

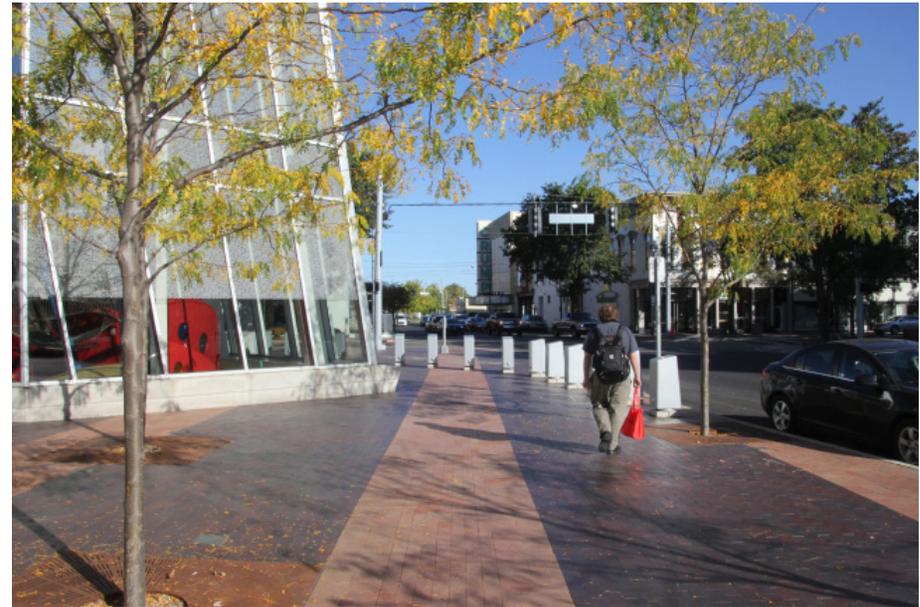
*Walkability and Active Living:*  
**Columbus, Indiana: Walking Towards Greatness**

Prepared by the Walkable and Livable Communities Institute for Healthy Communities  
November 2015



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**Cover Page:** The cover photo is an example of the many open spaces in Columbus that provide places for people to relax, socialize and play in a natural environment.

**Top Right:** The Commons at the corner of 3rd and Washington street is an outstanding example of a public space with art work and indoor play and gathering areas.

**Bottom Right:** Downtown Columbus, as in this example at Washington and 5th streets, is already very walkable and livable.

# Acknowledgements

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Walkable and Livable  
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# Introduction

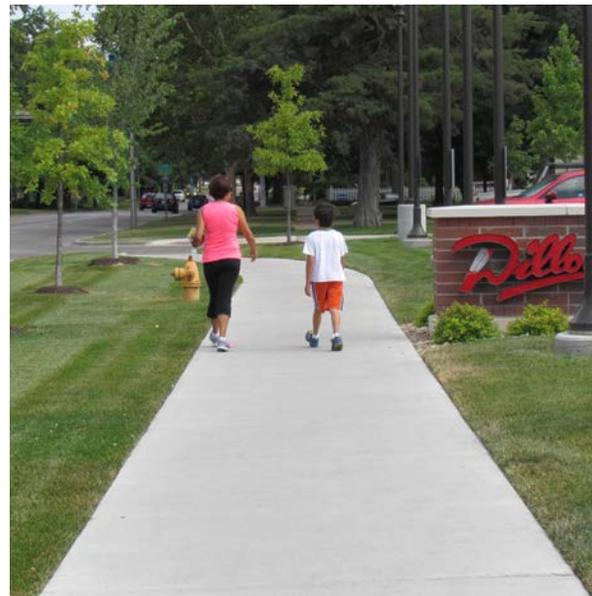
## The WALC Institute Active Living Workshop

Various trends are changing the projections for future travel demands in North America; that is, they are changing our understanding of the type of transportation systems and neighborhoods people want now and will want in the future. Aging populations, rising fuel prices, growing traffic problems, increasing health and environmental concerns, and changing consumer preferences are all increasing demand for active modes of transportation, such as walking, cycling and public transit.

The benefits of active transportation and “complete” streets—herein, collectively referred to as “walkability”—are numerous. They improve public health and reduce healthcare costs. They contribute to a sense of “place” and community, and reduce the need for parking spaces. They help alleviate pressure on roadways that are nearing saturation and have very little “grow room.” In fact, walkability is the lowest-cost way to keep car dependency from growing and, therefore, keep motorized traffic moving. Beyond that, more than 25 percent of all daily trips made in the U.S. are within walking distance and 60 percent are within bicycling distance. Having the option to walk or bike—or move naturally—just makes sense. It also is particularly important to aging populations, technology and information sector workers, Millennials and other groups that often make up the target demographics for city-building efforts.

The walkability and livability of a community—whether urban, suburban or rural—is heavily influenced by land-use and transportation planning, design and policies. Where walkability is supported through policies, programs and projects that favor active living, the entire community benefits.

As described in other parts of this report, it will be the rebuilding, re-purposing, retrofitting and infilling of land and infrastructure in places like Columbus and surrounding areas—along with the redesign of critical intersections and corridors throughout town—that will improve prosperity, health and well-being.



### ➔ Engaging the community in a meaningful way

Achieving such goals anywhere in the country, however, requires that community members are engaged in a meaningful way in assessing their built environment and prioritizing changes. A group of community members who are vested in this way helps build further support for the plans to be adopted and projects to be undertaken.

Toward that end, AARP and the WALC Institute have developed the Active Living Workshop to engage communities in making their streets and neighborhoods more walkable, livable, healthy and sustainable. The goal of the workshop is to build capacity by promoting a shared language amongst residents, government staff and elected officials; to illustrate through examples and audits how walkability and livability benefit a community and how they can be achieved; and to inspire each participant to become involved in the movement towards active living.





## ➔ Active Living Workshop - October 14 and 15, 2015

An Active Living Workshop was held in Columbus, Indiana on October 14 and 15, 2014, centered on the downtown area. Led by Healthy Communities and the WALC Institute, the 1.5 day workshop included presentations by WALC Institute staff, a Parkside Elementary School walkabout with students, and various meetings.

Columbus is a city of just over 44,000 people, situated in central Indiana, on the east fork of the White River. Known for its architecture, downtown Columbus has been revitalized into a very walkable, livable area, featuring The Commons community center and Mill Race Park, along with notable art works in the area, traffic-calmed streets and a section of 4th Street is designed for “Shared Use” and events. Downtown Columbus is the headquarters location for Cummins, Inc., a major diesel engine manufacturer, which has also invested in livability projects downtown. The suburban areas of town have sprawled over the years, and need improvements in transportation and land use to become more livable. There are a number of streets that are built very wide, with more lanes than needed, encouraging high speeds and sprawl development.

The following is the schedule of activities during the workshop:

### Wednesday, October 14th

- 7-9:30am - Walk to School Day event and walking audit with students
- 10-11am - Discussion with Safe Routes to School Task Force and Safe Kids Coalition
- 1-2pm - “Aging-in-Place” presentation to seniors at Mill Race Center
- 2-6:30pm - Discovery tour of Columbus and workshop preparation
- 7-8pm - Safe Routes to School presentation and discussion at Northside Cafeteria

### Thursday, October 15th

- 7:30-9am – Leadership Forum and Community Conversation on Livability at The Commons
- 9:30am-12pm – Walkable and Livable Communities Workshop with Bicycle and Pedestrian City and County Staff at the Xenia Miller Room





“With funding assistance from the Plan4Health grant, Healthy Communities was able to bring the Walkable and Livable Communities (WALC) Institute to Columbus, Indiana on October 14th and 15th. Though only here a short time, the WALC Institute helped reinforce the ideals behind our newly launched Go Healthy, Columbus ([www.gohealthycolumbus.org](http://www.gohealthycolumbus.org)) campaign, which has the goal of encouraging community design that promotes healthy active living for all ages.

Knowing the expertise of both Robert Ping and Heather Murphy, we focused a great deal on Safe Routes to School (SRTS). We have a SRTS Task Force and a SRTS Comprehensive Plan but wanted to spend some time looking at where we have been and what we can do to keep moving forward. Locally, we have plenty of room for improvement with only 8-11% of our kids (that go to walkable/bikable schools) walking and biking.

The visit started bright and early for Walk to School Day. We had well over 1,000 students walk or bike! Then, we took a group of fifteen 3rd graders from Parkside Elementary on a walkabout around campus. With clipboards, measuring tapes, and cameras in hand, the students learned a great deal from Robert and Heather about the elements in the environment that encourage people to safely walk and bike!

We filled their trip with many engagements attempting to pull as much information as possible from them while they were here. In only 1.5 days, they toured the community, met with our Safe Routes to School Task Force and our Bicycle and Pedestrian Infrastructure Team, and gave 3 public presentations to nearly 150 people related to Safe Routes to School, Aging in Place, and Building a Community for Active Living.

The wealth of knowledge and experience of the WALC Institute was very apparent as they moved from one place to another seamlessly relating local programs and projects to what has happened nationally and internationally. Our binders are full of great ideas that we are looking forward to implementing over the next several years!”

*Laura Garrett  
Healthy Communities*

# Introduction

## Why Walkability Matters

Throughout the country, we have applied advanced engineering to move *more* cars and to move them *faster*. The result too often has been streets that accommodate cars but deter people from active modes of transportation such as walking, biking and using transit. Land uses like strip malls, cul-de-sacs, poorly sited schools, and single-use zoning tend to compound the problem and perpetuate a dependency on automobiles. Further, transportation engineering often places focus on vehicle mobility at the expense of others. These factors matter greatly because the built environment plays a significant role in health and well-being by either encouraging or discouraging physical activity.

Today, two out of three American adults 20 years and older is overweight or obese. In 2008, about half of all adults 18 years and older in the U.S. had at least one of six chronic illnesses: cardiovascular disease, arthritis, diabetes, asthma, cancer or chronic obstructive pulmonary disease (COPD). In Bartholomew County, 68.3% of adults over the age of 18 are overweight, with 32.9% being obese (body mass index of 30.0 or higher; data from 2015 Community Health Needs Assessment)

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. Yet, people who have sidewalks in their neighborhoods reported more recreational walking. And adults living in highly walkable neighborhoods engage in 41 minutes more physical activity per week than those in low-walkability neighborhoods.

Further, consider that:

- A study 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.
- 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 the sidewalks.

The built environment also reflects our social inequities. Seniors are over-represented in intersection fatalities by a factor of more than two-to-one, and are at risk for social isolation once they lose

*“Our binders are full of great ideas that we are looking forward to implementing over the next several years!”*

- Laura Garrett  
Healthy Communities

*Mill Race Park is a valuable amenity, providing a natural space for Columbus residents next to the East Fork of the White River. The park features lots of recreational amenities, but could ‘face’ the river more (see pages 42-44).*



## There are many reasons to support active living and walkability.

- 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.
- A five- to 10-mph reduction in traffic speeds increased adjacent residential property values by roughly 20 percent.
- Active transportation infrastructure is far less expensive than building new roads and parking.
- Active transportation provides opportunities for social connections and community building.
- A 10-point increase in Walk Score increases commercial property values by 5 percent to 8 percent. Learn more at [www.walkscore.com](http://www.walkscore.com).
- An EPA study indicates compact infrastructure is up to 47-percent less expensive than conventional development patterns.
- Active transportation is good for tourism. In 1992, an estimated 32,500 visiting cyclists spent \$13.1 million in Vermont.<sup>23</sup>
- Similarly, 680,000 visitors bicycle in North Carolina's Outer Banks yearly, generating \$60 million annually. About 1,400 jobs are supported locally in North Carolina from expenditures made by bicyclists.

their ability to drive. In fact, half of all non-drivers 65 years and older—about 4 million Americans—stay at home on a given day because they lack transportation.

But improved health and social equity are not the only reasons to modify the built environment to be more supportive of active transportation. Forty percent of baby boomers say they don't have enough savings for retirement. This means seniors will continue to work and transportation choices will become critically important. As the senior population grows faster than any other age group, towns that are addressing walkability are better suited to meet their needs.

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 community is more livable and the benefits are tremendous. Our street design can minimize those things that halt productivity (congestion, accidents) because users know where they belong, how to navigate and how to interact with others.

In too many parts of the U.S., bicycling and walking are considered recreational activities. However, when we focus on walkability and its economic benefits, we build strong communities that are more prosperous and that work for all.

Factors improving walkability include:

- Destinations within walking or biking distance of each other, 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. Also, sidewalks or trails that allow people to move comfortably and safely.
- Road widths that foster lower vehicle speeds. The wider a road or a vehicle travel lane is (or appears 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.
- 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.



# Introduction

## Key Walkability Concepts

\* Also, see the Active Living Toolbox attachment for a series of fact sheets by AARP and the WALC Institute addressing some of the most common misconceptions about the tools of livability.

**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](http://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](http://www.ageinplace.org).)

**Charrette:** [pronounced, “shuh-RET”] A collaborative session to solve 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 consensus. (See Walkable and Livable Communities Institute, [www.walklive.org](http://www.walklive.org).)

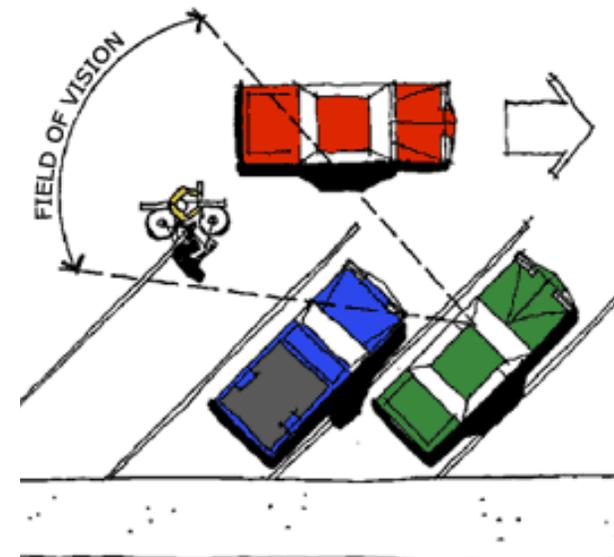
**Complete Streets:** Roads that are designed for everyone, including people of all ages and abilities. Complete Streets are accessible, comfortable for walking and biking, and include sidewalks, street trees and other amenities that make them feel “complete.” (See National Complete Streets Coalition, [www.completestreets.org](http://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. 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, [www.livable.org](http://www.livable.org).)



*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.



**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 Circle:** 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.

*[Rotary: Also sometimes called traffic circles, rotaries are a form of an intersection that navigates cars around very large circulating islands. An entire rotary 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.]*



**Roundabout:** 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 vehicle 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 turn lane or median) with bike lanes and street trees. (See Walkable and Livable Communities Institute, [www.walklive.org](http://www.walklive.org).)

*Left: this lighted boating buoy now functions as a decorative mini circle in Lincoln, Rhode Island, at the corner of School Street and Main Street Albion.*



*Above: a mini circle in Lawrence, Kansas calms neighborhood traffic in the Barker neighborhood.*

*Below: a decorative modern roundabout in the town of The Dalles, Oregon, is a gateway into town and smoothly and safely handles even truck traffic, featuring a 3" tall truck "apron" around the outside edge of the roundabout that the largest trucks and emergency vehicles can use to drive over while turning, and there is even a decorative truck apron on the approaching street (bottom of image).*



**Safe Routes to School:** A national program to improve safety and encourage more children to walk, bike and roll to school. Focuses on improvements through engineering, education, enforcement, encouragement and evaluation. (See National Center for Safe Routes to School, [www.saferoutesinfo.org](http://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.



