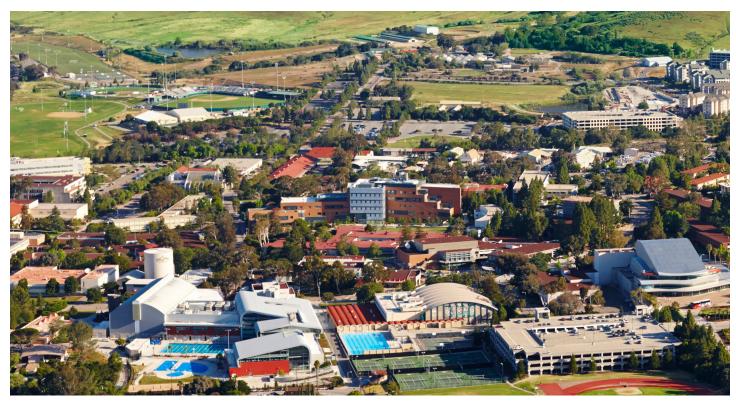
BICYCLES, E-BIKES, AND RELATED MODES: The plan calls for more bike paths penetrating into and through the campus and a significant increase in bike parking nearer to destinations in the Academic Core.

Transit: A multi-modal transit center is identified in Creekside Village near the terminus of Highland Dr. at University Drive. Effecting the desired modal shift requires new or modified plans and policies, new management approaches and technologies, the installation of specific improvements and the commitment of resources to these ends.

As the campus grows and more residential development occurs, the need will increase for convenient and effective circulation connections to the Academic Core across all modes. One option that warrants more detailed analysis is the development of a shuttle serving on-campus residential areas, peripheral parking structures, nearby agriculture fields and facilities, sports and performing arts venues, and other important destinations.



Connective walkway



Academic Core



Learn by Doing

Solar panels atop Building 21

### Infrastructure

Most of Cal Poly's developed land lies within the Main Campus and It includes about 150 major buildings, with more than six million gross square feet of space (including academic, support, housing, and operations space). Planning for the infrastructure required to support the existing campus and anticipated to accommodate potential growth requires critical systems analysis, strategic operation, and continuous maintenance. The Master Plan emphasizes sustainability as a major goal in the design and operation of infrastructure to serve the expanded campus. (Please see the Appendix Chapter for detail regarding current sustainability operations.)

Utility systems in the Academic Core are integrated in the Utilidor that makes a loop along Mustang Way, Grand Avenue and North Perimeter Road. New infrastructure will be needed to accommodate expansion in the North Campus, integrated with the construction of new roadways.

#### **ENERGY**

The Master Plan anticipates that future energy needs will be met through the same means as present, with increasing emphasis on using clean energy sources and on designing and retrofitting facilities for energy efficient operations.

ELECTRICAL ENERGY: Cal Poly purchases its electrical energy from PG&E, which is some of the cleanest in the nation. In addition, the University supplements energy generation with renewable energy sources and on-site generation to reduce Cal Poly's greenhouse gas emissions.

The University installed a large solar photovoltaic system on the roof of Engineering West Building, and a 2.5 kW solar array on the roof of the Facilities Management and Development Building. A large-scale, ground-mounted solar PV installation will be constructed at the northwest end of campus and opportunities to develop wind generation on-campus land are being explored. Also, Facility Services is evaluating opportunities to implement a fuel cell combined heat and power system at the campus central plant.

A 2008 feasibility study determined that manure from campus livestock herds, waste byproducts from the Dairy Products Technology Center, food waste from Campus Dining, and green waste from the crops units and campus landscape operations could be consumed by an anaerobic digester, or other technology, and the resulting methane gas captured and reused. Cal Poly also has two cogeneration facilities in the student housing areas that can provide combined heat and power to student dormitories and apartments – at Sierra Madre and Poly Canyon Village.

NATURAL GAS: Natural gas commodity procurement for the larger service accounts (greater than 250,000 therms per year usage) is provided by the California Department of General Services (DGS) as part of a managed portfolio including nearly all California State University and University of California campuses, California State administrative buildings, California Department of Corrections, and various cities, counties, and school districts.

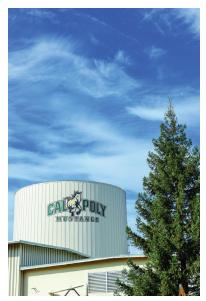
#### WATER

Cal Poly manages water resources to ensure adequate supply, meet or exceed health standards, reduce environmental impact and cost, and conserve and protect natural resources. Water supply remains a concern during drought conditions. The Master Plan will require new infrastructure to deliver domestic water, collect wastewater, and manage storm drainage, particularly to service new development in the North Campus. In addition, the capacities of connecting water and sewer mains, and treatment systems will need to be evaluated.

WATER SUPPLY AND WATER RIGHTS: Cal Poly's water is derived from three primary sources: Whale Rock Reservoir, Salinas Reservoir (also called Santa Margarita Lake), and local groundwater. Water from the two reservoirs is delivered by the City of San Luis Obispo; local groundwater is provided via six agricultural wells owned and operated by the University. Cal Poly has water rights for both ground water and surface water. Ground water is pumped from seven agricultural wells located on University land and is limited by relatively shallow, low capacity aquifers, especially during drought years. By State Water Resources Control Board permit, Cal Poly owns surface water rights to Brizzolara Creek on the Cal Poly campus, and to Old Creek which supplies Whale Rock Reservoir near Cayucos.

Along with the City of San Luis Obispo and the California Men's Colony, Cal Poly was one of the original developers of the Whale Rock Reservoir, and therefore retains rights to 34 percent of the reservoir capacity. Since Cal Poly owns adequate water rights to meet campus needs, the University does not pay for its water supply, but does pay fees to the City of San Luis Obispo for delivery and treatment. By investing capital funds to purchase a capacity share of the City water treatment plant, Cal Poly receives a discounted rate for treatment costs. Surface water is delivered by the City of San Luis Obispo from both Whale Rock Reservoir and Salinas Reservoir. The City of San Luis Obispo operates Whale Rock Reservoir and determines the most economical way to deliver both treated water for domestic consumption and raw (untreated) water for agricultural use. Whale Rock water is generally used for domestic use. Untreated Salinas water is generally delivered to Cal Poly for agricultural use. Both types of delivered water are applied against Cal Poly's Whale Rock water rights.

WASTEWATER: The Cal Poly sanitary sewer system was built as part of the original campus infrastructure and has been in service for over 100 years. Partly due to the rolling terrain of the campus and surrounding community there are numerous sewer lift stations, many of them in the outlaying agricultural areas. Domestic wastewater from the Cal Poly campus is discharged to the City of San Luis Obispo's sewer collection and treatment system. Cal Poly, in partnership with the City of SLO, has invested capital funds to purchase a capacity share of the City's wastewater treatment plant, and therefore receives a discounted rate for wastewater. Ongoing conservation efforts, such as installation of ultra-low flow plumbing fixtures, have resulted in significant reductions in sewer volumes despite campus growth. In addition, the City and the University are exploring the potential for using partially-treated grey water for irrigation.



