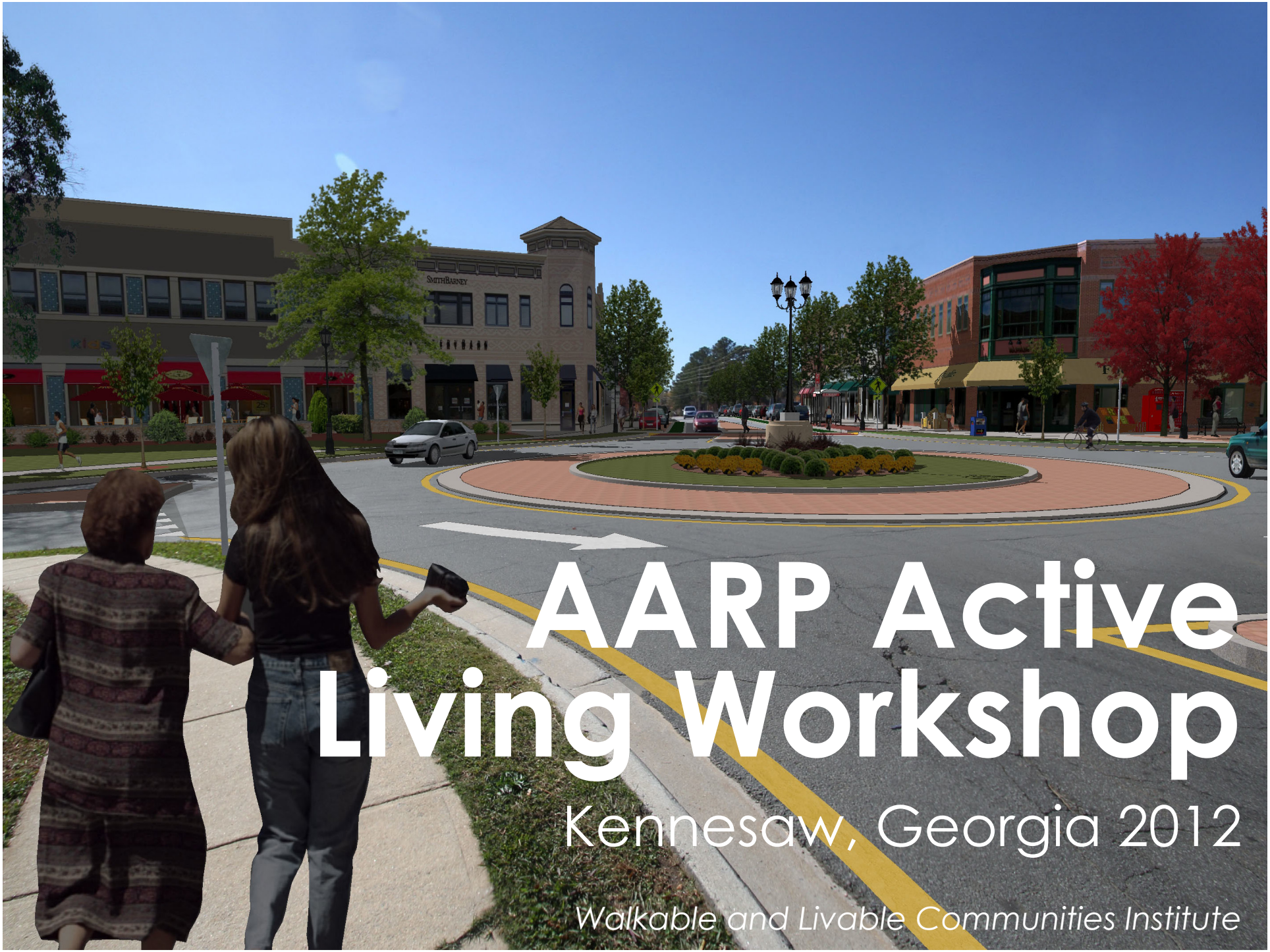


AARP Active Living Workshop

Kennesaw, Georgia 2012

Walkable and Livable Communities Institute

Walkable and Livable Communities Institute
1215 Lawrence Street
Port Townsend, WA 98368
(360) 385-3421
www.walklive.org

Cover Photo: A vision for the intersection of Cherokee Street and McCollum Parkway. Participants of the AARP Active Living Workshop envisioned a roundabout that would calm traffic, provide safer crossings for students and families, and create a gateway feature; improving not only the intersection, but the surrounding area by transforming it into a destination that supports the health of individuals, economy, and community.

Acknowledgments

Janie Walker
Associate State Director of Outreach
AARP Georgia

Barry Reid
AARP State President, Volunteer
AARP Georgia

Jeanne Anthony
Senior Project Manager
AARP Livable Communities

Darryl Simmons
Administrator
Department of Planning & Zoning
City of Kennesaw

Laura Keyes, AICP
Community Development Manager
Lifelong Communities, Aging Services Division
Atlanta Regional Commission (ARC)

Thank you to all the individuals and organizations who came together to share their valuable input, advice and expertise to make the AARP Active Living Workshop in Kennesaw possible. The commitment demonstrated by the individuals and organizations is evidence that improving the walkability, health and livability of the community through a better built environment is a priority.

Report prepared by:
Dan Burden, Executive Director
Samantha Thomas, Project Coordinator
Walkable and Livable Communities Institute

Table of Contents

The Active Living Workshop

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 sited schools, and single-use zoning –compound the problem, producing auto dependency. Our auto dependency is furthered by 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. Walkability is the extent to which the built environment is friendly to the presence of people, and not just cars. Walkable streets may teem with people shopping, commuting by foot, or simply enjoying recreation and exercise. Factors improving walkability include:

- Nearby land uses, such as retail shops located near offices and housing, and schools located within neighborhoods.
- Street connectivity, ideally in a fine-grain grid without unnecessary cul-de-sacs.
- Road widths that contribute to slower vehicle speeds. Vehicle speeds affect walkability and livability: the wider a road or a vehicle travel lane is (or appears to the driver to be), the faster the driver tends to travel. The faster cars are traveling, the less safe and comfortable a person feels walking or bicycling next to them.
- A sense of security and “eyes on the street.” This feeling of comfort is created by orienting the homes and buildings toward the street, and providing transparency—occupied buildings and homes with windows and doors at the street level—so occupants can watch over the street.

On November 13, 2012, the Walkable and Livable Communities Institute facilitated an Active Living Workshop in Kennesaw, Georgia, observing the walkability, livability and aging-in-place elements along Cherokee Street. The primary goal of the workshops was to engage the community in transportation decision-making by walking together to evaluate existing conditions. Based on this evaluation, workshop participants determined next steps for encouraging active living. Sponsored by AARP, the walkability workshop aims to improve economic vitality and social

City of Kennesaw staff, Atlanta Regional Commission (ARC) staff, and community leaders take part in the Active Living Workshop and a walkability audit on November 13, 2012. The event, sponsored by AARP and AARP Georgia, engaged the community in transportation decision-making by teaching them the role the built environment plays in promoting healthy, safe and livable communities.

equity by addressing obstacles to active transportation. Over thirty participants attended the workshop and unanimously addressed the need for a safer and more livable Kennesaw, specifically along Cherokee Street. Indeed, Cherokee Street should be a top priority for Kennesaw as it is a major corridor leading into downtown Kennesaw. However, the strip retail centers with set-back designs, minimal transparency, uninviting retail options and absence of pedestrian infrastructure along Cherokee Street make this a less than ideal area to walk. The participants of the AARP Active Living Workshop came together to begin to form new partnerships and address the barriers to active living in Kennesaw. This is a highly motivated group ready to act, implement and take the next steps needed to beautify their neighborhood, change perceptions of the role of the built environment, and make the community a more safe and welcoming place for residents and visitors of all ages to come walk, work, play, and live. This report seeks to support Kennesaw's need for a safer, more livable neighborhood by demonstrating the importance of building walkable, human-scaled, and complete streets in a collaborative community effort with the support of elected leaders, developers, business owners, police staff, health officials, educational institutions, state, county, and city staff and residents.

> "People of Kennesaw believe in health and wellness and this belief expands across all generations. The future is the past. The future is providing an environment of our past, where people use to walk and bike to places."
>
> *- Pam Davis, City of Kennesaw Media/Marketing Specialist*

This technical report outlines the major obstacles to active living in Kennesaw:

- Streets have a high design speed which encourages speeding and discourages active transportation.
- Intersections are designed for the through-movement of vehicles and pedestrian crossings are absent, indicating there is little to no support provided for pedestrians or bicyclists.
- Streets are fat, as found along Cherokee Street from McCollum Parkway to Interstate 75, and because they are over-built, they are riskier and less enjoyable for pedestrians and bicyclists.
- Narrow right-of-way along Cherokee Street from Big Shanty Drive to McCollum Parkway, which due to the lack of land hinders the community from having properly sized sidewalks and streetscaping that are needed to support walking, retail success, and active living along the corridor.
- Complete Streets are almost wholly missing from the region.
- Pedestrian infrastructure is lacking and many areas do not meet ADA compliance.
- Land use and transportation systems don't work together.

These key concerns are addressed within this technical report, along with site-specific recommendations for addressing challenges along Cherokee Street.

The Key Findings Section addresses challenges found throughout the area.

The Recommendations Section identifies built environment challenges, treatments to consider, and a photo vision of streetscape improvements to support active living.

The Next Steps Section focuses on workshop participants' personal next steps and desired on-going coordination to effect change locally.

Lastly, the Toolbox includes tools on planning, design, greening streets, civic engagement and effecting change as these topics where raised by participants as important.

Why Walkability Matters

The built environment impacts health and wellbeing directly; it either encourages or discourages safety, physical activity, air quality, and access to necessities such as jobs, schools or grocery stores. In 2008, 107 million Americans, almost half of all adults 18 years of age or older, had at least 1 of 6 reported chronic illnesses: cardiovascular disease, arthritis, diabetes, asthma, cancer or chronic obstructive pulmonary disease (COPD).[1] Today, two out of three American adults twenty years of age or older is overweight or obese. Childhood obesity has more than tripled in the past 30 years. Vehicle-miles traveled has a stronger correlation with obesity than any other lifestyle factor, yet we continue to build communities based on auto-dependency.[2]

In the United States, bicycling and walking account for 12 percent of all trips, yet receive just two percent of all federal transportation funding. Between 2005 and 2008, the percentage of total federal funds spent on pedestrian and bicycle projects in the state of Georgia was 1.7 percent, slightly higher than the national average during this same period which was 1.5 percent. Georgia spent $1.78 per capita on bicycle and pedestrian projects using the Safe, Accountable, Flexible, Efficient Transportation Equity Act funds (SAFETEA-LU), which is slightly above the national average of $1.46. The consistent levels of pedestrian fatalities—9.7 percent of all traffic deaths in Georgia were pedestrians—reflects a continued need for investment in active transportation.[4]

The built environment also reflects our social inequities. Today, seniors have a higher pedestrian injury risk than the rest of the population. Older populations are over-represented at intersection fatalities by a factor of more than 2-to-1.[5] 21 percent of seniors today do not drive and half of all non-drivers age 65 and over—4 million Americans—stay at home on a given day because they lack transportation.[6] Seniors in the United States are at great risk for social isolation once they lose their ability to drive. Aging in place is a significant concern for all of us. It is universally experienced without regard to race, class, income, education, religion, or gender. The connection between the built environment and access to various systems—food, transportation, health, education, civic-engagement, jobs and people—is intuitive and logical for many, especially when one contemplates their own aging process. The Baby Boomers (those born between 1946 and 1964) started turning 65 in 2011. The number of those 65 years of age and older will grow to 71.5 million by 2030, representing nearly 20 percent of the total U.S. population.[7]

Americans in the lowest 20 percentile for income spend about 42 percent of their total annual

BY THE NUMBERS

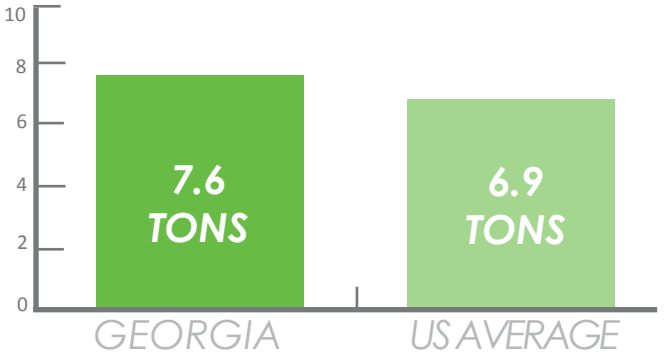
Pedestrian fatalities per 100,000 people

1.58	1.26
GEORGIA	US AVERAGE

Percent of People Without Driver's License

37%	32%
GEORGIA	US AVERAGE

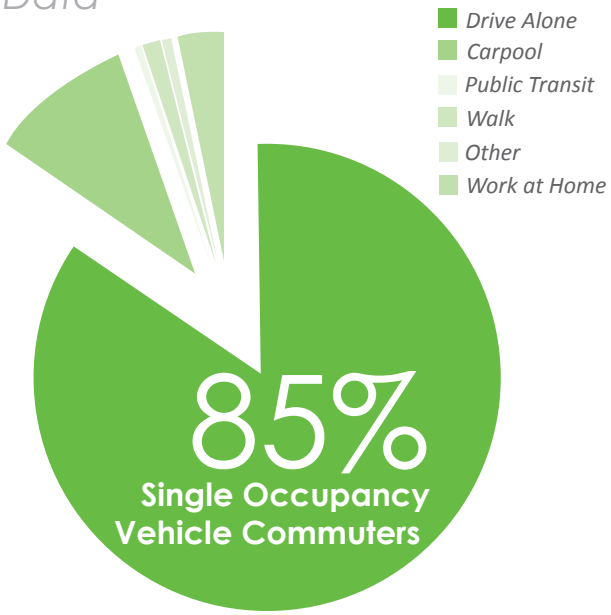
Metric Tons of CO2 from Transportation per Capita



Source: http://t4america.org/statefacts/

BY THE NUMBERS

Mode of Transportation to Work in Kennesaw, GA According to 2000 Census Data



Projected Growth in Georgia's 65+ Population

+143%

By 2030, the US Census predicts that there will be over 2 million seniors living in Georgia

Source: http://t4america.org/statefacts/

income on transportation.[8] Improved health and social equity are not the only reasons to modify the built environment so that it is more supportive of active transportation. 40 percent of Baby Boomers say they don't have enough savings for retirement.[9] As the senior population grows faster than any other age group, towns that are addressing walkability are better suited to meet the needs of the aging population. Seniors will continue to work and transportation choices will become critically important. Additionally, those communities that don't prepare are placing seniors at risk for social isolation. Walkable, bikeable, and livable communities are healthier communities, not only in terms of individual and social health, but also in terms of environmental and economic health.

Livable communities are designed to accommodate the changing abilities of individuals over their lifetime. Regardless of age or ability, the built environment is supportive of people performing their daily activities. While we know that physical activity is good for us, 60 percent of Americans do not meet the daily recommendations set by the Centers for Disease Control and Prevention (CDC).[10] Yet, people who have sidewalks in their neighborhoods reported more minutes of recreational walking.[11] Adults living in high walkability neighborhoods engage in forty-one more minutes of total physical activity per week than those in low walkability neighborhoods.[12]

The solution to much of what ails us resides in building walkable communities. Our goal must be communities that are accessible, efficient and that work for all. Transportation should offer choices and spur economic growth. Development must be sustainable and contribute to social cohesion and work-life balance. Our cities and towns must contribute to improved air, land and water quality. Anything less is incomplete.

- 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 was also correlated with more than a five-percent reduction in air pollutants that are associated with vehicle travel.[13]

- Analysis published in *Preventive Medicine* in 2010 indicates that installing sidewalks on all of a city's streets would increase physical activity enough to offset 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.[14]

- 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 home values as much as $3,000.[15]

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. Good street design can minimize the congestion and accidents that halt productivity because users know where they belong, how to navigate and how to interact with others.

