



A companion guide to the  
AARP Walk Audit Tool Kit

# Bike Audit Tool Kit

A self-service guide for assessing  
a community's bikeability



Worksheets available at  
[AARP.org/BikeAudit](https://www.aarp.org/BikeAudit)

By **AARP** and  
**The League of American Bicyclists**





AARP is the nation's largest nonprofit, nonpartisan organization dedicated to empowering people 50 and older to choose how they live as they age. With a nationwide presence, AARP strengthens communities and advocates for what matters most to the more than 100 million Americans 50-plus and their families: health security, financial stability and personal fulfillment.

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## AARP Livable Communities

The AARP Livable Communities initiative supports the efforts of local leaders and residents throughout the nation to make their communities more livable and age-friendly.

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## The League of American Bicyclists



Since 1880, the League of American Bicyclists has been people-powered, with a goal to make bicycling safer and easier as a means of transportation and recreation. Today, the League continues to improve lives and strengthen communities through bicycling.

We are more than 200,000 members and supporters strong with more than 1,000 state and local advocacy groups and bike clubs, as well as thousands of businesses, universities and communities together leading the movement to create a Bicycle Friendly America for everyone.

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**Many of the communities pictured in this publication have a connection to the following programs:**  
 Learn more on pages 28 and 29.

**AARP Community Challenge:** [AARP.org/CommunityChallenge](http://AARP.org/CommunityChallenge)  
**AARP Network of Age-Friendly States and Communities:** [AARP.org/AgeFriendly](http://AARP.org/AgeFriendly)  
**The League of American Bicyclists' Bicycle Friendly America Awards:** [BikeLeague.org/BFA](http://BikeLeague.org/BFA)

Cover illustration by Colin Hayes

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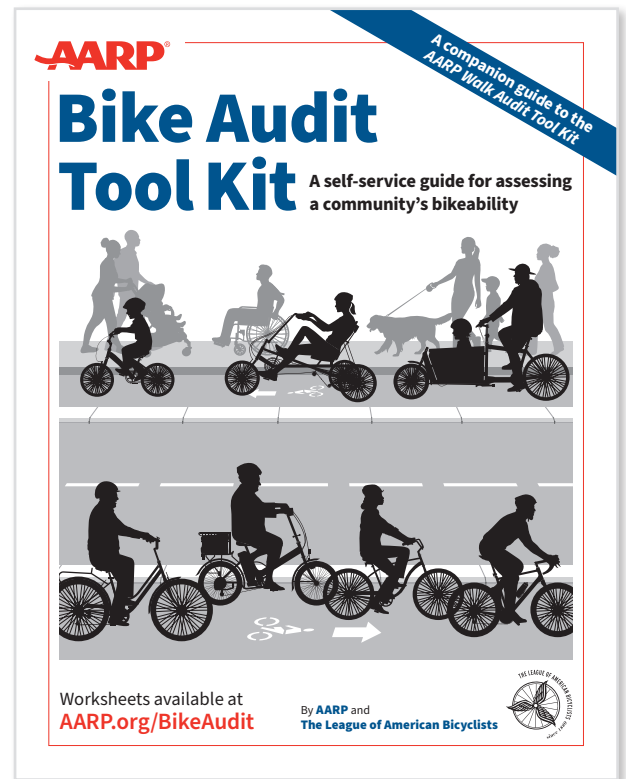
# HOW TO USE THE **AARP** Bike Audit Tool Kit

The **AARP Bike Audit Tool Kit** is a companion guide to the popular **AARP Walk Audit Tool Kit**. The easy-to-use, image-filled guides inform and enable community members to assess the safety of their streets for all users.

Produced by **AARP** and the **League of American Bicyclists**, the bike audit publication can be used by individuals, local leaders, organizations and others concerned about the safety and bikeability of a street or neighborhood. The guide is organized into three parts, and the print edition contains a back cover pocket for storing the tool kit’s worksheets. (Photocopying the worksheets for sharing is encouraged!)

Visit **AARP.org/BikeAudit** and **AARP.org/WalkAudit** to download or order the free publications, access the worksheet collections and find related content.

When new materials are created, we’ll spread the news through the free, weekly **AARP Livable Communities e-Newsletter**. Sign up at **AARP.org/LivableSubscribe**.



## Introduction

**THE PROBLEM:** Bicycling is an activity and transportation option for people of all ages, ranging from toddlers on tricycles to older adults on a variety of bike types — including tricycles!

But too many streets in the United States are designed exclusively or almost exclusively for automobile travel, with little consideration given to the needs of people who walk, roll or ride a bike.

According to the U.S. Census Bureau, 8.3 percent of households do not own or have access to a motor vehicle and must rely on biking, walking and/or public transit to get around. As noted by Smart Growth America in its annual “Dangerous by Design” report, older adults and people in low-income neighborhoods are struck and killed by motor vehicles at much higher rates than other population groups.

Among the many factors that discourage or prevent people from biking is a lack of access to dedicated, connected bikeways or slow-speed streets.

**A SOLUTION:** Local leaders and residents can help make their communities safer for cycling by conducting “bike audits” to identify roadways that should be bikeable but aren’t. A bike audit can help inform local decision-making by prioritizing areas in need of improvement, by educating community members about street design, by creating secure and convenient bike parking, and by enabling bicyclist access to transit. Participating in a bike audit can encourage people to become champions for local change.

**THE TIME COMMITMENT:** A targeted, single-location bike audit can take less than an hour. Or an audit can become a multihour, mobile event. The time involved is entirely up to the “auditor” or audit team. ■

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# Bicycle Friendly Communities Are Age-Friendly Communities

**A BIKE AUDIT IS ...** an activity in which participants observe and evaluate the bikeability of a location to identify and document if and how cyclists can safely travel along a street, navigate an intersection and get from point A to B and C and so on.

## A BIKE AUDIT CAN ...

- Gather input about community infrastructure needs and investments
- Educate residents about design elements that support safety
- Empower community members and local leaders to become agents of change

## A BIKE AUDIT CAN LEAD TO ...

- Better connected bike networks
- Healthier, more active lifestyles
- More options for people to get around
- Safer streets for people of all ages
- Economic growth
- Cleaner air and reduced carbon emissions

## WHO CAN DO A BIKE AUDIT?

- *Everyone and anyone!* You don't need to ride a bike to help conduct a bike audit!

The vast majority of the nation's roadways were designed to move cars fast, making far too many streets uninviting or outright dangerous for cyclists. In a livable community, people of all ages and abilities can safely cycle to get where they need or want to go. To do so, communities are:

- Creating bikeway networks that are connected, welcoming and have cycling amenities, such as bike parking
- Installing dedicated and appropriate walk-bike infrastructure by adding sidewalks and dedicated bike lanes and implementing roadway changes to reduce motor vehicle speeds and discourage reckless driving
- Passing policies that promote the construction of bike infrastructure and other mobility solutions

Bikeability is an important issue to **AARP** and the **League of American Bicyclists** because bicycling is a way for people of all ages to be physically active and get where they need and want to go.

