Arkansas
Encouraging Active Living

Walkable and Livable Communities Institute
Dan Burden, Executive Director
Sarah Bowman, Director of Education
November 14, 2011

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The Project Team

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- Arkansas Department of Health (ARDOH)
- Arkansas Coalition for Obesity Prevention (ARCOP)
- AARP
- Walkable and Livable Communities Institute (WALC Institute)

The following individuals coordinated the Active Living Workshops:

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The contact information for the core project team is included in the Appendix of this report.

Executive Summary

Livability refers to the quality of life of an area and it is directly affected by the quality of the built environment, especially the completeness of our transportation systems. Streets are attractive and safe for all users, or they are not. Streets encourage a variety of transportation options, including walking and bicycling, or they limit choices. Streets enable social interaction, or they do not. Streets put a person at ease, or they do not.

The Arkansas Department of Health, Arkansas Coalition for Obesity Prevention, Arkansas State Highway and Transportation Department, AARP and the Walkable and Livable Communities Institute (The Team) worked with El Dorado, North Little Rock, Harrison, Spingdale and Siloam Springs to provide Active Living Workshops. Active Living Workshops engage communities in making their streets and neighborhoods more walkable, livable, healthy and sustainable. The goals of the workshops are to build capacity by promoting a shared language among residents, government staff and elected officials; illustrate through examples and audits how walkability and livability benefit a community and how they can be achieved; and inspire each participant to become involved in the movement towards active living.

The Team facilitated workshops in the five communities over a ten day period between October 10 - 21, 2011. Each workshop included an educational presentation, identification of desired outcomes for participants, a walking audit, visioning session and community presentation. The goals were to help participants recognize how planning and design influence community-health and wellness and to give participants an expanded toolkit to draw from to build healthier neighborhoods.

This report provides a summary of findings from the Active Living Workshops. It includes the following sections:

- Key Concepts – Defines terms that are often used when discussing the built environment.
- Introduction: Building A Sense of Urgency – Discusses the Active Living Workshop Process
- The Costs of Auto Dependency – Lists the negative effects of our dependence on one mode of transportation.
- Benefits of Livable Communities – Highlights the benefits of designing for people.
- 8-Step Process For Leading Change – Provides the steps one must take to address a problem and effect change.
- 100-Day Challenge Overview – Discusses the 100 day challenge for each community to take steps toward improved health, well-being and access through active transportation.

Joy Rockenbach, ARCOP

Lou Tobian, AARP Arkansas

Leesa Fraesier, ARDOH

- Community Chapters – Each community has a section that provides:
  - Walking Audit Route Map
  - Existing Conditions
  - Recommendations
  - Communities to Learn From
  - 100 Day Challenge
  - Reference Information
- Additional Recommendations – Recommendations that apply to El Dorado, North Little Rock, Harrison, Springdale and Siloam Springs and best practices in policy and project development at the state and local level.
- Concluding Thoughts – A message from Dan Burden, Executive Director of the Walkable and Livable Communities Institute
- Appendix
  - Street Design Guide for Active Transportation – An explanation of treatment types and best practices.
  - Town Maker's Guide on Building Placement
  - Town Maker's Guide on School Siting
  - The How To Do It Guide – This explains key principles and best practices for moving from inspiration to action
  - Contact Information for The Team

This report aims to provide readers with assessment and then actionable strategies to improve active living and quality of life for those living, working and visiting the five communities we worked with.

Jeanne Anthony, AARP

Ariel Schaufler, ARDOH

Bud Laumer, AHTD

Key Concepts

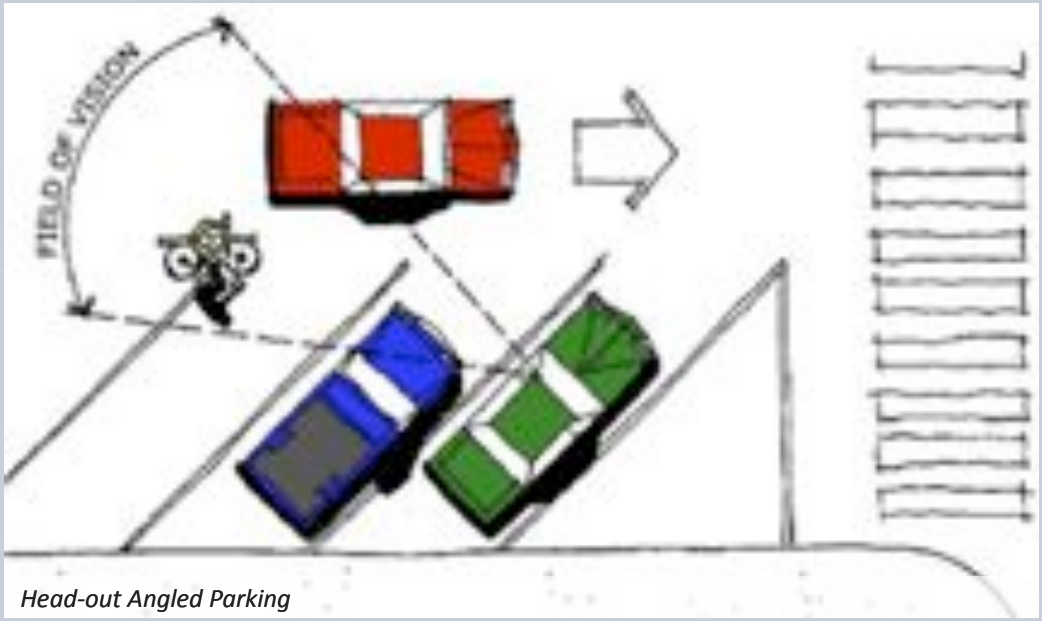
Active Transportation: Also known as non-motorized transportation, this includes walking, bicycling, using a wheelchair or using "small-wheeled transport" such as skates, a skateboard or scooter. Active modes of transportation offer a combination of recreation, exercise and transportation. (See Victoria Transport Policy Institute, www.vtpi.org.)

Active Transportation

Aging in Place: The ability to continue to live in one's home safely, independently and comfortably, regardless of age, income or abilities. Living in a familiar environment and being able to participate in family and other community activities. Also called, "Living in Place." (See National Aging in Place Council, www.ageinplace.org.)

Charrette: [pronounced, "shuh-RET"] A collaborative session to solve urban-design problems that usually involves a group of designers working directly with stakeholders to identify issues and solutions. It is more successful than traditional public processes because it focuses on building informed consent. (See Walkable and Livable Communities Institute, www.walklive.org.)

Complete Streets: Roads that are designed for everyone, including people of all ages and abilities. Complete Streets are accessible, have vehicle speeds appropriate for the area, are comfortable for walking and biking, and include sidewalks, street trees and other amenities that make them feel "complete." (See National Complete Streets Coalition, www.completestreets.org.)



Head-out Angled Parking

Head-Out Angled Parking: Also called "back-in" or "reverse" angled parking, this is arguably the safest form of on-street parking. A driver "backs in" to the angled parking spot, which offers multiple benefits, including creating a sight line between the driver and other road users when pulling out. Additionally, head-out parking allows the driver to load their trunk from the curb, instead of adjacent to the travel lane. And for drivers with young children, seniors or other who need extra help, when parked in a head-out spot, the open car doors reduce the chance of a child stepping into the vehicle travel lane.

Median Crossing Islands

Level of Service: Also called "LOS," this is a qualitative measure describing the flow of traffic on a roadway. It generally describes these conditions in terms of speed, travel time, freedom to maneuver, traffic interruptions, safety and the perceived comfort and convenience of the driver. The interruptions to other modes are not generally considered.

Livability: In the context of community environments, livability refers to all of the factors that add up to a community's quality of life – including the built and natural environments, economic prosperity, social stability and equity, educational opportunity, and culture, entertainment and recreation possibilities. (See Partners for Livable Communities, www.livable.org.)

Median Crossing Islands: A short island, about 40 to 80 feet long, in the center of the roadway, serves as a traffic-calming device or a pedestrian refuge. Islands are generally eight to 12 feet wide, but narrower islands can achieve their purpose, as well. Islands should be landscaped

Safe Routes to School

with low, slow-growth ground cover, and tall trees without branches or leaves at ground height—such as palm trees—that help motorists see the islands well in advance but don't obstruct sight lines.

Mini Traffic Circles: Also called a "mini circle," a mini traffic circle is a form of an intersection that navigates vehicles around a small circle or ellipse about eight to 15 feet in diameter that is either

Roundabout

lightly domed or raised. They are not the same as rotaries or roundabouts. When raised, a mini traffic circle should be visible fro hundreds of feet away, creating the feeling of a small park in the neighborhood. A proper number of mini circles will bring speeds down to 22 to 25 mph along the corridor while helping traffic flow more smoothly due to the decreased number of complete stops. The circles should be designed to reduce speeds to 15 to 18 mph at each intersection.

Road Diet: When a road is overly wide or has more vehicle travel lanes than are needed or safe, travel lanes can be removed and the extra width used to add bike lanes, sidewalks, a buffer between the travel lanes and sidewalks, on-street parking, a landscaped median or some combination thereof. A common road diet transforms a four-lane road without bike lanes into a three-lane road (one travel lane in each direction with a center turn lane or median) with bike lanes and street trees. (See Walkable and Livable Communities Institute, www.walklive.org. Also see appendix, How to Do It: Road Diets.)

Rotaries: Also called traffic circles, rotaries are a form of an intersection that navigates cars around very large circulating islands. An entire traffic circle can be as big as a football field and can include stop signs and signals. They are not the same as roundabouts or mini circles. Rotaries are cumbersome and complicated and can induce higher speeds and crash rates. Many rotaries in North America and Europe are being removed and replaced with the preferable roundabout.

Roundabouts: Also called "modern roundabouts," they are not the same as traffic circles, mini circles or rotaries. Roundabouts are a form of intersection that navigates cars around a circulating island, typically about 60 feet in diameter. Roundabouts are an ideal tool for collector and arterial roads, and around freeway on-off ramps. Properly designed, roundabouts hold vehicles speeds to 15 to 20 mph while simultaneously eliminating the need for cars to make left turns, which are particularly dangerous for pedestrians. They often replace signalized intersections or four-way stops and can reduce crashes by more than 80 percent and can increase capacity by 30 percent by keeping vehicles moving.

Safe Routes to School: A national program to improve safety and encourage more children, including children with disabilities, to walk, bike and roll to school. The program focuses on improvements through the five E's: engineering, education, enforcement, encouragement and evaluation. (See National Center for Safe Routes to School, www.saferoutesinfo.org.)

Sharrows

Sharrows: A "shared roadway marking"—usually paint—placed in the center of a travel lane to alert motorists and bicyclists alike to the shared use of the lane.

They help position bicyclists away from the opening doors of cars parked on the street, encourage safety when vehicles pass bicyclists and reduce the incidence of wrong-way bicycling.

Sidewalk

Sidewalks: Sidewalks, trails, walkways and ramps should be on both sides of streets. Where sidewalk gaps exist or ramps are missing, they should be fixed on a priority basis, working out block-by-block from schools, medical facilities, town centers, main streets and other areas where people should be supported in walking and biking. Sidewalks in people-rich areas should be at least eight feet wide and separated from the curb by a "furniture zone" that can accommodate planter strips, tree wells, hydrants, benches, etc.

Traffic Calming

Smart Growth: Growing in a way that expands economic opportunity, protects public health and the environment and creates and enhances places that people love. (See U.S. EPA, www.epa.gov/smart-growth/.)

Street Trees: Street trees not only provide shade and a nice environment, but also help protect students walking and bicycling. When placed within four to six feet of the street, trees create a vertical wall that helps lower vehicle speeds and absorb vehicle emissions. They also provide a physical buffer between cars and children. On streets with a narrow space between the sidewalk and curb (also known as the "furniture zone"), trees can be planted in individual tree wells placed between parking stalls, which further reduces travel speeds. Depending on the species, they should be spaced 15 to 25 feet apart.

Traffic Calming: Using traffic engineering and other tools designed to control traffic speeds and encourage driving behavior appropriate to the environment. Examples include street trees, bulb outs, medians, curb extensions, signage, road diets and roundabouts. Traffic calming should encourage mobility for all modes.

Walking Audit: Also called a "walking workshop," this is a review of walking conditions along specified streets conducted with a diverse group of community members. Participants experience firsthand the conditions that either support or create barriers to walking and biking. (See more about walking audits: Walkable and Livable Communities Institute, www.walklive.org.)

Walking Audit- lead by Executive Director, Dan Burden

Introduction:

Building a Sense of Urgency

Walkable, bikeable, and livable communities are healthier communities, not only in terms of individual health, but also in terms of environmental and economic health:

- A study published in the Journal of the American Planning Association in 2006 found that for every five-percent increase in walkability, a community could expect more than a 30-percent increase in "physically active travel" and nearly a quarter-point reduction in individual body mass index, which is a common indicator for obesity and health. The increase in walkability also was correlated with more than a five-percent reduction in air pollutants that are associated with vehicle travel.

- Analysis published in Preventive Medicine in 2010 indicates that installing sidewalks on all of a city's streets would increase physical activity enough to off set weight gain in about 37 percent of the population, leading to healthcare savings likely to be enough to repay the cost of installing the sidewalks.

- A study published by CEOs for Cities in 2009 shows that in 13 of 15 housing markets evaluated, a one point increase in a neighborhood's WalkScore (www.walkscore.com) increased homes values as much as $3,000.

Other benefits of encouraging active transportation include:

- Protection of natural and cultural resources
- Increased economic development
- Reduction in crime and violence
- Opportunities for social connections and community building
- Reduced sprawl and infrastructure costs
- Transportation equity
- Ability to age in place

When cities and towns provide equitable access to a complete transportation system, they send the message that people – not just cars - belong. No matter one's age, income, ability, or mode of transport, the place works and the benefits are tremendous. Each of the benefits above is well-documented and the works cited pages in this document links you to resources. The following section provides the costs of auto dependency.

There's absolutely no limit to what plain ordinary working people can accomplish, if they're given the opportunity, encouragement and incentive to do their best.

-Sam Walton

Statue, El Dorado, AR

The Costs of Auto Dependency

We have applied advanced engineering to move more cars and to move them faster. The result is streets that accommodate cars and that deter people from active transportation. Land settlement practices – strip centers, cul-de-sacs, poorly school siting, and single-use zoning – compound the problem, producing auto dependency. Our auto dependency is furthered by auto-oriented development patterns that have changed the form of communities from walkable, transit oriented, street grid systems to strip and single-family development accessed by regional automobile corridors. Level of Service focuses on vehicle mobility at the expense of all other modes. We generally do not consider acceptable Levels of Service for pedestrians, bicyclists and transit users.

Safety

- In 2009, there were 33,963 traffic fatalities in the United States. [1]
- Motor-vehicle related fatalities and injuries cause an estimated $180 billion annually in both property damage and health impacts.[2]

Obesity

- It is estimated that 75 percent of American adults will be overweight or obese by 2015.[3]
- Childhood obesity has more than tripled in the past 30 years.

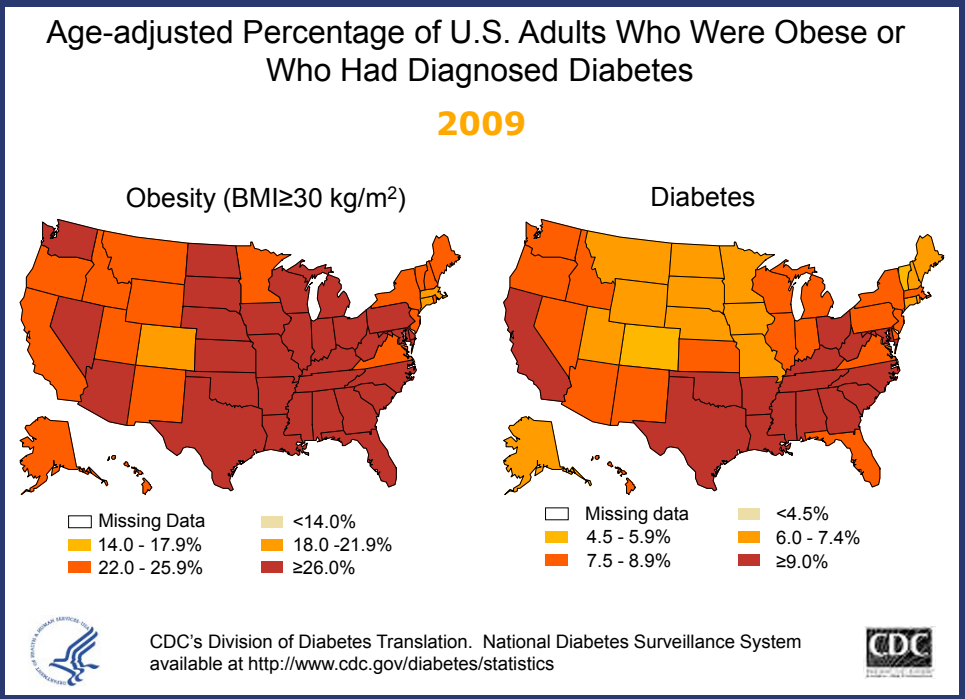
Automobile dependency is defined as high levels of per capita automobile travel, automobile oriented land use patterns, and reduced transport alternatives. Its opposite is balanced transportation, meaning that consumers have viable transport choices and incentives to use each mode for what it does best.

-Todd Litman

- Obesity in the United States is the nation's fastest rising public health problem.
- The cost of obesity and related diseases is estimated at $300 billion per year. Obesity accounts for 9 percent of all health care spending in the United States.[4]

Air Quality

- Living, working, going to school, or playing near major roadways increases the risk of asthma, as well as other health conditions such as cancer, respiratory illness and heart disease. [5]



- Communities located near heavily traveled highways have a disproportionately higher rate of lung cancer.[6]
- Students in schools that are close to major highways have elevated occurrences of respiratory distress.[7]
- People living within 300 meters of major highways are more likely to have asthma, leukemia and cardiovascular disease.[8]
- Asthma is a major public health problem in the United States with 22 million people currently diagnosed with asthma – 12 million of whom have had an asthma attack in the past year.[9]
- Each year, asthma accounts for 14 million days of missed school by children.[10]
- The health costs associated with poor air quality from the U.S. transportation sector is estimated at $50–$80 billion per year.[11]

Social Equity

- Older populations are over-represented in intersection fatalities by a factor of more than 2-to-1.[12]
- Half of all non-drivers age 65 and over – 4 million Americans – stay at home on a given day because they lack transportation. [13]
- Motor vehicle accidents are the leading cause of death for America's teenagers.
- Fatalities as percentages of all motor vehicle traffic fatalities have been highest for African American children in the 4–15 age group.
- Hispanic pedestrians between the ages of 21 and 29 are traditionally overrepresented in traffic fatalities.
- Rural populations have disproportionately high injury mortality rates related to motor vehicle crashes.[14]
- Transportation is the second largest expense for American households, costing more than food, clothing, and health care. [15]

Auto Dependency in Arkansas

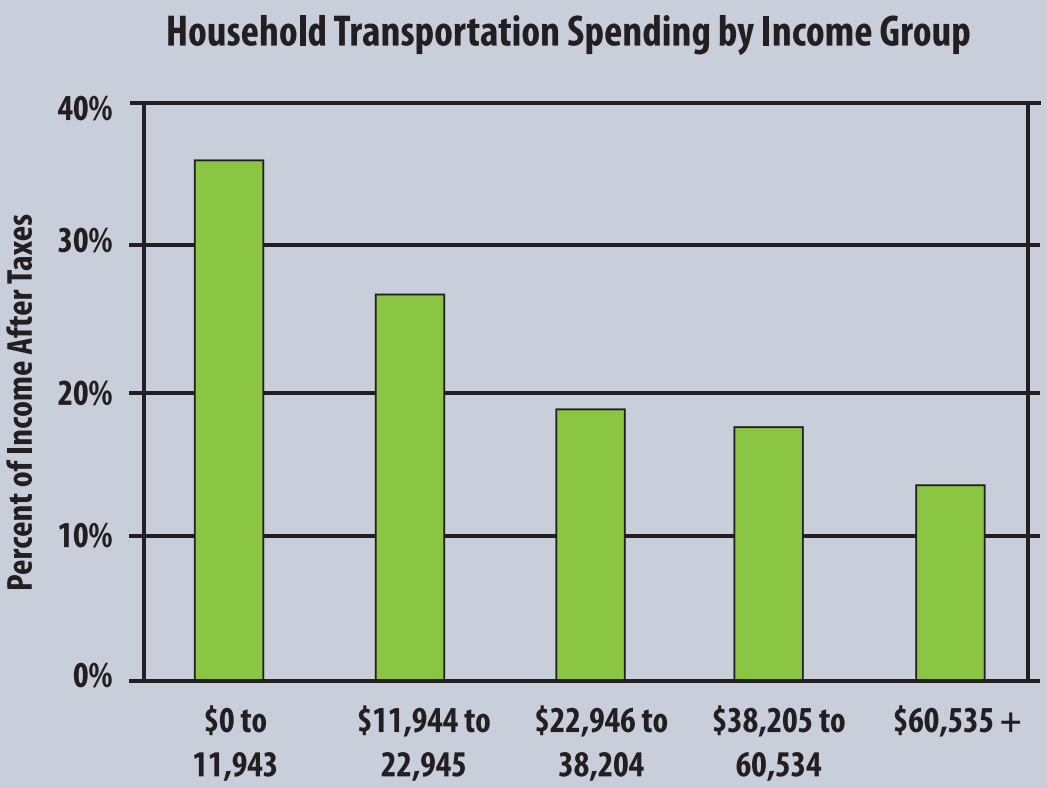
Arkansas transportation system is based on an over-reliance on vehicular traffic and this has created an imbalance where walking and bicycling are challenging and unnatural activities. Transportation planning has limited residents' choices. The impacts are as follows:

Safety

- In 2009, 62,808 total crashes and 529 fatal crashes were reported.
- Between 2000 – 2009, Arkansas fatal crash rate was higher than the national average. During this same time period, alcohol related fatal accidents also increased by 8%.
- In 2009, 16 – 20 year olds had the highest number of fatalities by age group (59) and 21-25 had the second highest number of fatalities (58).[16]

Streets influence how we interact socially

Street design should consider all users



Air Quality

- In 2009, there were 32.5 billion vehicle miles traveled on Arkansas public roads.
- Arkansas is presently higher than the national average for metric tons of CO2 from transportation per capita (7.4 tons vs. 6.9 tons).
- Between 2000 – 2008, Arkansas ranked #49 for its share of bicycle commuters when compared to the other states at .13%
- In 2008, 39% of the state's urban highways were congested during peak travel times.

Obesity in Arkansas

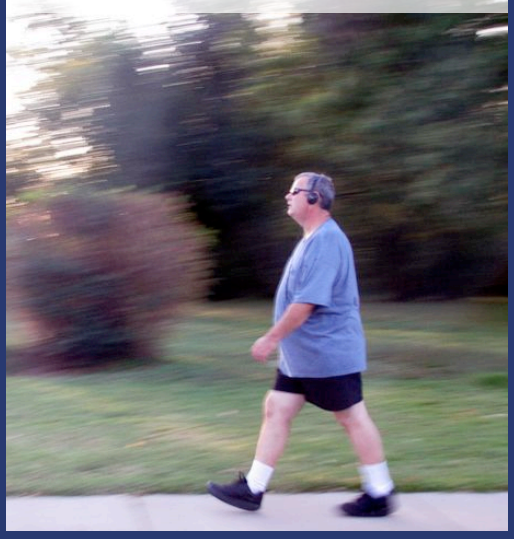
- Arkansas currently ranks as the 10th heaviest state in the nation. [17]
- 17.2% of students are overweight and 20.6 % are obese.
- Over 65% of Arkansas adults are overweight and obese.
- Arkansas ranks higher than the national average for the following chronic diseases:[18]

This generation of children is projected to be the first in the history of the United States to live less healthful and shorter lives than their parents.

Table 1: Percentage of adults with chronic disease National vs Arkansas

	Arthritis	Diabetes	High Blood Cholesterol	High Blood Pressure	Angina	Heart Attack
National	25.9%	8.4%	37.4%	28.6%	3.8%	3.9%
Arkansas	31.2%	10.1%	38.7%	34.4%	5.7%	5.2%

Making the healthy choice, the easy choice.



Social Equity

- 9% of the state's major roads are in poor condition and another 25% have been rated mediocre. Roads in need of repair cost each Arkansas driver a yearly average of $308 in extra vehicle operating expenses -- a total of $634 million statewide.
- The poverty rate in Arkansas is 18.5 percent. 26.6 percent of children aged 0-17 in Arkansas live poverty – the third highest rate in the nation.
- 14.4% of Arkansas's population is 65 or older. The AARP Voices of 50+ America: Dreams & Challenges survey for Arkansas seniors found:[19]
  - 85% could not walk to a doctor's appointment
  - 81% could not walk to work
  - 81% could not walk to public transportation
  - 71% could not walk to a pharmacy
  - 72% could not walk to the bank
  - 68% could not walk to the grocer
  - 65% could not walk to a park

A clear message to pedestrians in Conway, AR

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Creating Livable Communities

This report outlines how elected leaders, city staff, residents, health care professionals and advocates can effect change. Cities that accommodate walkers, bicyclists, transit, and automobiles fundamentally understand the role of cities: to maximize exchange. By allowing individuals to travel safely through inviting and diverse transportation modes, we create a place where we are more likely to move in harmony with others.

Our street design can minimize those things that halt productivity (congestion, accidents) because we have designed streets and pathways so that users know where they belong, how to navigate and how to interact with others. Our streets either enforce good behaviors or bad behaviors. Bad design leads to bad behaviors; good design leads to good behaviors. Where a city has multiple accidents or pedestrian fatalities, congestion and demonstrated bad behaviors, the corridor must be assessed and improved. With a solid street network and improved design, our cities become world-class destinations—attracting people, businesses and creating opportunities.

The table on the following page provides eight steps for effecting change. This report calls for communities to move through these steps and to act - to generate those short term wins needed to move forward in improving community health. Personal interventions to regulate diet and exercise have failed to slow the obesity epidemic in the United States. The built environment must be supportive of active living if we are to provide quality of life for all. Each community is given a 100-day challenge to demonstrate a commitment to active living.

The benefits of active living through active transportation should not be minimized:

- Active Transportation incorporates exercise into one's daily schedule and eliminates the stress of driving on congested streets.
- Health care costs are reduced when people lead active lifestyles.
- Active transportation modes help to alleviate traffic congestion, air pollution and noise pollution.
- Active Transportation infrastructure is far less expensive than building new roads and parking structures.
- The most energy efficient and least costly mode of transportation is muscle power.
- Shifting to active modes of transportation results in lower transportation costs for families.
- Active transportation leads to reduced crime and a greater sense of personal and family security with more "eyes on the street."

Arkansas needs leaders in effecting change so that activity becomes a normal, routine part of every day.

Buildings watching over the sidewalk

Firefighter bike rack

8 Step Process for Leading Change

Step 1:	**Establishing a Sense of Urgency** • Identify and discuss crises, potential crises or major opportunities
Step 2:	**Creating the Guiding Coalition** • Assemble a group with enough power to lead the change effort • Encourage the group to work as a team
Step 3:	**Developing a Change Vision** • Create a vision to help direct the change effort • Develop strategies for achieving that vision
Step 4:	**Communicating the Vision** • Use every vehicle possible to communicate the new vision and strategies • Teach new behaviors by the example of the Guiding Coalition
Step 5:	**Empowering Broad-based Action** • Remove obstacles to change • Change systems or structures that seriously undermine the vision • Encourage the risk-taking and nontraditional ideas, activities, and actions
Step 6:	**Generating Short-term Wins** • Plan for visible performance improvements • Create those improvements • Recognize and reward [those] involved in the improvements
Step 7:	**Never Letting Up** • Use increased credibility to change systems, structures and policies that don't fit the vision • Hire, promote, and develop [those] who can implement the vision • Reinvigorate the process with new projects, themes, and change agents
Step 8:	**Incorporating Changes into the Culture** • Articulate the connections between the new behaviors and organizational success • Develop the means to ensure leadership development and succession

Leading Change by John Kotter, Harvard University Business School
www.kotterinternational.com

100-Day Challenge

A project is more likely to succeed if motivated individuals set a course to accomplish their goals immediately. Early successes provide the hand and toeholds needed to pull the group from one achievement to the next. Our goals don't need to be lofty but they do need to be sincere. A project is more likely to succeed if we have the following conditions in place:

1. **Leadership** – Leaders who inspire others to act collaboratively to identify and accomplish a goal

2. **Motivated Teammates** – Individuals with a can-do spirit who are eager to work together

3. **Actionable Strategies** – Identification of the tasks in support of the goal; individuals to take on the tasks; and a time scale for completion

4. **Early Successes** – Projects that allow for immediate successes to keep the group motivated and to build confidence

If your actions inspire others to dream more, learn more, do more and become more, you are a leader.
- John Quincy Adams

Each community chapter includes the 100-Day Challenge – goals that can be accomplished within 100 days to show a commitment to active living. Goals identify those leaders the team should expect to engage. While each task group will take on its own leadership structure, leaders are identified because of their knowledge, experience or professional purview. The group should seek out other task or group leaders and consider each success a step to the next project. Remember the adage "success comes in can's; failure in cant's." The 100-Day Challenge focuses on what each community can do now to support active living.