Thermal energy storage tank



Award winning bio-swale/stormwater catchment area near Engineering IV

STORM DRAINAGE: The campus experiences most of its rainy season in the winter months from October through March. Storm drainage can be a challenge during particularly heavy rainy seasons.

Most of the Academic Core and North Campus drain to Brizzolara Creek which runs across the north side of campus. Portions of the West Campus drain to Stenner Creek. The University, as part of the Clean Water Act and State and Regional Water Boards requirements, has developed an aggressive Storm Water Management Program. This program includes a contract to annually clean and vacuuming all catch basins, drainage inlets and area drains every October. The campus has also installed storm-interceptors as part of the Poly Canyon Student Housing complex.

#### SOLID WASTE

As part of the ongoing effort to make Cal Poly a more sustainable campus, a Zero Waste Pilot Program is being implemented at several locations around campus. Cal Poly operates an integrated waste management program that includes source use reduction, recycling, composting of food waste, green waste, and manure, resale of scrap metal and surplus equipment, and zero waste event catering. Cal Poly contracts with San Luis Garbage for collection of solid waste and recycling. Recycling containers are provided to faculty, staff, and students by Facility Management and Development, and collection is performed by Custodial Services and the campus Recycling Coordinator.



Data and communication systems are designed to meet current loads. Thus, when demand increases with campus expansion, Cal Poly will need to expand or upgrade these utilities. These systems include primarily telephone and Internet services.

DATA CENTER: The Campus Data Center houses major network equipment required for routing network signals throughout the campus. In addition, the Data Center houses most of the campus computer network servers. The Master Plan calls for relocating and expanding the Data Center to accommodate additional capacity and meet security requirements.

CAMPUS NETWORK: The campus network consists of two redundant main core switches located in the Data Center, with sub-core switches strategically located throughout the campus. All the switches are connected via fiber optic cable, which is routed in underground pathways.



Zero Waste Pilot Program

### **ILLUSTRATIVE MASTER PLAN**

The Illustrative Master Plan Map shows the build-out of the campus, highlighting landscaping and open space.

(Page 41)

### **TECHNICAL MAPS: MAIN CAMPUS AND ACADEMIC CORE**

The Technical Master Plan Maps show existing and proposed footprints for the development of campus through the planning horizon of 2035. In cases where a specific building has not yet been programmed and designed, an estimate of square footage, footprint size, and location are provided.

(Pages 43 and 45)

PLAN COMPONENTS

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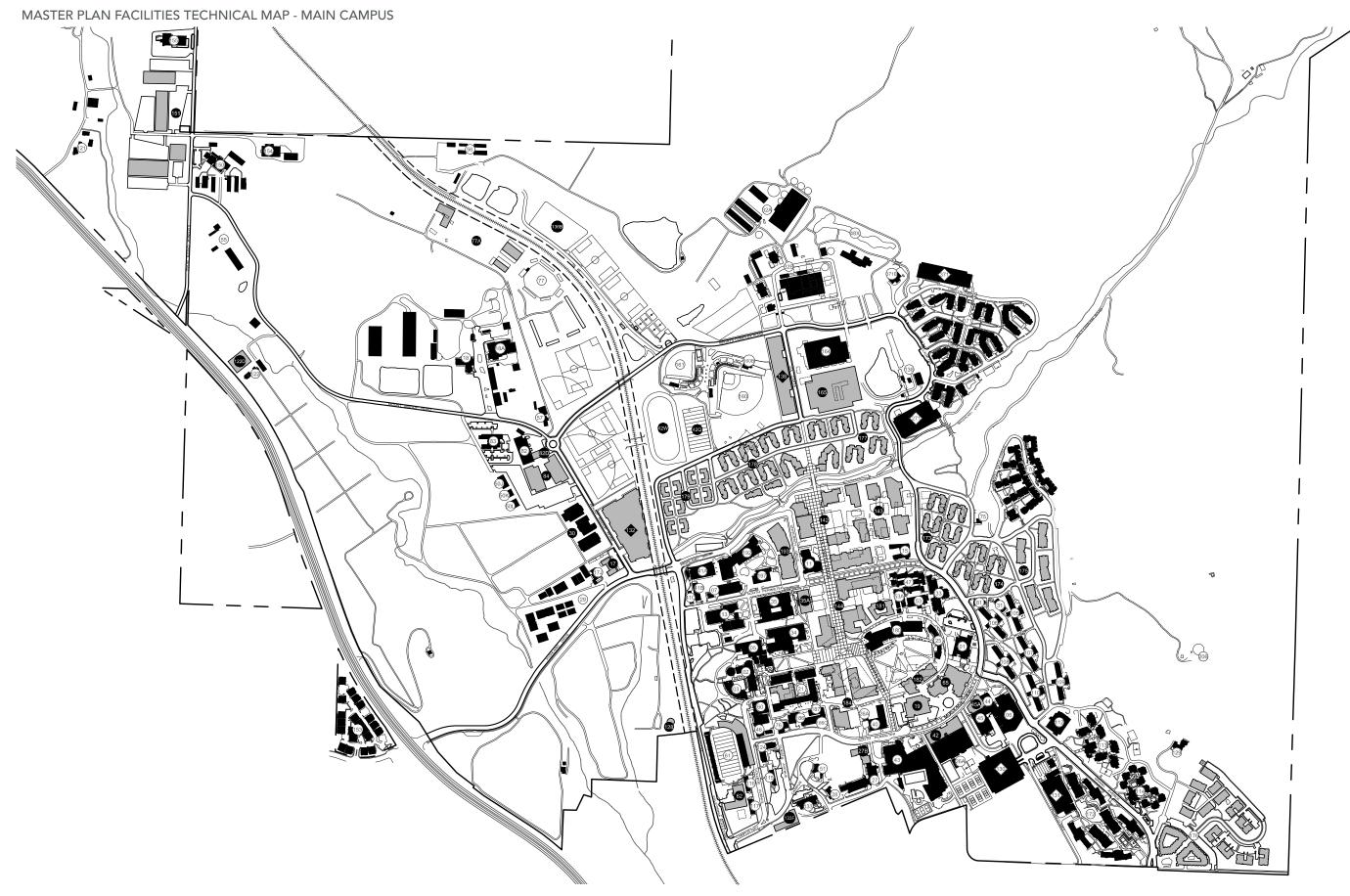
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### CALIFORNIA POLYTECHNIC STATE UNIVERSITY, **SAN LUIS OBISPO**