*A sharrow in Seattle, WA.*

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

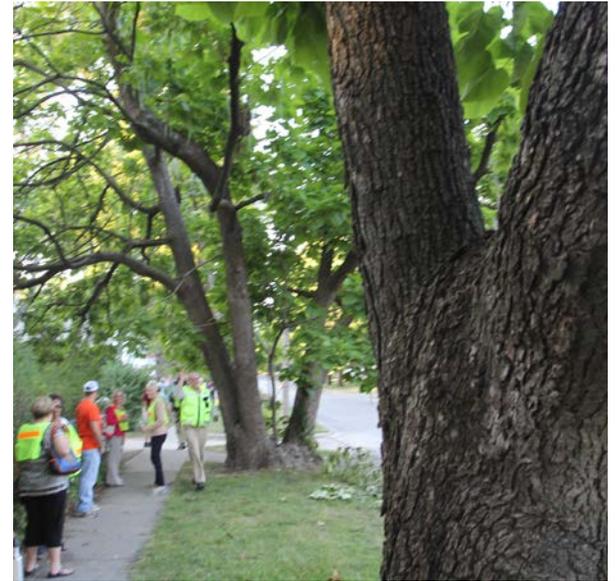
**Smart Growth:** Growing in a way that expands economic opportunity, protects public health and the environment (See U.S. EPA, <http://www.epa.gov/smartgrowth/>.)

**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.

==> Read this fact sheet for more about Street Trees: [http://bit.ly/street\\_trees](http://bit.ly/street_trees)

**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](http://www.walklive.org).)



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

*Below: Walking audits, or walking workshops, give participants an opportunity to see streets through a new lens and observe what works and what doesn't work for active modes of transportation.*



# Calm the Traffic

Incorporate traffic-calming tools to improve safety and encourage active transportation

## ➔ Design for Target Speed

Fewer than one-third of drivers drive the speed limit on urban and suburban arterials. Rather, drivers tend to travel at the road's "design speed." **Therefore, road design should be consistent with the "target," or desired, vehicle speed.** Also known as the "desired operating speed" of a street, "target speed" is the speed desired on the roadway to ensure that all modes (vehicular 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. **The recommended target speed for downtown Columbus and in neighborhoods and around schools is 20 to 25 mph.**

A general practice in the transportation profession has been to set design speeds higher than the target speed. 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.

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**

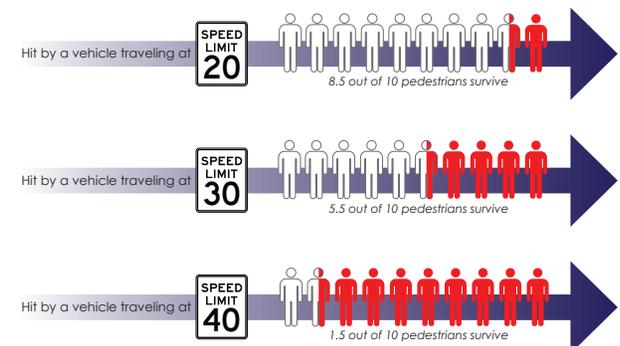
**goal should be to reduce traffic speeds so that there is less speeding between traffic lights and improve corridor efficiency through new intersection treatments.** Roundabouts, mini-circles and traffic calming features can move cars through an area with lower speeds but improved efficiency.

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, street trees, bike lanes and on-street parking.

In Columbus, the design speed of many streets is higher than the posted speed limit, especially through intersections. In some areas, sidewalks, bike lanes, and other treatments for supporting active transportation don't exist or need maintenance and upkeep. Street treatments reflect our values. Where we cherish people, history, culture and place, our streets should reflect this. **In suburban Columbus, and the greater city area, streets**

**should be designed to allow for safe and comfortable pedestrian and bicycle travel, as well as vehicle travel.**

Moreover, drivers respond to cues that streets provide. Start by addressing target speed by applying street treatments (*see the following pages*) that help calm traffic, and contribute to a built environment in a way that supports all modes of transportation. Nearly everyone, for at least some portion of the day, is a pedestrian. And pedestrians are more likely to be found in areas where traffic is calm. **Thus, where foot traffic is highly desirable, traffic-calming tools should be applied.** Start by considering other "proven safety countermeasures" as identified by the Federal Highway Administration at <http://safety.fhwa.dot.gov/provencountermeasures/>.



**High vehicle speeds bring high risk; speed can 'kill' places as well as people.**

Source: Killing Speed and Saving Lives, UK Dept. of Transportation, London.

# Traffic Calming Tools

## → Use Paint

### Narrow Travel Lanes

The wider a roadway, the faster cars tend to travel. Wide roadways also make for wide pedestrian crossings, increasing the amount of time a person is exposed to the threat of being hit by a car and the amount of time that cars are held back. The same is true with auto-to-auto crashes and bicycle crashes. **Throughout the city, there are opportunities to reduce vehicle lanes to 10 feet wide, which should be the default lane width. Mark the outside of the lane with bold edge stripes, 8 to 10 inches wide.**

### Enhance Crosswalk Markings

High-intensity crosswalk markings benefit all. Different materials can be used to make crossings more visible day and night. Many of the crossings in the city are hard to see, sending conflicting messages to pedestrians and motorists. More-visible markings would send a message that pedestrians should be expected here. The use of materials to create attractive streetscape features can add beauty, function and a sense of place, and should enhance the aesthetics, character and integrity of the street. **Crossings should be remarked with high visibility marked crossings.** Volunteers can help.

### 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 narrowing overly wide roads and adding bike lanes, preferably buffered bike lanes (*using paint*) or protected bike lanes (*using physical separation, see next page*). **Bike lanes should be at least 6 feet wide, where feasible.** Thick striping, signs and stenciled markings remind drivers to anticipate bicyclists. Bike lanes have many benefits, including providing a buffer between pedestrians and moving traffic.



*Above:* Move the paint to create 10 foot travel lanes, which allows the additional pavement to be reallocated for other uses, such as parking and bike lanes, as seen in downtown Charlotte, NC (left) and Chicago, IL (right).



*Above Left:* Driver vigilance is increased with bold edge stripes and bike lanes, while bicyclists feel welcome, safer, and included.

*Above Right:* On neighborhood streets enhancing crossings is only a matter of applying ladder-style markings with new paint.

# Traffic Calming Tools

## ➔ Protected Bike Lanes and Intersections

### Protected Bike Lanes

A protected bike lane is physically separated from motor traffic and distinct from the sidewalk. They they provide a safer space for bicycles than traditional bike lanes and are separated from motor vehicle travel lanes, parking lanes and sidewalks. Where on-street parking is allowed they are located on the curb-side. They may be one-way or two-way, separated by curbs, raised medians, on-street parking or bollards. By protecting bicyclists from motor vehicles, they offer more security than bike lanes and attract a wider spectrum of the public.



### Protected Intersections

Bike lanes and shared lanes require bicyclists to share and negotiate space with motor vehicles as they move through intersections. Motorists have a large advantage as they are driving a vehicle with significantly more mass and are usually operating at a higher speeds, creating a stressful environment for bicyclists. For these reasons, it is preferable to provide separation through the intersection. A protected intersection maintains the physical separation of a protected bike lane, eliminating the merging and weaving movements and reducing the conflicts to a single location where turning traffic crosses the bike lane.



### Protected Roundabouts

Separated bike lanes can be continued through roundabouts, with crossings that are similar to, and typically adjacent to, pedestrian crosswalks. Motorists approach the bicycle crossings at a slow-speed perpendicular angle, maximizing visibility of approaching bicyclists. Popular in Europe for decades, protected, or “Dutch-style” roundabouts provide the safety and traffic flow benefits of modern roundabouts with the safety and comfort of protected intersections.



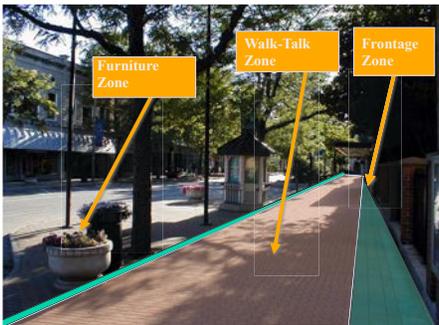
# Sidewalks

Key Walkability Concepts

## ➔ Complete and maintain a connected sidewalk network

### Sidewalk Design

It is within the protected spaces of a sidewalk where people move freely and spend time engaging others and enjoying 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, to create a better surface for wheelchairs and wheeled devices.

Sidewalks should be at least five feet wide in residential areas, and eight feet wide in retail areas, preferably wider. This sidewalk on N Riverside Drive in Ft Worth, Texas, is about three feet wide,



which is not enough room for two people to pass each other without someone entering the street with fast moving traffic.

### Universal Design, ADA

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)." It is imperative that ADA requirements are being considered and met. This is a federal law so it is very important

to get our city streets in order, to support all residents. To learn more on the most current policies go to [www.ada.gov](http://www.ada.gov).



The corner pictured above (top) has an incomplete sidewalk and no curb ramp, forcing some pedestrians to go around, either onto a busy street, or into a parking lot in order to cross the intersection. The other corner pictured above (bottom) with curb ramps and crosswalk is much more safe and accessible.

### Sidewalk Network

It is imperative that sidewalks are built on both sides of urban streets, that they are connected, and that they are maintained. In the two photos above, there are missing segments and no maintenance of the existing segments. A connected, maintained system will increase walking rates, physical safety and property values.



# Traffic Calming Tools

## → Street Furniture

### Sidewalk “Furniture Zone” →

Sidewalks require high levels of design and care. It is within the protected spaces of a sidewalk where people move freely and spend time engaging others and enjoying 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, to create a better surface for wheelchairs and wheeled devices.



*This wide sidewalk in an Atlanta, Georgia commercial district includes trees and other landscaping elements, in addition to outdoor seating.*

### Tree Wells →

Consider placing tree wells every two to three parking spots downtown to help bring down speeds by creating a sense of enclosure. Tree wells are used when it is too tight to plant trees in sidewalk areas. In-street tree wells can be used, which greens the street without the removal of parking. Use of tree wells and curb extensions, in combination, helps bring speeds to more appropriate urban levels. **Choose appropriate shade producing trees for the climate.**



*Tree wells in Olympia, WA provide shade, inset parking and help to create a sense of enclosure, all elements that help calm traffic.*

### Bike Racks →

Bike racks should be installed in high density areas such as schools, shopping areas, parks and major employers. Bike racks are needed in commercial areas and other areas with high visitation rates. They should be located where they are watched over, but where they don't impact street or sidewalk passage; they can be placed in curb extensions and tree wells, and they also can double as public art, as shown on right.



*Use racks with two points of contact, such as the Columbus “C” rack, left. Do not use racks such as “wave” racks, middle, or “wheel-bender” racks, right.*

# Traffic Calming Tools

## ➔ Improve the Crossings

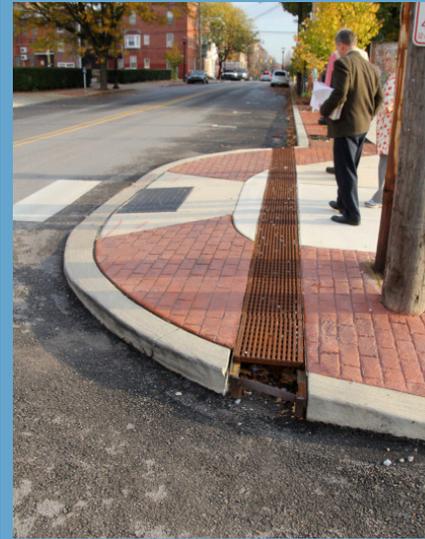
### Raised Crossings

Raised crossings, or Speed Tables or Cushions, are used in mid-block locations and at intersections. They can be used at right turn channelized islands, or at regular intersections. Raised crossings are designed to restrict through-speeds to 15-20 mph. Color is often used. Features such as bollards, paver stones, colored concrete or colored asphalt are often specified.



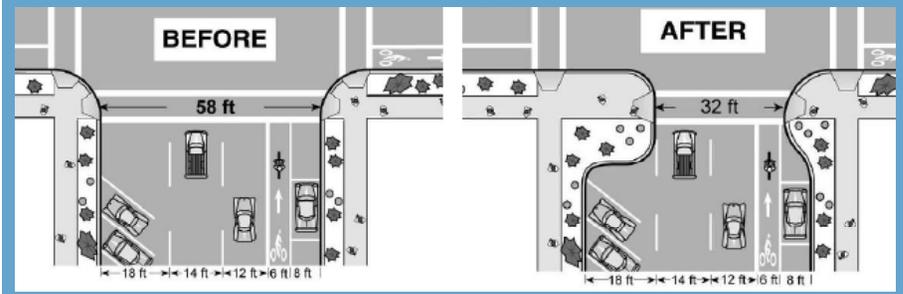
*Raised crossings bring speeds under control and help motorists and pedestrians see each other. Crossing islands provide a respite for people walking across.*

### Curb Extensions



Curb extensions are a nearly universal tool for transforming overly wide streets. Curb extensions (also known as bulb outs) bring down vehicle speeds at right turns, identify important crossings, and make it much easier for people walking, bicycling and driving to see each other. They can be used at intersections, inside of parking strips (tree wells) and other locations. Although they can be kept plain in appearance, they can also be landscaped to serve as attractive gateways or to function as rain gardens.

*Above: Residents report that the addition of bulb-outs—curb extensions—in York, Pennsylvania calmed traffic considerably within days of installation. Curb extensions should be considered at all corners throughout the city, to aid pedestrian travel and help calm traffic. Below: The proper use of curb extensions reduces crossing distance, improves safety, increases visibility and reduces speed of turning vehicles. Curb extensions also encourage pedestrians to cross at designated locations and prevent vehicles from parking at corners.*



# Key Findings

## Community Goals and Priorities

Below are the observations and recommendations made by the WALC Institute team and workshop participants during our two-day visit. (See Page 5 for schedule of workshop events) Workshop participants identified the following priorities to revitalize Columbus, organized into three phases—short-term, mid-range and long-term:

### ➔ Short-Term: *The 100-Day Challenge*

Adopt some, or all, of the recommendations below as a 100-Day Challenge. The concept behind the challenge is to set goals that can be accomplished in no more than 100 days, to maximize existing energies, channel newly created momentum toward action and implementation, allow an established or new committee to demonstrate its commitment to healthier community design, and help create awareness and support for the overall active living initiative:

#### Programs

- Develop a Model Walking and Bicycling School
- Encourage High School Students to Lead Programs
- Increase Crossing Guards and Safety Patrols

#### Projects

- Install On-Street Bicycle Parking
- Create Pocket Parks and Parklets
- Convert More Alleys into Places for People
- Pedestrian Signals: Lead Intervals and Longer Phases
- Install curb Extensions and Crossing Islands

#### Policies

- School Zones: Pop-Up Traffic Calming
- Continue and Enhance the Safe Routes to School Task Force
- Adopt a Street Design Guide
- Allow and Promote Food and Retail Trucks

### ➔ Mid-Range Projects: *The Second Wave*

Projects, programs and policies that will likely take up to 1 year or more, and will require additional funding and planning:

#### Programs

- Host “Pop-Up” Events and Projects
- Create a Wayfinding System
- Teach Traffic Safety in Schools
- Launch Walking School Bus Programs
- Hold an “Open Streets” Event
- Encouragement: Expand Beyond Annual Walk & Bike to School Days

#### Projects

- Pilot “Pop-Up” Plazas
- Install Protected and Buffered Bike Lanes
- Create a Connected Bicycle Boulevard Network
- Identify Opportunities for Modern Roundabouts
- Install Mini- Roundabouts and Traffic Circles

#### Policies

- Pass a Strong Complete Streets Ordinance
- Develop Complete Streets Implementation Plan
- Formalize the Bicycle and Pedestrian Advisory Committee
- Conduct Health Impact Assessment(s)
- *Review Columbus’ street tree policies to ensure that they support appropriate tree species and locations, and proper maintenance*

# Key Findings

Community Goals and Priorities

## ➔ Long-Term Initiatives: *The Big Wins*

Ongoing or large projects, policies and program efforts that may be able to start right away, but will take larger planning and funding efforts and a longer time period to complete:

### Program

- Establish a Funded, Safe Routes to School Program and Policy
- Prepare and Apply for Bicycle Friendly Community Silver Award
- Plan and Launch a Community Bike Share Program

### Projects

- **Revitalize 25th Street: Road Diet and Protected Roundabout - PHOTOVISION**
- Reduce Excess Parking Spaces and Create Walkable ‘Village’ Centers
- Create a Riverfront Park
- Retrofit the Suburban Areas of Town and Connect Neighborhoods

### Policies

- Allow ADU’s and Tiny Houses
- Adopt “Health in all Policies”
- Prioritize Dense, Mixed-Use Development
- Adopt Form-Based Code
- Consider Inclusionary Zoning Policies
- Build and Maintain Affordable Housing



## → Celebrating the Good!

There is much to be proud of in Columbus. For example, below are images of downtown streetscapes that show walkable elements such as wide sidewalks, outdoor seating, window transparency, trees and landscaping separating motor vehicle traffic from people walking, street parking, lighting, slow traffic speeds, and a transit hub. There are many examples of these type of amenities throughout downtown Columbus.