The benefits of active living through active transportation should be celebrated:

- 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 infrastructure is far less expensive than building new roads and parking.
- Shifting to active modes of transportation results in lower transportation costs for families.
- Active transportation provides opportunities for social connections and community building.
- Muscle power is the most energy efficient, personally rewarding and least costly mode of transportation.
- A 5 to 10 mph reduction in traffic speeds increased adjacent residential property values by roughly 20 percent. Reduced traffic volumes on residential streets increases home values by an average of 18 percent.[19]
- A 10-point increase in Walk Score increases commercial property values by 5 percent to 8 percent.[20]
- An EPA study indicates compact infrastructure is up to 47 percent less expensive than conventional development patterns.[21]
- Active Transportation is good for tourism. In 1992, an estimated 32,500 visiting cyclists spent $13.1 million in Vermont.[23] Similarly, 680,000 visitors bicycle in North Carolina's Outer Banks

BY THE NUMBERS

Percent of Adult Obesity in 2011 (BMI≥30)

Percent of Childhood Obesity in 2011 (BMI ≥ 95th percentile by age & sex)

Georgia's Rank Among the US 50 States for the Highest Childhood Obesity Rate

Source: http://www.healthyamericans.org/report/88/

BY THE NUMBERS

Percent of all Restaurants that are Fast-Food

49% COBB COUNTY

25% US AVERAGE

56.2 percent of adults in Georgia did not engage in the recommended level of moderate-intensity physical activity, like walking, for at least 150-300 minutes per week.

76.3 percent of adolescents, youth under 18, in Georgia did not meet the recommended level of 60 minutes or more of physical activity a day.

Source:http://www.cdc.gov/obesity/stateprograms/fundedstates/pdf/Georgia-State-Profile.pdf

yearly, generating $60 million annually. 1,400 jobs are supported locally in North Carolina from expenditures made by bicyclists.[22]

- For each $1 million invested in FHWA-approved paved bicycle or multi-use trail, the local economy gains 65 jobs and between $50 and $100 million in local economic benefits.[23]
- Cycling and walking investments return up to $11.80 for every $1 invested.[24]

In too many parts of Kennesaw, bicycling and walking are considered recreational activities. However, when we focus on active transportation and the economic benefits of facilities, we build strong communities that work for all.

We need to provide new solutions for traffic congestion. Our streets need to support other modes of transportation, which includes walking, bicycling and transit

Get to Know

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.)

Aging in Place: Also called, "Living 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. (See National Aging in Place Council, www.ageinplace.org.)

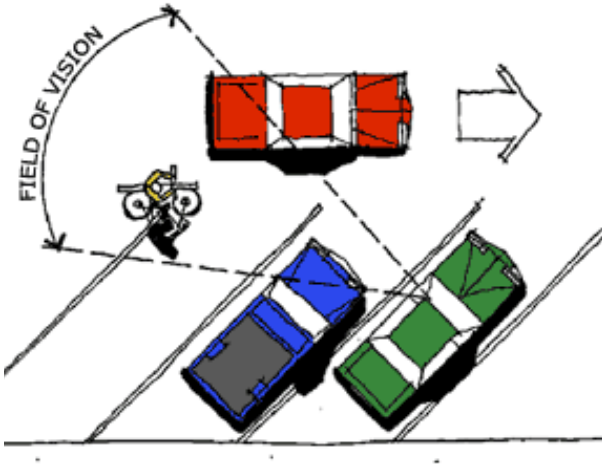
Charrette: [pronounced, "shuh-RET"] A collaborative session to solve urban-design problems that usually involves a group of designers working directly with stakeholders to identify issues and solutions. It is more successful than traditional public processes because it focuses on building informed consent. (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, 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: Also called "back-in" or "reverse" angled parking, this is arguably the safest form of on-street parking. It 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 others who need extra help, the open car doors direct passengers to the safety of the sidewalk behind the car, not into traffic. The process of parking in a head-out angled spot is simple – a driver signals their intention, slows, pulls past the spot and then backs into it, which is roughly equivalent to making only the first maneuver of parallel parking.

Livability: In the context of community, livability refers to the factors that add up to 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,

Above: Head-out angled parking is safer for all people, including those driving, biking and walking. Below: This diagram from the City of Northampton, MA illustrates one of the benefits of head-out angled parking: a driver's ability to see oncoming traffic as they pull into the travel lane from their parking spot.



www.livable.org.)

Median Crossing Island: A short island in the center of the road that calms traffic and provides pedestrian refuge. They can be six to 12 feet wide and 20 to 80 feet long. They should be landscaped with low, slow-growth ground cover, and tall trees without branches or leaves at ground height that help motorists see the islands well in advance but don't obstruct sight lines.

Mini Circles: Also called "mini traffic circles," these are intersections that navigate vehicles around a small island about eight to 15 feet in diameter that is either lightly domed or raised. When raised, a mini traffic circle should be visible from hundreds of feet away, creating the feeling of a small park in the neighborhood. The circles should be designed to reduce speeds to 15 to 18 mph at each intersection. A proper number of them will reduce vehicle speeds to 22 to 25 mph along the corridor while helping traffic flow more smoothly due to the decreased number of complete stops.

Rotaries: Also sometimes 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 navigate cars around a circulating island, usually up to 60 feet in diameter. Roundabouts are ideal for collector and arterial roads, and at freeway on-off ramps. They eliminate the need for cars to make left turns, which are particularly dangerous for pedestrians and bicyclists. Properly designed, roundabouts hold vehicles speeds to 15 to 20 mph. They can reduce injury crashes by 76 percent and reduce fatal crashes by 90 percent. (See the Insurance Institute for Highway Safety's website at http://www.iihs.org/research/topics/roundabouts.html) Roundabouts also can increase capacity by 30 percent by keeping vehicles moving. When installing roundabouts in a community for the first time, care should be taken to make roadway users comfortable with the new traffic pattern and to educate them about how to navigate roundabouts properly and to yield as appropriate. For more information about roundabouts, see the Federal Highway Administration's educational video about roundabouts, at http://bit.ly/fhwasafetyvideo

Road Diet: On an overly wide road that has too many vehicle travel lanes to be safe, lanes can be removed and converted to 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

Above, a mini circle calms neighborhood traffic in San Diego, CA. Below, a series of roundabouts calms traffic along an entire corridor in University Place, WA.

turn lane or median) with bike lanes and street trees. (See Walkable and Livable Communities Institute, www.walklive.org.)

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: 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.

Sidewalks: All sidewalks, trails, walkways

A sharrow in Seattle, WA.

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.

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, http://www.epa.gov/smartgrowth/.)

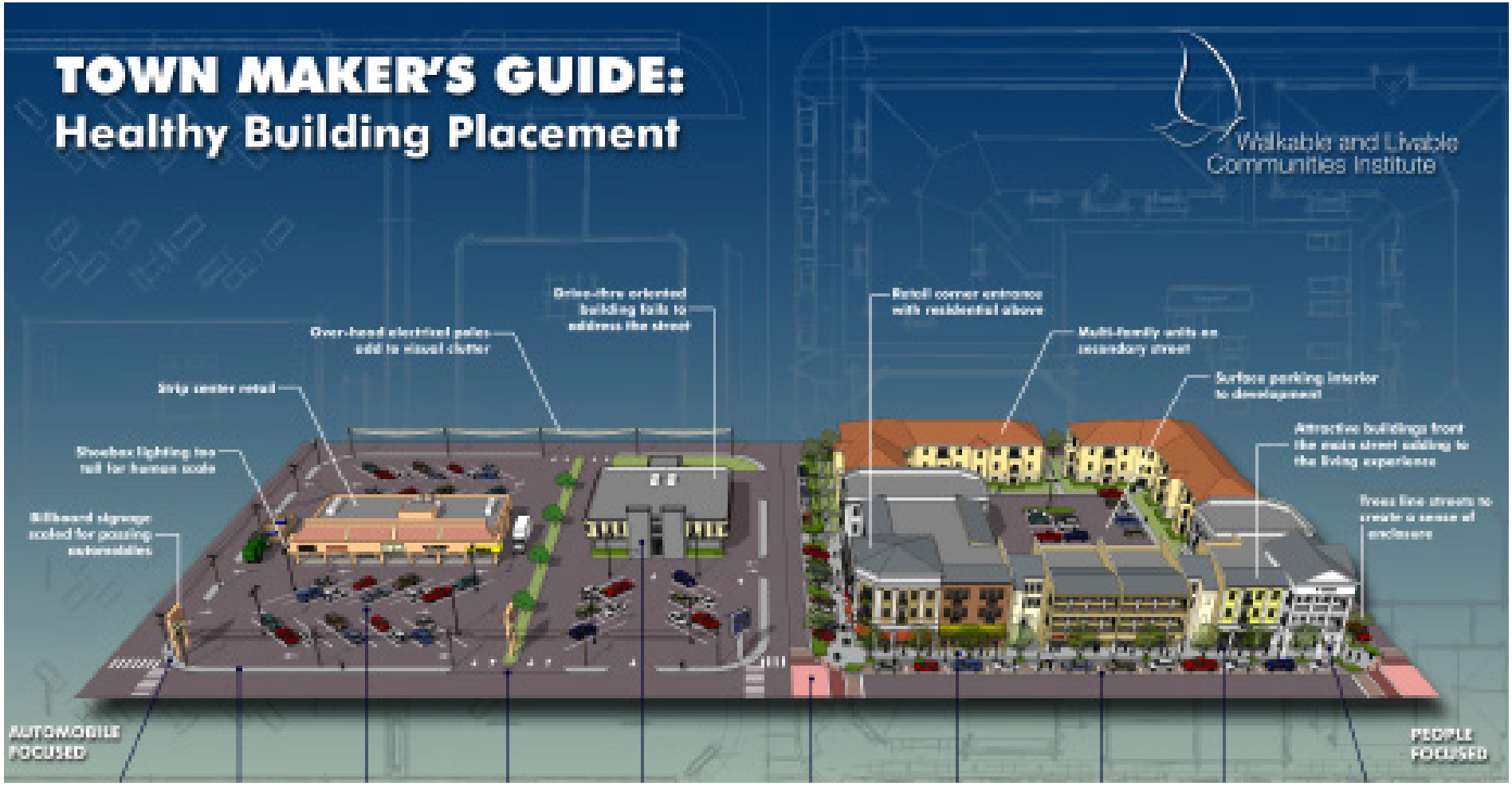
Street Trees: Street trees not only provide shade and a nice environment, but also help protect students walking and bicycling. When placed within four to six feet of the street, trees create a vertical wall that helps lower vehicle speeds and absorb vehicle emissions. They also provide a physical buffer 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.)

Street trees create a buffer between people and cars, and provide shade and beauty.

Land Use and Transportation Systems Should Work Together



In the past, our cities were weakened as land use experts did what they did best, and our transportation experts did what they did best. The failure to integrate transportation with land use led to a devalued or compromised set of land uses and roadways. For instance, with roads designed for high speeds, developers cannot develop a village that is enjoyable. This, then, increases the number of miles people drive, so more roads are built to handle the resulting traffic to more distant places. The opposite effect is also true. If the developer builds too many land uses with driveways, roadway capacity and safety degenerates, roads and intersections are widened, which further devalues land. As roads are widened, people drive farther to distant shopping, and central town parcels are abandoned. By working together, traffic is better handled and balanced, land use goes up in value, people have better places to live and town economies heal and eventually thrive. Additionally, when we place a person at the center of the design scale, we end up with land that retains its value, less costly infrastructure and safer conditions for all users. The graphic above shows the different forms that are generated by using an automobile as the design vehicle (left) or placing a person at the center of the design scale (right).

Active Living Workshop

Kennesaw, GA

AARP Active Living Workshop participants take part in the walking audit with Dan Burden on November 13, 2012

The benefits of livability and walkability are numerous and are particularly important in Kennesaw. Home to the General, the locomotive made famous during the Civil War in the Great Locomotive Chase, Kennesaw is a community with a rich history built around transportation. Located in the heart of Cobb County, about 20 miles northwest of downtown Atlanta, the City declares: "All Tracks Lead to Kennesaw."

The Active Living Workshop and walking audit examined the walkability and livability along Cherokee Street, a main corridor leading into downtown Kennesaw. During the workshop it became very apparent that the next stop for Kennesaw should be improving the built environment to make it the new destination of commerce, walkability and livability.

Active Living Workshop Schedule

8:00 am *Participant Registration*

8:30 am *Welcome from Mayor Mark Mathews, AARP Georgia State President Barry Reid, & Participant Introductions*

9:00 am *Workshop: Walkability Principles*

10:45 am *Walking Audit: Cherokee Street*

12:00 pm *Lunch*

1:00 pm *Community's Next Steps*

3:30 pm *Conclusion*

Cherokee Street & Big Shanty Drive

Existing Conditions Summary

LACK OF PEDESTRIAN INFRASTRUCTURE
What signs are our roads sending to support people? Where sidewalks exist, they are 3 to 4 feet wide, too narrow for two people to walk side by side, or people in wheelchairs to maneuver comfortably. There is no direct crossing from the near east to west side of Cherokee.

A C D

STREET TREATMENTS SHOULD REFLECT COMMUNITY VALUES
The intersection at Big Shanty Drive is complex due to many turning movements, missing crossings and lack of visual cues. It is a landmark location and should support all modes of transportation.

A C D

WIDE RIGHT-HAND TURN RADII
Overly wide right-hand turn radii impact pedestrian safety due to higher turning speeds, poor sight-lines and lack of buffer.

C

UTILITY POLES CREATE VISUAL CLUTTER
This pole creates a blind spot, making it a challenge for motorists and pedestrians to see one another, affecting the safety of the intersection.

A C

Note: The ● dots with letters correspond to recommendations that can be found starting on page 25.

Cherokee Street: *Between Big Shanty Drive & Ben King Road*

Existing Conditions Summary

NARROW SIDEWALKS
Where sidewalks exist, they are very narrow, 3 to 4 feet wide, with little to no buffer. Tripping hazards and other obstacles to mobility exist when the "walk-talk" zone of the sidewalk is too narrow and not maintained for people. C D

MULTIPLE DRIVEWAYS
Wide driveways and lack of access management complicate turning movements and add additional conflict points. C D

RIGHT-SIZED TRAVEL LANES; NARROW RIGHT OF WAY The travel lanes are currently an appropriate width of 10 feet, but speeds are higher than desired. The lack of visual cues, such as: trees, buffered sidewalks, and on-street parking create higher design speeds than the posted limit. To add these features, the right-of-way would need to be expanded from 30 feet to 60 feet through creative community collaboration. C

MISSING SIDEWALKS
Sidewalks are "pedestrian lanes" that provide people with space to travel safely and comfortably. Such facilities also improve mobility for pedestrians and support property owners. C D

Note: The ● dots with letters correspond to recommendations that can be found starting on page 25.

Cherokee Street & Ben King Road

Existing Conditions Summary

WIDE RIGHT-HAND TURN RADII
Overly wide right-hand turn radii impact pedestrian safety due to higher turning speeds, poor sight-lines and lack of buffer. A C D

NO SIDEWALK; "UNIVERSAL" DESIGN IS ABSENT
Pedestrians are forced to stay in the street due to the absence of sidewalks. The streetscape, including marked crosswalks, should be accessible to all people, including those with disabilities. A C D

COMPLEX INTERSECTION
An overly wide intersection, wide travel lanes, an extra lane on Ben King Road and numerous vehicle turning movements each impact pedestrian safety. A C

HIGH-INTENSITY MARKINGS NEEDED
Faded crosswalks and lateral striping are dangerous and send conflicting messages to pedestrians and motorists due to the low visibility. The goal is to provide visual cues to both motorists and pedestrians so they can anticipate and respond to each other. A C D

Note: The ● dots with letters correspond to recommendations that can be found starting on page 25.