Master Plan Enrollment: 22,500 FTE Master Plan Approved by the Board of Trustees: **Date Here** 

### **BUILDING LEGEND**

DOILL	JING LEGEND		
01	Administration	110	Tenaya Hall
02	Cotchett Education	112	Vista Grande
03		113	Sierra Madre Hall
05	Orfalea College of Business		
	Architecture and Environmental Design	114	Yosemite Hall
06	Christopher Cohan Center	115	Chase Hall
07	Advanced Technology Laboratories	116	Jespersen Hall
11	Agricultural Sciences	117	Heron Hall
13	Engineering	117T	CAD Research Center
15	Cal Poly Corporation Administration	121	Cheda Ranch
17	<crop farm="" science="" store=""></crop>	122	Parker Ranch
17J	Crop Science Lab	122D	Farm Shop
18	Dairy Science	124	Student Services
18A	Leprino Foods Dairy Innovation Institute	128	<water facility="" treatment=""></water>
19	Dining Complex	129	Avila Ranch
21	Engineering West	130	Grand Avenue Parking Structure
25	Faculty Offices East	131	
26A	•		Yak?it <sup>y</sup> ut <sup>y</sup> u Residential Community Parking Structure
20A 27	Printing Press Health Center	132	< Mount Bishop Road Parking Structure>
		133	Orfalea Family and ASI Children's Center
27B	<health center="" clinic="" expansion="" medical=""></health>	133F	<orfalea and="" asi="" center="" children's="" expansion="" family=""></orfalea>
28	Albert B. Smith Alumni and Conference Center	136	ITRC Water Delivery Facility
29	Horticulture	136B	<ltrc delivery="" facility="" fields="" practice="" water=""></ltrc>
30	Fermentation Science	138	<via carta="" parking="" structure=""></via>
31	University Housing	142A	<creekside plaza="" village=""></creekside>
32A	Oppenheimer Equestrian Facilities	142B	<creekside plaza="" village=""></creekside>
32B	Oppenheimer Equestrian Facilities	142C	<creekside plaza="" village=""></creekside>
33	Clyde P. Fisher Science Hall	143A	<northeast academic="" complex=""></northeast>
34	Walter F. Dexter Building	143B	<northeast academic="" complex=""></northeast>
35	Robert E. Kennedy Library	143C	<northeast academic="" complex=""></northeast>
35A	< Robert E. Kennedy Library Expansion>	143D	<northeast academic="" complex=""></northeast>
40	Engineering South	143E	
41A			<northeast academic="" complex=""></northeast>
	Grant M. Brown Engineering	143F	<northeast academic="" complex=""></northeast>
41B	Baldwin and Mary Reinhold AeroSpace Engineering	143G	<northeast academic="" complex=""></northeast>
	Laboratories	144A	$$
42	<robert a.="" athletics="" center="" mott=""></robert>	144B	$$
42Q	<practice field="" football=""></practice>	144C	$$
42W	<track/>	150	Poultry Science Instructional Center
43	Recreation Center	151	<facilities and="" development="" management=""></facilities>
44	Alex and Fay Spanos Theatre	153	Bella Montaña
45	H. P. Davidson Music Center	154	Animal Nutrition Center
45A	<h. center="" davidson="" expansion="" music="" p.=""></h.>	155	J and G Lau Family Meat Processing Center
46	Old Natatorium	160	Baggett Stadium
47	Faculty Offices North	160B	Dignity Health Baseball Clubhouse
48X	Leaning Pine Arboretum	161	Bob Janssen Field
50J	Mount Bishop Warehouse	164	Oppenheimer Equestrian Center
50K			··
	Communications Services Storage	165	<arena></arena>
50L	Rose Float Lab	170	Cerro Vista Apartments
51	University House	171	Poly Canyon Village Apartments
53	Science North	172	Yak?it <sup>y</sup> ut <sup>y</sup> u Residential Community
53A	Science North Annex	176	Faculty and Staff Workforce Housing
56	Swine Unit	180	Warren J. Baker Center for Science and Mathematics
57	Veterinary Hospital	181	<agricultural and="" complex="" research="" science="" teaching=""></agricultural>
60	Crandall Gymnasium	182A	<facilities and="" services="" support=""></facilities>
61	<alex expansion="" g.="" spanos="" stadium=""></alex>	182B	<facilities and="" services="" support=""></facilities>
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75	Mustang Substation	184C	<south academic="" carta="" complex="" via=""></south>
76	Old Power House	186	Construction Innovations Center
77	Rodeo Facilities	186C	Luckman Hall
77A	<rodeo facilities="" support=""></rodeo>	187	
82	Cal Poly Corporation Warehouse		Simpson Lab
82D	<ul><li>Culinary Support Center&gt;</li></ul>	192	Engineering IV
		193	<engineering facility="" projects=""></engineering>
83	Technology Park	197	Bonderson Engineering Projects Center
84	<technology expansion="" park=""></technology>	271	Village Drive Parking Structure
105	Trinity Hall	371	Canyon Circle Parking Structure
106	Santa Lucia Hall	371B	University Housing Depot
107	Muir Hall		
108	Sequoia Hall		
109	Fremont Hall		



APPROVED: DATE HERE

MASTER PLAN ENROLLMENT: 22,500 FTES

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APPROVED: DATE HERE

**MASTER PLAN ENROLLMENT: 22,500 FTES** 

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# **FUTURE NEEDS**

To accomplish the goals of the Master Plan significant amounts of new instructional and support spaces, housing units, recreation fields, and parking are required. The following summarizes the projected future needs:

#### **CURRENT AND FUTURE CAMPUS PROJECTIONS\***

	BASELINE Fall 2015	MASTER PLAN 2035
Headcount	20,944	25,000
Current Master Plan Capacity (FTES)	17,500	22,500**
Faculty	1,190	1,506
Staff	1,982	2,399
Acres (Main Campus area)	3,009	3,009
Acres of Playfields (includes baseball and football stadiums)	48	52.2
2015 Campus GSF (excludes housing and operational space)	2,340,000	3,430,000
Student Beds	8,200	15,000
Student/General Parking Spaces (includes Residential and General parking space	6,500 ces)	6,500
Total Parking Spaces (includes Residential, General, and Staff parkin	8,000 ng spaces)	8,000



Cerro Vista student housing, apartment-style

### CURRENT AND FUTURE ACADEMIC SPACE (ESTIMATED GROSS SQUARE FEET)\*

	ENROLLMENT (NET FTES)	GROSS SQUARE FEET (GSF)
Current Built Capacity	16,504	2,100,000
Future Capacity Required	22,500**	2,900,000
Replacement (Estimate)		355,000
Net New GSF Needed (Estim	ate)	1,155,000

# CURRENT AND FUTURE ADMINISTRATIVE AND SUPPORT SPACE (ESTIMATED GROSS SQUARE FEET)\*

	ENROLLMENT (NET FTES)	GROSS SQUARE FEET (GSF)
Current Built Capacity to be retained	16,504	240,000
Future Capacity Required	22,500	700,000
Net New GSF Needed (Esti	mate)	530,000

#### POTENTIAL EARLY PROJECTS

The Master Plan provides for implementation of the planned facilities and improvements phased over the 20-year time span of the Master Plan. The facilities envisioned to be developed earliest within the Master Plan timeframe include:

Approx. Gross Sq. Ft. (GSF)

### 

The existing Kennedy Library will be remodeled and an academic center will be added to alleviate the existing space and technology deficiencies, to reflect the changing demands of libraries in the digital age and to provide space necessary for classroom and lecture facilities.

