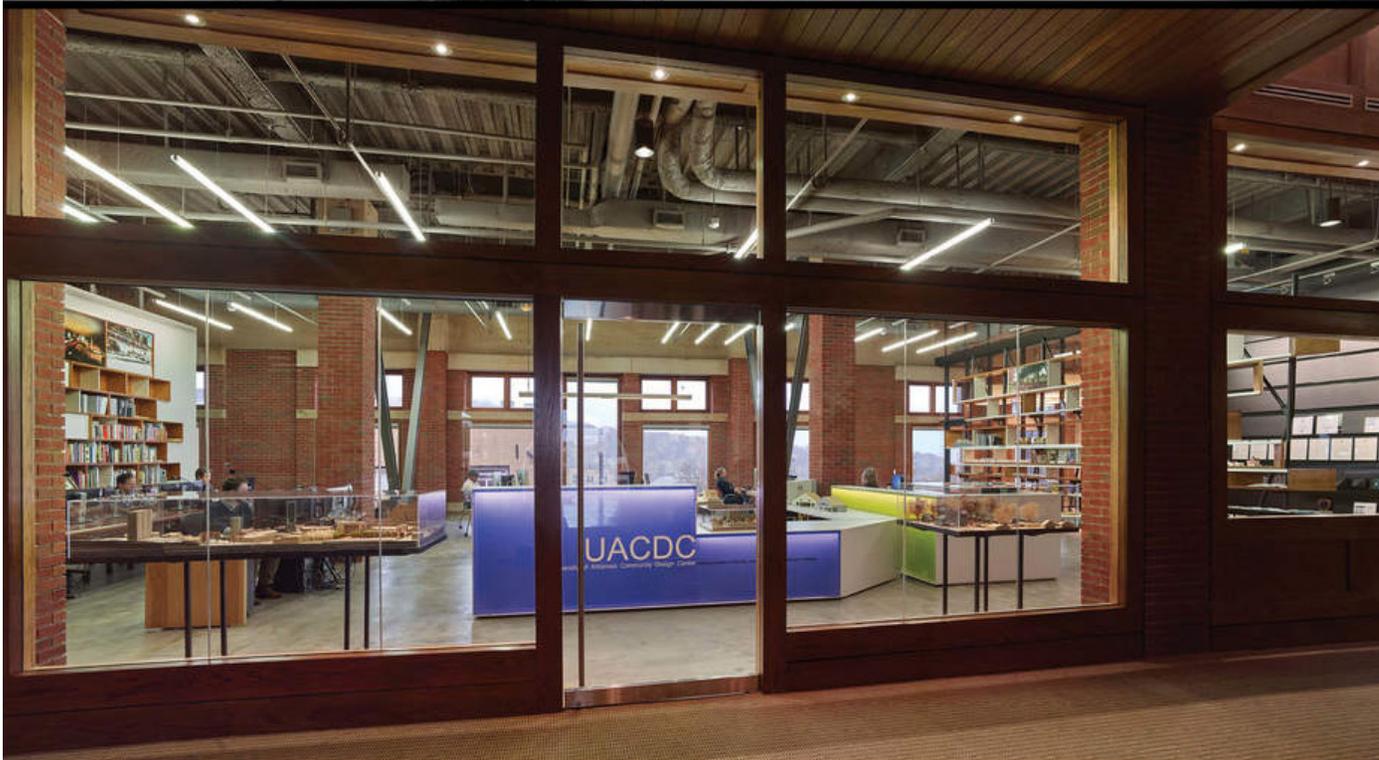




## The Teaching Office

Originated in 1995, the UACDC is an outreach center of the Fay Jones School of Architecture and Design. Under the direction of Stephen Luoni, the center's director and principal designer since 2003, the UACDC has become a respected national authority in urban design and development of the built environment. **Luoni retooled the center from a policy center to a design + policy center in the form of a teaching office where students collaborate with a full-time professional design staff holding clinical teaching appointments, along with consultants on project development.** Though the center performs work for clients outside of Arkansas, the center's primary mission is to advance creative development in Arkansas through combined design, research, and education solutions. Collaborations include work with allied professionals in civil and ecological engineering, architecture, landscape architecture, horticulture, policy analysis, urban economics, food science, development, and law. The UACDC is one of a few university design-based teaching offices in the U.S. Luoni designed and oversaw the opening of the UACDC's new studios on the Fayetteville square.



**The UACDC's work has garnered more than 150 design and planning awards, including over 30 awards for education under Luoni's leadership.** These awards cover a range of professional domains including AIA Honor Awards for Regional and Urban Design from The American Institute of Architects, ASLA Honor Awards for Planning and Analysis from the American Society of Landscape Architects, Charter Awards from the Congress for the New Urbanism, American Architecture Awards, Green GOOD DESIGN Awards for sustainability, LafargeHolcim International Awards for Sustainable Construction, Progressive Architecture Awards, and awards from the Environmental Design Research Association, World Architecture Festival, and World Architecture News.

# Reinventing the Commons

Work of the University of Arkansas Community Design Center  
Stephen Luoni, Director and Principal Designer

# Public Interest Design Models

What would cities look like if food supply chains were to be re-localized with urban growing systems, food processing and distribution, and waste management districts incorporated into the city?

Ecologists consider trees to be the most successful life forms on Earth. Could planning begin with the tree as an irreducible landscape unit to create larger urban and regional frameworks?

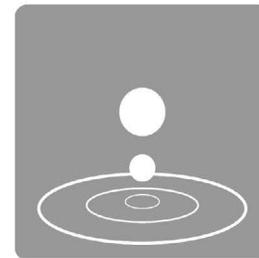
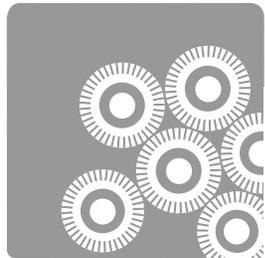
Big box retail is an urbanism all its own, primarily a logistical expression of space. Are there more agreeable models of community design despite the store being the last warehouse in a chain of warehouses?

How might local streets be designed, once again, to deliver non-traffic social services like strolling, dining, gathering, recreation, art, and festivity as well as ecological services?

The public sector is asking the design professions to tackle “wicked problems” which requires *ecological thinking*, rather than simply *project thinking*. Beyond solving for projects the UACDC has developed eight public interest platforms, the building blocks of the built environment shaping public design and policy at state and municipal levels. The center’s work addresses issues in the commons—the social frameworks in which projects are developed—triangulating policy and best practices with new design tools. **Commoning is social movement toward developing shared spaces and economies, usually in response to resilience deficits** defining our region (e.g., housing, aging, transit, food insecurity, and flooding). Commons is the space of the vernacular or the informal, different from public space as projected by institutions. The UACDC is focused on resilience, a public good invoked to characterize the health of complex systems.

## Resilience

The UACDC is one of six founding university programs of The American Institute of Architects’ National Resilience Initiative managed by the Architects Foundation. In 2015, the center was appointed the Lower Midwest Regional Design Studio of the NRI. In partnership with the Fay Jones School’s new Resiliency Center—a science-based research center—the UACDC will offer a new graduate degree in Resiliency Design starting Fall 2020. The center works within multidisciplinary frameworks to address the “triple bottom line”, simultaneously solving for social, economic, and environmental challenges in the built environment. Since the health of a profession is directly related to its relationship with its public, the public interest orientation of the **UACDC fulfills an important niche in the ecology of the design professions. Since the greatest ongoing challenge in planning is design within human-dominated ecosystems, these platforms are the building blocks for confronting challenges in the Anthropocene.**



The first hour of urban stormwater runoff generally has a pollution index greater than that of raw sewage. How might ecological-based stormwater management recover good hydrological functioning through more parks and less pipes?

The structural housing shortage is compelling greater demand for housing products that support cooperative styles of living, including pocket neighborhoods, co-housing, micro-housing, co-living and other integrated subscription communities.

How we move around determines the livability of our cities. What is the role of transit ecologies—the relationships among all mobility modes—in shaping land use and achieving greater equity?

Healthy watersheds deliver 17 critical ecosystem services whose value can no longer remain outside systems of exchange within the city. How might infrastructure incorporate watershed stewardship into urban development?