Of significant concern is the fact that older adults — along with people of color and residents of low-income areas — are disproportionately the victims of fatal motor vehicle crashes involving nondrivers such as pedestrians and cyclists.

The **AARP Bike Audit Tool Kit** provides community leaders and residents with a way to identify unsafe streets, gather and document needed information and observations, and then advocate for solutions to make streets safer for all users. ■

## A Town Trail for All

The idea for the Stowe Recreation Path dates to 1964, when the traffic on Mountain Road — the main byway between the village of Stowe, Vermont, and the nearby resorts — became unsafe for pedestrians and cyclists. It took two decades of fundraising, land acquisition (much of it by donation) and construction for the initial stretch of the now 5.3-mile paved trail to open. Restaurants, shops

and other businesses soon set up between the road and the "Rec Path," as it's locally known, serving drivers as well as the trail-using pedestrians, cyclists, runners, skaters, dog walkers and people who use wheelchairs or rolling walkers (pictured, far right). Autumn attracts visitors seeking the surround of changing leaves. Winter brings snowshoers and cross-country skiers.

Stowe, Vermont





# Bicycle-Friendly Streets Are Good for People Who Don't Ride Bikes

Streets are busy spaces. And most streets have been designed for use only by cars. Drivers, cyclists, pedestrians and sometimes even public transit providers are all jockeying for access.

As a result, everyone on the street is at risk of injury or worse. The best solution (and key to reducing conflicts and injuries) is to provide a space for each type of roadway user.

That means safe, separated bike lanes for cyclists, sidewalks for pedestrians, travel lanes for motor vehicles and designated waiting and deboarding spots for transit users.

Other benefits for everyone:

- Creating safe, convenient ways for getting around by bike provides people with a reliable and needed transportation option.
- According to “Bicycling Benefits Business,” a 2021 report from the League of American Bicyclists, bicycling-related activities contribute \$133 billion to the national economy, support more than 1 million jobs and bring in nearly \$18 billion in tax revenue.
- Safe, multi-modal connections to recreational destinations help support local economies, especially in rural communities. In urban areas, moving people out of cars and onto bikes reduces congestion.
- Fume-free bike trips are good for the environment.

*Streets that meet the needs of all users are often referred to as “Complete Streets.” Learn more on page 14.*

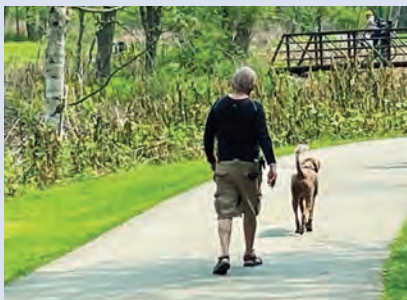


▲▼ St. Joseph's Boulevard was a four-lane, one-way road linking South Bend, Indiana's downtown and riverfront. The addition of a median, landscaping and designated lanes for driving, cycling and walking have made the road safer and more welcoming for all users.



**When a street is safe and accessible for a pedestrian and a cyclist, and someone with a disability or mobility difference, it is safe and accessible for everyone.**

PHOTOS: LEAGUE OF AMERICAN BICYCLISTS (SOUTH BEND) | MELISSA STANTON, AARP (STOWE)



## GETTING STARTED

**Step 1: Get *READY*****1 WHERE****IDENTIFY THE BIKE AUDIT LOCATION**

Visit and map an area where people need or want to bike. The audit location can cover a limited area — such as a single block — or it can take place along a route covering several streets and intersections.

**Keep in mind:**

- The smaller the area, the easier it is to conduct an audit, identify problems and advocate for solutions. The larger the audit area, the larger the potential impact — but it may be more difficult to bring about changes.
- An audit can have more impact if the location has local impact. Have there been crashes in the location? Is the community asking for changes to the area? Are people willing to share their experiences about cycling in the location? Would improvements link people to needed destinations and services?
- Do a bit of research to see if the location is scheduled for repaving or improvements. If it is, that can bode well for needed change.

**2 WHAT****DECIDE ON THE TYPE OF BIKE AUDIT**

This tool kit contains worksheets for both an observational single-location, off-bike audit (at, for example, a specific intersection) and an on-bike, riding or mobile audit, in which the participants test an area's bikeability — or, likely, nonbikeability.

**SINGLE-LOCATION AUDIT (OFF-BIKE)**

- A single-location audit allows for observing a specific area at different times of the day. It's also a good activity for people who are unable to participate in a bike ride or remain on their feet for long stretches of time.
- A single-location audit is also a great way to include very young and much older participants, since the auditors can sit in a safe and comfortable spot (such as on a nearby patio or beneath a shade tree) while observing the location.

**RIDING AUDIT (ON-BIKE)**

- A riding, or mobile, audit allows auditors to experience the street as a cyclist. Such auditors will need to pull over to a safe spot when taking notes and/or record what they see by attaching a video camera to their helmet or bike.
- An on-bike audit can assess the ease of biking between destinations or along a corridor. It's a great activity for people who can and want to bike longer distances.
- Keep in mind that even if a cyclist or several can cover the full expanse of a community, the area might be too large for a single audit outing. Choosing a one-mile or 10-minute bike ride, give or take, will enable a more focused and effective audit.

**3 WHO****INVITE PEOPLE TO PARTICIPATE**

This tool kit contains worksheets suitable for a solo auditor or a team made up of community members, ideally including elected officials, business owners, traffic engineers or others with influence. Having local leaders see the location and safety problems firsthand may help fast-track needed change.

**Keep in mind:**

- If the bike audit is conducted by one person, multiple visits might be needed in order to perform all of the desired observations (or to evaluate the street activity at various times of the day) and document them accordingly.
- If the audit is done by a team, how will auditors of different abilities, ages and life experiences be included?
- Train the auditors in advance so everyone understands how to stay safe and document their observations in the same way.
- If doing a team-based audit, individual assignments can be made. Consider the roles listed in the Tip box at right.

## 4 WHEN CHOOSE A DATE AND TIME

The volume and type of traffic (bikes, pedestrians, buses, cars) will likely vary, depending on the day of the week or time of day. If the bike audit is being done because of concerns about the safety of particular groups — such as bike commuters, schoolchildren, workers, shoppers or retirees — conduct the audit when those people will be present.

One hour, maybe two, is an appropriate amount of time for an audit. The shifts or counting tasks can be divided into 15-minute segments. If observations are needed throughout the day (including after dark), the auditors can be scheduled for varied times.

### Keep in mind:

- Check the weather forecast! There's no need for auditors to endure extreme temperatures, wind or precipitation, unless those conditions are part of the audit. Seeing how biking infrastructure is impacted by snow, ice, heat or other weather hazards may be important for the audit to consider.
- For group audits, be sure to identify a starting and ending spot for meeting, debriefing and collecting the audit worksheets and notes.
- To be more comprehensive in the audit and confident about the results, repeat the audit in the same spot, in the same way, but at a different time.
- Once the audit is done, gather and tally the collective results and prepare the report. (See page 18.) ■

### TIP: Riding Audit Team Tasks

Combine or add to these suggested roles and tasks:

**Ride Leader:** Organizes the audit, manages the ride

**Safety Sentry:** Alerts riders to road hazards. (“Pothole!”)

**Spotter(s):** Notes the route's problem spots

**Recorder(s):** Takes still images and video

## Biking vs. Cycling

The words “bike,” “bicycle,” “biking,” “cycle” and “cycling” are inclusive terms.

