



Morrilton, Arkansas

Developing a Highway Ecology

Celebrating The Civility in Mobility
Highway 9B in Morrilton, Arkansas

UACDC UNIVERSITY OF ARKANSAS
COMMUNITY DESIGN CENTER

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How To Use This Study

Developing a Highway Ecology is a modest study commissioned by the Morrilton Area Chamber of Commerce to study connections between Interstate 40 and downtown Morrilton. While the initial ambition was to study the main highways connecting downtown with the interstate, it was agreed that Highway 9B would be the focus of this study. Arterial commercial strips like Highway 9B, certainly not unique to Morrilton, are difficult environments in which to introduce a civic design order. No precedents or models yet exist to show how such a renovation might be undertaken. Fortunately, communities across the country, in collaboration with their respective state highway departments, are beginning to investigate context-sensitive highway design. *Developing a Highway Ecology* explores a range of solutions, from the easy to the difficult, allowing Morrilton to incrementally address the Highway 9B context. The study is presented as a self-directed civic design manual to facilitate community participation. One very promising potential lies in how Morrilton might shape the proposed Arkansas State Highway and Transportation Department Highway 132 to be a “great street” servicing the community college. Most of all, this study gives Morrilton the organizational tools to take charge of the design of its streets—its largest community land holdings.



Introduction

Stephen Luoni

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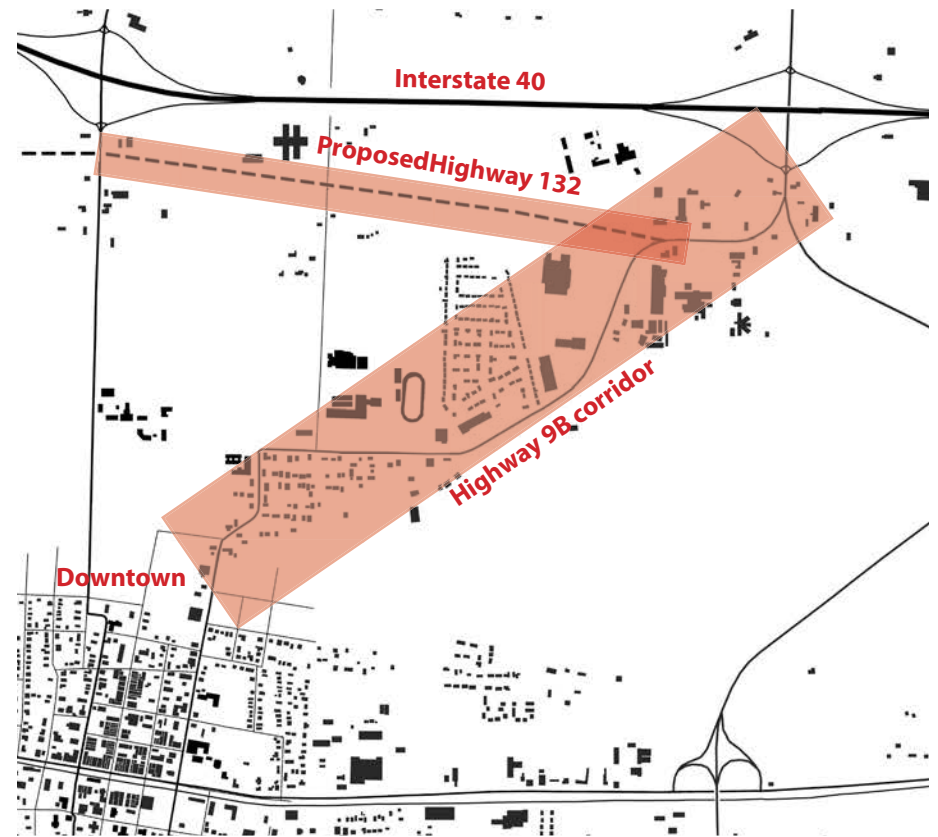
Developing a Highway Ecology represents one study of several commissioned by Morrilton citizens and community organizations to address community growth and redevelopment. Since each area of town was constructed during different eras, reflecting then-current thinking in town planning, redevelopment goals and strategies should be tailored to address their respective contexts. This study addresses the possibilities for enhancing civic development along Morrilton's main arterial highway—Highway 9B—connecting downtown and Interstate 40. Like most arterial highways constructed after World War II, Highway 9B was designed to maximize the efficiency of automobile traffic flow. As we have learned, arterial highways have become the main conduits for the development of sprawl, a land use characterized by low densities and homogeneous landscapes shaped by the demands for easy mobility. Many communities now question their almost total dependence on the automobile and the collateral social liabilities associated with the lack of transit options for walking and biking. *Developing a Highway Ecology*, as the oxymoronic title suggests, is a proposal to reclaim the civic richness found in traditional public works projects like boulevards and parkways. The goal is to develop context-sensitive highways that serve as gateways worthy of introducing historic downtown Morrilton.

The design methodology of *Developing a Highway Ecology* is divided into three basic components. First, analytic maps combining geographical, landscape, and architectural phenomena are assembled to reveal both the latent and manifest forces organizing the urban morphology (form) of

Morrilton. The interpretive function of the maps allows UACDC and other planners to understand relationships not available in photographs, street maps, textual histories, or empirical observations of Morrilton. Second, UACDC developed an index of the generic things and systems typically found in and along an ordinary highway, which constitutes the highway's web of relations—or its ecology. The "Highway Ecology Matrix" is an index of those ordinary resources, and hence, the material by which the highway may be reconfigured to realize the planning goals outlined in *Developing a Highway Ecology*. Since these resources are standard budgeted allocations in highway development, *Developing a Highway Ecology* represents a modest, mainstream planning strategy. In the third section, UACDC employs scenario planning as test cases along Highway 9B. This illustrates the proposal's advocacy of civic design principles. The "No-Growth Highway Retrofit" offers redevelopment strategies without the need for capital-intensive investments. The study is organized as a self-directed manual allowing engineers, designers, city officials, and citizen community groups to incrementally reshape the highway with positive impact as the opportunities arise.

Finally, *Developing a Highway Ecology* is suitable for both retrofit projects like Highway 9B and new roads like the east-west Highway 132 proposed between Highway 95 and Highway 9B. Sprawl and the objectionable landscapes of mobility that it has engendered are not so much a phenomenon of the private market as it is the failure of public policies to

demand a civic dimension in public infrastructure. Like all cities, Morrilton has within its authority the capacity and the obligation to specify the terms by which the private market contributes to public infrastructure. To do otherwise is at Morrilton's economic peril, since current economic development trends favor communities with a high creative index. The old economic development model that rewarded places for their rationalization of business production costs through low wages, low taxes, and no impact fees has been replaced by one favoring the cultural and intellectual assets of place. High quality economic development now privileges communities that cultivate a sense of place and unique everyday living experiences. *Developing a Highway Ecology* is the first step in revamping the highway as the public infrastructure most responsible for imprinting a sense of place.



Project Scope

Sprawl is not so much a phenomenon of the private market as it is the failure of public policies to demand a civic dimension in public infrastructure. Like all cities, Morrilton has within its authority the capacity and the obligation to specify the terms by which the private market contributes to public infrastructure.

Developing a Highway Ecology:

Celebrating The Civility in Mobility

Highway 9B in Morrilton, Arkansas

Population 6,751

Transportation infrastructure for the automobile is an urbanism all its own. Its dominance has slighted civil concerns related to health, community, and economic development. Infrastructure is the foundation of cities. The singular mission to maximize vehicular movement has engineered other urban functions out of infrastructure. *Developing a Highway Ecology* is a proposal to recombine multiple civic functions into an existing arterial highway landscape, creating a recombinant transportation system with environmental, social, and architectural logics. The goal is to propose new possibilities for civic order in suburban contexts, which presently lack or resist models of good urban design.

Developing a Highway Ecology is a recombinant design strategy using ordinary systems and materials conventionally deployed in highway corridors. Beginning with standard systems budgeted into the highway landscape, *Developing a Highway Ecology* acknowledges the unrecognized complexity inherent in existing highway organizations and deepens their relationships (see the Highway Ecology Matrix on page 24). By recombining familiar but isolated components, *Developing a Highway Ecology* proposes unique civic landscapes within a feasible development framework. In addition to the physical systems, supporting administrative and budgeting organizations are recombined to enhance the services drawn from infrastructure. National and local community grant foundations in particular have expressed a strong interest in sponsoring such models of recombinant public works because they enhance civic life.

Like many communities, Morrilton's suburban commercial arterial highway is a busy, multiple-use landscape well positioned for redevelopment. However, no significant future growth is anticipated to fund redevelopment. Recognizing resource limitations and few prospects for new building, *Developing a Highway Ecology* proposes a No-Growth Highway Retrofit that addresses: 1) Land use connectivity, 2) Transportation corridor design, and 3) a New "green" parking district. The recombinant highway will support collateral civic functions that improve health, environmental, and economic development. These functions include:

"The street is a room by agreement...a community room dedicated to the city for common use...it's ceiling is the sky." Louis Kahn, architect

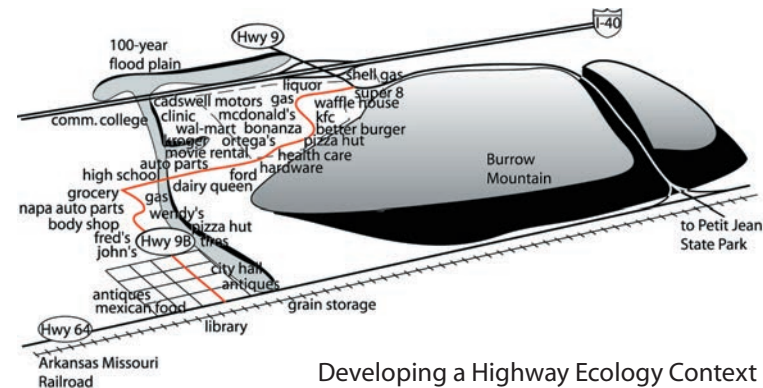
- Pedestrian and Bicycling Networks
- Stormwater Runoff Retention and Treatment
- Flood Control and Wetland Preservation
- Land Conservation
- Increased Urban Biodiversity
- Watershed and Water Quality Enhancement
- Increased Park and Recreation Area
- Communication and Media Landscapes

Since highway programs dominate the allocation of public resources for infrastructure, and their right-of-ways represent the largest public land holdings in communities, highways in suburban contexts pose the single largest opportunity for community development. *Developing a Highway Ecology* compels cities and designers to explore:

How might the environment be reorganized to promote public health through utilitarian physical activity like walking and bicycling?

How might transportation systems, through the enhancement of modal options, create civic space where it has been excluded?

Since highway programs dominate the allocation of public resources for infrastructure... highways in suburban contexts pose the single largest opportunity for community development.



Developing a Highway Ecology Context

Great Streets

Examples of great streets, nearby and abroad, offer various strategies for creating productive urban landscapes. The following are examples of “recombinant streets” that embrace complexity in function and transportation intermodality instead of the single-purpose road built to maximize automobile trip capacity. The examples show that streets are viable armatures for a pedestrian-oriented urban design, while still effectively facilitating automobile travel. Achieving the environmental characters illustrated in the following photographs is a matter of design in addition to being one of codes and regulations. These streets are inherently great civic spaces and represent the kind of civic urbanism required for sustainable and creative economic development.

