

2020 Campus Master Plan



Sustainability Meeting
January 22nd, 2020

I ntroductions



Who is in the Room?



AGENDA

Steering Committee

1. Master Plan Status Update
2. Sustainability at UA (Primer)
3. Exercise: Past, Present, & Future
4. Communicating UA's story: Education & Outreach
5. Sustainability Round-table (Discussion)
6. Wrap Up

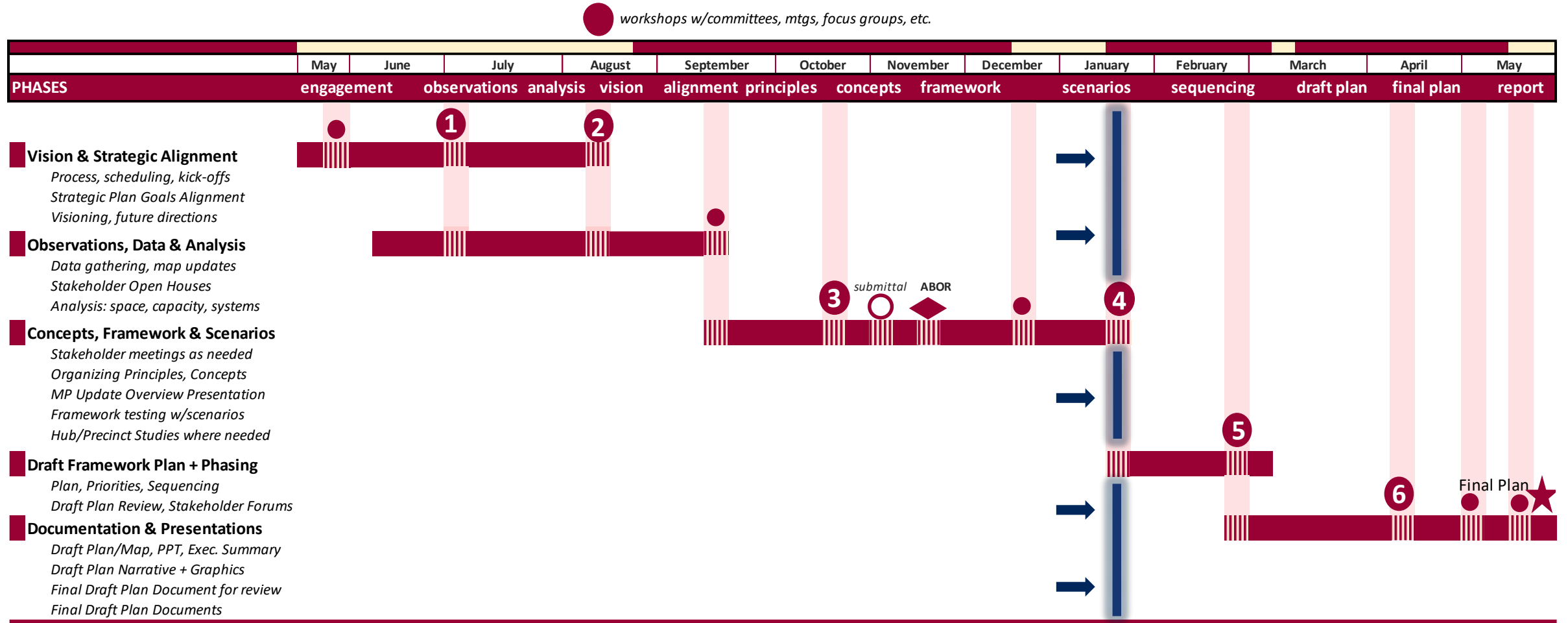


1. Master Plan Status Update

University of Arizona 2020 Campus Plan Update



2020 Campus Master Plan Schedule



Stakeholder Engagement



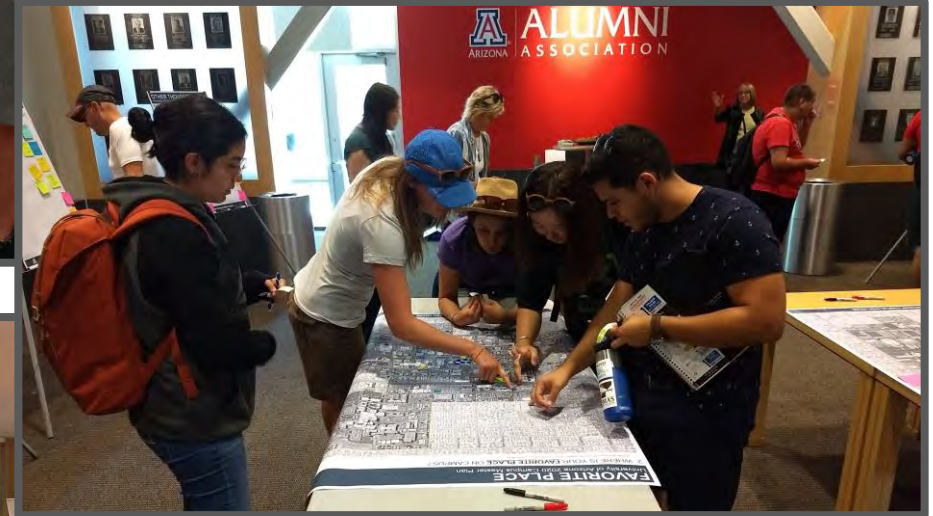
Comprehensive Workshops

- Leadership
- Faculty
- Staff



Focus Groups

- Topical Discussions



Students Engagement

- Open House



Neighborhood Engagement

Engagement to-date

26

Engagement Meetings

4 Workshops

18 Focus Groups
(part of 1 or more meetings)

4 Meetings
(Steering Committee/
Operations Committee)

1

Campus-wide Open House