## → Celebrating the Good!

Columbus has a long-standing commitment to art, play and architecture, which is expressed in buildings and art works on streets, sidewalks and parks throughout downtown and other parts of Columbus. Below are some examples of art, play and architecture in downtown Columbus that add to its livability.



# Short Term: 100-Day Challenge

## Programs and Projects

### ➔ Develop a Model Walking and Bicycling School

Columbus Safe Routes to School program should prioritize the selection and development of a model, or pilot, school to launch a comprehensive program and become the media focus for the first 1-2 years of the program. Choose a school with a willing principal, generally good walkability around the school, a large proportion of students living within 1-2 miles of the school, and a strong parent community/PTA, such as Parkside Elementary School. Find champions within the school population and staff, and incorporate the 6 E's: Encouragement, Education, Equity, Engineering, Enforcement and Evaluation. Find funding from the State and/or City, local businesses and other sources.

### ➔ Encourage High School Students to Lead Programs

Elementary and middle schools benefit from parental involvement and school staff leadership. High school students, on the other hand, prefer to practice leadership on their own. Present the benefits of walking and bicycling to school to leadership groups or clubs at high schools in Columbus, in order to inspire student leaders to create and implement walking and bicycling activities at the school. Good starter activities include launching a bicycling club or team, walking and bicycling events on campus and off, and teaching traffic safety, focusing on walking and bicycling in classrooms and after school or during lunch. Students could lead encouragement programs,

build a bike shop at the school, or even a bike parking area on campus. *(see example below)*



*Above: Students at Franklin High School in Portland, Oregon built this large on-campus bike parking area with guidance from a parent volunteer and City staff.*

### ➔ Increase Crossing Guards and Safety Patrols

Columbus has a crossing guard program and there used to be schools with a student safety patrol program. Expanding these programs will increase walking and bicycling and improve safety. Encourage the school district to expand these programs in collaboration with the citywide Safe Routes to School program. The student safety patrol program will have the least amount of cost, relying on volunteers. We recommend that program leaders are well-trained in traffic safety. If available, trainers should include walking and bicycling experts,

such as a League of American Bicyclists "League Certified Instructor" trained in Safe Routes to School or Bicycling 123 Youth.

### ➔ Install On-Street Bicycle Parking

There are many locations throughout Columbus, especially in the downtown core, that are good candidates for on-street bicycle parking, especially in areas with narrow or congested sidewalks. Consider developing a City-sponsored permit system that allows property owners to request on-street parking in front of their business or housing facility. Up to 12 bicycles can be parked in the space of one automobile, using 'staple' type racks. *(see example below)*



*Above: On-street bicycle 'corrals' like this one in Jackson Heights-Queens, NYC, keep bikes off busy sidewalks and reduce vehicle exhaust and noise near outdoor seating.*

# Short Term: 100-Day Challenge

## Projects

### ➔ Create Pocket Parks and Parklets

Consider creating very small neighborhood parks, or pocket parks, in unused and underused lots, such as underused parking lots and former building sites. Pocket parks can also be created in the “furniture zone” between the street and sidewalks, and in curb extensions, and can function as gateway components. This low-cost solution creates public open space and fosters a stronger sense of community and ‘place’, and can contribute to economic development. Imagine how a pocket park right next to a retail business would increase revenue!

Install temporary on-street “parklets” in (former) parking spaces on the edge of the street, such as in front of restaurants and cafes on Washington Street. Parklets can increase café-style seating for adjacent businesses, incorporate a tree well, or be used for on-street bicycle parking, or bicycle ‘corrals’-- twelve bicycles can be parked in the space of one car.



**Above:** This parklet in San Francisco was installed by the adjacent restaurant and helps create a sense of ‘place’.

### ➔ Convert More Alleys Into Places for People

Alleyways around the country are being repurposed into retail and social assets that can increase economic viability without having to build expensive new buildings and other facilities. Alleyways become outdoor living rooms and corridors for pedestrian activity, reducing the need to walk alongside busy roadways. In downtown Columbus there are examples of well-designed alleyways, however, there are others that can be developed into compelling places for people to shop, relax and socialize. Shops, restaurants, cafes, theatres and concert venues can have entrances into the alleyways. They can be designed with plants, artwork, signs and lighting; trash containers can be moved to the end of each block and enclosed with decorative screens; and café style seating and bicycle parking will further encourage visitors to relax and socialize.



**Above:** This converted alleyway in San Antonio, Texas now provides outdoor seating for restaurant patrons.

**Right:** This alleyway in Columbus has lighting, seating, a paverstone walkway and landscaping.

### ➔ Pedestrian Signals: Lead Intervals and Longer Phases

Traffic signals are an important opportunity to provide safety for people crossing streets. Ensure that wherever there are pedestrian signals, that they include a countdown timer with audio, and that the green/‘walking man’ signal phase gives pedestrians enough time to cross the street. In order to further improve safety, especially in areas with a lot of pedestrian activity such as busy commercial areas, time the pedestrian ‘walk’ signals so that people walking have a “lead interval” – a certain amount of seconds lead time, with the ‘walking man’, before the green light begins. This technique allows people to begin crossing well before motor vehicles and bicycles begin moving, thereby increasing visibility and safety. Also, dedicated left-turn signals can precede (lead interval) or follow (lag interval) the pedestrian phase to further increase safety. There are safety benefits for all (including the motorist) to use the lag (end of cycle). It is not possible in some settings, and should be determined by the signal timing engineer.



# Short Term: 100-Day Challenge

## Projects and Policies

### ➔ Install Curb Extensions and Crossing Islands

Reduce crossing widths and calm traffic by installing curb extensions and pedestrian crossing islands on streets, starting with the highest foot-traffic areas and moving into lower foot-traffic areas over time. These recommended treatments will reduce road-crossing widths, help to physically slow down vehicles and increase awareness of the presence of people walking, increasing safety and motivating people to walk more. Install landscaped curb extensions wherever possible, and consider creating rain gardens within curb extensions and median islands.



**Above:** This crossing island in Boston, Massachusetts allows pedestrians to pause before reaching the far side.

**Below:** Curb extensions in Boulder, Colorado shorten the distance across the street and add landscaping.



### ➔ School Zones: Pop-Up Traffic Calming

Schools typically experience a great deal of congestion and conflicts during arrival and departure times each school day. Drivers or cars and buses, children and parents walking and bicycling all converge at the school site. This creates an inherently dangerous situation. Many schools work to address this by routing different modes to different areas around the school to minimize conflicts. An additional technique is to calm traffic on streets with high speeds, wide lanes and conflict points near schools. This can be accomplished through permanent or temporary changes to the streetscape. For example, schools sometimes reduce or narrow travel lanes by using traffic cones or bollards (a free-standing post made of plastic) in order to eliminate dangerous motor vehicle passing and turning movements. In other cases, schools close street segments or convert the street into one-way travel during school hours, or even permanently.

### ➔ Continue and Enhance the SRTS Task Force

Safe Routes to School programs benefit from ongoing leadership and assistance from local leaders and advocates. Ensure that the Safe Routes to School Task Force remains active, and is constantly looking for new partners, including community groups, advocates, businesses and other stakeholders. Task Force members can inspire new funding and other resources, generate media attention and build community support and volunteer capacity

through outreach and marketing of the Safe Routes to School program. Celebrate successes publicly, and strive to make Safe Routes to School a community priority.

### ➔ Adopt a Street Design Guide

As part of Columbus's ongoing Complete Streets efforts, and in order to ensure that maximum walking and bicycling and transit safety, accessibility and convenience is considered and implemented, adopt a street design guide, such as NACTO's Urban Street Design Guide and Urban Bikeway Design Guide, or Los Angeles County's Model Design Manual for Living Streets.

### ➔ Allow and Promote Food Trucks

Food trucks are a net benefit to communities, providing micro-enterprise and greater food options. They are also an inexpensive tool for improving livability, enhancing food culture and revitalizing underutilized spaces such as empty lots. Ensure that City policies do not prohibit food trucks or limit their locations, such as near brick-and-mortar restaurants, whose owners may feel threatened by them. Research in Los Angeles shows that they increase dining options without reducing restaurant business, appealing to a different clientele and creating ad-hoc food courts.

==> Learn more at: <http://bit.ly/foodonwheels>.

# Street Art

## Concepts and Recommendations: *Short-Term Projects*

More and more communities are adding colorful designs to streetscapes by allowing volunteers or organizations to paint or install artistic elements onto crosswalks, intersections, bus stops, walls, trash cans, poles and sidewalks. This technique helps to calm traffic and create a sense of place and a point of pride for people living, working and playing nearby.

Columbus should create a permit program in order to give direction to people who wish to organize a painting party, ensuring appropriate locations, materials and designs. Truck routes and other streets with high traffic volumes are not conducive to this on-street technique, however, since paint is rubbed off fairly quickly by numerous heavy motor vehicles. Create street art in shopping center parking lots.



*Above:* Volunteers paint utility boxes in Glendale, CA.



*Right, above:* Baltimore, MD arts district crosswalks.



*Right, bottom:* Sidewalk chalk art in Loveland, CO

*Below:* A painted intersection in Portland, Oregon.



*Above:* This intersection in Seattle, Washington was painted by volunteers and residents who live in the area.



# “Pop-Up” Projects

## Concepts and Recommendations: Short-Term and Mid-Range Projects

As cities change to become more livable, city leaders and advocates are often faced with a dilemma: how to inspire the community to support change without first experiencing the change. Often, leaders and advocates attempt to explain the changes by using case studies from other places. But there is nothing like first-hand experience to show someone what is possible. “Pop-Up” Projects, also known as Tactical Urbanism, or DIY Urbanism, or Demonstration Projects, among other names, is the technique of creating the change in a temporary, low-budget way, in order to demonstrate what is possible. Often, the temporary change will become permanent, or will inspire a permanent version of the pop-up project.

Some common examples of this kind of demonstration project are: pop-up road diets, pop-up cafes, pop-up plazas, pop-up pocket parks and parklets, pop-up food courts, and Open Streets events.

Pop-up projects are commonly facilitated by volunteers using cheap, easy to acquire materials that can be removed at the end of the demonstration or event. The most common pop-up projects typically take less than \$1,000 and much less than a year to plan and implement.

Below and right are examples of successful pop-up projects:



**Top:** New York’s Times Square was transformed overnight using only plastic chairs.

**Bottom:** Kansas City’s Better Blocks event created a transformative ‘road diet’.

**Left:** The Pennsylvania Horticultural Society has sponsored a Pop-Up Beer Garden in an unused property in Philadelphia’s Central City for the past three years.





**Top:** A small town main street is converted into a beach party simply using sand.

**Bottom:** An open streets event in Minneapolis included a pop-up road diet and "protected intersection", using chalk, planters, carpet and wooden forms. Cars were not allowed during the event, but participants could see how the street could be transformed if the changes would be made permanent.

**Top:** Los Angeles' Sunset Triangle Plaza transformed a short segment of a low-traffic neighborhood street, which reduces cut-through traffic and expands a pocket park.

**Bottom:** A 2014 pop-up road diet and plaza in Portland, Oregon's 3rd Avenue was requested by local businesses and implemented in 6 months for less than \$800. The Portland city council approved permanent changes, inspired by the weekend event.



# Mid-Range: *The Second Wave*

## Programs

### ➔ Create a Wayfinding System

There are a number of compelling destinations in Columbus, especially in the downtown area. Create a wayfinding ‘brand’ and install large, easy to read signs on arterial streets that show popular destinations. Include estimated walking and/or bicycling times and distances, to demonstrate that walking and bicycling can be efficient forms of transportation in an urban area.



*Above:* These wayfinding signs in Boise, Idaho are colorful, stylistic and easy to read.

### ➔ Teach Traffic Safety in Schools

Regardless whether a child ever rides a bike, every kid walks. Regardless whether a child ever rides a bike or walks to school, he or she walks or rides at some point in their daily lives. Therefore, it is critical that children and youth understand traffic safety concepts, and how to be a pedestrian and bicyclist. Work with the City and school district to institute a citywide traffic safety education program,

starting with pedestrian safety for 2-3 graders, bicycle safety for 4-5 graders, and incorporate walking and bicycling knowledge into drivers education courses in high school. There are a number of types of program models, from the introductory “Bike Rodeo”, to an intensive 10-hour in-class and on-the-road training that prepares children 10 years old and up to ride on the street.

==> Read more about the types of curricula at: [http://saferoutespartnership.org/sites/default/files/pdf/Curr\\_Guide\\_2011\\_lo.pdf](http://saferoutespartnership.org/sites/default/files/pdf/Curr_Guide_2011_lo.pdf)

### ➔ Launch Walking School Bus Program(s)

One of the best outcomes of a Safe Routes to School program at the community or school level is the Walking School Bus, or Bike Train. Imagine the yellow school bus, but without the bus itself: adult or older youth volunteers walk or bike a prescribed route, picking up students along the way to and from school. This program provides a safe alternative to driving, with leaders helping younger students to cross streets and avoid bullies and other obstacles. Students get exercise and social connections, and some parents may be relieved of driving duties. Learn more about how to launch Walking School Bus programs at [saferoutesinfo.org](http://saferoutesinfo.org).

*Right:* Los Angeles hosts an annual open streets event known as CycLAvia, with walking, bicycling and more.

### ➔ Hold an “Open Streets” Event

Open streets events, also known by other names, such as “Cyclovias” or Sunday Parkways, are usually loops of one or more miles that temporarily close streets to automobile traffic, so that people may use them for just about any activity but driving—walking, jogging, bicycling, dancing, and social activities all flourish! There are more than 70 ongoing events in North America. Fun events like these are gaining popularity around the world, including U.S. cities such as Portland, Seattle, Los Angeles, Tampa Bay, Fla., Kansas City, Missouri, St. Louis, Missouri, and many others. Open streets events are typically held on one or more weekend days throughout the year, can be combined with a parade day, and can be branded to reflect Columbus’s culture. Open Streets events show the community a different way to think about streets - how their community can reconnect by reducing the emphasis on moving cars quickly.

