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Credit(s) earned on completion of this course will be reported to American Institute of Architects (AIA) Continuing Education Session (CES) for AIA members.

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COURSE DESCRIPTION



402 Facilities Master Planning APPAU2019091
 Review the concepts of institutional and strategic planning and its importance in guiding the future development of the campus. Examine how institutional and academic initiatives interact with facilities planning. Learn about the principle and fundamentals of campus master planning and how to develop, implement, and modify a master plan. Discuss the pros and cons of planning "in house" as opposed to hiring "outside consultants". Discuss the importance of preparing a long-range institutional plan – its relationship to the Academic Plan, and related planning for the development of utilities, infrastructure, and supporting facilities (i.e., housing, parking and transportation, recreation). The focus of the course is on general principles of campus planning with an emphasis on the practical application of the planning process.

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LEARNING OBJECTIVES

- 1. Review the concepts of strategic planning
- 2. Discuss the pros and cons of in-house planning as opposed to hiring consultants.
- 3. Learn practical applications of the planning process.
- 4. Discuss the importance of preparing a long-range institutional plan.

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TABLE INTRODUCTIONS

Survey

- Where are you from?
 - (East Coast, Midwest, Rocky Mtn, West Coast)
- What is your institution type?
 - Community College, Regional Comprehensive, Research/Flagship?
 - Public vs Private?
- What is your Facilities Department?
 - PD&C, Utilities, HVAC, Grounds, Carpentry, Environmental Services, Administration?

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LOCATION OF THE OLDEST UNIVERSITY?

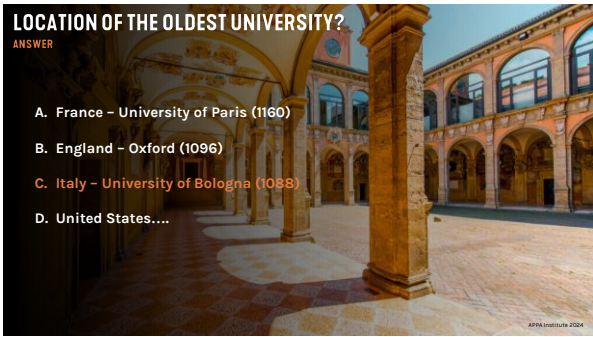
- A. France
- B. England
- C. Italy
- D. United States

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LOCATION OF THE OLDEST UNIVERSITY?
ANSWER

- A. France – University of Paris (1160)
- B. England – Oxford (1096)
- C. Italy – University of Bologna (1088)
- D. United States....



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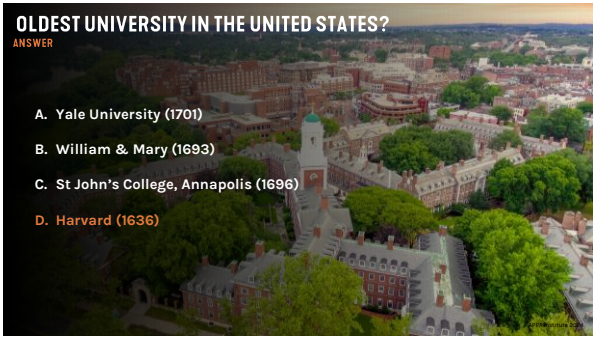
OLDEST UNIVERSITY IN THE UNITED STATES?

- A. Yale University
- B. William & Mary
- C. St John's College, Annapolis
- D. Harvard

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OLDEST UNIVERSITY IN THE UNITED STATES?
ANSWER

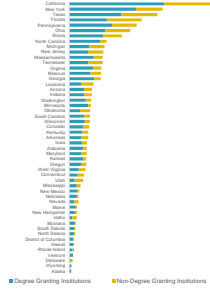
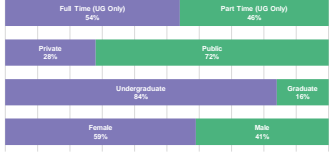
- A. Yale University (1701)
- B. William & Mary (1693)
- C. St John's College, Annapolis (1696)
- D. Harvard (1636)



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WHERE ARE WE TODAY?