“The terms ‘bicycle’ and ‘on two wheels’ are used as by-words for a cycle and the activity of cycling,” explains Wheels for Wellbeing, a United Kingdom-based advocacy organization in *A Guide to Inclusive Cycling*. “This immediately excludes anyone who doesn't ride a two-wheeled cycle, but also reinforces the societal assumption that cycling can only be done on two wheels.”

The *AARP Bike Audit Tool Kit* uses the words “bicycling” and “cycling” interchangeably and regardless of whether someone is cycling on two wheels or three or more (or even one). Inclusivity is important to the bike audit process because streets should be usable by people of all ages, experiences, abilities and differences.

Bike audits are most effective when they include and acknowledge the range of people who ride (or want to ride) and how. For that reason, bike audits done by groups are best when they include riders who cycle at different speeds, use a variety of cycle types, or have differences that influence or impact them as cyclists.

The term “vulnerable road user” appears in many transportation documents. It refers to anyone on a road who is outside of a motorized vehicle, including pedestrians, cyclists, wheelchair users, scooter riders and so on.

### TIP: Seek Allies, Join Forces

Invite local cyclists and noncyclists to get involved. Visit [BikeLeague.org/Map](https://www.bikeleague.org/Map) to find bike-minded people — such as staff at local bike shops and certified cycling instructors — who might want to participate. Encourage walkability advocates to do a walk audit in partnership with the bike audit. Find the guide and worksheets at [AARP.org/WalkAudit](https://www.aarp.org/WalkAudit).



## GETTING STARTED

## Step 2: Get SET ...

## 1 DOWNLOAD THE WORKSHEETS

The worksheets are available at [AARP.org/BikeAudit](https://www.aarp.org/BikeAudit) for printing, sharing, adapting or even retyping into an online platform (such as Google Forms) if the auditor or team wants to use a smartphone or tablet to record the data. The worksheet titles are listed on page 17.

## 2 GATHER THE SUPPLIES

In addition to the selected worksheets, each auditor will need a:

- clipboard, notebook, pen or pencil, tape measure (or phone apps with those functions)
- digital or smartphone camera
- printed or online street map
- bike and safety gear, if doing an on-bike audit

(If any auditors don't have their own bikes, consider using bike-share bicycles or contact a local bike group or bike shop to see if there are bikes that can be borrowed or rented for the audit.)

It is also important to have:

- a first aid kit
- weather-suitable clothing
- a beverage and snack
- a hat (or helmet, if doing a riding audit), sunscreen and sunglasses
- a flashlight or headlamp (or bike lights, if doing a riding audit)
- brightly colored clothing (preferably with pockets for holding supplies)
- portable seating (if doing a single-location audit)

## GET BIKE-READY!

Ensure that each bike audit rider has a properly fitted bicycle in condition, a helmet and an understanding of basic safety rules, especially if the audit will happen in areas that aren't ideal for biking. (Watch the video at [BikeLeague.org/RideSmart](https://www.bikeleague.org/RideSmart) for a safety summary.)

## Do the 'ABC Quick Check'

- **AIR:** If the tires give a bit when pressed, they need air.
- **BRAKES:** When squeezing the brakes hard, you should still be able to fit your thumb between the levers and the handlebars. If the brake pads, which squeeze the tires, are worn out, replace them.
- **CHAIN AND CRANKS:** Spin the rear wheel backward a few turns to make sure the chain is moving smoothly. (The chain should be lightly oiled and free of rust and gunk.) Wiggle the pedal and crank arm. If loose, tighten as needed.)
- **QUICK RELEASE:** For bikes with wheels, handle bars and/or a seat that can be removed without tools, ensure that the quick release mechanisms are closed tightly.
- **CHECK:** Take a short, slow test ride.

If something isn't working, fix what you can and have other adjustments done at a bike repair shop.

## Do a Helmet Fit Check

Wearing a helmet improperly can be the same as not wearing a bike helmet at all.



1. Put the helmet on without fastening the straps. There should be a two-fingers width between the eyebrows and helmet and minimal movement when shaking your head from side to side.
2. Fasten the chin strap. The side straps should come to a point just below the ears, forming a "Y" shape.
3. There should be about one half-inch of space between the chin strap and chin.