Cherokee Street & McCollum Parkway

Existing Conditions Summary

LACK OF NATURAL SURVEILLANCE

The present development is scaled to cars with buildings set back from the streets. This design fails to honor the street or watch over people. C

STREET TREATMENTS SHOULD REFLECT COMMUNITY VALUES

The intersection is complex due to many turning movements, missing crossings and lack of visual cues. This location will soon be home to an additional 800 people with the new student housing complex and all modes of transportation need to be supported. A C D

ABSENCE OF PEDESTRIAN CROSSINGS

The lack of pedestrian infrastructure, such as sidewalks and crossings, challenges drivers and pedestrians. A C

UTILITY POLES CREATE VISUAL CLUTTER

At present, utility poles obstruct the pedestrian right-of-way. Appropriately scaled street lighting is missing and is needed to promote pedestrian use at all times of day. C D

Note: The dots with letters correspond to recommendations that can be found starting on page 25.

Cherokee Street: *Between McCollum Parkway & Jiles Road*

Existing Conditions Summary

SIDEWALK MISSING
Sidewalks and other pedestrian infrastructure are absent from the east side of Cherokee Street. D

STREET IS *FAT*, NEED FOR RIGHT-SIZED TRAVEL LANES
Overly wide travel lanes, lack of visual cues, such as: trees, buffered sidewalks, bicycle lanes, and on-street parking, create higher design speeds than posted speeds. B C D

NEED FOR STREET TREES & DEFINED EDGE
Street trees are missing. Tree-lined streets create a sense of enclosure to protect pedestrians and reduce vehicle speeds. Trees create a cooling and greening edge. C

NEED FOR ON-STREET PARKING Off-street parking takes up three times more space than on-street parking. On-street parking visually narrows streets and brings down traffic speeds, while providing the most sustainable and affordable parking. B C

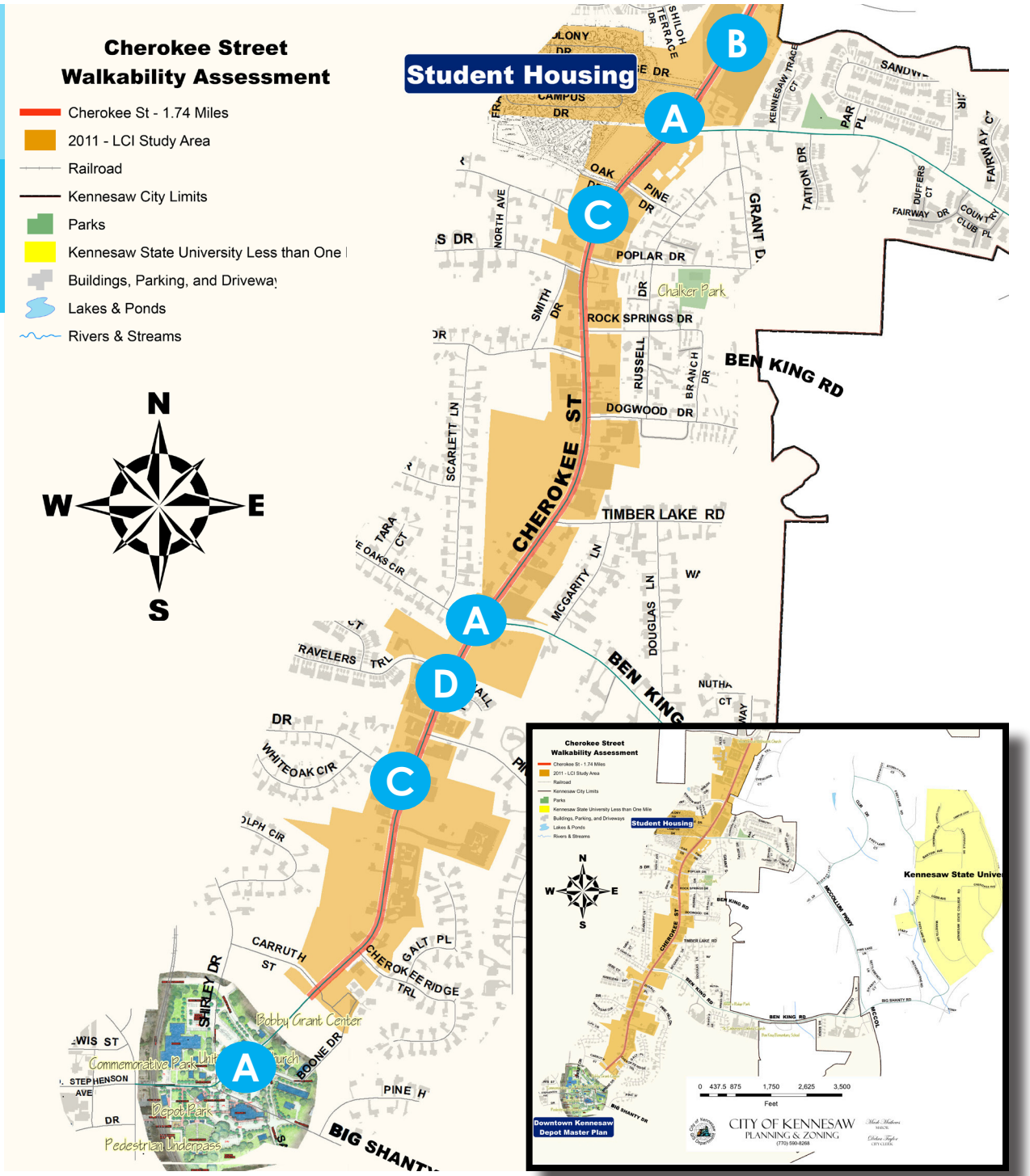
LACK OF NATURAL SURVEILLANCE
The present development is scaled to cars with buildings set back from the streets. This design fails to honor the street or watch over people. C

Note: The dots with letters correspond to recommendations that can be found starting on page 25.

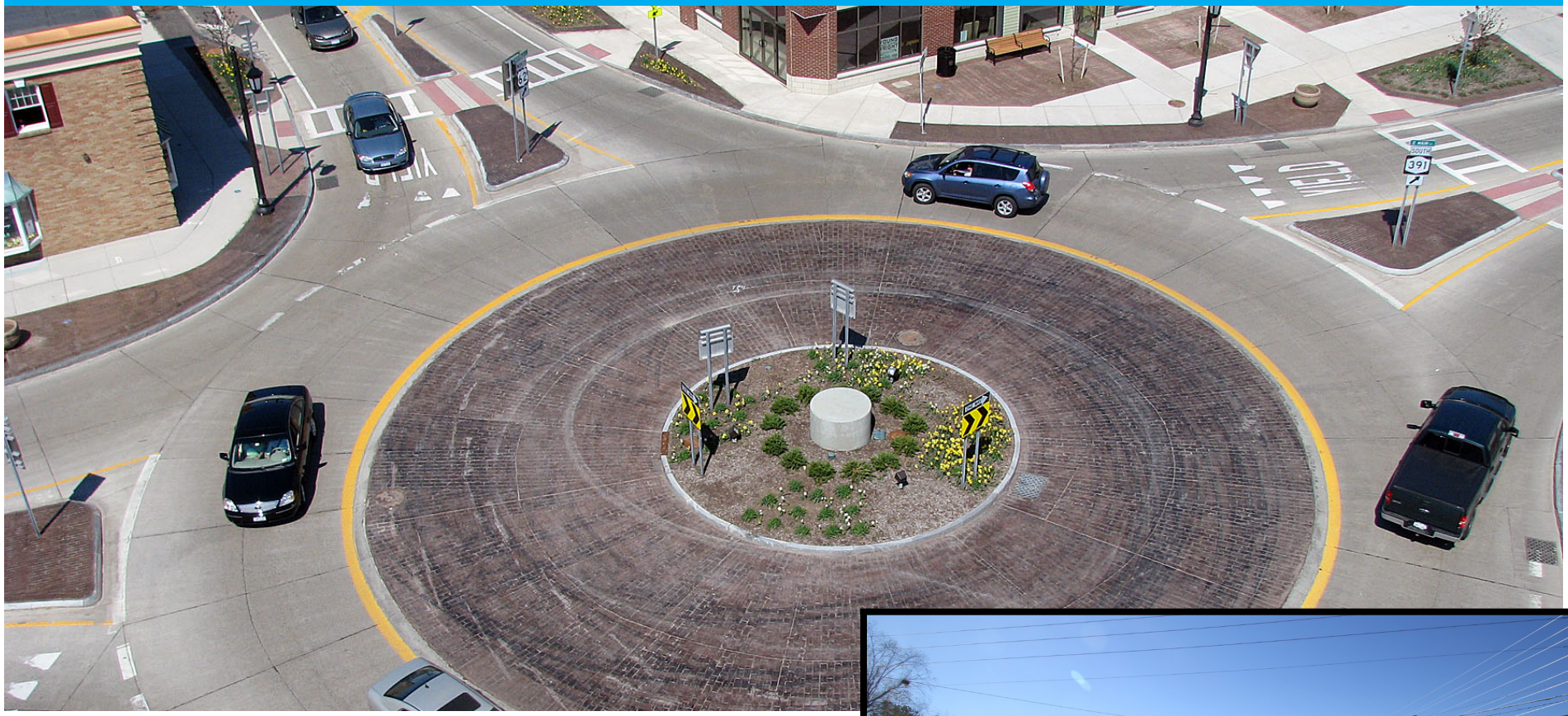
Recommendations & Next Steps

Recommendations
Based on Key Findings

- **A** Safer Intersection Treatments for All Users...p 26
- **B** Road Diets...p 29
- **C** Right-Sized Streets...p 33
- **D** ADA Compliance...p 36



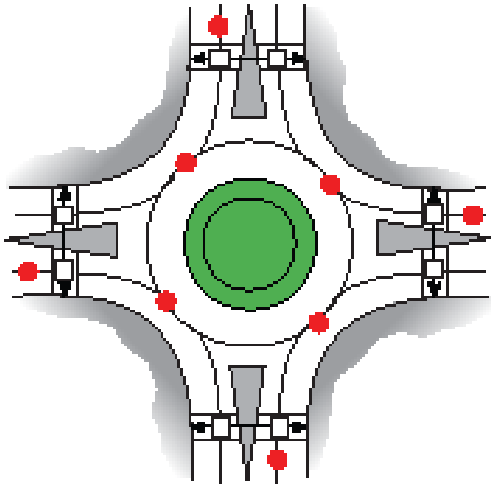
A Safer Intersection Treatments for All Users:
Roundabouts & Mini Circles



Given the new development of student housing at the intersection of Cherokee Street and McCollum Parkway, pictured on right, new intersection tools, such as: roundabouts, different materials, improved signage, and advance yield lines to improve sight lines, should be considered and implemented. Communities that accommodate pedestrians and bicyclists in their intersection design benefit generations of residents and help students lead healthier lives. A roundabout, like the photo above in Hamburg, NY, will provide safer crossings, improve efficiency, reduce accidents, increase surrounding land values and reinforce place by creating a beautiful terminating vista, gateway feature and improved neighborhood streetscaping.

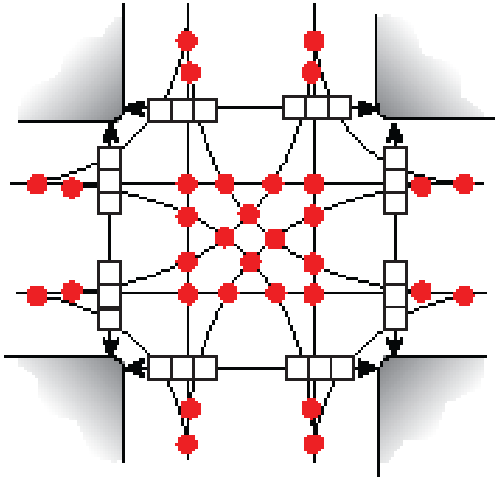
How?

Roundabouts & Mini-Circles Are Safer Intersection Treatments:



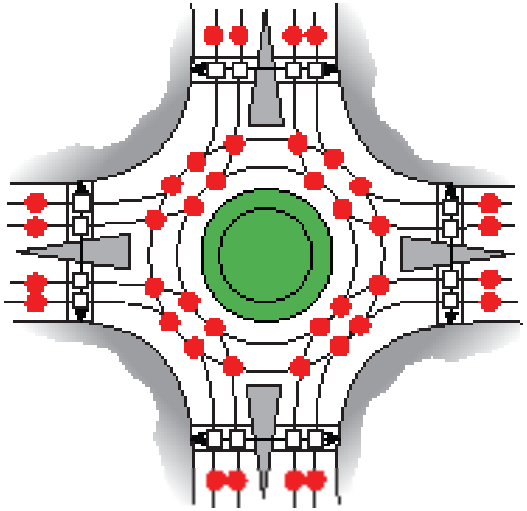
Conflicts at a single-lane, modern roundabout

- 8 vehicle-to-vehicle conflicts
- 8 vehicle-to-person conflicts



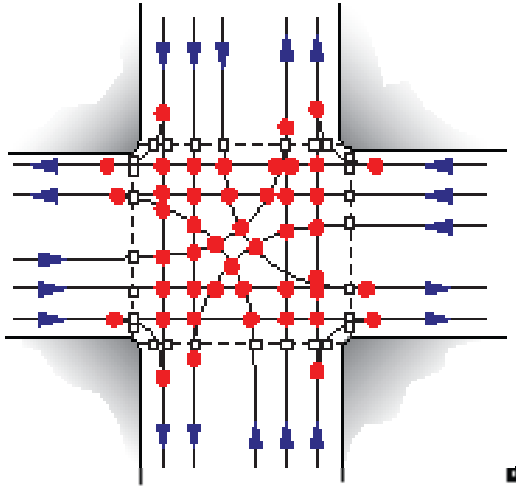
Conflicts at a conventional intersection with single lanes in each direction

- 32 vehicle-to-vehicle conflicts
- 24 vehicle-to-person conflicts



Conflicts at a double-lane, modern roundabout

- 24 vehicle-to-vehicle conflicts
- 16 vehicle-to-person conflicts



Conflicts at a conventional intersection with double-lanes and left-turn lane in each directionn

- 46 vehicle-to-vehicle conflicts
- 28 vehicle-to-person conflicts

WHY?

Roundabouts & Mini-Circles Are Safer Intersection Treatments:

There are many resources on roundabouts and mini-circles from federal, state and local department's of transportation. The US DOT Federal Highway Administration (FHWA) has identified modern roundabout intersections as one of nine proven lifesaving roadway strategies. They help create many educational resources about roundabouts including a video that should be watched and shared, found here: http://1.usa.gov/9A9u2G. Virginia Department of Transportation (VDOT) and New York Department of Transportation (NYDOT) websites provide excellent resources on the benefits of roundabouts and criteria they use to determining placement of roundabouts. Roundabouts are employed to increase safety, reduce delays and crashes at intersection, fuel consumption, air pollution, construction and maintenance costs. They also enhance the beauty of the intersection and effectively control speeds. The FHWA, VDOT, and NYDOT's websites are a few examples of government sites that provide resources and excellent links to current information, including statistics and data in support of roundabouts. Studies show that when compared to signalized intersections, roundabouts provide a:

- 90% reduction in fatal crashes
- 75% reduction in injury crashes
- 30-40% reduction in pedestrian crashes
- 10% reduction in bicycle crashes

Slower vehicle speeds (under 25 mph) mean:

- Drivers have more time to judge and react to other vehicles and pedestrians
- Easier to use for older and novice drivers
- Reduction in the severity of accidents
- Pedestrians are safer
- Provides traffic calming

Increased Capacity - Reduced Delay:

- 30-50% increase in traffic capacity
- Traffic always on the move-less delay

Environmental:

- Reduction in pollution and fuel use
- Less noise due to fewer stops and starts

Low Maintenance:

- No signal equipment to install and repair—average savings of $5,000 per intersection per year

Aesthetics:

- Improves visual quality and character through landscaping

The double-lane roundabout in Davidson, NC, encourages new development while managing traffic flow.