HOW MANY STUDENTS?



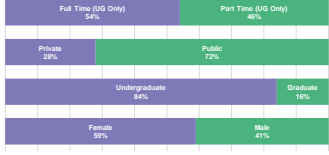
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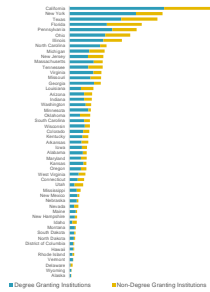
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WHERE ARE WE TODAY?

~25 Million Students Enrolled (2022 NCES)



6,000 Institutions
4,000 Degree Granting Institutions



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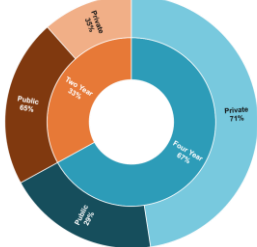
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WHERE ARE WE TODAY?

~4,000 Degree Granting Institutions (2022 NCES)

TWO YEAR INSTITUTIONS



FOUR YEAR INSTITUTIONS

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LARGEST UNIVERSITY LANDS

•Berry College	27,000	Rome, GA
•US Air Force Academy	18,455	Colorado Springs, CO
•US Military Academy	16,080	West Point, NY
•University of the South	13,000	Sewanee, TN
•Penn State University	11,000	University Park, PA
•Stanford University	8,180	Palo Alto, CA
•Liberty University	7,000	Lynchburg, VA
•Michigan State University	5,239	East Lansing, MI
•Texas A&M University	5,115	College Station, TX
•Tuskegee University	5,000	Tuskegee, AL



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WHY DO A CAMPUS PLAN?



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WHY DO WE DO IT?

- ACCREDITATION
- AVOID COSTLY MISTAKES
- Growth/Decline in Enrollments
- Qualitative Issues/Building Renewals
- Improve the Environment
- Success of the Programs
- Community
- Prepare Successors
- Legacy (Person/Event/Place)
- Mandated by Others



and the list goes on.....

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GROWTH OVER THE YEARS

- One Building
- Initial Growth
- Fire/Rebuild
- Land Grants
- Wars
- Sports
- GI Bill
- 60's Explosion
- Confusion/Investment
- "Enrollment Cliff"



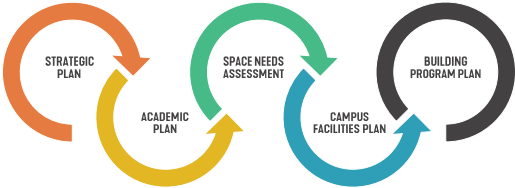
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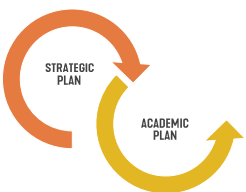
LEVERAGING THE PLANNING PROCESS



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THE HIGH LEVEL PLANNING PROCESS



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STRATEGIC PLAN GOALS



Research Expansion Needs

Double research expenditures by 2035, position for AAU membership.

Build an AAU-aligned faculty to address societal needs.

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STRATEGIC PLAN ELEMENTS

WHERE DO WE WANT TO BE IN THE FUTURE?



WHERE ARE WE NOW—WHAT IS OUR PURPOSE?



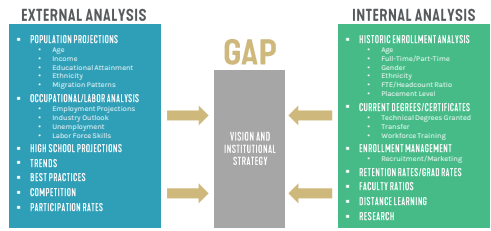
HOW DO WE WORK TO ACHIEVE OUR PURPOSE?