==> Read more about Open Streets at: <http://www.bikewalkalliance.org/storage/documents/reports/OpenStreetsGuide.pdf>



# Mid-Range: The Second Wave

## Programs and Projects

### ➔ Pilot “Pop-Up” Plazas

Pilot a “Pop-Up Plaza” and host temporary events there, such as a farmers market or a celebration or an art show or performance, to demonstrate the potential activation of underused spaces and the value of neighborhood gathering spaces. Consider creating an event using food trucks and bring temporary tables and seating to create pop-up dining experiences. This Pop-Up Plaza could also be combined with an “Open Streets” event as part of a larger celebration of making better use of our streets, parks, underused parking lots and empty building lots.



### ➔ Encouragement: Expand Beyond Annual Walk/Bike to School Days

Encouragement activities as part of Safe Routes to School programs can be one of the most effective tools to get more kids and families walking and bicycling to school and in daily life. While once-a-year events like International Walk to School Day or National Bike to School day are good inspirational and program launch activities, more needs to be done to encourage walking and bicycling throughout the school year and in daily life. Activities such as walking school buses and bike trains (*see page 27*) are powerful ways to alleviate parental concerns around street crossings and so-called ‘stranger danger’. Each school team in Columbus should prioritize the development of ongoing encouragement programs designed to habitualize daily physical activity, especially during the trip to school. Get children and youth to design their own programs; examples from around the country include the Golden Sneaker Award, Walk+Bike Across America, Lunch Walking Clubs, Fire Up Your Feet, Bicycle Slow Races, Remote Drop-Off, and many more.

=> Read more about it at: <http://guide.saferoutesinfo.org/encouragement/index.cfm>

**Left, top:** This ‘plaza’ in Milwaukee, Wisconsin repurposed an unused portion of a parking lot into a place where people can socialize, relax, perform, eat, shop and play.

**Left, bottom:** The Cummins headquarters building, across from the parking lot on Jackson St. is a good location for a Pop-Up Plaza and Open Streets event. Consider making it a permanent plaza/event street.

### ➔ Install Protected and Buffered Bike Lanes

Surveys show that around 60% of Americans do not ride a bicycle because they do not feel safe riding on streets next to fast moving motor vehicles. In order to address this barrier, communities around the country are transforming unnecessary travel lanes or extra travel lane space near curbs into “Protected” or “buffered” bike lanes. A protected bike lane is a bicycle lane that is separated from motor vehicle traffic through the use of physical barriers such as raised curbs, planters, bollards and parked cars. A buffered bike lane is separated by a painted buffer area, typically using crosshatching, or “zebra stripes”, to designate the zone as off limits. This treatment can increase ridership, reducing motor vehicle volume, and is best suited on wide streets such as arterials. Consider installing buffered bike lanes or protected bike lanes in front of schools, on arterial and collector streets without a high number of driveways.



# Mid-Range: The Second Wave

## Projects and Policies

### ➔ Create a Bicycle Boulevard Network

Bicycle boulevards are comfortable and attractive places to cycle. There are few motor vehicles and those on the road travel at low speeds reducing pressure on cyclists to hug the edge of the roadway. Intersections are designed to reduce the need for cyclists to stop frequently and are improved to allow convenient and safe crossings of major roadways. Clearly marked routes lead cyclists to the multiple destinations they need and want to go while clearly indicating to motorists that the street is intended for bicycle travel.

==> Learn more about bicycle Boulevards at: <http://nacto.org/wp-content/uploads/2012/06/Alta-and-IBPI.-2009.pdf>



### ➔ Pass a Strong Complete Street Ordinance

Columbus would benefit from a strong City ordinance, which would augment the *City of Columbus Thoroughfare Plan: An Element of the City of Columbus Comprehensive Plan*, and ensure that Complete Streets is institutionalized in Columbus' future planning and public works efforts.

Adopt the most up-to-date best practices for Complete Streets policies and enhance the current policy framework to ensure that a Complete Streets policy will actually achieve the desired outcome. This will ensure that Complete Streets will exist, regardless of changes in political or agency culture, and it will give leaders an official policy to stand behind. Note that a Complete Streets policy that includes too many ways to justify less-than-optimal street improvements will not accomplish Columbus's goal to become a more walkable, bikeable and economically viable community.

The policy should include implementation elements such as criteria and performance measures, including those that will increase walking and bicycling safety and comfort, and re-evaluation of street classifications. A detailed Bicycle and Pedestrian Master Plan should be incorporated into the City of Columbus Comprehensive Plan.

==> Model complete streets policies and a local-policymaking workbook are available at the National Complete Streets Coalition's website.

### ➔ Develop a Complete Streets Implementation Plan

A detailed Implementation Plan with benchmarks, performance measures and other implementation elements will supplement a new Complete Streets ordinance and the comprehensive plan, leading to a real shift in the way streets are designed and surfaced, benefitting all modes of travel.

### ➔ Formalize the Bike/Ped Infrastructure Team

The existing Bicycle/Pedestrian infrastructure team is committed to improving the health, safety and livability of Columbus' citizens. However, at any time the group could disband, and its influence is moderate without formal City recognition and authority of official long-term advisement to the Mayor and Council.

### ➔ Conduct Health Impact Assessments

Health Impact Assessments (HIA) bring potential public health impacts and considerations to the decision-making process for plans, projects, and policies that fall outside the traditional public health arenas, such as transportation and land use. This tool can be used in Columbus to evaluate streetscapes for current conditions for bicycling and walking, land use policies and more.

==> Learn more about HIA's at: <http://www.humanimpact.org/new-to-hia/>

# Traffic Calming

## Concepts and Recommendations: Mid-Range Projects

### ➔ Identify Opportunities for Modern Roundabouts

Modern roundabouts are far safer than four-way signalized intersections, virtually eliminating high speed impacts, reducing crashes and helping to calm traffic – they can contribute to reduced travel time through a corridor, and move up to 30% more traffic without signal and stop-control delays for drivers. Roundabouts can improve walking and bicycling connectivity, air and sound quality, and can create a gateway. Install ‘pilot’

roundabouts in suburban areas of Columbus, where there is likely more City ‘Right of Way’ available. When installing roundabouts, be strategic but be bold, and maximize the opportunity to help people become more comfortable with roundabouts and the benefits they offer. Launch a public information campaign before a roundabout is built, to teach residents how to use them.

==> *Read our AARP and WALC Institute fact sheet, available at: [bit.ly/modern-roundabout](http://bit.ly/modern-roundabout)*



*Des Moines, Iowa Photo-vision by WALC Institute, TDC Design Studio and AARP.*

### Mini-Roundabouts

Mini-roundabouts are smaller than modern roundabouts and offer most of the benefits of regular roundabouts with the added benefit of a smaller footprint. Mini-roundabouts such as the Bel Air, MD example below, are best suited to low-speed environments where a larger roundabout wouldn't fit. They are usually domed so that larger vehicles can drive over them when necessary. Reduce conflicts, motorists' speeds, and improve neighborhood safety by building temporary or permanent mini-roundabouts at appropriate intersections in Columbus. Then work with residents who are ready for one at their intersection.



around them. They can be landscaped and contain signage or artwork.

### Chicanes

Chicanes like these pictured below, slow down vehicles to safer speeds and the curb gap still allows for water runoff. They also provide an opportunity for landscaping. Consider installing Chicanes on wide, low volume streets, in order to slow traffic, and in lieu of using speed humps. Chicanes can also incorporate signage, bike racks, benches and artwork.



### Traffic Circles

Traffic circles, like this example in Seattle, Washington below, are used on smaller low-speed neighborhood streets, and can be used in lieu of stopsigns. Cars drive counterclockwise



Pedestrian-scale lighting encourages walking after dark, and provides a safety benefit.

Outdoor seating helps to create a sense of place, and since roundabouts can reduce noise pollution by up to 70%, outdoor seating can create a pleasant social environment for residents and visitors.

Underused parking lots next to existing buildings can be built upon, enhancing the tax base and creating new destination choices. New on-street parking helps to calm traffic.



Covered bus shelters provide sun and weather protection and can include LED readers that give bus location and timing.

Trees increase property values, provide shade and cooling, improve air quality, and help create a sense of place.

The “angle of deflection,” or, degree to which vehicles need to turn to enter and navigate the roundabout, will reduce vehicle speeds to the point that most drivers will yield to a pedestrian waiting to cross.

Signs and colored crossings give drivers more advanced warning of the potential of someone walking across the street.

Crosswalks are set back one car length behind the point of entry into the roundabout and include a pedestrian refuge halfway across.

# Long-Term: *The Big Wins* Programs

## ➔ Prepare and Apply for Bicycle Friendly Community Silver Award

Columbus has already won a Bronze Bicycle-Friendly Community award from the League of American Bicyclists. We recommend that the City apply for a Silver award. The application process itself will help Columbus to evaluate its status as a bicycle friendly community, and the feedback from the LAB will help to clarify the steps Columbus will need to take to become more bicycle friendly, save lives and increase physical activity and health and livability.

Use the feedback submitted by LAB in the previous application to guide your efforts. All of the steps given in that application feedback are relevant to Columbus. Task the Columbus bicycle and pedestrian advisory group with the goal of developing the action plan to win a Silver Bicycle Friendly Community award.

Celebrate and promote the fact that Columbus is a bicycle-friendly city by posting additional official signs in prominent locations. (see example below)



## ➔ Establish a Funded, Safe Routes to School Program and Policy

Convene school teams at each school under consideration, and develop a comprehensive program at each of the designated schools. Consider starting with a pilot school, or multiple schools, that already have parental momentum, a supportive principal, and/or 'champion' volunteers. Consult school officials to identify ongoing challenges for students who wish to walk or bicycle to school. Identify existing City facilities and/or upcoming projects that address problem areas, and work with schools to conduct outreach to parents and promote walking and bicycling to school.

Apply for state-managed federal TAP or HSIP funds to pay for program activities and infrastructure improvements such as sidewalks that connect student residential areas to schools. There are a number of other funding mechanisms available as well, from corporate sponsorships and volunteer teams to community groups and foundation grants. Generate earned media and use social media to promote the program and build support. Report progress and successes to decisionmakers such as the mayor and city council to build political support. Campaign for sustainable fine and tax-based funding.

**Right:** New York City's bike share program—Citi Bikes — launched in 2010 and has logged over 36 million trips to date.

## ➔ Plan and Launch a Community Bike Share Program

Community Bike Share is a service in which bicycles are made available for shared use to individuals on a very short term basis. Bike share schemes allow people to borrow a bike from point "A" and return it at point "B". Many bike-share systems offer subscriptions that make the first 30–45 minutes of use either free or very inexpensive, encouraging use as transportation. For the past 1.5 years, the Park Foundation has led a discussion in Columbus to get a bike share program up and running.

Bike Share programs are in place or in progress in 78 US cities, and in hundreds of other cities around the world. They are known for increasing bicycling, especially among those who aren't already bicycling, tourists, and 'first-mile-last-mile' transit users.

>> Read more about Bike Share at the PBIC website: [http://www.pedbikeinfo.org/programs/promote\\_bikeshare.cfm](http://www.pedbikeinfo.org/programs/promote_bikeshare.cfm)



# Road Diets

## Concepts and Recommendations: Long-Term Projects

Most drivers base their travel speed on what feels comfortable given the street design. The wider the road, the faster people tend to drive and, the faster the car, the more severe the injuries resulting from a crash. Research suggests that injuries from vehicle crashes rise as the width of a road increases. To protect both pedestrians and drivers, many communities are putting their roads on “diets” by reducing street widths and vehicle lanes. The gained space is being reallocated toward other ways of getting around — such as walking, bicycling and transit.

The most common road diet involves converting an undivided four-lane road into three vehicle lanes (one lane in each direction and a center two-way left-turn lane). With this design, vehicles move out of the main traffic flow to wait to turn left; through traffic flows more smoothly because it is not getting stuck behind cars waiting to turn left; crash risk is reduced because conflict points—places where vehicles cross each other’s paths—are decreased. Travel lanes made narrower can create a buffer zone, or “protected bike lane”; the previous fourth lane space can be used to create such features as bicycle lanes, pedestrian crossing islands, bus stops, sidewalks and on-street parking. Road diets work best on streets with daily traffic volumes of 8,000 to 20,000 vehicles.

When done properly, a road diet improves the performance and efficiency of the street and makes it safer for all users. For instance, by enabling pedestrians to cross only one lane of traffic at a time — rather than up to four or more lanes — a road diet reduces the risk of crashes and serious injuries. At the same time, motorists experience a shorter delay while waiting at traffic lights and other crossings.

A road diet can help a neighborhood become a more desirable place to live, work and shop, which in turn can be a boost to businesses and property values. Wider sidewalks lined by trees and dotted with benches, bicycle racks, streetlights and other useful additions help create a lively, attractive streetscape. Bike lanes, on-street vehicle parking, curb extensions and “parklets” (tiny parks created from former parking spots) can be used to provide a buffer between people who are walking and motor vehicles on the move.

A road diet could be temporarily striped as an “interim design” for up to one year to give residents the opportunity to ‘test’ the concept.



*Images: San Francisco’s Valencia Street was ‘road dieted’ from 4 lanes to 3, adding bike lanes. Travel times stayed the same, crashes were reduced and business increased.*





Wide, unobstructed sidewalks provide enough space for people walking, even side by side.

Bike lanes provide a dedicated space for people bicycling, and can function as buffers for car doors and improved sightlines for turning movements, among many other benefits.

“Street furniture” zones between the sidewalk and street provide space for sign posts, trees, landscaping, bike racks, seating, trash cans and more.

Striped crosswalks provide a dedicated space for people walking across streets.

One travel lane in each direction ensures that the prudent driver dictates the speed, instead of the most aggressive driver, thus improving safety.

A curbed median, or pedestrian crossing island, provides protection for people while waiting for a gap in traffic. Landscaping adds beauty and function. At intersections and driveways the median can be simply a painted turning lane (*see above*).

Travel lanes can be narrowed to ten feet—eleven on truck routes— which helps to calm traffic and slow motor vehicle speeds, thus improving safety.

# Revitalize 25th Street

## Concepts and Recommendations: Long-Range Projects

### ➔ Road Diet 25th Street and Install a Modern “Protected Roundabout”

25th Street is a wide, five lane street that passes in front of the Fair Oaks Mall at the corner of Hawcreek Avenue. The traffic volumes on 25th Street do not warrant the width of this roadway, at 62 feet wide and an average of less than 20,000 vehicles per day. There is enough width to reduce the motor vehicle travel lanes to one each way, with on-street parking and protected bike lanes.

The signalized intersection at Hawcreek Avenue—and likely at other intersections along this corridor and at other intersections in Columbus—could be more efficient with a modern roundabout. In fact, there is enough roadway width to make the roundabout **one of the nation’s first “protected roundabouts”**, with an extension of new protected bike lanes through the intersection. (see photovision next 2 pages) This type of treatment, especially if this roundabout was part of a series of roundabouts along the 25th Street corridor, would make bicycling on 25th Street a safe and pleasant experience, especially compared to the highly dangerous and unpleasant conditions that exist now.

In addition, we recommend studying the parking usage in the Fair Oaks Mall parking lot to determine how much parking space is over-capacity. The ideal parking usage goal is 85% filled, with 15% available at all times. Most mall parking lots are built to handle the busiest shopping day(s) of the year, and are therefore

underused most other days throughout the year. We estimate that there will be enough capacity to build ‘liner buildings’—24ft wide or wider buildings that are located right on 25th Street adjacent to the planter strip, ‘fronting’ the street, creating a more walkable and livable environment.