## Platforms for Reinventing the Commons

# The City as Ecology; Socio-Ecological Systems as Commons

The UACDC's books connecting design practice and public policy have changed policy and codes within Arkansas while projecting influence across the nation. The center has three books available commercially. The center's best-selling book, Low Impact Development: a design manual for urban areas (2010), has sold more than 8,000 copies, pioneering the role of ecological-based urban stormwater management in urban design. The book is used by universities and government agencies nationwide and has also been translated into Chinese. Houses for Aging Socially: Developing Third Place Ecologies (2017), and Conway Urban Watershed Framework Plan (2017), both published by ORO Editions, outline new directions in housing for the elderly and watershed urbanism, respectively. Since almost all the work that we do is illegal under most local codes, we work with municipalities and states (Hawaii and Arkansas) to change policies and codes to enact new paradigms.



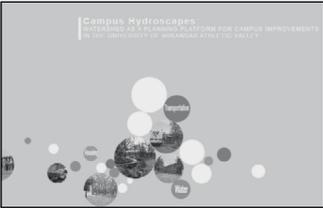
**Retail Strategies**



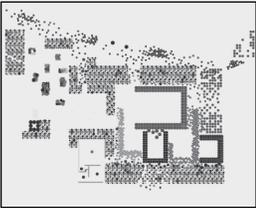
**Houses for Aging Socially: Developing Third Place Ecologies**



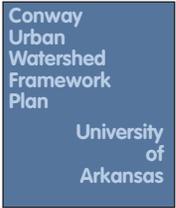
**Riparian Meadows, Mounds, and Rooms: An Urban Greenway for Warren, Arkansas**



**Campus Hydroscape: Watershed as a Planning Platform**



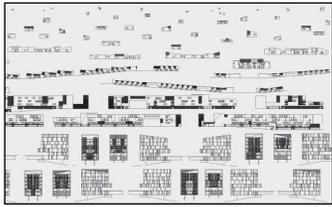
**Clearings, Clusters, and Cloisters: A Garden of Trees for Two Rivers Park**



**Conway Urban Watershed Framework Plan**  
University of Arkansas



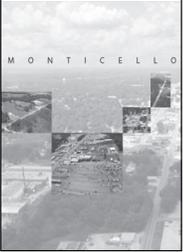
**Porchscapes: An Affordable LEED for Neighborhood Development**



**Veranda Urbanism: Community Design and Aging in Place**



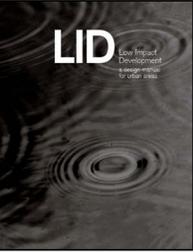
**Porches**



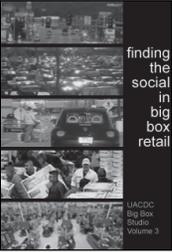
**Monticello: Place-Based Plans and Codes for an Arkansas Delta Community**



**Visioning Rail Transit in Northwest Arkansas: Lifestyles and Ecologies**



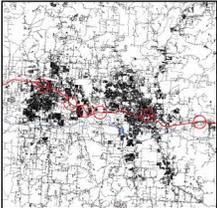
**LID: Low Impact Development: a design manual for urban areas**



**Finding the Social in Big Box Retail**



**Habitat Trails: From Infill House to Green Neighborhood Development**



**NWA Rail Transit Primer**



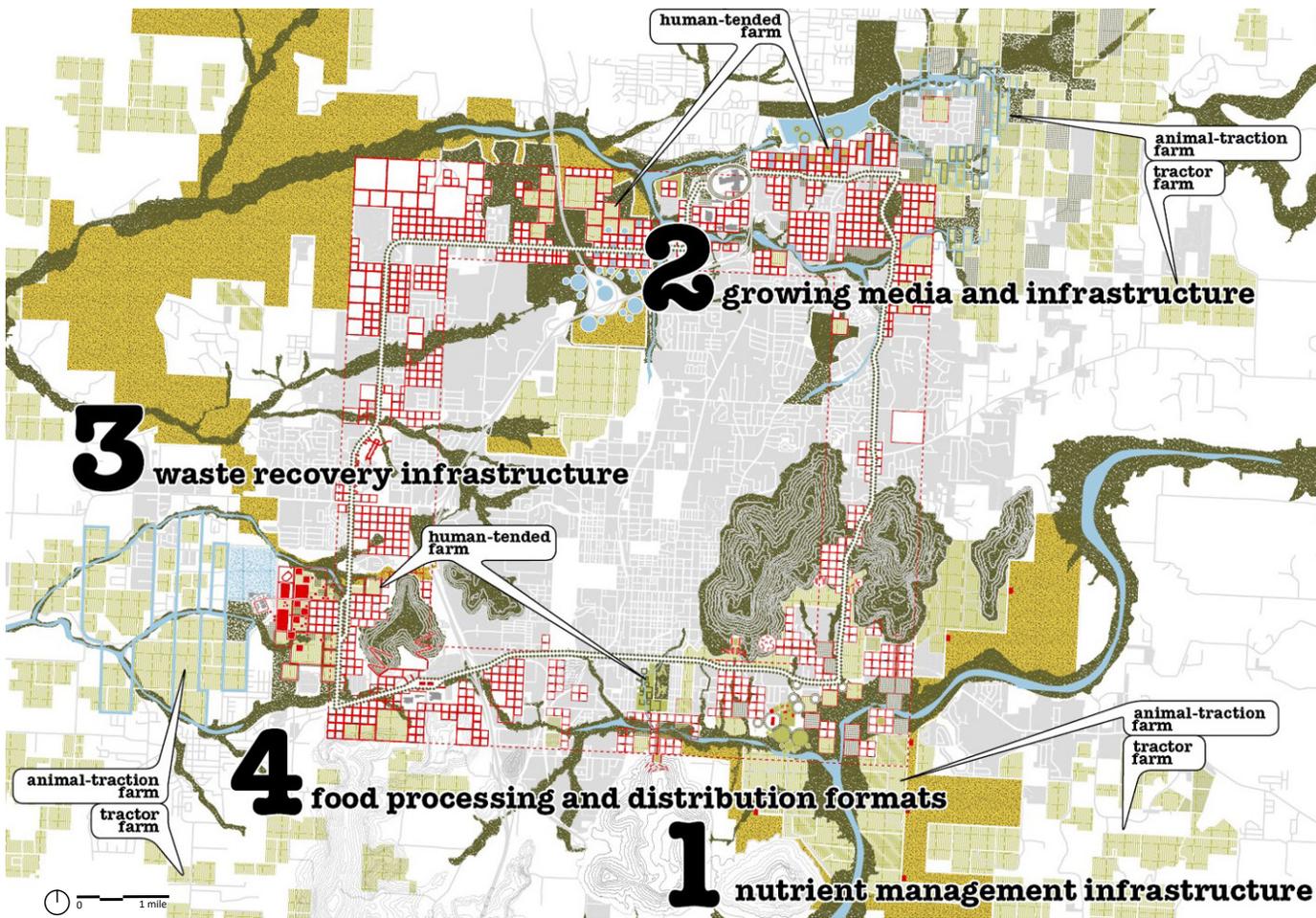
**Developing a Highway Ecology: Morrilton, Arkansas**