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STRATEGIC PLANNING ANALYSIS

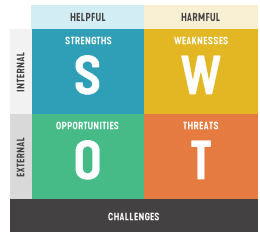


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SWOT-C ANALYSIS

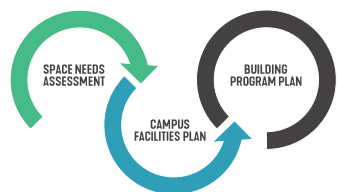
- Strengths are defined as skills, competencies, capabilities, competitive advantages, or resources for which CUSD can draw in selecting its future direction of action.
- Weaknesses are defined as the lack of skills, competencies, capabilities, or resources needed by CUSD to function effectively.
- Opportunities are situations in the environment (local, state and national) from which CUSD can benefit if certain actions are taken.
- Threats are situations in the environment which give rise to potentially harmful events and outcomes if action is not taken in the immediate future.
- Challenges refers to those pressures that exert a decisive influence on CUSD's likelihood of future success.



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THE PHYSICAL PLANNING PROCESS



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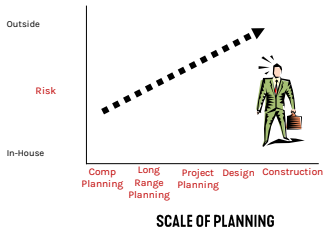
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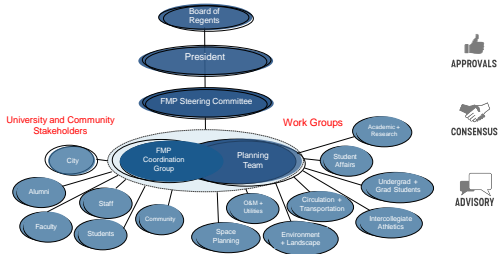
CONSULTANTS

IN-HOUSE VS OUTSIDE



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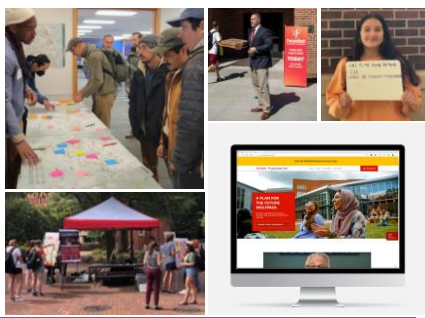
PLANNING



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ENGAGEMENT APPROACHES

- Campus Visits
- Workshops
- Open Forums
- Pop-Up Sessions
- Focus Groups
- Physical Models
- Charrettes
- Website



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DIGITAL ENGAGEMENT TOOLS

UNDERSTANDING A DAY IN THE LIFE

- Data Collection & Analysis
- Interactive Survey



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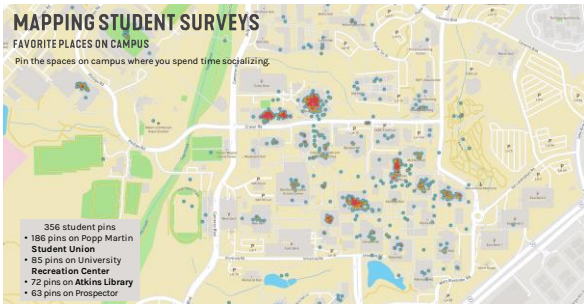
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SURVEY: DRIVING AND WALKING



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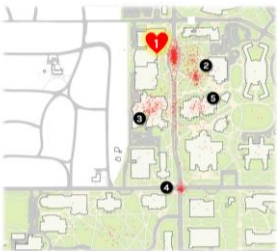