#### **IMPLEMENTATION STRATEGIES**

- 1. Design the addition as a connection the existing Kennedy Library and Via Carta.
- 2. Site the project to define an open space for this area of the Academic Core.

### 

This facility will be located within the Academic Core. It could be one building or part of other mixed-use facilities depending upon space needs. It will provide classroom, auditorium, and

#### **IMPLEMENTATION STRATEGIES**

- 1. Whether a single building or decentralized, connect to Via Carta and provide opportunities to enliven the Academic Core.
- 2. Provide opportunities for casual interaction and observation of activities between the six colleges.
- 3. Consider ways to incorporate student services adjacent to and among academic spaces.

### Beef Cattle Evaluation Center (BCEC) Expansion .....

10,000

The BCEC facility will be expanded by approximately 10,000 square feet of building area to provide needed space for continuing agricultural programs.

#### IMPLEMENTATION STRATEGY

1. Reconfigure exterior facilities to accommodate access and circulation for the expanded building.

### 

30,000

The data center facility will be located at the northwestern corner of the main campus off of

#### **IMPLEMENTATION STRATEGIES**

- Prior to siting, an area plan should be created to plan for the future development of the infrastructure, adjacent buildings, circulation and parking, including the University Facilities Management and Development area.
- 2. Extend infrastructure to accommodate development.

APPROX. GROSS SQ. Ft. (GSF)

### Engineering Projects Facility

45,000

The engineering academic facility will be located on the H-2 parking lot near the library. The facility will provide needed space for teaching, research, and "maker" space.

#### **IMPLEMENTATION STRATEGIES**

- Develop a strategy for parking located in Lot H-2. Identify where the replacement parking spaces will go, or if transit and bike systems and parking policy will allow parking spaces to be reduced.
- 2. Connect the engineering complex with Creekside Village and the Academic Core.
- 3. Plan the Engineering Projects Building to encourage casual exploration of active project work and exhibits by engineering students and those from other Colleges.
- 4. Provide visual and sound separation of the Engineering Projects Yard and adjacent areas.

### Farm Shop/Facilities Management and Development Replacement 108,400

The space vacated will provide a contiguous site for Academic Core expansion. The project will include realignment of Perimeter Road and Highland Drive.

#### **IMPLEMENTATION STRATEGIES**

- 1. Develop Area Plan for this sector of campus.
- 2. Extend infrastructure to accommodate development.
- 3. Consider vehicular access for deliveries and University services.
- 4. Consider opportunities for future expansion to accommodate other departmental tenants and changing technology.

## H.P. Davidson Music Center Expansion.

60,000

The campus' Davidson Music Center will be expanded to provide the necessary space for music programs and classrooms.

### **IMPLEMENTATION STRATEGIES**

- 1. Integrate expansion with Mustang Way.
- 2. Update the character of Davidson Music Center.
- 3. Improve the corner and service circulation at Tahoe Road.

### Health Center/Medical Clinic Renovation and Addition

60,000

to continue providing medical and health services for the University community.

APPROX. GROSS SQ. Ft. (GSF)

#### **IMPLEMENTATION STRATEGIES**

- 1. Integrate a larger facility serving more user groups on the existing Health Center site.
- 2. Integrate the expansion with Mustang Way to encourage wellness education.
- 3. Improve emergency and service vehicle access.
- 4. Allow for phased development and service changes over time.

## Science and Agriculture Teaching and Research Complex ...... 75,000

This academic facility will provide flexible laboratory and teaching space for multidisciplinary academic instruction and research.

#### **IMPLEMENTATION STRATEGIES**

- 1. Consider strong linkage to nearby Via Carta.
- 2. Recognize the temporary presence of buildings 10 and 22, as well as consider future adjacent new construction.

### Slack St. and Grand Ave. Residential Neighborhood ...... 22 AC

The workforce residential neighborhood at Slack Street and Grand Avenue will provide 420 units in three to four-story apartment buildings with retail amenities.

#### **IMPLEMENTATION STRATEGIES**

- 1. Extend infrastructure to accommodate development.
- 2. Develop the neighborhood to transition from community to campus.
- 3. Design neighborhood as a contributing element to the Grand Avenue gateway to Cal Poly.

### 

This student housing facility will be located on the site of the existing R-1 and K-1 parking lots. It will provide up to 1,000 beds for the freshmen students in dormitory-style housing.

#### **IMPLEMENTATION STRATEGIES**

- 1. Develop a strategy for parking located in Lots R-1 and K-1. Identify where the replacement parking spaces will go, or if transit and bike systems and parking policy will allow parking spaces to be reduced.
- 2. Utilize the hillside terraced site utilizing a minimum grading and disturbance.
- 3. Integrate pedestrian and bike paths to link the student housing neighborhood to the Academic Core, dining and transit.

APPROX. GROSS SQ. Ft. (GSF)

## Student Housing for Sophomore Students ..... 500,000

The student housing will be located in the North Campus. It will provide up to 1,500 beds for the sophomore students in dormitory-style housing.

#### **IMPLEMENTATION STRATEGIES**

- 1. Extend infrastructure to accommodate development.
- 2. Protect and enhance access to and visibility of Brizzolara Creek area.
- 3. Develop a strategy for parking located in Lots H-12 and H-16. Identify where the replacement parking spaces will go, or if transit and bike systems and parking policy will allow parking spaces to be reduced.
- 4. Relocate recreation facilities to accommodate student housing development.
- 5. Plan the student housing neighborhood to be a vital community integrated with Creekside Village.
- 6. Emphasize the natural environment of Brizzolara Creek as a protected asset of the campus and an outdoor learning opportunity.
- 7. Preserve views to the north from the Academic Core.