4,000+ Dots
(1 Dot=1 comment)

200+ Participants

400 Cookies

360+ Web Site Comments

3

Neighborhood Meetings
(Open Houses & Report-back)

450+ Dots
(1 Dot=1 comment)

10 Neighborhood Associations

40+ Neighbors



1,128

Total Participants

Physical Campus Feedback

STRENGTHS

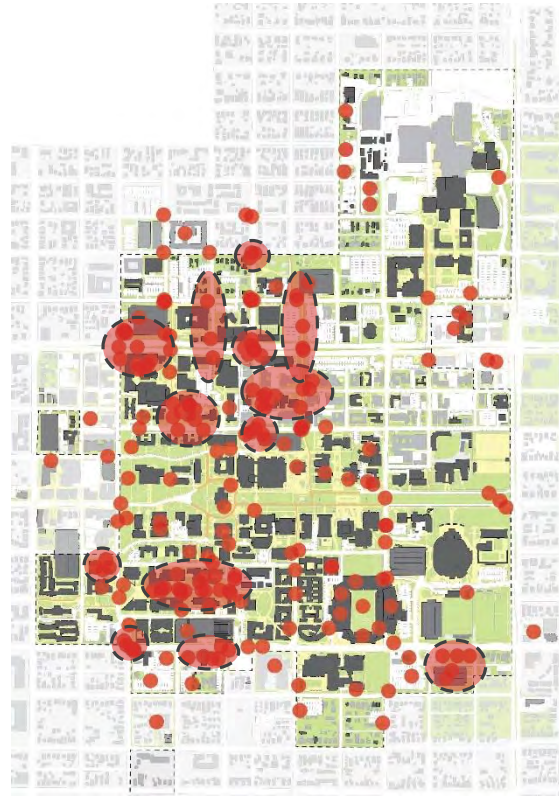


- West Gate – gateway and entry
- Old Main
- Research Facilities - ENR2/HSIB
- Main Mall
- Rec Center
- Community Garden



Successful places on campus

WEAKNESS

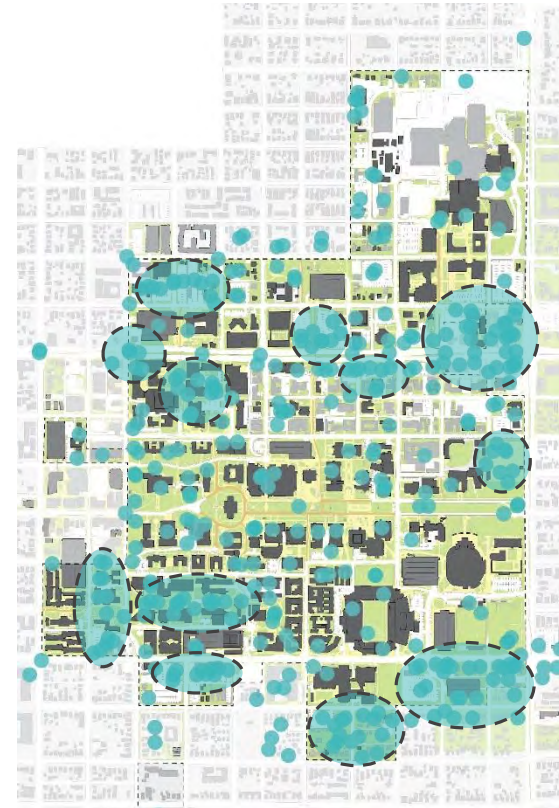


- Gateway and Intersections along Speedway Blvd. & 6th St.
- North-South Connectivity
- Density & Infill along Speedway Blvd. & 6th St.
- Southwest Campus Quad



Places for improvement

OPPORTUNITIES



- Underutilized Parking Lots
- Gateways and Housing
- Land Use Synergies along 6th St. & Speedway Blvd.
- Open Space Improvements in Southwest Campus
- Southern Edge Land Uses