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MAPPING STUDENT SURVEYS

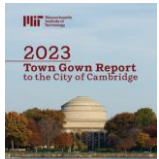
- 1 SHAFER BELL TOWER**
 — 100% This part of campus has the most activity throughout the day for classes, food, hangouts, etc.
 — The upper field next to the tower is where I believe the heart of campus is.
- 2 FROG BABY**
 — Next to the Bell Tower and Frog Baby because people really love to hammock and stuff here.
- 3 THE ATRIUM (ART AND JOURNALISM BUILDING)**
 — The atrium is the biggest zone for all students to come hang.
 — Chuck-61-A
- 4 MCKINLEY & RIVERSIDE INTERSECTION**
 — It splits the campus into sections, and it's the convergence point of walking routes from the sidewalks of one section to another.
 — Where you can see the most diversity and how many people are on campus.
- 5 THE LIBRARY**



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TOWN & GOWN INTERNATIONAL TOWN & GOWN ASSOCIATION

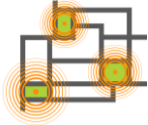


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GENERATE BIG IDEAS

BALANCE HISTORICAL CONTEXT WITH FUTURE NEEDS



OPTIMIZE

LEVERAGE EXISTING ASSETS

Explore ideas to make better use of existing facilities by improving utilization, modifying operational strategies, or scheduling practices.



EXPAND

EXPLORE EXPANSION OPPORTUNITIES

Consider areas for possible campus expansion to allow for growth in place to address future needs related to research, academics, and student life.



RELOCATE

CONSIDER RELOCATION OF FUNCTIONS

Evaluate possibility of relocating some functions away from campus that are less essential to day-to-day activities (interior or exterior functions).

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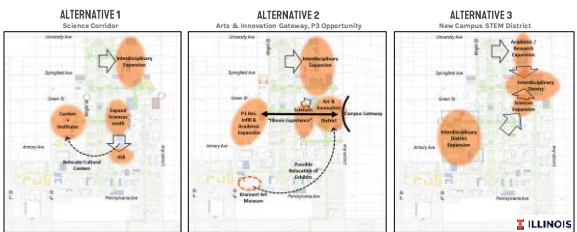
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EXPLORE ALTERNATIVE APPROACHES

EVALUATE POSITIVE AND NEGATIVE IMPACTS OF EACH



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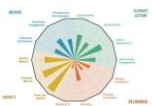
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ALIGNMENT WITH STRATEGIC PLAN

PRIORITIZATION OF SCENARIOS

0000 BEST



	FINANCIAL	CAPITAL RENEWAL	DEVELOPMENT TIMELINE	PROGRAMMATIC EFFECTIVENESS	CAMPUS FRAMEWORK	CARBON EFFECTIVENESS
SCENARIO A	○ ○ ○ ○	○ ○ ○ ○	○ ○ ○ ○	○ ○ ○ ○	○ ○ ○ ○	○ ○ ○ ○
SCENARIO B	● ○ ○ ○	● ○ ○ ○	○ ○ ○ ○	○ ○ ○ ○	○ ○ ○ ○	● ○ ○ ○
SCENARIO C	● ○ ○ ○	○ ○ ○ ○	○ ○ ○ ○	● ○ ○ ○	○ ○ ○ ○	○ ○ ○ ○

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Horizontal lines for notes.



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MULTIPLE PLANS

REVIEW, REVISIT, ASSESS, DEFINE.

- LONG-RANGE FRAMEWORK PLAN (2017)
- RESEARCH & LEARNING CAPITAL PLAN (2019)
- PERIMETER RD CORRIDOR & PRKG STUDY (2020)
- HOUSING & DINING MASTER PLAN (2021)
- EAST SECTOR UPDATE PLAN (2023)
- NUMEROUS FEASIBILITY STUDIES (2017-2024)



- RESEARCH FACILITIES MASTER PLAN
- CAMPUS LIFE FACILITIES MASTER PLAN
- ATHLETICS PRECINCT MASTER PLAN
- CAMPUS LANDSCAPE AND CULTURAL MP



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PHYSICAL PLANNING – LONG RANGE PLANS