Community Stakeholder Workshop

## UACDC Publications





Municipal Composting Campus

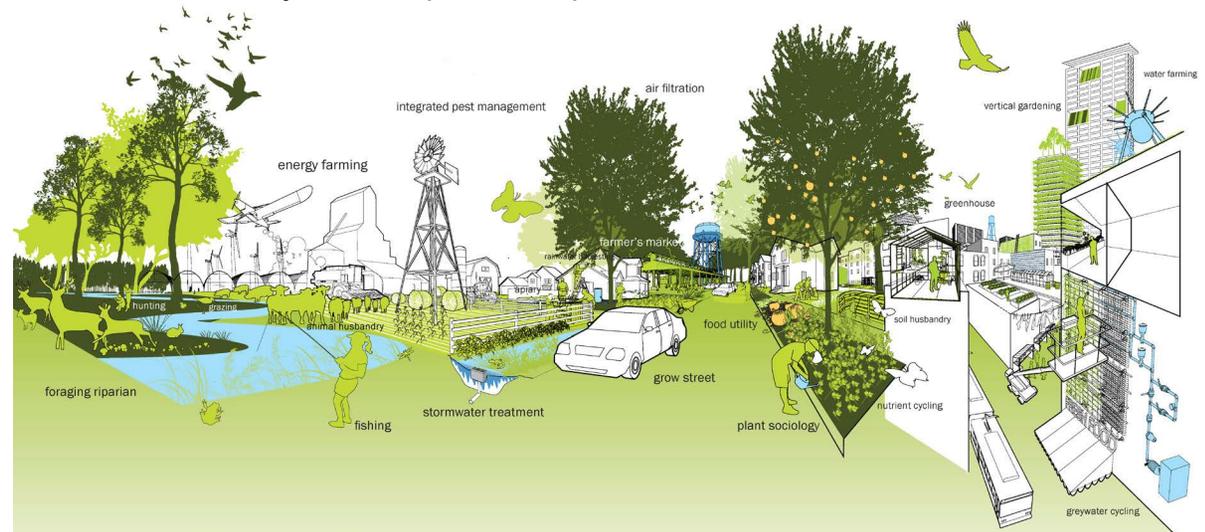


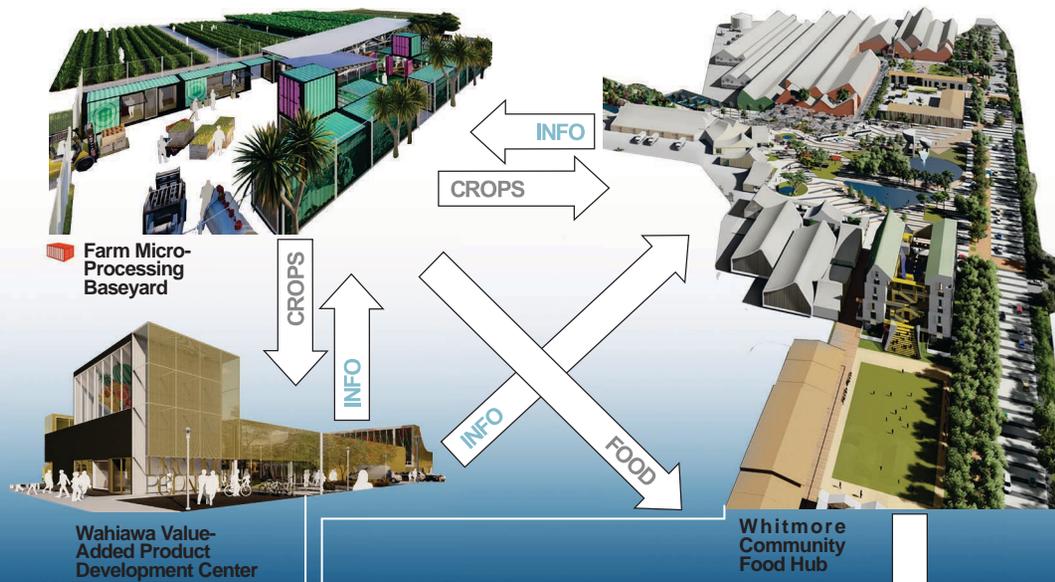
Waste Recovery District

Fayetteville 2030: Food City Scenario (2013-2014)

Food is absent in American planning and policy. Funded by the Clinton Global Initiative, ACSA, and AIA in 2012, the Food City Scenario initiates UACDC's work on establishing an ontology of urban infrastructure and development tools necessary for large-scale food production, processing, and distribution in cities. Urban food production can also deliver the 17 ecological services found in all healthy ecosystems, making agriculture a value-added service in cities. **We partner with the Resiliency Center's staff and students in ecological engineering and food science to define the production capacity of regional nutrient sheds.**

 agricultural urbanism





**FARMLAND**

State is purchasing land once used to grow sugar and pineapple for export, converting to diversified crop production. Land will be a no-fee lease to incent enrollment of young farmers in a state where the average age of farmers is 61.

**WATER ACCESS**

State to retool irrigation water supply to meet the needs of diverse food production, including management of mountain stream corridors and groundwater flow, storage, and distribution.



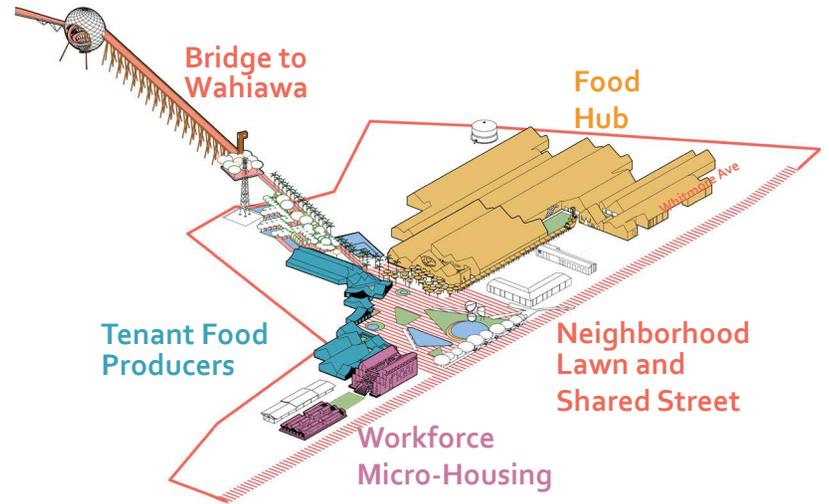
since 2016, UACDC and the UA Resiliency Center have been working with the State of Hawaii Department of Agriculture to relocalize its food systems.

**Rebuilding a Local Food Economy**  
From monocrop exports to diversified crop production



## Principles of Food Hub Plan

- 1 **Logistics:** Provide a Food Hub that meets the requirements of the Food Safety Modernization Act.
- 2 **Placemaking:** Integrate logistical spaces of the hub with surrounding neighborhoods through serial public spaces.
- 3 **Connectivity:** Connect the Food Hub and Whitmore Village to downtown Wahiawa.
- 4 **Anchoring:** Socialize the hub's big boxes and tilt wall concrete construction through mixed uses and civic frontages.



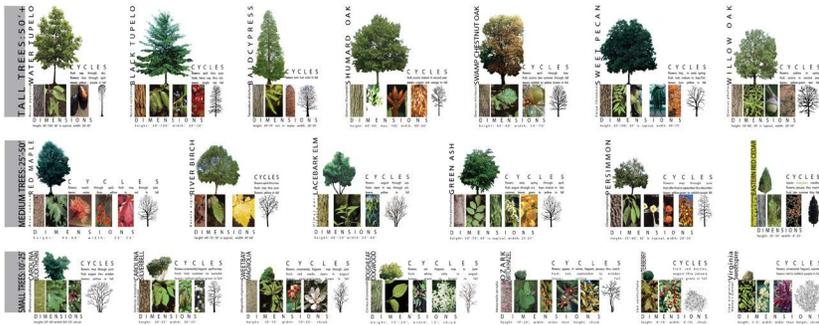
Working with the community, this is the vision | Project Components

## Whitmore Community Food Hub Complex Plan Wahiawa, Hawaii (2016-2017)





Greers Ferry Water Garden (2015-2016)