Communities across the country have created guidelines to achieve context-sensitive street design. A good example is the 1997 Portland Metro Guidelines for Streets with the following requirements:

- Streets should accommodate multiple transit modes
- Streets should ensure pedestrian and bicyclist safety
- Streets should enhance sociability
- Streets should contribute to a high quality built environment
- Streets should add to the integrity of their neighborhoods



Hot Springs, Arkansas

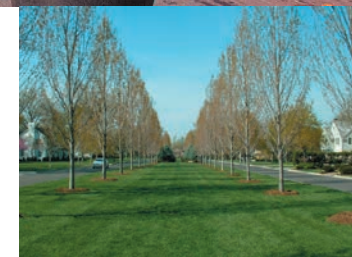
Montreal, Quebec



Birmingham, Alabama



Birmingham, Alabama



Mission Hills, Kansas



Birmingham, Alabama

San Francisco, California



Louisville, Kentucky

Kansas City, Missouri



Barcelona, Spain



Montgomery, Alabama



Barcelona, Spain

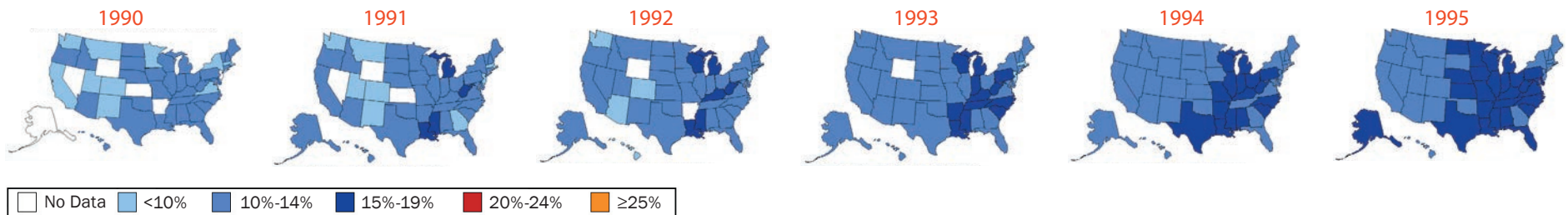
Relationship Between Mobility and Community Health

The public health community has identified community planning as a primary solution to America's top health problem—lifestyle disease resulting from lack of physical activity. The Center for Disease Control recently declared lifestyle diseases (e.g. diabetes, hypertension, cardiac disease, and stroke), rather than infectious diseases, to be the top national health problem. The degree of pathology, and what it portends for overall well-being, has reached alarming rates as the mapping below illustrates. Since automobile-oriented community design has engineered physical activity out of everyday life, health officials are now calling for new community planning paradigms to facilitate healthier lifestyles.

A significant number of lifestyle disease cases can be prevented. Health officials speculate that utilitarian physical activity, more common in the past, was a key factor in moderating public health. However, utilitarian physical activity related to walking or biking for everyday routines and errand running is not feasible in most contemporary land development models. Alternatively, recreational physical activity requiring facilities and equipment is not part of many people's lifestyle. Though physical activity is a complex phenomenon, varying according to purpose, amount of time required, level of exertion, and environmental barriers, land-use is a primary determinant of physical activity. Auto-centric land development patterns, along with single-use zoning, eliminates the mixed-use, highly networked environments required for pedestrian activity. Indeed, as urbanist Peter Calthorpe states in his book, *The Next American Metropolis*:

Ecology, Community, and the American Dream: "Pedestrians are the measure of a community, they set the scale for both the center and the edge of our communities". The goal is not to marginalize the automobile or to curb growth, but rather to provide transportation options beyond the automobile. People want choices that include walking and bicycling.

While more research is needed to understand the definitive relationships between physical activity patterns and built community form, some preliminary insights are examined in *Health and Community Design: The Impact of the Built Environment on Physical Activity* by Lawrence D. Frank, Peter O. Engelke, and Thomas L. Schmid. Besides a mix of uses and higher densities, a significant determinant in transit choice—particularly the choice to walk—is the aesthetic quality of the street. Preliminary research shows that not only do great streets encourage walking, but also that a strong connection exists between the status of health in individual neighborhoods and their physical design. Great streets are social spaces equipped with pedestrian amenities like furniture, tree canopies for shade, landscape, and a scale of elements supporting walkability. The correlation between land-use arrangements and physical activity is timely, as health experts have redirected their focus from the importance of vigorous exercise to that of moderate physical activity. In addressing physical activity as an element of lifestyle, health policy has broadened the question of physical activity from being a function of individualistic practices to include environmental determinants.



Source: Center for Disease Control

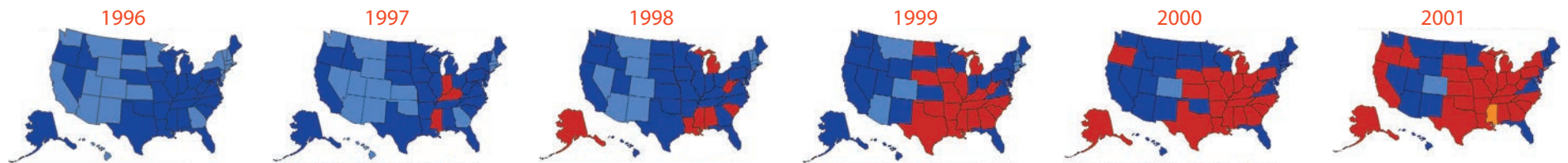
Since automobile-oriented community design has engineered physical activity out of everyday life, health officials are now calling for new community planning paradigms to facilitate healthier lifestyles.



“Town planning, until 1930 considered a humanistic discipline based upon history, aesthetics, and culture, became a technical profession based upon numbers. As a result, the American city was reduced into the simplistic categories and quantities of sprawl.”

Andrés Duany, Elizabeth Plater-Zyberk, and Jeff Speck Suburban Nation: The Rise of Sprawl and the Decline of the American Dream

The connection between well-being and design of the physical environment is not isolated to the issue of walkability, but extends to pedestrian safety, access, and the social costs (e.g. over 120 fatalities per day in automobile accidents nationwide) supporting current trends in mobility. Improved infrastructure design can also advance efforts to reverse energy costs and mitigate pollution stemming from automobile use. Hence, progressive community redevelopment depends on developing policy triangulation among 1) transportation investments, 2) public health, and 3) land development.



Obesity Trends* Among US Adults

*(BMI >30, or ~ 30lbs. overweight for 5'4" woman)

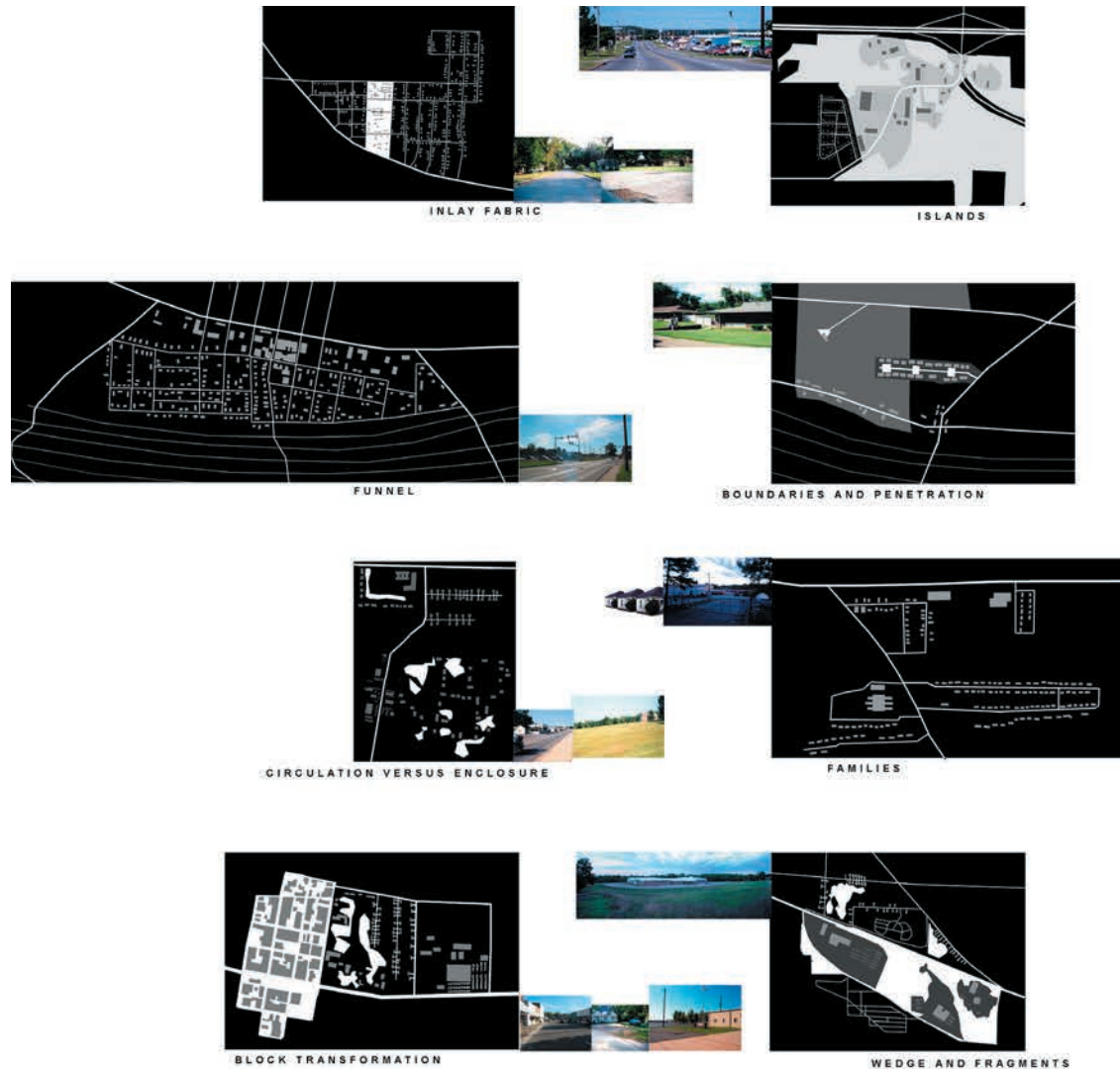
Part 1: Analyzing Morrilton

Analytic maps combining geographical, landscape, and architectural phenomena are assembled here to reveal both the latent and manifest forces organizing the urban morphology (form) of Morrilton. The interpretive function of the maps allows UACDC and other planning organizations to understand relationships not available in photographs, street maps, textual histories, or empirical observations of Morrilton.