SPECIFIC PLANS WITHIN THE PLAN

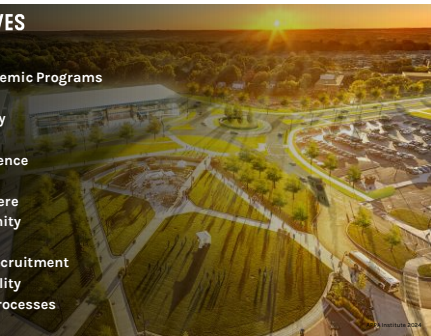
- Parking
- Circulation
- Landscape
- Bikeway
- Architecture/Design Guidelines
- Space Plans
- Land Acquisitions
- Facility Audit/Bldg. Revitalization



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GOALS – OBJECTIVES


- Accommodate Academic Programs
- Pedestrian Oriented
- Sense of Community
- Safety and Security
- Reduce Travel Sequence
- Improve Land Use
- Collegiate Atmosphere
- Links With Community
- Student Centered
- Improve Identity/Recruitment
- Improve Sustainability
- Improve Planning Processes



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DESIGN PRINCIPLES

- Create distinctive physical image
- Enrich the experience for all
- Maximize value of physical assets
- Provide facilities to support programs
- Implement plan in a timely manner
- Develop strong foundation
- Complete pedestrian ways
- Increase density
- Introduce more gathering places
- Historic preservation
- Connect multi-modal transportation
- Redistribute parking
- Develop landscape guidelines
- Turn attention away or toward buildings
- Improve campus edges



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FOUNDATIONS – WHAT IS “SACRED”?



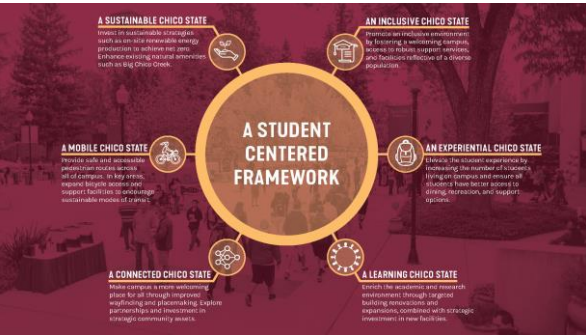
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CASE STUDY: CHICO STATE

PLAN ALIGNMENTS, GOALS AND PRINCIPLES



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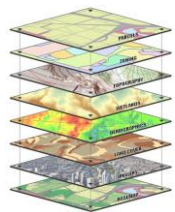


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WHAT IS IN A CAMPUS PLAN?

MANY CHAPTERS AND ANALYSES

- TOPOGRAPHY
- OPEN SPACE
- LAND USE / ACQUISITION
- VISTAS AND VIEWPLANES
- EDGES AND GATEWAYS
- PATHWAYS
- PARKING
- ART DISPLAY
- CAMPUS LANDSCAPE AND VEGETATION
- WAYFINDING
- BUILDING CONDITIONS
- BUILDING USE / NEW BUILDINGS
- ARCHITECTURE
- HISTORIC CONTEXT
- UTILITY DISTRIBUTION AND PRODUCTION



AND THE LIST GOES ON.....

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LAND USE

- Academic Areas
- Services and Admin
- Athletics & Rec
- Natural Areas
- Undeveloped
- Residential



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UNDERSTANDING LAND USE PATTERNS



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OUTDOOR SPACE

- Quadrangles/Lawns
- Walkways
- Athletic/Recreational Fields
- Plazas(hardscapes)
- Surface Parking Lots
- Streets/Service Routes
- Campus Edges/Gateways
- Fields/Parks
- Lakes/Ponds/Rivers
- Conversation Spaces
- Gardens/Arboretums
- Paths
- Vistas

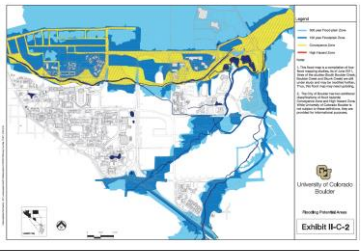


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OPEN SPACE – FLOODZONES

- Quadrangles/Lawns
- Walkways
- Athletic/Recreational Fields
- Plazas(hardscapes)
- Surface Parking Lots
- Streets/Service Routes
- Campus Edges/Gateways
- Fields/Parks
- Lakes/Ponds/Rivers
- Conversation Spaces
- Gardens/Arboretums
- Paths
- Vistas