El Dorado, AR

Observations and Recommendations

Downtown El Dorado, AR

El Dorado Walking Audit Team

Introduction

Schedule of Events

Monday, October 10

8.30-9.30am
Chamber of Commerce Presentation: The Economics of Place: Building Healthy, Thriving Communities

9.45-11.30am
Walking Audit of Hwy 167

Noon-1.00pm
Rotary Club Presentation: Benefits of Walkable, Livable Communities

1.00-3.00pm
Visioning Session for Participants on Hwy 167

5.30-7.00pm
Southern Arkansas Community College: How the Built Environment Impacts Public Health and Well-Being

Tuesday, October 11

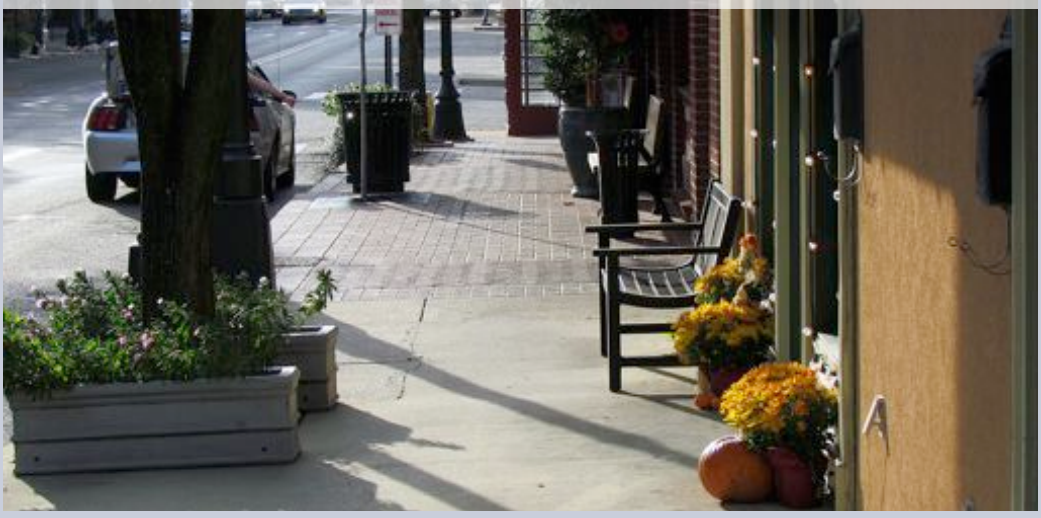
9.00-noon
Next Steps Implementation

El Dorado is the county seat of Union County, Arkansas. Known as "Arkansas Original Boomtown," El Dorado's growth during the 1920's provides this generation with a beautiful backdrop of historic structures, well-gridded streets and pride in the amenities El Dorado offers. El Dorado is headquarters to the Arkansas Oil and Gas Commission, Murphy Oil Corporation, Deltic Timber Corporation, and Lion Oil Refinery. South Arkansas Community College also calls El Dorado home.

Today, El Dorado faces the following challenges:

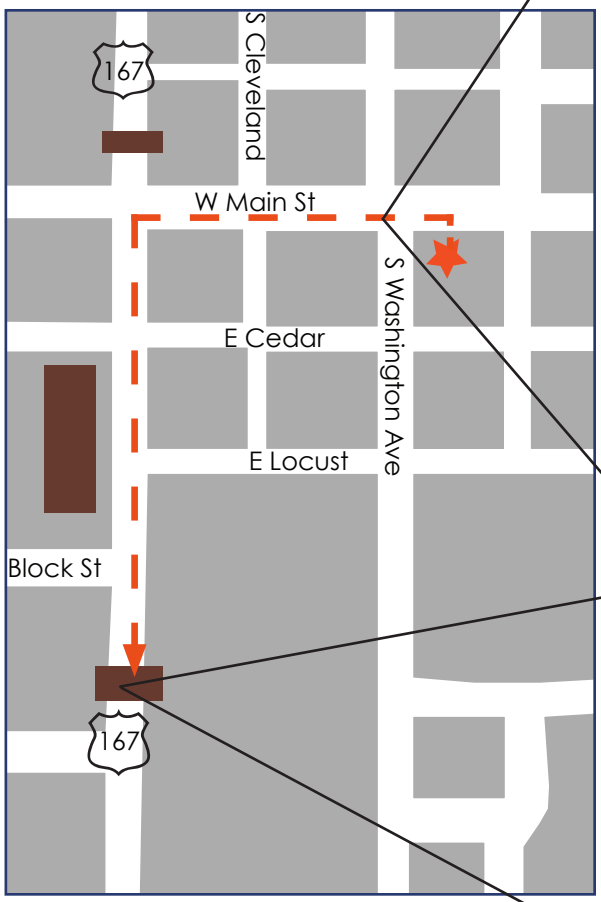
- In 2010, 73.5% of adults in Union County were overweight or obese and 22.5% of children were overweight or obese
- In 2009, 36.2% of adults in Union County were diagnosed with high blood pressure
- In 2009, 35.1% of adults in Union County were diagnosed with high cholesterol
- In 2010, 9.9% of adults in Union County were diagnosed with diabetes
- From 2005-2009, 78.5% of adults consumed fewer daily servings of fruits and vegetables than recommended
- In 2009, 53.6% of adults met daily physical activity requirements
- Union County has higher death rates than the state average for cancer, diabetes, transport accidents and motor vehicle accidents
- 30% of adults in Union County report no leisure time activity

El Dorado: Good example of seating, shade, beauty and enclosure



El Dorado: Good example of place making through lighting

Existing Conditions



Few Amenities to Encourage Active Transportation

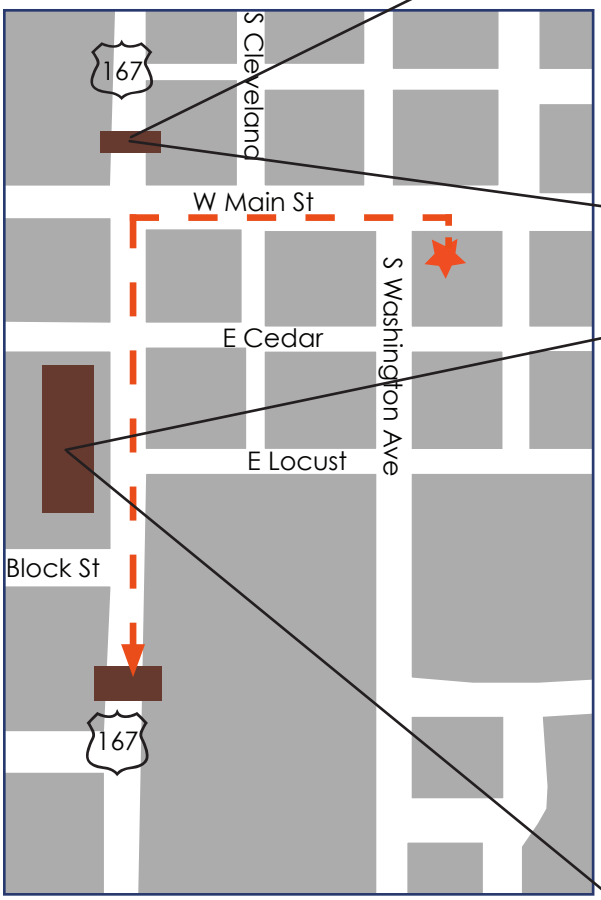
Poor drainage, lack of ADA compliance, broken connections and pedestrian obstructions such as signage, utility poles and fire hydrants make navigating El Dorado challenging. Extensive driveways, unmaintained sidewalks, crumbling street edges and a lack of buffering from high-speed vehicles makes walking and bicycling undesirable in many locations. Seating and bike racks are noticeably absent from El Dorado. Crosswalk markings are faded and sidewalk and surfaces are cracked and uneven, posing tripping hazards.

Lack of Enforcement for Pedestrian Comfort and Safety

Parking on sidewalks and failure to yield to pedestrians were noted along highway 167. Crosswalks are not properly placed and pedestrians crossing at desire lines create unpredictable behaviors in both motorists and pedestrians.

Existing Conditions, El Dorado, AR

Existing Conditions, El Dorado, AR



No Gateway Features
The entrance to El Dorado from the highways is not marked well. El Dorado is also missing its gateway features.

Too Many Suburban Street Design Standards and Treatments

There are a number of problems with El Dorado's street design standards. Suburban setbacks, excessive parking lots, and wide streets and lane widths all impact the vitality of the downtown area. Striping, sign location and bicycle and pedestrian treatments do not reflect best practices. The median island, signage, striping and pedestrian crossings on Highway 167 need modifications to function better.

Existing Conditions, El Dorado, AR

Existing Conditions, El Dorado, AR

Participant Desires

After the walking audit, participants engaged in a visioning exercise to identify opportunities to tie urban design and transportation planning to individual and community values. The group discussed the following topics:

- All investments should be in community building.
- Economic development should protect and enhance quality of life in El Dorado.
- Economic development should be tied to heritage tourism and active living.
- Physical activity needs to be integrated into everyday routines.
- The built environment cannot isolate special needs populations and seniors.
- We should encourage active transportation to reduce the health impacts of inactivity.
- We have a history of festivals, gatherings, events and social interaction to tie health and wellness programs to.
- We have focused on the recreational value of trails but not their value as transportation systems and we need to change this focus.
- We need more downtown activities and programs to draw folks: a theater district, film festival, farmer's market and activities for children like parades, artwork displays and community-wide celebrations.
- We have opportunities for place making through the use of canopies, street furniture, fountains, pocket parks and trail connections.
- Let's focus on how to tie origins and destinations so that we encourage students and visitors to move between the conference center/college and downtown areas.

Recommendations

The following recommendations are divided into short-term, mid-term, and long-term activities to encourage active living. This section concludes with a 100-Day Challenge which narrows all recommendations into those that can be achieved in the first 100 days.

Short Term Recommendations

- The new street treatment between the Conference Center and Community College on W. Main Avenue should be re-engineered. Signage, street markings, lighting and the location of the existing treatment are problematic. This is a safety concern as pedestrians and motorists cannot anticipate one another presently and this recommendation should be prioritized.
- Place more seating in the downtown area. A comfortable, welcoming bench is needed outside the Chamber of Commerce.
- Install bike racks in the downtown and especially near the Chamber of Commerce and City Hall to show support for all modes.
- Adjust signal timing for automated inclusion of walking cycles, so that signals recall to WALK during the cycle. Keep signals on the WALK release for the full length of the cycle, minus the clearance interval. Assess all signals in the downtown area to ensure that the pedestrian has enough time to cross the street.
- Review ordinances that site dumpsters and garbage cans to determine whether code violations exists. These items should be moved to alleyways and code enforcement should fine businesses who are not in compliance.
- Include signage in the way finding master planning effort to prohibit parking on downtown sidewalks.


Pocket Park in Seattle, WA


Colorful bike racks in Seattle, WA

- Gateways are needed in El Dorado. A Gateway Task Force should convene to determine how to integrate highway corridors with the town center.

- City Council and Planning Commission meetings should include a professional development session on Complete Streets resolutions and ordinances.

Mid Term Recommendations

- Invest in bicycle and pedestrian master planning to assess existing conditions for active transportation throughout the entire area. These master planning efforts will have the following benefits:

    - Prioritized street improvements focused on access, connectivity and safety for all modes.
    - Evaluation of ADA compliance and identification of barriers and pedestrian obstructions.
    - Recommendations on road striping and how to prioritize improvements. Presently, the opportunity exists to install edge lines to create better sight lines and turning radii in the downtown area. This lengthens the life of the street and reduces maintenance costs. Pedestrian and bicycle master planning efforts prioritize where and when improvements should be made.
    - Evaluation of sidewalk conditions and opportunities to improve the pedestrian experience.
    - Identification of tools, such as curb cuts, street treatments and implementation techniques to encourage active transportation. Presently, some street of El Dorado's treatments direct the pedestrian into traffic. An example of this is at W. Cedar St. at S. Cleveland Ave.

- Colorize the center turn lane on S. West Ave and add a pedestrian refuge island before the crest of the hill by the Conference Center. Consider extending the gutter pan into the travel lane to create the feeling of a narrowed street for drivers. A change in materials will slow traffic to pedestrian/bike friendly speeds.

- Green your streets and define the edges by planting trees and ground cover. Use pocket parks, especially at the corners, to create place and to tie to the artwork in the downtown. Mid-range improvements can include cleaning up debris, litter and weeding sidewalks. Consider enlisting the help of volunteers and master gardeners.

- Meet with local developers to discuss cottage developments as a way to utilize a local industry and scale homes to allow home ownership.

Community Gardening in High Point, Seattle, WA

Sharrow in a residential neighborhood in Seattle, WA

Long Term Recommendations

- An opportunity exists for mixed use development with lofts and balconies overlooking and energizing the street at S. Cleveland and W. Main Avenue.

- Traffic is currently stacking at S. West Avenue and W. Main more than it should. Model this intersection for a roundabout and discuss this option with the AHTD Regional Transportation Engineer.

- A roundabout would be a better intersection tool at the 82 and 167 intersection. Discuss this option with the AHTD Regional Transportation Engineer.

- Utilize lane width reductions on S. West Avenue to encourage active transportation. The center turning lane is presently at 12 feet and the southbound travel lane is at 16 feet. All travel lanes should be narrowed to 10 feet. A seamless bike lane should be installed – either by extending the gutter pan or by paving and striping to a desired width of 5-6 feet. Sidewalks in the downtown areas should be 8 – 12 feet wide.

- Consider utilizing liner buildings at the Brookshire's parking lot, with angled on-street parking and tree wells every 4 stalls to green the street. This would place eyes on the street, offer opportunities for small incubator businesses or mixed use development.

Liner Buildings, Kingston, WA

Successful Downtown, Madison, WI

Example Communities

Based on community interests and opportunities identified during the workshop, El Dorado has the opportunity to learn from the following communities:

Communities to Learn From

Gateways	• Willits, CA • Chula Vista, CA
Roundabouts	• Bradenton Beach, FL • Brighton, MI • Cotati, CA
Place making	• Ashland, OR (Theater District) • Fairhope, AL (Downtown)
Greening the Street	• Burlington, VT • Holland, MI
Trails	• North Little Rock, AR • Siloam Springs, AR
Liner Buildings	• Kingston, WA • Lancaster, CA
Colorized Lanes	• Manitou Springs, CO
Colorized Bike Lanes	• Hamburg, NY • Boca Raton, FL
Cottage Development	• Ross Chapin, Architect • Richard Berg, Architect
Pocket Parks	• Monterey, CA

Downtown Development	• Corning, NY
Charrette Process	• Local Government Commission (Sacramento, CA)
Town/University Connectivity	• Mt. Pleasant, MI
Beauty/Aesthetics	• Fairhope, AL
Edge Treatments	• Ann Arbor, MI • Mountain View, CA • Dundarave, BC
Complete Streets Ordinances and Resolutions	• Winter Park, FL • Great Falls, MT • Hawaii County, HI
Pedestrian Signage	• Davidson, CA
Festival Streets	• Missoula, MT
School Siting	• Dickinson, NC
Community Gardens	• High Springs, FL • Jefferson County, WA

El Dorado 100-Day Challenge

The 100 day challenge allows El Dorado to demonstrate a genuine commitment to active living. The following goals can be accomplished in 100 days. Each goal identifies leaders who should have a role in moving initiatives forward. Leaders should reach out to all motivated and interested parties to collaborate on the 100-Day Challenge and to create an action plan.

Days 1-30

GOAL #1: Install Comfortable Seating Downtown
More seating is needed in the downtown area. Start addressing this by installing a comfortable, welcoming bench outside the Chamber of Commerce.

LEADERS: Chamber of Commerce, Downtown Business Association, the Main Street Program and the Planning Director

GOAL #2: Install a Bike Rack Downtown
Installing just one bike rack downtown in 100 days shows support for all modes.

LEADERS: The Bicycle Shop, Rotary Club, Downtown Business Association, Chamber of Commerce, Main Street Program, Public Works Director and State Bicycle and Pedestrian Coordinator

Days 31-60

GOAL #3: Prioritize Walking Through Signal Adjustments
Adjust signal timing on all pedestrian signals so that they always recall to WALK during the cycle.

LEADERS: Public Works Director and City Transportation Engineer

GOAL #4: Convene a Gateway Task Force
El Dorado lacks an official gateway. The Gateway Task Force should meet to prioritize opportunities to identify the front porch of the community. The task force should assess highway corridors and opportunities for place making, including the overpass from the church located at the intersection of W. Main and S. West Ave. which may provide an interesting space for a mural. The Gateway Task Force should create an Action Plan for identifying possible gateway features.

LEADERS: Economic Development Board, Tourism Board, Chamber of Commerce, Main Street Program, Mayor, Planning Director, Public Works Director, City Councilor, Arkansas State Highway Department of Transportation, and representatives from major employers.

Days 61-100

GOAL #5 Choose a design alternative for the median, crosswalks and signage on W. Main between the Community College and the Conference Center
While this entire project may not be completed in 100-days, convening the right group to prioritize a design alternative is possible. This goal is included in the 100-day challenge because of the safety risk to pedestrians traveling between the Conference Center and Community College. The median, crosswalks and signage are not properly placed. Within 100 days, the leaders identified should meet and propose a design alternative that supports active transportation. This design should include: short median location, materials and dimensions; crosswalk locations, materials and dimensions; and signage and way finding for pedestrians. Other elements for consideration include: pedestrian scaled lighting, seating and shelter.

LEADERS: Mayor, Public Works Director, City Councilor, City and District Transportation Engineers, Arkansas Highway Department Regional Project Manager, State Bicycle and Pedestrian Coordinator, the Community College President, and Murphy Oil representative.

El Dorado, AR

North Little Rock, AR

Observations and Recommendations

The levy neighborhood, North Little Rock, AR

The North Little Rock Walking Audit Team

Introduction

Schedule of Events

Wednesday, October 12

8.30am
North Heights Community Center Presentation: The Economic Benefits of Active Living and Active Living Best Practices

10.45-noon
Walking Audit - Levy Area

1.00-4.00pm
City Council Chambers: Recommendations Session

6.30-8.00pm
Dinner with Mayor Patrick Hays, Bernadette Rhodes (Fitness 2 Live Team), Vanessa Nehus (Partners for Inclusive Communities), Dan Burden and Sarah Bowman (WALC Institute)

Thursday, October 13

8.30-11.30am
Presentation: Health & The Built Environment – North Little Rock Findings, Recommendations and Tools Discussion

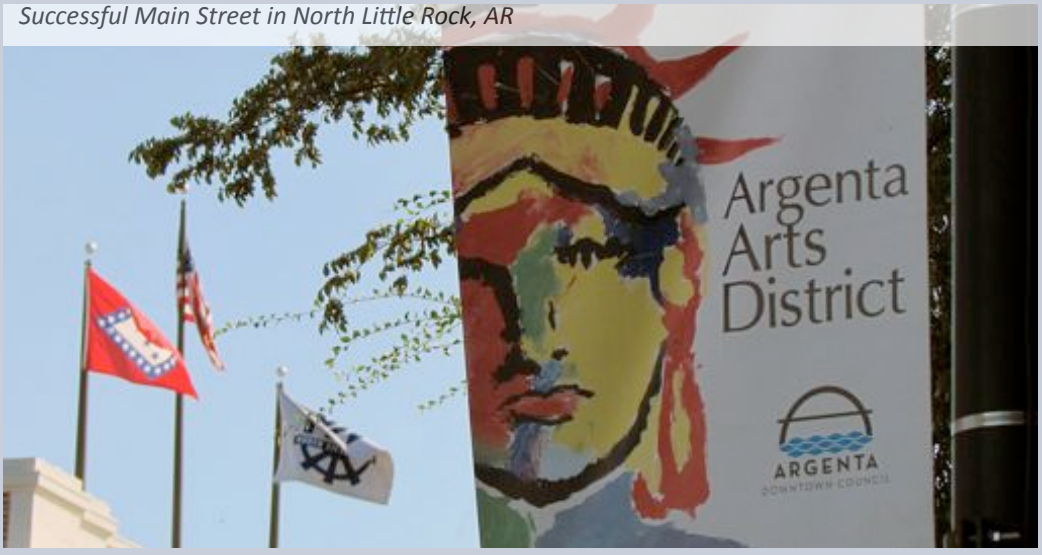
Known originally as "opposite Little Rock," North Little Rock has a population today of 62,304. It is home to neighborhoods, beautiful parks and recreational facilities, walking and bicycling trails along the Arkansas River and is linked by the Big Dam Bridge to trails in Little Rock. North Little Rock has a minor league baseball at Dickey-Stephens ballpark, the historic USS Razorback Submarine, and substantial business, industry, and entertainment opportunities. River Rail Trolley Service between North Little Rock and Little Rock links the two downtown historic areas. Downtown attractions including the Argenta Community Theater, The Baker House Bed and Breakfast, The Museum of Discovery, The Clinton Presidential Center, and Heifer International Headquarters.

The Active Living Workshop focused on the Levy Neighborhood of North Little Rock where the city desires to convert a vacated rail system into a trails system which would include significant bicycle and walking infrastructure.

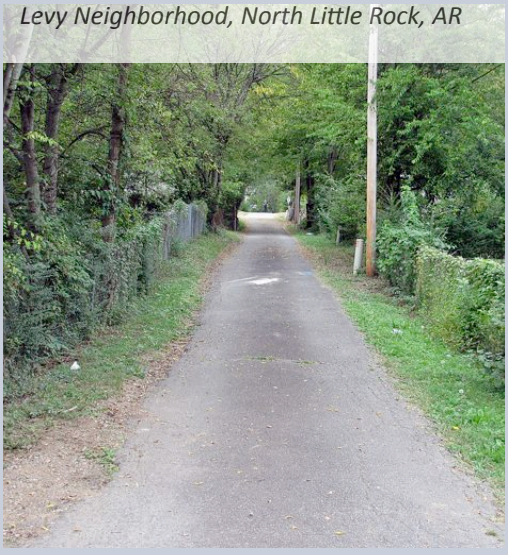
North Little Rock faces the following challenges:

- In 2010, 68.8% of adults in Pulaski County were overweight or obese and 22.5% of children were overweight or obese
- In 2009, 34.6% of adults in Pulaski County were diagnosed with high blood pressure
- In 2009, 35.2% of adults in Pulaski County were diagnosed with high cholesterol
- In 2010, 9.8% of adults in Pulaski County were diagnosed with diabetes
- From 2005-2009, 77.9% of adults consumed fewer daily servings of fruits and vegetables than recommended
- In 2009, 44.2% of adults met daily physical activity requirements
- Pulaski County has higher death rates than the state average for cancer and diabetes.
- 28% of adults in Pulaski County report no leisure time activity

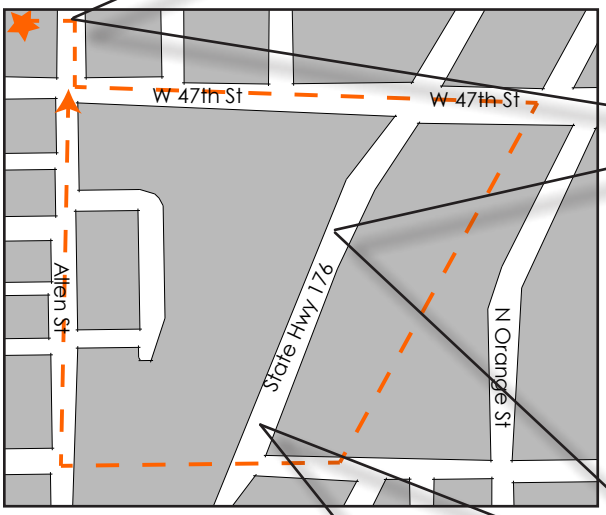
Successful Main Street in North Little Rock, AR



Levy Neighborhood, North Little Rock, AR



Existing Conditions



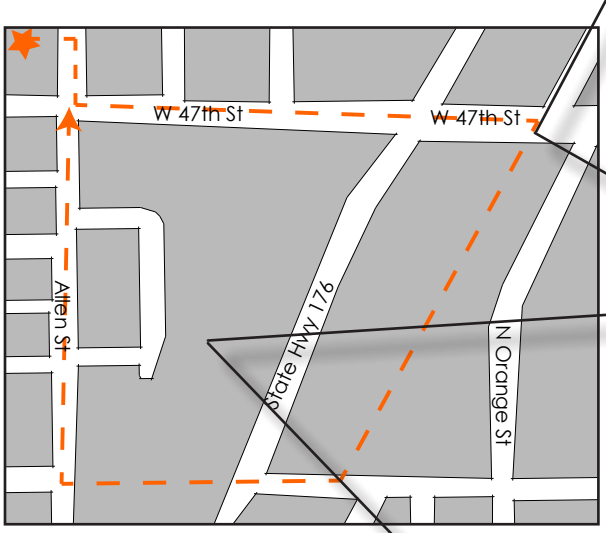
Transit Not Integrated
Many bus stops are not maintained and do not include seating, shelter or litter cans for users. Transit stop locations often place users in dark, lonely areas, which forces the rider to cross streets in challenging locations.

Poor Pedestrian Planning
Goat tracks, pedestrian obstructions and missing sidewalks are common in the Levy Neighborhood. Sidewalks are not ADA compliant, utility poles are placed within the pedestrian right of way and broken sidewalks make navigating the Levy Neighborhood a challenge.

Outdated Street Design Standards
Streets are too wide, lanes are too wide, the turning radii encourages high speed movements, crosswalks are misplaced, pedestrians are not buffered and striping techniques are not in line with best practices. The streets are not supportive of active transportation in many areas of Levy.

Faded pedestrian markings in the Levy neighborhood

Beating the yellow light in the Levy Neighborhood



Complex Trail Crossings
All trail crossings should be evaluated to encourage active transportation. Trail crossings near intersections and with reduced sight lines will need to be addressed in the Levy Area.

Town Center Missing
The Levy area is missing a town center. Much of the development in this area is strung along Camp Robinson. This sprawling development has suburban style setbacks and minimum parking requirements that discourage active transportation. This also lowers property values, increases storm water runoff and worsens the heat island effect.

Existing Condition - Pedestrian Obstructions in the Levy Neighborhood

Existing Condition - Improper drain location in Levy Neighborhood

Participant Desires

After the walking audit, participants engaged in a visioning discussion to identify key opportunities to support active transportation in the Levy Neighborhood. Participants discussed the following topics:

- We need to set the vision for a more walkable community with specific ideas for alterations.
- We need training on how to design for people with disabilities.
- How do we encourage greater civic engagement in the neighborhood so that residents and the city can work together to set the vision and improve the built environment for all?
- How can schools and faith based organizations get involved and engaged in improving the built environment?
- How do we prioritize sidewalk improvements?
- I would like a connected system of trails that would allow me to bike to work through the Levy neighborhood.
- We need outdoor gathering places such as a square or plaza where events can be held.
- Is there a strategy for achieving properly maintained sidewalks in the residential zones of neighborhoods to encourage activity?
- How do we properly site buildings so that they honor the street?

Proposed trail in Levy neighborhood

Recommendations

The following recommendations are divided into short-term, mid-term, and long-term activities to encourage active living. This section concludes with a 100-Day Challenge which narrows all recommendations into those that can be achieved in the first 100 days.

Short Term Recommendations

- Place more seating, shade and litter cans in the community, especially around transit stops.
- Maintain transit stops and ensure that seating, lighting and litter cans are available at all transit stops.
- Adjust signal timing for automated inclusion of walking cycles, and so that signals recall to WALK during the cycle. Keep signals on the WALK release for the full length of the cycle, minus the clearance interval. Consider lag-left cycles versus lead-left for the turning lanes on Camp Robinson. Make this a city-wide application. Look at the length of time pedestrians are given to cross intersections as this may not be the correct amount of time. Remove call buttons from those locations where they do not interrupt the cycle.
- Encourage walking patrols of neighborhoods by police officers.
- Sidewalks are needed for links to transit. Discuss funding options for a Pedestrian Master Plan to locate the nearest crossing locations for transit, and in some cases, relocate to transit stop, as appropriate.

Mid Term Recommendations

- Survey the Levy Neighborhood for ADA compliance. Create a community-wide ADA master plan, provide dedicated funding to ensure compliance and map accomplishments.

Clear Trail markings

Safe Routes to school crossing at Market Square, WA

- As stated earlier, pedestrian and bicycle master planning studies are needed to improve connectivity. In the meantime, adopt the State of Virginia legislative rule that requires all new development to comply with a minimal connectivity index. See: http://leg1.state.va.us/000/reg/TOC24030.HTM#C0092

- Survey street paint to determine where there are opportunities to remove paint from roadways, such as the center stripe for streets under 6,000 Vehicle Miles Traveled daily, and at locations away from hill crests and steep curves. Allocate that budget for bike lanes, edge lines, sharrows or other markings to encourage active transportation.

- Review parking bay width standards. 11 foot parking bays exist at the Community Center; 10' is the standard in North Little Rock, but 9 foot bays are the national norm and are appropriate. In all day parking places, like Park and Ride locations, spaces are now being built 8 feet wide. Narrower bays are less costly, reduce drainage costs and minimize the heat island effect.

- Prioritize right-sized driveways. Presently, the United Methodist Church at Allen and W. 47 Street has a 27 foot one way entrance. 14 feet for the one way entrance/exits would suffice. Added width increases speeds and puts the pedestrians at risk by extending the crossing exposure. Narrower dimensions are already in use elsewhere in North Little Rock.

- Consider using mini-circles instead of traditional 4-way stops as an intersection tool. Allen at W. 47th Street is an area where this might function and create a sense of place for the community . It could display a community garden or artwork for the community center or church. Benefits include reduced air pollution, less noise, and increased safety.