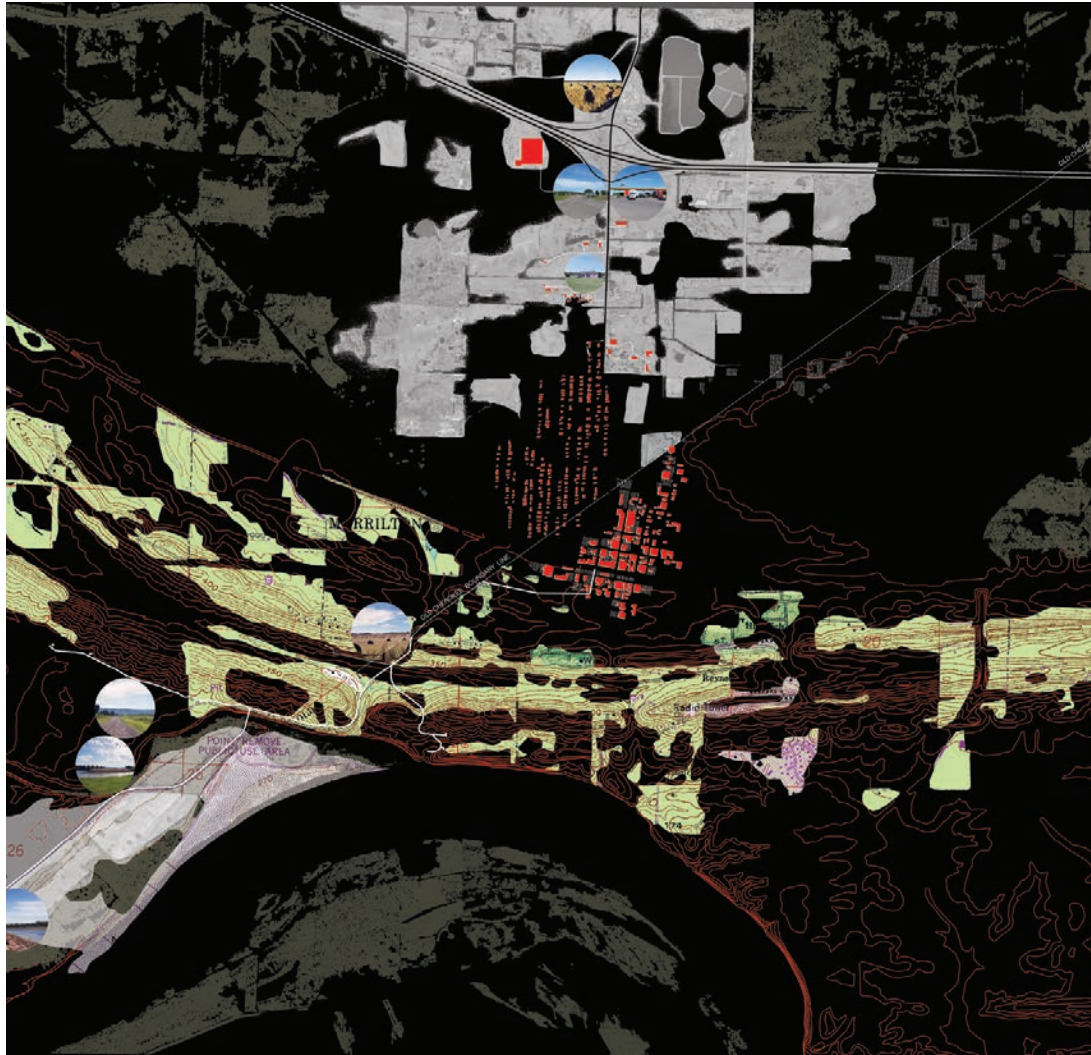
Regional Corridors: Highway 64, Arkansas River, Railroad, Interstate 40: Morrilton is one component in a string of small industrial towns within the Arkansas central valley linked by Interstate 40, the Arkansas River, and the Missouri Pacific railroad line. Like nearby Russellville and Conway, Morrilton's historic city center is bifurcated by the railroad line and bordering the river. Recent development ignored geography and the historic community centers, gravitating toward Interstate 40. Rice farming occurs to the north of the interstate, while mountainous terrain, including the popular Petit Jean Mountain, dominates the landscape to the south of the Arkansas River. The commerce related to rice is conveniently supported by the adjacent tripartite transportation system of interstate, railroad, and river.



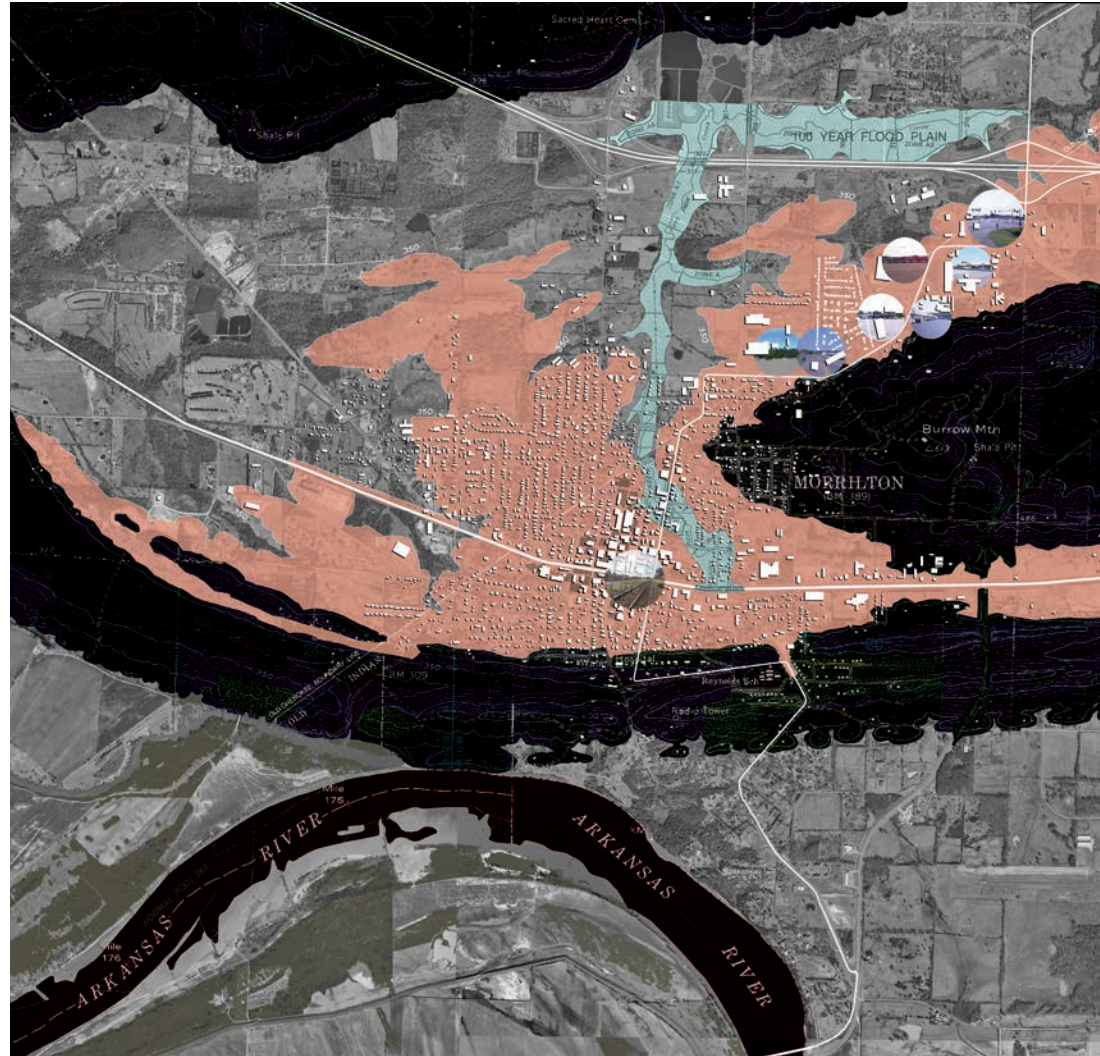
Various Neighborhood Fabrics: A variety of neighborhood fabrics developed over different eras make up the landscape of Morrilton. The fabric at the Highway 9 interstate interchange is dominated by expansive parking lots isolating the buildings they support. As expected, the downtown constitutes the densest fabric in Morrilton, dominated by urban buildings that support a pedestrian environment. The landscaped Highway 64/railroad spine creates a downtown greensward with cross streets connecting the historic residential neighborhood to the south. Contemporary neighborhood fabrics linked to main traffic thoroughfares with lower connectivity populate areas north of downtown. Southeast of town, residential (family) development aligns long roads, disconnected from the grid of downtown, but creating neighborhoods of their own. The housing subdivision at Cherokee Court to the southwest is a highly organized insular corridor surrounded by an otherwise undeveloped landscape.



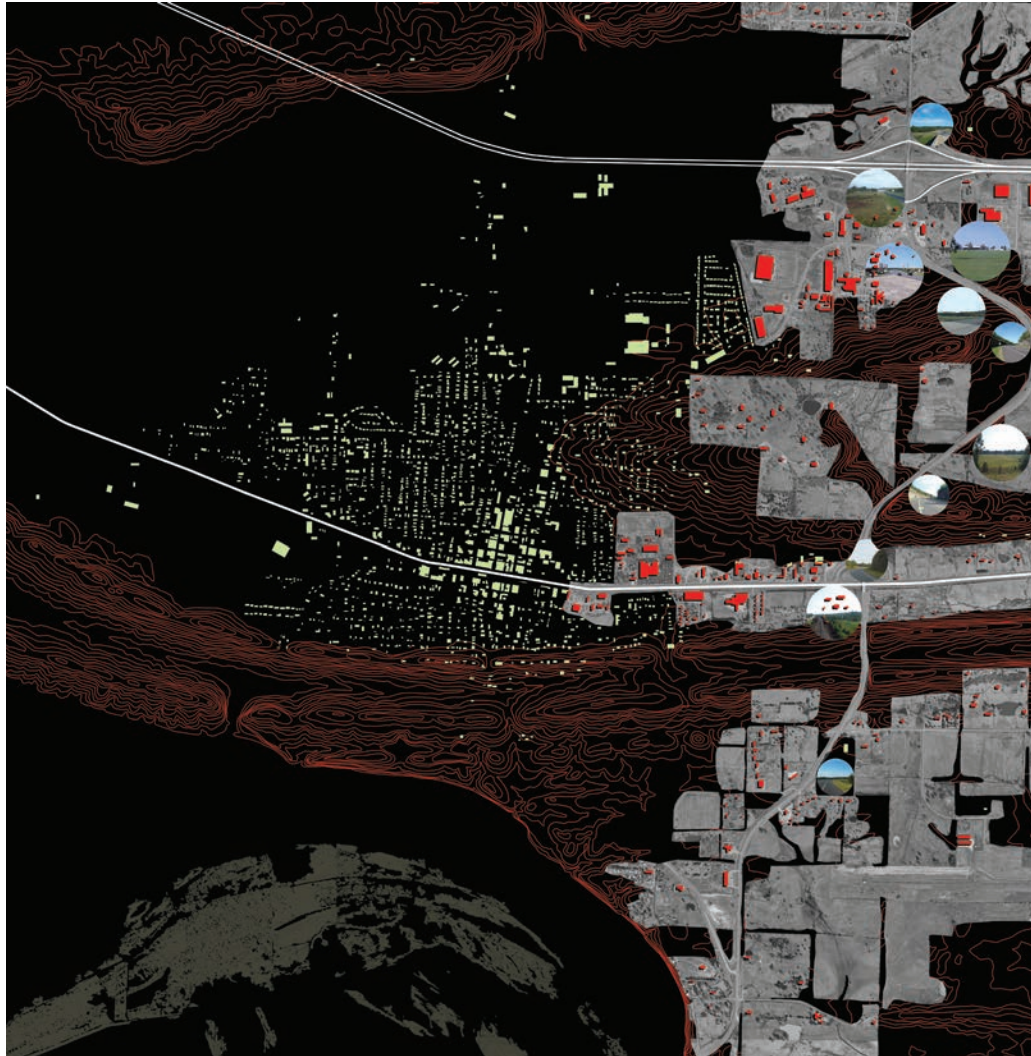
Fabric Interaction: The varied fabrics constituting Morrilton’s urban landscape create a representative cross-section of town planning ideas from the 20th century. They highlight contrasting systems for living. The downtown street grid and its extensions to the southern historic neighborhoods create a differentiated but integrated network, easier to navigate than the islands of development along the Highway 9B suburban arterial. The Cherokee Court housing enclave represents the most extreme example of cul-de-sac planning logic in its isolation from town development. Neighborhood fabrics to the north of downtown are uneven in their interior development and lack connectivity with bordering neighborhoods, requiring greater dependence on the automobile for travel.