Roundabouts make crossings easier because the pedestrian crosses one leg at a time. When cars go slower, drivers are more likely to yield to pedestrians as required. To assist visually impaired pedestrians, pavement markings can be positioned to provide an auditory cue when cars are entering and existing the intersection.

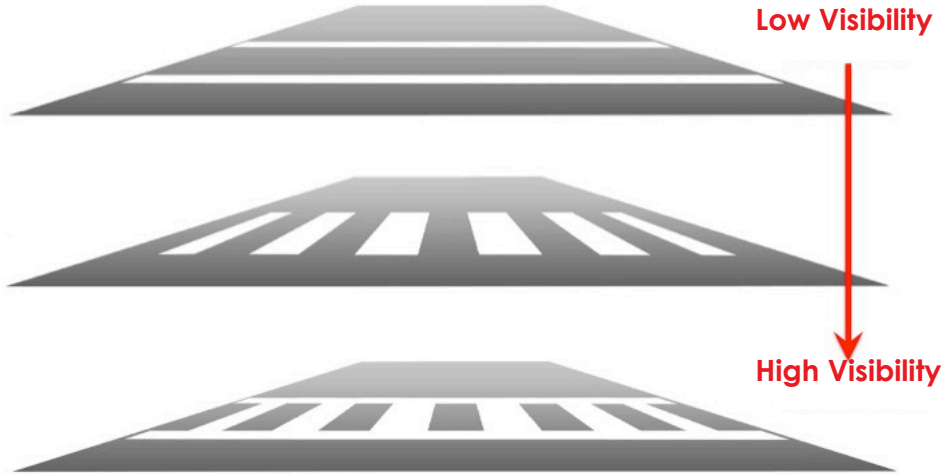
A Safer Intersection Treatments for All Users:
Crossings, high-intensity markings benefit all

High-intensity crosswalk markings benefit all. Different materials can be used to make crossings more visible day and night. Along Cherokee Street, right, the absence of strong crosswalk markings are dangerous, as they send conflicting messages to pedestrians and motorists. Supporting pedestrian activity will lower speeds. In Bellevue, Washington, above, the difference can be seen between the visibility of parallel-line markings and ladder-style markings with thick stripes. The more visible markings send a message that pedestrians should be expected here.

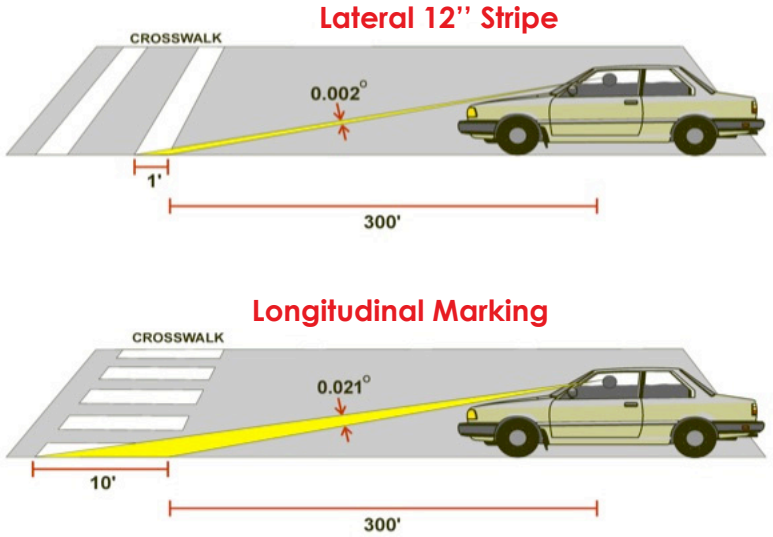
How?

High-intensity Crossings Are Safer Intersection Treatments:

Crosswalk Marking Types



Longitudinal markings are more visible to a driver from afar



B Streets are *Fat*: Road Diets are Needed

The northern section of Cherokee Street, right, currently provides a barren landscape to people walking and bicycling. Calming the traffic here, creating a sense of place, and better supporting active modes of transportation will position the corridor to redevelop for the community's benefit, as seen in the example above of a road diet in Santa Cruz, CA.

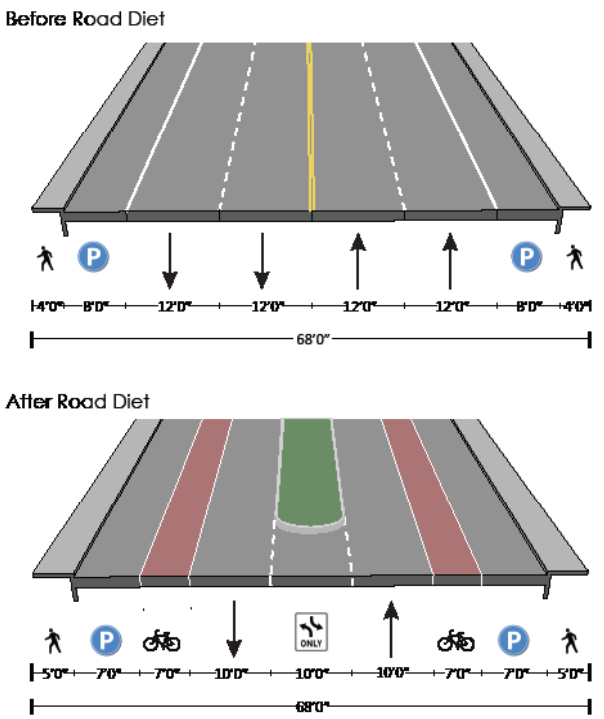
WHY?
Road Diets are Needed:

In 1999, Dan Burden and Peter Lagerwey coined the term "road diet" to explain road conversion measures to right-size travel lanes and to remove excess lanes from streets. A road diet typically involves converting an undivided four-lane roadway into three lanes made up of two through lanes and a center "two-way left-turn" lane. But road diets have been completed on roadways comprising more lanes, and the number of lanes after the intervention can vary. What is constant is that the reduction of the number of lanes and/or lane width allows the roadway space to be reallocated for other uses such as bike lanes, pedestrian crossing islands, buffered sidewalks, and parking. A road diet can improve the performance and safety of the corridor and encourage active transportation. Benefits include:

- Decreasing the number and width of vehicle travel lanes making it easier for pedestrians to cross streets; reducing the multiple-threat collision by 20% to 70%.
- Improving safety for bicyclists when bike lanes are added, also creating a buffer space between pedestrians and vehicles and in turn improving both walking and bicycling within the range of 10% to 300%.
- Providing the opportunity for on-street parking, which buffers pedestrians and vehicles and enhances retail success often boosting retail sales by 30%.
- Reducing rear-end and side-swipe collisions.
- Improving speed limit compliance and decreasing collision severity when collisions do occur.

When excess lanes are removed and lane widths are narrowed to 10 feet, the existing right of way can be re-allocated to support more modes. Sometimes, this can be done by simply moving the paint and conducting an educational campaign. Because drivers base their travel speed on what feels comfortable given the street design, lane width reductions and the removal of excess travel lanes has an effect both on speeds and collision rates, since collisions tend to augment with speeds. In general, the wider the road in front of us, the faster we tend to drive. The faster a car is going, the more severe the injuries in the event of a collision.

Sometimes a road diet can be as simple as just moving the paint.



A road diet re-allocates the existing right-of-way to better support all modes of transportation: walking, bicycling, driving, transit and freight/delivery. After a road diet, one vehicle travel lane in each direction allows a prudent driver to set the prevailing speed for all cars following them. On-street parking and comfortably wide bike lanes create buffers of two kinds: between motorists and the edge of the road, and between pedestrians and moving traffic. The center lane can be used for left turns, pedestrian crossing islands or delivery bays.

HOW?

Road Diets Calm Traffic and Improve Safety:

Road diets have been successfully implemented on streets carrying a wide variety of average annual daily traffic (AADT) volumes. Ranges from 8,000 to 15,000 are generally considered to be good candidates for road diets. Four-lane undivided roadways with an AADT between 8,400 and 24,000, and a relatively wide range of traffic flow, have been successfully converted to three-lane cross sections in many areas of the United States. However, for road diets with AADTs above approximately 20,000 vehicles, there is a greater likelihood that traffic congestion will increase to the point of diverting traffic to alternate routes. When road diets are being considered on streets whose AADT exceeds 20,000, signalized intersections should be studied and possibly upgraded to roundabouts to reduce vehicle stacking and diversion.

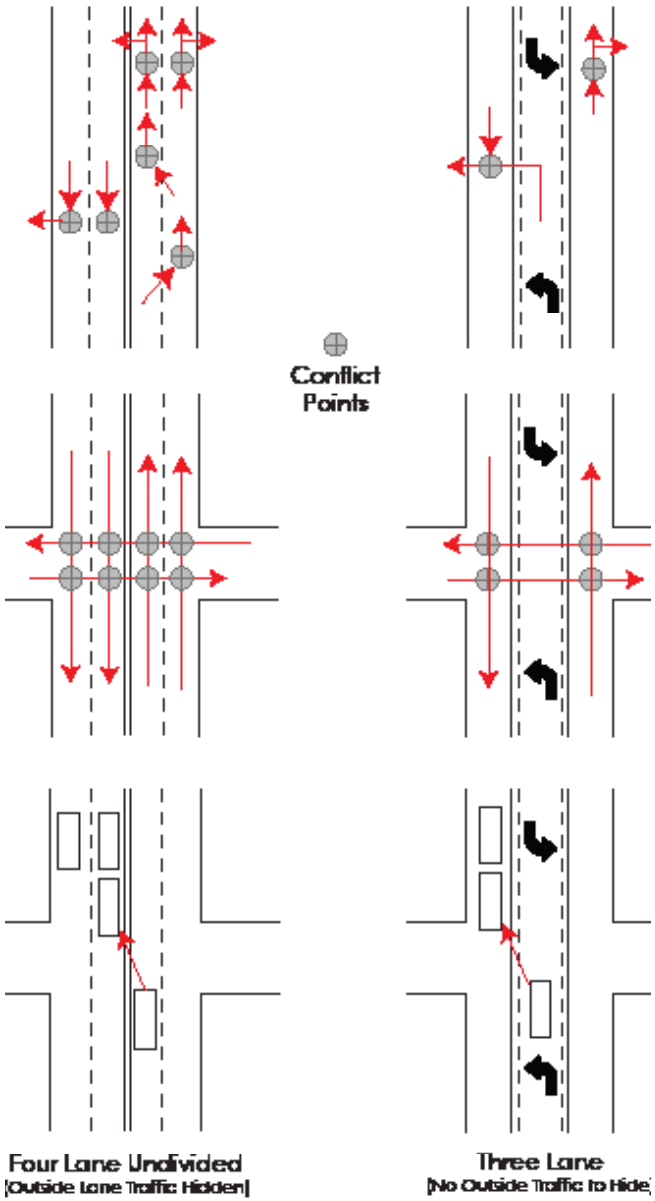
Reconfiguring a roadway for lane reductions depends on the current configuration, user needs, desired operational and safety outcomes. The majority of four-lane roadways were built or widened to accommodate peak vehicle traffic volumes, but for the remaining 22 hours each day, they are underutilized. On these four-lane roads with excess capacity, motorists notice that there are empty lanes in their direction. Speeds are often higher than the posted speed limit and dangerous conditions are created when cars stop in travel lanes waiting to turn left or right and a last-minute lane change by another motorist hoping to preserve momentum, creates a serious rear-end collision. Four lane undivided highways also have blind spots created by multiple lanes of traffic.

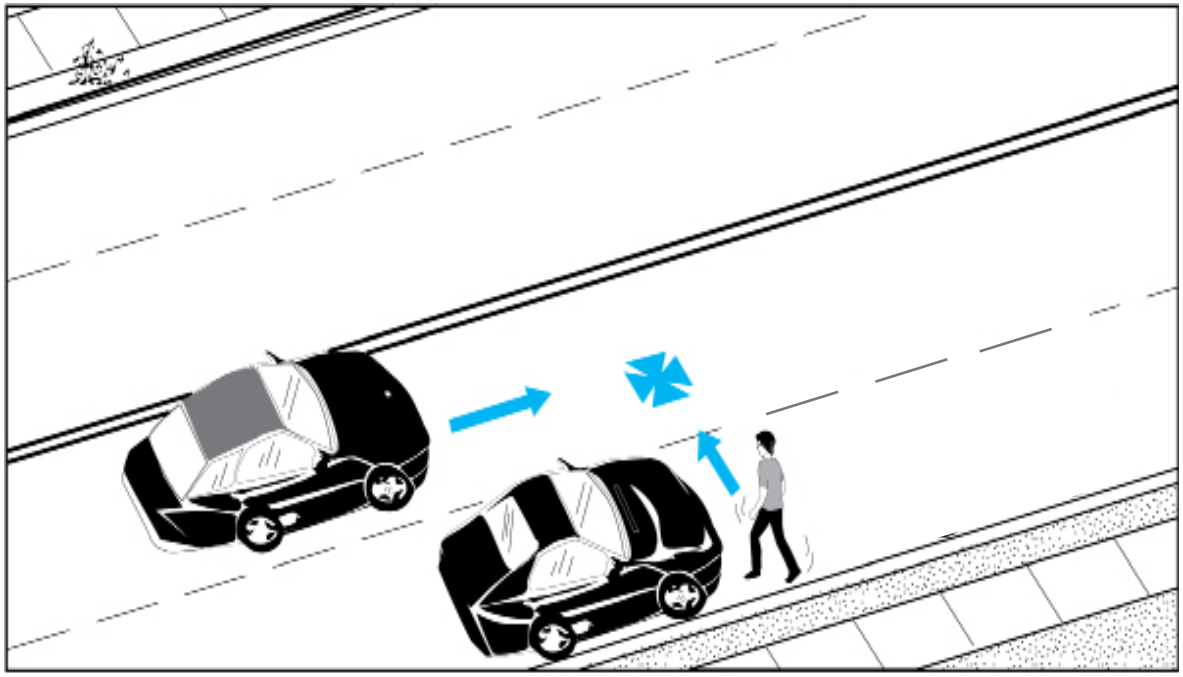
Additionally, 4-lane undivided highways are particularly dangerous to pedestrians because of the potential for multiple-threat crashes, in which one vehicle stops and screens the pedestrian, while another motorists continues on in the other through lane. The pedestrian and motorist cannot see each other, but because the motorist in one lane has stopped to allow the crossing, it does not necessarily mean that the motorist in the next lane can see the pedestrian or will respond in the same way. Road diets have been successfully implemented on streets carrying a wide variety of average daily traffic (ADT) volumes. Ranges from 8,000 to 15,000 ADT are generally considered to be good candidates for road diets. If a roadway does not provide sufficient infrastructure for alternative forms of transportation, a road diet may create the extra space needed to provide or improve infrastructure for cyclists, pedestrians, or transit riders. Roadways in areas with surrounding land uses that attract pedestrians, cyclists, visitors, and residents are also good road diet candidates. These can include historic streets, scenic drives, main streets, schools, an entertainment district. Because a complete street can be provided within the existing right of way after removing or narrowing vehicle travel lanes, road diets are less expensive than widening roads, have fewer negative impacts on adjacent properties, and interrupt traffic for less time during the conversion than a road widening project would. Road diets may also be considered if the following conditions exist:

- A high number of left-turning movements
- Roads with safety issues or high crash rates
- Availability of transit
- Proximity to schools or hospitals
- The road diet features will better integrate with adjacent roadway segments
- Support of the community is in place

HOW?

Road Diets Calm Traffic and Improve Safety:





The illustration above shows the potential of multiple-threat crashes on multi-lane roadways. Particularly dangerous to pedestrians are four-lane undivided highways because of the potential for multiple-threat crashes, in which one vehicle stops and screens the pedestrian, while another motorist continues on in the through lane. The pedestrian and motorist cannot see each other, but because the motorist in one lane has stopped to allow the crossing, it does not necessarily mean that the motorist in the next lane can see the pedestrian or will respond in the same way.