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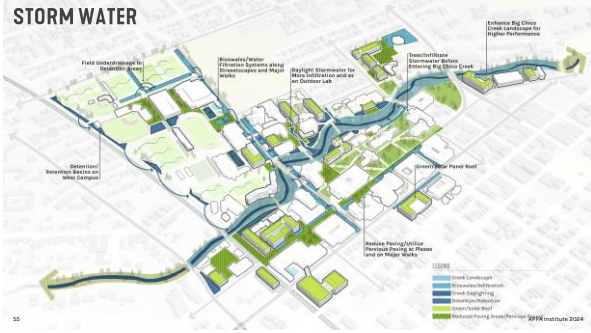
LANDSCAPE



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STORM WATER



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CIRCULATION-WALKWAYS



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MOBILITY (PARKING & TRANSPORTATION)

- Parking
- Vehicular
- Pedestrian
- Mobility Impaired
- Service Vehicles
- Bicycles
- Skateboards!
- Mass Transit
- Motorized Scooters



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BIKEWAYS

- Types of Routes
- Paths
- Lanes
- Routes
- Dismount Zones
- Connectivity
- Signage
- Rules & Regs
- Parking
- Racks
- Lockers
- Locations
- In Buildings



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PARKING & SERVICE

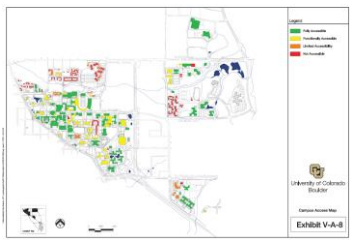
An mentioned earlier, the Plan recommends the conversion of several streets in the Precincts to pedestrian focused corridors with service and emergency access. Through this, it is suggested to be a primary service corridor that enables access of these street conversions. On-street parking is eliminated or minimized in these places and overall Parking Structures are introduced to accommodate the required parking. The number of bike parking spaces are still maintained through all these initiatives.



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ACCESSIBILITY

- Mobility Impaired
 - Dimensions
- Audio Impaired
- Visually Impaired
 - Sensory Clues
- Other Issues
- Relationship to the Americans with Disabilities Act (ADA)
- Universal Accessibility



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LANDSCAPE

- Scale of Open Space
- Layering
- Vegetation
- Site Furniture
- Signage
- Wayfinding
- Art
- Lighting
- Architectural Décor
- Landmarks
- Hammocks, Slacking?

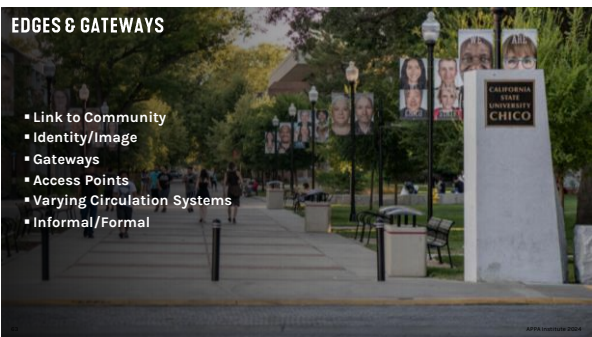


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EDGES & GATEWAYS

- Link to Community
- Identity/Image
- Gateways
- Access Points
- Varying Circulation Systems
- Informal/Formal



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SIGNAGE AND WAYFINDING

- Destination Hierarchy
 - Freeway to Destination
- Special Events
 - Kiosks, Billboards, Posters, Banners
- Education/History
- Lighting
- Signage Standards
- Security/Comfort
- Sense of Place
 - Architectural Icons
 - Landscape Features
 - Vistas