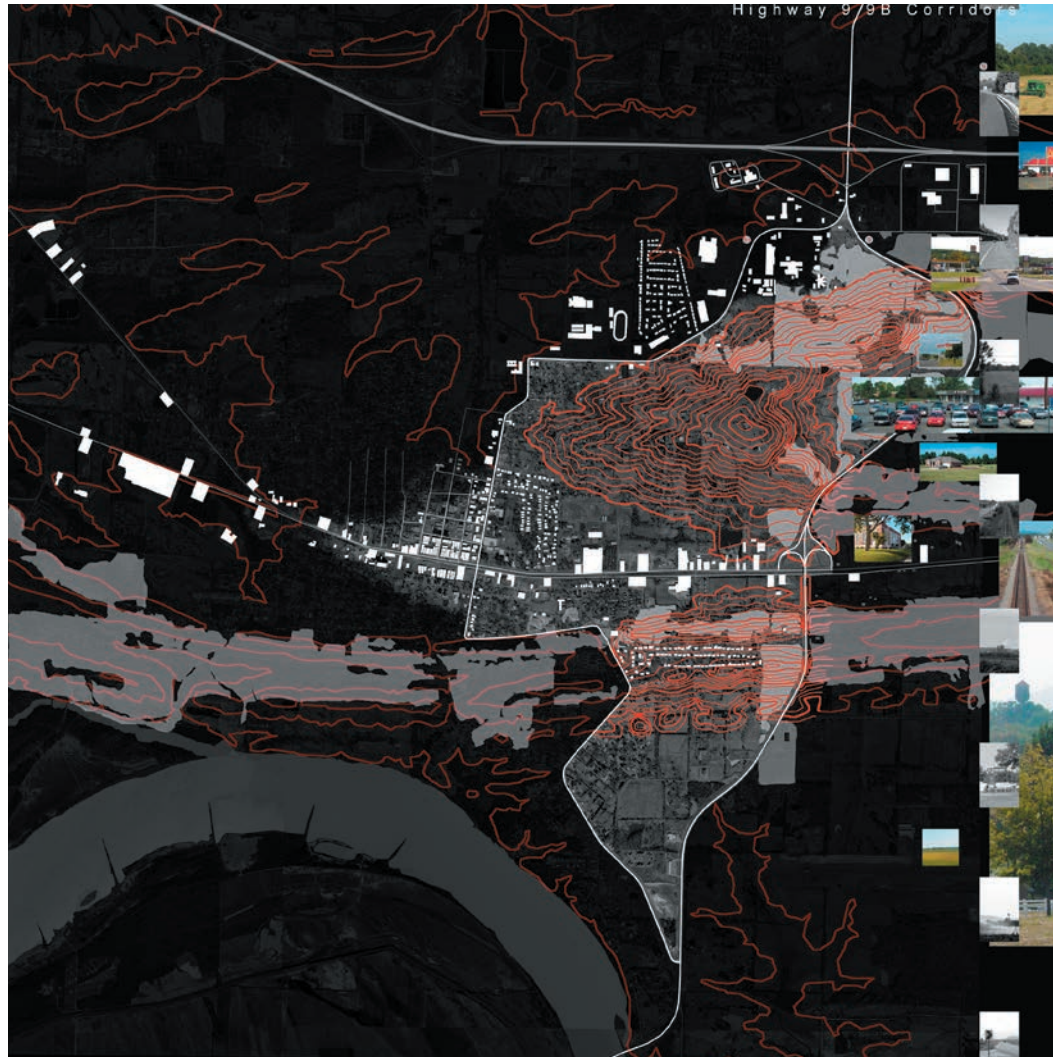
Street Ecology: Highway 95: Highway 95, one of two major arterials connecting Interstate 40 to the downtown, is less developed than the more populated Highway 9B. Yet, the ecology of activities along Highway 95 within Morrilton changes dramatically along the path to downtown. Typical development situated at the interstate interchange quickly gives way to a broad landscape of meadow and vista. The highway then narrows as it passes through a residential fabric with housing dotting the road edge. At this point the road is aligned with the National Land Survey of the late 1700's. The path momentarily becomes confused, but finally falls into alignment with the downtown city grid, as aligned with the railroad, and the traveler is at the city center. South of town, approaching the river, the landscape opens up again to agricultural fields edged by hills. At the river sit the dam and Point Remove Public Use Area.



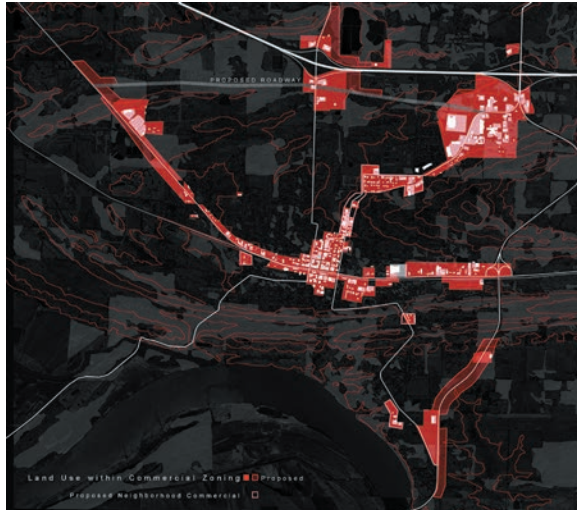
Street Ecology: Highway 9B: Highway 9B, the main business artery connecting the interstate with downtown, is highly influenced by the natural topography of the city. The road and adjoining development curve around the baseline of a major natural feature—Burrow Mountain. Another geographical determinant is the ridgeline along the south edge of the city, and the path of the railroad and Highway 64. The majority of the city has developed generally within a fairly flat region bounded by the 350-foot-above-sea-level contour line. Development consistently avoids much of the 100-year flood plain.



Street Ecology: Highway 9: Highway 9 is the most scenic of the cross-town state highways connecting with the interstate interchanges at Morrilton. Highway 9 bypasses the city, serving as a primary route to Petit Jean Mountain. The road meanders through the countryside to the east of Morrilton, slices through part of Burrow Mountain, then cuts a path back through town before crossing the river and continuing into the countryside beyond. After Highway 9 cuts through Burrow Mountain, and before it slices through the ridge south of town, the road connects with Highway 64, a major route to downtown Morrilton. This intersection could be a fantastic opportunity to capture the attention of passing tourists patronizing nearby natural attractions.



Burrow Mountain and the Edges of Morrilton: Burrow Mountain creates a unique community landmark. Highway 9B splits from Highway 9 at the base of Burrow Mountain, routing traffic to the city around the mountain. Highway 9 cuts through the eastern bluffs of Burrow Mountain creating a scenic drive to Petit Jean State Park. Most development is sandwiched in between the base around Burrow Mountain and the railroad, which follows the southern ridgeline.



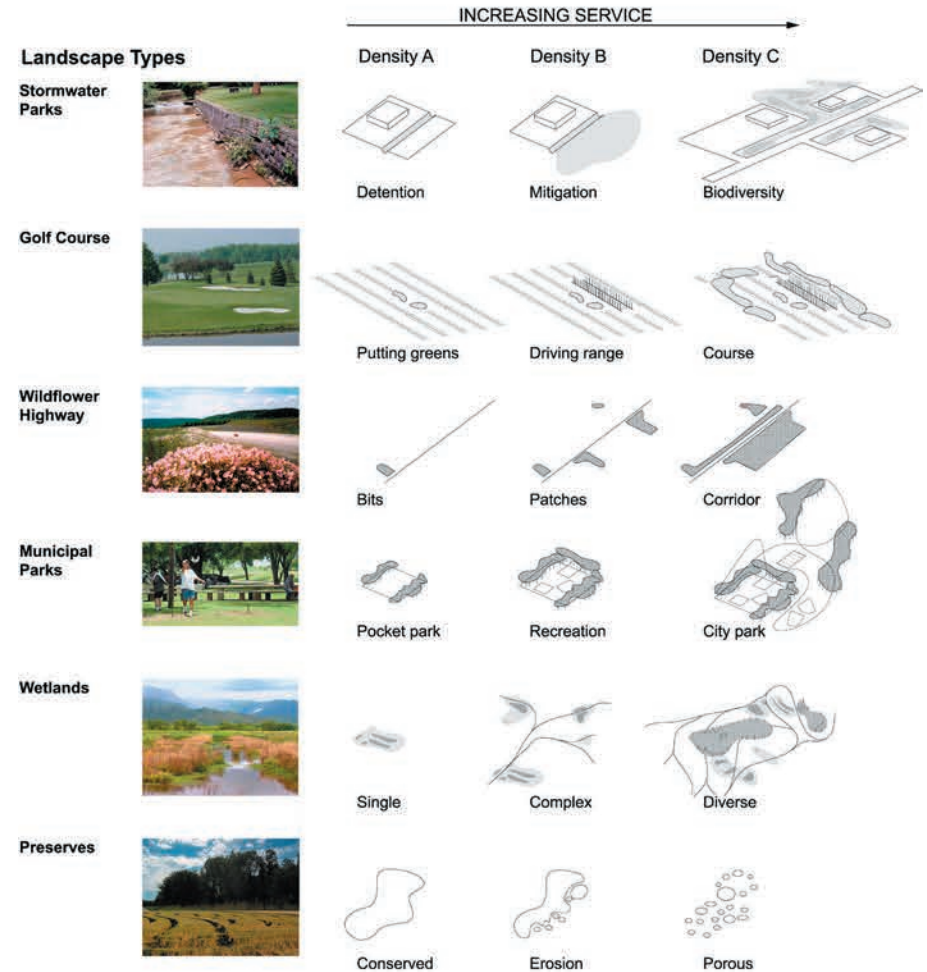
Existing and Projected Land Use: The zoning land use maps of Morrilton reveal a variety of patterns and development philosophies. The existing and proposed commercial zoning, shown in red, is comprised of development along major arterials and at nodes where arterials intersect. The most dramatic node is the large swath of commercial development at the Highway 9/9B interchange. Community uses, shown in blue, include large patches of land sprinkled throughout the city, consisting of uses like schools and parks. The purple industrial uses follow arterials, but are primarily at Morrilton's edges, typically not integrated into the general fabric of the city. Finally, existing and proposed residential land uses comprise the largest portions of the city's landscape. This development has historically occurred at the core, but proposed residential land use may occur, like the development north of the interstate, at the edges of town.

Part II: Highway Ecology Matrix

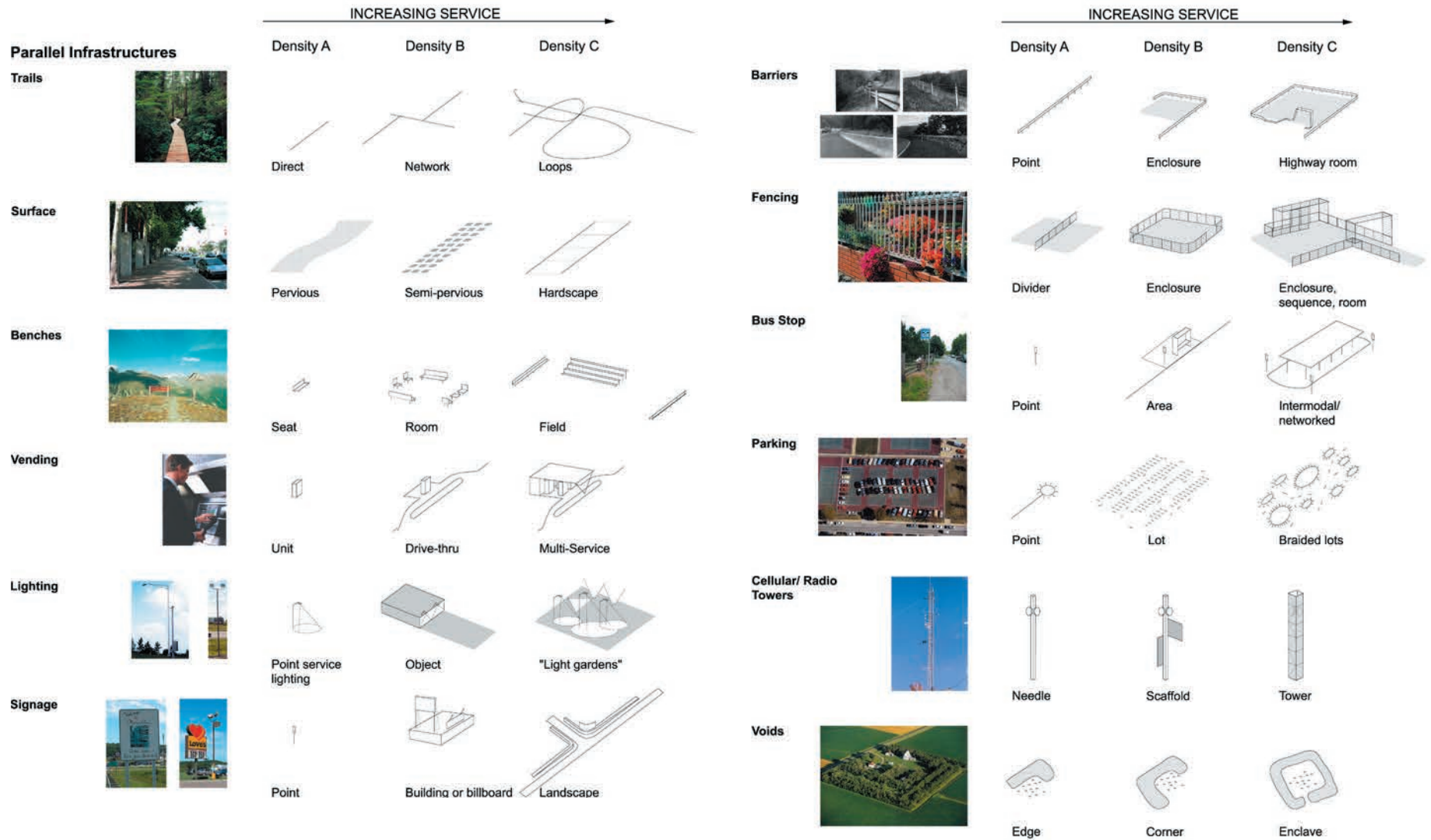
The Highway Ecology Matrix is an index of the generic things and systems typically found in an ordinary highway corridor. It constitutes the highway's web of relations—or its ecology. The user can select any combination of elements and levels of service in the matrix, to recreate a highway context. These resources are the material by which the highway may be tailored to realize the planning goals outlined in *Developing a Highway Ecology*. Since these resources are standard budgeted allocations in highway development, *Developing a Highway Ecology* represents a modest and feasible planning strategy. The matrix challenges the conventional perception that the highway is a simple organization, lacking in diversity of civic experiences.