Places with unrealized potential

THREATS



- Older Buildings on Campus
- Intersections and Bike/Ped pathways
- East Speedway Gateway
- Arizona Stadium – deferred maintenance



Places that need to be addressed

Master Plan Organization - Steering Committee

Three areas of Direction:

1. Framework:

Physical Campus Framework Advances to Support Capacity Opportunities

2. Integrated Planning Projects:

Integration of key upcoming projects and infrastructure

3. Strategic Asset Management:

Developing long-term views on key space resources and how their attributes affect experience and the built environment

A. Universal Support Topics:

Topics that support all three areas of direction including enrollment growth and profiles, program profiles and evolutions, campus carrying capacity, impact of new vs. renovation, broader PDC project, and physical infrastructure limitations



2. Sustainability at UA (Primer)

University of Arizona 2020 Campus Plan Update



Campus Sustainability Activities

- Integration of Sustainability into the University Strategic Plan
- AASHE STARS Reporting
- University Climate Change Coalition (UC3)
- Large-Scale Renewable Energy Agreement
- ENR2 Rooftop Agrivoltaic Project
- Sustainability/Climate Action Plan
- Tucson 2030 District
- Student Engagement
- UArizona Community Garden
- Utility Modification Revolving Fund
- Sustainability Map

Campus Sustainability – Strategic Plan

- **Pillar II – Initiative 2.2(A)**


“We are setting out to be a top ten ranked environmental university in the world. To achieve this goal we must not only excel in research on the natural and built environment but also lead in teaching, public service/community impact (i.e., land grant), and creating a sustainable campus.”

- **Pillar V – Initiatives 5.4(A)**

“aims to advance quantifiable environmental performance and practical climate change mitigation strategies in all campus operations, while simultaneously leveraging collaborative outreach across campus and within the Tucson community.”

- **Pillar V – Initiatives 5.4(B)**

“aims to integrate sustainability values and best practices into the daily activities and responsibilities of all University faculty, staff and students, while also developing and strengthening community relationships, in order to create collaborative, practical, place-based solutions to local environmental challenges.”



THE UNIVERSITY OF ARIZONA


Strategic Plan

- Introduction
- Pillars
 - I The Wildcat Journey
 - > Initiatives
 - II Grand Challenges
 - > Initiatives
 - III The Arizona Advantage
 - > Initiatives
 - IV UA Global
 - > Initiatives
 - V Institutional Excellence
 - > Initiatives

Pillar 5

Institutional Excellence: Ensuring UA lives its values and innovative culture

Ensuring UA lives its values and innovative culture to enable an efficient, high performing academic and administrative enterprise. UA will be a dynamic educational and research institution that operates as a best in class place to learn, research, and work



CONTEXT	GOALS	INITIATIVES
<p>1 The Values-Driven University An inclusive, innovative, high performing, execution-oriented academic and administrative organization that wins with the right culture</p>	<p>2 Service Excellence “Power the UA Academic Mandate” of student and research success through institutional excellence</p>	
<p>3 Perpetual excellence Continuous review and improvement of strategic plan and broader university enterprise</p>		<p>4 Sustainable UA Elevate UA as a distinguished university leader in sustainability</p>
<p>5 Long range planning Creating financial tools and campus master plan to guide long-range planning efforts</p>		

Online Campus Sustainability Map

The screenshot displays the 'Sustainability Map' interface for the University of Arizona. The top left corner features the 'Sustainability Map' logo. The top right corner contains navigation tabs for 'LAYERS', 'PROGRAMS', 'PROJECTS', 'FEATURES', 'PEOPLE', 'EVENTS', and 'NEWS', along with a search icon and a menu icon. On the left side, there is a 'SELECT THEMES' panel with a list of categories, each with a toggle switch and an icon: WATER (blue), ENERGY (purple), BUILT ENVIRONMENT (green), CAMPUS LIFE (teal), FOOD (orange), NATURAL ENVIRONMENT (brown), TRANSPORTATION (dark green), and WASTE REDUCTION (dark grey). Below this list are 'CLEAR ALL' and 'SELECT ALL' buttons. The main area is a map of the Tucson campus, showing streets like E Waverly St, E Linden St, E Lee St, E 1st St, E 2nd St, E 3rd St, E 4th St, and E 5th St, and parks such as Pasqua Park, Mansfield Park, Francisco Elias Esquer Park, De Anza Park, Catalina Park, Este van Park, Oury Park, El Presidio Sunset Park, Veinte de Agosto Park, Ironhorse Park, and Himmel Park. The map is populated with numerous circular icons in various colors, each representing a different sustainability theme. A vertical toolbar on the left side of the map includes icons for map navigation (eye, location, street view, zoom in, zoom out) and a plus sign for additional options.