### 

75,000

This new facility will be located adjacent to the existing Technology Park facility of similar size

#### **IMPLEMENTATION STRATEGIES**

- Develop a strategy for parking located in Lots R-1 and K-1. Identify where the replacement parking spaces will go, or if transit and bike systems and parking policy will allow parking spaces to be reduced.
- 2. Create a recognizable and innovative facility that compliments the needs of the University and partners.
- 3. Develop a facility that accommodates flexibility and innovative ways to change over time.

## University Union Renovation and Expansion ...... 100,000

The existing University Union will be renovated and expanded with approximately 160,000 square feet of additional space and 110,000 square feet of renovated space.

#### **IMPLEMENTATION STRATEGIES**

- 1. Develop an Area Plan for the UU, Centennial Meadow and the connection to the heart of campus. Coordinate activities, access and pedestrian connection to the greater Academic Core.
- 2. Provide services to support the Residential East Campus, including the nearby Freshmen housing.
- 3. Consider architectural significance of existing UU buildings when considering demolition and renovation.



Mustang Way

# IMPLEMENTATION AND PHASING

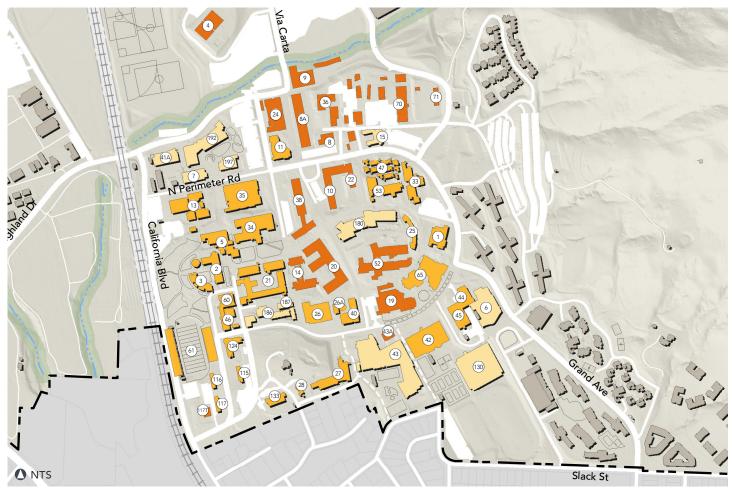
The phased implementation of the Master Plan will require consideration and forethought of a number of factors including:

- One of the Guiding Principles of the Master Plan is that where an activity must be relocated, new sites should be identified and replacement facilities developed prior to the move (GP 3). Thus, funding for the replacement project will need to be secured prior to initiating construction of the new facility.
- The source, magnitude and program requirements of funding for projects are difficult to predict. Project funds may come from donors, sponsors, public/private partnerships (PPP), student supported fees and, to an extent significantly less than in previous decades, State or CSU funding.
- Construction of a new building may require infrastructure upgrades or changes that can increase the project cost considerably over the cost of the building itself.
- When a new project is completed and space is vacated, the existing space can either be reassigned or demolished and the site made available for other uses at that time or in the future. If the space is retained for a short or longer term, it will require some level of secondary effects improvements to properly house an incoming University program. This most often results in a separate project requiring its own funding and is seldom part of the new construction budget.

As a result of these challenges, multiple "steps" may be required before a new building can proceed. This will require detailed planning and coordination that may change and require modifications as factors change over time, such as a funding opportunity appearing unexpectedly or being disappointingly postponed. With these considerations in mind, the following projects could be developed in the early years of the Master Plan's 20- year outlook. Circumstances may arise that result in buildings other than those listed here being developed. Secondary effects projects are not identified here but will need to be defined, analyzed, and implemented.

Other phasing considerations will include the need to provide support facilities for the increased number student housing residents, including dining options, active recreation, indoor and outdoor passive recreation, retail and study space. So, a student housing project may require infrastructure upgrades such as road realignment, utility extensions, parking relocation, and pedestrian pathways. But it may also require some of the study, food and recreation type facilities mentioned above. These results in quality-of-life phasing needs in addition to physical infrastructure and program replacement phasing requirements.

#### ACADEMIC CORE BUILDING INVENTORY



Tier 1: Replace

24

25

Food Processing

Faculty Offices East

Low intensity, older buildings that are in need of replacement at higher density, when feasible.

Tier 2: Renovate

Buildings may be in need of substantial investment. Replace if appropriate.

Tier 3: Retain

Science North

53

Buildings are current and do not need significant improvements in the near future.

1	Administration	26	Gra
2	Cotchett Education	26A	Prin
3	Orfalea College of Business	27	Hea
4	Research Development	28	Alb
5	Architecture and Environmental Design		and
6	Christopher Cohan Center	33	Cly
7	Advanced Technology Labs	34	Wal
8	BioResource and Agricultural Engineering	35	Rob
A8	BioResource and Agricultural Engineering	36	Univ
	Shop	38	Mat
9	Farm Shop	40	Eng
10	Alan A. Erhart Agriculture	41A	Gra
11	Agricultural Sciences	42	Eng
13	Engineering	42	Rob Cer
14	Frank E. Pilling Building	43	Rec
15	Cal Poly Corporation Administration	43A	Kine
19	Dining Complex	44	Ale
20	Engineering East	• •	The
21	Engineering West	45	H.P.
22	Enalish	46	Old

26	Graphic Arts
26A	Printing Press
27	Health Center
28	Albert B. Smith Alumni and Conference Center
33	Clyde P. Fisher Science
34	Walter F. Dexter Building
35	Robert E. Kennedy Library
36	University Police
38	Mathematics and Science
40	Engineering South
41A	Grant M. Brown Engineering
42	Robert A. Mott Athletics Center
43	Recreation Center
43A	Kinesiology
44	Alex and Fay Spanos Theatre
45	H.P. Davidson Music Center
46	Old Natatorium
47	Faculty Offices North
52	Science

55	Science (volum
60	Crandall Gymnasium
61	Alex G. Spanos Stadium
65	Julian A. McPhee University Union
70	Facilities
71	Transportation Services
115	Chase Hall
116	Jespersen Hall
117	Heron Hall
117T	CAD Research Center
124	Student Services
130	Grand Avenue Parking Structure
133	Orfalea Family and ASI Children's Center
180	Warren J. Baker Center for Science and Mathematics
186	Construction Innovations Center
187	Simpson Lab
192	Engineering IV
197	Bonderson Engineering Project Center



Classroom collaboration

# MASTER PLAN PRINCIPLES

Master Plan Principles elaborate on the Guiding Principles and provide direction for the physical development of the campus. The following principles are organized by topic heading in the Master Plan (e.g., AM for Academic Mission and Learn by Doing) and by reference to Implementation Program (IP) or Other Recommendation (OR).