- Special attention must be given to the trail crossing at W. 47th Street. Where trails cross streets, it is especially critical that all modes anticipate and respond to one another. Urban trails must address their most complex and risky crossings. If this is not done, investments in trails will not reach their desired levels of use. W. 47th Street would work better for everyone (motorists and trail users) as a 3-lane, with a median in the center, greatly reducing potential multiple-threat crashes. If kept as four lanes, a median will need to be installed, requiring an expensive road widening. A signal would then be required to stop traffic from each side of the roadway. This control could be directional, with an activator in the median island. This signal would need to be responsive to pedestrians and bicyclists - using a "hot call" response. A road diet with the trail crossing is preferred.

- Focus on Crime Prevention Through Environmental Design for trails. Adopt new guidelines and standards for all properties (homes and businesses) lining trails to increase transparency and surveillance, while maintaining privacy. Rules should include fencing materials, fencing height and related transparency applications.

Mixed Use Development in Conway, AR

Trail crossing in Bellevue, WA

- Consider cottage development, accessory dwelling units (ADU's) or liner buildings along the trail to provide: 1) incubator businesses and/or additional income for home owners. Require homeowners to reside in either the primary unit or ADU.

- Use pocket parks, especially at the corners, to create place. This would be ideal at W. 47th Street and Camp Robinson Trail. Use the pocket parks to support incubator businesses, such as coffee shops, by offering outside seating.

- Support a city-wide community garden program and consider planting sections of the trail as an edible trail. Create a tree nursery so that the city can grow, then plant the trees along the trail when it is ready. Trails are great places for public art, way finding, science interpretation, volunteer programs of all kinds, including edible trails (peaches, pecans, grape arbors, pea vines, and more).

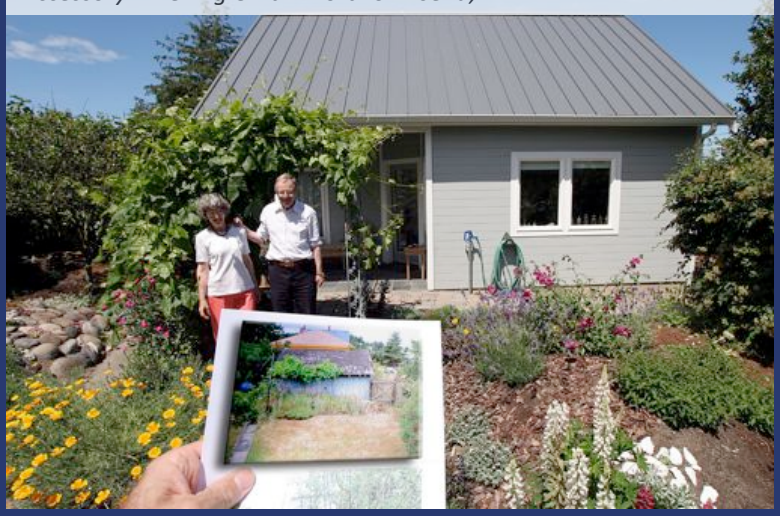
- Model the intersection of W. 47th Street and Camp Robinson Road for a roundabout. Based on traffic counts, W. 47th could remain a single lane roundabout on both approaches, and Camp Robinson would most likely require two lanes.

Long Term Recommendations

- Create a village at the Kroger supermarket at Camp Robinson Trail with unique gateways/entryways and materials to create much needed sense of place. Include a festival street, liner buildings and increase density of the residential units nearest the core.

Town Center, Valencia, CA

Accessory Dwelling Unit in Port Townsend, WA



Example Communities

Based on community interests and opportunities identified during the workshop, North Little Rock has the opportunity to learn from the following communities:

Communities to Learn From

Trails and Crossings	• North Little Rock, AR • Vancouver, WA • Traverse City, MI
Road Diets	• La Jolla Boulevard, San Diego, CA • Hamburg, NY
Greening the Street	• Burlington, VT • Olympia, WA • Holland, MI
Liner Buildings	• Kingston, WA • Lancaster, CA
Interesting Use of Materials	• Manitou Springs, CO • Greenville, NC
Cottage Developments and ADU's	• Ross Chapin, Architect • Conway, AR
Pocket Parks	• Monterey, CA
Civic Engagement	• Local Government Commission (Sacramento)

Edges	• Ann Arbor, MI • Fairhope, AL • Coral Springs, FL • Mountain View, CA • Pottstown, PA • Dundarave, BC • North Little Rock (near ballpark)
ADA Compliance Sureys	• Disability Awareness Starts Here, Port Townsend, WA
Town Center Design	• Baldwin Park, FL
Community Gardens	• High Springs, FL
Density along Trails	• Charlotte, NC • Vancouver BC
Walking Police Patrols	• Dickinson, NC

North Little Rock 100-Day Challenge

The 100-day challenge allows North Little Rock and the Levy Neighborhood to demonstrate a genuine commitment to active living. The following goals can be accomplished in 100 days. Each goal identifies leaders who should have a role in moving initiatives forward. Leaders should reach out to all motivated and interested parties to collaborate on the 100-Day Challenge. Then, complete as many of these goals as you can within the next 100 Days.

Days 1-30

GOAL #1: Place more seating and litter cans in the community, especially around transit stops. Start by installing at least one bench and one litter can in the Levy Neighborhood per week.

LEADERS: Public Works Director and Staff, a City Councilor or Planning Commissioner for the ward representing the Levy Neighborhood, and Neighbors United for Levy

GOAL #2: Meet with law enforcement and encourage walking or bicycling patrols of the Levy neighborhood by police officers.

LEADERS: Mayor, City Attorney, Chief of Police, Patrol Captain and Levy Ward Substation Lieutenant, Fitness 2 Live Team and Neighbors United for Levy

Days 31-60

GOAL #3: Audit all Central Arkansas Transit stops and other transit stops in the Levy Neighborhood for maintenance, litter cans, seating, shelter, and lighting. Create a prioritization list of requested improvements and meet with the transit provider for an area audit to ensure that seating, lighting and litter cans are available or planned for all transit stops in the Levy Neighborhood.

LEADERS: Mayor, Public Works Director, Central Arkansas Transit, other transit providers, a City Councilor or Planning Commissioner for the Levy Neighborhood ward, Fitness 2 Live Team and Neighbors United for Levy

GOAL #4: Adjust signal timing for automated inclusion of walking cycles, so that signals recall to WALK during the cycle. Keep signals on the WALK release for the full length of the cycle, minus the clearance interval. Look at the length of time pedestrians are given to cross intersections as this may not be the correct amount of time. During the first 100 days, set a goal of assessing one intersection per week and updating one intersection per week.

LEADERS: Public Works Director, City Transportation Engineer, AHTD District and Regional Transportation Engineers, and the State Bicycle and Pedestrian Coordinator

Days 61-100

GOAL #5: Read the Los Angeles County Model Streets Design Manual. This will give the community new, more appropriate tools, for building, operating and maintaining roads for all road users.

LEADERS: Mayor, Planning Director, Public Works Director, City Councilors, Planning Commissioners, Fitness 2 Live Team

GOAL #6: Read the Richmond, California General Plan Health and Wellness Element

LEADERS: Mayor, Planning Director, Public Works Director, City Councilors and Planning Commissioners.

North Little Rock, AR

Harrison, AR

Observations and Recommendations

Downtown, Harrison, AR

Harrison's Walking Audit Team

Introduction

Schedule of Events

Friday, October 14

9.00-10.15am
Presentation: Complete Streets, Active Transportation and Strategic Planning

10.30-11.30am
Walking Audit from North Arkansas Regional Medical Center to Lakeshore Drive

12.30-1.30pm
Presentation of Harrison's Strategic Plan

1.30-3.00pm
Visioning Session: How to Move Initiatives Forward
Presentation of Tools

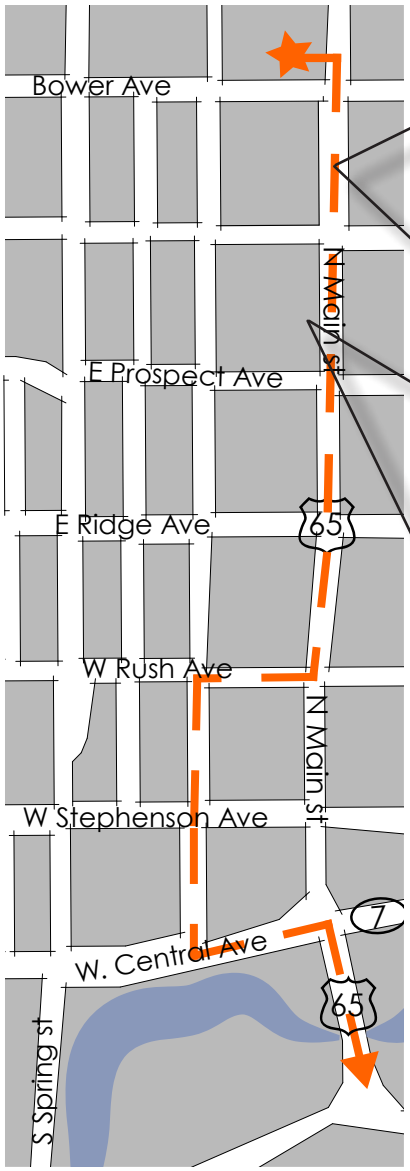
Harrison, Arkansas is located in the heart of the Ozark Mountains and it is the gateway to Buffalo National River – America's first National River. Long-time resident and congressman John Paul Hammerschmidt spearheaded this effort. Harrison is the county seat of Boone County and the current population is 13,130. Harrison is home to industry including Wabash Wood Products, Pace Industries, Rock Tenn, Fed Ex Freight and the second Wal-Mart store in the United States. The Downtown Historic District provides wonderful walking tours, shopping, eating and entertainment – all located around the courthouse square.

Harrison now faces the following challenges:

- In 2010, 59.7% of adults in Boone County were overweight or obese and 18.4% of children were overweight or obese
- In 2009, 27.6% of adults in Boone County were diagnosed with high blood pressure
- In 2009, 40.1% of adults in Boone County were diagnosed with high cholesterol
- In 2010, 10% of adults in Boone County were diagnosed with diabetes
- From 2005-2009, 86.7% of adults consumed fewer daily servings of fruits and vegetables than recommended
- In 2009, 56.8% of adults met daily physical activity requirements
- Boone County has higher death rates than the state average for diabetes, transport accidents and motor vehicle accidents.
- 29% of adults in Boone County report no leisure time activity

Walking audit participant in Harrison, AR

Existing Conditions

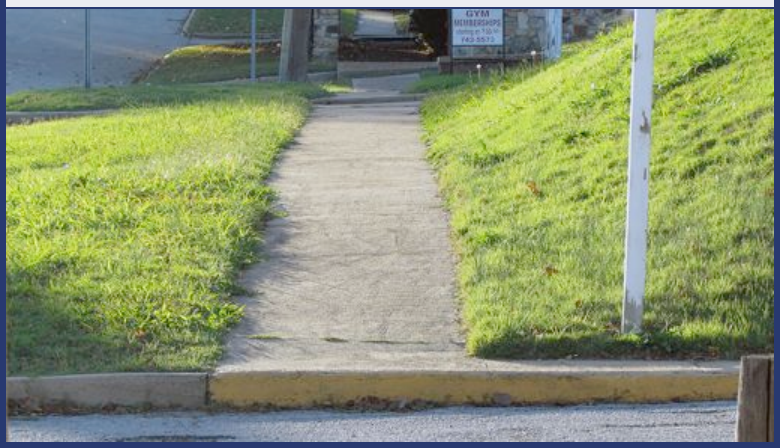


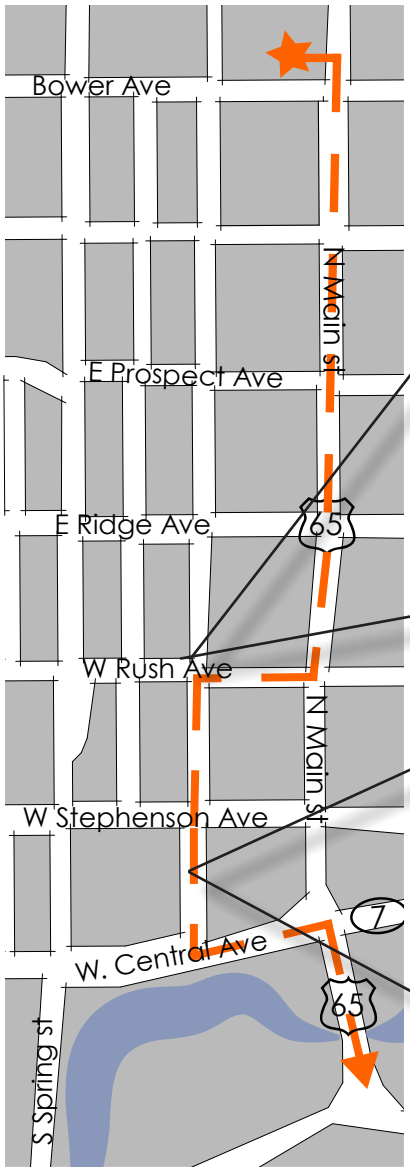
Deteriorating Pedestrian Facilities
Deteriorating sidewalks, pedestrian obstructions and failing street edges make walking in Harrison undesirable in certain locations. Arkansas Highway and Transportation Department and utility companies have installed new features and left debris and litter on the sidewalks in various spots around town. Tripping hazards are numerous.

Incorrect Street Dimensions
Streets are too wide, lanes are too wide, turning radii encourage high speed movements, crosswalks are misplaced or missing, and striping techniques are not in line with best practices. While the new road diet on N. Main Street is a step in the right direction, striping has created lanes that are too wide and not enough space to reasonably accommodate bicycles.

Utility installation without cleanup in Harrison, AR

Downtown Crossing in Harrison, AR

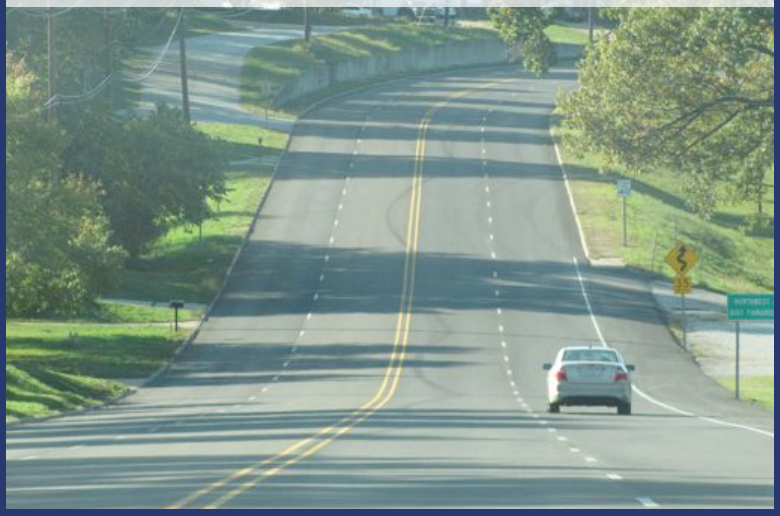




Terminating Vistas and Gateways Lacking
Nothing draws one to Harrison or the Downtown Historic District and this is a shame. Gateway features from the highway into town are needed. The historic downtown has opportunities to create terminating vistas to draw residents and visitors throughout the town. Presently, the terminating vista on W. Rush Avenue is a dumpster. This does not celebrate the history of the downtown and diminishes the improvements that are to be celebrated: historic wall plates and the Lyric movie theater.

Downtown Revitalization Needed
The downtown historic district is stunning but in too many cases, store hours are limited and this deactivates the area. Operating hours scheduled from 10am – 2pm, vacancy, and uses that don't encourage high foot traffic (ground floor office) are slowly bleeding the intensity from the downtown. This needs to be addressed if the historic district wishes to remain economically viable.

No gateway coming into Harrison, AR



Existing Conditions in Harrison, AR

Participant Desires

After the walking audit, participants engaged in a visioning exercise to identify opportunities to tie strategic planning to active living initiatives. The following topics were discussed by participants:

- A gateway into town is needed.
- We should link the downtown to Lake Harrison.
- More emphasis on greening the street and planting trees should be encouraged.
- We should be utilizing the safest intersection treatments, including roundabouts and mini-circles.
- We allow needed repair to be on hold indefinitely. It's time to fix the hole in the wall by the lake.
- We have an excellent Economic Development Group and we need to learn how to focus their expertise on problem solving.
- We have Vista volunteers and we need to raise awareness in this group about active transportation.
- We have a wealth of master gardeners who beautify the downtown area, so let's encourage more of this.
- I would like to see a historic walking tour map for the downtown district.
- All crosswalk edges in the downtown should be outlined in white to enhance what is in place.
- Let's bring the farmer's market to the downtown area.
- We should think of all challenges as opportunities to improve quality of life.
- We need to stop competing with our sister cities and bring them here to focus on the big picture of regional tourism.
- I will contact my Senator and Representative so that Transportation Enhancement funding goes to bicycle and pedestrian projects rather than to Visitor's Centers.
- Let's bring food resiliency and transportation together though an edible trail.

Walking audit participants in Harrison, AR

Recommendations

The following recommendations are divided into short-term, mid-term, and long-term activities to encourage active living. This section concludes with a 100-Day Challenge which narrows all recommendations into those that can be achieved in the first 100 days.

Short Term Recommendations

- Paint the crosswalks and stop bars on N. Main Street. Begin with N. Main Street at Bower since this is by the hospital. Stop bars should be 10 feet back from the crosswalks.
- Paint bold while lines to outline the downtown crosswalks and move the stop bars back ten feet from the crosswalk.
- Where bike lanes end, paint a sharrow so that motorists and bicyclists understand that they are to share the space. Begin on N. Main Street.
- The City should issue a letter to the Arkansas State Highway and Transportation Department and the appropriate utility requiring clean up after their projects. A signal pole installation at Bower at N. Main Street left debris all over the sidewalk. Similarly, downtown repairs have left debris on city streets.
- Remove the dumpster from in front of the Dollar General Store.
- Review which Capitol Improvement Projects are slated and consider how they might be updated to encourage active transportation and Complete Streets.

Mid Term Recommendations

- The speed limit is set at 35mph in the downtown area. Considering changing the speed limit to 25mph. Data shows that in

High Intensity Crosswalks

Enforcement signage in Alexandria, VA

collisions between people and cars traveling 40 mph, the pedestrian survival rate is only 15 percent. Reduce speeds to 30 mph and the survival rate is 55 percent. Reduce speeds to 20 mph and the survival rate is 95 percent.

- Consider removing the double yellow line from some of the streets on the downtown historic square. Double yellow lines on low volume streets (6,000 vehicle miles traveled daily or less) may encourage aggressive or territorial behaviors and higher speeds. Drivers are less likely to cross the double yellow line to avoid side conflicts such as a vehicle reversing from parking or a child running into the street.

- Remove parking that is within 6 feet of the crosswalks. Parking should be set back at least 6 feet from crosswalks to allow proper sight lines for pedestrians and motorists. Children in the crosswalk are easily hidden by a car parked too closely and they cannot make eye contact with a driver before crossing when parking blocks them from view.

- Ensure that downtown design standards protect the things you cherish. Window transparency should be regulated to ensure 70 percent glass. Canopies should be required on new construction and rehabilitations of existing structures.

- Repair the hospital to downtown sidewalk on N. Main Street. Both the city and hospital should be partners in community health. Replacing this sidewalk must be prioritized. This sidewalk poses tripping hazards, reduces property values, discourages downtown shopping and deters active transportation.

- Add a railing on N. Main Street, between Erie and Bower, where there is a drop off from the sidewalk.

- The road diet on N. Main Street is a step in the right direction, but it does not have the correct dimensions to encourage desired driving behaviors. Presently, the street has 10' travel lanes, a 12' center lane, and 3' bike lanes. Consider 4' bike lanes, 10' travel lanes, and a 10' center turn lane. A seamless gutter will encourage bicyclists even if their lane is narrow.

- Colorize the bike lane from the crown of the hill on N. Main Street to Lake Harrison. Designate this corridor as a bicycle trail to connect residents and businesses to your water feature.

- Support a city-wide community garden program and consider a historic trail to move people around the downtown and lake area. Downtown beautification can happen through a flower basket program and the community should beautify the Business 65 bridge with flower baskets and decorative banners.

Walking on N. Main Street

Harrison has good examples of greening the street

- Review the present municipal code and ordinances for suburban setbacks and minimum parking requirements. These items should be replaced with zero setbacks and maximum parking allowed requirements. Consider utilizing Form Based Code to protect the form of the downtown historic district which is supportive of active transportation.

- Consider a mini-circle at Rush and Willow Street. A mini circle will green the street and provide another opportunity for downtown beautification.

- Add bulb-outs to the corners at W. Rush Avenue, N. Pine Street, W. Stephenson Avenue and N. Spring Street.

- Festivals, parades and markets are a part of Harrison's history. Revitalize the downtown through fun activities that link Lake Harrison to the downtown historic district.

Long Term Recommendations

- Add tree wells to green the street. Consider adding a tree well at each corner on the downtown square and one every six parking spaces to green the street.

- Alleys are an opportunity for historic tours and outside eating areas. Harrison has beautiful alleys just waiting to come to life.

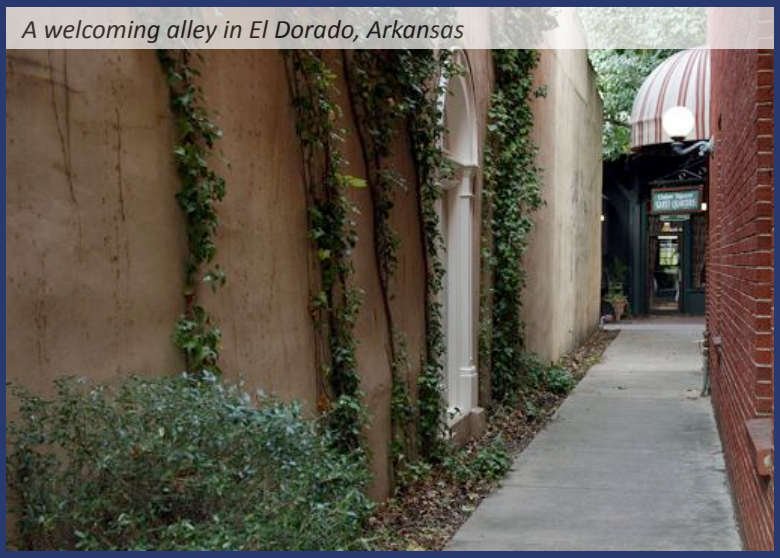
- Remove parking from in front of the theater and create a place to linger before or after the movie.

- A signage and way finding master plan is needed for the downtown area. Street signage is missing.

- Consider a temporary $.01 sales tax to fund downtown improvements, encouraging community members to invest in the heart of the community.

- Consider a roundabout at Hwy 7 and 65B. This would make a beautiful gateway to the downtown historic district and prepare motorists for speeds appropriate to a downtown area.

A welcoming alley in El Dorado, Arkansas

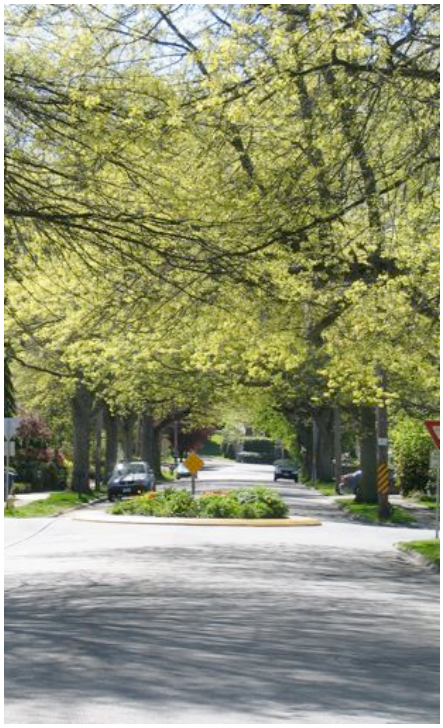


Kinetic Sculpture Race in Port Townsend, WA

Example Communities

Based on community interests and opportunities identified during the workshop, Harrison has the opportunity to learn from the following communities:

Communities to Learn From	
Enclosure	• Siloam Springs, AR
Creating an Outdoor Room	• El Dorado, AR
Creating Complexity	• Pearl Street Mall, Boulder, CO
Theater District	• Colquette, GA
Greening the Street	• Lake Oswego, OR
Farmer's Market	• Madison, WI • Port Townsend, WA
Contests for Merchants	• Port Townsend Main Street Program, WA
Alleys	• St. Luis Obispo, CA • Victoria, BC
Bicycle Library	• Fort Collins, CO
Seating	• Carmel, IN
Terminating Vista	• Dundarave, BC
Bridges	• Golden, CO • Olympia, WA



Harrison 100-Day Challenge

The 100-day challenge allows the City of Harrison to demonstrate a genuine commitment to active living. The following goals can be accomplished in 100 days. Each goal identifies leaders who should have a role in moving initiatives forward. Leaders should reach out to all motivated and interested parties to collaborate on the 100-Day Challenge. Then, complete as many of these goals as you can within the next 100 Days.

Days 1-30

GOAL #1: Paint the crosswalks and stop bars on N. Main Street. Begin with N. Main Street at Bower since this is by the hospital. Stop bars should be 10 feet back from the crosswalks.

GOAL #2: Paint bold while lines to outline the downtown crosswalks and move the stop bars back 10 feet from the crosswalk.

GOAL #3: Where the bike lane ends on N. Main Street coming into the historic district, paint a sharrow so that motorists and bicyclists understand that they are to share the space.

LEADERS: Public Works Director, City Transportation Engineer, District Transportation Engineers, AHTD Regional Project Manager, and the State Bicycle and Pedestrian Coordinator

GOAL #4: The City should issue a letter to AHTD and the appropriate utility requiring them to clean up after projects. A signal pole installed at Bower at N. Main Street left debris on the sidewalk and downtown repairs have left debris on city streets.

LEADERS: Mayor and Public Works Director

GOAL #5: Remove the dumpster from in front of the Dollar General Store.

LEADERS: Code Enforcement and Business Owner

Days 31-60

Goal #6: Review the Capital Improvement Projects to see what projects are included and how they might be updated to encourage active transportation and Complete Streets. Every project in line for funding should answer the following question: How does this project support individual and community health in Harrison?

LEADERS: Harrison's CORE Group

Days 61-100

GOAL #7: While this entire project may not be completed in 100-days, convening the right group to prioritize fixing the sidewalk between the hospital and downtown should be done. This task force can assist the city in finding funding to make this improvement. Within 100 days, the leaders identified should meet and propose an action plan to secure funding to replace this sidewalk.

LEADERS: Mayor, Public Works Director, City Councilor, City and District Transportation Engineers, Hospital President, Harrison's CORE Group, State Bicycle and Pedestrian Coordinator

Harrison, AR

Springdale, AR

Observations and Recommendations

Greenways Trail Site, Springdale, AR

Walking Audit Participants - Emma Street

Walking Audit Participants - Harvey Jones Elementary School

So much of what we do is not for us … it's for our kids, the next generation, those who aren't here yet

- Mayor Doug Sprouse

Introduction

Schedule of Events

Monday, October 17

8.30-9.00am
Introduction and Presentation: Active Transportation and Place making

9.00-10.00am
Walking Audit - Downtown Emma Avenue

10.00-11.00am
Audit Discussion and Visioning Session for Participants

11.30-1.00pm
Presentation to Springdale Rotary Club: Benefits of Active Transportation

5.00-7.30pm
Presentation: Health and the Built Environment; Economic Benefits of Downtown Revitalization Efforts

Tuesday, October 18

8.30-9.00am
Introduction and Presentation: Benefits of Walkability and Livability

9.00-10.00am
Walking Audit - Harvey Jones School

10.00-11.30am
Audit discussion and summary

2.00-3.00pm
Meeting with Mayor Sprouse, Planning and Community Development Director Patsy Christie and Alta Greenways President Chuck Flink

6.30-8.30pm
Downtown Trails Project Update; Health and the Built Environment; Downtown Revitalization and Active Living

Springdale is located in Washington and Benton counties, in the northwestern region of Arkansas. According to 2010 Census Bureau, the population of the city is 69,797. Springdale is the second-largest city in Northwest Arkansas and currently Arkansas's fourth-largest city, behind Little Rock, Fort Smith, and Fayetteville. Springdale is home to the headquarters of Tyson Foods and also the headquarters of Fuels & Supplies. In 2008-10, the city was recognized as part of the "Playful City USA" initiative for their efforts to ensure children have great places to play.

Springdale is engaged in a greenways project that will uncap the creek and focus revitalization efforts in the downtown. This project will encourage regional active transportation and improved connectivity between communities.