Housing & Res Life Programs (Report)

WASTE DIVERSION EFFORTS

DODGE THE DUMPSTER

Dodge the Dumpster is an annual waste diversion program held during resident Move-Out in the spring. In 2018, Housing collaborated with the UA Campus Pantry and Salvation Army to collect unwanted food, toiletries, cleaning supplies, electronics, appliances, bedding, and more. Collected items were reused and diverted from the landfill.

794 pounds of food to the UA Campus Pantry

4,320 pounds of food/toiletries/cleaning supplies to the Salvation Army

101,000 pounds of general donations to the Salvation Army

106,114
TOTAL POUNDS OF DIVERTED MATERIALS

5

GREEN SPENDING

Housing makes efforts to purchase sustainable supplies in all units and areas when possible. The following information includes a total green spend, or the percentage of overall expenditures that were spent on materials with sustainable attributes.

OFFICE SUPPLIES

- ◆ 31% total green spend on office supplies*
- ◆ 12% recycled spend
- ◆ 19% other eco attributes/eco-labels

*data for Office Depot purchases only

CUSTODIAL SUPPLIES

- ◆ 74% total green spend on custodial supplies
About \$162,000 worth of green supplies
- ◆ 12% green spend on plastic liners
About \$4000 worth of green supplies
- ◆ 40% green spend on chemicals
About \$18,000 worth of green supplies
- ◆ 96% green spend on hand soap
About \$30,000 worth of green supplies
- ◆ 100% green spend on paper products
About \$110,000 worth of green supplies



WATER & ELECTRICITY CONSERVATION EFFORTS

BATTLE OF THE UTILITIES

Battle of the Utilities is a utility reduction competition between the dorms. Students are encouraged to conserve as much water and electricity they can month over month. Housing Sustainability then calculates percent change between the months and awards three dorms as conservation leaders. Students can also choose to participate by signing an online pledge to reduce. The results from this year's competition netted a savings of:

98,997 kWh of electricity (down 9%)

- ◆ Enough electricity to stream Netflix constantly for 200 years
- ◆ Enough electricity to power 8 homes for an entire year!

494,390 gallons of water (down 11.5%)

- ◆ Enough water to fill 3,744,492 bottles
- ◆ If lined up, all bottles end-to-end would span 472.8 miles!

947 students signed the pledge to reduce

- ◆ Two dorms had 26% of their total population, the highest amount, sign the pledge to reduce: Villa Del Puente and the Cochise/Yavapai complex

WINNING 2018 DORMS

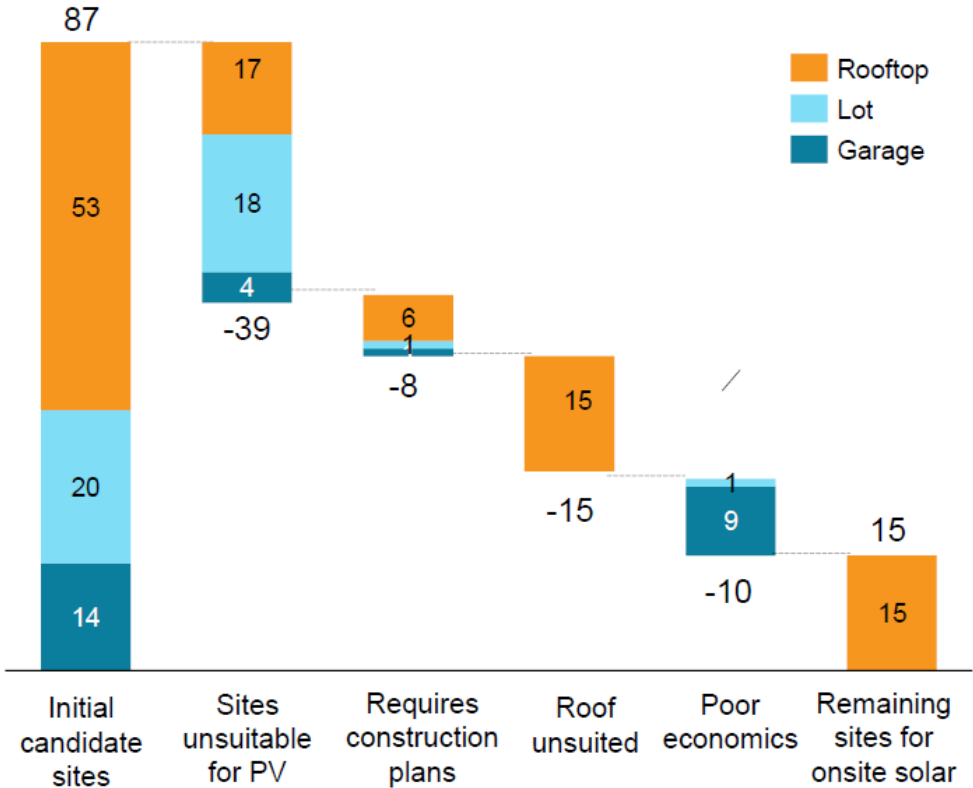
- ◆ BABCOCK
- ◆ ARIZONA-SONORA
- ◆ NAVAJO-PINAL