The diagrams to the left demonstrate how a three-lane cross section produces fewer conflict points between vehicles and crossing pedestrians than a four-lane cross section. In addition, although the total roadway width does not change, the complexity of the pedestrian crossing maneuver is reduced when the right of way is reallocated.

C Right-Sized Streets:
Encourage 20 to 30 mph speeds

Turning Radii

Large corner radii encourage high speed turns and fail to provide an edge that honors the street. Bulb-outs, pictured in the far right, can narrow the turning radii and provide for better sidewalk design, enhancing a place as an outdoor room.

Envision, from this...

The intersection of Cherokee Street and Ben King Road has an overly wide turning radii that encourages high speed turns.

to this.

The bulb-out and other pedestrian-scaled infrastructure, in the co-housing project in Cotati, CA, creates an environment that supports people on foot.

Building "setback" & "build-to"

Setback buildings fail to honor the street or watch over people.

Liner buildings transform a setback to a village.

Buildings that front and honor the street also enhance walkability by providing a pedestrian—instead of car-focused scale—by providing "eyes on the street" and slowing the speed of the street. Places where buildings sit back, away from the street, and off-street parking is placed between the buildings and the sidewalks causes surrounding properties to devalue. Cities should adopt "build-to" requirements, instead of setbacks to create a true village environment. Liner buildings transform a setback to a village. Even national chains will adapt to build-to requirements.

Midblock Crossings

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. Pedestrian crossing islands are one of the best tools to simplify crossing wide streets. Used with curb extensions, they get pedestrians out beyond parked cars and 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 percent.

Envision, from this...

This section of Cherokee Street is representative of many of the conditions found throughout Kennesaw; extra vehicle lanes and poor yielding behaviors make it even more hostile for people on foot.

to this.

Many other tools, like pedestrian signs, Rapid Flash Beacons, or raised crossings, are used to improve yielding behavior.

Travel lanes on Cherokee Street from Big Shanty Drive to McCollum Parkway have travel lanes of 10 feet. This is an appropriate width, but vehicle speeds still remain high.

Visually bold edge stripes help to narrow the lane and bring down vehicle speeds.

Bold Edge Striping

Bold edge strips and ten foot travel lanes enforce a 25 mph design speed by visually narrowing the road for motorists. Cherokee Street currently has ten foot lanes, but speeds still remain high. By adding bold edge stripes, 10 to 12 inches, along Cherokee Street, Kennesaw can enforce a lower design speed by visually narrowing the road to nine feet for motorists.

On-Street Parking

We have harmed more communities in America by insisting that we need massive amounts of off-street parking. Off-street parking takes up three times more space than on-street parking. On-street parking visually narrows streets and brings down traffic speeds, while providing the most sustainable and affordable parking. It also frees up land that can be redeveloped with the proper uses to support the community. On-street parking belongs on center city streets, serving as a buffer between pedestrians and moving cars as a natural traffic calming tool. But the primary reason for maximizing parking on street is to help civilize streets that were overbuilt for speed.

Envision, from this...

Off-street parking takes up three times more space than on-street parking.

to this.

Head-out angled parking is safer, more cost efficient and the amount of asphalt is reduced. It also creates a sense of enclosure to calm streets.

This section of Cherokee Street is representative of the limited right-of-way that currently exists. Working with property owners to educate them on the benefits of greening the street, widening the sidewalks, and even adding head-out angled parking will greatly benefit the livability and economic vitality of Cherokee Street.

Tree wells help define the street edge, creates a more comfortable pedestrian environment and reinforces the sense of place.

Tree Wells

Working with property owners along Cherokee Street to expand right-of-way may be a challenging endeavor, but if we want the community to become more walkable and spur economic development this will be a critical community collaborative effort needed. Currently the right-of-way is too tight to plant trees in sidewalk areas. If right-of-way is expanded, use of in-street tree wells can allow the street to be “greened”. Tree wells are used on many local streets but can also be used, along with curb extensions and parking, on main streets. Use of tree wells and curb extensions, in combination, helps bring speeds to more appropriate urban levels.

HOW?

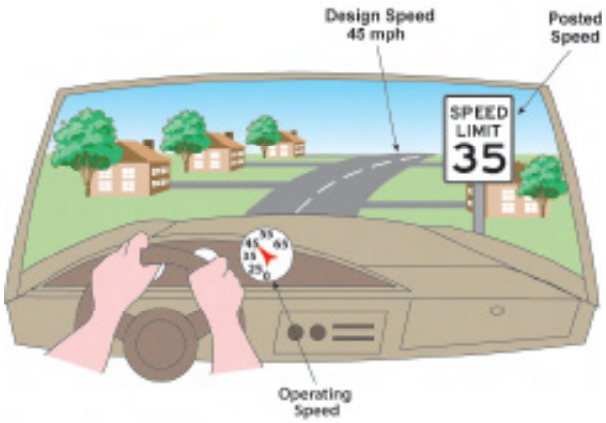
Encourage 20 to 30 mph speeds:

Fewer than one-third of drivers go the speed limit on urban and suburban arterials. Therefore, the design of our roadways must be consistent with the target speed desired. Design features that have been found to affect operating speeds:

- ***Horizontal and Vertical Curvature*** — A tight curve radius has a greater impact on operating speed than any cross-section or roadside element.
- ***Sight Distance*** — As sight distance decreases, so do operating speeds.
- ***Street Trees*** — Street trees in planting strips have a traffic calming benefit.
- ***Lane Widths*** — Narrower lane widths are associated with lower speeds.
- ***Total Roadway Widths*** — Narrower roadway widths are associated with lower operating speeds.
- ***Access Density*** — Higher density of access points is associated with lower operating speeds.
- ***Signal Density*** — Higher signal density is associated with lower operating speeds.
- ***Median*** — Roadways without medians have lower speeds than roadways with medians.
- ***On-Street Parking*** — On-street parking leads to lower speeds, due to side friction between moving and passing vehicles.
- ***Curbs*** — Speeds appear to be lower on streets with curbs than streets without curbs.
- ***Pedestrian Activity*** — Speeds are lower on roadways with higher pedestrian activity.
- ***Roadside Development*** — Speeds are lower in residential areas than commercial areas. Building setbacks also influence speed.

Wide travel lanes encourage faster driving. Adding a colorized bike lane, higher intensity crosswalk markings and increased signage can assist all modes in recognizing the parts of the street, other users and how to respond. The goal should be to reduce traffic speeds so that there is less speeding between traffic lights and improve corridor efficiency through new intersection treatments. Roundabouts, mini circles and traffic calming features can move cars through an area with lower speeds but improved efficiency.

Also known as the “desired operating speed” of a street, “target speed” is the speed desired on the roadway to ensure that all modes (ve-



The images above show the difference between designing for the desired operating speed.

HOW?
Encourage 20 to 30 mph speeds: (continued)

hicular traffic, transit, freight/delivery, pedestrians and bicyclists) can operate efficiently, effectively, safely and with enjoyment. Designing to a target speed means including only those design elements that best reflect the function of the roadway and its land uses.

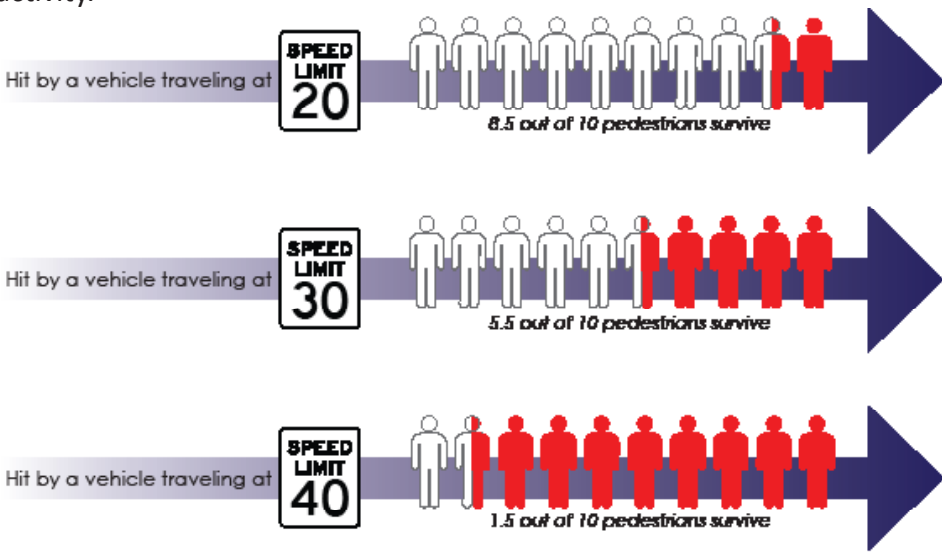
A general practice in the transportation profession has been to set design speeds higher than the target speed limit. It is now recognized that such actions tend to induce greater speeds, which can cause a significant rise in crashes, especially to the most vulnerable roadway users. Urban area design speeds should match the desired target speed. A lower target speed is a key characteristic of thoroughfares in walkable, mixed use, traditional urban areas. Major arterials have the poorest walking condition, due to higher traffic volumes, high traffic speeds, wider streets, and complex intersections.

Selection of an appropriate target speed is based on a number of factors and reasonable driver expectations. Factors include:

- transition from higher- to lower-speed roadways,
- terrain,
- intersection spacing, access to adjacent land,
- type of roadway median,
- presence of curb parking and
- level of pedestrian activity.

A person's decision to walk is influenced by many factors, including distance, perceived safety and comfort, convenience, and visual interest of the route. Pedestrians feel exposed and vulnerable when walking directly adjacent to a high-speed travel lane. Vehicle noise, exhaust and the sensation of passing vehicles reduce pedestrian comfort. Factors that improve pedestrian comfort include a separation from moving traffic and a reduction in speed. In walkable urban environments, a buffer zone that improves pedestrian comfort can be achieved through furnishings, landscaping, bike lanes and on-street parking.

WHY?
Encourage 20 to 30 mph speeds:



The graphic above shows a pedestrian's likely survival rate if hit by a vehicle traveling 20, 30, 40 miles per hour.

Source: Smart Transportation Guide, Planning and Designing Highways and Streets that Support Sustainable and Livable Communities. Chapter 6. Designing the Roadway
http://www.state.nj.us/transportation/community/mobility/pdf/smarttransportationguidebook2008.pdf

D ADA Compliance: *Universal Design*

Make the community accessible to all

It was hard to find complete blocks along Park Lane that are barrier free. Paths of travel need to be accessible to all. According to the *2010 American Disabilities Act (ADA) Standards for Accessible Design*, "A 'path of travel' includes a continuous, unobstructed way of pedestrian passage by means of which the area may be approached, entered, and exited, and which connects the area with an exterior approach (including sidewalks, streets, and parking areas)."

Kennesaw should map out all the barriers to travel and set a regular budget to make changes in support of people of all abilities. There are many places to begin. Opportunities include:

- Provide two ramps per corner
- Keep ramps as wide as the crossings
- Reduce crossing distances for pedestrians through curb cuts, right sized travel lanes and refuge islands
- Widen sidewalks
- Retrofit driveways to include level landings
- Provide residents advice and support for repairing worn or uplifted sidewalk locations
- Remove obstacles from sidewalks and enforce barrier free routes of travel through neighborhoods

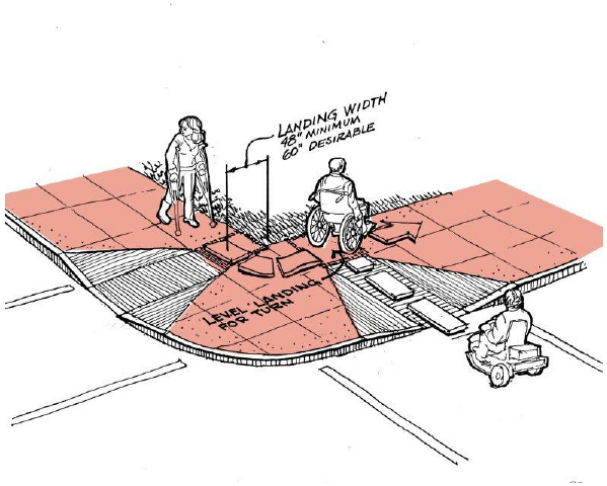
Envision, from this...

Challenges to ADA compliance exist in Kennesaw.

to this.

All areas should be accessible and meet ADA compliance.

HOW?
To Ensure ADA Compliance



Through the design and planning phases it is imperative that Americans with Disabilities Act (ADA) requirements are being considered and met. This is a federal law. To learn more on the most current policies go to www.ada.gov.

Disability Awareness Starts Here, DASH, located in Port Townsend, Washington is another great resource. DASH has information on leading accessibility audits and other educational and advocacy tools that can help communities improve access for people with all abilities. http://dashproject.org/

ADA compliance is greatly improved through the use of curb extensions. Not only is it easier to position ramps where they need to be, the pedestrian is positioned where they can see traffic, and where drivers can see them. In these applications, the potential for motorist yielding behavior is improved. Sight lines are better protected, and motorists can more safely enter and exit parking spaces. Note that when colorized crosswalk markings are used, two wide white bands are needed to support low vision pedestrians, and to make the crossing more noticeable to motorists.

A Photo Vision for Cherokee Street & McCollum Parkway

Creating a roundabout at the intersection at Cherokee Street and McCollum Parkway will introduce an attractive front door, or gateway, into one of Kennesaw's diverse and main corridors. The roundabout removes the major safety, capacity, noise, access and mobility challenges that presently exist. The intersection at Cherokee Street and McCollum Parkway then becomes well-managed, improving the flow of peak hour traffic, while bringing all speeds under control. The roundabout will move 30% more traffic, with a 90% reduction in personal injury crashes. Properly placed crosswalks are setback two car lengths from the circulating lanes. The roundabout's coral truck apron accommodates oversized vehicles. Placemaking is improved through this beautiful intersection design, setting the stage for new buildings, businesses and parking that honor the street and neighborhood. Just as significant, fixing this intersection will add great value to all land and enhance the walkability and livability of the neighborhood.

Existing Conditions at Cherokee Street & McCollum Parkway

A Vision for Cherokee Street & McCollum Parkway

NEXT STEPS: 100-DAY CHALLENGE

The Significance of 100 Days

Focusing on a 100-day action plan allows you to accomplish the following:

- Identify critical concerns and prioritize them
- Motivate others with reasonable goals and tasks
- Ensure that milestones are met
- Keep the group motivated
- Build confidence with early wins
- Confirm that you are working with the right people
- Build on successes
- Schedule review and refinement of mission, goals and tasks

How Does Change Happen?

A project is more likely to succeed if motivated individuals set a course to accomplish their goals immediately. Early successes provide the hand- and toe-holds needed to pull the group from one achievement to the next.

The 100-Day Challenge sets goals that can be accomplished within 100 days to show a genuine commitment to active living. All change begins by asking one question: What can I do? Each of us shapes the built environment we find ourselves in, either through active participation in decision making, or by leaving decisions up to others.

Quality of life 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. And your community either encourages aging in place or contributes to social isolation.

- You recognize that what you are doing is not working
- You form a group to generate ideas, build support and learn
- The group sets a vision and the mission, goals and tasks to support this vision
- You share this vision with others, along with the specific goals and tasks that guide activities
- You do something and you encourage others to do something
- You share your successes with others and this motivates them
- Encouraged that change is possible, others join the group in moving the movement
- You refine your mission, goals and tasks to keep them current

In his book *Leading Change*, Professor John Kotter identifies eight steps for effecting change, provided on the following page.

NEXT STEPS:
Professor John Kotter's 8-Steps for **Effecting Change**

Eight-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 non-traditional 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

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

The following conditions help determine an active living project's success:

- Leadership: Leaders who inspire collaboration to identify and accomplish goals.
- Motivated Teammates: Individuals with a can-do spirit who are eager to work together.
- Actionable Strategies: Identification of the tasks in support of a goal, with individuals to take on specific tasks and a time frame for completion;
- Early Successes: Projects that allow for immediate successes to keep the group motivated and to build confidence.