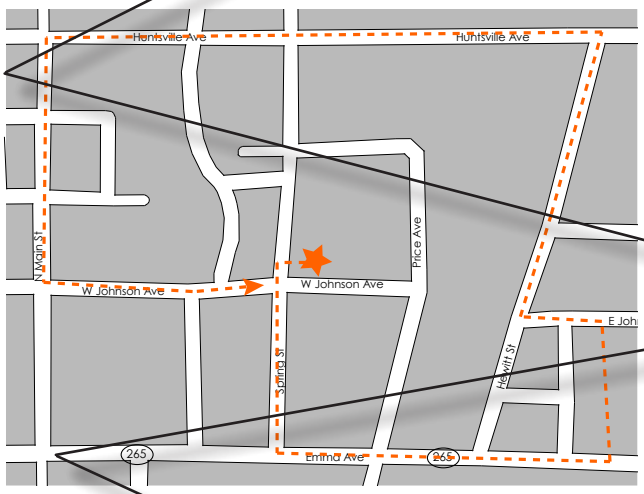
Today, Springdale faces the following challenges:

- In 2010, 64.2% of adults in Washington County were overweight or obese and 18.15% of children were overweight or obese
- In 2009, 28.7% of adults in Washington County were diagnosed with high blood pressure
- In 2009, 31% of adults in Washington County were diagnosed with high cholesterol
- In 2010, 6.6% of adults in Washington County were diagnosed with diabetes
- From 2005-2009, 79.5% of adults consumed fewer daily servings of fruits and vegetables than recommended
- In 2009, 54.2% of adults met daily physical activity requirements
- 24% of adults in Washington County report no leisure time activity

Walking audit participants in Springdale, AR

Existing Conditions

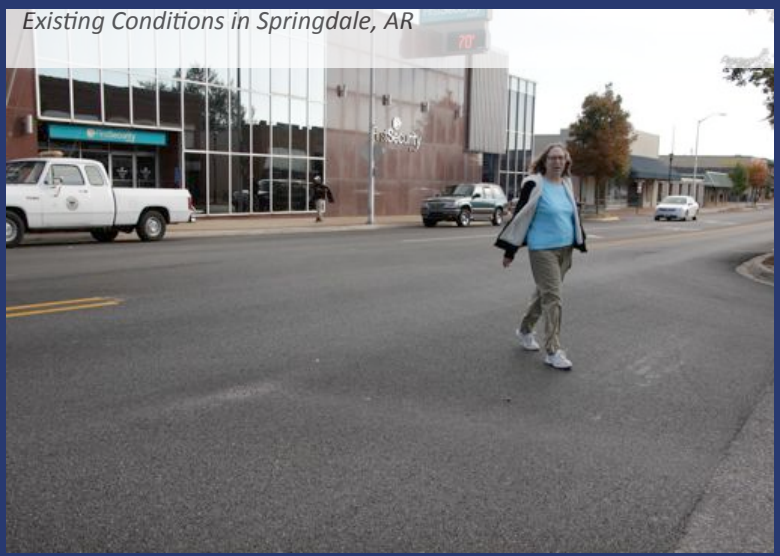
Day One



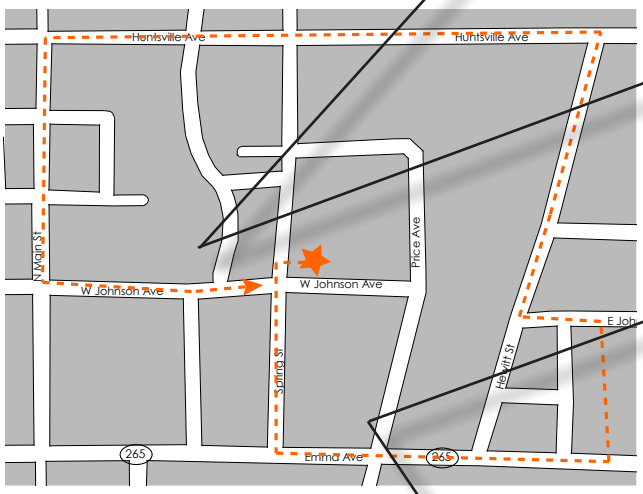
Suburban Sprawl
While Springdale is home to a downtown core that offers mixed uses and interesting building stock, too much of the area is suburban sprawl, with development strung along major corridors. Residential communities are fenced, have too many cul-de-sacs, and mostly turn their backs to the streets.

Segregated Land Uses
Too many fences and segregated land uses are devaluing property values and preventing a natural mix of uses. To raise property values, support small businesses, and encourage active transportation, we should avoid fencing.

Existing Conditions in Springdale, AR



Existing Conditions in Springdale, AR

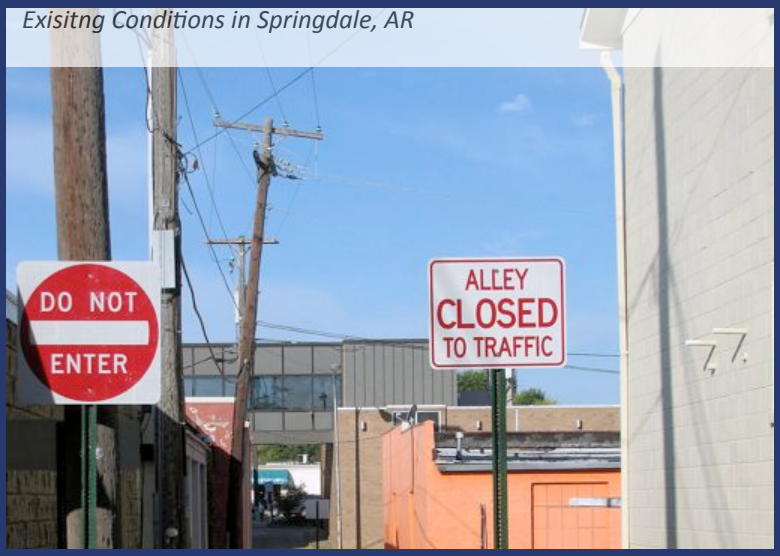


Vast, vacant parking lots
How much parking does Springdale need?

Main Street Revitalization Struggling
Investments in downtown Springdale (Emma Avenue) are needed. Public investment should drive private development. Downtown Springdale is home to significant industry, including Tyson Foods. The area is well-gridded, has interesting architecture and when the waterfront trail is complete and the creek uncapped, Springdale needs to concentrate on public private investments in the Emma Avenue area for sustainable growth.

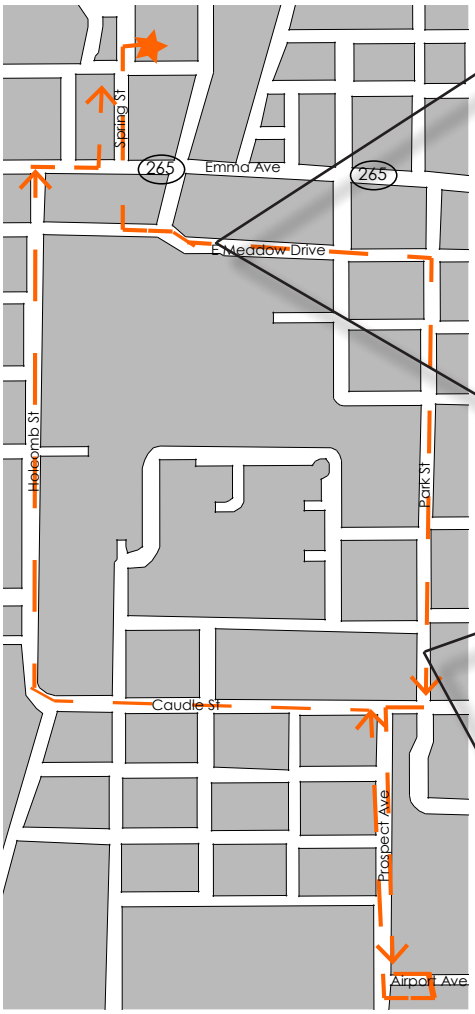
Lack of pedestrian amenities in Springdale, AR

Exisitng Conditions in Springdale, AR



Existing Conditions

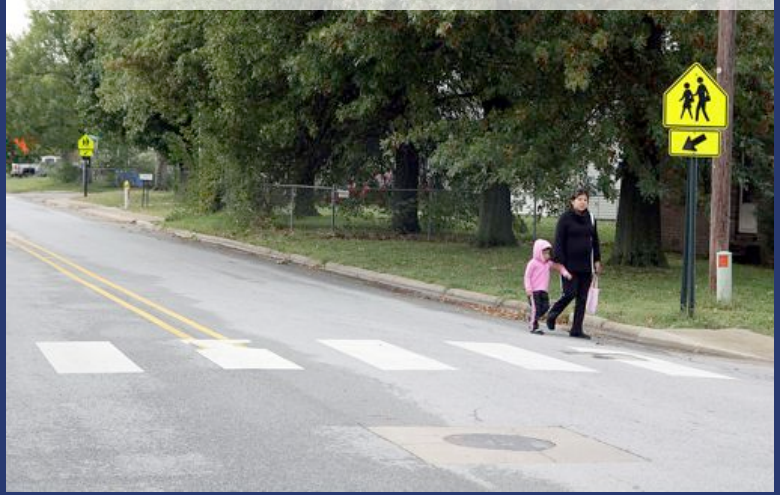
Day Two



Street Design Standards Outdated
Streets are too wide, lanes are too wide, turning radii encourage high speed movements, crosswalks are misplaced, pedestrians are not buffered, striping techniques are not in line with best practices and the downtown area has too many deteriorating and vacant asphalt parking lots. Outside the downtown core, pedestrian planning is poor with few connections and amenities to encourage active transportation.

Numerous Pedestrian Obstructions

Lack of pedestrian amenities in Springdale, AR



Bicycle parking at Harvey Jones Elementary School

Participant Desires

After the walking audits, participants engaged in a visioning discussion to identify key opportunities to support active transportation in the Springdale. Participants discussed the following topics:

- Our focus must be on developing partnerships to encourage active living.
- The trails system should improve connectivity in Springdale and Northwest Arkansas in general.
- Because we have so many fences and cul-de-sac developments, we should focus future professional development to address this.
- The built environment is tied to health, economic well-being, but also to social and spiritual well-being.
- We should know our neighbors.
- The heart of our community is not accessible to those in wheelchairs.
- I want to share the vision for the downtown and have others catch this vision for what the downtown could be.
- I don't want to drive all the time. I want to park my car and walk or bike to complete my errands.
- Springdale should become known for active living. We have a lot in place already with the ballfield, trails, miracle park and walkable downtown.
- We can be a model for other communities.
- I want to see kids out running and walking and playing. I want to see all kids doing this.
- Preserving our history matters, public participation matters, promoting good ideas matters, and proof that tax dollars are being well spent matters.

Participants recognizing a danger to bicyclists near the elementary school

Recommendations

The following recommendations are divided into short-term, medium-range, and long-term activities to encourage active living. This section concludes with a 100-Day Challenge which narrows all recommendations into those that can be achieved in the first 100 days.

Short Term Recommendations

- Paint crosswalks and stop bars around the City Administration Building. The City should be a leader in encouraging active transportation. Presently, Spring Street and E. Johnson Avenue do not have markings.
- Paint more bike lanes. Begin on Spring Street between Emma and E. Johnson Avenue. Then, assess where bicycle lanes are and how to connect them to one another. This will be the start of a bicycle master planning effort.
- Survey street paint to determine where there are opportunities to remove paint from roadways, such as the center stripe for streets under 6,000 Vehicle Miles Traveled daily, and at locations away from hill crests and steep curves. Allocate that budget for bike lanes, edge lines, sharrows or other markings to encourage active transportation.
- Place more seating and litter cans in the downtown area.
- Springdale's Municipal Code presently requires 19 foot parking bays, but 17 foot parking bays would suffice. Revising the code will help the City reduce heat island effect and stormwater runoff.
- Review the City's Dumpster Ordinance, and if one does not exist, then create one. Dumpsters should be at the back of buildings, not in the middle of parking lots and on the street edge.
- Yielding behaviors by motorists are inconsistent in Springdale. Often, drivers are aggressive and will not yield to a pedestrian standing at the side of the road to cross. This is likely due to a lack of crossings and signage, but enforcement is also needed.

Mural in Sarasota, FL

Night Lighting in Charleston, SC

Encourage walking and bicycle police patrols in Springdale. Encourage emergency responders to meet physical activity requirements by bicycling, jogging and walking around Springdale to become a presence on the City's streets.

- The City, Chamber of Commerce, Rotary Club and Historic Springdale organization should meet and discuss the health and economic vitality of Emma Street. After that initial meeting, this task force should invite major employers, business owners and resident advocates to form a Main Street program or another initiative to incentivize development that respects the sense of place and history of Springdale.

- Consider a mural contest to encourage art of historical significance in the downtown area. Work with the Shiloh Museum on this initiative.

Mid Term Recommendations

- Assess all curb-cuts and crossings on Emma Street. Curb cuts presently direct pedestrians into the street. Truncated domes are needed at all crossings and crosswalks should have 10 foot crossing ramps. Do not use the minimum standard in the downtown area. Pedestrian scaled lighting is missing. Pedestrian signage and motorist signage are often in conflict with one another and motorists have trouble anticipating pedestrians. Allow this to be the beginning of a pedestrian master planning effort for Springdale. Existing conditions should also be evaluated around schools, critical service providers like hospitals, and churches.

- Misplaced signage for pedestrian crossings on Emma Street should be relocated to point to the desired crossing areas.

- Add flower baskets, banners, lighting or holiday decorations along Emma Street to add vertical greening to the street and to create a stronger edge.

- Encourage Spring Street Grill to create an outdoor herb garden in window boxes or to use outdoor seating. A sidewalk barista could encourage foot traffic.

- Since the trail head beginning in the alley off Spring Street is likely two years out, remove the signage that prevents its use.

- Add edge striping on Spring Street between Emma and E. Johnson Avenue to narrow the travel lane to 10 feet. The turning radius at the Spring Street and E. Johnson intersection is too big – at 25 feet – and this encourages a high rate of speed. Radii of 15 feet are more appropriate to encourage turning speeds of 12 – 15mph. Spring Street between E. Johnson Avenue and

Engaging emergency responders in Santa Barbara, CA

Street Mural in Bellingham, WA

E. Price Avenue has 35 foot travel lanes, forcing pedestrians to cross 70 feet. Crossings distance of 28' would be appropriate. Adding angled on street parking would help with the parking issues at the City Administration Building and right-size the street. Consider installing a tree well every 5 spaces to green the street and using bulb-outs to narrow the turning radii.

- Meadow Avenue at Commercial Ave (at Bank of America) has no edge, no sidewalks and immensely wide travel lanes (30+ feet). Re-stripe this street, creating 10 foot travel lanes, using 10 inch striping. Work with the State Bicycle and Pedestrian coordinator to identify locations for bike lanes in the heart of the downtown.

- Review the City's parking plan for the downtown to determine how much parking is truly needed. If the Code has minimum parking requirements in the downtown area, change this to maximum parking allowed. Consider turning the vacant lots into community gardens, infusing the downtown Farmer's Market with local fields and raised beds to draw from.

- The WalkScore in the Harvey Jones Elementary School area is only a 55 but this area also provides low income housing. A scaled mixed use development should be encouraged in this community to provide amenities within walking distance of residents. The first roundabout in the city is planned for Park at Caudle. Park Street has a number or issues, including 12 foot travel lanes and a gutter which is not seamless, thereby creating a 3 foot bike lane. Improvements to Park Street should include 10 foot travel lanes, 5 foot bike lanes and the gutter pan should be extended out to visually narrow the street and provide a seamless surface for bicyclists. As the roundabout is built, improvements should extend from this intersection to the Meadow Street Park intersection.

- Around Harvey Jones Elementary School, the City can do more to encourage safe active transportation. The crossing at Powell and Velma needs curb-cuts. At the school, the bicycle racks should be under a shelter and closer to the entrance of the school. Curb extensions on crosswalks around the schools are needed. The City should consider installing a raised island to cross students to the school.

Long Term Recommendations

- Implement a walking school bus for students who live within a quarter mile of the school.

- Build a sidewalk and crosswalk leading from the Senior Center to the park at Grove.

- Build a pedestrian crossing island at Emma and Holcomb. Pedestrians are hard to see at this location and it will slow speeds to acceptable levels on Emma Street.

- Limit the number of churches and ground floor office uses on Emma Street. Presently, there are too many of both and this is deactivating the place and preventing to draw the foot traffic that other businesses need. Too many stores have limited hours of operations and phone numbers to call for assistance. The Downtown Revitalization Task Force should encourage the relocation of incubator businesses (coffee shop, florist, gaming room, ice cream store, bike shop) to the area.

- Plant more trees along Emma Avenue and create an incentive program for awnings and canopies. This will create that sense of enclosure that pedestrians like. Consider stringing permanent lights across the street to create a festival atmosphere.

- Throughout Springdale, sidewalks are too narrow. 5 foot sidewalks need to be the minimum requirement and the City should never grant a variance to this policy.

Example Communities

Based on community interests and opportunities identified during the workshop, Springdale has the opportunity to learn from the following communities:

Communities to Learn From	
Micro Brew	• Grand Junction, CO
Downtown Trails	• Boulder, CO
Street Edges	• Holland, MI
Downtown Parks	• Railroad Park, Birmingham, AL
Roundabouts	• Main at 3rd Street, Brighton, MI (a model Park at Caudle)
Downtown Redevelopment	• Greenville, SC
Main Street Collaborations	• Siloam Spring, AR
Urban Agriculture	• Jones Valley Urban Farm, Birmingham, AL
Walking School Busses	• Vitality City Project in Manhattan Beach
Enclosure	• Kingston, WA • Oswego, OR
Festival Streets	• Portsmouth, NH

Springdale 100-Day Challenge

The 100-day challenge allows the City of Springdale to demonstrate a genuine commitment to active living. The following goals can be accomplished in 100 days. Each goal identifies leaders who should have a role in moving initiatives forward. Leaders should reach out to all motivated and interested parties to collaborate on the 100-Day Challenge. Then, complete as many of these goals as you can within the next 100 Days.

Days 1-30

GOAL #1: Paint the grate on Powell Street.

GOAL #2: Place seating and litter cans around the community.

LEADERS: Public Works Director, Planning and Community Development Director and the Executive Director of the Historic Springdale Organization.

Goal #3: Paint crosswalks and stop bars around the City Administration Building. Presently, Spring Street and E. Johnson Avenue do not have markings.

LEADERS: Public Works Director, City Transportation Engineer

GOAL #4: The City, Chamber of Commerce, Rotary Club and Historic Springdale organizations should meet and discuss the health and economic vitality of Emma Street.

LEADERS: Mayor, Chamber President, Rotary President, City Council Chair, and Executive Director of Historic Springdale.

Days 31-60

GOAL #5: Encourage law enforcement and emergency responders to provide walking or bicycling patrols.

LEADERS: Mayor, City Attorney, Chief of Police and the Patrol Captain

GOAL #6: Review the City's Municipal Code for parking bay width and depth requirements; minimum parking requirements; and setbacks. Begin the process of amending the code.

LEADERS: Public Works Director and Planning and Community Development Director

GOAL #7 Paint bike lanes. Begin on Spring Street between Emma and E. Johnson Avenue.

LEADERS: Public Works Director, City Transportation Engineer, and the State Bicycle and Pedestrian Coordinator

Days 61-100

GOAL #8: Adjust signal timing for automated inclusion of walking cycles, so that signals recall to WALK during the cycle. Keep signals on the WALK release for the full length of the cycle, minus the clearance interval. Look at the length of time pedestrians are given to cross intersections as this may not be the correct amount of time. During the first 100 days, set a goal of assessing one intersection per week and updating one intersection per week.

LEADERS: Public Works Director, City Transportation Engineer, District Transportation Engineers, Arkansas Highway and Transportation Department Regional Project Manager, and the State Bicycle and Pedestrian Coordinator

GOAL #9: Vision a mural contest to encourage murals of historical significance in the downtown area.

LEADERS: Shiloh Museum Executive Director, Historic Springdale Executive Director, City Councilor and representatives for major employers

Springdale, AR

Siloam Springs, AR

Observations and Recommendations

Home in Downtown Siloam Springs, AR

The Walking Audit Team, Siloam Springs, AR

Introduction

Schedule of Events

October 19

2.00pm
Bridges to Wellness Team Meeting & Bus Tour of Siloam Springs

5.30-8.00pm
Presentation: The Benefits of Walkable, Livable Communities
Reception

October 20

9.00-10.30am
Siloam Springs Steps to Wellness Summit Presentation: The Built Environment's Impact on Health and Wellbeing Presentation: Economic Impact of Complete Streets

10.30-11.30am
Walkability Audit - Cheri Whit lock to Sue Anglin Drive

noon-1.30pm
Presentation: What Successful Communities Have in Common

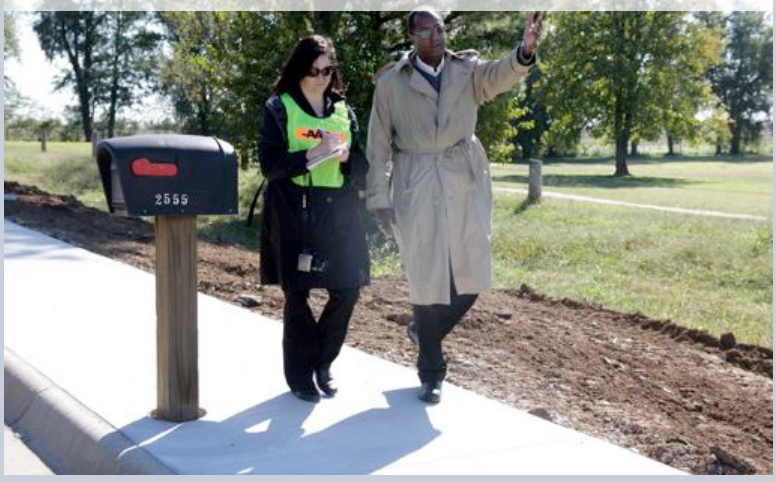
1.30-3.00pm
Visioning Exercise - Uniting Our Community in Health and Wellness

In 1879, medicinal benefits were discovered in the springs near present-day Siloam Springs, and it became a summer resort destination. Soon after, the town was platted and, since then, Siloam Springs has become home to a beautiful downtown along Sager Creek. Known for quality of life and main street charm, Siloam Springs is located off Highway 412 at the Oklahoma state line. The 2010 census placed Siloam Spring's population at 15,039. Major employers include Simmons Foods, McKee Foods, Allen Canning Company, Wal-Mart Super Center, Cherokee Casino, Cobb-Vantress, DaySpring Cards, Gates Corporation, John Brown University, and La-Z-Boy of Arkansas. Siloam Springs is home to John Brown University, and residents also benefit from the proximity of the University of Arkansas, Northwest Arkansas Community College, and Northwest Technical Institute, which are less than 45 minutes from Siloam Springs.

Siloam Springs faces the following challenges:

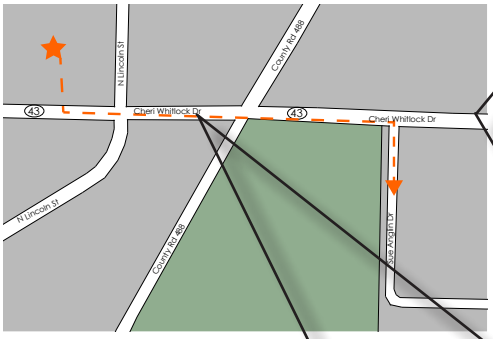
- 63.0% of adults in Benton County are overweight and 27% are obese. 16.5% of Benton County children are overweight or obese.
- 29.0% of adults in Benton County have been diagnosed with high blood pressure
- 79.0% of adults consume fewer daily servings of fruits and vegetables than recommended
- In 2009, 54.2% of adults met daily physical activity requirements
- 23% of adults in Benton County report no leisure time activity

Walking audit participants in Siloam Springs, AR



Emergency responders in Siloam Springs, AR

Existing Conditions



Sprawling Development to the Northwest

While Siloam Springs has a beautiful downtown core that offers mixed uses, shopping, murals and parks, too much of its growth has been focused to the northwest. Siloam Springs must avoid development strung along major transportation corridors and focus on infill development closer to the historic downtown area.

Gateway Lacking

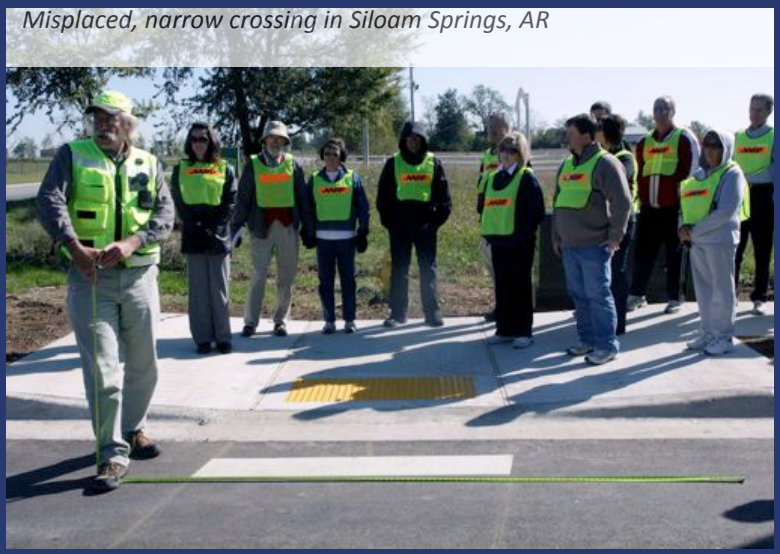
Siloam Springs needs a gateway feature from Highway 412. The service area for Siloam Springs is over 100,000 people and the community is located on the Oklahoma State line. Gateway features from the highway are needed to showcase Siloam Springs to the 30,000 motorists who travel Highway 412 each day.

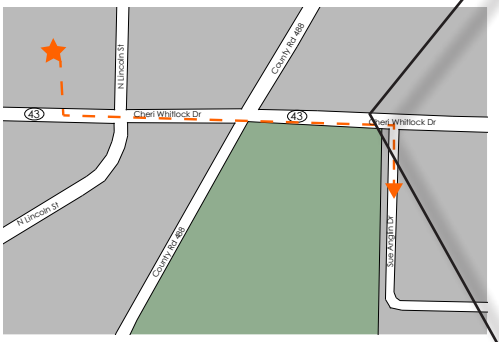
Street Design Standards Outdated

New development uses street design standards that need to be updated. Streets are too wide, lanes are too wide, turning radii encourage high speed movements, crosswalks are misplaced, pedestrians are not buffered, striping techniques are not in line with best practices and there are many 'goat tracks' where pedestrians have been an afterthought. The intersection of Cheri Whitlock Drive and Sue Anglin is dangerous to pedestrians and motorists due to the placement of the stop bar and crosswalk, and speeds on Cheri Whitlock Drive.

Entrance to highschool in Silaom Springs, AR

Misplaced, narrow crossing in Siloam Springs, AR



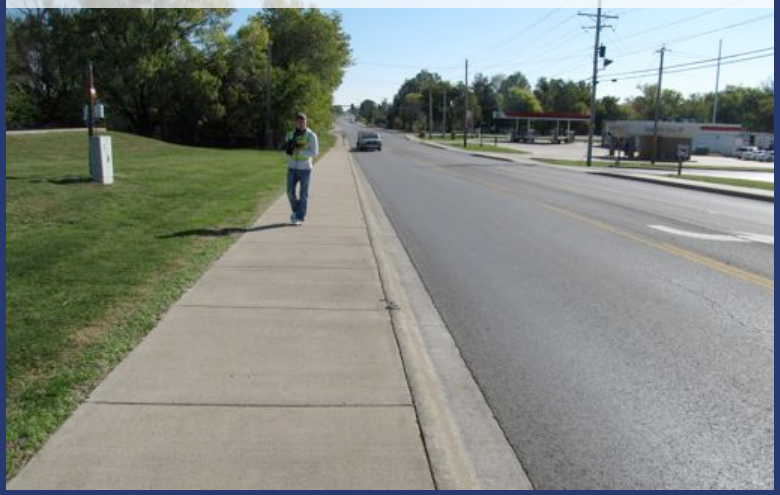


Problematic High Speed Corridor Treatments
Cheri Whitlock Drive has a posted speed limit of 50-55mph, yet this street has a curbed edge. National best practices remove curbing from streets with speed limits over 45mph for fear that a car will bump the curbing, lose control or flip. Additionally, Cheri Whitlock Drive, like other high speed corridors in Siloam Springs, places the pedestrian next to traffic without a buffer. Sidewalks should be separated from moving traffic by a bike lane and then a 2-3 foot buffer for trees and ground cover. A rail line crosses Cheri Whitlock and while motorists are protected by the railroad crossing arms, the sidewalks have no barrier, even though this is a known route to the high school.

Main Street Needs Boost
Investments in downtown Siloam Springs are needed. Public investment should drive private development and the old hospital provides the City with just this opportunity. Downtown Siloam Springs needs more foot traffic during the day so ground floor rentals should focus on retail with offices and housing above. Limited store hours, vacancies and ground floor office uses are indicators that downtown Siloam Springs needs an economic boost.

Pedestrian obstructions in Siloam Springs, AR

No buffer between pedestrians and motorists



Participant Desires

After the walking audits, participants engaged in a visioning discussion to identify key opportunities to support active transportation in Siloam Springs. Participants discussed the following topics:

- We need to remove excuses and make walking pleasant, enjoyable and convenient for all.
- Let's focus on creating actionable strategies for home town health.
- Siloam Springs should be a model of change with policies and programs for health and wellness.
- This is further proof that we need to keep pursuing trail development if we are to be sustainable, resilient, healthy and encourage aging in place.
- I have greater resolve to look for funding to improve Main Street from Highway 59 to Broadway. Our gateway into town is embarrassing.
- Bridges to Wellness should create talking points on health and the built environment to share with the community.
- Each of us should make a personal challenge to talk to one other person about active living and the built environment … and to move more!
- I am curious as to what the school is serving my child for lunch each day so the first thing I'm going to do is follow up on that.

Existing Crossing Hides Pedestrians

Recommendations

The following recommendations are divided into short-term and other recommendations focused on the Bridges to Wellness program. This section concludes with a 100-Day Challenge which narrows all recommendations into those that can be achieved in the first 100 days.