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GATEWAYS



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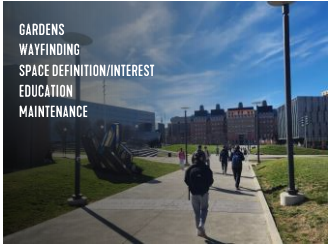
SITE FURNISHINGS

- Consistency
 - Outdoor Use
 - Durability/Vandalism
 - Low Maintenance
 - Attractiveness
 - Cost
-
- Furnishings
 - Trash/Recycling Receptacles
 - Smoking Urns
 - Dumpsters and Compactors



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ART IN PUBLIC PLACES



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ARCHITECTURE

DESIGN GUIDELINES

- Buildout/Massing
- Setbacks/Density
- Historic/Landmarks
- Design Guidelines
- Accessibility
- Entrance/Service
- Pallet of Materials
- Sustainability Goals
- Districts/Neighborhoods



BUILDING SETBACKS, SETBACKS

Buildout is considered as a horizontal mass from the existing building line of the project. Building setbacks are considered as the vertical mass from the existing building line. Setbacks are considered as the vertical mass from the existing building line. Setbacks are considered as the vertical mass from the existing building line. Setbacks are considered as the vertical mass from the existing building line.

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UTILITY INFRASTRUCTURE

- Chilled Water
- Compressed Air
- Electric:
 - Power
 - Lighting
- Natural Gas
- Sanitary Sewer
- Steam
- Storm Sewer
- Telecommunications:
 - Copper
 - Fiber
 - Wireless
- Water:
 - Irrigation
 - Potable

INFRASTRUCTURE RELIABILITY

The City and building utility owners must work together to ensure the reliability of the utility infrastructure. This includes the design, construction, and maintenance of the infrastructure. The City and building utility owners must work together to ensure the reliability of the utility infrastructure. This includes the design, construction, and maintenance of the infrastructure.

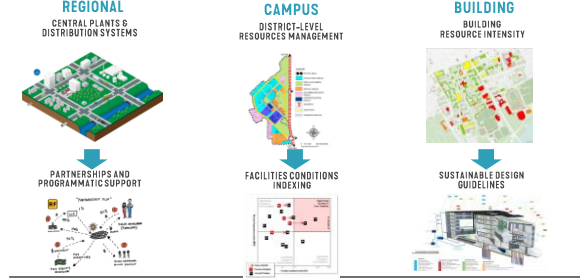


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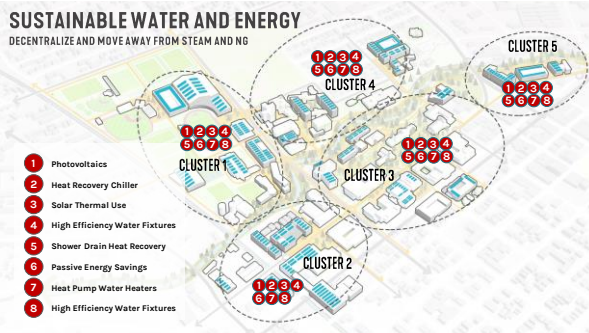
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SUSTAINABILITY: SCALES OF INFLUENCE

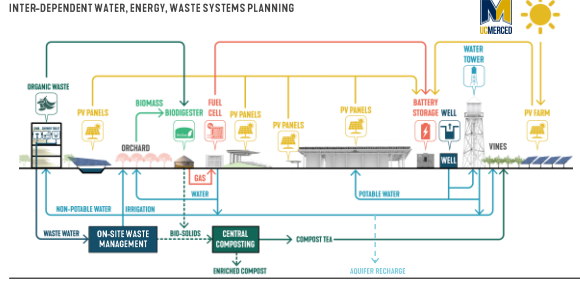


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SMART GROWTH & ECOSYSTEMS



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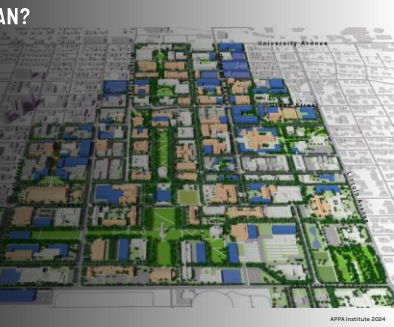
PRECINCT OR NEIGHBORHOOD STUDIES



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WHAT DRIVES THE PLAN?

