SUSTAINABILITY GUIDELINES

Introduction

Since the founding of UTSA, there has been a growing awareness of the impact our way of life has on the planet. The form we have given to our built environment contributes to global warming, the ongoing anthropogenic mass extinctions, the depletion of natural resources, and the contamination of our land and water. Unless we take decisive action, the next 50 years will bring immense changes as these processes accelerate.

By virtue of the Main Campus's location on the outskirts of the City of San Antonio and on the edge of the Texas Hill Country, as well as the period of its development, UTSA can be seen as a microcosm of the issues of urban form, transportation strategy, land use, and energy use.

Observations

The initial development of the Main Campus approximately 17 miles north of downtown San Antonio occurred at a time when there was little development in the area, and before the economic and environmental disadvantages of the heavy use of fossil fuels for transportation became widely known. For the initial 20–25 years in the life of the Campus, this location, in addition to the lack of on-campus housing, contributed to the University's development as a commuter campus. While some on-campus housing now exists and development has since occurred in the campus vicinity, it is largely suburban development requiring automobile access. The development of the Downtown Campus in the 1990s, along with students taking classes at both campuses, requires a significant number of daily vehicular trips between the two campuses. Transit between the two campuses has improved, but is still insufficient.

The location of the Main Campus impacts the environment in ways other than the utilization of fossil fuels. The Main Campus is situated on the eastern edge of the Texas Hill Country; roughly half of the Main Campus consists of karstic terrain of the Edwards Aquifer recharge zone and has a direct impact on aquifer water quality. This terrain contains fractures, faults, sinkholes, pits, and caves. Several such features on the East Campus (between Tributary of Leon Creek and Valero Way) have been designated by the U.S. Fish and Wildlife as "areas known to contain listed invertebrate karst species." The UTSA Park West Campus also lies within the boundaries of the Edwards Aquifer Recharge Zone. However, its underlying geology of Buda limestone and Del Rio clay causes it to function as contributing within the recharge zone. This means that proper stormwater engineering should minimize the effects on the environment from development of the property.

Currently, a significant portion of the Main Campus between Maverick Creek to the west and Tributary of Leon Creek to the east is covered with impervious surfaces, mostly surface parking. Problems associated with runoff from surface parking are usually greater than runoff from buildings due to the potentially higher chemical content of the runoff. The surface parking represents a reservoir of previously developed land that can accommodate future growth in campus facilities with minimal detrimental effect.

UTSA does not currently track energy usage by building. The University is able to track usage on newer buildings through metering and by measurement of thermal transfer from chilled water. The age of a substantial number of the buildings coupled with the fact that few, if any, have received substantial renovation contributes to some degree of inefficiency. Replacement of existing equipment will almost always improve energy efficiency as newer equipment is usually more efficient than that manufactured 20–30 years ago.

These observations by no means constitute a sustainability study. They do however provide a basis for the Campus Master Plan to make initial recommendations regarding the University's future policies toward a more sustainable physical environment.

An initiative to increase the sustainability of the University's campuses will affect all aspects of campus life and function. The design of the campus and its individual facilities will play a major role.

Recommendations

General

1. Establish goals for the University with regard to sustainability.
2. Establish a University policy with regard to sustainability that is aligned with its goals.
3. Assess the current sustainability of the UTSA campuses and develop a plan to make them more sustainable.

Carbon Footprint

1. Conduct an audit of the University's current carbon footprint, including both direct and indirect sources.
2. Create a plan to reduce the University's carbon footprint.

Campus Life

1. Develop more on-campus housing.
2. Consider requiring freshmen to live in on-campus housing.
3. Develop more on-campus amenities that students can access by foot (i.e.: retail, dining, entertainment).

Transportation

1. Conduct a transportation audit to determine University-related vehicular energy usage and resulting carbon footprint.
2. In light of the transportation audit, examine the University's transportation strategy and make improvements that support the University's sustainability goals.
3. Explore options for more efficient public transit between the Downtown Campus and Main Campus.
4. Develop a strategy to reduce the number of personal vehicles coming to the campuses.
5. Promote the use of bicycles for movement both on campus and between campus and the surrounding neighborhoods.
6. Improve public transit options to surrounding neighborhoods.
7. Employ transportation-demand management strategies: increase the cost of parking on campus and provide convenient alternatives to the use of individual vehicles.