Short and Mid Term Recommendations

- A railroad pedestrian arm should block the sidewalk when trains are coming through.
- Improvements are needed on Sue Anglin Drive to create an entrance since this ultimately leads to the new high school. Unfortunately, the crosswalk and curb cuts are in the wrong position and hide the pedestrian. Bands on the crosswalk are too far apart. A special school related traffic control device should be used when school is in session to warn motorists of pedestrians and student drivers. It is unclear what the speed limit is on this street when children are not present.
- At the intersection of W264 and Cheri Whitlock Drive, the intersection is functioning and has good qualities: two pedestrian ramps per intersection and a pedestrian system that is activated during through movement of traffic. The green cycle should rest on WALK. To improve the safety of pedestrians and motorists, the City should consider a lagging left interval which holds the motorists while pedestrians cross.
- Presently, there is a 5 second release at the crossing on N43 and pedestrians do not have enough time to make it across the street. The City needs to assess all release times, but begin around schools, hospitals and senior centers to ensure pedestrians have enough time to cross the street. A railing is needed by the drainage ditch at this intersection.
- Cheri Whitlock Drive, as it is currently designed, values speed and efficiency of the thru movement. However, this street is home to churches, parks, recreational fields and the entrance road to the high school from Sue Anglin Drive. Presently, the center turn lane and travel lanes are 12 feet. All lanes should be reduced to 10 feet. Using a bold 10 inch edge stripe, create a bike lane between the sidewalk and road on the east bound side. If the right of way allows for a west-bound bike lane, build this too or tie the trail system in a way that encourages active transportation in this area.

Railroad signage in Beaverton, OR

Highway Bike Lane Treatments

Other Recommendations

The Active Living Workshop in Siloam Springs focused on how the Bridges to Wellness program might further their goal for Siloam Springs as "America's Wellness Capitol." The following recommendations serve as a starting point for discussions as the Bridges to Wellness team meets:

- Define criteria for success for the Bridges to Wellness program. What vital statistics are needed to show improvements that should be tracked now?
- Bridges to Wellness staff should have a regular article in The Leader which speaks to community health, active living and civic engagement.
- Bridges to Wellness staff should work with the City to apply for Safe Routes to School funding. The intersection of Sue Anglin Drive and Cheri Whitlock Drive needs to be re-engineered as soon as possible.
- Bridges to Wellness staff should work with the City and encourage centralized development in the downtown area. The old hospital should be considered for the new library. This would activate the park and create a vital link to the downtown area. City staff and elected officials need supporters in all areas of the community to be champions of active living.
- Bridges to Wellness staff should work with City staff to draft and pass a Complete Streets policy for Siloam Springs. Too many of Siloam Springs streets are incomplete. Once you pass your Complete Streets policy, seek funding to fix streets.
- Bridges to Wellness staff and volunteers should attend Homeowner Association Meetings, City Council Meetings and Planning Commission Meetings, regularly inquiring how a project or program improves health, well-being and the economic vitality of the area.
- Bridges to Wellness staff should work with the City to complete the trails system and then identify activity deserts. Activity deserts are those places in a community that require an individual to get into a car to drive to food, schools and other critical services.
- Since Siloam Springs is home to major employers, emphasis must be placed on transportation demand management and incentivizing active transportation for employees. Bridges to Wellness should spearhead a task force to understand the barriers to active transportation in Siloam Springs and then create an action plan to address them.

Bridges to Wellness Event

Wellness discussion in Siloam Springs, AR

Example Communities

Siloam Springs and the Bridges to Wellness program has the opportunity to learn more about the following topics from the communities and organizations identified:

Communities to Learn From	
Urban Agriculture	• The Delta Garden Study
Trails	• Boulder, CO • Seattle, WA • Breckenridge, CO
School Crossing Treatments	• La Mesa, CA • Teller County, CO
Traffic Calming	• Golden, CO • Manitou Springs, CO
Rail Crossings	• Beaverton, OR
Bike Lanes	• Boca Raton, FL • Cornelius, NC • Boise, ID
Road Diets	• University Place, WA • Issaquah, WA
Roundabouts	• Olympia, WA • Hamburg, NY
Wellness Programs	• Healthways Vitality City Program, CA • Weld County, CO
Gateways	• Northville, MI
Pedestrian Friendly Treatments	• Burlington, VT
Main Street Program	• Naperville, IL

Siloam Springs 100-Day Challenge

The 100-day challenge allows the City of Siloam and the Bridges to Wellness program to demonstrate a genuine commitment to active living. The following goals can be accomplished in 100 days. Each goal identifies leaders who should have a role in moving initiatives forward. Leaders should reach out to all motivated and interested parties to collaborate on the 100-Day Challenge. Then, complete as many of these goals as you can within the next 100 Days.

Days 1-30

GOAL #1: Bridges to Wellness staff should inquire whether there has been an application for Safe Routes to School funding and reach out to Mechelle Winslow.

LEADERS: School Board President, Streets Director, Executive Director of Bridges to Wellness staff and the State Safe Routes to School Coordinator

GOAL #2: Re-engineer and rebuild the crosswalk and curb cuts at the intersection of Cheri Whitlock Drive and Sue Anglin Drive. The curb cut, crosswalk and stop bar need to be moved so that students are not hidden. Bands on the crosswalk are too far apart. This should be a priority for the City.

LEADERS: Streets Director, City Transportation Engineer, District Transportation Engineers, Arkansas Highway and Transportation Department Regional Project Manager, and the State Bicycle and Pedestrian Coordinator

GOAL #3: Reprogram the signal timing at the intersection of W264 and Cheri Whitlock Drive so that the green cycle rests on WALK. Assess the length of time pedestrians are given to cross this intersection as this may not be the correct amount of time. Consider a lagging left interval and assess the release at the crossing on N43 to ensure that pedestrians have enough time to make it across the street. During the first 100 days, set a goal of assessing one intersection per week and updating one intersection per week.

LEADERS: Streets Director, City Transportation Engineer, District Transportation Engineers, Arkansas Highway and Transportation Department Regional Project Manager, and the State Bicycle and Pedestrian Coordinator

GOAL #4: Write a letter to the rail authority, requesting the descending arm for the sidewalks when trains are coming through Cheri Whitlock Drive. This is a known safe route to school and motorists are given such consideration.

LEADERS: Mayor, City Administrator and City Attorney

Days 31-60

GOAL #5: Write an article for The Leader on health and wellness in Siloam Springs.

LEADER: Executive Director of Bridges to Wellness Program

GOAL #6: Meet with law enforcement and emergency responders to encourage walking or bicycling patrols.

LEADERS: Mayor, City Attorney, Chief of Police and the Patrol Captain

Days 61-100

GOAL #7: Bridges to Wellness staff should meet with City staff to discuss a Complete Streets policy for Siloam Springs. Then, an educational session for the City Council and Planning Commission should be held in which Bridges to Wellness staff explains the benefits of Complete Streets.

LEADERS: Mayor, City Administrator, Bridges to Wellness Staff, City Councilors and Planning Commissioners

Siloam Springs, AR

Additional Recommendations

The following recommendations apply to all of the communities we worked with. These recommendations look at larger issues that each of the communities face when it comes to pedestrian planning, encouraging active transportation and informing the community about best practices for active living. Elected leaders, staff and resident advocates in each community should review two key documents:

- The *Los Angeles County Model Design Manual for Living Streets*. This document will provide new, more appropriate tools for building, operating and maintaining roads for all road users. The Manual can be found here: http://www.modelstreetdesignmanual.com/. As a reminder, Access Management rules are now being taught and applied by the AHDT. These should be applied during any future rebuild on properties along the corridor.

- *The Richmond, California General Plan Chapter Element on Health and Wellness.* It can be found here: http://www.ci.richmond.ca.us/DocumentView.aspx?DID=6999

The following recommendations provided in the following pages of this report are:

- Create a Civic Engagement Plan
- Adopt a Complete Streets Policy
- Create and Adopt Livable Streets Design Guidelines
- Create a Pedestrian Master Plan
- Increase Enforcement for Pedestrian Safety
- Increase Education and Awareness for All Road Users
- Improve and Enhance Safe Routes to School Programs

Create a Civic Engagement Plan

Effective community engagement is critical when developing policies and projects that impact a community's built form. Regardless of setting – whether urban, rural, large city or small town – the benefits of effective community engagement in projects affecting the built environment are numerous. Effective community engagement improves the success rates of policies and projects affecting the built environment. This is in large part because community engagement helps the agencies and organizations that are leading a project understand and respond to the local conditions that will influence the project's development. For example, agencies that create true community engagement are more successful at adapting to socioeconomic changes that may influence the effort than those that do not conduct effective outreach. Additionally, when people affected by the project are involved from the beginning of the development process, it reduces the likelihood of unexpected or significant opposition when it comes time to implement the project. Community members also have unique knowledge of local contexts - including political, cultural and geographic settings. By interacting with the public and gaining important local insight, project leaders can shape and direct the project in keeping with the community vision and needs.

A conventional model of "public involvement" has been built around complying with legal requirements for issuing public notices about projects and related events, holding public hearings to solicit feedback and incorporating feedback into draft recommendations. The community has been invited in when project leaders have decided input is needed - or when it is mandated by law - and the public hearings, citizen advisory councils, and public comment sessions have formalized the effort. At many public meetings or events, a classroom structure communicates to people that they are to listen and not converse. This model fails to truly engage the public or capitalize on all of the benefits of successful civic engagement. To engage communities, leaders must move from the conventional model to one that focuses on outreach, capacity-building, inclusiveness and collaboration.

A successful public process starts with developing a community outreach plan that describes the desired outcomes of the project and details the public process, including who the stakeholders and audiences are, how they should be reached, messages, the tools that will be most effective, and how the success of the effort will be measured. In general, community engagement activities need to address issues that the public perceives as important. Thus, while developing the community outreach plan, project developers should seek ways to explain to the public why the project matters. Additionally, efforts should be made to conduct workshops, events or meetings in places that are comfortable and familiar to the audiences, and to use language that is clear. Each communication or event should contribute to the public's understanding of the project and its purpose.

Specific outreach tools may include educational workshops, media outreach, paid advertising, surveys, print materials such as flyers and brochures, public service announcements, educational videos, slide presentations, charrettes, newsletters, websites and online communications, direct mail, letters to the editor or guest commentaries, councils, partnerships, coffeehouse chats, meetings, interviews, demonstrations, bulletin boards and more. The main point is that each of these elements has been identified and tied to other initiatives with outcomes

Participant in Siloam Springs, AR

Participant in Siloam Springs, AR

and measures of success so that a quality control and effectiveness feedback loop is in place.

The goal is to engage the community. If the community is not engaged, leaders must take responsibility for developing effective and successful outreach programs that achieves this identified goal. A civic engagement plan allows creators to look at localized efforts to build capacity within the community, which will include the identification of outreach goals, definitions of success, measures for evaluating effectiveness, and ways to adjust for improvements over time.

Build Cultural Competence

Ensuring that programs and messages are designed to be relevant, appropriate and effective in different cultures and different languages is important to any successful community outreach. In fact, cultural competence has emerged as a key strategy to improving health and the quality of health care and social services for everyone in the U.S. regardless of race, ethnicity, cultural background or language proficiency. Translating important messages requires strong cultural knowledge, because a word for word translation will not be effective. Reaching people of all backgrounds often requires more than simply translating messages.

To increase their effectiveness, many organizations working with multi-cultural populations are developing "health promoters" programs that recruit people who live in and work in a community to be community educators and liaisons between the program and the community. An example is the DeSoto County, Florida program Promotores/as de Salud that serves Hispanic farm workers. Other communities are working to culturally adapt messages. For example, in California's San Joaquin Valley, campaigns to encourage people to reduce their contribution to summertime smog were developed for English-speaking and Spanish-speaking markets. The campaigns were culturally adapted to focus on types of behavior changes that would be relevant and appropriate in the cultural context of the different audiences. Adaptation of this type requires strong knowledge of the culture and language of the target audience.

Broaden the List of Stakeholders

To build effective community engagement, project leaders should broaden the list of stakeholders and partners whose involvement is sought. Stakeholders and partners commonly include city and county staff, advocacy groups, residents, business operators, property owners, elected officials, community leaders, neighborhood safety groups, school representatives, health agencies, "main street" or downtown groups, charitable non-profit organizations and regional employers. To be more effective, project leaders also should seek the early involvement of churches, news outlets, potential opposition groups and children. Now, more than ever, we identify community outside of geographical areas.

Churches - Across the country, churches build and sustain more social capital than any other type of institution. Thus, project leaders should seek innovative ways to work with church leaders to engage their membership in public projects.

Media - Conventional community outreach plans have treated the media as a means of simply disseminating information. A more effective approach is to engage members of traditional news outlets (newspaper, television and radio) and non-traditional outlets, or "new" media (online news services, bloggers), as stakeholders and seek their involvement early in the process. Just as project leaders should build capacity amongst residents and within the community, so too should they seek to build capacity with journalists and news outlets.

Yolanda Taylor , AARP, in Springdale, AR

Participant in Harrison, AR

Opposition Groups - Special efforts should be made to identify and reach out to people and organizations that may be expected to oppose the project under development. It is important to build their trust and involvement. Try to identify and address their concerns both as part of the public process.

Children - Children have much to offer in the community planning and design process, yet they remain mostly untapped throughout community transformation processes. A child's imagination is a powerful tool; they can dream up the perfect community in which to live, play and go to school. Beyond the power of their imaginations, they also can bring very practical solutions to the table. For example, children often are aware of shortcuts to the places they go that could be formalized into trails and added to the community's pedestrian network map. They often speak volumes about important values and their honesty helps raise the discussion to the level of guiding principles. Perhaps most importantly, the involvement of children in public processes can change the whole tenor of the events.

Start with a Base of Shared Values and Build Understanding

The conventional model for public involvement in projects that affect the built environment often engages the public too late in the process, and in a manner that pits interests against each other. For example, holding a public hearing on a proposed project sets up stakeholders to take a position either for or against the project, without any discussion about community values and whether the project supports those values. A better model is to start the public process with educational workshops or visioning sessions that build a base of shared values. In some communities, a vision plan already exists and in those cases, the vision plan should help guide the project development. In other communities, a simple visioning exercise during a public workshop can go a long way toward helping stakeholders see that they generally want the same things for their community – safety and security, economic development, recreation and places to play, and so on – and that their goal should be to collaborate on ways to achieve those ideals through the project being developed.

Approach Engagement as a Two-Way Conversation

Effective public engagement involves much more than telling people about a project. Rather, effective engagement actually facilitates a dialogue that leads to reciprocal learning, collaboration and – ideally – consensus. By engaging in reciprocal learning through the public process, project leaders will gain insight and perspective that can help them ensure the project is tailored to meet the community's needs. Community members also will learn from each other.

Support a Community Steering Committee or Neighborhood Revitalization Group

Organize a community-based group, such as a Revitalization Group, to represent the values and goals of the neighborhood, evaluate the recommendations of this report, prioritize efforts, and pursue funding for implementation. One of the working group's first tasks could be to reach out to faith-based groups, schools, residents and organizations to build capacity within the community. Because community is defined less by geographical boundaries and more by our habits and routines, this working group may need to reach outside of the annexed area, to organizations and groups that residents belong to, in order to meet neighbors. The Neighborhood Revitalization Group could look to the Port of Bellingham project and the success of its working group as a model: http://www.portofbellingham.com/index.aspx?NID=344

Celebrate Successes

It is important to celebrate early successes to publicize new community assets, bring recognition to the people involved, reaffirm that the process has worked, and build more support.

Participant in Harrison, AR

Participant in North Little Rock, AR

Adopt a Complete Streets Policy

A Complete Streets policy ensures that we offer choices to the community by making walking, bicycling, and taking public transportation convenient, easy and safe. A Complete Streets policy also assures transportation equity. Changing policy so that our transportation system considers the needs of pedestrians, bicyclists and transit users means that people of all ages and abilities are included in our planning and design processes.

Until an area can be rebuilt for the creation of improved place, areas will continue to struggle. Using a Complete Streets approach, a community has greater access to limited local, regional, state and national funds. A Complete Streets policy that is tuned to an area can help steer development toward places likely to become prosperous, and speed up the type of street making and town making that makes the community more competitive.

Practitioners are also advised to become aware of how land use and transportation work together, whether in urban, suburban or rural places. Integrating land use and transportation planning and development at minimum requires those responsible for the well-being of a community to understand, assess and evaluate how land use decisions affect all modes of transportation and increase access to goods, services, opportunities and other resources that improve quality of life. And in turn, how existing and future transportation systems affect land use development, patterns and choices.

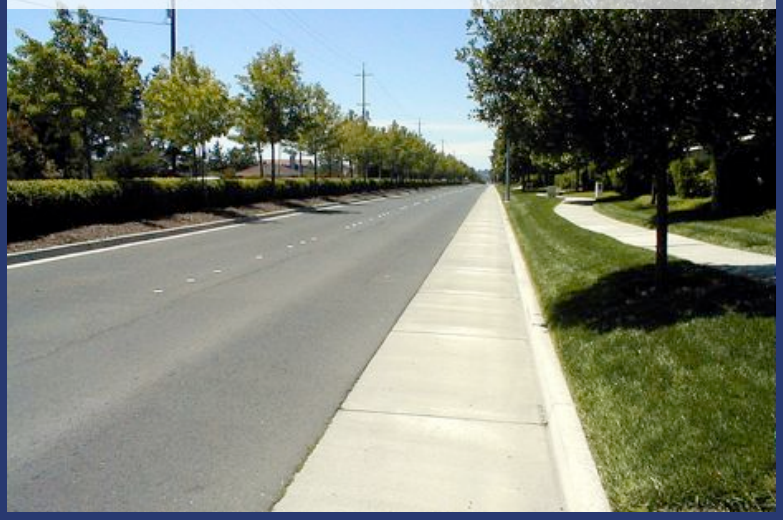
Land use and transportation policy can either contribute to or detract from a community. When thoughtfully integrated, land use and transportation policies, practices and strategies can jointly preserve and even enhance natural and cultural resources and create better built environments that are walkable, livable and sustainable.

Recommended readings to better understand the many connections between land use and transportation include: Randall Arendt's *Rural by Design* and Christopher Alexander's *The Timeless Way of Building* and *A Pattern Language*, as well as *Sprawl Repair Manual* by Galina Tachieva.

The Arkansas Department of Health can assist communities with preparing a Complete Streets resolution or policy, in addition to identifying current policies that are in conflict with Complete Streets and active living. Contact information is:

Ariel Schaufler
Built Environment Coordinator
Arkansas Department of Health
4815 W. Markham, Slot 63
Little Rock, AR 72205
Phone: 501-280-4744
Email: Ariel.Schaufler@arkansas.gov

Encourage Active Transportation



Mark streets to show shared spaces

Create and Adopt Livable Streets Design Guidelines

Streets play a significant role in livability. The design of streets impacts the access, choice in mode, safety, comfort, health, identity, retail success, economic vitality and quality of life of the community. Faced with the challenges of meeting transportation demand while preserving the character of the community, municipalities are creating and adopting Livable Street Design Guidelines.

Livable Street Design Guidelines move us away from a volume-only approach to street design. Street Design Guidelines allow us to bring land use and transportation planning together so that we move away from levels of service as the sole criteria for street design. Street Design Guidelines set forth street standards and provide guidance as we are designing new streets or improving existing streets. These guidelines give us new metrics for measuring the success of a street.

The Street Design Guide provides an assessment of local street typologies and highlights traffic calming features that have a history of success locally. When crafting Street Design Guidelines, communities should look to the following documents to ensure that these guidelines fall within the acceptable standard: American Association of State Highway Transportation Officials (AASHTO) *Policy on Geometric Design of Highways and Streets* ("The Green Book"); the Institute of Transportation Engineers' (ITE) *Traditional Neighborhood Development Street Design Guidelines*; and the Traffic Engineering Handbook *The Manual on Uniform Traffic Control Devices*. It is important to note that virtually all of the range of values needed to build healthy, safe and working streets are found in these guides. Meanwhile, too many communities and practitioners have adopted practices that are high in the speed and efficiency range, and low in the safety and community building range.

For this reason, there are many new guides that better inform and instruct practitioners and the public on how to build roads that work for all uses, including land use, sustainable practices, economics and the retail and social life of communities. Los Angeles County has released its *Model Design Manual for Living Streets*, which will serve as a good example for communities. Arkansas should modify this version to create its own Model Design Manual to inform practioners of acceptable and innovative treatments. Other excellent city, regional and state level guides include those released by Charlotte, N.C.; Portland, Oregon; San Diego, California; and the *Smart Transportation Guidebook* by New Jersey/PennDOT (March, 2008).

It is recommended that communities study these guides, then adopt one of the best fitting guides in the short term, and work longer term to create a guide best suited for their communities. It is important to have the city council formally adopt both an interim, then a permanent, new guide. Once again, such guides do not replace the AASHTO or ITE writings, they merely support them and give a broader, better adapted range of design that allow roads to be built to maximize safety, affordability, sustainability, land values, sales and motor vehicle trip reductions.

Safe Routes to school in Davis, CA

Active Living in Oak Park, IL

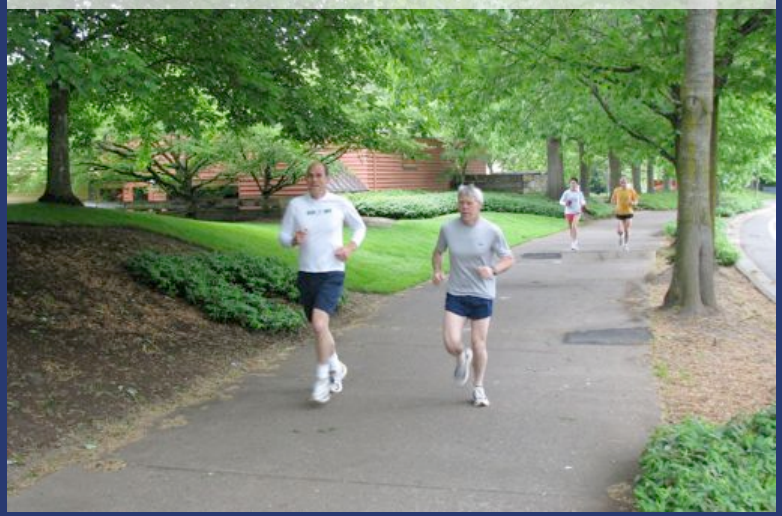
Create a Pedestrian Master Plan

A pedestrian master plan will allow communities to:

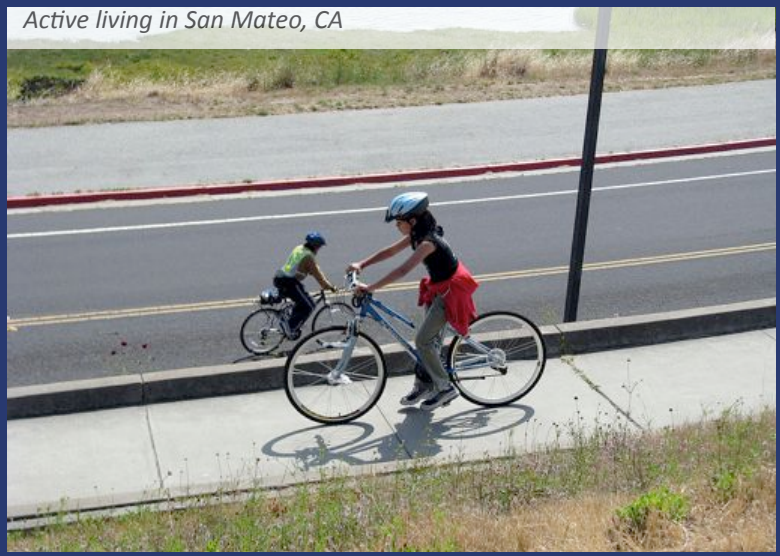
- Review existing plans, policies, guidelines and codes to determine whether inherent conflicts exist within these documents that might impact the continuity of pedestrian infrastructure across the cities' borders.
- Build a Toolbox and Best Practices Guide that informs pedestrian planning. Tools can include performance methods and monitoring that functions within the area.
- Propose and refine treatments to ensure the integrity of the pedestrian network and to provide clear messaging to users about pedestrian rights and responsibilities.
- Perform field research to identify conflicts, especially noting conditions such as sidewalk network gaps, and the geographic distribution of existing pedestrian facilities which will aid in the development of amenities such as trails.
- Conduct civic engagement that brings local partners together, thereby building capacity at a local level.
- Analyze needs and demand based on information gathered, allowing a broader understanding of patterns, behaviors and origins and destinations.
- Conduct a destination analysis because when people are too far from parks, plazas, healthy food, retail or other useful and fun destinations, they will not walk, or even eat well. "Destination Deserts" can be quickly mapped in a community within the plan.
- Perform a security analysis because people will not walk if they feel that they must navigate a void in watchfulness or activity. These are easily mapped through a civic engagement process during the planning efforts.
- Provide a shade inventory because if people are to walk in all temperatures, it becomes necessary to provide environments that invite walking, and make all active transportation natural, fully-supported activities. This is different than a feeling of security; it is a feeling of "do I even want to be here."
- Develop criteria for ranking, prioritizing and implementing projects for maximum impact and to better support current initiatives.
- Develop funding strategies that may reduce the burden of improvements
- Encourage City Councils, Planning Commissions, school boards, utility boards, library boards, fire boards and other staff to work together, to create solutions to common problems, develop programs, share lessons learned and best practices, and to establish partnerships.
- Identify planned improvements to determine whether they support or conflict with other initiatives.

Examples of pedestrian plans can be found here:
http://www.walkinginfo.org/develop/sample-plans.cfm

Active living in Eugene, OR



Active living in San Mateo, CA



Increase Enforcement for Pedestrian Safety

One of the most critical factors in street safety is enforcement that concentrates on intersections and corridors with high-crash rates. An enforcement program for pedestrian safety should include an evaluation of motorist, bicyclist, pedestrian and transit users to determine whether we are anticipating and accommodating one another appropriately.

For instance, an enforcement program will look at whether motorists yield the right-of-way to pedestrians in crosswalks and should address some of the more critical problems such as speeding, shortcuts through neighborhoods, red light running and obstructions to the pedestrian right of way such as parking.

Many drivers ignore the pedestrian's right-of-way. One extremely dangerous situation happens when there are multiple travel lanes, and one vehicle stops for the pedestrian crossing, and another overtakes and passes the stopped car, striking the pedestrian. The Uniform Vehicle Code (UVC) is a set of traffic laws prepared by the National Committee on Uniform Traffic Laws and Ordinances which serves as a model in most states. See http://www.ncutlo.org/ for more information.

Pedestrians, too, have duties to ensure the safety and comfort of other road users. There are places where they are prohibited (interstates, for example) and they must comply with traffic signals. An enforcement program will look at pedestrian behaviors too and whether pedestrians are engaging in aggressive or dangerous activities such as walking into a stream of traffic, crossing intersections against the signal and, thereby, disrupting the flow for other modes. It should also include bicyclist enforcement programs aimed at curtailing problematic behaviors such as riding the wrong way in a traffic lane, riding at night without lights or required reflectors, or bicycle parking that impedes other modes. For more information on pedestrian and bicycle safety enforcement, see http://www.mwcog.org/uploads/committee-documents/b15cXFxa20090311142525.pdf

Compliance and enforcement activities are most often overseen by the police. In order to improve safety, health and livability, communities should increase enforcement activities around school zones and other critical areas where vehicle-pedestrian conflicts have been high or where poor yielding behaviors by motorists have been observed. To aid in enforcing the rights of all street users, local Police Departments should increase the number of police officers walking and biking in the community. Additionally, the cities and townships should survey the built environment and the community to determine whether streets are in compliance with 2010 ADA Standards for Accessible Design as this often forces pedestrians to break laws just to navigate the obstructions in the built environment. See: http://www.ada.gov/regs2010/2010ADAStandards/2010ADAstandards.htm.

Emergency responders in Siloam Springs, AR

Increased enforcement for pedestrian safety

Increase Education and Awareness for all Road Users

An educational and awareness campaign can take the guesswork out of navigating our streets. In order to improve safety and enjoyment of using streets, communities should:

Develop culturally sensitive messaging for all pedestrian safety programs and information. For an example or an outreach brochure for education and awareness, see: http://www.metroplanorlando.com/files/view/10_things_motorists_should_know_about_bicycling.pdf.

An example of a Pedestrian and Bicycle Safety Public Awareness campaign can be found here: http://www.bestreetsmart.net/resources/2010/SS10_Summary_v1.pdf.

Train city staff on planning and designing roadways for pedestrians through walking audits. A walking audit, also known as a "walking workshop," is conducted with residents, officials, city staff, community groups and other stakeholders of an area. These walks can take from sixty minutes to two or more hours. Diverse groups of people, including City/County officials, planners, engineers, emergency responders, neighborhood leaders, community groups, and residents see, feel and hear problems up close. Walking audits are one of the most powerful tools for people to discuss common issues of interest or concern related to the design, operation of streets, parks, open spaces, as well as a way to discuss security, safety, and other features of their community. In many cases, complex and challenging issues are addressed and solved right in the field. This initiative would allow the cities and townships to assess and document existing conditions, while building local partnerships at the local level. The walking audit is a community engagement tool as much as it is a community assessment tool.