### **ACADEMIC MISSION AND LEARN BY DOING (AM)**

#### AM | LEARNING ENVIRONMENT

Buildings and open spaces in the Academic Core should foster high quality learning experiences, intellectual inquiry and collegial interaction.

#### AM TEACHING AND LEARNING EMPHASIS

The Academic Core should be primarily for teaching, learning and support functions.

#### AM | WALKABLE CORE

Instructional facilities (apart from outdoor teaching and learning areas) should be located within a 10-minute walk in the campus Academic Core.

#### AM INTENSITY OF ACTIVITY

The Academic Core should be developed at densities that reflect the limited availability of land. All new buildings should be at least three stories with complementary open space.

#### AM | FORMAL AND INFORMAL LEARNING SPACE

The Academic Core should include places for informal learning and socializing, as well as formal instruction.

#### AM | FLEXIBLE AS WELL AS SPECIALIZED SPACE

Specialized facilities should be located farther from the center of campus while those that are more general and flexible in nature should gravitate toward the center to enhance cross-disciplinary connections.

#### AM | CROSS-DISCIPLINARY LEARNING SPACE

AM

09

The Academic Core should include opportunities for interactions between different colleges including multi-use buildings and commons that promote collaboration and connections among disciplines.

AM A variety of learning spaces should be available to support different types of interactions.

Learning spaces should be kept as flexible as possible to ensure viability long into the future.

#### AM | TECHNOLOGY

Campus plans should consider the role of technology in defining campus character for on-campus, commuting, and distance-learning students.

#### AM | EXTENDED EDUCATION

Some facilities should be designed to accommodate the needs of extended education.

#### AM | ANCILLARY ACTIVITY

12 Ancillary activities should clearly complement teaching and learning.

#### AM | EXTENT OF OUTDOOR TEACHING AND LEARNING

Outdoor Teaching and Learning (OTL) should be recognized as important to the University's character, history and ongoing mission and that OTL extends beyond agricultural facilities and across numerous disciplines.

Outdoor teaching and learning lab (OTL)

#### AM | LOCATION OF OTL ACTIVITIES

OTL activities that do not require extensive amounts of land should be integrated within the Academic Core where practical.

#### AM | SIZE OF OTL LANDS

OTL sites should be sized appropriately for best practices for managing natural resources.

#### IP DESIGN OF INSTRUCTIONAL SPACES

O1 Cal Poly should apply the most current research regarding effective learning environments -- including such factors as classroom configuration, technology, furniture, lighting, acoustics, color, access and egress -- to the programming, design and construction of new or remodeled buildings that include instructional space.

#### IP | FLEXIBLE SCHEDULING

O2 Cal Poly should evaluate the potential for greater flexibility and efficiency in scheduling, including summer session, to serve more students and decrease time to degrees, without requiring new capital investment.

#### OR VARIETY IN SIZE AND TYPE OF SPACES

O1 Informal learning spaces such as meeting, seminar and conference rooms should be designed with a variety of sizes to accommodate different group sizes and purposes.

### OR | CONTINUAL ADAPTATION

Cal Poly should continually evaluate how changes in technology and socioeconomic forces affect both pedagogy and the development of the physical campus, and adapt its plans, teaching and management practices when appropriate.



Orientation and Week of Welcome

### **RESIDENTIAL COMMUNITY AND UNIVERSITY LIFE (UL)**

#### UL | FIRST-YEAR STUDENTS

Housing for first year students should generally be dormitory-style, in proximity to other first-year housing, campus dining and other support services.

#### UL OTHER STUDENTS

Housing for students other than first-year students, should emphasize apartment-style living.

### UL SUPPORT SERVICES

Support services and facilities should be incorporated into new housing neighborhoods.

#### UL 24-HOUR COMMUNITY

Entertainment, recreation, and social facilities should be provided to support a 24-hour community.

#### UL | LIVING-LEARNING ENVIRONMENTS

Residential neighborhoods should support learning.

#### UL SERVICES

The following types of services should be provided on-campus: (1) services that are needed specifically by students (e.g., library, advising, bookstore); (2) services that require coordination with academics or other campus services (e.g., financial aid, academic assistance, disability resources, personal counseling for students); and (3) services used frequently by a considerable number of students, faculty or staff (e.g., food service, banking, health care).

#### UL COMMERCIAL SERVICES

O7 Commercial services should be provided on-campus that support residents and help reduce the need for students, faculty and staff to leave campus during the day.

#### UL | SERVICE FACILITY SIZE AND SCHEDULE

Support services should be sized and designed to accommodate peak demand, where necessary, or demand managed to reduce peaks.

#### UL | SERVICE DELIVERY SPACE

Service centers should be designed with sufficient waiting space.

#### UL | ACTIVITY CENTERS

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Several places within the Academic Core should continue to develop into more intense centers of community activities.

#### UL | RECREATION SPACE

Recreational spaces and facilities should be provided to serve needs of the campus community. Existing deficiencies should be addressed to the extent practical, and facilities provided prior to or in conjunction with new on-campus housing or significant increases in student enrollment.

#### UL STANDARDS

Recreation and athletic facilities should be designed to meet specific standards when necessary for intercollegiate competitions.

#### UL | MULTI-PURPOSE FACILITIES

Recreation and athletic spaces should be designed for multiple users and a variety of activities, and be managed through mutual use agreements.

#### UL ACCESS

Recreation and athletic field and facility design should incorporate space for spectators, ancillary facilities, and access to field maintenance equipment.

Cal Poly Mustangs

#### UL PROXIMITY

Recreational and athletic facilities should be in close proximity to the population they are intended to serve.

#### UL RECREATION IN THE ACADEMIC CORE

As expansion and Academic Core redevelopment is planned, leisure and programmed recreation should be incorporated.

#### UL LOCATION OF OTL ACTIVITIES

Future intercollegiate facilities and large programmable recreation facilities (fields, gyms, courts) should be located outside of the Academic Core with integrated amenities promoting access.

#### IP PARTNERSHIPS

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Cal Poly should evaluate the potential for greater flexibility and efficiency in scheduling, including summer session, to serve more students and decrease time to degrees, without requiring new capital investment.

#### OR | FLEXIBILITY

University provided housing must be self-supporting.

Cal Poly may utilize a variety of development and funding options for housing, including public-private partnerships.



Cal Poly Rec Center

#### OR | FACULTY OFF CAMPUS OPTION

Faculty and staff housing should be considered for appropriate on-campus sites, but off-campus options may also be suitable.

#### OR A DIVERSE COMMUNITY

To better accommodate a diverse community that reflects people with different learning styles, as well as people from different personal, ethnic and cultural situations and needs, University-provided services should be offered in a variety of cost ranges and forms.

### OR | WELLNESS

Health and wellness among the campus community should be encouraged by providing a variety of types of opportunities to engage in healthy behaviors.