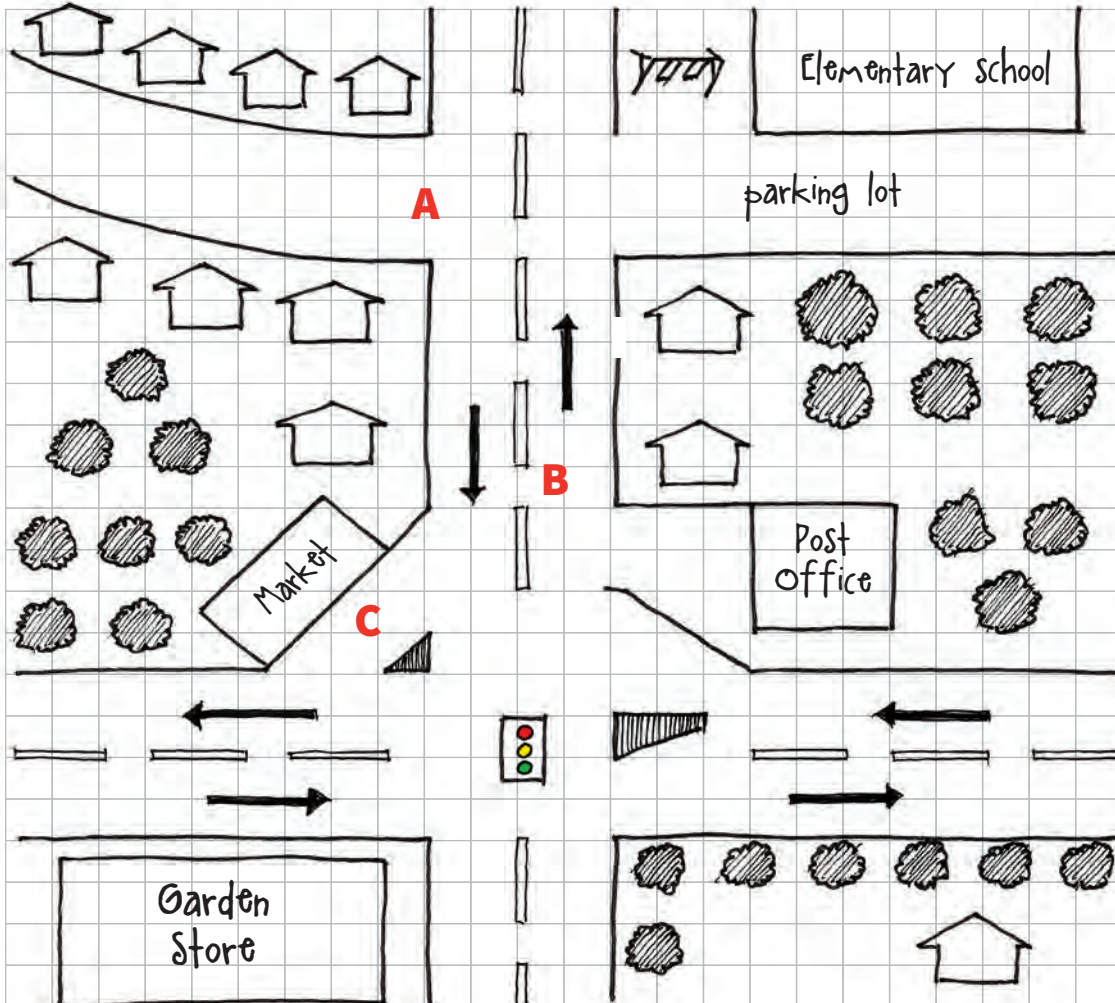


# Sample

## 3 MAKE A MAP

Use a mapping website to capture and print a bird's-eye-view image of the bike audit area or use our Make a Map worksheet (which can be downloaded and printed from [AARP.org/BikeAudit](https://www.aarp.org/BikeAudit)) to draw a simple map.

**TIP:** Some communities have cycling maps. It might be useful to do an online search for one.



- Label the streets and make note of any key features, such as stores, bike parking, schools and (if any exists) on-street bike infrastructure.
- Take photographs and/or videos of the area so others can see the challenges and strengths.
- Match and mark the photographs and/or video location(s) on the map.
- Indicate any other problem spots or areas of opportunity (e.g., a store with no bike parking, a bike lane that ends abruptly or that needs to be repaved or repainted).



**A.** People can't safely cross this street on foot or by bike to travel between their homes (in a development on the left) and the elementary school (on the right).



**B.** The street lacks sidewalks, crosswalks and bike lanes.



**C.** With such a large intersection and no crosswalks or bike lane markings, walking or riding to the country market is difficult and dangerous.

# Step 3: GO Do the Bike Audit!

## 1 LOOK AND LEARN

With clipboards and worksheets in hand (or in a basket or backpack), go to the audit site. When a bike audit is staffed by many, the tasks can be divvied up.

### Audit activities can include:

- Counting cars and cyclists passing the location
- Note points of interest in the audit area or what the road ultimately connects (e.g., schools, a community center or library, grocery store, etc.)
- Documenting whether cyclists are riding in the roadway, on sidewalks, along the street shoulder or (if one exists) a bike lane. (Sidewalk cycling, which puts pedestrians at risk, can be a sign that riding in the street is or feels unsafe.)
- Listing street features such as crosswalks, stop signs, intersection lane markings, curb cuts, trees for shade (or a lack thereof)
- Identifying obstructions and problems such as debris, gravel, potholes or faded lane markings
- Timing how long a traffic light stops vehicles — and noting if there is any dedicated time for only the pedestrians and cyclists to cross
- Assessing the direction and speed of the roadway’s users. For instance, depending on the time of day, are more people traveling in one direction than another? Are people obeying the traffic signs and rules of the road?
- Indicate whether cyclists are riding with or against traffic. (Pedestrians are usually instructed to walk against traffic in order to see and avoid motor vehicles. Cyclists are generally advised to follow the same rules of the road as motorists.)



▲ Cycling signage in Portsmouth, New Hampshire

## 2 PRODUCE THE PROOF

Although a summary report will be created based on the information in the worksheets, taking photographs and videos of the audit location will help clarify what’s working and what isn’t.

Use the photographs and video (along with the audio if traffic noise is among the concerns) to document and show the overall area as well as the problem spots.

Since many bike audits reveal both bad features and good ones, be sure to photograph the location’s positive attributes as well.

### Details to focus on include:

- Bike lanes or other dedicated cycling spaces
- Cars, trucks or buses blocking the bike lanes
- The quality and maintenance of bikeways (e.g., potholes, uneven surfaces, faded signage, debris, excessive puddling, overgrown vegetation)
- Lane widths
- On-street motor vehicle parking and bike lane proximity to opening doors (aka the “door zone”) of parked cars
- Signage and on-street markings
- Turning lanes
- Sidewalks and curb cuts
- Crosswalks and vehicle stop lines
- Midblock crossings
- Traffic lights and crossing signal timing, user controls and/or sensors that stop motorists so pedestrians and cyclist can cross
- Bike parking
- Public transit access
- Lighting

Photographs can be taken to show where such safety features *should* exist.

## Types of Riders

According to research from Oregon's Portland State



University and its Transportation Research and Education Center, there are three types of cyclists:

- **STRONG AND FEARLESS RIDERS** are highly confident cyclists who are comfortable riding with vehicle traffic and little to no dedicated bike infrastructure.
- **ENTHUSED AND CONFIDENT RIDERS** prefer protected bike paths but are willing to ride in unprotected bike lanes or on paved shoulders if needed.
- **INTERESTED BUT CONCERNED RIDERS** want to ride a bike but only in areas that are calm and free of traffic and other stressors. If a community's goal is to increase ridership, this category — which *represents more than half of the adult population* in the United States — must be considered and prioritized in the design process.

Assessing the “level of traffic stress” — or comfort level that a person on a bike feels while using a road and interacting with other modes of transportation — is an important task for transportation planners.

The greater the distance and barrier that exists between cyclists and motor vehicles, the greater the level of comfort for the rider, which can encourage those “interested but concerned” riders to bike.

The three categories represent only about 70 percent of the total population. A fourth category — dubbed by researchers as the **NO WAY, NO HOW** group — represents people who have no interest whatsoever in riding a bike, no matter how bikeable their community is.

People who don't want to be cyclists can be helpful allies and partners in promoting safe bicycling. As noted throughout this guide, when roadways safely accommodate bicyclists, they are safer and more comfortable for all users.

**SOURCES:** Jennifer Dill, Ph.D., and Nathan McNeil, Portland State University, *Revisiting the Four Types of Cyclists: Findings From a National Survey*; *Transportation Research Record: Journal of the Transportation Research Board* (2016); and U.S. Department of Transportation Federal Highway Administration *Bikeway Selection Guide* (2019)

## Understanding the Why

Although a bike audit needn't involve stopping people on bikes for interviews, it's important to have a sense of why they are cycling in a particular area and what their needs or wants may be. Gaining that can help pinpoint problems and solutions.