Develop safety tips for motorists, pedestrians, bicyclists and transit users based on critical local issues. Educational and enforcement campaigns should remind drivers that older adults or others with special needs may need more time crossing at an intersection. Additionally, educational campaigns look at areas around schools and parks where children may dart out from between parked cars. Safety tips can remind pedestrians that a vehicle traveling at 30 mph may need 125 feet to come to a complete stop. To see an educational campaign, go to: http://www.nyc.gov/html/dot/html/safety/safetyedu.shtml

Also, reach out to local experts to assist with education and awareness campaigns:

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Ariel Schaufler – Built Environment Coordinator
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Josh Mayes – Governor's Council of Fitness Coordinator
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501-280-4168

Bud Laumer – AHTD Bicycle and Pedestrian Coordinator
bud.laumer@arkansashighways.com
501-569-2921

Educational programs in Arkansas

Bicycle and pedestrian coordinator Bud Laumer

Improve and Enhance Safe Routes to School Programs

Continue Safe Routes to School projects to improve safety for students. This may include the following activities:

- Apply for Safe Routes funds and work with agencies, governments, organizations, residents, students, the School Board and others to encourage active transportation for students.
- Encourage the development of walking school buses for students and encourage seniors to provide local support and on-going review of existing conditions, in addition to placing "eyes on children" as they walk or bicycle to and from school.
- Implement both classroom and active/hands-on learning. Lessons should focus on basic pedestrian, bicycle, and motor-vehicle occupant safety and encourage children to walk and ride bicycles as a regular means of transportation.
- Identify school trip management techniques to encourage parents, students, and staff to reduce automobile trips and to use alternative modes for travel to and from schools. This can support community livability objectives including transportation choice, accessibility, walkability, affordability, community interaction, and reduced traffic on local streets.
- Ensure that local Safe Routes committees have members with experience in the areas of health, engineering, education, disadvantaged communities, law enforcement, planning, and recreation.
- Assist Safe Routes grantees prepare before and after surveys to capture desired outcomes and metrics for project success.
- Publicize local resources and website content addressing Safe Routes.
- Identify low-income areas and schools to improve participation in Safe Routes programs. Conduct an outreach campaign to ensure communities are aware of Safe Routes opportunities and available technical assistance in the application process.
- Create culturally sensitive materials that highlight Safe Routes opportunities.

Sample Safe Routes to Schools Programs from the Safe Routes to School National Partnership are found here: http://www.saferoutespartnership.org/local/4233. Parent surveys about walking and biking to school from the National Center for Safe Routes to School are here: http://www.saferoutesinfo.org/resources/collateral/Parent_Survey_English_Scan2009.pdf

Additionally, in June 2011, The Safe Routes to School National Partnership released in a publication entitled Safe Routes to School Local Policy Guide to help local communities and schools create, enact and implement policies which will support active and healthy community environments that encourage safe walking and bicycling and physical activity by children through a "Health in All Policies" approach. See: http://www.saferoutespartnership.org/media/file/Local_Policy_Guide_2011.pdf.

The Arkansas Safe Routes to School webiste is: http://www.arkansashighways.com/safe_route.aspx. Your State Coordinator is:

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mtwinslow@uams.edu

Encouraging safe routes to school

Encouraging safe routes to school

Concluding Thoughts

Executive Director, Walkable and Livable Communities Institute

The values of a community are expressed in the design of the built environment.

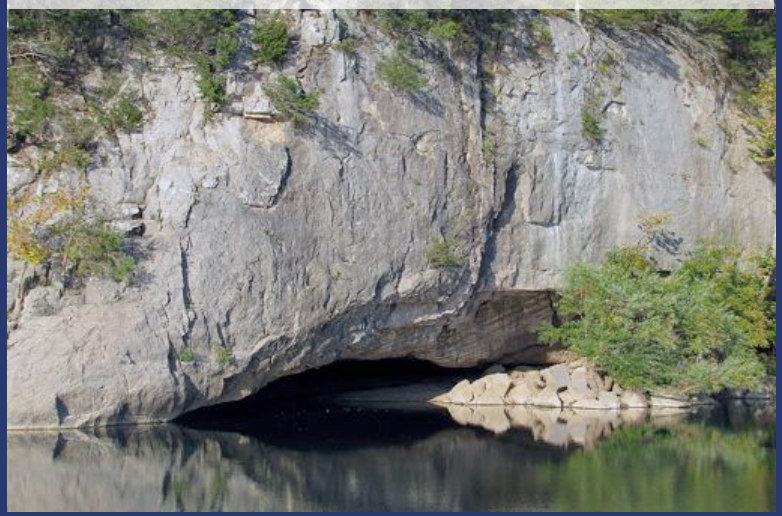
I hope these concluding thoughts summarize the two weeks we spent in Arkansas, observing the walkability, livability and aging in place elements of five communities: El Dorado, Harrison, North Little Rock, Springdale and Siloam Springs. Arkansas, the Natural State, presents such beauty ... in the Ozarks and in the Delta … and in the places in between where I found a never ending "around each bend" most beautiful, natural inspiration. I don't say this lightly as I have traveled all parts of North America, having worked in 3,500 communities. In contrast, though, too many cities and towns in this fine state have stripped activity from daily life through poor planning, so much so, that walking is no longer natural or comfortable in many areas.

This contrast leaves me feeling uneasy. We have the opportunity to build communities that represent our highest capacities and places that support engagement, personal health and the natural world. Yet, our cities are not being repaired or cared for. It is our hometown that guides us, teaching us about love, purpose, progress and accomplishment. In many communities we visited, home town is filled with fences, buildings that have turned their backs on ugly streets, and residents who, on average, are forced to take thirteen trips in their cars each day to access goods and services. Neighbors struggle just to know one another.

Individual efforts aimed at reducing calories and increasing physical activity have not slowed the obesity epidemic in Arkansas. We know that disadvantaged communities and low income families have the highest rates of obesity. The sad fact is that processed, high fat and low nutrient foods are easy to access and they are cheap. With the built environment removing activity as a routine, normal part of our days, the consequences are staggering: 66.5 percent of the adult population in Arkansas is overweight or obese and one in five children is overweight or obese. We have been warned that this generation of children is not likely to live as long as their parents. Rates of chronic diseases in Arkansas are higher than the national average. We are in the midst of a health crisis and unless the residents of the Natural State focus on designing their cities and towns for people, our legacy will be one of illness and blight.

Obesity isn't the only crisis. Levels of stress, anxiety and depression have increased significantly. By 2000, antidepressants were the most prescribed medication in the United States. We know that regular exercise can lessen the effects of stress and

Buffalo National River



Pedestrians in North Little Rock

reduce levels of anxiety and depression. Children are increasingly being medicated for attention deficit hyperactivity disorder and fewer children can walk or bike to school. Aging in place is a significant concern for all of us. Americans over the age of sixty-five accounted for 12 percent of the populated in 2009, and this number will increase to 20 percent by 2030. Isolation of seniors is a real threat since many will not have the option of driving. Local governments, too, are burdened by the costs of sprawling development and the hundreds of miles of infrastructure that are hamstringing government by eating budgets.

The contrasts between the stunning natural world of Arkansas and the built environment are striking. This provides us with many teaching points. We must start building places of the heart – communities where children and families thrive, rather than just survive. Access to cheap food with little nutritional value was evident in every town we visited. It was possible to find healthy food, beautiful parks, inspiring churches and schools, but we needed to drive to access these things. Too often, we walked on busy streets because there was no other place to walk and along "goat tracks" where other pedestrians regularly walk. Motorists were aggressive and did not yield to us, even when we found a crosswalk. More than once, we waited as a motorist cut us off and hurried on. Arkansas is not alone in having turned over its formerly pleasant streets to "gotta be someplace else" drivers, but you should be the first in taking your streets back. There was strength and resiliency in each town we visited that spoke to doing the right thing because it is the right thing to do.

Many main streets we walked down had high vacancy rates and limited hours for merchants. Several times, despite being in a downtown, we had to get into a car to find a healthy meal or a needed supply. Despite perfect weather, we did not see enough children or seniors in most downtowns, or even walking in their neighborhoods, a sign as to whether a place is safe and nurturing. But not all is lost. In each community, we found spirited community leaders who love their hometowns, who do much to improve quality of life and who wish to do more. We spoke with residents who had left other states in search of a community. Others had come home and found that the Arkansas of their youth was here and there, but they worried about their ability to age in place, and the costs of transportation and the well-being of family and friends. In each community, we found a commonality of purpose: to do more to reclaim, repurpose and renew loved places. We found great local examples of block patterns, beautiful building stock, open spaces, pragmatism, hearty passion and strong leadership. Most importantly, in each town, we felt the community had reached its tipping point: tired of the constant struggle to get somewhere, residents have turned their attention to their own health and well-being. Again and again, the focus was not on speed and efficiency but on quality of life and access to the things one needs.

We found a constant challenge – how to introduce change – even when this change harkens back to the values our grandparents and great-grandparents shared. This resistance to change by many good people must be understood – investments in infrastructure require time and money. When projects go awry, the entire community suffers and the error is very public. It is only in recent years that we have forgotten the social life of our streets. It is time for a set of strategic, well planned actions that honor the civilities, care and pride that previous generations brought to town making. Then, we will begin to knit together our communities, allowing generations to live, work and play alongside one another as they should.

We have identified goals that can be accomplished within 100 days. That's all it takes – 100 days to get on-the-ground changes in place in your community to support active living.

Pedestrian Amenities in Arkansas

Child crossing the street in Arkansas

Appendix

Walking participants in Springdale, Arkansas

Skidding stop in Springdale, Arkansas

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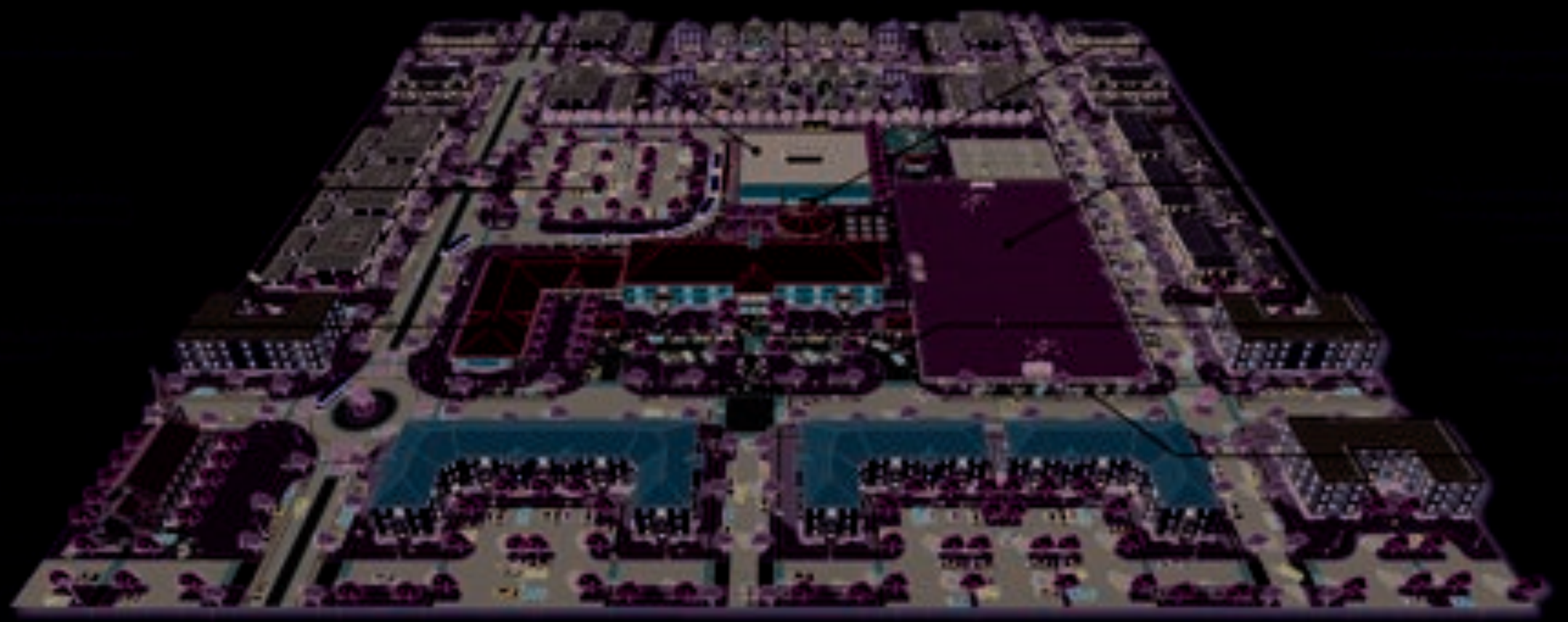
TOWN MAKER'S GUIDE:
Healthy Building Placement
Walkable and Livable Communities Institute
Drive-thru oriented building fails to address the street
Over-head electrical poles add to visual clutter
Strip center retail
Shoebox lighting too tall for human scale
Billboard signage scaled for passing automobiles
Retail corner entrance with residential above
Multi-family units on secondary street
Surface parking interior to development
Attractive buildings front the main street adding to the living experience
Trees line streets to create a sense of enclosure
AUTOMOBILE FOCUSED
PEOPLE FOCUSED
EDGES
SIDEWALKS
PARKING
BUILDINGS
CHARACTER
EDGES
SIDEWALKS
PARKING
BUILDINGS
CHARACTER



STREETS/PARKING

Streets should support walking, biking, and vehicle movement, which should be as equal from all four modes as possible. Streets should be designed to maximize safety for all by using the 5 Es approach: engineering, education, enforcement, encouragement, and evaluation. Streets should be designed to slow traffic to 20mph or less, which is the speed at which most people can stop in time to avoid hitting a pedestrian. Streets should be designed to be safe for students to travel to and from school alone. Streets should be designed to be safe for students to travel to and from school alone. Streets should be designed to be safe for students to travel to and from school alone. Streets should be designed to be safe for students to travel to and from school alone. Streets should be designed to be safe for students to travel to and from school alone. Streets should be designed to be safe for students to travel to and from school alone.

CROSSINGS

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DROP-OFF/PICKUP

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SECURITY

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TREES

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SEPARATION

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SHARED PARKS

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INTERSECTIONS

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SIDEWALKS

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ACCESS

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Street Treatments to Encourage Active Transportation

Crossing Markings

Curb Extensions

Raised Intersections

Crosswalk Signs

Mini Circles

Short Medians

Crosswalk Islands

Intersection Chicane

Bike Lanes

Raised Midblock Crossings

Raised Intersection Crossing

Inset Parking

Signalized Intersections

Street Treatments to Encourage Active Transportation

Overview

Why Added Guidelines? With recent, strong trends toward Safe Routes to School, Complete Streets Policies, sustainable transportation, traffic calming, rebuilding downtowns, neighborhoods/streets for people, the creation of compact villages for improved walkability and livability, and other measures reducing traffic growth, old engineering guidelines come up short. Engineers and risk management specialists insist that we need new guidelines.

Background: Conventional planning and engineering documents that built our current stock of roadways were written in a 60-80 year era where our focus was on moving cars efficiently and safely. The negative impact of this approach on the value of inner city buildings and homes; on walkability and livability and active lifestyles; and on the safety of those outside of cars, was not fully understood, measured, or addressed. Over time, this practice added fuel to sprawl, degrading town centers. This practice was harmful to the civic, retail, economic and social life of streets. People with the greatest access to autos had the best transportation. This practice ignored children, older drivers and people with disabilities and many in our service industry. A focus on streets for efficient car movement also impacted health, wellness and quality of life of people of all ages. Autos replaced feet. Vehicle dependency kept growing, and eventually grew five times faster than the U.S. population.

Now that there is a new era, which calls for a balanced transportation system, transportation equity, sustainability, urban infill and renewed prosperity of towns and regions, new outlooks and new tools are needed. These new tools must be understood by many. These design guidelines do not replace conventional tools used by the engineering community. State and national standards, operational manuals, engineering judgement and common sense always apply. Instead, these guides serve as a baseline for creative, insightful judgement of how to produce desired results of increased active transportation, and increased property values. Many details need to be worked out. Much learning must take place. Very important, many other towns are using these tools with great success.

Fortunately, you are not alone. There are many others in the country that you can check with as you begin this new era.

Left: A great neighborhood. Well before the modern science of traffic engineering was born in the mid 1920s, architects and developers knew how to build neighborhoods that kept traffic speeds low while creating maximum beauty and function for all means of travel. It is time for multiple professions to come back together, to influence one another, to build great places for people to live, work, shop, play and socialize. This guide will help us enter this new era.

These new guidelines should be formally adopted by elected officials. They supplement; they do not replace existing manuals. These guidelines are an important start to much broader thinking. Once these features are implemented around a number of schools, it is anticipated that others in the community will realize that many of these tools have broader community building applications.

The authors urge planning and engineering communities to build each of the pilot projects to become exemplary models. By paying close attention to how well each well designed and placed tool leads to the desired effect, and working to gain popular support by the majority who use these streets, these tools will prove their worth.

Street Treatments to Encourage Active Transportation

Crosswalk Markings

Crosswalk markings should be highly visible at all times. As a general rule, the higher the volume and speed of traffic, the more essential it becomes to use brighter, wider, more visible and durable markings. Parallel (to direction of travel) bars shown in these photos are often the best design, allowing motorists' wheels to traverse the lines without significant wear. Keep markings at least ten feet wide, and wider in higher speed locations, to aid visual detection. Markings are generally set so that motorist wheels track through voids, rather than over markings, lengthening the life and visibility of markings. Another helpful tool, especially in snow country, is grinding into the pavement about one-third of an inch, then applying either a commercial laminate or hot ceramic mix (which is being tested in Golden, Colorado, and may last the life of the asphalt or concrete). In an ideal world, both lateral lines and edge lines are used. People with visibility issues find it helpful to have a detectable edge. When possible, keep crosswalk markings close to the intersecting streets (not set back).

Cost: Affordable to Moderate. Typical range from $250 to $2,000. Costs vary widely based on the quality of paints, laminates, scoring/imbedding and other means to prolong the life and visibility of markings.

Benefits: Identifies best crossing locations, further defines intersections, slightly increases yielding behavior, and a helpful reminder to motorists of their duty to yield. If motorists do not yield, good markings make it easier to enforce traffic laws, which ultimately creates higher compliance of the law.

Details: Although a variety of crosswalk markings are available, the best are not fully discussed in standard engineering documents. Crossings need to be visible year round (as much as possible) and markings are typically used in conjunction with signing and good street lighting. School crossing signs are required in locations away from signalized intersections, and they are advised in many signalized locations. Crosswalk markings are only a beginning point. By maintaining low speeds near schools, motorist desire to yield increases.

Above left: High visibility marking. Above right: Additional markings are used for added compliance and complications. Note that crosswalk markings appear on a hill crest, where they are hard to detect. Give motorists a break by putting them on the alert to all crossings. Bottom: Ladder style, preferred for visually impaired.

Street Treatments to Encourage Active Transportation

Crosswalk Signs

Crosswalk signs should be visible at all times. As a general rule, the higher the volume and speed of traffic, the more essential it becomes to use brighter, wider, more visible and durable signing. The most recent version of the Manual on Uniform Traffic Control Devices (MUTCD), and other aids, should be consulted as a starting point. We provide supplemental and emphasis details and applications in this guide. When possible, "double sign" school signs on all approaches, as shown in the first two images to the right. This can be done when medians are used, and on narrower streets, by signing both sides of the street. Sign locations are important. Place signs (and lighting) together, and place signs where they are highly visible and where you anticipate crossings. There are a number of new enhanced signs that are believed to add to the effectiveness and compliance of motorist response. Some are shown here. We recommend that you "test" motorist behavior through careful observations, and, as appropriate, through your own "step out" surveys. Low yielding rates often indicate that higher level measures are needed. Engineering must go beyond even the best guides. Always observe and then customize your tools for desired results for each location.

Cost: Affordable to Moderate. Typical range from $250 to $2,000 each. Costs vary widely based on the quality of paints, laminates, scoring/imbedding and other means to prolong the life and visibility of markings.

Benefits: Identifies best crossing locations, further defines intersections, slightly increases yielding behavior, and they are helpful reminders to motorists of their duty to yield. Then if they do not yield, it is easier to enforce traffic laws, which results in higher compliance for law.

Details: Although a variety of crosswalk markings are available, the best are not fully discussed in standard engineering documents. Crossings need to be visible year round (as much as possible) and markings are typically used in conjunction with signing. School crossing signs are required in locations away from signalized intersections, and they are advised in some signalized locations. Consult the Manual of Uniform Traffic Control Devices for basic information, then be ready to exceed those guidelines for the desired effect.

Street Treatments to Encourage Active Transportation

Crosswalk Islands

Crossing islands are one of the best tools for simplifying the crossing of wide streets. Used with curb extensions, they also get pedestrians out beyond parked cars and beyond other visual obstructions. Crossing islands are used on all categories of streets, and they have their highest return on investment when they create more courteous yielding behaviors by motorists. Well designed crossing islands achieve yielding rates above 80%. Many other tools, like Rapid Flash Beacons, or raised crossings, or some other type of motorist alert, are used when it is necessary to increase yielding behavior. As a general rule, crossing islands are preferable to signal controlled crossings, due to their much lower installation and maintenance cost, reduced waiting times and their performance. Crossing islands are also used in conjunction with road diets, taking 4-lane, high speed roads down to better behaving 3-lane roadways. Crossing islands can also be used with signals (at intersections) and half signals (at midblock locations).

Cost: Affordable to Moderate. Typical range from $5-15,000 each, depending on width, complexity and other aids that may be needed for high levels of compliance. When signals are added, costs can be in the $30-60,000 range.

Benefits: Assists by simplifying street crossings, sometimes narrowing crossing exposure from 36-44 feet, down to 12 to 16 feet. Helps focus student crossing to those locations with the best sight lines. Helps alert motorists to crossing locations. Most commonly used on two-lane roadways with daily traffic volumes below 12,000 ADT. Volumes above 8,000 may require added tools, such as Rapid Flash Beacons.

Details: Crossing islands, like most traffic calming features, perform best with both tall trees and low ground cover. When curves or hill crests complicate crossing locations, median islands are often extended over a crest or around a curve to where motorists have a clear (6 second or longer) sight line of the downstream change in conditions. Lighting of median islands is essential.

Islands can be as little as 8 feet wide. Generally they are 20-40 feet long, but they can be longer. Adding slow growth ground cover and tall trees helps with the detection of the islands and crossings, and landscaping helps eliminate ugly "sign gardens" conventional engineers use to make certain drivers see the islands. The two streets have reduced numbers of lanes, from 5-lanes (above) and 4 lanes (below).

Street Treatments to Encourage Active Transportation

Raised Midblock Crossings

Raised Midblock Crossings are used between intersections, typically when blocks are long, or in other locations where speeds are higher than desired, or where sight distances are poor. Raised midblock crossings have many advantages, especially due to their ability to maintain speeds at 15-20 mph 24 hours a day. Raised crossings can be used in all climates, including snow country. The grade change is generally 1:16 to 1:20 when snow and ice are involved, but 1:12 in non-snow country. Color is often used. Trees and other landscaping are important for detection, and for added neighborhood acceptance. Features, such as bollards, paver stones, curb extensions, colorized concrete or colorized asphalt are often specified for added effect. Raised crossings are used widely in snow cities such as Golden, Colorado, Ft Collins, Colorado; Minneapolis, Minnesota and Cambridge, Massachusetts.

Cost: Affordable to Moderate. Typical range from $5-15,000 each, depending on length and quality. The more colors and materials (and effectiveness), the higher the cost.

Benefits: Assists people on foot by simplifying street crossings, sometimes narrowing crossing exposure from 36-44 feet, down to 12 to 16 feet. Helps focus student crossing to those locations with the best sight lines and lighting. Helps alert motorists to crossing locations. Most commonly used on 2-lane roadways with daily traffic volumes below 12,000. ADT. Volumes above 8,000 may require added tools, such as Rapid Flash Beacons. Can be used with higher volumes.

Details: Crossing islands, like most traffic calming features, perform best with tall trees and low, easy to maintain ground cover. When curves or hill crests complicate crossing locations, median islands are extended over a crest or around a curve to where motorists have a clear (6 second or longer) sight line of the downstream change in conditions. Lighting of median islands is essential.

Street Treatments to Encourage Active Transportation

Curb Extensions

Curb extensions are a nearly universal tool for school areas. In transforming overly wide streets, curb extensions (also known as bulb outs, elephant ears and nibs) bring down right turning speeds, identify important crossings, and make it much easier for motorists to see children and for children to see motorists. When used in a series, curb extensions can significantly bring motorist speeds to acceptable levels. Curb extensions can be used at intersections, midblock, inside of parking strips (tree wells) and other locations. Although many curb extensions are kept plain in appearance, at the entry to a neighborhood they can be landscaped to serve as a attractive gateways. Although there are many benefits to curb extensions, they greatly reduce crossing distances for overly wide streets. In an ideal world, students would not be asked to cross more than 20-26 feet.

Cost: Affordable to Moderate. Typical range from $3,000 to $30,000 each. Costs vary widely based on if the curb extension is attached to the curb, interrupting drainage, or left unattached, raising maintenance costs. Each community must decide construction cost versus maintenance costs.

Benefits: Slows motorist speeds at most important locations, especially at intersections, opens up sight lines for pedestrians to see motorists, and for motorists to see pedestrians. In some cases, curb extensions can become rain gardens, and otherwise reclaim non-essential road space, reducing crossing distances for vulnerable road users. The cost range of curb extensions is wide, largely due to a practice to either attach or leave the curb extension unattached to curb lines.

Details: Apply truck turning templates when designing curb extensions. On low volume side streets it is suggested that oversized vehicles be permitted to cross over the street center. Many designs apply. All efforts should be made to make streets feel narrower, and to "read" slower.

Today experienced traffic engineers know that both slow growth ground cover and trees enhance road safety. Well landscaped curb extensions are often seen on approach 500 feet before intersections, keeping speeds low for longer distances. Use of landscaping has proven to be helpful in bringing down both speeds and crashes.

Street Treatments to Encourage Active Transportation

Mini Traffic Circles

Mini Circles are one of the most popular and effective tools for calming traffic near schools. These inexpensive features do not interrupt drainage. They are the most affordable tool for bringing speeds under control. Mini-circles work outward from intersections on all three or all four legs of approaching traffic. Mini-Circles bring speeds down to levels where motorists are more courteous to pedestrians, they allow all types of turns, including U-turns, which can assist with school area traffic management. Mini-circles are popular in many neighborhoods, due to their ability to create a park atmosphere. Over 1,200 mini-circles are in place in Seattle, where they have reduced crashes 93%, and personal injury crashes 99%. Mini-Circles also work well in snow cities, such as Missoula, Montana. A common engineering mistake is to put in four way stops. This is a poor practice that leads to disrespect. Mini-circles require yielding behavior, not stopping behavior.

Cost: Affordable. Typical range from $8-35,000 each. Less expensive if built as new construction. More expensive mini-circles are designed as large gardens, or built in large intersections.

Benefits: Brings speed and crashes down in all directions to 5-18 mph. Most commonly used on roadways with daily traffic volumes below 8,000.

Details: It bears repeating, Do not use Stop signs with mini circles. Mini-Circles are designed to keep traffic flowing, quietly and effortlessly, at low speeds. Mini-circles work best in many communities when not signed at all. When signing is necessary use Yield signs and Yield markings. Sometimes a simple directional arrow is used. Use with Landscaping, especially tall trees (under- trimmed to 7 foot), and use low ground cover (typically with low maintenance xeroscape or native plant materials). Landscaping helps. The further out the mini-circle is viewed the greater the safety benefit. Trucking turning templates are not used. Large (oversized) vehicles, such as emergency responders, make left hand turns the way they do today, going left across the face, when there is no approaching traffic.

Street Treatments to Encourage Active Transportation

Intersection Chicanes

Intersection Chicanes involve two curb extensions on one side of the intersection, and a median on the opposite side. This combination of treatments brings the motorist toward the center, then brings them back toward the side. This resulting deflection path bring speeds down to the desired level of 15-20 mph. All raised areas become gardens for the neighborhood. Both sides of the intersection are narrowed, minimizing crossing distance and time. As a general rule the side with curb extensions is narrowed to 20-26 feet. Chicanes can be used on streets with volumes as high as 12,000 ADT. Use of intersection chicanes eliminate the cost of going to more expensive traffic signals, or noisy and problematic 4-way stop controls. These treatments are preferred by emergency responders and transit providers to more intrusive four way stops and raised crossings.

Cost: Affordable to Moderate.
Typical range from $15,000 to $45,000 each. Costs vary widely, based on if curb extensions are attached to the curb (interrupting drainage) or detached (creating a higher maintenance cost.

Benefits: Assists by simplifying street crossings, sometimes narrowing crossing exposure from 36-44 feet, down to 12 to 16 feet. Helps focus student crossing to those locations with the best sight lines. Helps alert motorists to crossing locations. Most commonly used on 2-lane roadways with daily traffic volumes below 12,000. ADT.

Details: Intersection chicanes, like most traffic calming features, perform best with both tall trees and low ground cover. When curves or hill crests complicate crossing locations, median islands are often extended over a crest or around a curve to where motorists have a clear (6 second or longer) sight line of the downstream change in conditions. Lighting of median islands is essential.

Street Treatments to Encourage Active Transportation

Raised Crossings

Raised Crossings are not only used in midblock locations, they are used at intersections. They can be used in right turn channelized island, or in regular intersections (see photo examples). Crossings are designed to restrict all through speeds to 15-20 mph 24 hours a day. Raised crossings at intersections can be used in snow country. The grade change is generally 1:16 to 1:20 when snow and ice are involved, but 1:12 in non-snow country. Color is often used. Features, such as bollards, paver stones, curb extensions, colorized concrete or colorized asphalt are often specified for added effect. Raised crossings at intersections are used widely in snow cities such Stamford, Connecticut and Cambridge, Massachusetts.

Cost: Moderate. Typical range from $10-20,000 each. Benefits: Reduces speed and brings crashes down to 12-18 mph. Most commonly used on roadways with daily traffic volumes below 12,000 ADT, they can also be used in select locations with higher volumes.