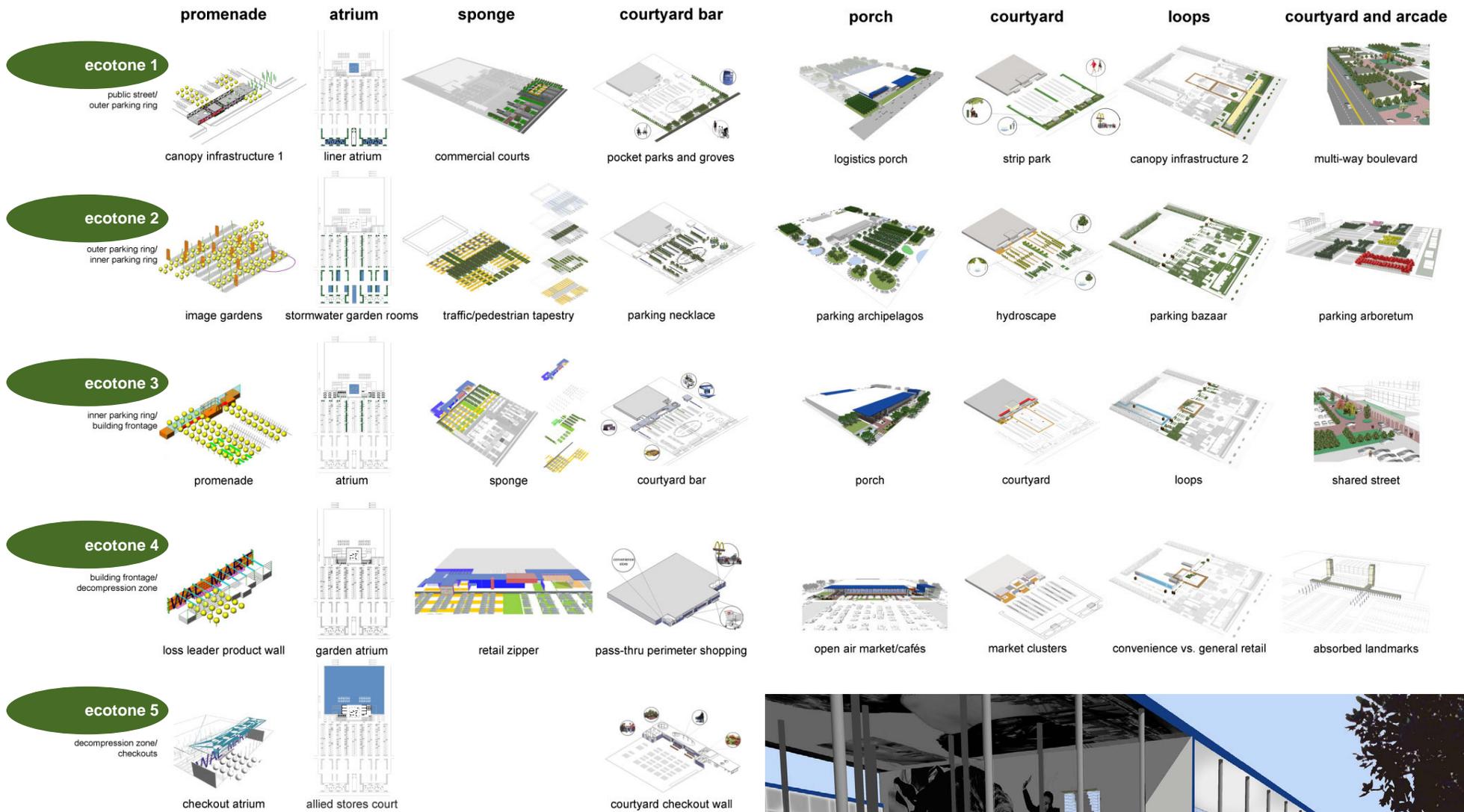


Indigenous Tree Matrix for Two Rivers Garden

Trees rival buildings in their capacity to systemically define space and place. Trees deliver a myriad of services in city infrastructure, from traffic management, carbon sequestration, and pollution mitigation, to economic development and wayfinding. How do trees consistently add value to the city, and what has been their role in good place-making and as forest economies (Arkansas is fourth largest timber-producing state)? **Some projects begin with a “design economy of trees”**—known spatial formats including parks, arbors, promenades, groves, allees, greenways, and street liners—to structure place.



Two Rivers Garden of Trees (2005-2006)

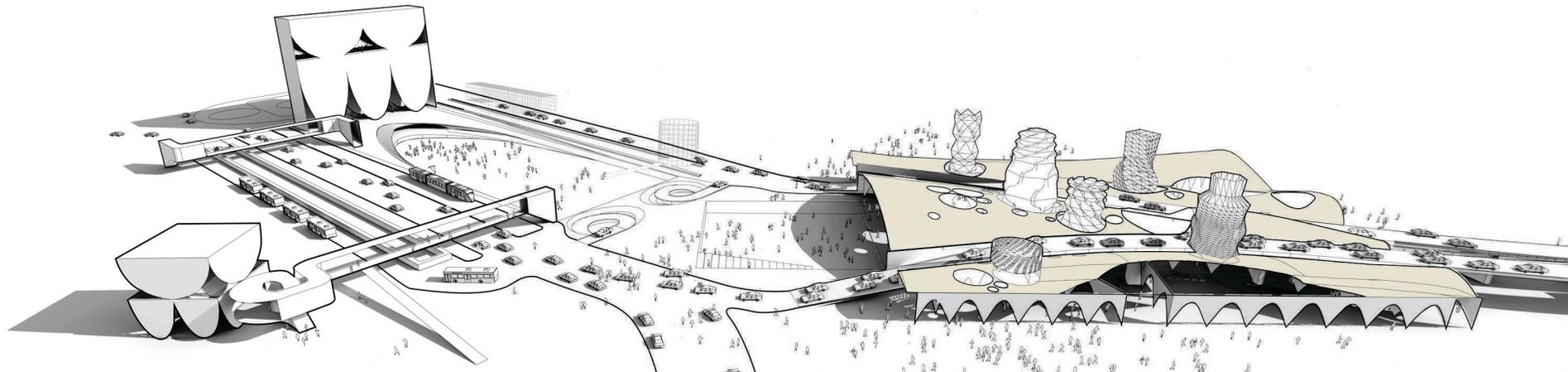


### Finding the Social in Big Box Retail (2005)

*Finding the Social in Big Box Retail* investigated the “urbanism” unique to bog box retail. The challenge was to design the interface between the public realm and the algorithms by which the discount retail industry has become a dominant economic force. The initiative developed a site transect to address this logistics landscape. Transect eco-tones, ranging from public street to store checkouts, constitute a complex urbanism governed by land use regulations, transportation and public utility codes, vehicular requirements and emergency access, shopping patterns and franchise protocols. **The goal is to develop viable civic expressions within the generic development protocols of these non-place landscapes.** Future studies will explore the industry-disrupting fulfillment center by Amazon.



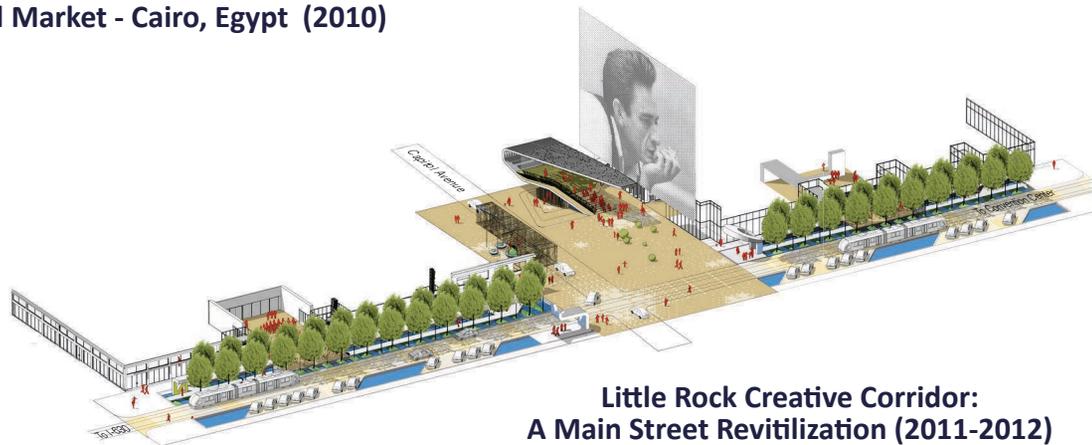
Development of New Prototypes for Wal-Mart



Traffic Flyover and Market - Cairo, Egypt (2010)



**4** Gateway Plaza Walkscape



Little Rock Creative Corridor:  
A Main Street Revitalization (2011-2012)



**3** Plateau Walkscape



**2** Hillside Walkscape



**1** Shared Street Walkscape

Fayetteville Artwalk (2013-2014)