### Look for clues:

- Are people biking on the sidewalks? If so, this can mean the cyclists feel unsafe riding on the roadway or, if present, the dedicated bike lane.
- Are bicyclists riding with or against the motor vehicle traffic? Riding against traffic is usually an indication that the roadway feels unsafe, uncomfortable or unintuitive for the cyclists.
- What types of bikes are people using?
- Do the riders appear to be cycling for exercise, recreation or transportation, such as to work or as part of their work? Are there cargo bikes carrying deliveries — or perhaps children?
- Do you see bikes locked to trees, ramps, benches or other places they shouldn't be? If so, that may indicate an unmet need for secure bike parking. Are there empty, unused bike racks nearby? That could mean the racks aren't placed in the right location or that riders have concerns about their bikes being damaged or stolen.
- A lack of cyclists can also provide clues. What could be done in the area or to the roadway to encourage more biking and walking and less driving?







## 1 Sidewalk

When a sidewalk is separated from a street by landscaping, a strip of grass or a barrier, 5 feet is the minimum suitable width for two people to be able to walk together or for a wheelchair user to easily navigate the space. If the sidewalk directly abuts the street, a 6-foot width is safer. Having a smooth surface with elevation changes of less than an inch benefits pedestrian safety.

## 2 Bike Lane

Bike lanes can vary in width and in the level of protection they provide to cyclists, depending on the presence and type of barriers installed and the distance between motor vehicles and people on adjacent sidewalks. (See pages 12, 23 and 26 for more.)

## 3 Signalized Crossing

Properly timed Walk/Don't Walk signals allow pedestrians to complete a crossing before the light changes and vehicles start moving. (Some communities allow cyclists to follow these devices instead of waiting for the traffic signal.) Such leading pedestrian intervals, or LPIs, give pedestrians a head start of up to 7 seconds before cars get a green light, reducing conflicts between pedestrians crossing and drivers turning. Along with a "No Right on Red" law, LPIs can make intersections safer for pedestrians and other vulnerable road users.

## 4 Curb Cut (or Curb Ramp)

Having a sturdy ramp graded down from the top of a sidewalk to the street provides a passage for bicycles, wheelchairs, strollers and other wheeled devices.

## 5 Crosswalk

Marked crosswalks show pedestrians where to cross and signify to motorists that they must yield. Crosswalks are usually indicated by white or yellow painted lines that are about 12 inches wide and extend from curb to curb.

## 6 Vehicle Travel Lane

Streets in city and suburban areas usually range in width from 9 to 15 feet. Narrower lanes encourage slower — and safer — driving speeds.

## 7 Pedestrian Island

Also referred to as a crossing island or refuge island, a pedestrian island protects people who are crossing a multilane roadway. The island allows pedestrians to focus on one direction of traffic at a time as they cross, and it provides a place to wait for a gap in oncoming traffic. Another benefit: drivers typically slow down due to a narrowing of the vehicle lanes.

## 8 Median Strip

A portion of the roadway that separates opposing traffic, this area can be paved, planted, raised or painted.

## 9 Bike Box

As a designated area at the head of traffic lanes, the box provides bicyclists with a safe and visible way to move ahead of cars while waiting for a red light to turn green.

## 10 Mixing Zone

This is an area where motor vehicle traffic and bicyclists merge in a shared space right before an intersection.

## 11 Sharrows or Shared-Lane Marking

A painted road marking (usually showing a bike beneath two arrows — see page 12) indicating where a bicyclist can most safely ride in a lane shared with motor vehicles.

## 12 Bicycle Signal Head

Traffic signals (aka traffic lights) can include a specific light for people on bikes. It gives them a head start for proceeding before the rest of the traffic or directs them how to move through an intersection without mixing with cars and pedestrians.

## 13 Tree Canopy

Street trees provide shade and cooling — and safer streets! In a 2018 study, University of Colorado Denver researchers found that "increased tree canopy coverage was significantly associated with fewer crashes."

## 14 Street Lighting

When properly placed, light fixtures enhance the visibility of vulnerable road users as well as increase safety for all road users.

## 15 Shared-Use Path

Sometimes called mixed-use or multiuse paths, shared use paths are separated from motorized vehicle lanes so people can safely cycle, walk or (if, for example, using a wheelchair) roll.

## 16 Wayfinding Signage

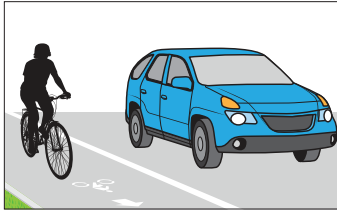
Signs placed along a route to identify points of interest or provide directions to business districts, essential services or bike-friendly routes, along with mileage. ■

## INFORMATION AND INSTRUCTIONS

# Bike Lanes and Infrastructure

**A**t its most basic, a bike lane is, according to the National Association of City Transportation Officials (commonly known as NACTO), “A portion of the roadway that has been designated by striping, signage, and pavement markings for the preferential or exclusive use of bicyclists.”

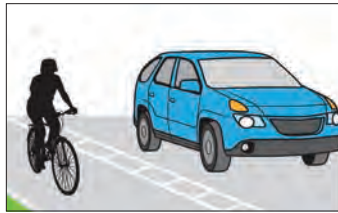
### CONVENTIONAL BIKE LANE



Currently, the most common type of bike lane in the United States is defined by little more than a single strip of paint. But as the following examples show, how a bike lane is created and looks, and the protection it provides, differs depending on its design and the priority placed on cycling safety and the safety of streets for all users.

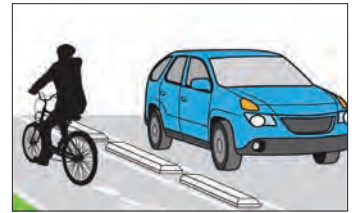
### BUFFERED BIKE LANE

Unlike with a protected or separated bike lane (see opposite page) this buffer is a painted line or lines (i.e., no physical barriers) that help separate cyclists from parked cars and a motor vehicle travel lane.



### CONTRAFLOW BIKE LANE

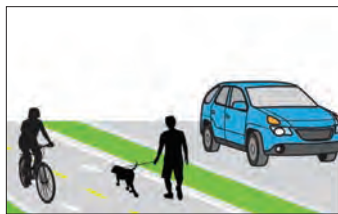
A contraflow bike lane converts a one-way traffic street into a two-way street — one direction for motor vehicles and bikes, the other for bikes only — to provide cyclists with a more direct connection between destinations.



### SHARED-USE PATH OR TRAIL

*Also referred to as a multiuse path*

A path for nonmotorized users (pedestrians, cyclists and others) that is physically separated from motorized traffic by an open space or barrier.



### BICYCLE BOULEVARD

*Also referred to as a greenway or neighborway*

By using signage, pavement markings and design changes that slow traffic, these roadways prioritize cycling and discourage the presence of fast-moving motor vehicles.



### About Shared-Use Lanes

Painted shared-use lane markings (aka “sharrows”) and signage that says or shows “Bikes May Use Full Lane” tell motorists that bicyclists have a legal right to ride in the vehicle lane. It is important for planners, local decision-makers and

roadway users to understand that these markings and signs do *not* create any physical protection or reliable safety benefits for cyclists. When used without other safety features, shared-use indicators are not a safe cycling solution.