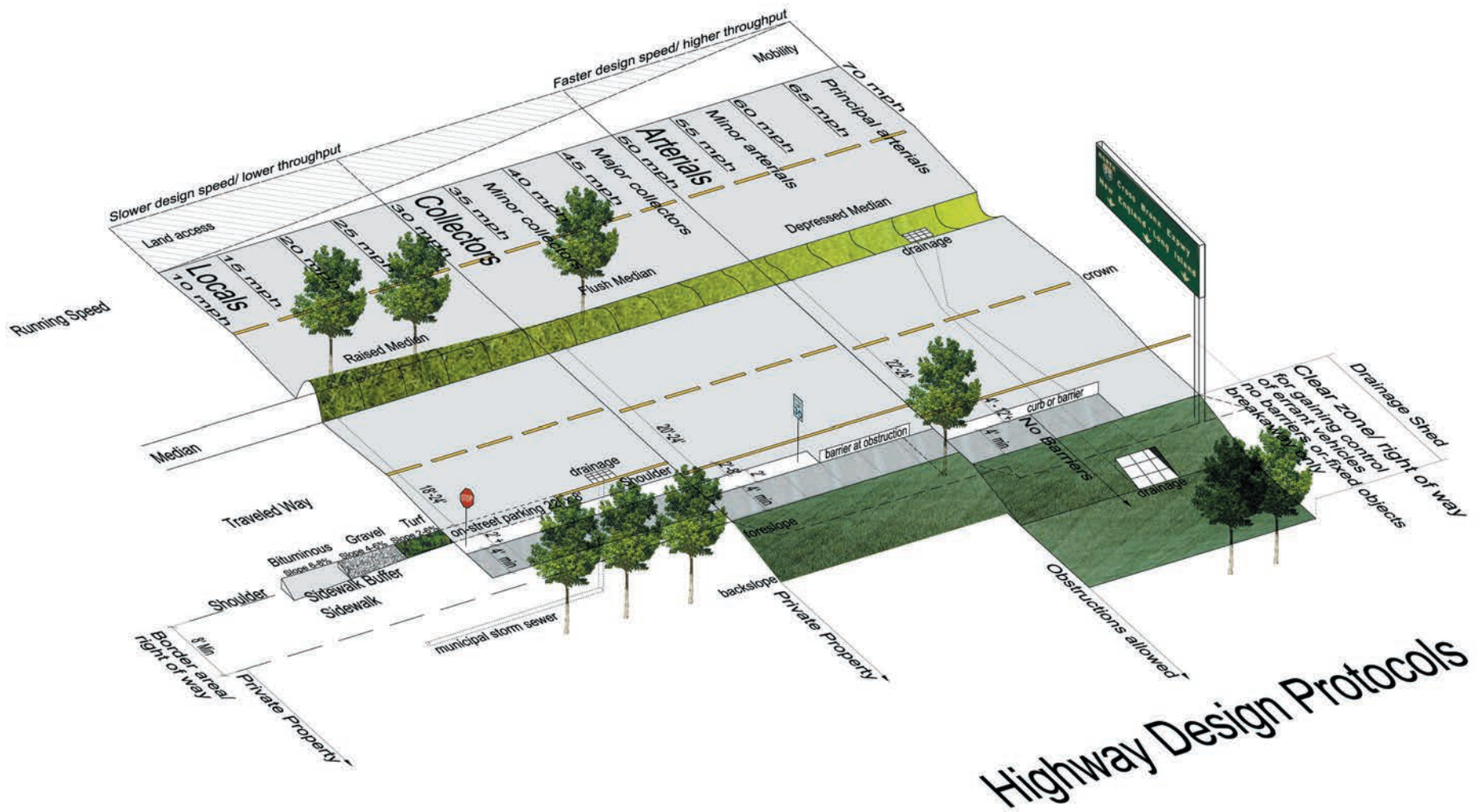
While the matrix is by no means exhaustive, the 18 systems indicated represent standard development found along the highway. The systems' horizontal variations, indicated by "Increasing Service" in the matrix, illustrate their successive phases of development from the most elemental forms to context-producing systems. Signage, for instance, ranges from the sign as a basic object to signs as buildings, and finally, signs as landscapes, as in residential subdivision entrances. The moment of innovation is in how the systems within the matrix might be recombined.

The Highway Ecology Matrix is a self-directed tool for constituents outside the professional design community to assemble their own itineraries for highway design. With the road as a platform, the highway can be accessorized to account for local desires, available funding, and a selected component's specified intensity of service. Highways can be designed to evolve through successive stages over time, much like the maturation process in ecosystems. The matrix functions as a community participation instrument, facilitating unexpected combinations to achieve a context-sensitive road design.

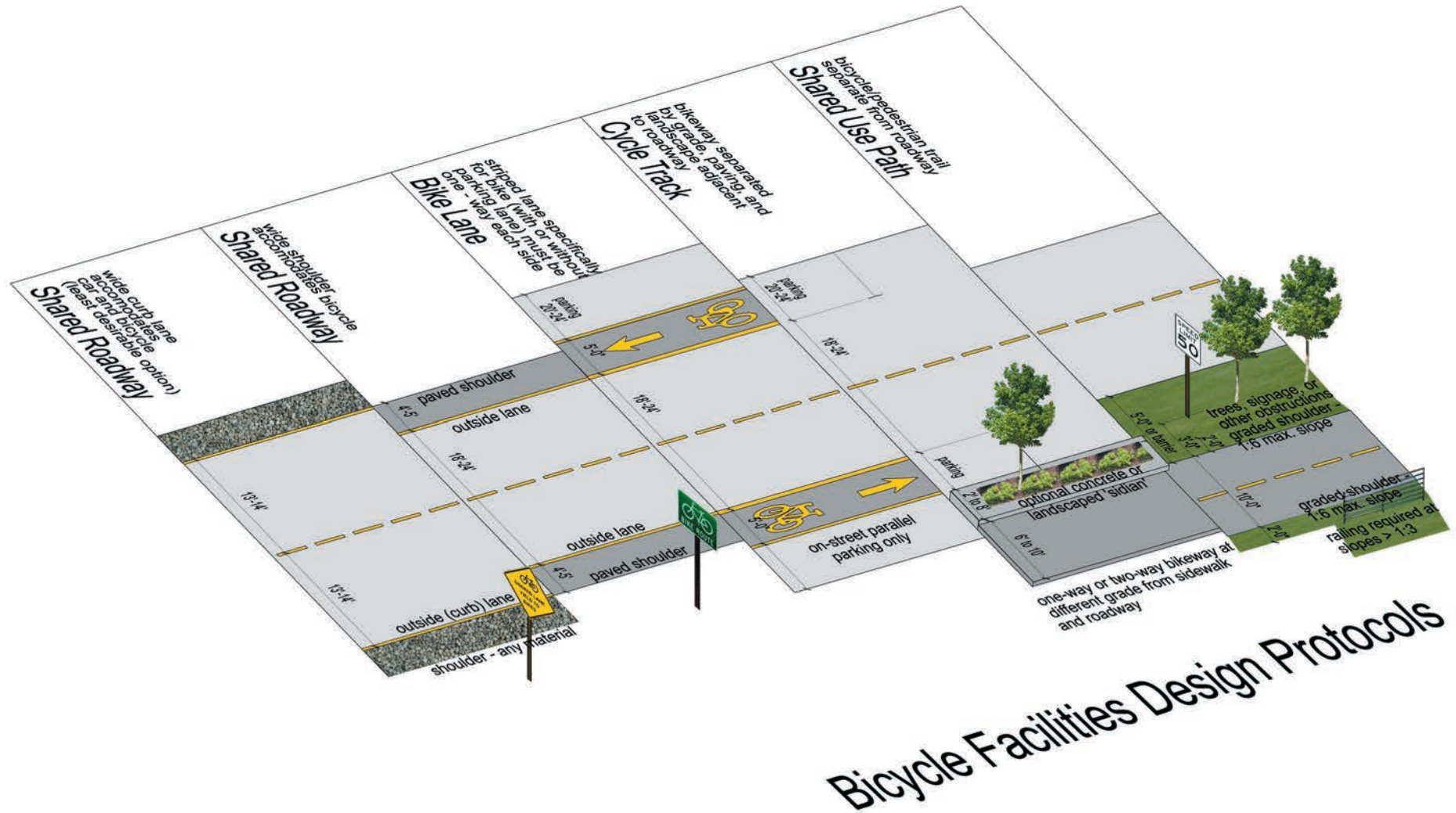


The matrix functions as a community participation instrument, facilitating unexpected combinations to achieve a context-sensitive road design.