Details: Best used when roadways are overly wide and when there is a desire to bring down speeds. Raised crossings at intersections are often used to accent an especially important crossing leg and to control both through traffic speeds, and turning speeds. Crossings are ideal for school entries, and they are used on school properties, especially on entries to parking lots. Both the detection of the raised crossing and the slowing effects are enhanced when different colors, and International Yield pavement markings are used.

Street Treatments to Encourage Active Transportation

Raised Intersections

Raised Intersections are used at intersections where roundabouts or mini-circles are not functional or practical, and where speeds need to be brought under control. They are different from raised intersection crossings, since they cover the entire intersection. This raises their value and cost considerably. Raised intersections are best constructed as new schools are built, but they can be applied to existing street sections. Raised intersections can be expensive, due to their potential to interrupt drainage. Meanwhile, they have many advantages to maintain speeds 24 hours a day. Raised intersections can be used in snow country. The grade change is generally 1:16 to 1:20 when snow and ice are involved, but 1:12 in non-snow country. Color is often used. Features, such as bollards, paver stones, colorized concrete or colorized asphalt are often specified. Raised intersections work well in snow cities such as Minneapolis, Minnesota or Cambridge, Massachusetts.

Cost: Moderate to High. Typical range from $60-125,000 each.

Benefits: Brings speed and crashes down in all directions to 10-15 mph. Most commonly used on roadways with daily traffic volumes below 20,000 ADT, although new treatments include volumes of 23,000.

Details: High emphasis crosswalk markings are used for added to raised intersections for added slowing effect. Note the crossings are kept above the change in grade. Raised intersections are often used with curb extensions. Planed in advance on new construction drainage is addressed at the base of the crossing grade. Use of colorized concrete, or pavers helps achieve an added slowing effect. Raised intersections can be used with signalized or non-signalized intersections. International yield lines are added for greater emphasis.

Street Treatments to Encourage Active Transportation

Short Medians

Short Medians are similar to Mini-Circles, and they help bring down speeds near schools. Short medians are placed away from intersections, but they can be located near driveways. These inexpensive features do not interrupt drainage and they have many other advantages. Short Medians bring speeds down to levels where motorists are more courteous to pedestrians, they allow U-turns, which can assist with school area traffic management. Short Medians also serve as gateways, where they announce arrival at an important location, such as a school. They help put motorists on greater alert. They work well in snow cities, as well as more temperate climates.

Cost: Affordable to Moderate.
Typical range from $12-25,000 each.

Benefits: Brings speed and crashes down in all directions to 10-15 mph. Most commonly used on roadways with daily traffic volumes below 2,000.

Details: Short medians are generally used with attractive low ground cover and lighting, but overhead lamps can also be used. Use with Landscaping, especially tall trees (under- trimmed to 7 foot), and use low ground cover (typically with low maintenance xeroscape or native plant materials). Landscaping helps bring down speeds from distances as far out as 500 feet. The further out the short median is viewed the greater the safety benefit. Dis benefits: Requires the removal of on-street parking for 100-150 feet.

Street Treatments to Encourage Active Transportation

On-Street and Inset Parking

On-street and inset parking visually narrows streets and brings down traffic speeds, while providing the most sustainable and affordable parking. Speeds are brought down even more when tree wells are used to provide canopies in the street. Since it already has its own turn radii into each spot and provides access, on-street parking only takes up one-third of the amount of land as off-street parking. But the primary reason for maximizing parking on street is to help civilize streets that were overbuilt for speed.

Cost: Affordable to Moderate. Typical range from $5-10,000 per parking space, which is similar to the cost of off-street parking.

Benefits: Slows traffic speeds while maximizing the use of streets.

Details: Parking lanes are typically nine feet wide and fifteen feet deep. When streets are overly wide, adding on-street parking helps reduce the overall width of the street while bringing down travel speeds. Angled parking stores the maximum number of cars. When "head out" angled parking is used parking can be provided in even tighter locations.

Street Treatments to Encourage Active Transportation

Bike Lanes

One of the most cost effective ways to reduce speed while improving overall vehicular flow and creating improved conditions for bicycling and walking, is the conversion of overly wide roads to bike lanes. Generally, travel lanes can be reduced to 10 feet. On multiple lane roads this often allows a shifting of lane width outward, then conversion to bike lanes. There are 22 benefits to bike lanes, and only 2 of these benefits are exclusively for bicyclists. All other benefits are to all users of the roadway. Narrower travel and storage lanes on all functional classification of at grade roadways are proving to be slightly safer, or as safer as wider lanes. Motorists appear to become slightly more attentive when lanes are narrowed from 11-12 feet. With higher than average truck or heavy bus flow, wider outer lanes can be incorporated. Engineering judgement applies.

Cost: Affordable to Moderate.
Typical range from $3-10,000 per mile, includes signs and markings. Higher costs are for more visible markings, and higher grade material, which generally has a longer maintenance life.

Benefits: Few other changes to a roadway offer more benefits than adding bike lanes. Motorists benefit from added turning radii and improved sight lines. Bike lanes create added border width to fixed objects, separate motorists from sidewalks, allow for added operations, reduce the unravelling of the roadway edge, and provide other maintenance benefits.

Details: Bike lanes are marked at 5-7 feet in width. Bike lane lines are marked at 6, 8 or 10” in width, to create added slowing effects to motorists. Bike lane markings are added, along with signs.

Street Treatments to Encourage Active Transportation

Signalized Intersections

When intersections become so complex and challenging that signals are added, there is often ample justification to go beyond conventional standards to address the needs of people walking and bicycling. Quite often, engineering technicians are trained only to maximize the flow of vehicular traffic. Too often, the movements of other people are overlooked. As a result many people on bike or on foot are not detected, their needs are not fully addressed, or they are made to wait lengthy periods. Many people "learn" to find ways to avoid crossing at intersections. This is wrong, and the practice of overlooking pedestrians and bicyclists should be recognized as outdated, single mode, thinking. There are many steps to take. Here are a few of the most common:

- Set "Walk" signals for crossing minor streets to always recall to "WALK". In addition, set signal timing so that the walk interval is as long as feasible for the green time in the concurrent vehicle phase.
- Use the same practice on major street crossings, continuing to pay attention to special vehicular needs during peak hour flows.
- Use countdown signals on a soft replacement basis, and start with high priority walking locations, such as schools, important transit stops, plazas, parks, medical centers and town centers.
- Eliminate Right-Turn-On-Red (ROTR) if motorists are not using appropriate levels of care. Consider "pedestrian lead intervals" to step pedestrians out first, when high pedestrian counts, problems with turning motorists or other conditions warrant this phase.
- Use enhanced crosswalk markings, and bold stop bars to better identify crossings and to keep motorists out of crossing areas.
- Remove push button controls from people rich locations (unless these buttons activate signals on a recall demand).
- Generally, strive to recall signals on a frequent basis to minimize wait times for pedestrians. Full cycle lengths of 60-90 seconds are best. If this cannot be done during commute hours, see if this can be achieved in off-peak hours.

Cost: Highly affordable. Typically all costs are covered under normal maintenance, operations and staffing budgets. In many cases county or state agencies must be contacted to make changes. Training local technicians may be needed.

Benefits: Intersections are critical if walking, bicycling and motoring are to work, and work together. As signalized intersections are made equitable to all modes of travel more people will walk and bicycle. People who cross at intersections are more predictable. Drivers appreciate predictable and compliant behavior. The engineer has an essential role to play if high levels of compliance are to be achieved.

How to Do It: Codes to Create Traditional, Walkable Communities

Most land-use codes were written at a time when U.S. cities had an abundance of land, water, clean air and other resources. We assumed continued availability of these resources, as well as financing, which led communities to construct poorly connected and outwardly expanding light-density development, street networks and other inefficient infrastructure. As a result, land uses were separated – sometimes by miles – and urban areas were allowed to decay.

Today, we have a better understanding of the limitations of our available resources. Roads, bridges, sewers and water lines that are now failing, need to be replaced or refurbished. Doing so will be two to eight times more expensive than if we had stayed current with maintenance.

As we make "brick and mortar" changes to the physical infrastructure, we also should update the policy infrastructure, including land-use codes, to foster more livable, walkable communities. Existing codes promote poor connectivity, which leads to higher dependence on cars – and even greater strain on infrastructure. Facing high gas and energy costs, residents are ready for change. But it will require more than Band-Aid solutions. Metaphorically speaking, we're talking surgery and radical changes to get our towns back to good health.

Toward Change: Mix Uses and Connect Streets

Walkable and livable communities can't develop without transit, dense development, mixed land uses and strong street connectivity. Most existing codes do not tolerate - let alone encourage - such forward-thinking development. Instead, codes have generated misplaced development, forcing residents to get into their cars and leave their neighborhoods to access basic services. Progressive developers, planning board members, architects and others have seen the need to embrace a better system, one that promotes sustainability, eco-friendly practices, walkability and transit-friendly design.

Unfortunately, their efforts have been slowed by outdated code and regulations. A number of cities throughout the country have even drafted visionary plans. However, too often these plans are relegated to back shelves as leaders and planners grapple with code-related challenges. The question is: How can we shape codes to encourage better development? The first step is to develop a process that is inclusive, comprehensive and clear.

1. Fully engage all stakeholders to develop a vision. Enlist both the general public and the development community in the process of creating new code that supports smart, complete and predictable standards for development. Include stakeholders with differing opinions to help create a vision that is holistic, practical and collaborative. Broad support will provide the necessary political shield for leaders to write, adopt and enforce new codes that promote sustainability, green design, active living and livable communities.

***Envision Gulf Shores**: Gulf Shores in Alabama has an existing vision plan and a land-use plan that are a good start to supporting active living. The plans should be re-visited and updated, if needed, or further implemented.*

2. Understand that many factors affect the built environment. New proposals should address all of the factors that can influence design standards, not just the obvious ones. For example, tenant expectations shouldn't be an afterthought.

3. Create a master plan that clearly communicates the development expectations. Standards that are clear, concise and predictable are more likely to be accepted and to succeed. In fact, predictability is the developer's friend. Standards must be highly graphical and easy to understand for both builders and regulators. Programs should be reviewed and evaluated yearly, and amended as appropriate.

Seek Examples of Success

A municipality doesn't need to change its entire book of codes overnight. In fact, it's probably smarter to make changes incrementally.

For example, the central Florida city of Eustis, like many small towns, has taken the time during this latest market lull to "right the ship." While reviewing the city's land-development regulations, city leaders recognized the need for a downtown vision and began a concurrent vision plan driven by the public. They have found a common language in creating walkable streets, balancing automobiles with pedestrians and alternative modes of transport, and melding land-use decisions with transportation goals. They have adopted new form-based codes with district design standards, block developments, typical streetscapes and a vision plan to focus future development.

When the market recovers, Eustis will be prepared to receive development as part of a community vision that will result in a more sustainable, vibrant and livable city.

It is admirable that so many communities throughout the country want to promote walkable, livable communities. The next step is for governments, residents, developers and planners to work together to make this a reality. It's time to throw out archaic codes and create new rules that foster smarter - and healthier - growth.

Over time, buildings in the town centers should front the streets. New buildings, or adapted buildings, can provide important added presence of people in the downtown. Many sidewalks have fallen into ruin. While investments in streets are behind the times, support systems for walking are less than 20 percent of investments needed to support this mode of travel. Communities need to make an ongoing investment in walkability infrastructure.

How to Do It: Traffic-Calming Roundabouts

Brighton, Michigan's roundabout handles 21,000 vehicles per day. Roundabouts facilitate through-traffic and turning movements without requiring signal control. Roundabouts are made up of a circulating roadway with an island that is often used for landscaping or other decorative features. The circulating roadway is typically wider than the approach roadways and features an additional 'apron' against the edges of the island; both of these features allow for fire trucks, ambulances and other large vehicles. Roundabouts increase intersection volume by up to 30 percent. As the only requirement for yielding the right-of-way is to traffic already in the circulating roadway, vehicles can continue moving through intersections carrying a light volume, requiring no queue at the approach roadways and potentially allowing all intersecting streets to use the intersection at once. Due to their low speed (15-20 mph in and out, roundabouts also reduce personal injury crashes by 80 to 90 percent. Roundabouts reduce delay, which reduces idling engines, air pollution, noise and lost time. Roundabouts provide safer and more comfortable pedestrian crossings. Splitter islands serve as a pedestrian refuge. Allowing one car length between the crossing and circulating lane(s) optimizes roundabout efficiency for vehicles. Roundabouts reduce conflicts in multiple ways: when crossing, pedestrians face only one potential conflict (traffic either entering or exiting the roundabout, divided by the splitter island), and not the six conflicts per crossing leg in full-crossing intersections. In properly designed roundabouts, all conflicts are at low speeds for both entering and exiting traffic (15-22 mph). Roundabouts also create the least delay to pedestrians wishing to cross a street. Instead of waiting for up to two minutes to cross (common with a signal), the pedestrian reaching a roundabout rarely has more than a 2-8 second delay for each leg that they cross. Most bicyclists circulate with traffic (since it is now going their speed).

By helping re scale a roadway, roundabouts help set the stage for more successful retail trade and social life. The roundabout below transformed an ugly strip street in Golden, Colorado, into a much better proportioned street. Four roundabouts were built; all signals were removed. One surprising result: retail trade in the corridor outperformed all other streets in Colorado during the last recession.

Top photo, Holland, Michigan. Bottom photo, Orlando, Florida. Both mini-circles manage traffic quietly, maximize on street parking by bringing speeds down, and offer attractive corners in the commercial districts they occupy. A mini-circle or two on key streets on gateway approaches to town, in downtowns and other locations will add charm, beauty and movement. Mini-circles are low cost and attractive traffic management tools that can be easily designed and installed. Although costs can be as low as $15-25k, much more attractive circles are recommended for a number of historic roads where speeds are too high. A cost range of $75-125k would be appropriate for central locations, while modest price circles can be used elsewhere in the community. Mini-circles reduce the potential for crashes by 90%. Yield controls are used on all approaches. Seattle, Washington has placed over 1,000 mini-circles.

Roundabouts with Right-Turn Bypass Lanes

The addition of street network and roundabouts help to keep traffic flowing, but keep it flowing slowly, which creates a better environment for pedestrians and cyclists. In some areas, roundabouts should have right-turn bypass lanes, as illustrated below. The top images are of a roundabout in Boulder, CO and the bottom image is of a roundabout leading to the Charlottesville, VA airport.

Success Story: Roundabouts and Crossings

Communities can draw inspiration from Bradenton Beach, Florida, where this state road previously exposed pedestrians to high speeds at this crossing. On average, one pedestrian was killed each year. Walking for exercise, pleasure or transportation was suppressed. Following the construction of the roundabout, all crashes disappeared, and a new stage was set for mixed use development. After fourteen years of operation, there had been no reported crashes of any type. New economic life has set a mood of prosperity to the entire shopping district. Today, there is an abundance of pedestrian life.

How to Do It: Crossings

Principles: Crossings should be well placed, located where there is a strong desire to cross, where sight distances are good, where speeds are low. Shown on these pages, the use of materials to create attractive streetscape features add beauty, function and place. Each functional part (i.e. parking, crossings, curb extensions, lane narrowing) should be designed to add to the charm, aesthetics, character and integrity of the street. Following European examples, virtually all street traffic operations signs can be removed, once the street "reads" correctly, that speeds are to be low, courtesies toward people high.

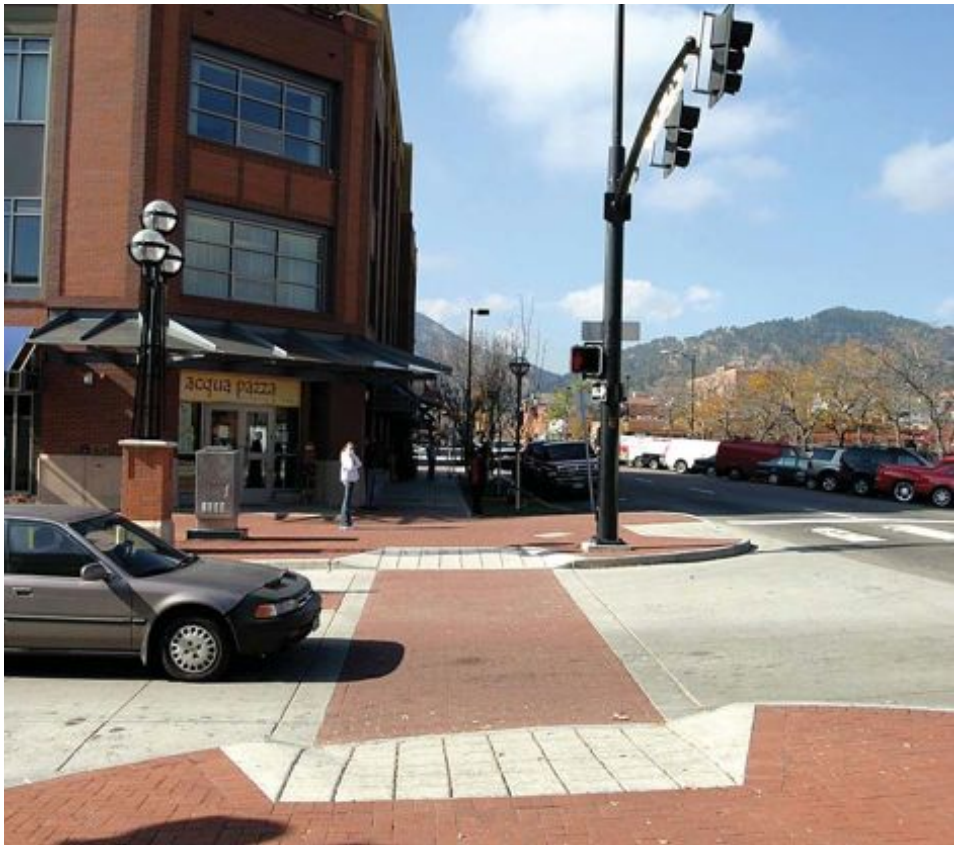
This Golden, Colorado crossing makes use of several important principles, the street is narrowed (to sixteen feet of asphalt, with another 2 feet in each valley gutter).Growth of ground cover (keep trimmed to 20-28 inches) and tall vertical trees, in time, will complete this crossing. This road was once 40 feet wide. Today parents feel comfortable having their children make crossings along a popular park and trail.

Use high-emphasis markings. A new approach is being used (noted in the center photos) with paving ground down about 1/3rd of an inch. A hot ceramic mix is poured in, then reflective glass beads are settled on top. This anti-slip design is expected to wear well and outlast the life of the road surface. If desired, crossings can also be raised. This raised table has a 1:16 gradient change.

Tools used to slow traffic and help people cross streets.

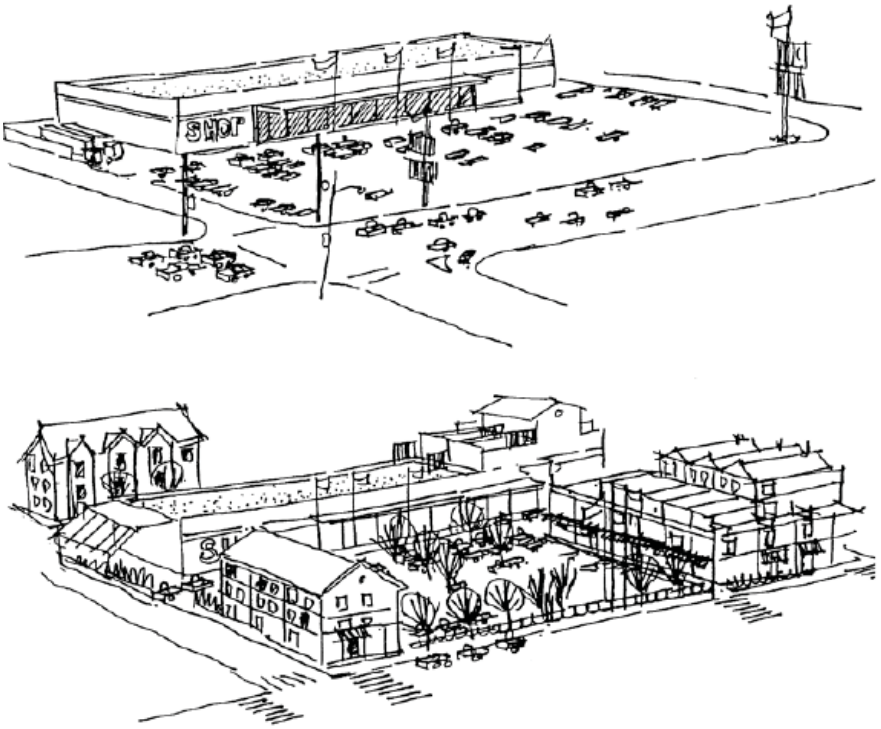
If space exists where some crossings will be warranted, then a median island can be added. This is a former four-lane road, in Olympia, Washington. With medians pedestrians are only exposed to one direction of moving traffic at a time. Medians should have both ground cover and trees to make them more noticeable to motorists from greater distances. Use of these features slows speed, then draws attention to the crossing.

Additional tools can be used to aid pedestrians in crossing streets safely. Curb extensions reduce crossing distances. Landscaping helps channel pedestrians to ramps. Using two ramps per corner simplifies crossings. Color contrast is an aid for older pedestrians and pedestrians with visual problems. Count down timers are now recommended as a soft replacement for all urban area signalized crossings.



How to Do It: Convert Suburban Strips to Village Centers

The conversion of a strip to a village center starts with taking critical corners and placing urban buildings there. These new buildings help size and shape the importance of the corner and the corridor. In time, well placed buildings are joined together to create vertical walls that provide character and community. This works in small scale hamlets to larger scale shopping districts. Illustrations here show how the new visual qualities help dampen traffic speeds. Buildings start the critical process of "enclosing" streets, giving them a feel of "place" and importance. The two photos below illustrate the importance of architecture and town form in controlling the speed of roadways. There is little more than engineers can do in the bottom image to control speed. Meanwhile, careful, thoughtful, placement of buildings and placemaking brings speeds, and therefore development opportunities alive.



Shown to the right is a correctly assembled urban block, and below it a conventional suburban block. Note how the suburban strip image is unappealing for walking (or even driving), and hastens motorists through a space. This increases the potential for speeding. Thus, poorly designed buildings and block patterns impact business life and people multiple ways.

Correctly designed and placed urban form is necessary to help heal downtowns or other places where people are to spend time and money. Unless code calls for an urban form, do not expect such development. It costs more, but it produces more. Urban mixed-use development typically yields $25-60/square foot, while single-use commercial zoning built to suburban models yields only $5-15/ square foot.

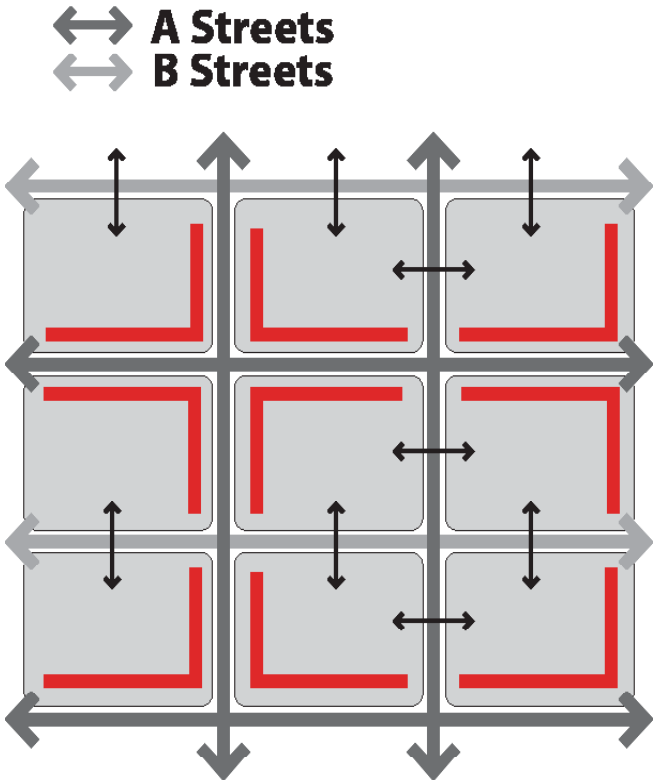
Suburban influences in town centers can be replaced over time. A partnership between private and public land holders can result in scenes that look much like these, and even better.

Public streets form and frame so much of our public realm that by emphasizing speed of cars, we destroy character and sense of community. Once streets are rebuilt for lower, but steady, speeds, it is possible to provide new, mixed use buildings that create a sense of place, character and arrival.

As these transitions occur land can increase in value from $5-15/sq ft to $35-60/ sq ft. Scene to the right: In time either the entire mall can be replaced, or a portion in the middle can be taken down to create an attractive pathway that invites a direct route to street shops.

How to Do It: From Placeless to Place, Convert "B" Streets to "A"

The illustration to the right emphasizes those streets (outlined in red) that are "A" Streets. "B" Streets in the illustration are not highlighted with red. These can be alleys, or any type of a utility street.



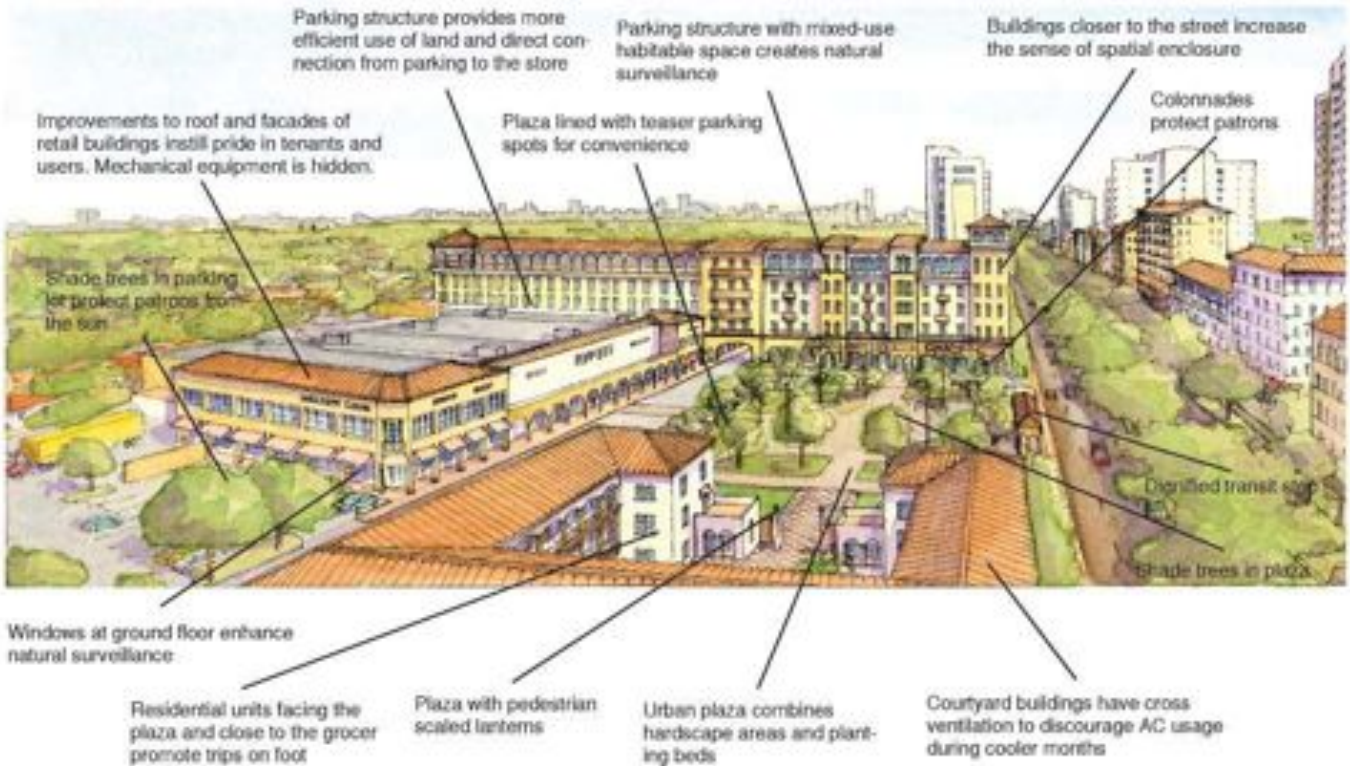
In the two photos at the bottom of the page, it is clear that two developers were involved. To the right, the developer privatized the neighborhood. Even though the developer was required to install sidewalks, the wall ("B" treatment) assures that no one will walk here. In contrast, across the street, another developer "honored the street" by placing "eyes" to the street. In this case the street is being treated as an "A" street. Town codes must stress that if people are to walk to destinations, a series of "A" streets must be created, and developers cannot put back yards to these important streets.

Of course, it is more complicated than that. If the city, or state wants to use the collector as a higher speed conduit, void of trees and other place, developers will find it hard to sell homes along the street. The street is the core tool for creating successful neighborhoods, security and a desire to walk.

In the photograph above, the functional use of a street is defined. Places where people want to walk are "A" streets (where buildings are designed to watch over the street. Meanwhile a series of "B" streets are needed to provide for utilities, deliveries and other internal functions. For the most part, people will not walk along "B" corridors.

Meanwhile, the above "B" street performs quite well for people who live here or make deliveries here. In the next row of images, a street not designed for walking (middle left) can be transformed into an "A" street which watches over parks, schools or corridors where continuous walking trips are important.