Streets are platforms for capturing value while roads efficiently move traffic between points. Context-sensitive streets aim to recover the pedestrian life eliminated by modern traffic engineering. The real problem is the universal application of highway design standards to all road types including local streets. Cities once again understand that multiple modes of movement and public activity within the street are force multipliers for economic and social prosperity. **We are working on emerging typologies, including the shared street, the green street, transit plazas, and multiway boulevards where streets are rooms for motorists as well as pedestrians.**



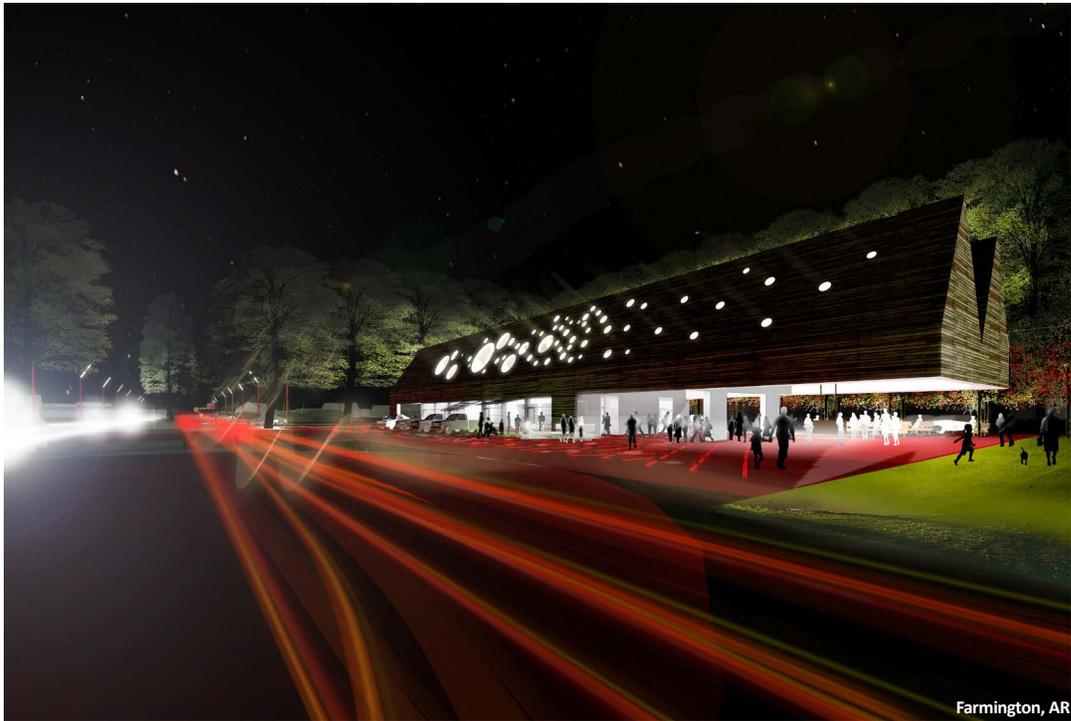
context-sensitive streets



Cairo, Egypt



Little Rock, AR



Farmington, AR



Little Rock, AR (Before)



Little Rock, AR (After)



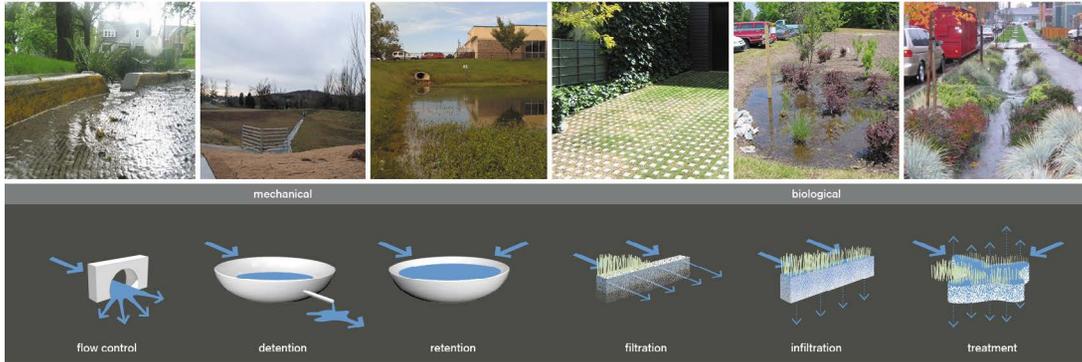
**Slow Street: Building Arkansas' Best Street Mayflower, Arkansas (2014)**



Slow Street essentially stretches the civic landscapes and pedestrian spaces common to a town square along the site's thin 4,500-foot length as the town's signature armature. The street is the town.



integrating hard engineering ...and soft engineering toward a LID approach



slow —————> spr ead —

**flow control:** The regulation of stormwater runoff flow rates.  
**detention:** The temporary storage of stormwater runoff in underground vaults, ponds, or depressed areas to allow for sedimentation of suspended solids.  
**retention:** The storage of stormwater runoff on site to allow for sedimentation of suspended solids.  
**filtration:** The removal of sediment runoff through such as sand systems, or:

**Low Impact Development:  
A Design Manual for Urban Areas (2010),  
2011-2012 ACSA CP Award Winner**

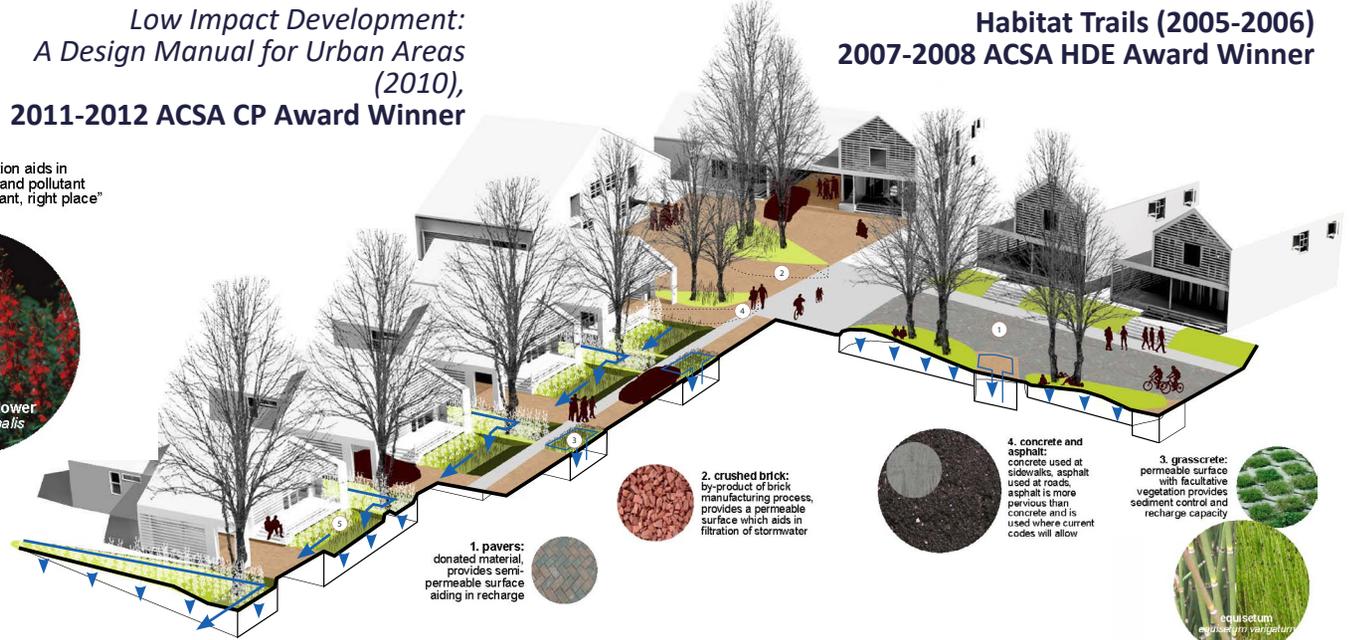


soft rush  
juncus effusus



red cardinal flower  
lobelia cardinalis

**5. bioswales:** facultative vegetation aids in phytoremediation and pollutant removal—"right plant, right place"



**1. pavers:** donated material, provides semi-permeable surface aiding in recharge

**2. crushed brick:** by-product of brick manufacturing process, provides a permeable surface which aids in filtration of stormwater