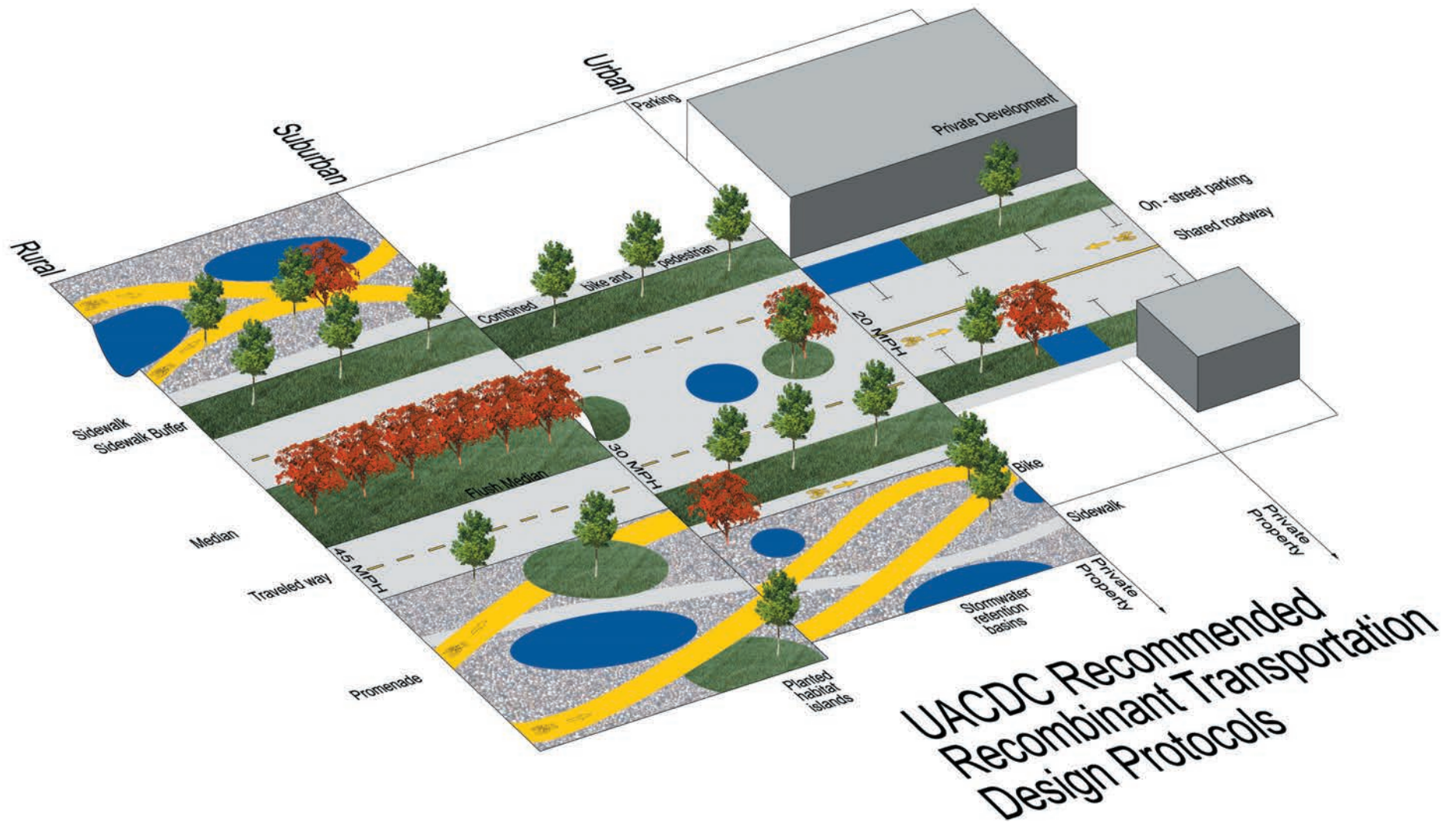


Current Highway Design Protocols, Arkansas State Highway and Transportation Department: This diagram illustrates the Arkansas State Highway and Transportation Department protocols for highway design. The protocols, based on the American Association of State Highway and Transportation Officials (AASHTO) standards, designate performance criteria for each road type. AASHTO's standards do not account for individual contexts or other modes of transit related to pedestrians and bicyclists, instead maximizing automobile traffic flow.



Bicycle Facilities Design Protocols

Current Bicycle Facilities Design: This diagram illustrates the American Association of State Highway and Transportation Officials (AASHTO) recommended protocols for bicycle design facilities, supplemented by recommendations from the Missoula Institute for Sustainable Transportation. Other resources include *Improving Conditions for Bicycling and Walking* by the Rails-to-Trails Conservancy and the Association of Pedestrian and Bicycle Specialists, *The National Bicycling and Walking Study* by The Federal Highway Administration, and *Bike Lane Design Guide* by the Pedestrian and Bicycle Information Center.



UACDC Recommended Recombinant Highway Design: This diagram illustrates a recombination of protocols regarding highway functions, bicycle and pedestrian facilities, stormwater retention gardens, and landscape systems. Using the Highway Design Protocols diagram, the Bicycle Facilities Design Protocols diagram, and the Highway Ecology Matrix, the highway is “thickened” so that the highway as a public infrastructure establishes a civic order for the interface of private property. Indeed, as cities like Manhattan and Savannah illustrate very well, the quality of urban space lies in public infrastructure rather than private development.

Part III: No-Growth Highway Retrofit

Recognizing resource limitations and few prospects for new building, *Developing a Highway Ecology* proposes a No-Growth Highway Retrofit that addresses: 1) Transportation corridor design (p. 31), 2) Land use connectivity, (p. 36) and 3) a New “green” parking district (p. 42).

Rather than sponsor redevelopment through new capital-intensive growth, the No-Growth Highway Retrofit proposes land-use reorganization as the basis for community development. Contemporary schools of thought in urban development (such as New Urbanism) require new buildings to support their planning proposals. In No-Growth Highway Retrofit, existing resources are reworked to improve connectivity between adjacent development along the arterial highway. Since the arterial is a low connectivity/high proximity planned environment, enhancing connectivity will create an aesthetically rich environment that rewards walking and biking. Recombining transportation networks, parking, pedestrian infrastructure, stormwater infrastructure, and landscape as an integrated



Highway Ecology Matrix: recombine as desired

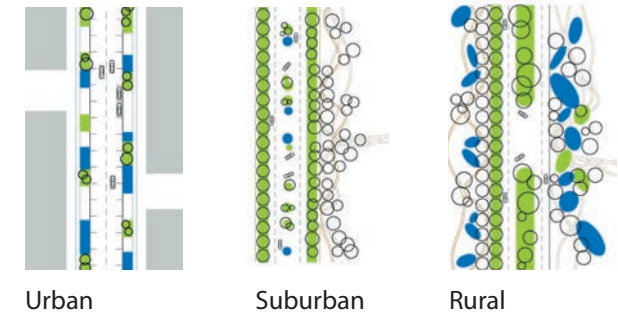
1. The “Thickened Highway” and Transportation Corridor Design

system is a solution with multiplier effects. The recombinant highway will support collateral civic functions related to improved health, environmental, and economic development. These functions include:

- Pedestrian and Bicycling Networks
- Stormwater Runoff Retention and Treatment
- Flood Control and Wetland Preservation
- Land Conservation
- Increased Urban Biodiversity
- Watershed and Water Quality Enhancement
- Increased Park and Recreation Area
- Communication and Media Landscapes

In addition to recombining physical assets, No-Growth Highway Retrofit also suggests recombinant organization and budgeting in municipal and county administration. Simple administrative steps could be taken to implement the “factor four principle”: halving resource use while doubling return on investments. This form of resource conservation constitutes not only a wise ecological model, but is also a savvy business model. The rationalization of resources is fundamental to a no-growth strategy and will attract multiple sources of funding for public works projects.

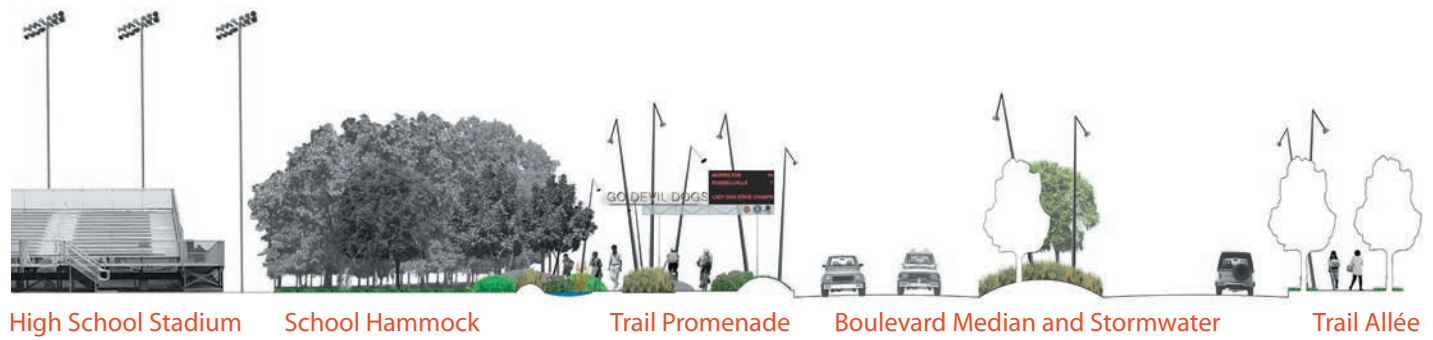
Developing a Highway Ecology recombines the monolithic design protocols for highways with bikeway, pedestrian, landscape, and stormwater treatment components to expand civic functions in highway landscapes. These recombinant protocols are responsive to context and the road type desired. This would encourage greater consideration for walking and bicycling as transportation options. Stormwater retention gardens with advanced organic treatment regimens will improve local water quality.



To traffic engineers, sidewalks are “auto recovery zones” allowing stray motorists to correct their course, and trees are known as FHOs: Fixed Hazardous Objects.



Friday Nights on Corridor 9B: Physical activity related to walking and bicycling, whether for recreational or utilitarian purposes, is intrinsically social. Appropriate highway corridor design encourages greater physical activity and even celebrates major town events like high school football night. At the high school stadium and parking lot, corridor design can be thickened to create an illuminated and safe linear park, that accommodates the informal gatherings of youth car culture in large parking lots.



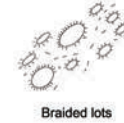
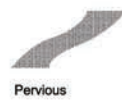
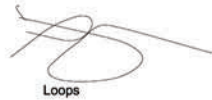
High School Stadium

School Hammock

Trail Promenade

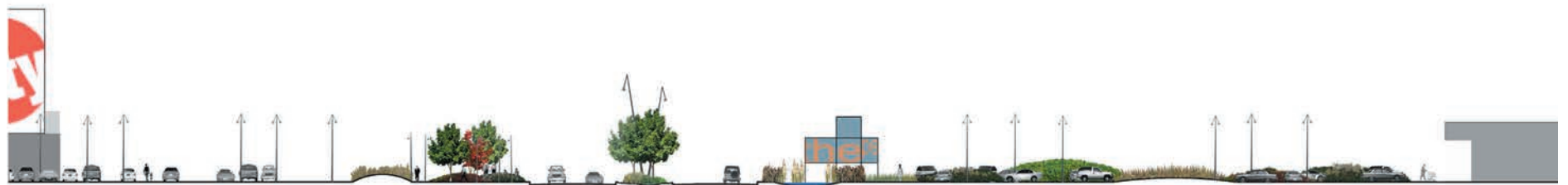
Boulevard Median and Stormwater

Trail Allée





Highway Corridor Trails and Swales: “Thickening” the highway corridor with pedestrian walks, bicycle trails, and stormwater treatment gardens accommodates the sorts of functions that occur informally in the highway right-of-way. The highway is reconfigured as a recombinant landscape providing choice among travel modalities, especially rewarding the decision to walk. Studies show that the main deterrents to walking as a mainstream transportation option are the poor aesthetics of the street and the lack of pedestrian facilities.