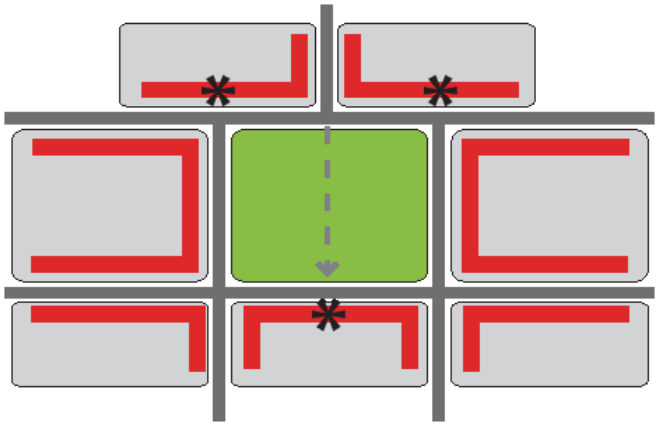
Right and above photos: This suburban style "B" street is transformed into the image below, changing the function of the street into an "A" category. In recent years, teams of planners, engineers, architects and landscape architects have made transitions allowing areas to become alive and active. It often takes more than one discipline to do this. Indeed, those areas that do not transform well are areas where people do not understood multiple functions needed in corridors.

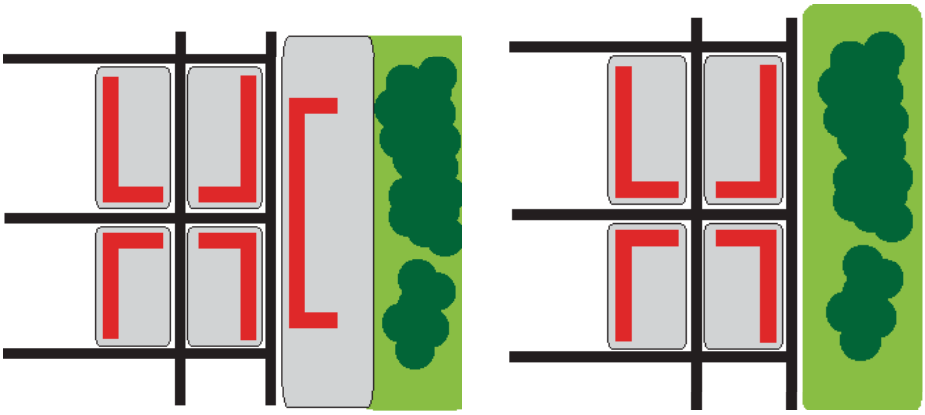


Optimizing Your View and Increasing Social Interaction and Social Equity

When terminating views guide the human eye down a street, several important things happen. The iconic building, mountain or lake vista provides an attraction that draws the person toward the destination, just as an anchor store does in a mall. The terminal point also reduces the tendency to speed, since motorists realize their journey will be interrupted. The terminating vista also acts as a navigational aid.

To maximize the value of land, the destination property (park, lake, plaza) should have a well designed, quiet and attractive street running parallel to it. The more sides that have access, the more valuable the land becomes. Other streets need to lead up to this perimeter street and connect with it. In some cases, a well designed trail acts as the "street" enabling people to walk or bicycle comfortably along the water's edge. In no case should a stream, river, lake, park or even school yard feel privatized through absence of access.

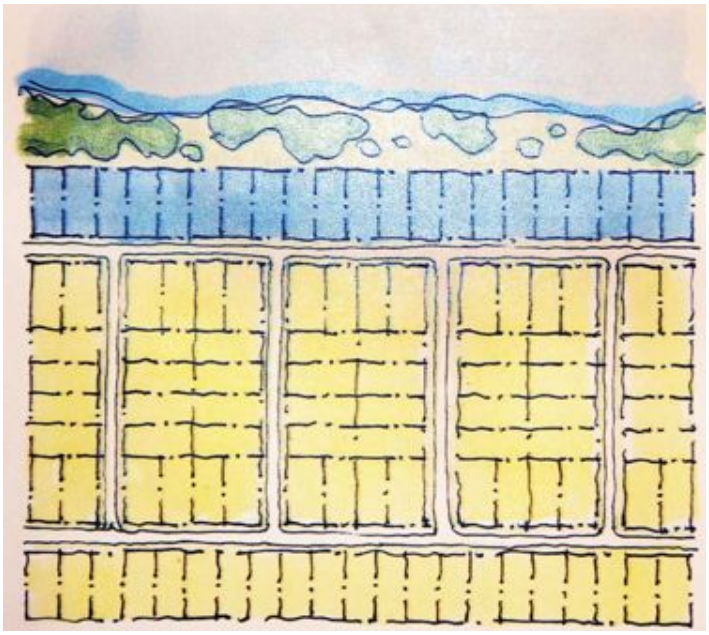




In these illustrations, the red lines represent the edges of adjacent properties that have access to the amenity.

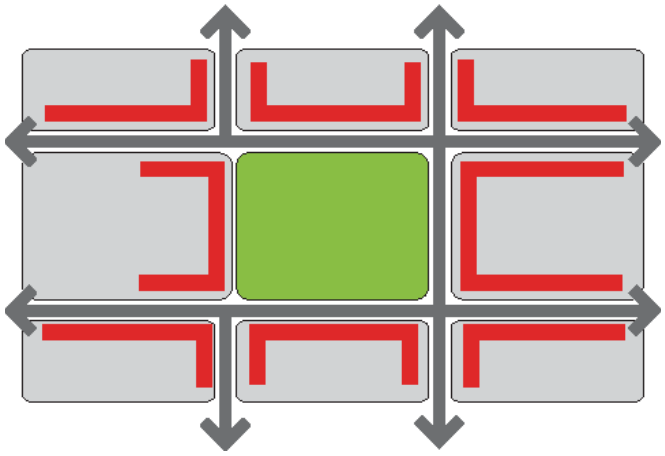
On top, connected streets provide the highest access to the amenity, support social exchange, reduce crime rates, and increase land values.

Below, disconnected streets privatize the amenity, decrease walking, and increase potential for property and personal crime.

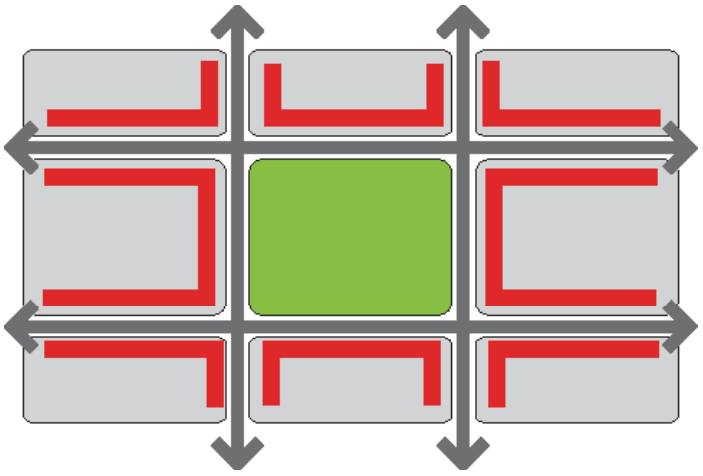


Privatized -- Wrong Way. *The above layout of streets privatizes the lake. Although homes along the shoreline may hold a 10% higher sale and resale value, the amenity, which should belong to the entire community, is now inaccessible to others. Even if a small beach front is accessible at some point, the overall value of homes going 2 to 10 blocks deep are devalued. The developer makes less money on total property values, and the community suffers from reduced social interaction.*

Public Access -- Right Way. *This alternative design maximizes access to the neighborhood feature (lake, park, school). As access is increased, the number of walking and bicycling trips increase, there is less need for expensive and environmentally damaging parking lots, and the development community makes a greater return on investment. In the scene to the left, the project may not "pencil out" once all associated utilities, street and other costs are worked out. With higher values, the project is more likely to be viable.*



Wrong Way. *Streets do not connect on the left hand side. The above layout of streets breaks street connectivity and privatizes the park. This reduces access to the park. In a small park, this gives the park user the feeling that they are in someone's yard. Since the property often has its back to the park, it reduces the "eyes" on the park and creates an increasing risk that the park will not be used fully. Reduced park use, in turn, invites crime in the park and to adjacent property owners. Low park use also reduces property values.*



Right Way. *This design maximizes connectivity and access to the park, square or plaza. By placing more activity along the park (walking, bicycling and driving) the park becomes more interactive and better used. Ideally, all streets surrounding the park will have either parallel or angled parking, thus minimizing the amount of park land that must be devoted to parking. This also lightens the environmental damage, since on-street parking takes up only 1/3rd the amount of space as off-street parking.*

How to Do It: Complete Streets

Major streets with moderate to high volumes of traffic should be transformed into "Complete Streets." Bike lanes, bike trails, sidewalks, streetscaping, curb extensions, mid-block crossings and other tools are applied.

Traffic calming and traffic management techniques should be used. On-street parking can be striped, curb extensions, tree wells and medians can be added. Such improvements not only bring down speeds, they improve town centers and connect streets by reducing noise and perceived danger.

Most principal streets should have lanes narrower than today, especially when combined with bike lanes. Bike lanes add a buffer to parking and sidewalks. There are 22 benefits when bike lanes (or paved shoulders) are added.

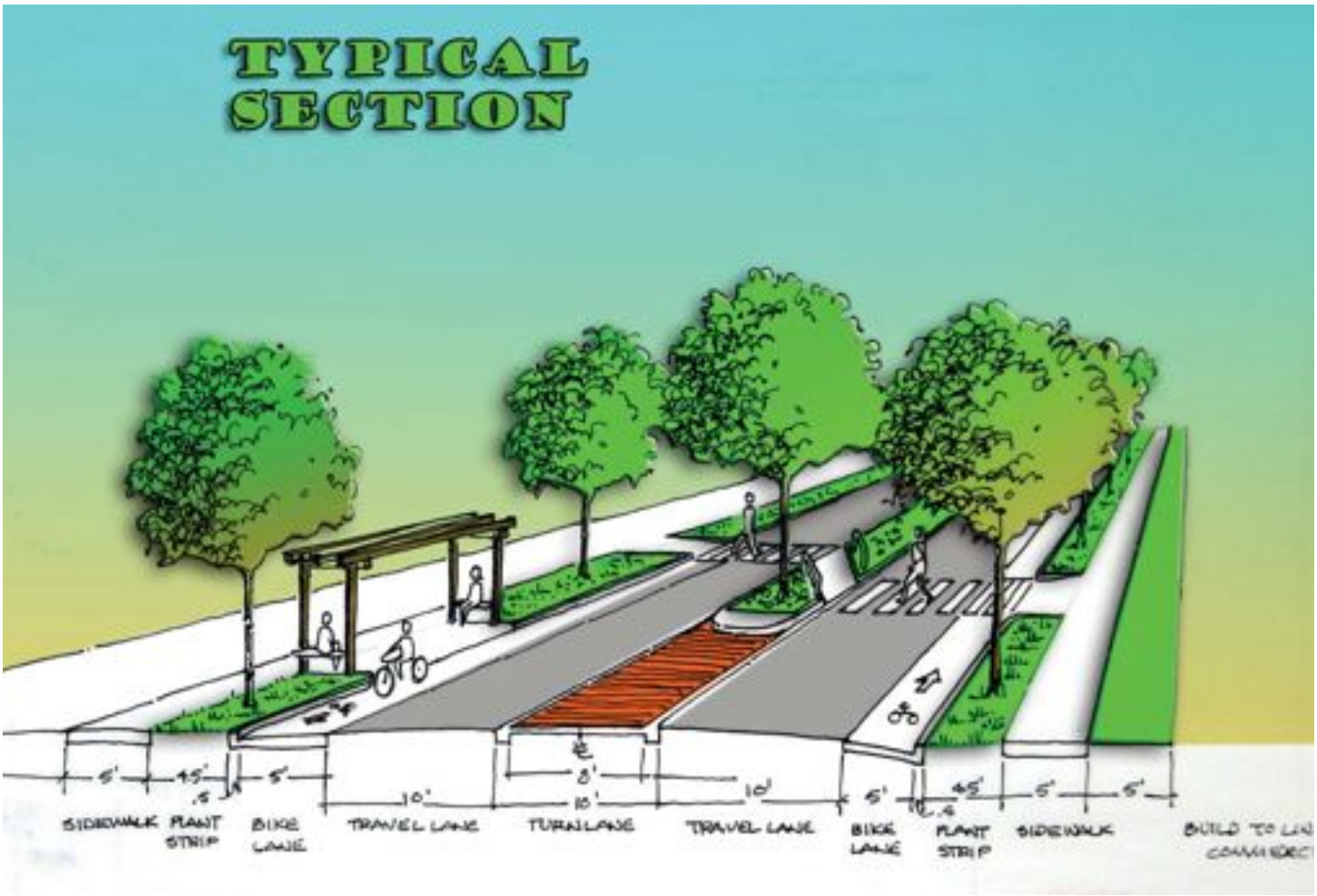
Sidewalk construction and maintenance should be greatly improved, especially within 1/4 to 1/2 mile of town centers and schools.

ADA ramps (Universal Design) need attention in many locations.

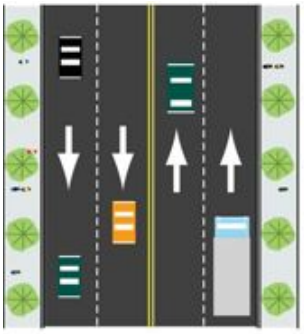
Above and below: Example of a two lane road with a median, inset parking, one ten foot wide lane in each direction and bike lanes. A roadway based on these concepts can move up to 20,000 ADT (if used with roundabouts at key intersections). If roundabouts are not used, more lanes are added at intersections for storage and turns at key intersections -- not the entire section.

(Photo: Issaquah Highlands, Issaquah, Washington)

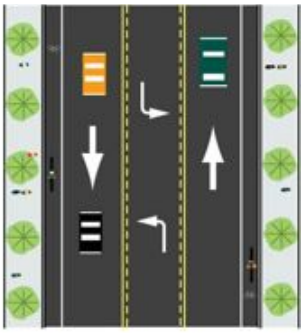
Complete Streets vary in design based on the type of street involved, speed and volume, block form, whether parking is needed or not, climate, demographics and other factors. These sections illustrate a number of desired features, including support for walking and bicycling along streets, and the ability to cross over. Trees are generally spaced each 15 to 30 feet. Minimum dimensions for an environmentally friendly street are provided in the bottom illustration. A center turn storage lane of ten feet, two travel lanes of ten feet each, two five foot bike lanes (using an extended gutter pan that is saw cut for joints, two planter strips of 5 feet each and two sidewalks of five feet each can fit inside a 60 foot right-of-way.



How to Do It: Road Diets



BEFORE
Road Diet Conversion



AFTER
Road Diet Conversion

WHO

Typically implemented by city, county or state transportation agencies, road diets help achieve the policies advocated for by Complete Streets (www.completestreets.org), Smart Growth America (www.smartgrowthamerica.org), and many other national, state and local groups seeking a safer, more walkable and livable community for road users of all ages and abilities.

WHAT

A road diet involves eliminating travel lanes on a roadway to improve safety for pedestrians and bicyclists. While there can be more than four travel lanes before treatment, road diets are generally conversions of four-lane, undivided roads into three lanes—two through lanes plus a center turn lane or median island. The fourth lane may be converted into a bicycle lane, sidewalk, planter strip for street trees, a bus stop, a separated multi-use trail, a wider outside lane and/or for on-street parking. Rural areas might add wider shoulders for bicyclists, roundabouts near a town – especially as a gateway treatment - or separated multi-use trails. In other words, based on the surrounding land use and travel speeds or context of the road, the street cross section is reallocated.

WHERE

Lane and Road Diets can be successfully implemented on collector and arterial streets, main streets, commercial corridors, or town centers; on any street that is over-designed to give priority to the motor vehicle; and in areas where there is greater need to provide for multi-modal travel.

WHEN

Context is the key to a successful lane or road diet, Complete Streets, and Smart Growth. The objective of any design change should be to match the roadway environment with the actual roadway function.

Candidate roads will usually have an ADT (Average Daily Trips) of less than 20,000 to ensure minimal effects on vehicle capacity, although successful road diets have been performed with volumes reaching 30,000 ADT and the roadway did not reach the most congested condition of LOS F (a level-of-service failing grade.) Ideal roads are in need of mitigation to reduce traffic conflict, crashes, and to slow down vehicles, and are in

areas that wish to encourage economic development, address parking circulation, improve streetscapes, and create safer roads.

WHY

The benefits of road diets are numerous: they improve road safety for users of all ages and abilities, whether they travel by foot, wheelchair, bicycle, stroller, or motor vehicle; create a welcoming community environment; and help to solve some of our more pressing public health issues such as reducing obesity, and rates of heart disease, diabetes, and high blood pressure by encouraging active living. Other benefits can include: economic development, increased property values, improved streetscape, better parking circulation, reduced vehicle speeds, improved mobility and more efficient land uses - mixed uses that offer affordable housing, retail, restaurant, and/or office options.

Anecdotal case study results support the conclusion that pedestrians, bicyclists, and adjacent landowners typically prefer the corridor environment of a road diet, especially a two-lane cross section with median islands. When people are the priority, a true livable community and sense of place exist.

Many American towns have the potential to go from having too many lanes for storing cars, to fewer lanes which then build place and the local economy. After the 1989 Loma Prieta earthquake, Pacific Ave. in Santa Cruz, CA was rebuilt to the scene below. Now with narrower street widths and a sense of place, the street teems with life and vitality and generates revenue.

HOW

Conduct a traffic study, and before/after traffic counts of all road users; understand the limitations of traffic modeling; consider special bus designs such as bus pull-outs. Engage the community, educating residents and local leaders on why lane/road diets are a good idea. Survey affected merchants and residents along the corridor to learn what the expectations and objections of a road diet might be. Garner local political support from elected leaders, leverage financial resources from various sources. Funding for road diets can often come from economic development programs, state and local transportation departments, regional metropolitan transportation planning organizations, state and county health departments, main street programs, tree planting or green-up programs. There are many funding sources that can be explored to create significant change.

How to Do It: Parking

The retail life of a town center is supported best by having sufficient on-street parking. Many towns fail to use their streets wisely. They induce speeding by having too much space for vehicular flow, and not enough for car storage.

On-street parking only takes one third as much land as off street parking. On-street parking belongs on center city streets, serving as a buffer to moving cars and a natural traffic calming tool. When used in conjunction with curb extensions (bump outs) and tree wells, parking is said to be inset, narrowing streets, making pedestrian crossings easier, more comfortable and safe.

In time, to achieve compact town center form, where more people can live and help activate the town center, it will be necessary to move away from most off-street parking. Once a full and vibrant retail life is achieved, each parking space becomes worth $200,000 per year. Thus, attention to using town center streets to maximize convenient parking, is urgent and paramount.

If head-out angled parking is used (highly recommended) the entire curb to curb dimension can be 54-56'. When head-out angled parking is used, lane widths can be much narrower, since back out "discovery time" is not needed. Also, the back end of vehicles have more overhang, so less space is used.

Parking bay depths should be 15 feet. An added two foot of space is picked up when valley gutters are used (highly recommended). See valley gutter in photos.

Keep travel lanes to a combined with of 20-22 feet. A center line is not used. This tight driving space helps keep speeds low, which reduces the chance of vehicle crashes.

Head-Out Angled Parking

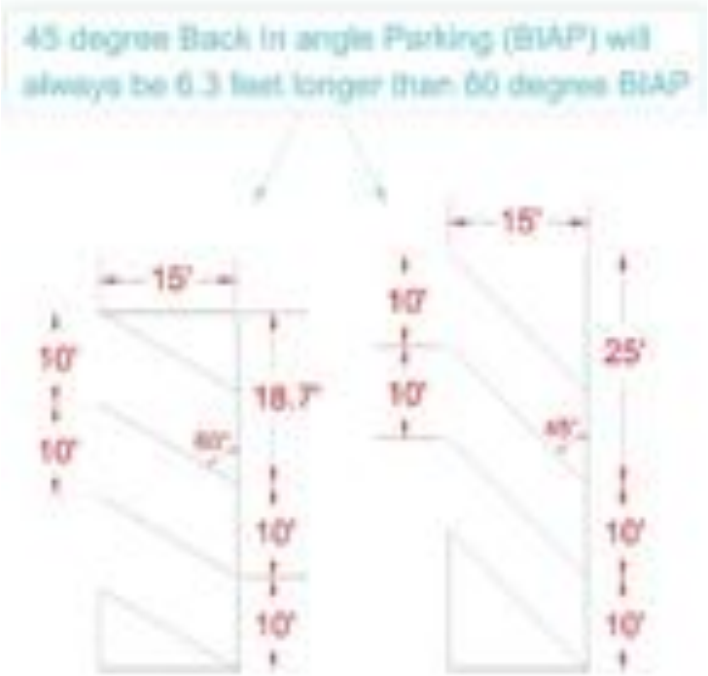
There are multiple benefits to head-out angled parking. It is the safest way to park a vehicle and it increases the "yield" of how much on-street parking can be used (from 30 to 110 percent).

Head-out angled parking maximizes use of adjacent land, since off-street parking takes up three times as much space as on-street. It also takes up less road space (adjacent lanes can be 11 feet wide).

It also is easier to do than parallel parking. It places the trunk where it is safe to access, and when car doors open, passengers are directed toward the sidewalk, which is especially helpful if they are young children.

Keep sidewalks wide and comfortable. Head-out parking allows cars to overhang more than front-in angled parking, so set all fixtures (lamps, hydrants, signs, trees) 24 to 30 inches from the edge of curb.

With front-in angled parking many communities max out their parking gain by using 60 degrees. With head-out angled parking (also called "back-in angled parking, or BIAP), the "yield" is reduced when a 45-degree angle is used. Either angle is possible, but with head-out, 45 degrees is more common, since it is easier to park. It is generally recommended that parking bays be no more than fifteen feet deep (perpendicular measurement). With a two-foot-wide valley gutter, bringing the full depth to 17 feet, all conventional and many oversized vehicles fit in this space. Omit center lane lines when using on street parking to allow motorists to go around a car in the process of parking when there is no opposing traffic. Removal of center lane lines has been shown to reduce traffic speeds and crashes.



How to Do It: Tree Wells

Sometimes a building-to-building right-of-way is too tight to plant trees in sidewalk areas. Use of in-street tree wells can allow the street to be "greened" and often without removal of parking. Tree wells can either be installed to allow water to flow naturally in existing channels, or, if a complete reconstruction is needed, to insert drainage in a pattern that supports these green innovations. Tree wells are used on many local streets, but can also be used, along with curb extensions on roads like SR 70 and SR 17, in Florida. A number of state roads apply tree wells in a variety of states and provinces (including snow country, such as Boise, Idaho and Columbus, Ohio) in urban areas. Use of tree wells and curb extensions, in combination, help bring speeds to more appropriate urban levels.

How to Do It: Paseos and Plazas that Create a Sense of Place

Placemaking: The transforming of a street, sidewalk, plaza, square, paseo, open lot, waterfront or other space to be attractive, rewarding and a community source of distinction and pride. Good places make good experiences possible and have consequences in our lives. People want to share experiences and ideas on common ground, in attractive, well designed and cared for public places.

Principles: Reinvestment in streets, between buildings, and in other well located public spaces brings added value to all buildings and homes in a town center. A front porch storing last decades sofa and washing machine detracts. Placemaking, like interior decorating, must create a strong, compelling sense of place that makes time spent in these spaces rewarding and memorable. Consider the public and private realm of a town center as a public/private partnership. Consider the greater town center as a canvas waiting for rich, vibrant tones, textures and colors that honor existing or adapted buildings and streets. Nothing should be ho-hum. Places can be funky and relaxed, but they must be thoughtful, sensitive to place, and cared for.

Streetscapes help create character and charm. In many towns, many decades of deterioration must be attended to. The town center is a fine home for things waiting to happen, but many existing furnishings, old facades, litter cans, upheaved sidewalks, detract.

The waiting plaza space shown in the upper corner is truly the opportunity that can be the "tipping point" to all other investments.

Plaza spaces must be carefully crafted to bring about proper levels of enclosure, transparency, human scale, complexity, "imageability" and comfort. See illustrations on the opposite page for examples.

Even small public spaces need a minimum of ten different treats or activities or points of interest for the public to become fully engaged. Don't overlook the needs of seniors, and the drawing power of children to come to these places.

***Not ready for prime time**: Above is an example of a physical space that can become an important plaza, outdoor room and connector. It's all about reaching the "tipping point." (See Malcolm Gladwell's book by same title). Below: Adapted into public space.*

Placemaking includes outdoor "rooms."

Just as with a home environment, cities have the opportunity to draw in visitors and residents to special "rooms" created for social exchange or instead a chance to relax, read, or simply hang out. These are examples of paseos and other spaces between buildings that take on a unique life. Common to all, plenty of design, "eyes on the realm" and comfort.

How to Do It: Sidewalks

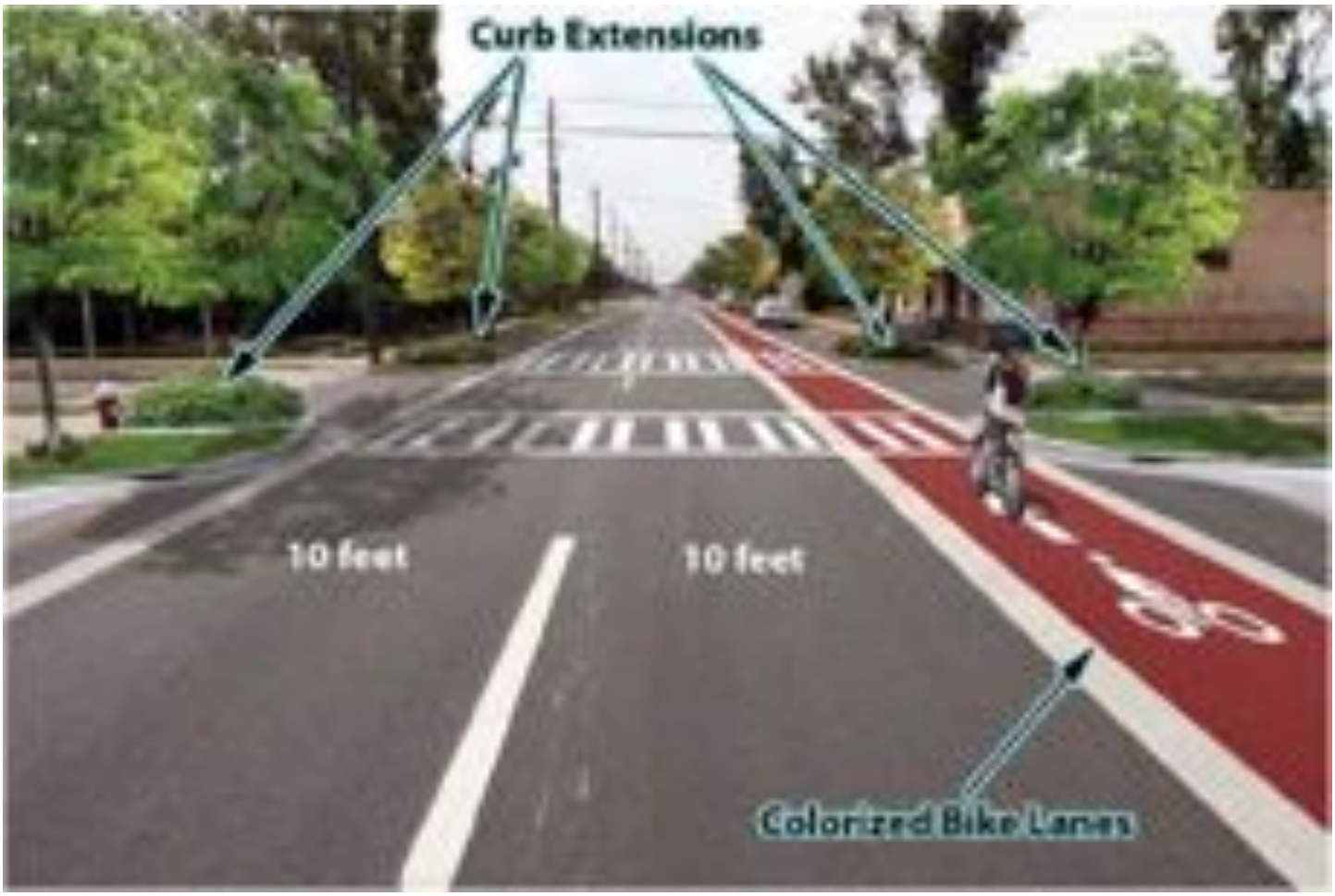
Principles: Sidewalks in a town center require high levels of design and care. It is within the protected spaces of a sidewalk where people move freely, but also spend time engaging others and spending time to enjoy the beauty of their public space. Sidewalks work best when they are fully buffered from moving traffic. The following considerations should be provided when laying out sidewalks.

Use color, texture, street furniture and other materials to distinguish functional areas of walkways. Sidewalks have three parts (shy zone, furniture zone and the walk/talk zone). See illustration to the right.

If driveways must interrupt, keep these to minimal widths (14 foot for one way, 26-28 for two way). Use contrasting colors and materials, and keep sidewalks fully flat across driveways.

Sidewalk widths may need to vary, according to existing building placement, and other constraints. Try to keep town center sidewalks to 12-16 feet, when practicable, but be willing to narrow when constraints exist.

How to Do It: Curb Extensions



Curb extensions help transform a place into a more attractive, natural, functional and prosperous town and center. Curb extensions capture all space not used by autos. By adding curb extensions, towns turn these vital spaces into civic and retail uses. All construction should be done in a way that it least disrupts local businesses. Winter Park, and Sanford, Florida replaced sewers, water lines and other infrastructure as part of its reconstruction. Streets were worked on at night, then covered during the day to maximize retail success.