NEXT STEPS: **1-30 DAYS** Share Report Findings with Kennesaw Citizens Advisory Committee

Innovation comes through collaboration and sharing of resources. Participants of the Active Living Workshop identified the need to broaden the group of stakeholders—elected, public service leaders, businesses, and residents—involved.

The group immediately noted that community buy-in will be essential to create change along Cherokee Street. The stretch of Cherokee Street, from Big Shanty Drive to McCollum Parkway, has a diverse representation of stakeholders with many different interests represented—residential to small business, historic buildings to strip-malls. A major obstacle of Cherokee Street is the narrow right-of-way that exists from Big Shanty Drive to McCollum Parkway. Although travel lanes are the appropriate width, ten feet, the current 30 feet of right-of-way impacts the corridors ability to support new and appropriately sized sidewalks and other streetscaping features that promote active living. New collaboration and sharing of resources will be key in order to expand the right-of-way. Business and home owners need to understand the benefits of wider sidewalks, more street trees and on-street parking and how these recommendations will add to economic development for the neighborhood, health and safety and overall a more active living community for people of all ages and abilities.

Developing a plan on how to engage the business owners and residents along Cherokee Street and broader Kennesaw is needed to help stakeholders come together to create a shared vision for Cherokee Street. The Kennesaw Citizens Advisory Committee (KCAC) should be the first group that is engaged.

The purpose of KCAC is to evaluate various initiatives, proposals and programs from a citizen perspective and develop recommendations for the Mayor, council and city staff. Due to KCAC's role to help evaluate initiatives and give recommendations to the City it is imperative that the report findings are shared with the committee so they can help identify, recommend, and provide outreach in developing a plan to building community engagement around improving Cherokee Street.

Communities that successfully transform from surviving to thriving do so by placing tools into the hands of community members. A partnership between elected leadership, technical staff, businesses and resident advocates forms when each empowers the other. This approach mobilizes the community to identify challenges, learn from one other, and then localize an action plan so that many hands share the important work of community building and creating safe places to live for the most vulnerable amongst us.

Workshop participants, including Kennesaw Citizens Advisory Committee Chairman and resident of Cherokee Street, Jim Sebastian, and Elizabeth Bookout with Fountain Gate Life & Wellness Center, a business located on Cherokee Street.

NEXT STEPS: **31-60 DAYS** Share Report and KCAC Findings with Mayor & Councilmembers for a More Walkable & Livable Kennesaw

Mayor Mark Mathews opened the workshop and participated in the morning presentation. The Mayor, council, staff and many others should be commended for their efforts in the Depot Master Plan, the FitCity Kennesaw initiative, and most recently the certification as a Silver Level Green Community awarded by the Atlanta Regional Commission (ARC) Board for implementing policies and practices that reduce the city's overall environmental impact. Some of the green practices for which Kennesaw was recognized are: adopting a Complete Streets Policy, working with Cobb County to synchronize traffic signals within the city, setting a goal of 20% of city land to be permanently protected green space, and establishing "Gather 'n Grow" plots at Smith-Gilbert Gardens for residents to cultivate their own vegetable and herb gardens. These initiatives highlight the collaboration, innovation, and desire to make Kennesaw more livable.

The Mayor and council should be informed on the results of the workshop as the findings will help inform decisions and assist the City in achieving a Gold Level Green Community in the near future. Launching into 2013, there are many opportunities along Cherokee Street that can be implemented to serve as a demonstration project that will mobilize the community around creating the kinds of places, economy, housing and transportation choices, that the citizens of Kennesaw desire.

The main needs identified along Cherokee Street are:

- New and improved pedestrian infrastructure, including marked street crossings and sidewalks
- To work with all stakeholders along Cherokee to develop a plan and partnership for addressing the narrow right-of-way in order to make the corridor more walkable, shopable, and livable
- Roundabouts to calm traffic and make the streets more efficient and safe for all modes of transportation—two key locations identified for a demonstration roundabout project were Cherokee & McCollum Parkway and Cherokee & Big Shanty Drive
- Better connectivity and ability for residents, of all ages, to get to and from their homes school, work, or commerce with other choices in modes of transportation
- Current land use mix does not support healthy choices or active living, thus zoning and code enforcement need to be in line with supporting urban development instead of what has been traditionally suburban development

How will we, as a community, work together to support alternate modes of transportation and more active-living lifestyles?

NEXT STEPS: **61-100 DAYS** Share Report Findings with Mark Randall, South City Partners & Discuss Further Public/Private Partnerships

Engaging residents, key leaders and stakeholders further in planning a more walkable and livable Cherokee Street is key. Participants noted the importance of following up with Mark Randall of South City Partners, the development firm of the Sanctuary, a new multi-use student housing project on Cherokee Street and McCollum Parkway. Mr. Randall and his associate, Charles Welch, both participated in the full-day workshop. Due to their commitment, involvement and interest in the workshop it is important to share the report and photo vision, which visually shows the recommendation of a roundabout at McCollum Parkway, to see what additional partnerships can be formed to help support the vitality of both the new housing project and Cherokee Street. The Sanctuary is currently in the construction phase, but there still is time to make sure that additional street and streetscaping improvements can be made to better support the future livability for students and community at large.

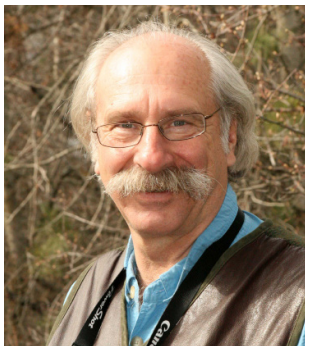
Participants of the workshop identified that Kennesaw State University (KSU) and the Wellmark Foundation, both which had no representatives at the workshop, are two additional key stakeholders in both the housing development and future Cherokee Street improvements who need to be engaged in future partnerships.

Mark Randall of South City Partners shares his vision for a more livable community with the Sanctuary, a mix-use student housing development on Cherokee Street and McCollum Parkway.

Walking audit participants learn more about the new student housing development and discuss the need to make sure the surrounding streets begin to reflect and support people too not only cars.

A Message from Dan Burden

Quite simply put, the values of a community are expressed in the thoughtful planning and design of its streets. Cities that accommodate walkers, bicyclists, transit, automobiles and freight fundamentally understand the role of cities: to maximize exchange. But thoughtful planning must have as its purpose the collective happiness and prosperity of all people. With this focus, local economies blossom. Walkability scales transportation planning to the human foot. A focus on walkability is a great equalizer because we soon see the social inequities that the built environment reinforces.



Dear Friends,

We must change the way we approach transportation planning to ensure our communities are desirable places to live, learn, work, and play. In general, streets in Kennesaw are over-built for cars and under-built for people. Some streets have unnecessary or overly wide vehicle travel lanes, to the detriment of adjacent businesses and people using other modes of travel. Parts of Cherokee Street have a very limited right-of-way impacting the homes, businesses and people due to poor sidewalks and lack of on-street parking. Additionally, sidewalks have little to no buffer between people walking and the cars passing by them and have been poorly maintained. Land-use and transportation decisions appear in many places to be out of sync with each other. We can, and we need, to do better.

Our future planning needs to recognize the need and significance of moving away from a car-centered way of planning. Residents and stakeholders of Kennesaw recognize that integrating transportation and land use planning improves health of individuals, the community and economy, encourages living in place, and provides opportunities for residents to interact.

The good news is that the challenges we face are opportunities. This technical report provides guidance as you take steps towards a walkable, livable, healthier and happier community. In Kennesaw, immediate next steps include organizing with stakeholders and elected leaders to share the report findings regarding Cherokee Street. The energy, passion and leadership is there. It is time to act; to take charge in forging new understandings and relationships that will propel Cherokee Street into a key destination for livability within Kennesaw. Working with AARP Associate State Director Janie Walker and Darryl Simmons with the City of Kennesaw, residents are sure to complete their 100–Day Challenge.

All the best,

Active Living Toolbox

1. *Plan for Pedestrians*
2. *Implement a Complete Streets Policy*
3. *Utilize Street Treatments to Encourage Active Transportation*
4. *Choose Environmentally Friendly Features*
5. *Work Effectively with Others*
6. *Survey Existing Conditions & Take Next Steps*
7. *Share Successes*
8. *Bicycle/Pedestrian Funding Opportunities*
9. *Funding Sources and Potential Partners Checklist*

TOOL

Plan for Pedestrians

Walkable communities outperform car-oriented communities economically. Nearly everyone, for at least some portion of every day, is a pedestrian. This is why pedestrian planning matters. Pedestrian master planning establishes the policies, programs, design criteria, and projects that will further enhance pedestrian safety, comfort, and access in a community. Through the pedestrian master planning efforts, a community will have environmentally, economically, and socially sustainable transportation systems.

A pedestrian master plan helps 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 that inform 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 gaps and the distribution of existing pedestrian facilities.
- Analyze needs and demand based on information gathered, allowing a broader understanding of patterns, behaviors and origins and destinations.
- Perform a security analysis because people will not walk if they feel that they must navigate through an area with no activity or "eyes on the street."
- Determine where they need to add shade to streets and sidewalks, because if you want people to walk in all temperatures, it's necessary to provide environments that are comfortable for walking.
- Develop criteria for ranking, prioritizing and implementing projects for maximum impact and to better support current initiatives.
- Develop funding strategies that might reduce the burden of improvements.

Pedestrian Master Planning focuses on pedestrian safety, comfort and access in a community.

Resources

The Pedestrian and Bicycle Information Center (PBIC) is a national clearing house for information about health and safety, engineering, advocacy, education, enforcement, access, and mobility for pedestrians (including transit users) and bicyclists. Model pedestrian plans are available at http://www.walkinginfo.org/develop/sample-plans.cfm.

TOOL

Implement a Complete Streets Policy

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

Land use and transportation policy can either contribute to or detract from community building. When thoughtfully integrated, land use and transportation policies and strategies can jointly preserve and even enhance natural and cultural resources and create better built environments that are walkable, livable and sustainable. There are four key steps for successful implementation: 1) Restructure procedures to accommodate all users on every project; 2) Develop new design policies and guides; 3) Offer workshops and other training opportunities to planners and engineers; and 4) Institute better ways to measure performance and collect data on how well the streets are serving all users. These implementation steps are guided by ten elements of a comprehensive Complete Streets Policy, as the National Complete Streets Coalition has identified.

- Includes a vision for how and why the community wants to complete its streets
- Specifies that 'all users' includes pedestrians, bicyclists and transit passengers of all ages and abilities, as well as trucks, buses, emergency vehicles, and automobiles.
- Encourages street connectivity and aims to create a comprehensive, integrated, connected network for all modes.
- Is understood by all agencies to cover all roads.
- Applies to both new and retrofit projects, including design, planning, maintenance, and operations, for the entire right of way.
- Makes any exceptions specific and sets a clear procedure that requires high-level approval of exceptions.
- Directs the use of the latest and best design criteria and guidelines while recognizing the need for flexibility in balancing user needs.
- Directs that Complete Streets solutions will complement the context of the community.
- Establishes performance standards with measurable outcomes.

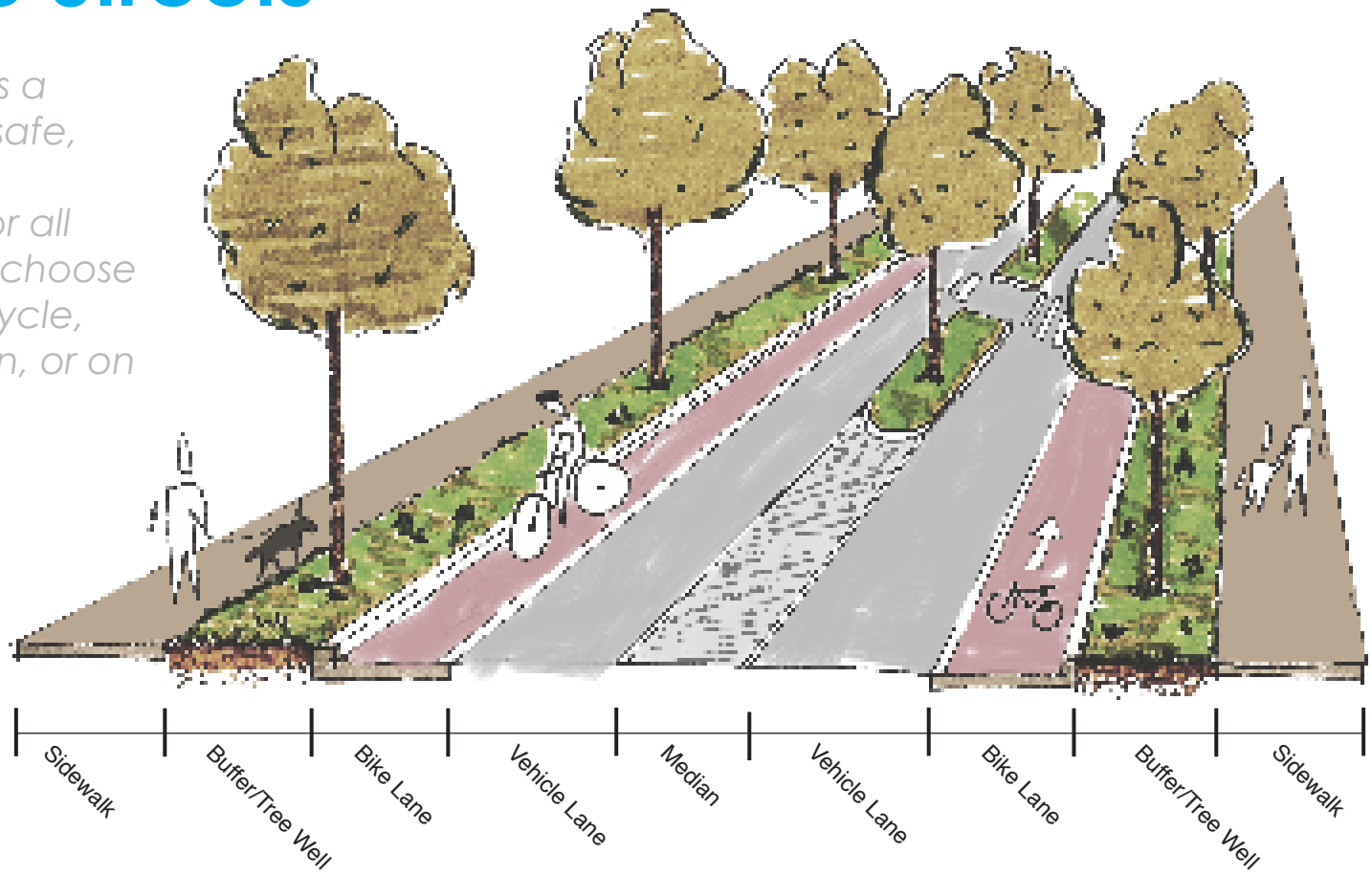
A photo-visualization of a Complete Street created by the WALC Institute for AARP Georgia

National Complete Streets Coalition at http://www.completestreets.org/complete-streets-fundamentals/resources/

TOOL

Complete Streets

A Complete Street is a street designed for safe, comfortable and convenient travel for all users, whether they choose to travel by car, bicycle, public transportation, or on foot.



Trees:
Tall trees of a species appropriate for the area are spaced 15 to 25 feet apart. The vertical wall helps calm traffic and encourages lower vehicle speeds.

Buffer:
If the buffer includes trees, they should be set back from the curb at least four feet and the total buffer should be at least six feet.

Bike lane:
To function well, bike lanes should be at least six feet wide.

Wide stripes:
Mark bike lanes with thermoplastic stripes eight to twelve inches wide.

Median widths:
Medians typically are six to eight feet wide, but can vary to allow for landscaping, maintenance and adequate "refuge" for pedestrians crossing.

Vehicle lanes:
Lane width analysis indicates that narrower lanes are associated with lower crash frequencies. Ten foot travel lanes reinforce a 25-35 mph design speed.

