

UT DALLAS LANDSCAPE ENHANCEMENTS PWP LANDSCAPE ARCHITECTS

LAF Performance Series Case Studies

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VISION



Through the first phase of the University of Texas at Dallas' Campus Identity and Landscape Framework Plan, native plantings and walkable areas transformed the car-centric barren asphalt campus into one of architectural stability, forward-thinking greenery, and a social hub of the community.

ISSUES

- Foster connections and social interaction
- Become a place of curiosity and increase in desire for student retention and application rate
- Redesign the formal main entrance
- Increase quality of stormwater runoff and retention



METHODOLOGY

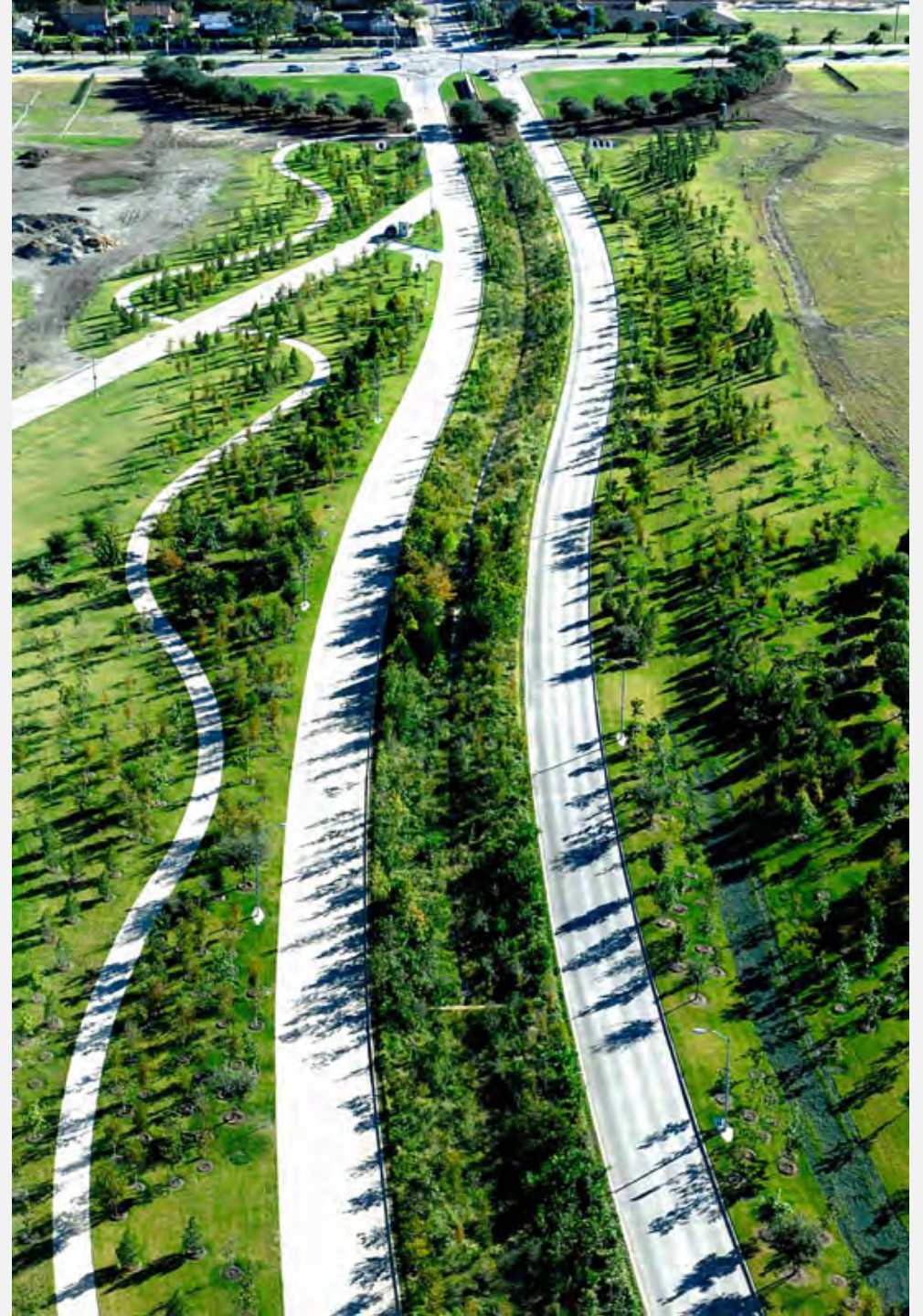
The UT Dallas team designed its research strategy under three focused thematic areas;