9

Renewable Energy Strategy for UA

Optimizing a Renewable Energy Strategy for UA – Onsite Solar Solution

Results of onsite analysis



- > Remaining 15 sites create ~1.3 MW opportunity (~2,300 annual MWh)
 - 0.6 MW Main Meter, 0.7 MW AHSC
 - Recent economics filter was updated with refreshed market pricing data, eliminating garages/lots (3.1 MW)
 - 2 of 15 sites are future sites; 1 of 15 is currently pursuing solar
 - Does not include Biosphere 2, UA Motor Pool, UA Warehouse, or ground-mount opportunities (would require additional information from UA)
- > Remaining sites range in levelized savings from ~\$2.50 to \$6.00 / MWh
 - Main Meter opportunities have better economics given usage profile
 - Expected total NPV of \$0.1 to \$0.4M
- > Small incremental onsite solar should not negatively impact TEP tariff
- > Sites with unsuited roofs could be added back in with accelerated roof replacement; sites removed for poor economics could be added back in for strategic reasons

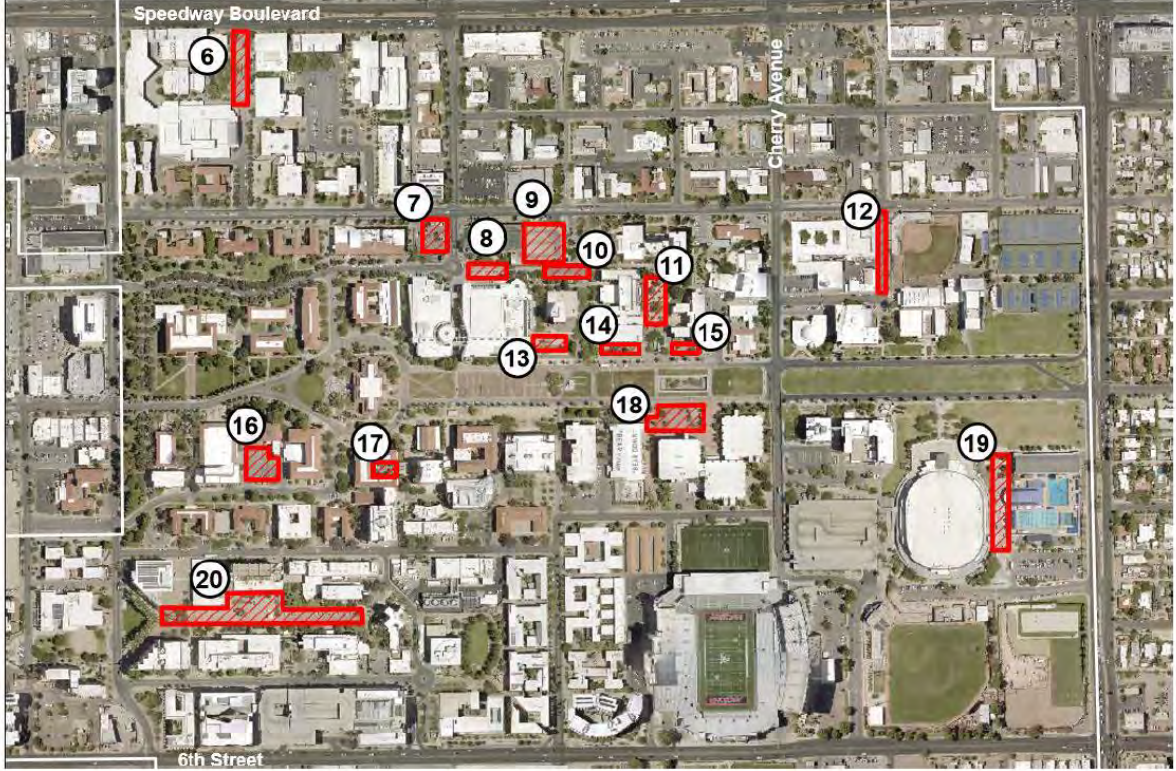
Source: UA data, CFR analysis

Potential Solar On-Campus Sites

Potential Open Solar Sites (1/2)



Potential Open Solar Sites (2/2)





3. Exercise: Past, Present, & Future

University of Arizona 2020 Campus Plan Update



Exercise: Past, Present, & Future

PAST ACHIEVEMENTS	CURRENT INITIATIVES	FUTURE ASPIRATIONS
<small>UNIVERSITY OF ARIZONA, 2020 CAMPUS MASTER PLAN</small>	<small>UNIVERSITY OF ARIZONA, 2020 CAMPUS MASTER PLAN</small>	<small>UNIVERSITY OF ARIZONA, 2020 CAMPUS MASTER PLAN</small>

Let's talk about Sustainability at the University of Arizona! Share with us...