▲ Signage similar to the pictured road sign and sharrow marking are seen on many roads that lack a dedicated bike lane.

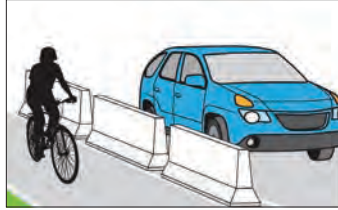
## CREATING A PROTECTED BIKE LANE

Also referred to as a separated bike lane or cycle track

These lanes provide a physical barrier between cyclists and passing traffic. They can be one- or two-way, or flow with or against traffic. Following are a few ways a bike lane can be protected:

### Jersey Barriers

Providing the most protection, these barriers are usually made of cement and are placed close together in order to separate the bike lane from vehicles as well as from any cross traffic by pedestrians or other cyclists.



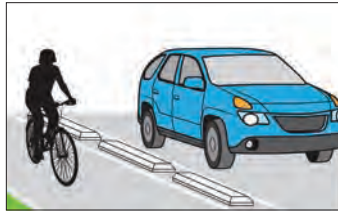
### Bollards

Typically a series of rigid, semi-permanent poles, bollards are installed along a roadway to separate the motor vehicle lane from the bike lane or shared-use path.



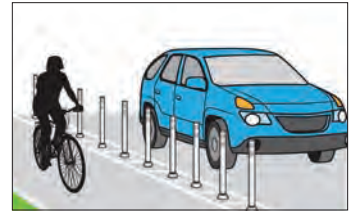
### Parking Stops

Cement bumpers (such as those found at the top of parking spots) can be used to line a bike lane and provide a low-rise barrier between cyclists and the motor vehicle lane.



### Flex Posts

Although these lane delineators can be bent down or driven over, they are a low-cost way to provide a visual and physical barrier for guiding traffic and separating cyclists and motor vehicles.



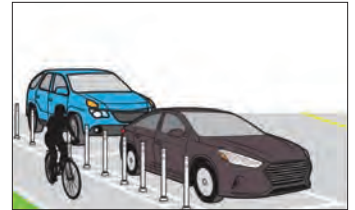
### Planter Boxes

When used to designate and protect a bike lane, planters are typically filled with low-maintenance greenery or flowers. Communities considering this option as more than a temporary measure need to plan for the ongoing watering and maintenance needs of the plants and containers.

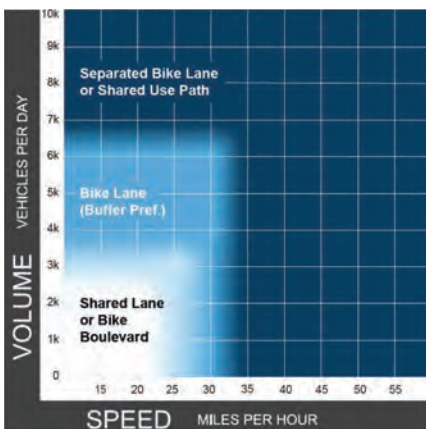


### Parked Cars

Cars, trucks and other motor vehicles can actually protect cyclists and pedestrians. This is done by placing a parking lane between the bike and motor vehicle travel lanes. (See an example without flex posts on page 26.) Care must be taken to ensure that the bike lane is beyond the swing radius of an opening door.



**LEARN MORE:** Read the *Urban Bikeway Design Guide* by the National Association of City Transportation Officials ([NACTO.org](http://NACTO.org)) and the *Separated Bike Lane Planning and Design Guide* by the U.S. Department of Transportation Federal Highway Administration ([Highways.dot.gov](http://Highways.dot.gov)). ■



## Volume x Speed = Bike Lane Type

On streets with slower-moving cars and less overall vehicle traffic (or volume), less separation between bicycles and cars is necessary.

On higher speed and higher traffic roads, more separation is required — either by adding more space between bikes and motor vehicles or adding physical barriers as protection.

Where bike traffic is desired but separation is not possible, driving speeds need to be reduced by both changing the speed limit *and* implementing other traffic calming measures, such as road narrowing, bulb-outs and curb extensions.

## INFORMATION AND INSTRUCTIONS

# Complete Streets and Traffic Calming

**A** “Complete Street” is a street designed for all roadway users, whether they’re driving, bicycling, riding public transit, strolling along the sidewalk, or rolling (e.g., pushing a baby stroller or using a wheelchair).

Complete Streets policies — also referred to as Safe Streets policies — are being implemented by city, county and state governments in urban, suburban and even rural areas. What such streets look like and the pace of the improvements depends upon the location. Complete Streets policies simply require that the needs of all users be considered and, when appropriate, met.

Designing streets for bicyclists and pedestrians isn’t a new concept. In fact, until the 20th century, people routinely walked and biked in the street. Once automobiles arrived en masse, speed and efficiency became the priority of street design and transportation planning.

In recent years, there has been a push to slow traffic speed and put priority back on vulnerable road users’ needs through traffic calming, which, as defined by the Institute of Traffic Engineers, “is the combination of mainly physical measures that reduce the negative effects of motor vehicle use, alter driver behavior and improve conditions for non-motorized street users.”

The League of American Bicyclists and many other local and national organizations are advocating for states and communities to reduce motor vehicle speeds through design changes that incorporate traffic calming and Complete Streets alongside 20 mph limits on local roads.

Many transportation engineers and planners are working toward this goal by designing and building “self-enforcing streets,” which changes the physical design of a street in order to make safer behaviors more intuitive and, therefore, more common. For example, narrowing the width of driving lanes and adding traffic calming features such as curb bulb-outs, or even street trees, lead drivers to slow down, making the roadway safer for everyone. ■

## A Complete Street Sampler ▶

- 1 The sidewalk keeps pedestrians, wheelchair users and people pushing baby strollers safely away from the bicycle and vehicle lanes.
- 2 Landscaping serves as a “swale,” or pervious surface for capturing stormwater.
- 3 The paved, multiuse path provides dedicated lanes for cyclists. The lanes can also be used by runners and scooter riders.
- 4 Landscaping, trees and cement pads with bike racks separate the cycling lanes from the roadway.
- 5 On-street parking is available for drivers who know how to parallel park.
- 6 The lane of parked cars provides another protective barrier between pedestrians, cyclists and faster-moving cars and trucks on Maine Avenue SW.

*Not shown: crosswalks at intersections with traffic lights; a walk-bike bridge across the main road; safe and accessible public transit pickup and drop-off locations.*

## Streets, Roads and ‘Stroads’

As explained by Charles L. Marohn, Jr., a transportation engineer and founder of the nonprofit Strong Towns: **Streets** support destinations — such as homes, businesses, shops and attractions. **Roads** provide “the fastest connection” between two places where people want to be.

Most communities, Marohn writes in *Confessions of a Recovering Engineer*, are now filled with **Stroads**, which are multilane roadways designed to move cars quickly despite being populated with businesses, shops, attractions and even homes.

“Stroads are the most dangerous environment we routinely build in our cities,” he says, because a stroad “contains the elements of both [a] road and street but fails to provide the benefits of either.”