Utilize Street Treatments to Encourage Active Transportation

Sidewalk Design

Sidewalks 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 enjoying their public space. Sidewalks work best when they are fully buffered from moving traffic. Color, texture, street furniture and other materials can distinguish functional areas of sidewalks. When building a sidewalk, contractors should be advised that utilizing trowel cuts, rather than saw cuts, creates a better surface for wheelchairs and wheeled devices. Whether for decorative purposes or to allow for sidewalk expansion, the goal is to keep the surface level and to avoid a bumpy ride for wheeled users.

Sidewalks have three parts: the shy zone, the furniture zone and the walk/talk zone.

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, mid-block, 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 attractive gateways.

A curb extension in Birmingham, AL shortens the crossing distance for pedestrians

Crossing Markings

Crossings should be well placed and located where there is a strong desire to cross, sight distances are good, and speeds are low. The use of materials to create attractive streetscape features can add beauty, function and a sense of place. Each functional part of a street – parking, crossings, curb extensions, lane narrowing and plantings – should be designed to add to the aesthetics, character and integrity of the street. Cities must maintain crossings and note when they become faded. Volunteers can help in this surveying effort.

Crossings must be located where there is a strong desire to cross and where sight distances are good

Crosswalk Signs

As a general rule, the higher the volume and speed of traffic, the more essential it is 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. When possible, "double sign" school signs on all approaches. 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.

Signage allows users to anticipate one another

Pedestrian Refuge Islands

Pedestrian refuge islands are one of the best tools for simplifying the crossing of wide streets. Used with curb extensions, they get pedestrians out beyond parked cars and 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 percent. Many other tools, like Rapid Flash Beacons, or raised crossings, are used when it is necessary to increase yielding behavior.

Pedestrian refuge islands buffer pedestrians from traffic, allow crossings in stages and angle pedestrians correctly to face traffic.

Raised Midblock Crossing

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 15-20mph 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.

A raised mid-block crossing in Cambridge, MA helps motorists see pedestrians in deep shadow

Raised Crossing

Raised crossings are not only used in midblock locations, they are used at intersections. They can be used at right turn channelized islands, or at regular intersections. Crossings are designed to restrict all through speeds to 15-20 mph. 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, colorized concrete or colorized asphalt are often specified. Raised crossings at intersections are used widely in snow cities such as Stamford, CT and Cambridge, MA.

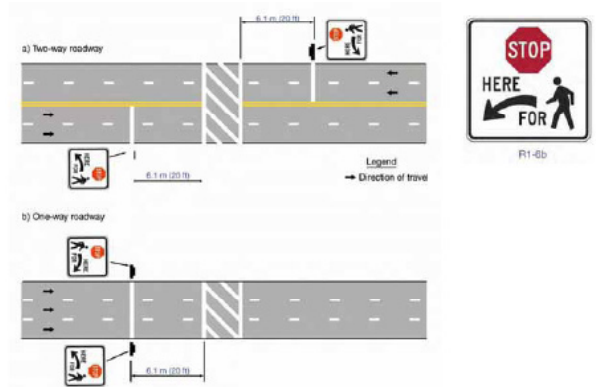
The use of color and texture informs both drivers and pedestrians to anticipate one another

Request Flashing Warning Beacons

A flashing beacon is a traffic control signal that operates in a flashing mode (flash rate is typically one flash per second). A common application is to add a flashing amber signal to the top of a standard pedestrian sign to provide warning of a pedestrian crossing. In some cases, pedestrian detection is used to activate the beacons. Detection can be either passive or active. For flashing beacons with active detection, a pedestrian must press a push-button. For flashing beacons with passive detection, there are a number of options including bollards with motion sensors. The beacon can be constructed using solar power to simplify installation.

Advance Stop Lines at Uncontrolled Marked Crosswalks

Numerous studies have shown that the use of advance stop or yield lines at uncontrolled marked crosswalks in conjunction with “Stop Here for Pedestrians” signs can reduce the incidence of multiple threat crashes. Multiple threat crashes are common on multi-lane roads when a driver in one lane yields to a pedestrian, and a driver in the adjacent lane fails to stop. The MUTCD allows for the use of advance yield lines at unsignalized midblock crosswalks.



MDSHA Figure 3B-15 (modified): Examples of Stop Lines at unsignalized midblock crosswalks and the accompanying sign.

Utilize Leading Pedestrian Intervals and Right-Turn-On-Red Restrictions

A large proportion of vehicle/pedestrian collisions at signalized intersections involve left- and right-turning vehicles. One phasing strategy to improve pedestrian safety in locations with heavy volumes of turning traffic and frequent pedestrian crossings is to provide a leading pedestrian interval (LPI.) During the leading interval, all motor vehicle flows are stopped for 2-4 seconds while pedestrians are given the WALK signal. This enables pedestrians to begin crossing in advance of vehicular turning movements.

A lead pedestrian interval with right on red restriction would help this couple cross safely

Signalized Intersections

Intersection control devices are critical if walking, bicycling and motoring are to work, and work together. People who cross at intersections, when they are signaled to do so, are most predictable. Drivers appreciate predictable and compliant behavior. 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. Signal timing should be automated for inclusion of walking cycles. Signal timing should be adjusted so that signals recall to WALK during the cycle, minus the clearance interval.

Signals should recall to WALK during the cycle and instruct pedestrians on crossing times.

Raised Intersection

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.

Raised intersections bring speeds under control and help motorists and pedestrians see each other in Birmingham, AL.

Intersection Chicane

Intersection chicanes involve 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 deflection path bring speeds down to the desired level. All raised areas become gardens for the neighborhood. Both sides of the intersection are narrowed, minimizing crossing distance and time. Chicanes can be used on streets with volumes as high as 12,000 daily trips. Emergency responders and transit providers prefer chicanes to more intrusive four-way stops and raised crossings.

A large vehicle being deflected through a neighborhood Intersection Chicane, Santa Barbara, CA

Short Medians

Short medians help bring down speeds near schools and other places where people should be expected. 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. They bring speeds down to levels where motorists are more courteous to pedestrians and they allow U-turns, which can assist with 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 temperate climates.

A short median in Loma Linda, CA announces the entrance to a residential neighborhood

Mini Circles

Mini Circles are one of the most popular and effective tools for calming traffic in neighborhoods. Seattle has 1,200 Mini Circles and this has led to a reduction in intersection crashes. They are the best neighborhood safety feature of any treatment type. These inexpensive features do not interrupt drainage. 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. A common engineering mistake is to put in four way stops around a mini circle. Mini Circles require yield signs instead.

A mini-circle in the Bird Rock neighborhood of San Diego, CA

Roundabouts

Roundabouts facilitate through-traffic and turning movements without requiring a signal control. Roundabouts allow vehicles to circulate around an island that is often used for landscaping, a gateway or for other decorative features, like artwork. 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 carrying capacity by up to 30 percent. As the only requirement for yielding the right-of-way is to traffic already in the circulating roadway, roundabouts also reduce delays for everyone.

Vehicles using a roundabout on Route 62 in Hamburg, NY

Road Diets

A road diet involves eliminating travel lanes to improve safety for pedestrians, bicyclists and motorists. Motorist crashes are typically reduced 12 to 30 percent, with some drops as high as 70 percent. High end speeds, especially, are reduced. 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 bicycle lanes, sidewalks, planter strips for street trees, a bus stop, a separated multi-use trail, a wider outside lane or for on-street parking.

A road diet in Orlando, FL increased retail sales.

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. Narrower travel and storage lanes are proving to be slightly safer. Motorists appear to become more attentive when lanes are narrowed from 11-12 feet to 10 foot travel lanes. Bike lanes should be at least 5 feet wide and seamless. Thick striping and regular markings remind drivers to anticipate bicyclists. Bike lanes have an added benefit to pedestrians in that they provide a buffer to moving traffic.

Bold striping and markings remind drivers that bicyclists belong on the road

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.

A sharrow in Seattle, WA.

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 trees. Tree wells are used on many local streets but can also be used, along with curb extensions, on main streets. Use of tree wells and curb extensions, in combination, helps bring speeds to more appropriate urban levels.

Tree wells in the Town of Tioga, FL, provide shade and inset parking

On-Street 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 a canopy to the street. Since it already has its own turn radii into each spot and access, on-street parking only takes up one-third of the land of off-street parking. But the primary reason for maximizing parking on street is to help civilize streets that were overbuilt for speed. On-street parking belongs on center city streets, serving as a buffer between pedestrians and moving cars as a natural traffic calming tool.

On-street parking can be head-in, head-out or parallel. It takes less space than off-street parking.

Head-Out Angled Parking

Head-out angled parking maximizes use of adjacent land, since off-street parking takes up three times more space than on-street parking. It also takes up less road space since adjacent lanes can be 10 to 11 feet wide. 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 for the parking bay. Parking bay depths should be 15 feet. An added two foot of space is picked up when valley gutters are used. Learn the benefits of head out angled parking here: http://vimeo.com/35268340. In addition to the benefits listed above, head out angled parking places the trunk closest to the curb and the car doors open to shepherd children away from the road and towards the curb.

Motorists can see bicyclists, motorists and pedestrians with head out angled parking.

Transit Stop Locations

Where possible, bus stops should be located on the far-side of intersections and at controlled crossings when located on higher volume multi-lane arterials. Far-side bus stops encourage pedestrians to cross behind the bus which improves visibility to other motorists. Bus stops located on the far side of signalized intersections also improve transit efficiency and minimize parking loss to neighborhoods.

Multiple transit locations in Brightwood Park make integration of routes, stops and modes challenging.

Plazas, Parks and Paseos

Transforming a street, sidewalk, plaza, square, paseo, open lot, waterfront or other space into a community source of distinction brings joy to the community. Good places make good experiences possible and they have consequences in our lives. People want to be in attractive, well designed and cared for public places. Investment in streets and other public spaces brings added value to all buildings and homes in an area. A compelling sense of place allows the time spent there to be rewarding and memorable. Converting alleys, sidewalks and streets into pocket parks, plazas and paseos creates lively places for people to gather, celebrate, eat and enjoy being together.

Madison, WI provides lovely outdoor eating areas even on its busiest streets around the Capitol

TOOL

Choose Environmentally Friendly Features

Rain Gardens

Rain Gardens can be designed to allow stormwater to percolate through the soil, cleaning rain water before discharging into sewers or bodies of water. Rain gardens can be formal or natural in appearance, depending on the local context. In the images below, naturalistic plantings and permeable parking green streets. Formal plantings provide stormwater management in Birmingham, Alabama's Railroad Park. Incentivizing rain gardens and permeable parking, in addition to ground cover, potted plants or other planters can add to a neighborhood's reputation as a garden district.

Formal and naturalistic rain garden design.

Tree Wells

Clarksdale has some beautiful, tree-lined streets. Unfortunately, pruning for utility lines has damaged many older trees. Tree wells with parking features improve shade and create a sense of enclosure. Tree wells placed with on-street parking can do much to create a cooling and greening effect that will harmonize with surrounding features. Tree lined streets also create a sense of enclosure to protect pedestrians and reduce vehicle speeds. As a general rule, retailers earn an extra 12 cents on the dollar when people shop under a full canopy (Main Street, USA). Generally, urban street trees are planted every 30-40 feet.

Tree wells and inset parking provide a green edge to the street while avoiding utility line conflicts.

Community Gardens

Community gardens, rooftop gardens and urban agriculture provide opportunities to green the Clarksdale. Jones Valley Teaching Farm is a good model. Located in Birmingham, Alabama, Jones Valley Urban Farm is not just a place where delicious food grows — it's a place where young minds blossom. Their mission is to make their community a healthier place. Their focus is empowering future generations with an education to eat smarter, think healthier—and live better. See www.juuf.org.

A community garden in High Springs, FL.

Green Development – High Point, Seattle, WA

The High Point community in West Seattle Washington, was designed to be a model of green development and sustainable living. Residents enjoy reduced costs to heat and cool; overall lower energy use; reduced water use; and homes are built to have longer life-cycles and low maintenance costs. High Point is a 120-acre HOPE VI redevelopment that replaces 716 subsidized housing units with three-star houses, townhouses, apartments and parks for more than 4,000 people. 50 percent of the units are home to low-income residents with 350 units designated for very low income residents. In 2007, High Point was recognized with several high-profile awards, including the Urban Land Institute's Global Award of Excellence. High Point was one of only five worldwide awardees. Learn more about the High Point at: http://thehighpoint.com/.

Affordable housing can be green and beautiful.

Access to Healthy Foods

Access to healthy foods does not need to take huge amounts of space. A temporary farmer's market, on-street vendors and produce on pallets can provide access to healthy foods in the heart of downtown and near residential areas. They are also a great way to motivate entrepreneurs without capital expenditures.

Healthy foods should be provided near work sites and downtowns and often require small amounts of space.

TOOL

Work Effectively with Others

Dealing with challenges

We work best with others when we feel as if we belong and that our contributions are valuable. Disruptive behaviors fall into two main categories: progress-blocking and group-thwarting. Progress-blocking actions interrupt processes and discourage next steps. Group-thwarting actions undermine the confidence and ability of the group to act cohesively. Successful groups watch for indicators of disruptive behaviors.

While the motives for disruptive behaviors are complex, unclear objectives are the biggest barrier to effective team performance. If disruptive behaviors are interrupting progress or undermining the confidence of the group, it is time to discuss this as a group. All discussions and deeds should be examined for how they lead to the group's stated goals. When a disagreeable comment is made, the group should ask, "What is the desired outcome of that statement?" or "How does this conversation lead us to our goal?"

Staff and residents are partners in community building

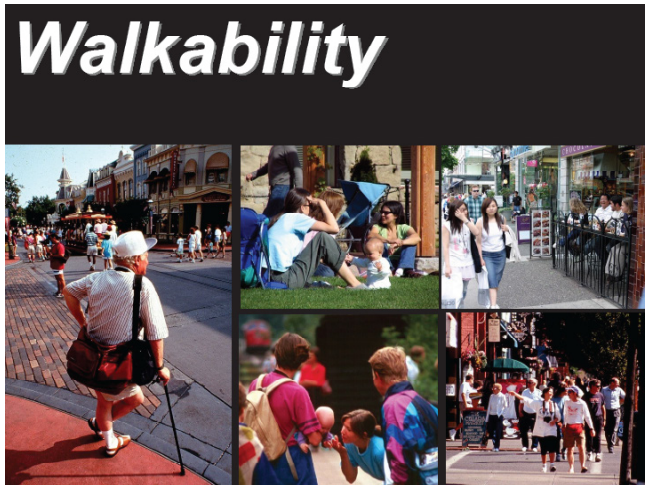
Behaviors that Block Progress

- Confrontational instead of cooperative approaches
- Attacking a person rather than a problem
- Engaging in gossip, clique-forming or other power-seeking activities
- Excessive talking, loud voices or otherwise dominating a conversation
- Speeches rather than discussions
- Allowing ultimatums to be made
- Constantly joking, clowning or making sexually-charged remarks
- Revisiting tasks that the group agrees are complete
- Showing an inability to transition from task to task or set next steps
- Advocating ideas without actions
- Failing to complete assignments on time
- Not communicating successes or failures
- Not tying actions to goals or next steps
- Being unkind, unsupportive or mean-spirited
- Silence or failing to engage others
- Attention- or sympathy-seeking behaviors
- Failure to disclose interests or conflicts
- Dismissive or denial-seeking behaviors
- Arguing
- Presenting only one side of a topic
- Departing from the topic regularly
- Introducing unnecessary, anecdotal or tangential information

TOOL

Survey Existing Conditions & Take Next Steps

To help effectively convey existing conditions, continue to assess the built environment and share those findings. The Walkable and Livable Communities Institute has created a Walkability Workbook which leads communities through assessment and documentation activities. The Walkability Workshop provides targeted technical assistance to improve walkability. This workbook is designed to guide participants through delivery of the workshop. The workbook is divided into the following main sections:

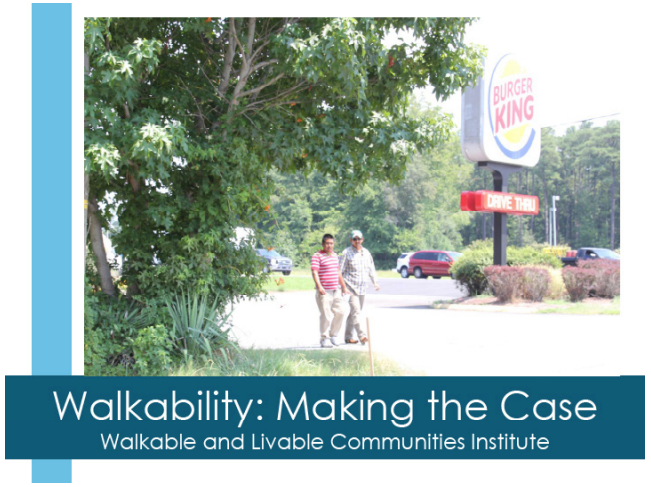


1. The Facilitator's Guide – This section highlights activities that will take place before, during and after a walkability workshop. Four PowerPoint Presentations are also included to assist in sharing key concepts during the workshop: 1) Walkability: Making the Case; 2) Walkability: Principles, Deterrents and Treatments; 3) Practicing Assessment; and 4) How To Use the Survey Tool. The facilitator can adapt these presentations by choosing those slides that are most relevant to participants.