This is the current condition of 25th Street at Hawcreek Avenue. Drivers read the road, and this one, with multiple wide lanes, encourages high speeds that create a dangerous and unpleasant situation for people walking and bicycling.

*See the transformation in the Photovision on the next 2 pages.*



# Revitalize 25th Street

Photovision



“Liner” buildings adjacent to sidewalks are more economically beneficial than excessive parking spaces, generating tax revenue, jobs and local profits. Retail-friendly liner buildings contribute to walkability and help to create a sense of place.

There is still plenty of space in the Fair Oaks Mall parking lot for an expanded farmers market that could take place there during the ‘fair-weather’ months.

The Fair Oaks Mall main entrance has been moved to this intersection, and the entry sign placed into the new “splitter island” at the roundabout, creating a more prominent gateway to the mall.

The protected bike lane follows the form of the roundabout, physically separated from the motor vehicle lane and the sidewalk. Vehicles such as the SUV below are facing the bike lane and pedestrian crossing, and are traveling at a slow rate when encountering the crossings, improving safety for all. This type of protection will also increase bicycling and walking rates.



This new ‘road-dieted’ street can handle current traffic volumes. Ten or eleven foot travel lanes with a center median will reduce top speeds, increase safety, and encourage more walking and bicycling.

On-Street parking and protected bicycle lanes will help to increase bicycling, reducing traffic congestion. Bicycle lanes provide many safety benefits for bicyclists, drivers and pedestrians. Adjacent businesses can now repurpose valuable land formerly given up for car storage

A Modern Roundabout here creates a gateway to the Fair Oaks Mall and Lincoln Park and can be landscaped, even with an art installation. The roundabout will help with efficient flow through the intersection, shorter crossing distance for pedestrians, and eliminates high-speed crashes.

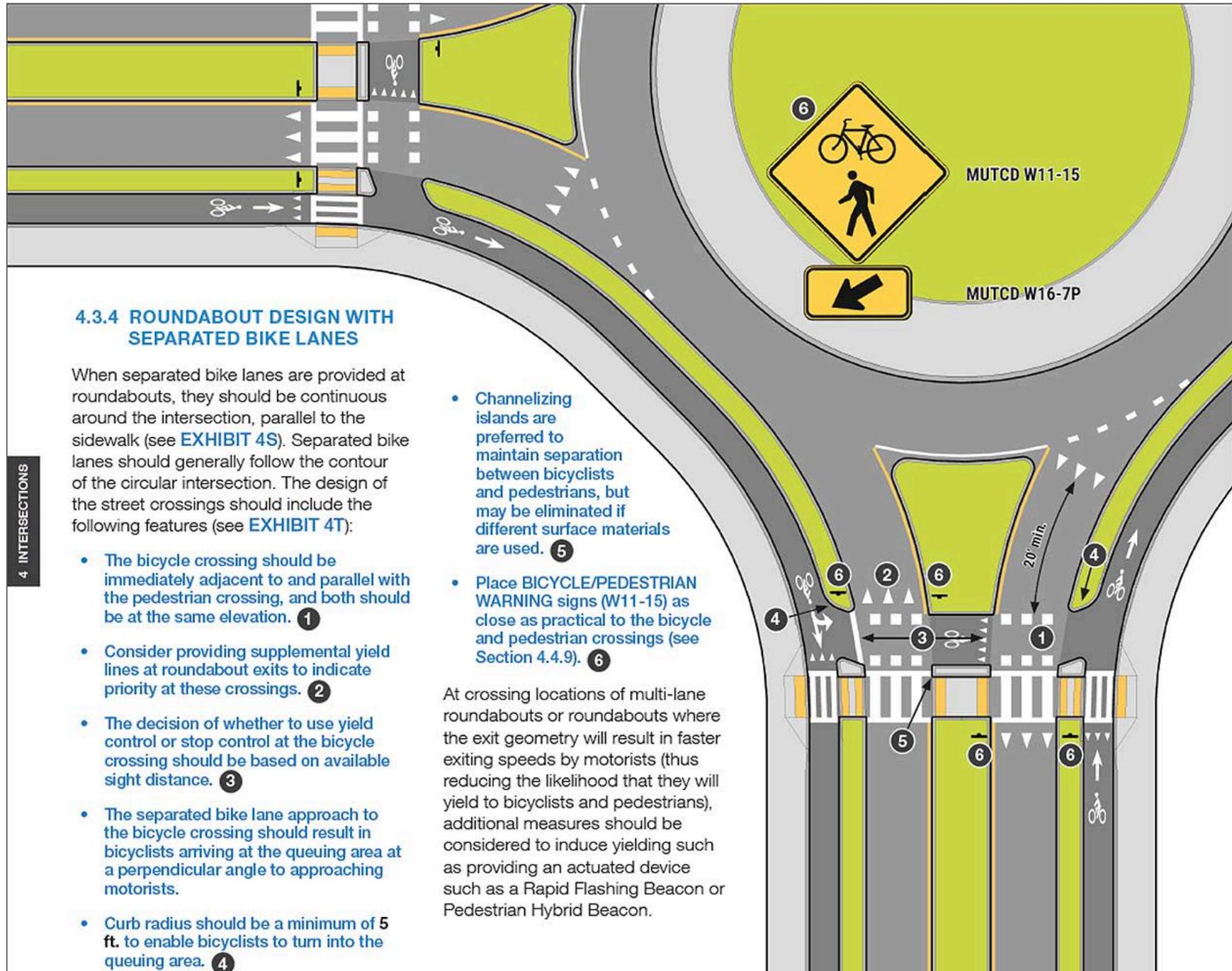
#### 4.3.4 ROUNDABOUT DESIGN WITH SEPARATED BIKE LANES

When separated bike lanes are provided at roundabouts, they should be continuous around the intersection, parallel to the sidewalk (see [EXHIBIT 4S](#)). Separated bike lanes should generally follow the contour of the circular intersection. The design of the street crossings should include the following features (see [EXHIBIT 4T](#)):

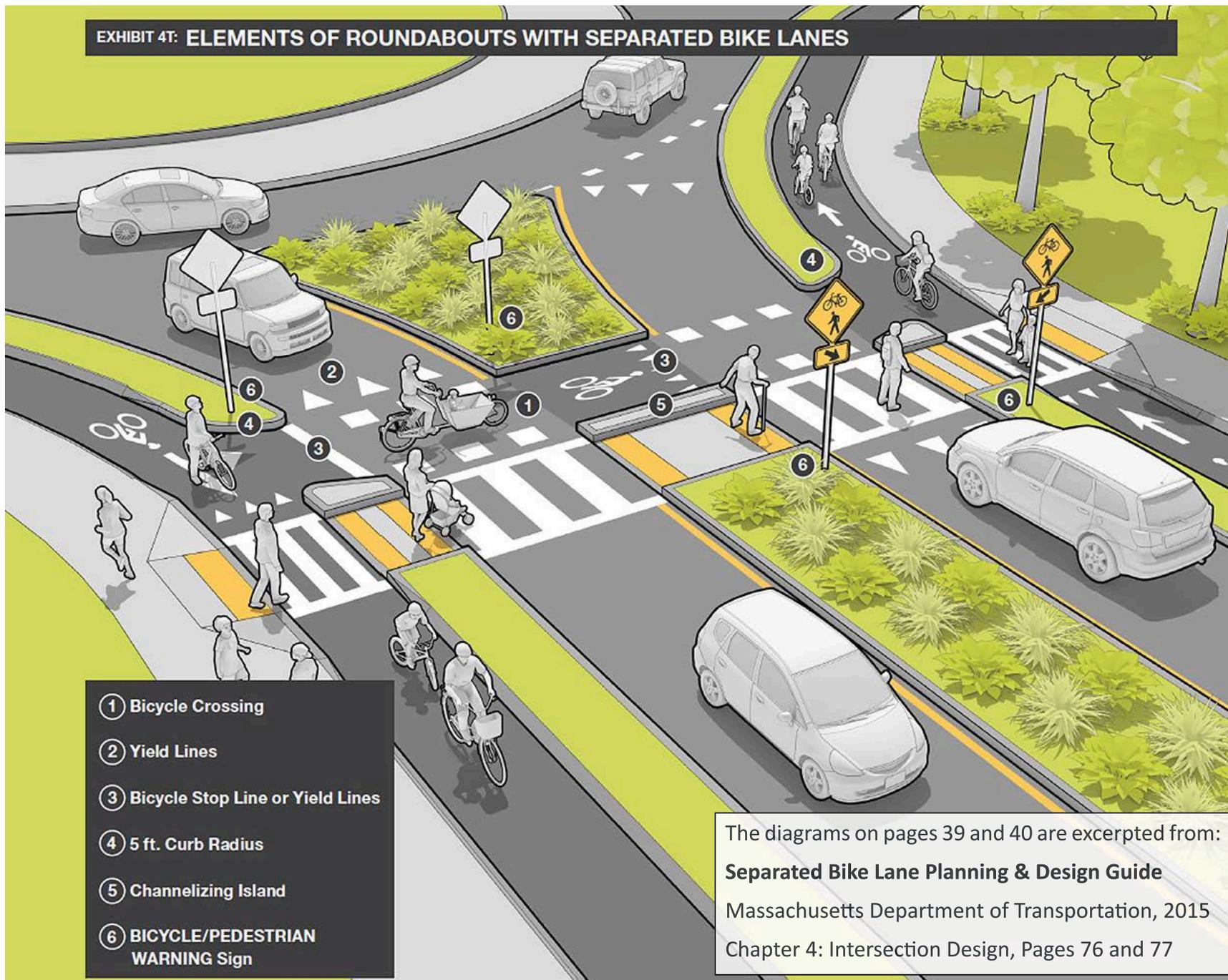
- The bicycle crossing should be immediately adjacent to and parallel with the pedestrian crossing, and both should be at the same elevation. **1**
- Consider providing supplemental yield lines at roundabout exits to indicate priority at these crossings. **2**
- The decision of whether to use yield control or stop control at the bicycle crossing should be based on available sight distance. **3**
- The separated bike lane approach to the bicycle crossing should result in bicyclists arriving at the queuing area at a perpendicular angle to approaching motorists. **4**
- Curb radius should be a minimum of 5 ft. to enable bicyclists to turn into the queuing area. **4**

- Channelizing islands are preferred to maintain separation between bicyclists and pedestrians, but may be eliminated if different surface materials are used. **5**
- Place BICYCLE/PEDESTRIAN WARNING signs (W11-15) as close as practical to the bicycle and pedestrian crossings (see [Section 4.4.9](#)). **6**

At crossing locations of multi-lane roundabouts or roundabouts where the exit geometry will result in faster exiting speeds by motorists (thus reducing the likelihood that they will yield to bicyclists and pedestrians), additional measures should be considered to induce yielding such as providing an actuated device such as a Rapid Flashing Beacon or Pedestrian Hybrid Beacon.



**EXHIBIT 4T: ELEMENTS OF ROUNDABOUTS WITH SEPARATED BIKE LANES**



- ① Bicycle Crossing
- ② Yield Lines
- ③ Bicycle Stop Line or Yield Lines
- ④ 5 ft. Curb Radius
- ⑤ Channelizing Island
- ⑥ BICYCLE/PEDESTRIAN WARNING Sign

The diagrams on pages 39 and 40 are excerpted from:  
**Separated Bike Lane Planning & Design Guide**  
Massachusetts Department of Transportation, 2015  
Chapter 4: Intersection Design, Pages 76 and 77

# From Parking Lot to Village

Concepts and Recommendations: **Long-Range Projects**

## ➔ Reduce Excess Parking Spaces and Create Walkable 'Village' Centers

Most communities have an excess of parking spaces. ***The ideal ratio is that 85 percent of all parking spaces are in use at peak daily times, with 15 percent always available.*** We recommend conducting a parking study to determine the actual usage. If it is found that parking is underutilized except in extreme circumstances, such as during special events, we recommend repurposing extra “free” parking spaces that are a net loss into new businesses, social spaces and streets that will become a net gain for the community.

Meet with local business and property owners, especially the Fair Oaks Mall owner, and inspire them to convert underused parking spaces into a new walkable ‘village’ center that would generate more income and enable a more livable neighborhood. Work to create walkable, ‘20-minute neighborhoods’ around village centers, so that people can access most of the facilities and shops needed in their daily lives in a 20 minute walk or bicycle ride, reducing the need to drive longer distances.



This parking lot at the Lion Su Tu shopping center in Houston, Texas is nearly empty during weekdays and likely never fills up. The unused portions of this valuable land could be repurposed into a walkable village center that adds retail value and livability to the neighborhood. ***See the transformation in the Photovision on the next page.***

## The Truth About Parking

Motor vehicle parking has a high cost. Cars sit unused 95 percent of the time and motorists park for free at 99 percent of the places they go. Drivers also spend three to eight minutes looking for parking, which accounts for 30 percent of all traffic near destinations, studies show.

Since the average household has 1.9 automobiles, many municipalities require two covered parking spaces for each single and two-family dwelling. Most cities also require off-street parking spaces; up to four parking spaces for every 1,000 sq. ft. of office space. In low-density settings with no transit options, parking can take up more than 50 percent of the land used in a development.

The cost of all parking spaces in the U.S. exceeds the value of all cars and may even exceed the value of all roads. The opportunity cost can be high, as each parking space can reduce new housing units or other uses by 25 percent.

Currently, about 96 percent of the financial cost of parking is bundled into rents and home prices, higher prices in stores, and myriad

other charges. Only about four percent is covered by pay-as-you-go parking, such as metered parking. In fact, if drivers paid for their parking as they used it, the total expense of operating a vehicle would roughly double.

Off-street parking is the most expensive type of parking. Each space typically uses 300 to 350 square feet, costs between \$3,000 and \$27,000 to build and about \$500 each year to maintain and manage.

On-street parking is more efficient and can be a strong revenue-generator. If a single on-street parking space turns over frequently — about 12 to 15 uses a day — it brings in as much as \$300,000 in revenues to nearby businesses.

Consider allowing developers to pay a fee in lieu of providing parking. Encourage shared use among different sites whose peak parking demands occur at different times. There are no parking requirements in the downtown Houston CBD, an area that is experiencing increasing commercial success. Consider removing or reducing commercial parking requirements.

# From Parking Lot to Village

Photovision





# Create a Riverfront Park

Concepts and Recommendations: Long-Range Projects

The convergence of the Flatrock and Driftwood rivers, the historic train depot building, the Columbus People Trail, the grassy area and underused parking lot at First Financial Bank, and the wide sidewalk on 2nd Street, is the perfect spot to create a new Columbus Riverfront Park, featuring a Riverfront Beach below the pumphouse building, Gateways at the State Road 46 bridges, and a Riverfront Promenade and Plaza between the pumphouse building, bank building and the Columbus Primary and Specialty Care building (Franciscan Alliance).

Columbus doesn't face the river in this area. Imagine a beach area at the river, below the pumphouse building that is already being converted into a restaurant. The Riverfront Beach could feature a sandy beach, swimming area, kiddie splash pool and canoe/kayak put-in, connected directly to the Columbus People Trail. (See map, Page 44, below)

Imagine a large Riverfront Plaza area, connected to the new pumphouse restaurant, the trail that accesses the beach play area, and connected to the 2nd Street sidewalk. The Plaza could feature seating and lighting, a kiddie water feature during warm weather, and food trucks and events such as a farmers market. This section of 2nd Street could become a Promenade into the downtown shopping area, with lighting along both sides of the wide sidewalk, seating and a wayfinding signage system.