Washington, D.C.

▲ Located in The Wharf, the Complete Street shown here came about as part of redevelopment efforts to make D.C.’s waterfront a more accessible and desirable destination for businesses, tourism, retail, residences, entertainment venues and various fun indoor and outdoor activities.



Miami Beach, Florida



New York, New York

▲ Portions of Ocean Drive in Miami Beach and the Hudson River waterfront on Manhattan’s West Side (One World Trade Center is visible in the distance) are Complete Streets with sidewalks for pedestrians and distinct lanes for vehicles, cyclists and joggers.



Charlotte, North Carolina



Harrisburg, Pennsylvania

▲ Cyclists along East 6th Street in downtown Charlotte and North Seventh Street in the Keystone State’s capital city have similar carfree corridors featuring separate — protected — spaces lanes for vehicles, cyclists and pedestrians.

PHOTOS: MELISSA STANTON, AARP (3) | LEAGUE OF AMERICAN BICYCLISTS (CHARLOTTE) | RICHARD NORFORD (HARRISBURG)



## INFORMATION AND INSTRUCTIONS

# Bike Parking

In addition to a safe, comfortable and convenient way to get from point A to point B, cyclists need a safe, secure and reliable place to lock their bike once they arrive at their destination.

This tool kit includes a worksheet to help auditors evaluate the quality, quantity and accessibility of bike parking. Keep in mind that the parking needs can vary based on the cyclist and the purpose of the trip.

**Short-term bike parking** is important for shoppers, diners and visitors. A shopper popping into a store for a few items or a client visiting an office will most likely look for the closest and most convenient parking outside of the business. Because of that, the visibility and proximity to the building entrance should be prioritized.

**Long-term bike parking** is crucial for employees, tenants and anyone spending two or more hours at a destination. Security from theft or vandalism as well as shelter from the weather all become increasingly important the longer a bike is left unattended. In both cases, the best bike racks:

- Support the bicycle in at least two spots to prevent tipping
- Allow for locking the frame and one wheel or both
- Are securely anchored to the ground
- Are resistant to cutting, rusting and bending or other damage
- Have slots sufficient so nonstandard bike types can fit



Nashville, Tennessee



Annapolis, Maryland



Sunrise, Florida



Bettendorf, Iowa



Brattleboro, Vermont

▲ An on-street parking space for cars is now a parking alcove (or parklet) for up to 10 bicycles.



Washington, D.C.

▲ The residents of this block worked with the local government to provide bike parking for visitors.



Cambridge, Massachusetts

▲ At the Massachusetts Institute of Technology, a secure “bike cage” is accessible to cyclists with a key card.

◀ Artistic bike racks can add local flare and fun.

**LEARN MORE:** Read the Association of Pedestrian & Bicycle Professionals’ *Bike Parking Guidelines* ([APBP.org](http://APBP.org)) and find more bike parking resources at [BikeLeague.org](http://BikeLeague.org).



# The Worksheets

**B**ike auditors can use whichever worksheets, measurements, or rating system they want — so long as an explanation of the chosen method is provided. Letter grades, numerical rankings or words can be used to rate the audited places. It’s not unusual for an audit location to have a mix of positive and negative features. For example, there might be a safe and comfortable bike lane along a block but the intersections are difficult or confusing to navigate.

If an overall rating is desired, one can be made to encompass the observations as a whole. Some examples:

- Great:** The area is very welcoming and safe for bicyclists
- Acceptable:** The area is mostly welcoming and safe for bicyclists
- Mixed:** The area is somewhat welcoming and safe for bicyclists
- Poor:** The area is absolutely not welcoming or safe for bicyclists

**Worksheets available at [AARP.org/BikeAudit](https://www.aarp.org/BikeAudit)**

1. **Make a Map**
2. **Who’s Bicycling — and Why?**
3. **Streets and Crossings: Single-Location Audit**
4. **Streets and Crossings: Riding Audit**
5. **Car-Free Paths and Trails: Riding Audit**
6. **Street, Path or Trail Safety and Appeal**
7. **Build a Better Block**
8. **Bicycle Parking**
9. **Cycling in the Heat, Rain, Wind or Snow**

If new materials are added to the tool kit, we’ll spread the news through the **AARP Livable Communities e-Newsletter**. (Learn more on page 29.)

## Cycling at Any Age

▶ The **Cycling Without Age** program connects volunteer cyclists (called “pilots”) with elderly adults and people with mobility limitations for trishaw rides. Nonprofits throughout the world train and certify the pilots, provide the trishaws, and partner with senior centers and assisted living residences, among other facilities, to help noncyclists go for a ride. (A pilot and temporarily unhelmeted riders from Friends of the Northern Rail Trail are pictured.) Said one of the group’s passengers: “I have got to say, *wow!* It’s incredibly enjoyable. Like a slow-moving amusement park ride through nature!”



Lebanon, New Hampshire



Cleveland, Ohio

◀ Hosted by cycling clubs, senior centers and nonprofits, the **Silver Spokes** curriculum teaches older adults to ride — and helps those who know how to ride a bike feel comfortable doing so at an older age. Participants are introduced to different bike types, including adult tricycles, e-bikes and recumbent bicycles, which, as explained by a program coordinator at Bike Cleveland, “don’t require a rider to throw a leg high in the air to mount up.” During trainings she told attendees: “If you enjoy sitting on your couch at home, you will enjoy this!”

▼ When bike rental programs — commonly referred to as bike shares — offer a variety of bicycle types, more people can ride. The **AARP Community Challenge** (see page 28) has provided funding to several bike share programs (including those pictured here) for the purchase of older-adult-friendly tricycles and power-assist e-bikes. Said one rider: “We were very poor growing up and a bicycle was not something we could get. I never learned to ride a bike and was nervous to try to get on one at my age. After the first few times around I felt like I’ve been doing this all my life!”



Lincoln, Nebraska



Honolulu, Hawaii



McDonough, Georgia

**LEARN MORE:** Bicycles come in many shapes and sizes with all sorts of bells and whistles. Visit [AARP.org/BikeAudit](https://www.aarp.org/BikeAudit) for an illustrated article explaining the variety of bike types. Find other resources on page 28.

## TAKING ACTION

# Reporting Results, Proposing Solutions

It's not easy to persuade local leaders to make transportation and roadway improvements, but this tool kit is designed to help get the conversation started. Obstacles abound in politics, costs, past practices and, very often, overlapping jurisdictions, such as when a road is managed by the state rather than the county or municipality that it passes through. Individuals and community groups can get the ball rolling — and inspire and achieve needed change — by identifying and calling attention to problems. Some next steps:

## 1. PREPARE A REPORT

Summarize the bike audit's findings in a short, easy-to-read and easy-to-share report, handout, PowerPoint presentation and/or video.

As tempting as it may be to share every audit observation, elected officials, other local leaders and municipal staff might be put off and overwhelmed by a dense and lengthy document.