1. **Past Achievements:** Significant milestones we've achieved!
2. **Current Initiatives:** What are your current initiatives, targets, and near-term goals?
3. **Future Aspirations:** What are longer-term goals that the campus should work towards? (think big!)



Exercise: Past, Present, & Future



Instructions:

1. Grab a sticky note for the topic area that best aligns with your comment
2. Write your comment on the sticky note
3. Place the completed sticky note onto the appropriate poster (past, present, future)
4. Repeat and share more!



4. Communicating UA's Story: Education & Outreach

University of Arizona 2020 Campus Plan Update



INTRODUCTION



Sustainability education & outreach is meant to highlight efforts to the community by **connecting, educating, and reinforcing** the culture and spirit of the organization's sustainability mission.



APPROACHES



Education & Outreach Strategies

- 1. Sustainability & Heritage Signage**
- 2. Educational & Cultural Collateral**
- 3. Campus & Community Events**
- 4. Sustainability-focused Tours**

Sustainability & Heritage Signage

IMPORTANCE OF SUSTAINABILITY SIGNAGE

HOW SUSTAINABILITY SIGNAGE BENEFITS YOUR CAMPUS & COMMUNITY

1

LEED POINTS

For projects seeking LEED certification, sustainability signage is one of the requirements to earn the Green Building Education point.

2

TEACHING OPPORTUNITY

Your project's commitment to sustainability becomes visible to the end user.

3

REINFORCING GOOD SUSTAINABILITY PRACTICES & CULTURE

The messaging of the signage in your project arms your end user with the right knowledge to make sustainable choices in other aspects of their life.

SIGNAGE TYPES

SIGNS CAN TAKE ON A VARIETY OF MEDIUMS AND MATERIALS



1

SYSTEM OF SIGNS



2

FEATURE PLAQUE



3

WALL GRAPHIC

SIGNAGE TYPES

SYSTEM OF SIGNS

- Multiple small signs placed in close proximity to various sustainable features.
- Often includes call to action instructions



SIGNAGE TYPES

FEATURE PLAQUE

- A plaque usually placed close to a prominent point of the project or feature with an overview of project's sustainable attributes and benefits.



SIGNAGE TYPES

WALL GRAPHICS

- Large scale vinyl graphics applied to a feature wall in the project.

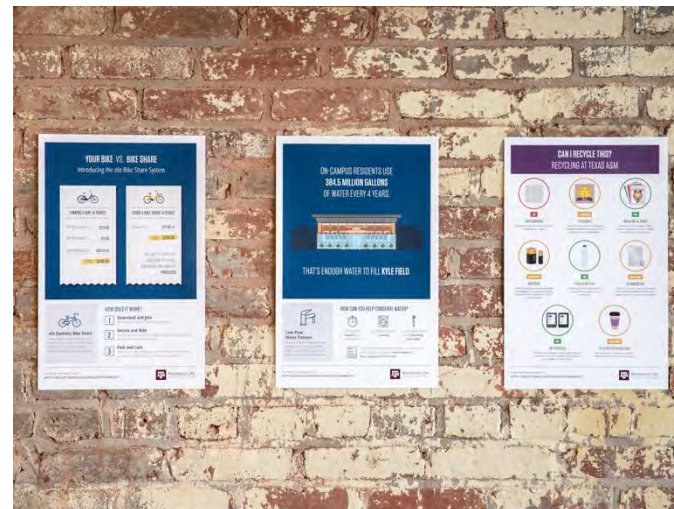


Educational & Cultural Collateral

ACCOMPANYING ASSETS

Collateral

- Can be in the form of printed materials such as posters, brochures, or booklets
- Or graphics designed for a digital campaign for social media or websites
- Intended to be located in high visibility or traffic locations (such as office of sustainability, in Res Halls, etc.)
- Web based or app based to save paper!



Campus & Community Events

CAMPUS & COMMUNITY EVENTS

Campus & Community Presence

- Sustainability Day
- Sponsored “Ted Talks”
- Organized “Field Trips” to on- or off-campus project, companies, or other resources with sustainable themes
- Tree Planting
- Participation/booths at university events like move-in day, freshman orientation, gamedays and tailgating, etc.



Sustainability Tours

Online Campus Sustainability Map

Sustainability Map ARIZONA

LAYERS: **PROGRAMS** PROJECTS FEATURES PEOPLE EVENTS NEWS

SELECT THEMES

- WATER
- ENERGY
- BUILT ENVIRONMENT
- CAMPUS LIFE
- FOOD
- NATURAL ENVIRONMENT
- TRANSPORTATION
- WASTE REDUCTION

CLEAR ALL SELECT ALL

Map labels: Pasqua Park, Mansfield Park, Grant & Campbell Park, Tahoe Park, E EDISON ST, N TUCSON BLVD, E LEE ST, E 1ST ST, E 2ND ST, E 3RD ST, E 4TH ST, E 5TH ST, Francisco Elias Esquer Park, De Anza Park, Catalina Park, Himmel Park, Este van Park, Oury Park, El Presidio Sunset Park, Veinte de Agosto Park, Ironhorse Park.