**Top:** The Columbus People Trail could continue down to the Riverfront Beach here.

**Bottom:** The historic pumphouse restaurant would be a central feature of the park.

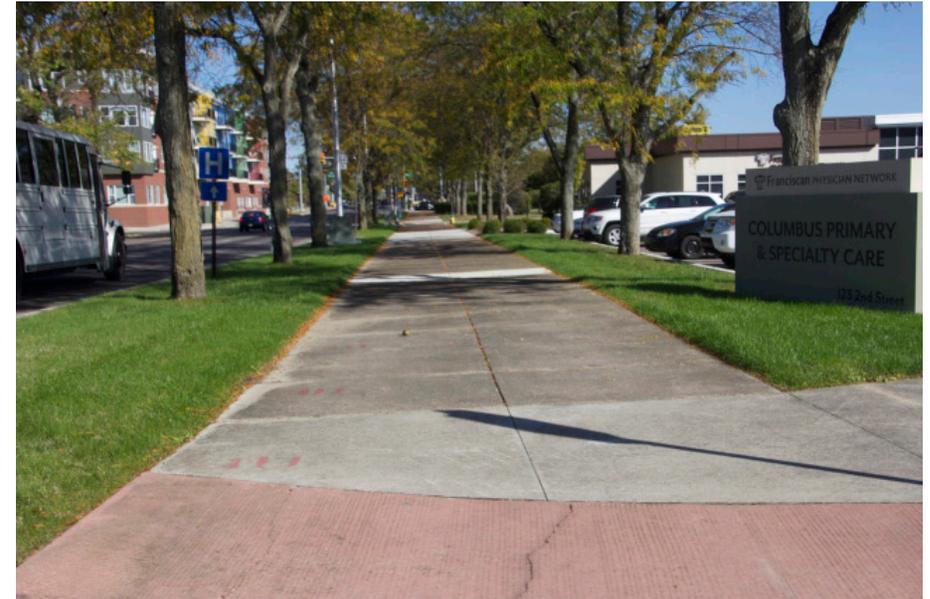
**Left:** This area of the East Fork/White River is very interesting, and would make a great backdrop for the Riverfront Beach play area. People would be able to watch others canoe and kayak alongside Mill Race Park from a Noblitt Park put-in, for example.





**Top:** The Riverfront Beach area could include sand and kiddie play area, and would be a popular destination and regional tourist draw, especially in warm weather months.

**Bottom:** This public plaza in the center of Rapid City, North Dakota is a popular destination. The Riverfront Plaza could feature events such as farmers markets, performances, and a food truck 'pod' area with covered, outdoor seating that would combine with the upcoming pumphouse restaurant to create a compelling food court.

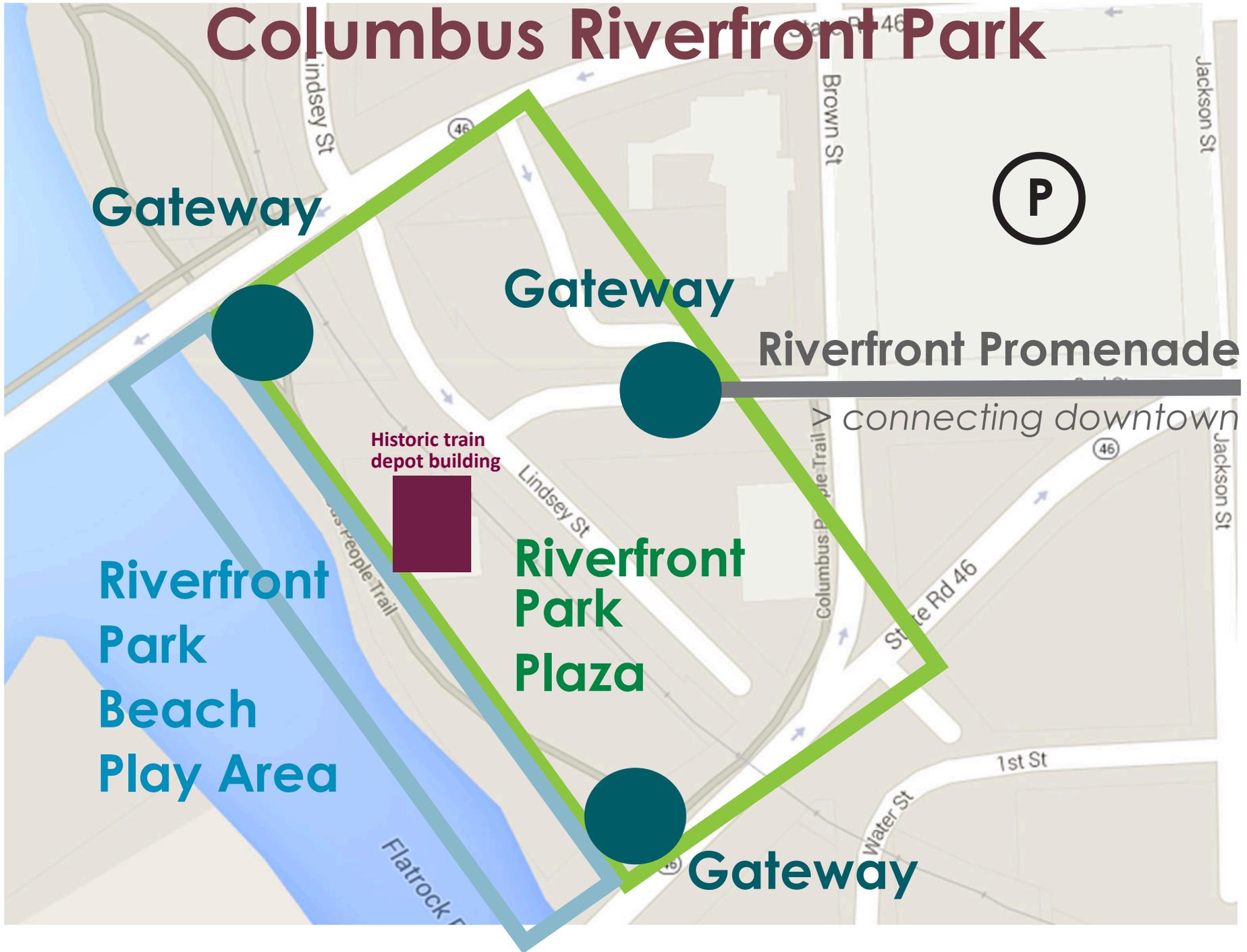


**Top:** Lighting, seating, artwork and wayfinding could be a feature of this section, which connects into the downtown shopping area.

**Bottom:** Similar to this New York City plaza, the Riverfront Plaza could include landscaping, seating areas for relaxing and socializing, lighting, trees, water features such as fountains or a kiddie water play area, and play areas. The proximity of the 2nd Street parking garage would allow for conversion of surface parking lot spaces.



# Columbus Riverfront Park



# Complete the Network

Observations and Recommendations: *Long-Range Projects*

## ➔ Retrofit the Suburban Areas of Town and Connect Neighborhoods

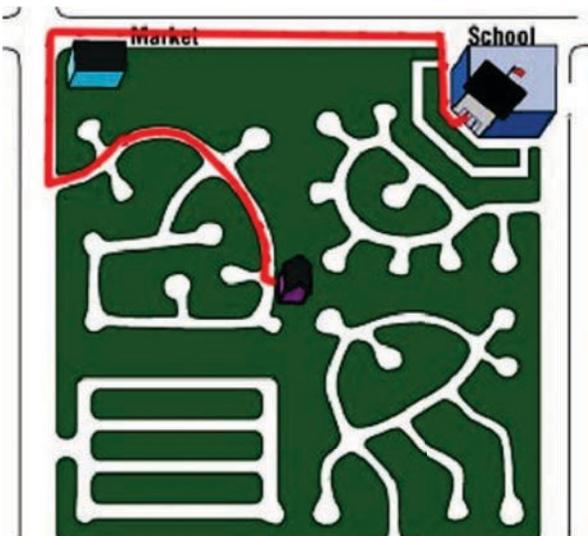
Columbus is expanding, but current development patterns and streetscapes outside of the downtown core suggest that this growth is still mostly indicative of suburban sprawl.

In cities where neighborhoods and business districts were created before the automobile became dominant, there is a grid pattern of streets, with easy access to other parts of a neighborhood, such as in walkable downtown Columbus, and there are travel choices that reduce the 'load' on any one particular arterial or collector street.

Typical suburban sprawl creates large areas of development—residential, public and commercial—that are not well connected and farther apart from each other. Suburban neighborhoods without a grid pattern typically have fewer street choices, thereby forcing larger amounts of traffic onto busy collector and arterial streets. Suburban scale streets therefore tend to be overly wide, fast, polluted, noisy and dangerous, and often feel like urban freeways, creating a barrier for people walking and bicycling, a barrier between neighborhoods, and a barrier between businesses on either side of these streets.

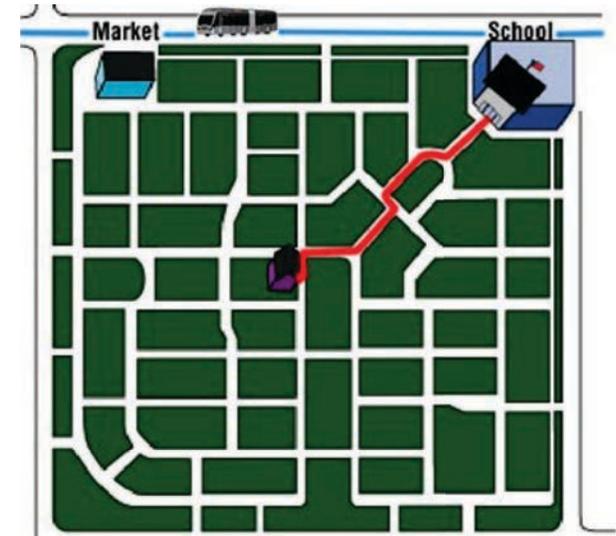
The areas on the outskirts of Columbus need better connectivity, smaller block form, and narrower, slower streets. As new streets and developments are planned, we recommend the prioritization of compact, walkable development and a grid pattern with smaller block form.

In addition to creating better connectivity for automobiles through more of a street grid pattern, we recommend developing an interconnected system of walkways, bikeways, and frequent transit, in order to reduce traffic congestion and vehicle miles traveled, improve livability and encourage physical activity.



*Left: Suburban development tends to create disconnected areas that require people to travel longer distances to get to their destinations. These patterns also force more traffic onto collector and arterial streets, causing congestion, and requiring larger roadways that become barriers to walking and bicycling.*

*Right: Older grid pattern neighborhoods give people more travel options, reducing the overall distance needed to reach destinations, and making it easier to choose to ride a bicycle or walk to a destination.*



# Long-Term: *The Big Wins*

## Policies

### ➔ Allow ADU's and Tiny Houses

Accessory Dwelling Units, or “granny flats”, are living spaces that are built within an existing home property. They are typically very small; most communities that allow them usually limit them to a maximum of 800 square feet and not more than 40 percent of the primary building floor space. Change your City code to allow these types of units, in order to build infill housing instead of traffic and sprawl-inducing housing farther from downtown. Consider developer incentives to build ‘cottage clusters’, or groups of ADU’s surrounding a central open area and/or shared buildings.



### ➔ Adopt “Health in All Policies”

We recommend that Columbus adopt a “Health in All Policies” policy. Health in All Policies is a collaborative approach to improving the health of all people by incorporating health considerations into decision-making across sectors and policy areas. The goal of Health in All Policies is to ensure that all decision-makers are informed about the health, equity, and sustainability consequences of various policy options during the policy development process. A Health in All Policies approach identifies the ways in which decisions in multiple sectors affect health, and how better health can support the achievement of goals from multiple sectors. It engages diverse governmental partners and stakeholders to work together to improve health and simultaneously advance other goals, such as promoting job creation and economic stability, transportation access and mobility, a strong agricultural system, environmental sustainability, and educational attainment.

*(Text excerpted from APHA guide Health In All Policies: A Guide for State and Local Governments)*

>> Read more about Health in All Policies: [https://www.apha.org/~media/files/pdf/factsheets/health\\_inall\\_policies\\_guide\\_169pages.ashx](https://www.apha.org/~media/files/pdf/factsheets/health_inall_policies_guide_169pages.ashx)

**Left, top:** This tiny house in Asheville, North Carolina is built on wheels for portability by a specialty developer and includes a kitchen, sleeping loft and living room.

**Left, bottom:** Tiny houses can be clustered together into a Pocket Neighborhood with indoor and/or outdoor commons areas, as in this development in Shoreline, Washington.

### ➔ Prioritize Dense, Mixed-Use Development

The City should work to ensure that future development is dense, multi-story and mixed-use, focusing on the downtown core first as much as possible before expanding into the suburban areas of town. Provide developer incentives such as short-term tax breaks and other tools to focus energy on the downtown area, and avoid sprawl patterns of development - decrease incentives and permits for low-density, single use development.

Increase mixed uses and density in areas that will become “village centers”, or nodes, retrofitting the suburban areas into a distributed network of ‘20-minute’ neighborhoods with these village centers as the center point. Work to ensure that parks, schools, grocery stores, pharmacies, major employers and other primary amenities are included in village centers, and that they can be easily accessed via bicycling and walking.

Find ways to encourage more housing of the “missing middle” types, in between single-family and high-rise buildings. Two- to three-story multi-family housing can increase density without “Manhattan-ization”. (See chart below for example “missing middle” housing types.)



# Long-Term: *The Big Wins* Policies

## ➔ Consider Form-Based Code

Consider implementing a citywide Form-Based Code policy, starting with a downtown overlay. By using the physical form rather than the separation of uses as an organizing principle, form-based code offers a powerful alternative to conventional zoning. With form-based code what matters are the relationships between buildings and the street, pedestrians and vehicles, public and private spaces and the size and types of roads and blocks. Instead of dictating or limiting activities as typical zoning codes do, the code focuses on such elements as parking locations and limits, building frontages and entrances, window standards, streetscaping and building elevations. Form-based code can be customized to fit a community's vision, be it to preserve and enhance a neighborhood's character or dramatically change and improve it. This new zoning method can promote transit-oriented, pedestrian, and bicycle-friendly mixed-use development, and should allow and incentivize housing and retail uses in downtown Columbus, emphasizing Accessory Dwelling Units (ADU). This will help to revitalize Columbus and boost the economic success and livability of both the downtown and the city as a whole.

==> For more information about Form-Based Code, see the AARP and WALC Institute fact sheet on Form-Based Code, available at [www.aarp.org/livable](http://www.aarp.org/livable).

## ➔ Implement Inclusionary Zoning Policies

Mixed-income neighborhoods or developments can be mixed-use and include single-family and multi-family units. In order to prevent displacement of existing residents and encourage new lower-income residents, mixed-use and mixed-income developments can be supported by policies such as Inclusionary Zoning.

Consider establishing mandatory inclusionary zoning policies to encourage the production of affordable housing by requiring or encouraging housing developers to build residential developments where a certain percentage of the housing units are affordable to low or moderate income residents. This affordable housing is offered in exchange for building incentives, such as density bonuses that allow developers to build a greater number of units than is otherwise allowed, or fast-track permitting that allow for a faster pace of development.

To be effective at producing housing for those at risk for homelessness or displacement, inclusionary zoning plans should: 1) Be mandatory, 2) Make some of the units available to those making less than 30% of median income, 3) Keep units affordable long-term, at least 25 years. According to PolicyLink's Equitable Development Toolkit, "While voluntary programs receive less opposition from developers, mandatory policies have produced far more affordable units."