- Environmental

- Economic

- Social (including cultural and aesthetic)

for all three case studies.





FINDINGS

The findings of the investigations in all cases focused on

- Site related performance benefits
- Its immediate adjacencies
- The project block group/neighborhood/district or zip code.

The data collected through these strategies were systematically reviewed.



METRICS

- The carbon sequestered is calculated with National Tree Benefit Calculator.
- The number of miles a motorized vehicle travels in a year was found at Federal Highway Administration (FHWA) website (recorded since 2010) with the carbon calculator (americanforests.org).
- The stormwater runoff is calculated with Rational Method ($Q=CiA$). The Co-efficient numbers for different materials is referenced from the LARE reference manual.
- The watersheds considered for calculations were referred from the documents provided by the firm. Three kinds of areas (bio-retention area, pervious surfaces area and impervious surfaces area) were calculated.



ACCOMPLISHMENTS

- Influenced decision 44% of students surveyed to apply and enroll. Also, likely contributed to a 13% increase in enrollment from 2010 to 2012.
- Source of pride for the community, students, faculty, etc.
- Increase in 5,000 trees (sequesters 154 tons of CO₂ annually- equivalent to the CO₂ emitted from driving approximately 373,494 miles in a single passenger vehicle, intercepts approximately 1,077,946 gallons of stormwater runoff annually.)