#### OR | MANAGING COSTS

Cal Poly should encourage more student, faculty, staff and community use of facilities by managing the cost of use and participation.

#### OR | COLLABORATIVE PLANNING

Support services should be planned with a holistic approach using collaborative interactive processes to involve all parties delivering and receiving services.

#### OR | ACCESSIBILITY AND SAFETY

Campus services and facilities must be designed to meet or exceed applicable legal guidelines such as access for those with physical or learning disabilities, fire safety, and emergency response systems.



Dexter Lawn

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### **DESIGN CHARACTER (DC)**

#### DC | DESIGN AND SCALE

The siting and design of campus facilities should incorporate a full 360-degree approach, where all sides of the facility contribute to a cohesive and aesthetically pleasing experience.

Special attention should be placed on developing the in-between, or interstitial, spaces into well-designed social gathering opportunities.

The campus should incorporate a unifying central gathering space for the campus community.

The planning, siting, design and construction of campus facilities should include visual connections to activities inside buildings.

The design of campus facilities should maintain and incorporate a pedestrian sense of scale.



Ancillary facilities should not compete for land with instructional needs within or near the Academic Core and should generally be located at more remote sites unless other considerations override.

#### DC | OFF-CAMPUS CONNECTION

Services with frequent off-campus interaction should be located close to off-campus circulation routes and parking facilities.

#### DC GATEWAYS AND EDGES

Gateway entrances to Cal Poly should be easily recognizable and reflect its mission as an institution of higher learning.

The edge of the campus should be transparent, friendly, and aesthetically pleasing to the surrounding community.

#### DC | CONNECTION

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Campus design and wayfinding should reflect an enhanced connection to, and interaction with, the surrounding City of San Luis Obispo.

#### DC | COORDINATION

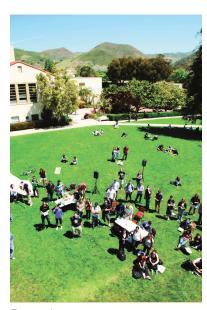
Related services that require face-to-face interactions should be coordinated in accessible locations, convenient to their clientele.



Warren J. Baker Center for Science and Mathematics



Lawn adjacent to Mott Athletics Center



Dexter Lawn

#### DC | FLEXIBILITY

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Public services and utilities should support the University efficiently, with the flexibility to meet changing needs, and designed for ease of maintenance and renovation.

#### DC | INFRASTRUCTURE

Public facilities and utility support structures should be concealed from view unless their visibility serves an explicit educational function.

Sites and facilities should be sized appropriate to their expected purposes.

In addition to appropriate infrastructure and technology, instructional spaces should enhance the teaching/learning environment considering such variables as floor plans, windows, views, natural light, air quality, adjacencies and circulation.

#### DC LANDSCAPE SPACES

The siting and design of campus buildings and other features should recognize the importance of preserving certain open space areas including Dexter Lawn, Richard J. O'Neill Green, the Arboretum, and Poly Canyon, and strive to create additional outdoor spaces.

Landmarks and place-making elements that identify special campus locations such as Dexter Lawn, the Engineering Quad, Via Carta Plaza and Mustang Way should be preserved and enhanced, and new ones created.

#### DC | OUTDOOR AMENITIES

Campus public areas should incorporate landscaping and amenities such as flexible seating areas, technology, electrical power, trees, public art, food vendors, and other student – focused amenities.

### DC OUTDOOR SPACES

Outdoor spaces should have perceived boundaries and "sense of space" that help to define them as recognizable campus places.

#### IP DEFERRED MAINTENANCE AND ADAPTIVE RE-USE

Cal Poly should develop a program to adequately maintain its infrastructure and other physical assets, including addressing deferred maintenance, to extend the useful lives of those assets; the adaptive re-use of existing buildings should be considered in lieu of new construction where appropriate based on the evaluation of such factors as costs (including future maintenance and operating costs), the program and use of the facility, the adequacy of technology for contemporary and future users, the appropriate intensity and/ or density of development for the site location, and environmental impacts.

#### OR | FLEXIBILITY

The design of the built environment (interior and exterior) should take full advantage of the Central Coast's Mediterranean climate for health, environmental, energy efficiency and aesthetic reasons.

### OR DESIGN AND CLIMATE CONTROL

The design of campus buildings and outdoor spaces, with regard to climate control, should recognize the purpose and intent of the facility (i.e. technology lab vs. lecture space) and the effects of siting, sun exposure, wind, materials, and air circulation.



Looking southwest over Poly Canyon Village



Pervious paving in Poly Canyon Village

### SUSTAINABILITY AND ENVIRONMENTAL STEWARDSHIP (S)

S I SUSTAINABILITY

On-campus residential neighborhoods should include spaces and facilities that support a sustainable lifestyle.

Cal Poly should preserve and enhance the viability of agriculture and natural habitat systems on its holdings by providing adequate land area including appropriate buffers, connectivity or corridors between related natural communities, and linear continuity along streams.

Impacts to environmentally sensitive areas should be avoided; environmentally degraded areas should be enhanced or restored where practical.

S Open spaces should form links (spaces and corridors) at all scales to form visual, recreational and access connections.

The siting and design of campus buildings and other features should reflect and enhance visual and physical connections to the surrounding natural environment and outdoor spaces on-campus.

Development of campus facilities and utility infrastructure should incorporate strategies to minimize impacts on the environment.

#### IP RENEWABLES

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O5 Cal Poly should continue its program of identifying areas for solar and other forms of renewable energy.

#### IP | ENERGY AND WATER CONSERVATION

O6 Cal Poly should continue its program of retrofitting older buildings for energy and water efficiency.

Cal Poly should investigate the use of reclaimed water and the use of grey water systems; turf should be limited to high use areas only.

Cal Poly should investigate the potential of becoming a climate action reserve.

#### IP | TRAILS

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A trail plan should be developed to provide access to Cal Poly's natural resources and open spaces where appropriate considering factors such as safety, avoidance of degradation of the resources and interference with educational priorities; such a plan should address design, management and signage to addressing appropriate use and signage, including possible links between off campus public lands.

#### IP | LEADERSHIP AND PARTNERSHIPS

Cal Poly should take a proactive leadership role in the preservation of the area's natural resources and develop strategic partnerships with other agencies and organizations involved with resource stewardship.

#### OR RESOURCE CONSERVATION

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Infrastructure development should maximize resource conservation, leverage current policy and practice in support of sustainable design, consider long-term return on energy investment, and establish a foundation for future revenue potential.

OR Cal Poly should strive to be a net zero campus by investing in renewable power and prioritizing on-campus generation.

OR Cal Poly should continue to exceed Title 24 Cal Green requirements in new construction.