==> Read more about Revitalization without Displacement from our AARP and WALC Institute fact sheet, available at: <http://bit.ly/no-displacement>

==> Read Policylink's Equitable Development Toolkit: <http://bit.ly/1tJE3RX>

## ➔ Build and Maintain Affordable Housing

Columbus is growing, and the downtown is becoming revitalized. As this process continues, ensure that long-standing residents and business owners and lower-income populations are not priced out of—and displaced by—these improvements by ensuring that a robust stock of affordable housing remains downtown and in other areas that are revitalizing. According to the Hope Partnership, "the benefits of affordable housing are many. Not only does affordable 'workforce' housing change the lives of its residents, but the benefits are passed along to the community in significant ways. It revitalizes distressed neighborhoods and promotes economic and social integration while building community. Affordable workforce housing is developed by private developers, nonprofits or faith-based organizations, using a combination of rental income, private funding and government subsidies."

# Appendix:

## ***Active Living Toolbox***

*Engage Residents in Finding Solutions*

*Take Them to the Streets*

*Visioning Versus Hearings and Process*

*Set Ground Rules for Facilitators*

*Do More than Translate*

*Learn from Elders and Children*

*Work Effectively with Others*

*Share Successes*

*Plan for Pedestrians*

*Bicycle/Pedestrian Funding Opportunities*

*Funding Sources and Potential Partners Checklist*

## ***Livability Fact Sheets by AARP and WALC Institute***

### ***The Benefits of Bike Lanes***

### ***Snow Removal***

### ***Safe Routes to School***

## Engage Residents in Finding Solutions

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

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

A successful public process starts with developing a community outreach plan that describes the desired outcomes of the project and details the public process, including who the stakeholders and audiences are, how they should be reached, messages, the tools that will be most effective, and how the success of the effort will be measured. Additionally, efforts should be made to conduct workshops, events or meetings in places that are comfortable and familiar to the audiences, and to use language that is clear. Each communication or event should contribute to the public's understanding of the project and its purpose.

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



*Effective community engagement is critical when developing policies and projects that impact a community's built form.*



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

The goal is to engage the community. If the community is not engaged, initially, leaders must take responsibility for developing effective and successful outreach programs that achieves this identified goal. A civic engagement plan allows creators to look at localized efforts to build capacity within the community.

### **Build Cultural Competence**

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

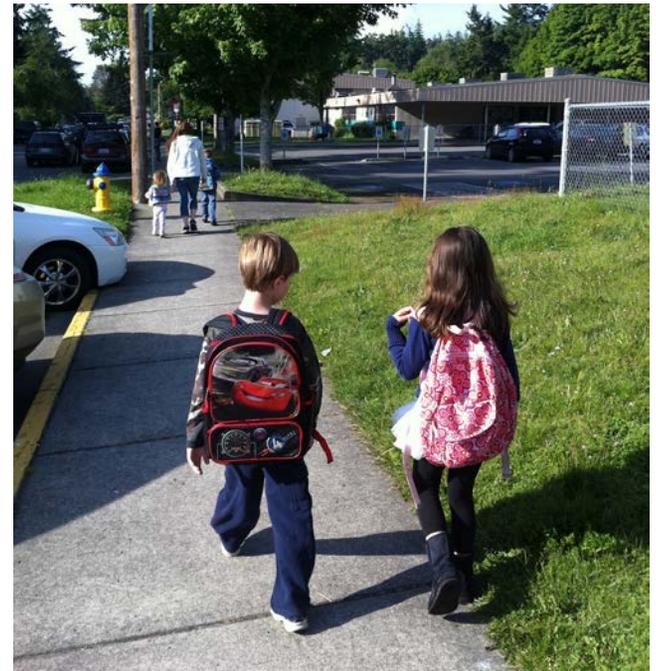
To increase their effectiveness, many organizations working with multi-cultural populations are developing “health promoters” programs that recruit people who live in and work in a community to be community educators and liaisons between the program and the community. An example is the DeSoto County,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

### **Broaden the List of Stakeholders**

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

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

**Media** - Conventional community outreach plans have treated the media as a means of simply disseminating information. A more effective approach is to engage members of traditional news outlets (newspaper, television and radio) and social media (online news services,



bloggers), as stakeholders and seek their involvement early in the process. Just as project leaders should build capacity amongst residents and within the community, so too should they seek to build capacity with journalists and news outlets.

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

**Children & Elders** - Children and elders have much to offer in planning and design processes, yet they remain mostly untapped throughout community transformation processes. A child's imagination is a powerful tool; an elders knowledge inspiring. Together, they often create solutions and engage others in a way that can change the whole tenor of the events.

### **Start with a Base of Shared Values and Build Understanding**

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

### **Approach Engagement as a Two-Way Conversation**

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

### **Support a Coalition of Community Associations and Resident Activists**

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



*Children and residents care about the built environment and the experiences it allows. Broadening the list of stakeholders ensures better representation.*



## Take Them to the Streets

*Be done with boring public-involvement meetings*

When invited to participate in public processes, many people envision dreary meetings in stuffy settings where government employees give presentations on a subject, a project or a goal, and participants are then asked to take turns sharing their feedback.

Who can blame people for not showing up, if they didn't already have a strong interest in the topic? The conventional format for public-involvement processes sometimes is the only option, but in most cases it doesn't build community interest. In fact, it can be downright boring and it fails to capitalize on opportunities to build social capital through the process or engage people in reciprocal learning. Even workshop formats that aim to be more educational can fall short in efforts to build a shared understanding of the issues being addressed or to make participants feel truly engaged in the process.

One approach being used by more and more communities throughout the country is to conduct active, or experiential, workshops that get participants out into the community to explore firsthand what shortcomings exist, and how to improve upon those conditions.

Active workshops include educational presentations, but focus on active learning and firsthand experience. They don't have to be long events—a successful one can be as short as three hours, if planned well.

One of the greatest benefits of an effective active workshop is that it also helps build social capital in the community. When people are taken outside of the classroom or presentation structure and are put in the actual context—such as for a walk along a street to evaluate the built environment—where they can converse freely and naturally with others, many shared interests and connections emerge.

This can foster partnerships that cross any existing real or perceived boundaries, such as differences in generation, culture, socioeconomic status or geography. An especially effective active workshop may even dedicate time toward the beginning of the event to help participants get to know each other through ice-breaking exercises that ideally will lead to long-lasting relationships.

Planning and conducting successful active living workshops require attention to several details that often aren't considered for conventional workshops:

**Engage Key Partners Early:** Identify community-based organizations, government agencies, healthcare providers, employers, school boards, the media and other organizations whose members or stakeholders may have an interest in the topic. To address active living, engage transportation, planning, emergency services and public works entities. To address healthy



*Above:* During a walkability audit in Gulf Shores, AL, participants describe their observations about the built environment.

*Below,* in Helena, MT, participants learn firsthand the speeds at which cars travel through neighborhoods.



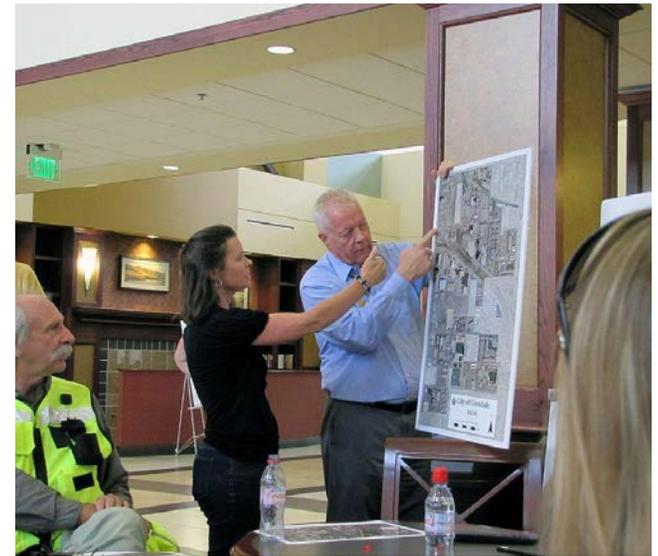
eating, engage public health and nutrition entities, as well as growers, grocers and restaurant operators. Engage the key partners very early in the planning process, and then enlist their help to conduct outreach and to issue invitations.

**Choose the Right Audit Site:** Work with the key partners to identify an audit site that captures the essence of changes needed throughout the community or that will have the greatest impact or potential to produce model projects that can serve as catalysts for other projects.

**Draw a Strong and Diverse Mix of Participants:** Engage the key partners to identify critical participants, such as community leaders with authority to enact the changes sought. Invite representatives from homeowners' associations and neighborhood groups, local elected officials, business groups such as the Chamber of Commerce, students, residents and retailers. Ensure that the participants represent diverse interests and backgrounds, and be especially attentive to engaging people who might be opposed to the type of effort being addressed. It is important to get them to the table, build their trust and seek their involvement.

**Consider Comfort and Abilities:** Give careful consideration to participants' comfort and abilities. Everyone who wishes to take part in the full workshop should be able to do so, and any special needs should be accommodated. If the workshop is held during hot or cold months, conduct the outdoor portions at comfortable times of day.

**Encourage Relationship-Building Next Steps:** An effective active workshop will motivate and inspire those who take part, and many will be eager to contribute their energies toward enacting change. They will need to draw upon each other's strengths, stay in contact, offer each other support, and share information to undertake the important work to be done. Encourage them throughout the workshop to network with each other and exchange contact information. If possible, form a "working group" and decide upon a meeting date before the workshop ends; invite people to opt in.



*Talking through concerns and engaging students in the planning processes builds understanding.*



*Dan Burden, co-founder of the WALC Institute, says anyone doubting the power of an active workshop should consider this story:*

*"We once were doing a walking audit on Main Street and 7th Street in Grand Junction, Colorado when I said to the group, 'Until you have someone buy and replace that old gas station on that corner, this corridor will never fully come alive.' A member of our group left us at that point. He crossed the street, made an offer to the owner, and bought the gas station on the spot. Today, it is a mixed-use building, and it has brought life and vibrancy to the entire corridor."*

*This not only reinforces the importance of having the right people involved in active workshops, but also illustrates the power of the effort.*

## Visioning Versus Hearings and Process

*The old way of business gives way to new approaches*

In the world of real estate development, the cliché is that nobody shows up at a public hearing to comment on a project unless it's in their backyard and they hate it.

But all too often, the real-life scenario is that people who get up to speak against a development never heard about it until a neighbor noted the announcement of a public hearing in the newspaper. By then, everyone in the neighborhood is complaining that they weren't consulted about this proposal to put a strip shopping center on land once eyed for a community center.

It's the way a lot of development gets proposed and approved. There are regulations in the building and zoning codes and a review process that the developer has to navigate. Then there's a public hearing where elected officials ask questions and residents get a chance to comment. Once the developer clears those hurdles, the deal is often done.

But the old way of doing business is starting to change, and it's giving way to new approaches to public engagement that are as varied as the communities and local governments involved.

### Residents Really Want to Be Heard

Increasingly, local officials are engaging residents in visioning and brainstorming sessions when they have an area of open land or a high-profile redevelopment site that they know is a target for developers.

It's not enough to give people their three minutes to speak at a public hearing, where a little red light goes on when their time is up. There's no give and take in that. It's just a formality.

Most people want to hear about development plans as they're evolving. They want to have a conversation about them; an exchange of ideas about the pros and cons.

Even if their ideas aren't ultimately adopted, it's important that they get the chance to share them fully. And there are many workshop and meeting formats to accomplish that goal. A good starting point is a community visioning session, which might best be likened to a brainstorming session.

Say, for instance, there's an old boarded-up mill on a ten-acre site in the heart of an inner-ring suburb. Area residents and business owners are invited to a three-hour meeting in which they're encouraged to break up into small groups to talk about what would work well there. As they throw out ideas for how the property might be used, a facilitator sketches them. After a couple of hours, each of the groups gets up to present their respective vision for the property, recommending what should be built there and what the area should look and feel like.



*Increasingly, local officials are engaging residents in visioning and brainstorming sessions. Above, a community values exercise in Bellingham, WA. Below, envisioning potential design solutions in Sacramento, CA.*



Such sessions provide an ideal format for neighbors to advocate for pedestrian-friendly design and good transit connections.

Local governments sometimes go even further with major planning exercises designed to create a blueprint for development over a large area.

In these cases, the right approach might be a more intensive, multi-day charrette where professional planners facilitate discussion among developers, community members, business leaders, environmentalists and other stakeholders.

They hear from housing experts and economic development professionals about the market for various land uses, and from retailers who know what kinds of retail and restaurants would work in a given location.

There are architects on hand to sketch what's discussed and planners to draft policy language, with both getting real-time feedback from participants.

In the end, a charrette aims to yield an actual plan for the study area that is viable and well vetted. One that participants understand at a level of depth and detail that they would never know with any development proposal that's finalized by a development group working solely with local government planners. They understand all of its individual features and the rationale behind them.



*In a design charrette, the community voices their desires and concerns while graphic artists sketch out renderings for feedback and vetting.*



# Set Ground Rules for Facilitators

*Set ground rules to improve productivity and success*

A safe, friendly meeting environment can help leaders achieve the planned meeting goals and objectives. Establishing ground rules that respect individual rights and responsibilities builds trust among participants and can lead to a successful meeting experience. It is frustrating and unproductive to participants and facilitator alike when opinions are not respected, persons are criticized, and many views are not expressed. Other terms that may be used interchangeably with ground rules include guidelines, group agreements, covenants or norms. In this publication the term ground rules applies to a set of rules that are usually developed at a first meeting and used by the facilitator to manage individual and group interaction.

Here are ground rules for leading a meeting addressing controversial issues.

## For Group Members:

- One person speaks at a time when the group is in full session and not at breakout tables.
- All will share ideas in order.
- Questions may be asked to clarify ideas.
- No one may criticize another.
- Ideas may be reviewed to look for themes.
- Feelings may be expressed. They are not to be ignored or denied.
- Discussions are about positions, not personalities.

## For the Facilitator:

- Make sure participants are physically comfortable.
- Share the covenants with participants at the outset of the meeting. Repeat the covenants and convey that by being part of the meeting, everyone is agreeing to the covenants.
- Communicate with everyone at his/her level.
- Act as the neutral person. Refrain from giving a personal opinion.
- Maintain a positive group atmosphere.
- Allow thinking time.
- Avoid: lengthy comments, giving verbal rewards for good answers, asking loaded questions or conveying a “know-it-all” tone.

*The following guidance is provided by the University of Minnesota Extension’s publication, Facilitation Resources - Volume 4. The full publication is available at <http://bit.ly/wWsRUJ>.*



*Facilitators need to ensure that everyone agrees to the covenants at the outset of the process, and that all voices are heard.*



## Do More than Translate

*Build cultural competence by adapting, not translating*

Ensuring that programs and messages are relevant, appropriate and effective in different cultures is important to any effort to conduct successful community outreach. But reaching people of all backgrounds requires more than simply translating messages.

Especially in rural communities, messages perceived to have been created by “outsiders” can actually do more harm than good by creating discomfort or mistrust. To increase their effectiveness, many organizations working with multi-cultural populations or in rural communities are developing programs to culturally adapt campaigns and messages.

For example, in California’s San Joaquin Valley, the Air Pollution Control District’s summertime smog-reduction campaigns encouraged people to change their behavior to be more air-friendly. The campaigns targeted multiple audiences from different cultural backgrounds, with the English-language campaign focusing on carpooling to reduce pollution. The strong cultural knowledge of staff and outside professionals helped project leaders understand that the Spanish-speaking target audience already carpooled as a standard practice. Thus, the Spanish-language campaign was adapted to focus on messages that were more meaningful to the audience: to drive less and keep the car tuned up.