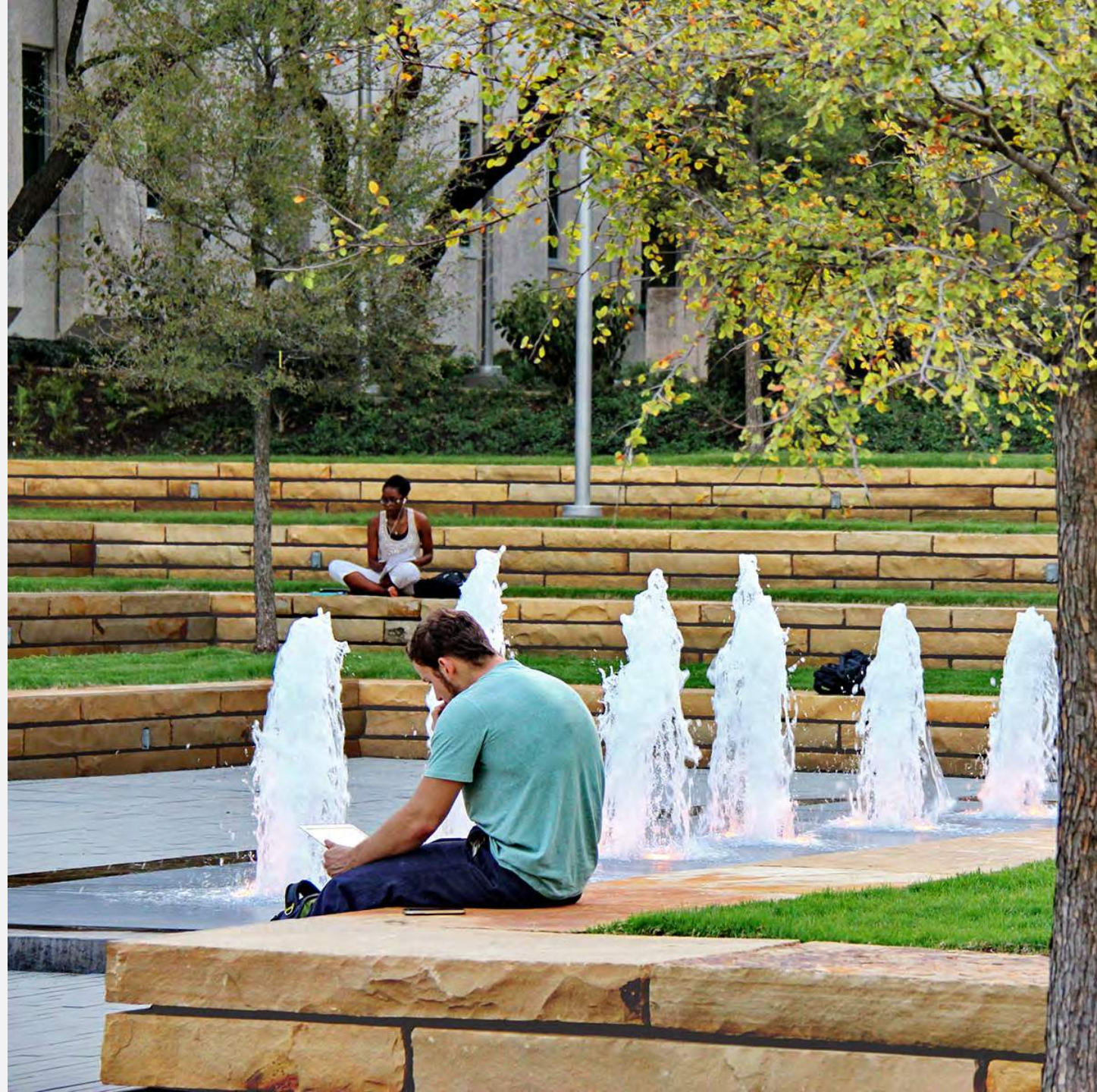
ACCOMPLISHMENTS

- Contains one of the largest rain gardens in the Dallas Fort Worth region.
- Increase in seating and recreational objects (256-sf, human-scale chess boards and 1,112 linear ft. of seat wall made of Austin-sourced granite, large walls as bulletin boards).
- Strong relationships in design to the history (digital clock walls to tie to instruments legacy, fog fountain to mist vines).