2. The Walking Audit Survey Tool – The survey tool allows participants to document their observations during a walking audit. An example of a completed survey is also provided.

3. Walkability Toolbox – The toolbox explains key concepts to advance walkability and provides resources for participants to take next steps.

4. Notes Section – The notes for the four PowerPoint presentations are included so that the facilitator has resource materials that speak to why walkability matters, the principles of walkability, how to assess the built environment and how to use the survey tool.



The Walkability Workshop engages communities in making their streets and neighborhoods more walkable. The end goal is to be able to share concerns with city staff and elected officials. To access the free Walkability Workbook, see: http://www.walklive.org/resources/

TOOL

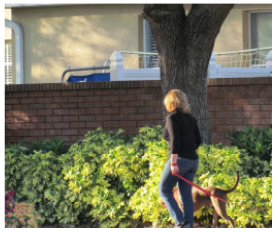
Share Successes

To help effectively convey existing conditions, try "digital storytelling." Create a presentation that uses images, video or graphics to show in a compelling way why changes are needed in a particular area.

Although videos and graphically rich presentations are great tools, they can be difficult for people not trained to do them. A simpler idea is to create a Power Point or other type of user-friendly presentation with digital images you capture yourself. Following are some tips, illustrated with slides from a presentation created by a resident in Winter Garden, FL who wanted to share concerns about nearby roadways with city staff.

- Determine the purpose of the presentation. Is it to show city staff that there is a safety issue? Is it to convince homeowners to support a roadway project? Is it to engage local business as stakeholders? Consider what messages and images will resonate with the intended audience.
- Carry your camera everywhere for a while. You need to get a variety of images and you never know when the perfect picture to document a particular concern will emerge.
- Avoid staging pictures. Be authentic. But by the same token, don't be afraid to use your friends and family in pictures. You spend more time with them than anyone else and so you're likely to be able to get pictures of conditions affecting them. Also, they are your reason for doing this work, so it's appropriate to let that concern for them come through in your presentation. And if it's important to document something but it would be dangerous to do so without staging it, then by all means stage it, but disclose that fact in the presentation.
- Use Google Earth (download it for free) to get an aerial view of the "study area."
- Use PowerPoint or a similar presentation program to put the images in order and put labels on them. Although it's ideal to be able to deliver your presentation in person, expect that it may also be viewed on its own, so it has to be self-explanatory. Consider using free or low-cost online tools such as social media or slide-sharing services to disseminate your presentation to multiple audiences.

Capturing existing conditions through photography helps to explain safety concerns and represent the community.



- Be transparent and share your agenda. Let people know why you're so interested in the project. Whether for the health and safety of your family, for business or economic reasons or to simply make your community a more enjoyable place, include that in the presentation.
- Build the presentation the way you would tell a story.
  1. First, tell the story of the community or the neighborhood in the way you understand it. If you're not an engineer or planner, you're not expected to communicate like one. Explain things in a comfortable way.
  2. Start by describing the context and explaining what the neighborhood is like, who lives there, and what the various land uses are. This gives the audience a sense of the community character.
  3. Explain the problem. You don't need to be an expert in traffic operations to be able to point out that cars are moving too quickly for you to feel comfortable letting your children walk to the playground, or riding your bike to the store.
- Use images that document the things that make you feel unsafe or disconnected. Use statistics as appropriate.

The Problem — Intersection Width and Turning Radii

Use presentation software to put the images in order and apply labels and explanations. Explain the community character and context. Document the problems in your own terms. Use statistics if needed.

The Corridor — Great Land Uses

The Problem — Speed Limit, Speed and Conflicts

Bicycle/Pedestrian Funding Opportunities

Project type	NHS	STP	HSIP	SRTS	TEA	CMAQ	RTP	FTA	TE	BRI	402	PLA	TCSP	JOBS	FLH	BYW
Bicycle and pedestrian plan		•				•						•	•			
Bicycle lanes on roadway	•	•	•	•	•	•		•	•	•					•	•
Paved shoulders	•	•	•	•	•	•				•					•	•
Signed bike route	•	•		•	•	•									•	•
Shared use path/trail	•	•		•	•	•	•								•	•
Single track hike/bike trail							•									
Spot improvement program		•	•	•	•	•										
Maps		•		•		•					•					
Bike racks on buses		•			•	•		•	•							
Bicycle parking facilities		•		•	•	•		•	•							•
Trail/highway intersection	•	•	•	•	•	•	•								•	•
Bicycle storage/service center		•		•	•	•		•	•				•	•		
Sidewalks, new or retrofit	•	•	•	•	•	•		•	•	•					•	•
Crosswalks, new or retrofit	•	•	•	•	•	•		•	•						•	•
Signal improvements	•	•	•	•	•	•										
Curb cuts and ramps	•	•	•	•	•	•										
Traffic calming		•	•	•									•			
Coordinator position		•		•		•							•			
Safety/education position		•		•		•					•					
Police patrol		•		•							•					
Helmet promotion		•		•	•						•					
Safety brochure/book		•		•	•	•	•				•					
Training		•		•	•	•	•				•					

Source: http://www.fhwa.dot.gov/environment/bikeped/bp-guid.htm#bp4.
**See the key on the following page for funding sources.*

Bicycle/Pedestrian Funding Opportunities Key		
NHS	National Highway System	http://www.fhwa.dot.gov/planning/nhs/
STP	Surface Transportation Program	http://www.fhwa.dot.gov/safetealu/factsheets/stp.htm
HSIP	Highway Safety Improvement Program	http://safety.fhwa.dot.gov/hsip/
SRTS	Safe Routes to School Program	http://safety.fhwa.dot.gov/saferoutes/
TEA	Transportation Enhancement Activities	http://www.fhwa.dot.gov/environment/te/index.htm
CMAQ	Congestion Mitigation/Air Quality Program	http://www.fhwa.dot.gov/environment/air_quality/cmaq/index.cfm
FLH	Federal Lands Highway Program	http://www.flh.fhwa.dot.gov/
BYW	Scenic Byways	http://www.fhwa.dot.gov/hep/byways/index.htm
BRI	Highway Bridge Program	http://www.fhwa.dot.gov/bridge/hbrrp.htm
SCTSP	State and Community Traffic Safety Program	http://safety.fhwa.dot.gov/policy/section402/
PLA	State/Metropolitan Planning Funds	http://www.fta.dot.gov/grants/13093_3563.html
TCSP	Transportation, Community and System Preservation Pilot Program	http://www.fhwa.dot.gov/tcsp/index.html
JOBS	Access to Jobs/Reverse Commute Program	http://fta.dot.gov/grants/13093_3550.html
RTP	Recreational Trails Program	http://www.fhwa.dot.gov/environment/rectrails/index.htm
FTA	Federal Transit Capital, Urban & Rural Funds	http://www.fta.dot.gov/grants_263.html
TE	Transit Enhancements	http://www.fhwa.dot.gov/environment/te/te_provision.htm

Source: http://www.fhwa.dot.gov/environment/bikeped/bp-guid.htm#bp4.

Funding Sources and Potential Partners Checklist		
Date Contacted	Agency	Website
	Health Department	*http://www.apha.org/about/Public+Health+Links/LinksStateandLocalHealthDepartments.htm* *http://www.naccho.org/toolbox/*
	Main Street Program	*http://www.preservationnation.org/about-us/partners/*
	Chamber of Commerce	*http://www.uschamber.com/chambers/directory/default*
	Community Foundations	*http://www.cof.org/whoweserve/community/resources/index.cfm?navItemNumber=15626#locator*
	Local and State Elected Officials	*http://www.capwiz.com/apha/dbq/officials/*
	Transportation Enhancement Funding by State	*http://www.enhancements.org/Links.asp#statedot*
	State Bike and Pedestrian Coordinator	*http://www.walkinginfo.org/assistance/contacts.cfm*
	State Safe Routes to School Coordinator	*http://www.saferoutesinfo.org/program-tools/find-state-contacts*
	American Public Health Association	*http://www.apha.org/advocacy/priorities/issues/transportation*
	Federal Highway Administration Bicycle and Pedestrian Program	*http://www.fhwa.dot.gov/environment/bikeped/*
	Federal Highway Administration State Manual	*http://www.fhwa.dot.gov/planning/statewide/manual/manual.pdf*
	Department of Housing and Urban Development CBDG	*http://portal.hud.gov/hudportal/HUD?src=/program_offices/comm_planning/communitydevelopment/programs*
	Partnership for Sustainable Communities (DOT, HUD, EPA)	*http://www.sustainablecommunities.gov/*
	Centers for Disease Control and Prevention	*http://www.cdc.gov/transportation/docs/FINAL%20CDC%20Transportation%20Recommendations-4-28-2010.pdf*
	AARP Livable Communities	*http://www.aarp.org/home-garden/livable-communities/*
	Active Living By Design	*http://www.activelivingbydesign.org/*
	Alliance for Biking and Walking Resources	*http://www.peoplepoweredmovement.org/site/index.php/members/members3/C258*
	America Bikes	*http://americabikes.org*
	America Walks Resources	*http://americawalks.org/resources/links*
	Association of Pedestrian and Bicycling Professionals	*http://www.apbp.org/*
	Complete Streets Coalition	*http://completestreets.org*
	League of American Bicyclists	*http://www.bikeleague.org/*
	National Center for Bicycling and Walking	*http://www.bikewalk.org/*
	Partnership for a Walkable America	*http://www.walkableamerica.org/*
	Safe Communities	*http://safecommunitiesamerica.org/*
	Smart Growth America	*http://www.smartgrowthamerica.org/about/our-coalition/*
	Transportation for America	*http://t4america.org*

Works Cited

Introduction: Why Walkability Matters

1. Healthy People 2020: General Health Statistics
http://www.healthypeople.gov/2020/about/GenHealthAbout.aspx

2. Centers of Disease Control and Prevention: Obesity and Overweight
http://www.cdc.gov/nchs/fastats/overwt.htm

   Centers for Disease Control and Prevention: Childhood Obesity Facts
http://www.cdc.gov/healthyyouth/obesity/facts.htm

3. The Atlantic Cities: Your Commute Is Killing You
http://slate.me/sfefiJ

4. Transportation for America: Federal Funds Spent on Pedestrian Projects in Georgia:
http://t4america.org/resources/dangerousbydesign2009/table-5/

   Transportation for America: Georgia State Facts
http://t4america.org/statefacts/Georgia/

   Transportation for America: Dangerous By Design Report - Georgia State Facts
http://t4america.org/resources/dangerousbydesign2011/states/?state=ga

5. American Public Health Association: At the Intersection of Public Health and Transportation
http://www.apha.org/NR/rdonlyres/0ECFA0F5-1C85-4323-A051-903513BE3B30/0/AttheIntersection-PHandTransportationNewCover.pdf

6. AARP: Enhancing Mobility Options for Older Americans
http://www.apta.com/resources/reportsandpublications/Documents/enhancing_options.pdf

7. Federal Interagency Forum on Aging-Related Statistics
http://1.usa.gov/gTdA0l

8. The Leadership Conference Education Fund: Where We Need to Go - A Civil Rights Roadmap for Transportation Equity
http://www.protectcivilrights.org/pdf/docs/transportation/52846576-Where-We-Need-to-Go-A-Civil-Rights-Roadmap-for-Transportation-Equity.pdf

   Poverty in Georgia Report
http://www.poverty.us/

   Persistent Poverty in Georgia
http://www.cdfifund.gov/what_we_do/persistentpoverty.asp

9. AARP: What the Economy Means to Voters 50+
http://www.aarp.org/content/dam/aarp/politics/advocacy/2012-08/What-the-Economy-Means-to-Voters-50+-PowerPoint-AARP.pdf

10. Centers for Disease Control and Prevention: Physical Activity and Health
http://www.cdc.gov/nccdphp/sgr/summ.htm

11. Robert Wood Johnson Foundation: Making the Connection: Linking Policies to Improve Public Safety with Preventing Childhood Obesity
http://bit.ly/WRl3SJ

12. American Trails: Physical activity facilities have economic as well as health benefits
http://www.americantrails.org/resources/economics/Economic-Benefits-Trails-Open-Space-Walkable-Community.html

Works Cited

13. Many Pathways from Land Use to Health Associations between Neighborhood Walkability and Active Transportation, Body Mass Index, and Air Quality by Lawrence D. Frank et al.
http://actrees.org/files/Research/JAPAFrank06.pdf

14. Transportation Research Board: Does the Built Environment Influence Physical Activity? Examining the Evidence.
http://onlinepubs.trb.org/onlinepubs/sr/sr282.pdf

15. CEO's for Cities: Walking the Walk
http://www.ceosforcities.org/research/walking-the-walk/

16. An Unhealthy America: The Economic Burden of Chronic Disease Charting a New Course to Save Lives and Increase Productivity and Economic Growth; Milken Institute
http://www.milkeninstitute.org/healthreform/pdf/AnUnhealthyAmericaExecSumm.pdf

17. Robert Wood Johnson Foundation: County Health Rankings
http://www.countyhealthrankings.org/app/georgia/2012/cobb/county/1/overall

18. Economic Benefits of Walkable Communities
http://saferoutesgreaterwashington.wordpress.com/2012/08/16/we-have-numbers/

19. The Atlantic Cities Magazine: A Data Driven Case for Walkability
http://www.theatlanticcities.com/neighborhoods/2012/04/data-driven-case-walkability/1757/

The Economic Benefits of Walkable Communities
http://www.lgc.org/freepub/docs/community_design/focus/walk_to_money.pdf

20. Better! Cities & Towns: Places that pay: Benefits of placemaking
http://bettercities.net/news-opinion/blogs/hazel-borys/18875/places-pay-benefits-placemaking

21-23. American Trails: The Business of Trails: A Compilation of Economic Benefits
http://www.americantrails.org/resources/economics/businessoftrails.html

American Trails: Physical Activity Facilities Have Economic As Well As Health Benefits
http://atfiles.org/files/pdf/Economic-Benefits-Active.pdf

The Great Allegheny Passage Economic Impact Study (2007–2008)
http://bit.ly/pSIQKg

Florida Department of Environmental Protection: Results from the East Central Florida Regional Planning Council's Economic Impact Study of the West Orange, Little Econ and Cady Way Trails in Orange County
http://www.dep.state.fl.us/gwt/news/PDF/ECFRPEconomicStudyFactSheet.pdf

24. Alliance for Biking and Walking 2012 Benchmark Study
http://www.bikesbelong.org/news/alliance-for-biking-walking-releases-2012-benchmarking-report/