**4. concrete and asphalt:** concrete used at sidewalks, asphalt used at roads, asphalt is more pervious than concrete and is used where current codes will allow

**3. grasscrete:** permeable surface with facultative vegetation provides sediment control and recharge capacity



acutatum  
erectus variegatum

Rather than treat polluted water on site, hard engineering simply moves the problem around. Funded by the USEPA and partnering with ecological engineers and landscape architects, UACDC authored a LID design manual. The manual advances LID from a set of isolated best management practices to an urban treatment network scaled to neighborhoods, municipalities, and regions. The manual is designed for all users—from homeowners, to institutions, developers, designers, cities, and regional authorities. **We worked with Fayetteville's City Council in 2013 to adopt a LID-enabling ordinance for yards and streets—previously illegal.**



Bungalow



Autocourt Duplex A



Autocourt Duplex B



Meadow Duplex



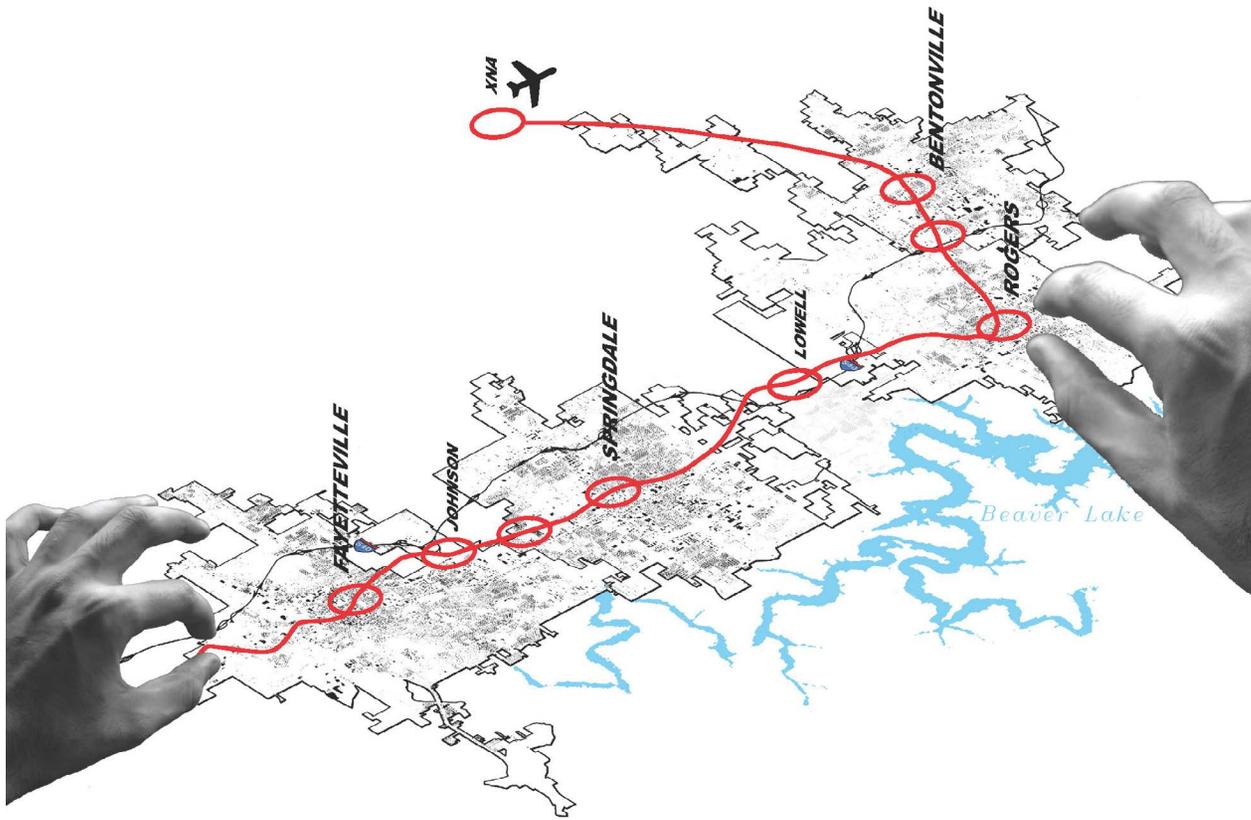
Entry Court House



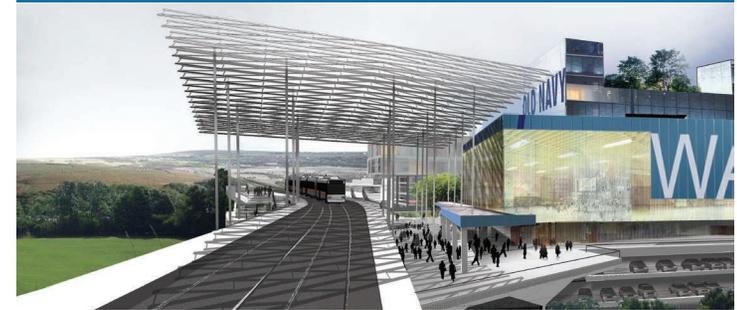
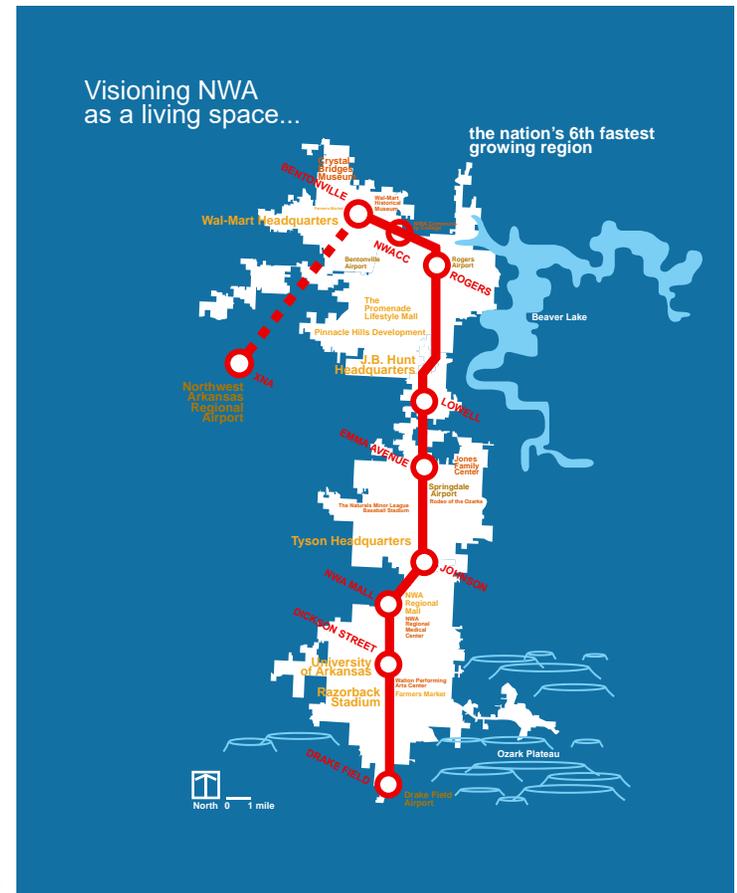
Urban Vernacular



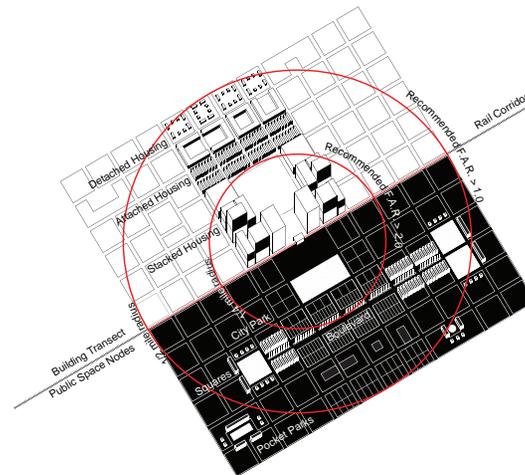
**Habitat Trails (2005-2006)  
2007-2008 ACSA HDE Award Winner**