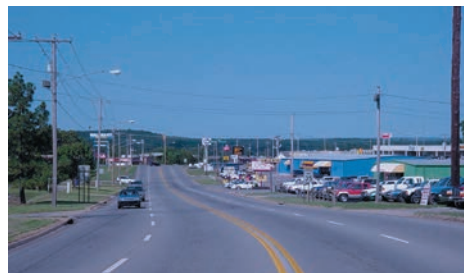
Parking Lot

Stormwater Trails

Boulevard Median

Stormwater Swales

Vegetative Parking Bands



Detention



Mitigation



Direct



Pervious



Seat



Point service lighting



Building or billboard



Area



Lot



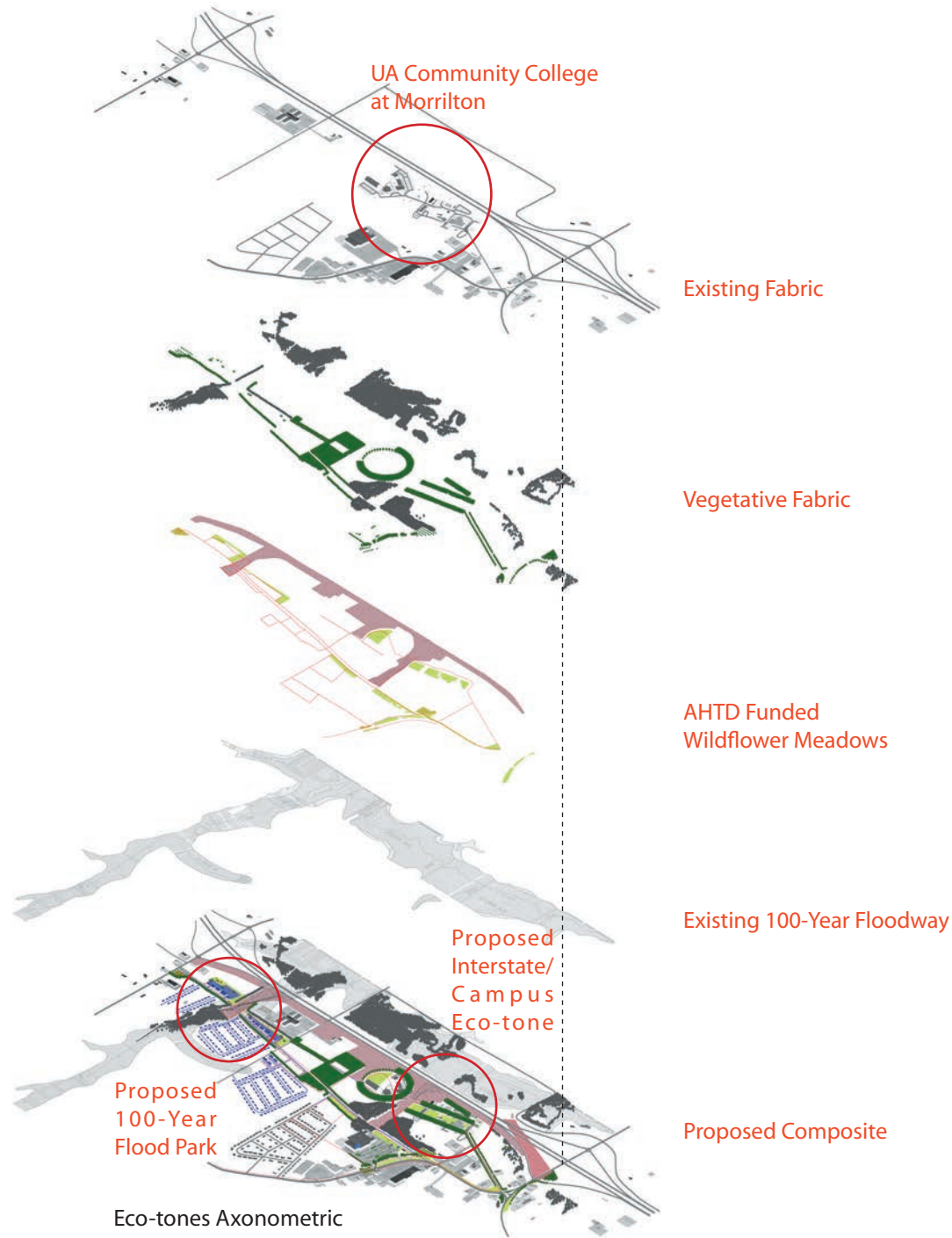
Braided lots

2. Programmatic Eco-tones: Maximizing Land Use Connectivity

Suburban arterial highway networks are characterized by low connectivity/high proximity development. *Developing a Highway Ecology* employs the highway right-of-way and the parking lot as mediums to create overlaps and exchanges among adjacent land uses. A vocabulary of passages, gateways, gardens, meadows, vegetation bands, and allées establish porous, but well-defined, edges to promote visual and physical connectivity between land uses.



Proposed Morrilton Corridor Eco-tones

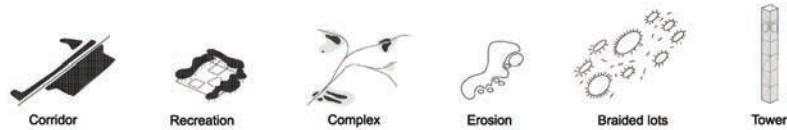


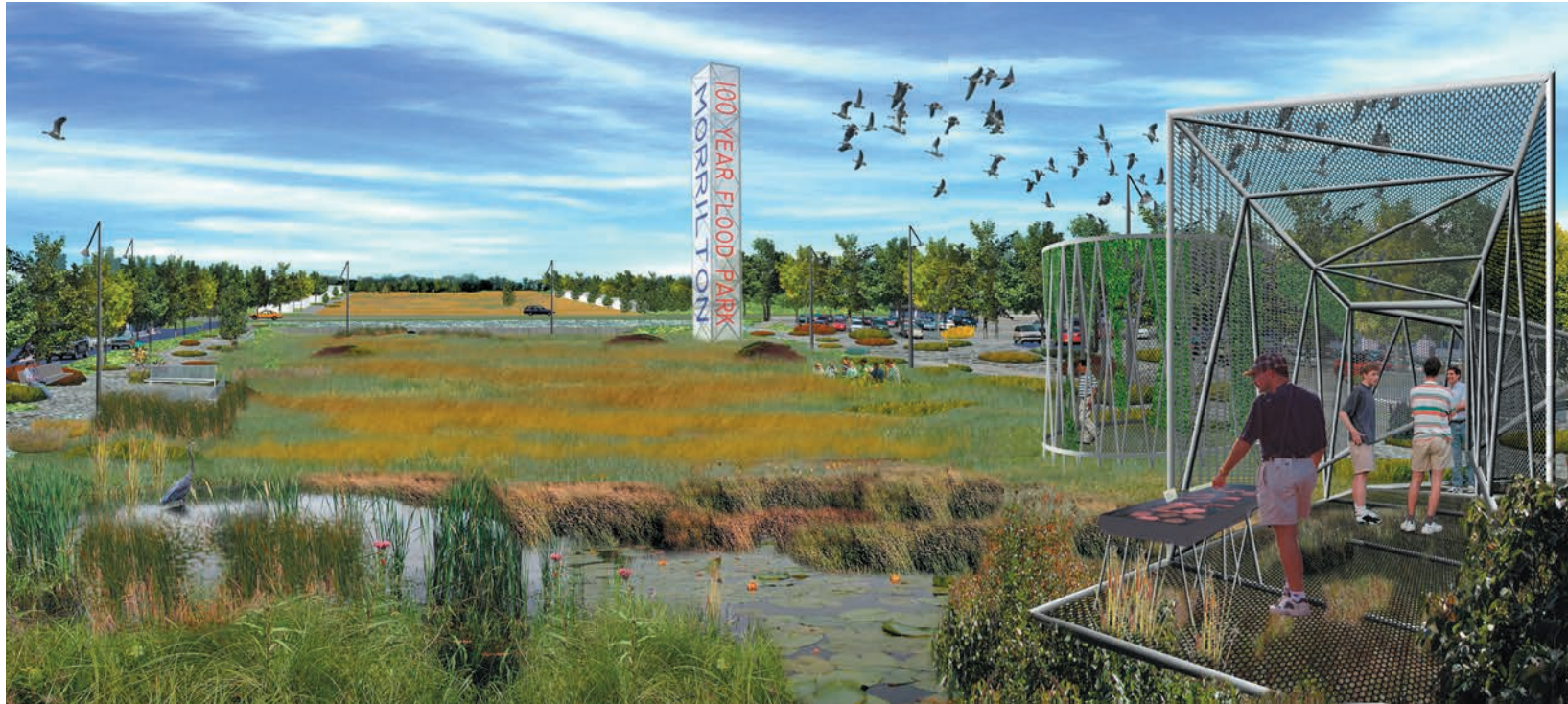
University of Arkansas Community College at Morrilton



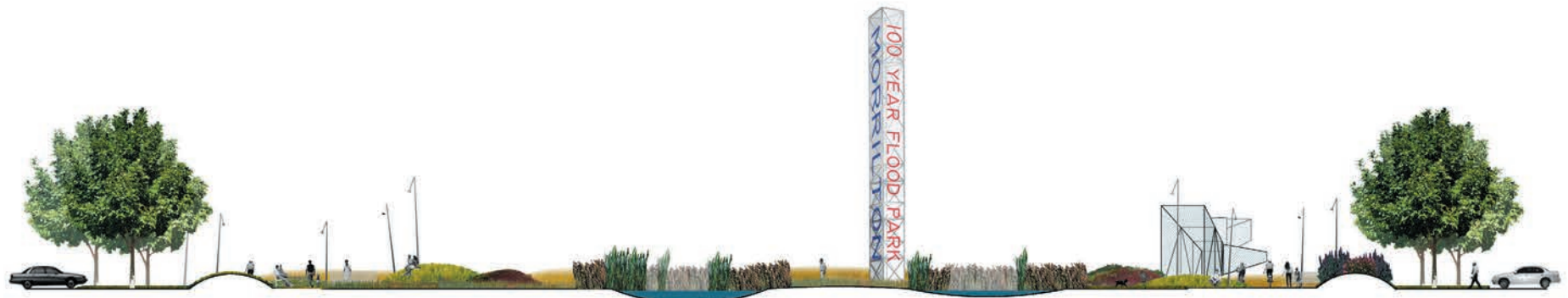


Interstate/ Campus Eco-Tone: One of Morrilton’s chief institutional assets is the University of Arkansas Community College at Morrilton (UACCM), prominently located at the junction of Highway 9 and Interstate 40. Since many travelers enter Morrilton from this junction, the college campus presents an opportunity to create an impressionable entry to Morrilton. Ironically, the UACCM campus organization resembles the big box retail development sited along Highway 9B. The campus lacks a larger planning vision, as automobile movement and parking dominates campus organization. Eco-tones are seams where bordering ecosystems interlock. Thus, Interstate Eco-Tones simultaneously proposes a campus pedestrian system and a welcoming landscape to motorists traveling at high speeds along Interstate 40.





100-Year Flood Park: Fuzzy Urbanism: Watersheds and wetlands, often ignored by planners because of their low development potential, can serve as civic parks, adding value to new development. Behind highway right-of-ways, 100-year floodways are often the largest contiguous public land holdings and are thus amenable to public works development. Watersheds can be easily developed as combined recreational and intermodal transportation corridors for pedestrians and bicyclists, extending the highway's mobility function. Transportation improvements are combined with ecological system enhancements to create planning solutions with positive multiplier effects.