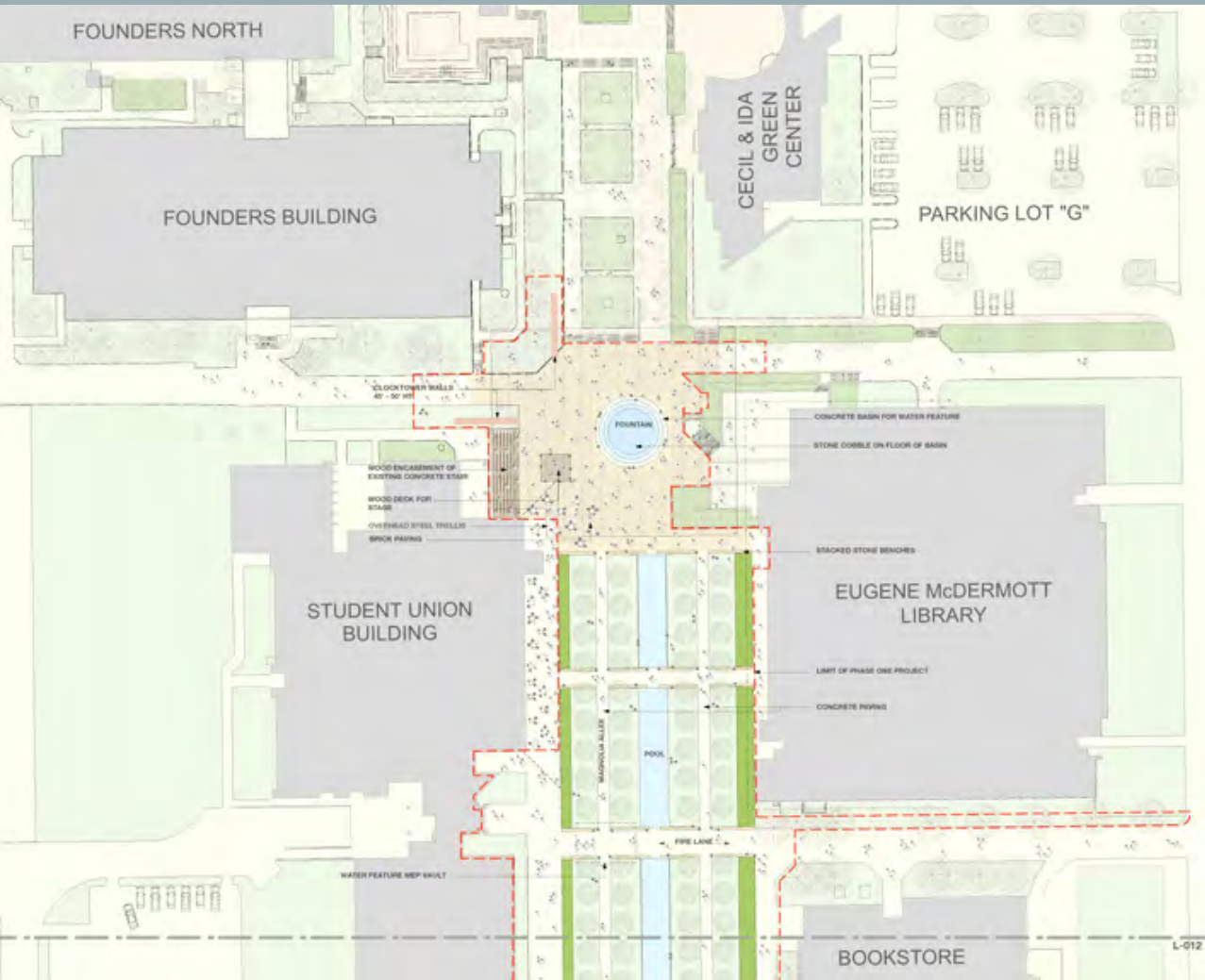


ACCOMPLISHMENTS

- Low carbon-footprint materials.
- New amphitheater.
- 97% native plant palette (reduce maintenance and irrigation costs).
- Created an estimated 72 jobs with approximately 150,000 construction man-hours documented for the time period between October 2008 to October 2010.



COMPARISONS



PROS

Central trellis materials:

- Major sculptural element
- Fiberglass Reinforced Polymer (FRP)
- 79% weight difference (lighter than standard industry materials)
- Lower dead load, limited corrodibility, and a lifespan that is approximately twice as long a conventional metal building material