Visioning Rail Transit in Northwest Arkansas: Lifestyles and Ecologies (2008)

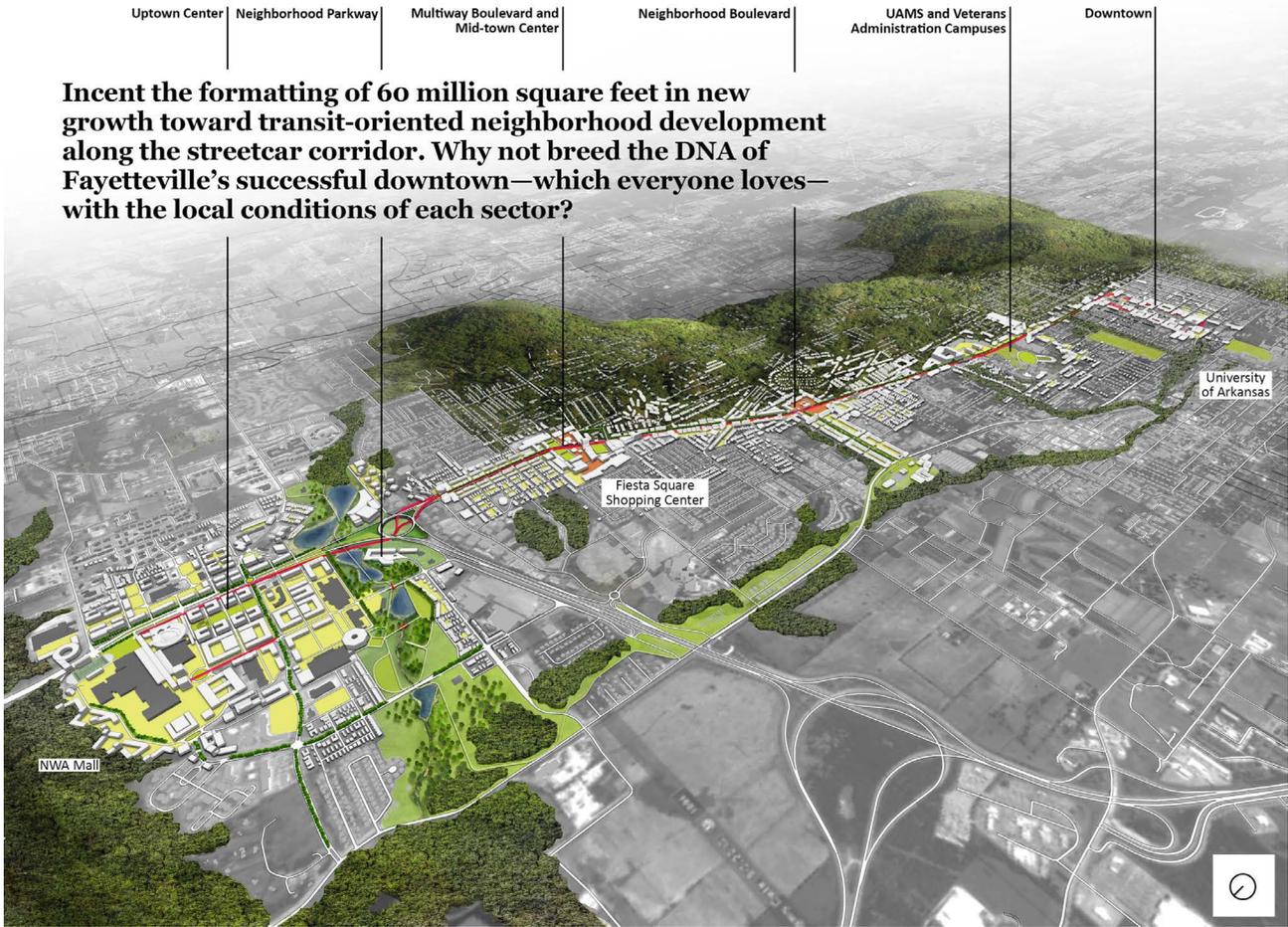


Interurban rail transit would be one of the best prosperity-building investments in the nation's second poorest state. A Housing + Transportation Study showed that on average a Northwest Arkansas household spends 29 percent of its annual income on transportation while the national average is 19 percent, and 12 percent for those cities served by rail. Rail would create many multiplier effects including revitalization of regional downtowns, satisfaction of demand for more urban housing options including affordable housing, and enhancement of community resiliency and equity. **We are trying to build a policy community in a region entirely captured by the market and global capital.**



TOD Planning Model - UACDC

 transit-oriented development

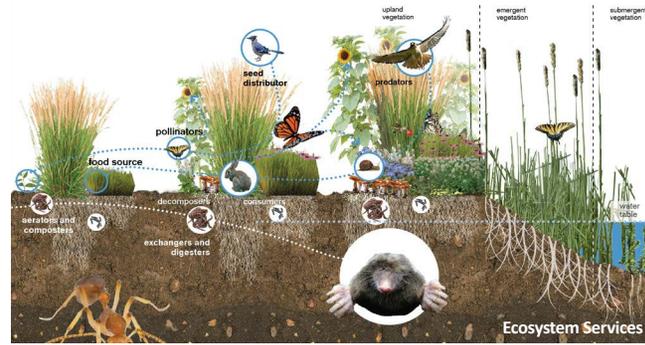


Fayetteville 2030: Transit City Scenario (2012)



Markham Square Rain Terrace

Conway Urban Watershed Framework Plan (2014-2017)