SUSTAINABILITY TOURS

Sustainability at UCLA Walking Tour

1 Intramural Field Artificial Turf Project

Seven acres of turf on the Intramural Field were replaced with artificial turf in 2015 as part of UCLA's Water Action Plan. This project will save the University over 6.4 million gallons of water per year and increase year-round access to the playing field. Water saving



projects like turf replacement, fixture retrofits, and water recycling are critical for addressing California's drought.

2 Parking Lighting Retrofits

Replacing lighting in parking structures with LED and induction lighting is saving the campus over 4.5 million kilowatt-hours of electricity per year. The newer installations are also bi-level, meaning the lights dim when there is no one around and brighten when cars or people approach. These retrofits are part of a comprehensive energy efficiency program that saves the University over \$5 million annually.

3 Pauley Pavilion

The iconic Pauley Pavilion was renovated to be LEED Gold certified. The building is also the first sports venue at UCLA to move towards zero waste as part of UCLA's participation in the Green Sports Alliance. Students in the Action Research Team program designed a campaign to promote zero waste at games and other events in the venue.

4 Electric Vehicle Charging Research

Multi-point chargers designed by the UCLA Smart Grid Energy Research Center can be found in parking structures across campus. Drivers can control the charging of their vehicle from an app on their phones.



8 Bruin Plate

UCLA's award winning residential restaurant features healthy and sustainable menus, and over 20% of the food is sustainable—locally sourced, organic, fair trade, or other responsible labels. It is also certified by the Green Restaurant Association. Bruin Plate is part of the new Carnesale Commons, a LEED Gold rated facility that features cradle to cradle carpet, extensive daylighting and controls, and other sustainable features.

7 Compressed Natural Gas (CNG) Station

Publicly accessible CNG station supports cleaner fuels and is used by many local entities including limousine companies that serve environmentally conscious celebrities. Over half of UCLA's fleet is already sustainable fuel vehicles such as electric, hybrid, biofuels or hydrogen.



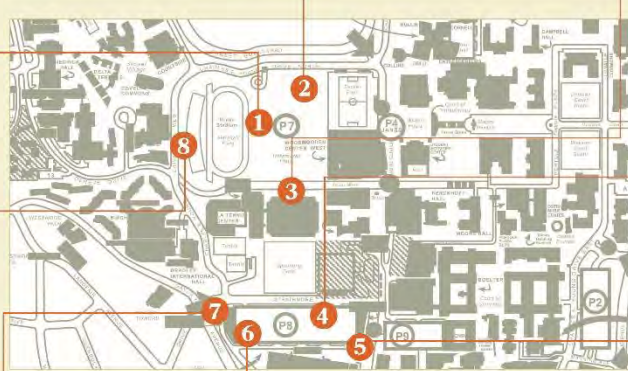
6 Cogeneration Plant

UCLA's 42-megawatt Cogeneration Plant provides most of the electricity and almost all the heating and cooling for the University. The plant, built in 1994, has provided over 20 years of efficient power for UCLA by using the waste heat from power generation to produce steam and chilled water for building heating and cooling. Some of the gas used at the plant comes from a local landfill in the Sepulveda Pass, turning waste into fuel. As the campus moves toward carbon neutrality in 2025, more of the gas supply will be biogas.



5 Bicycle Repair Station

UCLA has installed a number of bicycle repair stations across campus as part of a comprehensive suite of programs to support active transportation. The campus is expanding infrastructure like bike lanes and racks, and offers services and incentives through the UCLA Bike Shop and Bruin Commuter Club and partnerships with UCLA Recreation and Healthy Campus Initiative committees. A bike share system will be coming to UCLA in 2016.



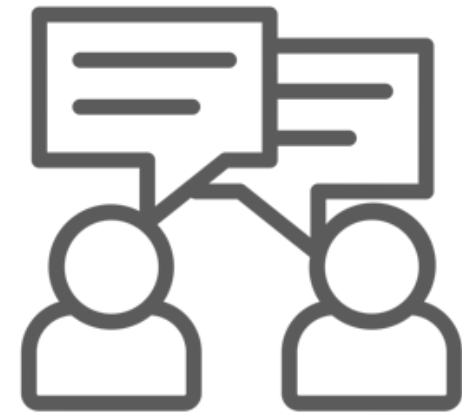


5. Sustainability Round Table (Discussion)

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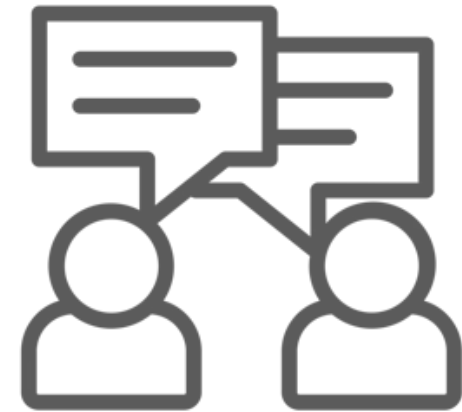


**What does Sustainability
mean to UA?**



Discussion Point

What are some of the recent advancements and current barriers to Equity, Diversity, Inclusion, and Accessibility at UA?