Street

Trail Promenades

Flood Plain

100-Year Floodway

Flood Plain

Trail Promenades

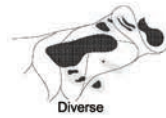
Street



Biodiversity



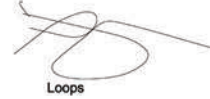
Recreation



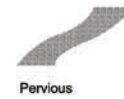
Diverse



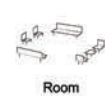
Erosion



Loops



Pervious



Room



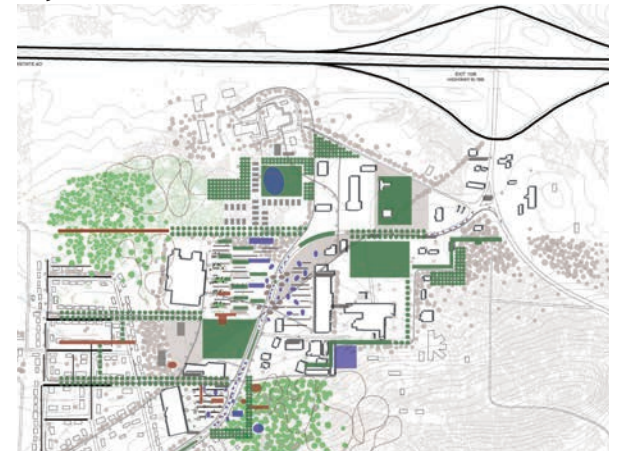
Tower

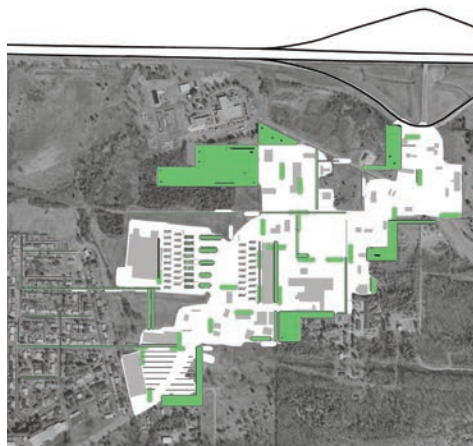
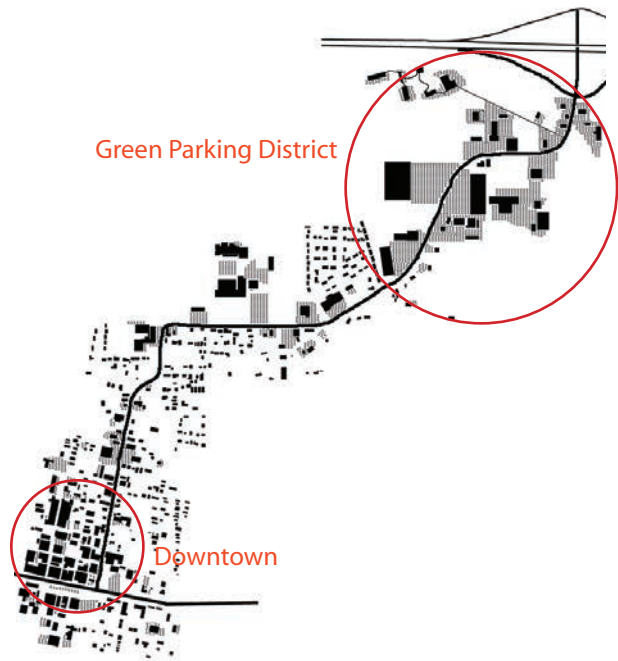
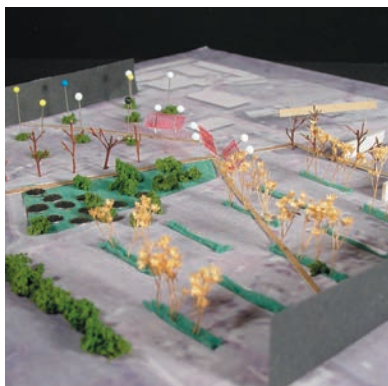


Enclave

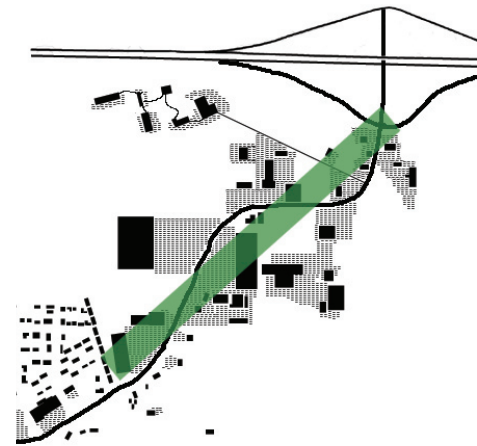
3. Parking as Garden: Establishing a Green Parking Authority and District

Automobile parking is the largest programmatic element along the suburban arterial highway. *Developing a Highway Ecology* uses traditional municipal redevelopment tools to readdress the fragmented landscape of parking. A parking district with taxing and regulatory authority consolidates big box retail parking along Highway 9B, to replace individual parking lots. The parking district as garden absorbs collateral civic functions and coordinates connectivity with adjacent land uses.





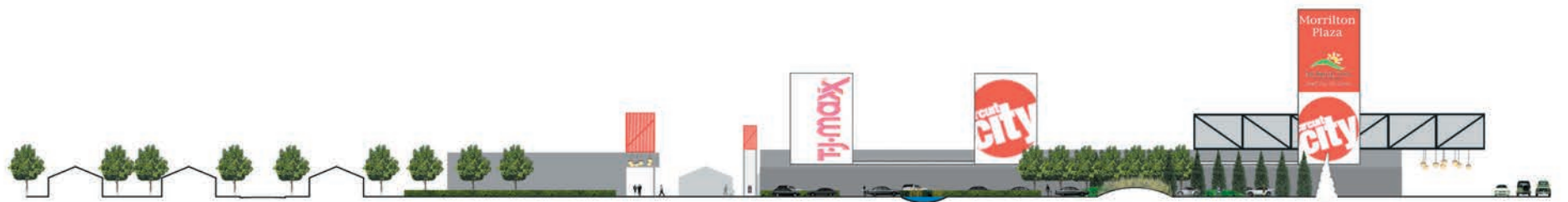
Field Organization



Swath Organization



Parking Gardens: Increasing Connectivity in a Low Connectivity/High Proximity Environment: Suburban organization follows a cul-de-sac logic where adjacent land uses are disconnected. A Parking District comprising big box retail and fast food establishments serves as a suburban town square connecting adjacent residential and institutional land uses. The Parking Garden provokes new forms of urbanism by allowing the complexity of adjacent residential development to move through it. Organized as a municipal redevelopment tool with regulatory and taxing authority, the Parking District would overcome the problems of single-use zoning in suburban contexts. Since the Parking Gardens are easily accessed from adjacent housing and the UACCM campus, walking or bicycling would substitute for trip counts generated by driving.



Housing Subdivision

Eco-Tone Passage

Store Entry

Vending Hedges

Stormwater Parking Gardens

Vegetative Parking Bands



Mitigation



Network



Multi-Service



Object



Building or billboard



Enclosure



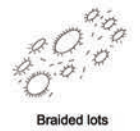
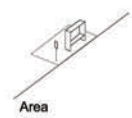
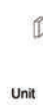
Lot



Tower



Highway Corridor Platforms: Changes in height along the highway corridor become opportunities to combine programmatic functions along elevated platforms. The platforms serve as social condensers and become unique landscape architecture opportunities as well. Perforated metal walks allow pedestrian passage over wetland gardens below and become opportunities for increasing pedestrian amenities through the recombination of standard signage, lighting, seating, a bus stop, and vending.



Summary & Recommendations

Developing a Highway Ecology is developed as a platform study to facilitate further redevelopment planning in the northern periphery of Morrilton between downtown and the interstate. This study was not intended to be a “blueprint” for new construction, but rather a document to direct more focused study and community planning, eventually leading to construction projects. *Developing a Highway Ecology* is also intended to be a compliment to the redevelopment efforts anticipated for downtown.

Projects like *Developing a Highway Ecology* could assist in creating two urbanisms. First, the town could become an entertainment destination for visitors. Second, the town is a great place to live. The former urbanism, in the short-term goal to enhance the retail environment, often overshadows the latter urbanism. An urbanism concerned with the everyday is what sustains great places. The following recommendations are suggestions for extending the ideas outlined in *Developing a Highway Ecology*.

Organization

- Assemble a citizen-based redevelopment committee representing broad community interests to establish planning goals and priorities. The committee should report directly to the city administration and share in agenda-setting with the city.
- A redevelopment committee should establish community development priorities and meet with private interests (e.g. the Chamber of Commerce) to determine economic development potential and set project agendas.

- In collaboration with the city, a citizen-based redevelopment committee should meet with public agencies to discern design and project funding opportunities. Morrilton should meet with the Arkansas State Highway and Transportation Department (AHTD) to discuss context-sensitive highway design initiatives as outlined in *Developing a Highway Ecology*.
- Reorganize city zoning codes to encourage mixed-use development, connections between land uses, and zero lot line development to reinforce great street design. Supplement codes with street design cross-section drawings illustrating best urban development practices. These are widely available in current planning literature. Develop codes that reward desired development decisions, using incentives rather than penalties to accomplish planning goals.
- Organize municipal authorities to oversee development and financing for special districts. Authorities recycle taxes back into improvements for specified districts, akin to Tax Increment Financing programs. This could include UACDC’s recommendation to enact a Green Parking Authority to oversee redevelopment of the business district on Highway 9B. Another option is an authority to oversee new development along Highway 132.

Possible Highway Development Projects

- Develop a parking master plan compatible with the civic design goals outlined in *Developing a Highway Ecology*. This includes reducing the number of parking spaces required for retail development, since parking

lot requirements are typically over-designed. Mixed-use planning would allow lot sharing, as residences typically need the spaces at night and businesses need spaces during the day. The master plan should address parking lot design, particularly as lot design incorporates stormwater runoff treatment facilities, and civic-minded amenities.

- Collaborate with the University of Arkansas Community College at Morrilton to create a campus master plan befitting an academic campus and the civic design goals outlined in *Developing a Highway Ecology*.
- Create design guidelines and/or designs for highways leading into Morrilton. Highway 132 as a greenfield site would be an interesting model for investigating the interface between highway and private development. These projects would involve coordination with AHTD.
- Develop a municipal open space and parks master plan, including a park at the 100-year floodway north of downtown. Community development could be combined with watershed restoration, qualifying Morrilton for environmental development funding. A good advisory source is the University of Arkansas Biological and Agricultural Engineering Department. This could also include the college campus and conservation space donated to the city by private developers.
- Conduct a pilot redevelopment design project for a public parking lot like the high school.

Funding

- Commission staff to pursue national and state funding from public and private sources for development projects. Municipal grant writing staff could be funded through soft money from successful grant applications, so that the position is self-supporting. The *Developing a Highway Ecology* book should be used as material supplementing grant applications to demonstrate project development capacity as a condition for funding.
- Investigate potential project funding from the AHTD for context-sensitive highway design. This ties in with recent initiatives undertaken and funded by the AHTD.
- Investigate potential project funding from the AHTD's Wildflower Route Program. Morrilton would be a priority since designated wildflower highways pass through Morrilton.
- Explore economic development prospects related to community redevelopment projects. A good advisory group is the University of Arkansas Center for Business and Economic Research in the Sam M. Walton School of Business.

Most importantly, the recombinant design methods outlined in *Developing a Highway Ecology* pose a better chance of receiving private and multiple agency funding. Integrated design solutions combining multiple interests will attract funding that targets new models for public works projects.

HUD Community Development Block Grants
 USDA Urban and Community Forestry Assistance Program
 Transportation + Community + System Preservation
 Arkansas Audubon Society Trust MacArthur Foundation
 ULI Foundation Fund for Smart Growth Land
 Economic Development Grants for Public Works + Devel
 National Transportation Enhancements
 Federal Public Lands Highways Discretion
 NPS Rivers, Trails, and Conservation Programs
 Conway County Community Foundation
 Doris Duke Foundation Frank D. Hickingbotham Foundation
 Arkansas Recreational Trails Program NRCS Wet
 Congestion Mitigation and Air Quality Improvement
 Ford Foundation Forest Service Urban and Community Forestry Grants
 Urban Park and Recreation Recovery Program

Funding Sources for Highway and Transportation Systems

Funding Sources for Neighborhood Redevelopment

Arkansas Transportation Enhancement Program
 American Hiking Society National Trails Endowment WK Kellogg Foundation
 Pilot Program Arkansas Trails for Life Grant Program
 Patagonia Environmental Grants Winthrop Rockefeller Foundation
 and Water Conservation Fund
 opment of Facilities Surface Transportation Program
 Clearinghouse Arkansas Urban Forestry Council
 ary Fund Arkansas Outdoor Recreation Grants Program
 USDA Forest Service Challenge Cost Share Program
 Healthy People 2010 Community Implementation Grants Program
 State and Community Highway Safety Grants
 lands Reserve Program (US Dept. of Ag.)
 Program Morrilton WalMart Good.Works. Effort
 TEA-21 Robert Wood Johnson Foundation
 Horace Caba Foundation Roadside Wildflower Enhancement Program Grants

Funding Sources
for Trail Systems

Funding Sources for
Environmental Systems

Funding Sources for
Recreational Systems

An aerial photograph of a vast rice paddy field. The field is divided into numerous rectangular plots by dark, winding levees. The rice plants are in various stages of growth, with some appearing as vibrant green and others as golden-brown, suggesting a mix of maturity. The overall scene is a complex, organic pattern of green and brown against a bright sky.

Fields

**Driving the interstate from Little Rock to Conway,
I see rice growing in the fields.
It is green as crème de menthe.
The levees are dark chocolate.
I want to stuff the fields into my mouth.**

*Jo McDougall, from *Towns Facing Railroads**