Ecosystem Services



City Greenway at UCA Campus



Lake Restoration w/ Aquabot

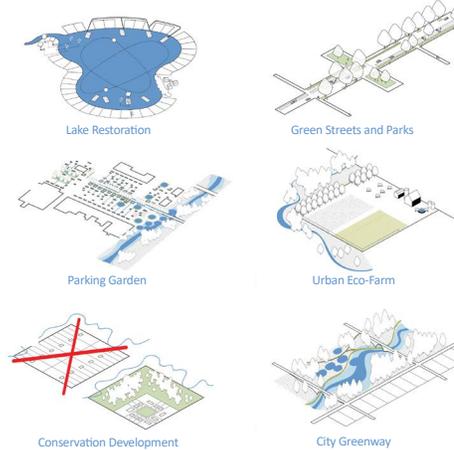


Floodplain Park

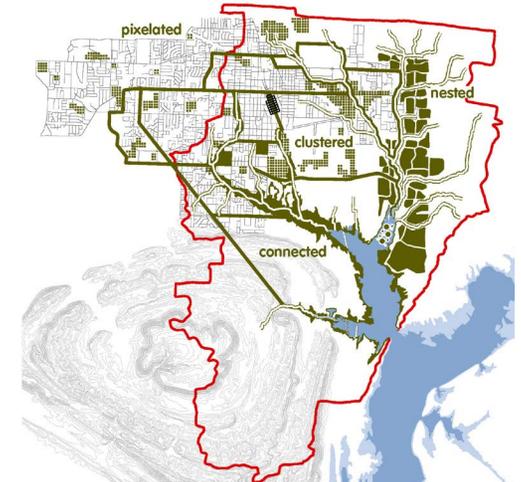


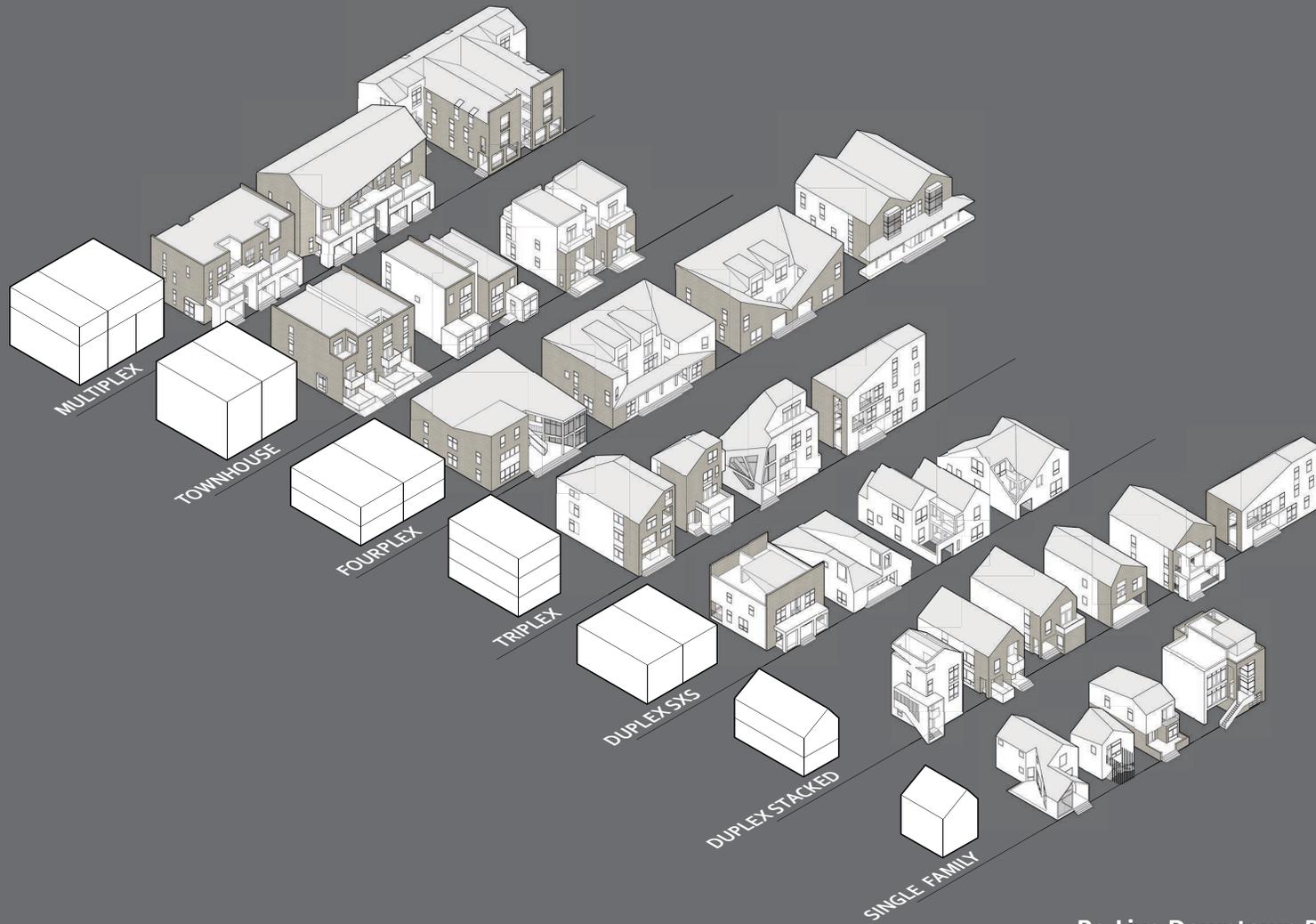
Reclaimed Water Treatment Plant

Planners never knew what to do with water. When urban streams are not drained, diverted, or piped, they are channelized conveyance for waste, resulting in chronic environmental impairment or “urban stream syndrome”. The lack of ecological consciousness still lingers as 50% of the nation’s rivers and streams, 66% of its lakes, reservoirs and ponds, 64% of its bays and estuaries, and 82% of its ocean and near coastal waters are classified as environmentally impaired by the EPA, meaning they do not meet water quality standards supportive of drinking, swimming, or fishing. **Watershed Urbanism proposes a “rewilding” of riparian corridors to restore lost ecological functioning while forming well-amenitized urban networks of linear parks, neighborhood open spaces, and pedestrian facilities.**



Adaptive Infrastructure





Re-Live Downtown Pine Bluff (2017-2018)

Between 2010 and 2040, America will need an additional 40 million housing units and we are currently seven million units behind. Since 2008, only 20 percent of all housing built has served markets below the upper-income class. Shared housing and informality are becoming popular through commoning processes—people want communal housing despite resistance from financing and regulatory environments. **Housing solutions are managed holistically as ladders—solutions at one level of income are building blocks to another.**

 affordable neighborhoods



Shared Street



Porous Block



Neighborhood Spaces



Congregated Housing



New Entrances + Existing Units



Unit Retrofit and Stormwater Management Landscape

Using equity as a driver of decision making, this scenario planning study is premised on transforming the five-acre Willow Heights public housing complex into a blended-income neighborhood that flattens social distinctions between proposed market-rate units and refurbished low-income housing.



Existing Conditions during Storm Event

Value-Added Frontage Systems



Laminated Approach



Pixelated Approach



Anchor Approach



Terrace Approach



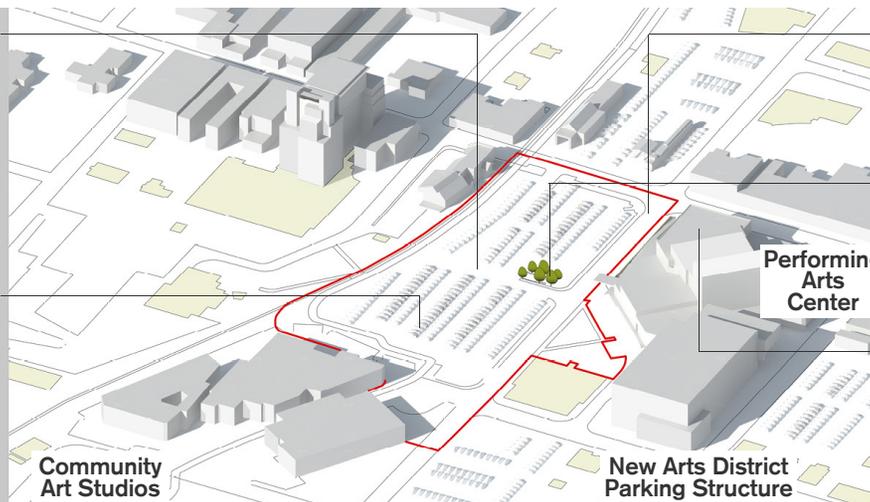
Four Housing Narratives to Anchor an Arts District (2013), 2014 ACSA HDE Award Winner

**Challenge 1: Festival Grounds**

Will we maintain accommodations for Fayetteville's annual Bikes, Blues & BBQ Motorcycle Rally—attendance now estimated to be 400,000?

**Challenge 2: Surface Parking**

How might event parking be accommodated without surface lots—an obstacle to creating a livable urban environment?



**Challenge 3: Auto-Dominated Street**

How might West Avenue serve an expanded arts and residential district as an arts-focused complete street design?

**Challenge 4: Springs**

How do we incorporate the groundwater springs in the streetscape system?

**Challenge 5: Performing Arts Center Upgrades**

How might we leverage the scheduled additions and improvements to the performing arts center?

## Learning Environment Objectives

UACDC studios undertake collaborative work with the center's staff in tandem with opportunities for individual research/design projects among students. UACDC studios position students for design leadership in the built environment through cultivation of design visioning capacities, interdisciplinary and collaborative thinking, and communication of complex issues to non-professional design audiences. Four learning objectives structure all UACDC studios:

- Introduce students to pressing **socio-environmental conditions** for which design has a unique capacity to deliver integrated solutions. This initiates the question of creative practice and the role of “critical or projective practitioner thinking” for upper division students.
- Engage multiple **decision-making domains** through allied knowledge fields and multidisciplinary practices in the course of authoring design proposals.
- Introduce **research and/or case study** components in the “design of context”—context production—to enhance design intelligence and resourcefulness.
- Establish an **outreach culture** in which information, arguments, and design proposals are intelligently visualized so that they may be usefully engaged by lay audiences.

Success in the studio requires: 1) that students' design process be *iterative* and 2) that students be *discursive*, engaged in the collective development of critical approaches and ideas—feedback necessary to solve for complex problems. The teaching office as an education format blurs the boundary between student and professional, community stakeholder and expert, and among disciplines such that it is impossible to fully trace the lineage of ideas. The teaching office favors the dynamics of co-creation to quickly leverage individual strengths and address complexity in design problems.