Discussion Point

Strategic Plan: Communities Defining our Core

Pillar III – Initiative 3.1

GOALS

Communities Defining our Core

Top performing HSI and AIANSI AAU university across key educational attainment and relevant research indicators:

- **75%** 6-year graduation rate for Hispanic students (from 60% today) by 2025
- **Close retention gap** for Native Students (from 70% today to 91% by 2025)

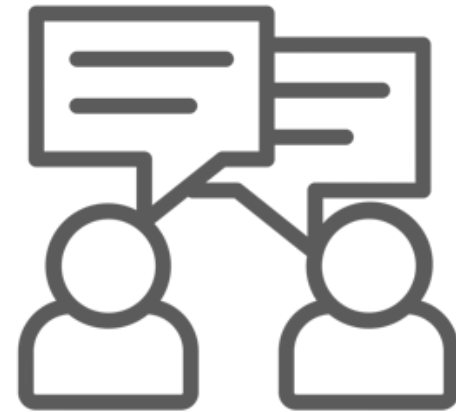
How can the Master Plan Support:

- **Communities defining our Core Pillar III – Initiative 3.1**

A: Strengthen the impact and visibility of UA's commitment to equity and support diverse community groups

B: Institutionalize commitment to Hispanic advancement

C: Institutionalize commitment to Native American Advancement



Discussion Point

Strategic Plan: Sustainable UA

Pillar V – Initiative 5.4

GOALS

5.4A Sustainability and resiliency throughout UA Operations: Implement quantifiable environment and climate change mitigation strategies across all campus operations. Among our goals are reduction in energy and water use, waste output, and increase in sustainable goods use. Campus and community outreach will help drive toward our vision to be a world-class model of environmental stewardship through collaboration and innovative partnerships.

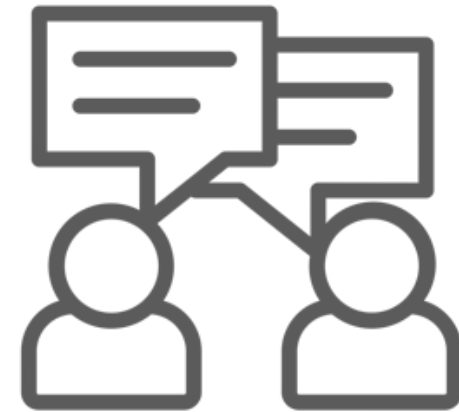
5.4B A campus culture of sustainability and community partnership: Integrate sustainability values and best practices into daily activities and responsibilities of campus stakeholders. Strengthen community relationships to create practical, place-based solutions to local challenges.

How can the Master Plan Support:

- **Sustainable UA**
Pillar V – Initiative 5.4

A: Sustainability and resiliency throughout UA Operations

B: A campus culture of sustainability and community partnerships



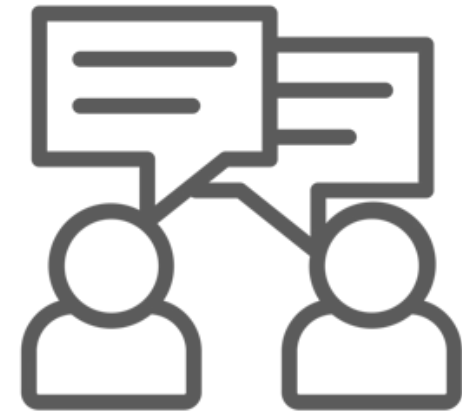
Discussion Point

**What recommendations
can the master plan
provide to help UA share
Sustainability successes?**



Discussion Point

What recommendations should the master plan provide to help support the aspirations identified in the exercise?



Discussion Point



6. Next Steps

University of Arizona 2020 Campus Plan Update



NEXT STEPS

1. Data Requests (Coordinated through Rodney)
2. Workshop 04: Yesterday & Today
 - Additional Focus Group Meetings
 - Synthesis of Feedback
3. Workshop 05: February 17th & 18th
 - Integration of today's conversations into broader Master Plan content
 - Likely follow-up meetings to expand and advance conversations that look place today
4. Late Spring 2020 – Final Plan



THANK YOU!

University of Arizona 2020 Campus Plan Update