CONS

- Cost of installation may be up to 20% higher than typical industry standards

- Research into economic changes

- Economic changes was indirect and not as informative as researcher desired

- Able to use the tree benefit calculator tool

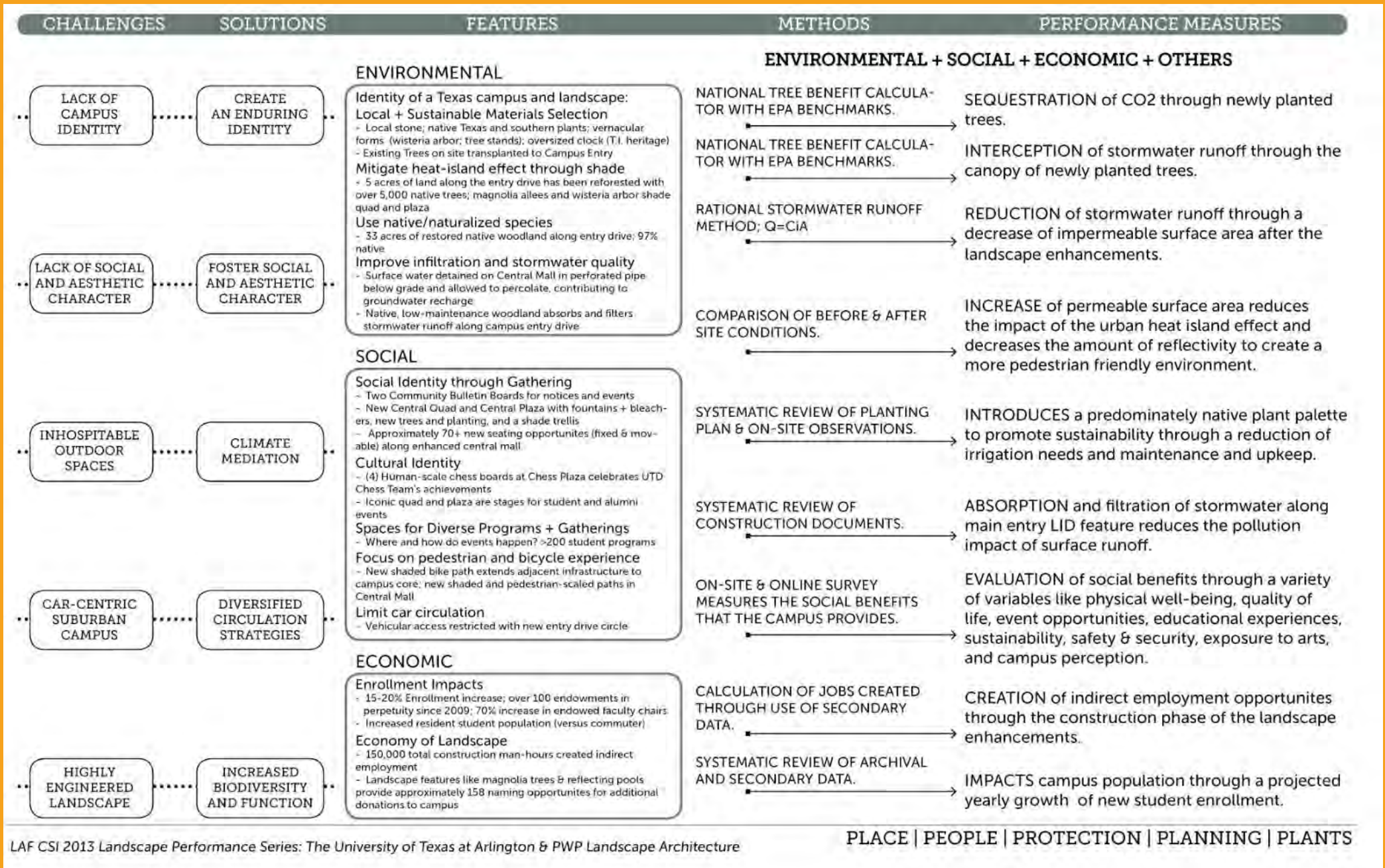
- Plants aren't fully matured- hard to get concise evidence on water retention and stormwater runoff interception

- Watersheds calculated by the firm

- Potential for human error in area calculations
- Calculations may vary significantly and produce different results; especially if the porosity of the soil changes and if the bio-retention area has an outflow or any kind of perforated pipes

- Surveys conducted about enrollment decisions and campus improvement opinions to minimize bias

- Survey conducted over the summer months and nearly half of the respondents were employees, while the other half was students



LEARNING

A catalysis project like phase I of the UT Dallas Campus Identity & Landscape Framework Plan can **instigate changes not only within the campus but also in the community at large.**

Example:

- The 'Cotton Belt' line from DART with a 'transit plaza' and mixed-use center directly north of the campus UT Dallas LPS Methodology will be activated with multi-modal connections.
- The 2025 vision has the place-holder property valued at approximately \$165 million (2010).