Water Usage and Quality

1. Examine LEED® options that pertain to water quality that best align with the Campus Master Plan and the University's unique physical characteristics.
2. To the degree possible, treat water quality filtration basins as an opportunity for teaching sustainability.
3. Employ rainwater harvesting and reuse of thermal plant process water to reduce runoff and demand on the aquifer.
4. Continue to practice xeriscape.

Utilities

1. Develop a method of reporting energy usage for each building with the goal of monitoring efficiency and leakage.
2. Monitor and measure energy usage to ensure that systems perform as designed.

Buildings

1. Consider requiring LEED® Silver or greater certification for all new buildings. A sample matrix for evaluation of LEED requirements throughout a building project is included in the Appendix.
2. Consider requiring LEED® certifications appropriate for all major renovation projects.
3. Conduct an energy audit of all buildings.
4. Encourage behavioral change in students, faculty, and staff with regard to air conditioning and heating requirements.
5. Improve building envelopes to enhance energy performance.

6. Consider life-cycle costs and energy usage when selecting building materials and systems.

Habitat
1. Protect sensitive habitat and the connectivity of habitat.
2. Protect endangered species.

Education
1. Utilize the University's efforts to increase its sustainability to increase public awareness and understanding.
2. Where appropriate, incorporate the University's sustainability programs into its academic programs.

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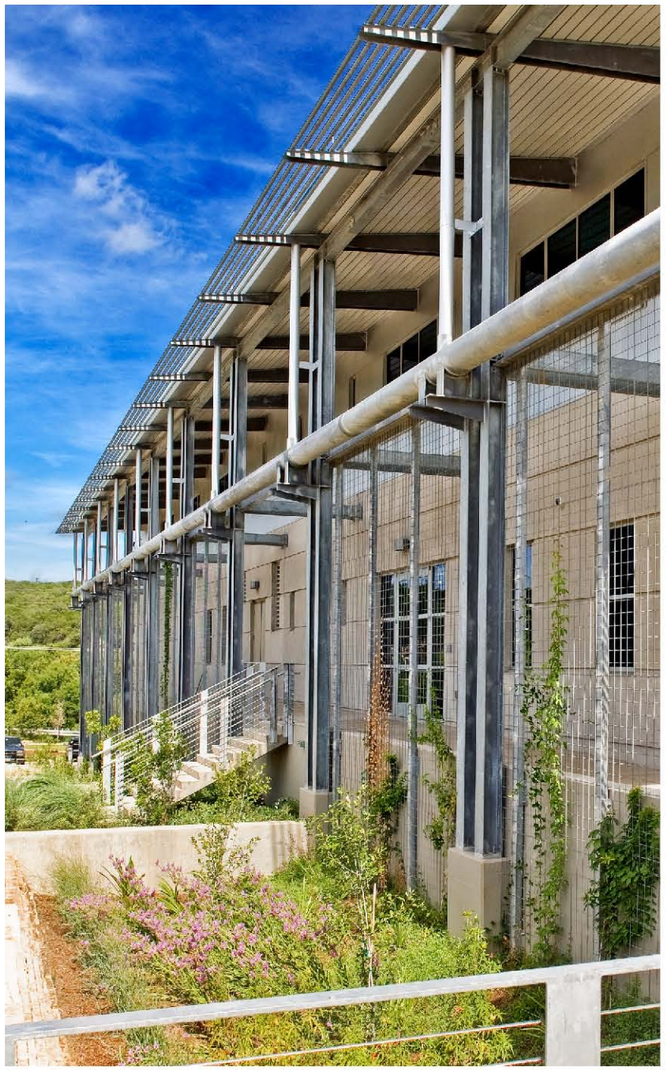

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FIGURE 1
Photovoltaic panels

FIGURE 2
Interpretive signage at the Lower Colorado River Redbud Center

FIGURE 3
Rainwater harvesting at the Lower Colorado River Redbud Center

FIGURE 4
Windmills

FIGURE 5
Newly planted site xeriscaping at the Lower Colorado River Redbud Center

FIGURE 6
Newly planted "Green Screen" at the Lower Colorado River Redbud Center