### Getting it Right

When culturally adapting messages, consider the following:

*Language Doesn’t Equal Culture:* Although a shared language is important to culture, people who speak the same language often are from different cultures. Be sensitive to the differences and develop appropriate messages.

*Start with Strong Cultural Knowledge:* Tap the knowledge of colleagues, in-house staff or consultants who live, work or grew up in the culture.

*Get Feedback:* Work directly with members of the audience to determine appropriate approaches. Use focus groups to screen messages before they are distributed.



*The San Joaquin Valley [Calif.] Air Pollution Control District culturally adapted its summertime smog-prevention campaign to focus on the types of behavior changes that would be relevant to different cultures. The English campaign focused on carpooling, whereas the Spanish campaign focused on driving less and keeping the car tuned up. (Images: San Joaquin Valley Air Pollution Control District.)*

# Learn from Elders and Children

*Abilities are valuable, but often overlooked*

Design “charrettes” are indispensable tools for hammering out solutions to complex community design issues. Through a mix of public workshops, open houses and creative, intense design sessions, charrettes create a collaborative planning process that harnesses the talents and perspectives of residents, town planners, community leaders and public health officials alike.

In fact, getting all of the right people together for a design charrette is key to ensuring that the outcome reflects the values and goals of the community. People from all sectors of society with diverse backgrounds are needed at a charrette, including local government officials, planners and designers, landscape architects, transportation engineers, nonprofit managers and public health officials.

But even with engaged and motivated participants from all relevant backgrounds, the charrette still may be missing two very important groups that can provide valuable insight about how to design a community to be healthier and happier: elders and children. Children have much to offer in the community planning and design process, yet they remain mostly untapped throughout community transformation processes.

A child’s imagination is a powerful tool; they can dream up the perfect community in which to live, play and go to school. Beyond the power of their imaginations, they also can bring very practical solutions to the table. For example, children often are aware of shortcuts to the places they go that could be formalized into trails and added to the community’s pedestrian network. Elder-child charrettes also help publicize the public process being undertaken and build social capital by bringing generations together. They foster collaboration among school representatives, local government staff and parents.

And involving elders and children in public processes can change the whole tenor of the events. Children very often speak readily about important values. Their honesty helps raise the discussion to the level of values and guiding principles. Elders bring a lifetime of observations and community history to share.

Simply asking a child the question, “What would you like to see on your walk to school and back?” can provide meaningful insight into the community that could be. The answers will capture community values, important street and sidewalk connections, playful aesthetics and other place-making elements that might be overlooked. This, combined with an elders perspective can yield surprising and beautiful results. The boundless imagination and colorful creativity of children combined with sage wisdom clarifies values quickly.



*Above: Children often speak readily about important values - such as providing equipment that allows all children of all abilities the opportunity to swing.*

*Below: A children’s charrette in Glenwood, CA.*



Planning a child-elder design charrette requires attention to several details that a standard charrette doesn't require. Don't let these details be a deterrent, though; the benefits far outweigh the added responsibilities.

**Keep it Fun.** The chief objective is to keep a charrette fun and engaging. Work with schools, parks and recreation departments, and parent/teacher associations to identify the best venue for engaging children and to conduct the needed outreach to ensure that children attend.

**Make it Age Appropriate.** Children of all ages can be tapped for their talent. For younger children, from kindergarten to 3rd grade, a successful charrette may only include a short walking audit, allowing them to point out things they like and don't like along the way, and then returning to the workshop setting and drawing pictures that reflect their findings. They also can develop short skits or performances that describe the shortcomings they find in their existing environment and in the community they desire. The entire event might be only 30 to 45 minutes long. Students in the 4th grade and higher are better able to draw, photograph, interpret and explain their concerns. They can even use photography to create "photo voice" or poster presentations. Young teens can plot using trace paper and aerial maps. They often know what is missing from their neighborhoods, or where unleashed dogs, broken sidewalks and generally unsafe areas can be found.

**Incorporate it Into the Larger Effort.** Find ways to incorporate child-elder work into the larger charrette or community effort. If the primary children's charrette takes place at school, make advance arrangements with teachers or parents to have the children present their designs or posters during the community charrette. Present their findings first, as this often warms up the audience and allows them to see how quickly and easily children "cut to the chase," identifying what works and does not work. Also, consider whether it is appropriate and desirable to invite representatives of the news media to cover the children's charrette. If so, work very closely with the school or parents to ensure appropriate permissions are obtained and privacy is respected.



*Above, children vote during a charrette in Sacramento, CA. Below, an "inter-generational" walking audit in Morrow, GA.*



# 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
- Silence or failing to engage others
- 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
- 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
- Revisiting tasks that the group agrees are complete
- Showing an inability to transition

# 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.
- 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.



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



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.

*This before and after "PhotoVision" of Pine Street in south Burlington, Vermont exemplifies how a "picture is worth a thousand words". This technique can inspire positive community change.*



## 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



# 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.

*See charts below for example funding opportunities:*



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

## Resources

*The Pedestrian and Bicycle Information Center (PBIC) is a national clearinghouse 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>.

## Livability Fact Sheets

*AARP and the WALC Institute developed a series of 11 free downloadable fact sheets: <http://bit.ly/livabilityfactsheets>*



**Bicycling**

**Density**

**Economic Development**

**Form-Based Code**

**Modern Roundabouts**

**Parking**

**Revitalization Without Displacement**

**Road Diets**

**Sidewalks**

**Street Trees**

**Traffic Calming**

a publication of



[aarp.org/livable](http://aarp.org/livable)

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

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

## Funding Sources and Potential Partners Checklist

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



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## 18 Benefits of Urban Bike Lanes to Other Road Users - By Michael Ronkin

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Urban streets have to satisfy many needs: various modes use them, and they provide local access to a community as well as mobility for through traffic. Many of the benefits of shoulders listed on the first page also apply to bike lanes in urban areas, whether they were created by restriping or by widening the road. Some street enhancements cannot be measured with numbers alone, as they offer values (e.g. trees) that simply make a community better. The following discussion should be viewed in this context. Bike lanes can provide the following benefits:

### ***For Pedestrians***

- Greater separation from traffic, especially in the absence of on-street parking or a planter strip, increasing comfort and safety. This is important to young children walking, playing or riding their bikes on curbside sidewalks.
- Reduced splash from vehicles passing through puddles (a total elimination of splash where puddles are completely contained within the bike lane).
- An area for people in wheelchairs to walk where there are no sidewalks, or where sidewalks are in poor repair or do not meet ADA standards.
- A space for wheelchair users to turn on and off curb cut ramps away from moving traffic.

- The opportunity to use tighter corner radii, which reduces intersection crossing distance and tends to slow turning vehicles.
- In dry climates, a reduction in dust raised by passing vehicles, as they drive further from unpaved surfaces.

### ***For Motorists***

- Greater ease and more opportunities to exit from driveways (thanks to improved sight distance).
- Greater effective turning radius at corners and driveways, allowing large vehicles to turn into side streets without off-tracking onto curb.
- A buffer for parked cars, making it easier for motorists to park, enter and exit vehicles safely and efficiently. This requires a wide enough bike lane so bicyclists aren't "doored."
- Less wear and tear of the pavement, if bike lanes are re-striped by moving travel lanes (heavier motor vehicles no longer travel in the same well-worn ruts).

### ***For Other Modes***

- Transit: A place to pull over next to the curb out of the traffic stream.
- Delivery vehicles (including postal service): a place to stop out of the traffic stream.

- Emergency vehicles: Room to maneuver around stopped traffic, decreasing response time.

- Bicyclists: Greater acceptance of people bicycling on the road, as motorists are reminded that they are not the only roadway users;

- Non-motorized modes: An increase in use, by increasing comfort to both pedestrians and bicyclists (this could leave more space for motorists driving and parking).

### ***For the Community (Livability Factors)***

- A traffic calming effect when bike lanes are striped by narrowing travel lanes.
- Better definition of travel lanes where road is wide (lessens the "sea of asphalt" look).
- An improved buffer to trees, allowing greater plantings of green canopies, which also has a traffic calming effect.

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## Safe Routes to School City and District Policy Recommendations

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**School Catchment Areas** – A school catchment area is the geographic area from which students are eligible to attend a local school. When possible, the area should provide for safe access and short distance to schools, avoiding arterial crossings when appropriate. Catchment areas that are shaped to keep student distances to school short may also contribute to reduced congestion and road maintenance costs, reduced busing demand and cost, increased safety, more parental connection to the school, and helps to make the school a center of the community.

**School Zone Speeds** – Speed limits on Garden, Center, Payne, and possibly other streets within the ‘School Zone’ should be marked and enforced at 15 MPH, and the School Zone should extend to at least Center, S. Garden and 8th streets. (Case Study: San Francisco has implemented 15-mph speed limits within all school zones in the city.) Pedestrians struck by a car traveling 40 mph have an 85-percent chance of death, while pedestrians struck by cars traveling 20 mph have about a 95-percent chance of living. This underscores the need to find ways to slow down cars near schools. Three outstanding approaches are: 1) addressing the speed limits, 2) determining the size of the zones in which they are required and 3) ensuring law enforcement of the speed limits. If local speed limits are already reduced to 20

mph or lower, it may be helpful to consider working to change the size of school zones or residential areas. This could result in expanding the radius of the school zone from ¼ mile to ½ mile or more. (Resource: Safe Routes to School National Partnership Local Policy Guide)

**Snow Removal** – City policy should ensure that sidewalks and bike lanes are cleared routinely. The city’s snow removal policy for sidewalks and bike lanes should clearly state the city’s duties during snowfall events. It should also stress how important is it that property owners assist in maintaining clear sidewalks and ramps in front of their properties. Information about fines should be stated for noncompliance, but reinforcing this with the more empathetic statements that clearing sidewalks is a courteous and caring act for fellow residents, especially the elderly and the young, may be a valuable perspective to add. The city should clear bike lanes within the same policies and procedures as the overall street snow clearing policy; language may need to be added to existing policy to ensure that bike lanes are cleared regularly. (Resource: <http://www.walkinginfo.org/faqs/answer.cfm?id=4125>)

**Crossing Guards and Student Safety Patrol**– Crossing guards are highly visible staff or volunteers who are responsible for the safe passage of students through street crossings

near schools. Providing crossing guards at the school or district level eases parental concern about busy intersections and provides the opportunity for students to begin to learn lifelong pedestrian safety skills. Therefore, ensuring that crossing guards are well-trained, understand their role and are deployed at critical intersections can be vital to a successful program. Crossing guards are often trained and/or hired by the local police department but also can be part-time employees or volunteers of the school district.

In most cases crossing guards are adults, but in some communities older students can also serve as student safety patrols, typically fifth grade and higher. If crossing guards are difficult to recruit, and/or if more crossings are warranted, the district could consider this type of program, if it doesn’t already exist. It isn’t uncommon for teachers or parents to also work “double-duty” as a crossing guard in front of the school before and after school, or to supervise the student safety patrol or crossing guard program. Because of the wide variety of people that are crossing guards and the different supervisors that they might have, it is important to create a policy that dictates several facets of the crossing guard position and in many cases, creates a funding stream to ensure its success. (Resource: Safe Routes to School National Partnership Local Policy Guide)

# Snow Removal Guidance for Casper, WY that is Applicable in Most of Snow Country

## Snow Removal

Snow removal from roadways in Casper is an important consideration. So too is providing safe routes to all the places children need or want to walk, bike or roll. The two priorities aren't mutually exclusive, but providing for both requires some flexibility and creativity. In fact, many communities throughout the country that face heavy snowfall in the wintertime - including parts of Montana, Colorado, New York, Utah and Minnesota - have successfully implemented traffic-calming devices such as those recommended in this report and are experiencing higher levels of active transportation, even in cold months.

Experience shows that typical traffic-calming devices, including those recommended herein, do not prevent snow removal or create unsafe conditions due to residual snow build-up. In fact, all of the jurisdictions consulted for this report advise that roadway safety is their highest concern. They have successfully trained their drivers and adjusted their equipment and operations in order to build and maintain roadways safe for all users, not just cars.

The best practices for snow removal on streets where traffic-calming measures have been installed include:

- Using modified equipment to accommodate traffic-calming measures, such as rubber-tipped plows or rollers attached to the plow's

underside. Note that this may require an investment in different trucks.

- Assigning staff to set routes, creating familiarity with traffic calming device locations.
- Appropriately marking the location of traffic-calming devices.
- Customizing the geometric design of traffic-calming devices.
- Maintaining close collaboration and cooperation between state and town snow-removal teams so that snow is not simply moved from the street to the recently plowed walkway or trail openings, back to the street and back to the walkway again.



Snow removal in Hamburg, NY, where road diets and traffic-calming devices have been implemented.

The concepts presented above represent techniques employed by other jurisdictions with similar snow conditions, but may need to be adjusted for the specific climate and conditions in Casper. Residents should expect that transit and school walking trips will be given the first priority for snow removal.

Specific advice is offered by Kyle Endelman, Public Works Manager for Sammamish, Washington, an area with snowfall and significant traffic-calming investments in place:

“We plow with a variety of trucks including one-ton, three-yard dump trucks F450s/F550s and five-yard dump trucks. We typically plow to the right side of the road. When we plow around a traffic circle we enter the traffic circle plowing to the right and then we straighten the plow out to plow straight ahead. Then we move the plow back to the right as we exit the circle on the next road. We may have to do this several times depending on how many roads are connected with the traffic circle.

“We do the same when entering a speed calming curb cut-out. We straighten our blade out as we enter the cut-out and then we return the plow to the right-hand side. This prevents snow from accumulating along the crosswalk or ADA ramps. In some traffic circle areas we have found that single plows F450/F350s work better than our larger trucks.”

# Snow Removal Guidance for Casper, WY that is Applicable in Most of Snow Country

## Snow Removal - continued

In areas where recommendations include narrowing travel lanes, adding bike lanes, and removing center turn lanes, snow storage can be managed in various ways:

- Preferably, plow snow to the center of the street. The roadway dimensions remain the same whether the road features bike lanes or a center turn lane. Thus, the driver will have ample curb-to-edge-of-snow-bank width. In many conditions, snow from winter storm events will have already been cleared before school arrival or departure. When snow is stored in the center of the roadway there is still adequate driving width. Motorists are permitted to drive over the marked bike lane, which may not be clearly seen under these conditions. If it appears that there will be con-

fusion, the city should post signs stating that motorists may use bike lanes during snow storage periods.

- If necessary, snow can be pushed into the bike lanes until the trucks arrive to take the snow to melting fields. Plowing operations should only push the snow to this spot, or extend into the planting buffer, when one exists, and not be pushed into sidewalk areas.
- To address liability if bike lanes are encroached upon by vehicles when plowed snow is present, the city should adopt an ordinance that states that when winter storms call for snow storage in the center of roads, motorists and bicyclists should be on alert; motorists should reduce speeds to 20 mph in the presence of bicyclists; motorists should yield to bicyclists and pass only when it's safe;

and bicyclists may choose to ride on sidewalks. Extra efforts should be made to keep these sidewalks cleared.

## Center Turn Lanes

Continuous center turn lanes serve to speed up vehicles and are most often used where traffic volumes are high, such as 12,000 trips-per-day or more. Near schools, the opposite effect is sought: to slow vehicles down. Thus, the center turn lanes near CY Middle and other schools studied are not appropriate and should be removed. The added space that will be created by repainting for bike lanes is in keeping with the goal to keep speeds low and offer an improved buffer between travel lanes and the sidewalk. The slowing of vehicles when turning will slightly reduce efficiency in favor of a safer overall walking, bicycling and driving environment.

Best Practices: Snow removal policies.



Best Practices: Slow vehicles by removing center turn lanes and adding bike lanes.