- STRATEGIC PLAN, MISSION, VALUES
- PEOPLE
- POLITICS & COMMUNITY
- FUNDING
- BUSINESS OPERATIONS
- BUILDING CONDITION
- SUSTAINABILITY
- STUDENT LIFE
- DEVELOPMENT



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TO BE SUCCESSFUL THE PLAN MUST BE:

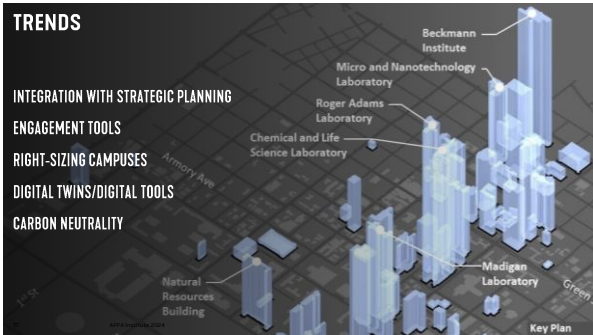
- HAVE STAKEHOLDER BUY-IN
- BE INTEGRATED
- BE COMPREHENSIVE
- BE DATA-INFORMED
- BE UNDERSTANDABLE
- BE TIMELY
- BE FLEXIBLE/DYNAMIC
- BE FUNDABLE
- BE VISIONARY AND IMPLEMENTABLE



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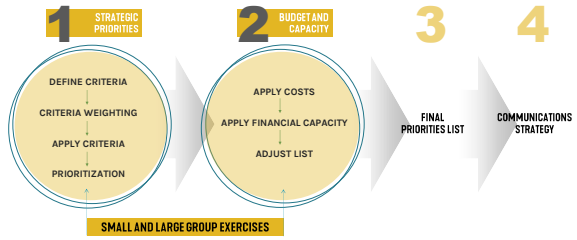
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PRIORITIZATION PROCESS

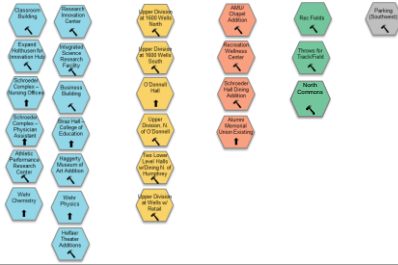
PRIORITIZE SUPPORTING THE STRATEGIC PLAN



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PRIORITIZATION PROCESS

MASTER PLAN PROJECT RECOMMENDATIONS

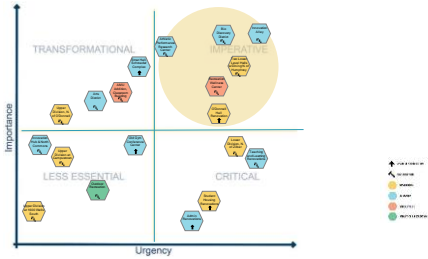


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PRIORITIZATION

PRIORITIZE SUPPORTING THE STRATEGIC PLAN

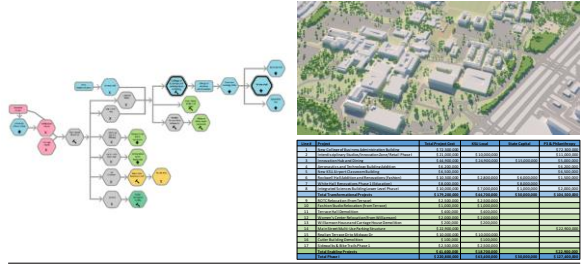


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IMPLEMENTATION STRATEGY

PROJECT SEQUENCING, COSTS - FUNDING



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FUNDING PACKAGES

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