OR Cal Poly should plan for solid waste management, and in particular for recyclables, in all future development.

OR Cal Poly should be the model for Low Impact Design principles.

Cal Poly should be a leader in resource stewardship; it should manage its natural resources and design and operate its buildings so that they are an integral component of current and future research, education and living experiences involving daily student, faculty and staff participation.

Cal Poly should integrate sustainability principles into fundraising priorities.



Waste sorting at campus event

#### TRANSIT CENTER CONCEPT



Multimodal transit center adjacent to Creekside Village.

### TRANSPORTATION AND CIRCULATION (TC)

#### TC | MULTIMODAL SYSTEM

Existing roads in the Academic Core, including North Perimeter, should be re-designed and managed to reflect mode priorities.

#### TC | REDUCE CARS AND ENCOURAGE ACTIVE TRANSPORTATION

Single occupancy vehicle trips to campus should be reduced by increasing ride sharing and by substituting cars with active transportation options.

All modes of the circulation system should be safe; routes for all modes should be adequately lighted, graded and constructed for both ease of movement and safety.

#### TC | ACCESS

On-campus residential neighborhoods should have convenient access to public transportation.

TC The campus circulation system should accommodate access for deliveries, maintenance, public safety, persons with other needs, and public transit/internal shuttles.

#### TC | EFFICIENCY

Cal Poly's on-campus circulation systems should connect efficiently with those of the City, County, RTA, and Cal Trans.

#### TC | PRIORITIZE RESOURCES

O7 Cal Poly should give higher priority to committing resources to active transportation and trip reduction measures over providing more parking on-campus.

#### TC | CONTROLS

O8 Conflicts among circulation modes should be avoided through such methods as separated routes, grade separated paths, traffic calming and intersection controls.

#### TC TRANSPORTATION CENTER

A multimodal transportation center should be planned and funded on the campus.

#### TC | CONNECTIVITY

Increased connectivity between the Academic Core, peripheral facilities, and residential neighborhoods should be encouraged.

#### TC | SAFETY AND CONVENIENCE

On-campus residential neighborhoods should be designed with convenient access to the core of campus, including safe and convenient pedestrian and bicycle paths; consideration should be given to a shuttle service or other intracampus alternatives when residential developments are beyond convenient walking distance.

#### TC. | WAYFINDING

Campus wayfinding should clearly identify places, routes, and destinations and enable people to orient themselves to find their destination.

#### TC PARKING

Parking should be provided in appropriate amounts and locations depending on the purpose.

Major parking facilities should be located to "intercept" cars outside the Academic Core; drivers should be able to conveniently transition to other active modes or intra-campus shuttles or other options.

Parking facilities should be sited and designed to reduce visual obtrusiveness while maintaining safety.

### IP | SAFETY

TC

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Educational programs that promote safety in all modes should be improved and better directed to target audiences.

#### IP UPDATED IMPLEMENTATION PLAN

Cal Poly should incorporate pedestrian, bicycle and transit plans into a comprehensive and updated multi-modal active transportation plan designed consistent with leading standards.

#### IP | NATIONAL LEADER AND MULTI-DISCIPLINARY CENTER

Cal Poly should be a national leader in multi-modal transportation best practices, related research and technology transfer and should develop a multidisciplinary center or institute focused on transportation issues including planning, research and modeling actual practices.

#### IP | SLO AN ACTIVE TRANSPORTATION MODEL COMMUNITY

As a regional leader in fostering active transportation, Cal Poly should partner with local, regional and national public and private organizations (including but not limited to the City, County, Caltrans, SLOCOG, RTA, Amtrak, and Union Pacific Railroad) to make San Luis Obispo a model for modal shift from single occupancy autos to a complete active transportation system.



Campus bikeway



Mustang Way



Transit stop at Robert E. Kennedy Library

#### P | IMPLEMENTING THE MODAL SHIFT

Cal Poly should strengthen policies that discourage people from bringing cars to campus, especially for first- and second-year students living on-campus residents, and other students who reside on or near campus, and should concurrently provide the services, infrastructure and incentives for using active transportation options so that most students will not want a car.

Education, incentives and the use of emerging technologies such as dynamic matching should all be supported and utilized to improve ridesharing and the choice of active transportation modes.

IP Educational and information campaigns related to modal shift should be compelling, consistent, effective and across multiple media.

Measurable objectives should be established to track progress toward shifting modes to an active transportation system including social science metrics related to attitudinal as well as behavior shifts.

For the desired modal shift to be expeditiously implemented, more robust and sustainable funding sources must be identified.

#### IP BICYCLES

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Cal Poly should partner with the City to help develop off-campus bicycle improvements as prescribed in the City's bike plan and that improve connections between the campus and community.

Convenient bicycle routes throughout the campus, as well as bike parking located as near as practical to campus origins and destinations, should be provided to encourage bicycle use.

On-campus housing should be designed to accommodate bicycle parking that is indoors or otherwise protected from the elements.

#### IP BUSES

Cal Poly should continue to work with the City and RTA to make public transportation more convenient than automobile use through such improvements as shorter headways, increased evening and weekend services, and greater convenience for on-campus residents.

IP Cal Poly should work toward restoring, expanding and publicizing extraregional bus service.

#### PARKING DEMAND MANAGEMENT

Parking should be efficiently managed to reduce the need for parking spaces through real time information regarding space location and availability, variable time pricing, and other best practices.

#### IP | FUTURE PARKING FACILITIES

- A system should be established whereby sponsored guests can obtain parking passes without crossing the campus to a single staffed kiosk.
- Any future or renovated parking facility should meet the certification standards of the Green Parking Council or similar organization.

### IP CONNECTIONS TO THE CORE

- Where activities are located beyond walking distance from the Academic Core, alternative transportation options should be provided.
- IP If intra-campus shuttles or similar future services are provided, they should be low or zero emission (such as electric, CNG or gas hybrid).

### **IMPLEMENTATION (I)**

#### **REPLACEMENT**

- O1 Cal Poly should evaluate both past investment and the need for future expansion when planning for new and redeveloped facilities.
- In cases where an activity must be relocated, new sites should be identified and replacement facilities developed prior to the move.
- Relocation or disturbance of activities that depend on long-term use of a site should be minimized unless other important University goals override.

#### I TRANSPARENCY

- Cal Poly should consider potential impacts -- including but not limited to traffic, parking, noise, and glare -- on surrounding areas, especially nearby single-family residential neighborhoods, in its land use planning, building and site design, and operations.
- Cal Poly should inform local agencies and the community prior to amending the Master Plan or developing major new projects, and provide opportunities for comments.
- Cal Poly should maintain open communication with neighbors, stakeholders, and local public agencies, respecting the community context and potential impacts of campus development.