If the community has a 311 service or other way to propose needed fixes such as potholes, those channels are a great way to document observations in a timely way and to share details that might be too minute to include in a broader report to an elected official.

Share the most compelling highlights in the summary report. The deep details can be provided later if needed or requested.

### A suggested outline of what to include:

**1. Opener:** This top sheet or introductory slide or video clip should attract the attention of the intended recipient(s), so include a photograph or other visuals that show the location; the name of the community, street(s), route and/or destinations; and a brief statement describing the auditing group or participants.

Other potential details to include, if applicable, are the community's AARP age-friendly network action plan, active transportation plan and/or Bicycle Friendly Community status and report card, as well as any plans or policies the local government has already committed to (but may need a reminder of) such as a Complete Streets policy or a cycling master plan.

**2. Explanation of the Problem:** Provide information about the location, such as why it was chosen. If crash data exists for the spot (from, perhaps, the local police, a government agency or an advocacy group), include those details, such as the time of day, speeds involved, likely causes and outcomes. Include the personal experiences of people who have used the street and/or personal observations taken during the bike audit.

**3. Map:** Download a map from the internet or use our map worksheet to draw one. Add labels and street names as needed.

**4. Observations and Findings:** Provide a list or short narrative detailing what was observed.

**5. The Need:** Be ready to answer the question, "Why does this street need to be bikeable?"

**6. Proposed Solutions:** Share ideas for how the observed problems can be solved.

**7. Contact Information:** The report recipients should know how to reach out and ask questions, collaborate or share the news that the problems are being addressed and how.

### Engagement and Education Matters

In addition to informing local leaders about the need for better cycling infrastructure and policies — and convincing them to take action — cycling advocates often serve as community ambassadors and explainers. Social events, community meetings and other gatherings can be opportunities for educating drivers, pedestrians and even fellow cyclists. When people understand the reasons for and benefits of change, they're more likely to support change.



# Sample Report

1

## Community Bike Audit of Center Street



**Between The Villas and The Towne Shopping Center**

Conducted by residents of The Villas and several surrounding neighborhoods

2

### The Problem

*In The Villas, a community for older adults, residents can't safely cycle to or from The Towne Shopping Center, located across Center Street.*

- There's no traffic light or even a stop sign
- Pedestrians and cyclists need to cross four lanes of fast-moving traffic
- The street has two lanes of traffic moving in each direction but no median or bike lanes (even though there is room for both)
- There is no crossing island
- The painted crosswalk isn't readily visible to drivers

3

### The Location Map



4

### Our Observations

*Residents of The Villas and several surrounding neighborhoods audited the street and crossing location.*

- Pedestrians and cyclists waited up to 7 minutes to cross all four lanes of traffic
- Pedestrians and cyclists needed up to 60 seconds to cross all four lanes
- Several individuals waited in the middle of the street to complete their crossing
- Nearly all the pedestrians and cyclists appeared to be in their 20s or 30s
- The older adults and parents with children we saw drove from the residential areas to the shopping center

5

### Why the Street Should Be Walk-Bike-Friendly

- People of all ages are getting too little exercise and are spending too much time driving or being driven in cars
- Residents who don't drive or don't have access to a car should be able to safely walk or bicycle to the stores and businesses near their homes
- If residents can safely walk or bike to shop, the community will have fewer cars on the road, which will mean less vehicle traffic and less pollution
- If residents can safely and easily walk and bike to the shopping center, they will be more likely to frequent the local businesses

6

### Possible Solutions

The crossing location on Center Street can and should be made safer by:

- Adding a pedestrian/cyclist-controlled traffic signal
- Adding a protected bike lane for each direction of traffic
- Painting a crosswalk that is more visible to drivers
- Narrowing the roadway to one lane in each direction at the crosswalk
- Placing a pedestrian island between the lanes of opposite-moving traffic

7

### Contact Us

We want to work with the local government to make **Center Street** safer.



Reach us by:

- Email: [walkbike@email](mailto:walkbike@email)
- Telephone: 555-555-5555

### A report can also include:

- Quotes from bike audit participants and area residents
- A brief history of the location, if known and if useful in explaining the problems
- A summary of the worksheet results
- Lots of photographs — of both the problems and examples of potential solutions (see page 22)

Visit [AARP.org/BikeAudit](http://AARP.org/BikeAudit) to download a presentation template.

## TAKING ACTION

## Reporting Results, Proposing Solutions

## 2 SHARE THE RESULTS

If no local leader with the power to pursue a solution participated in the audit, send the report to those who can implement the desired changes or advocate for them.

Also consider sharing the report with local media — and us! Email [Livable@AARP.org](mailto:Livable@AARP.org) and [BFA@BikeLeague.org](mailto:BFA@BikeLeague.org).

- Research the submission options before starting the report — or even better, before the bike audit. That way the information can be gathered and provided in a tailored format that will be the most useful for your audience.
- Keep a record of who the report is sent to, how and when. If there's no response, follow up.
- Talk about the results with people who have an interest in the issue. Encourage them to do their own bike audit or join the continuing advocacy work.
- Learn how your community's public budget works and write a letter to local leaders to get your project idea into its budget.

**TIP:** Many local governments and community groups have an email address, web form or telephone number for reporting street and sidewalk problems.

## 3 ASK FOR A MEETING, ASK QUESTIONS

If distributing the report doesn't result in the desired action, seek a meeting with local leaders, committees and organizations. In preparation, determine the preferred format for sharing the audit findings. Will the officials accept a PowerPoint presentation? Is it better to do a one-page handout? Should the materials be provided before or at the meeting?

Be ready to address the top priorities or most egregious problems first.

## 4 DO SOME HOMEWORK

- Visit [BikeLeague.org/Map](http://BikeLeague.org/Map) to see if the community is certified as a **Bicycle Friendly Community** by the League of American Bicyclists. Or email [BFA@BikeLeague.org](mailto:BFA@BikeLeague.org) to find out if the community applied in the past. Review its report card.
- Visit [AARP.org/Livable](http://AARP.org/Livable) and do a search for "Complete Streets."
- Also search online for Smart Growth America's **Complete Streets Policy Atlas** to see if the community has a Complete Streets policy. If not, encourage local leaders to adopt one.

## Closing Streets for People and Pedalers

Many communities temporarily close streets to vehicle traffic so people can walk, bike and safely exercise together and gather outside. Typically referred to as "Open Streets" or "Slow Streets," the concept originated in Bogotá, Colombia, in the 1970s with a weekly Ciclovía, the brainchild of Gil Penalosa, then the city's parks commissioner, later the founder of the nonprofit 8 80 Cities and a frequent partner of AARP. The practice gained popularity during the height of the COVID-19 pandemic as a safe way to social distance.



Washington, D.C.



Wilmington, Delaware



Austin, Texas

- Do the same for the Vision Zero Network’s **Vision Zero Communities Map**. If the community isn’t on the list, ask local leaders to set goals to eliminate fatalities and severe injuries among all road users.
- If the town, city or county is enrolled in the **AARP Network of Age-Friendly States and Communities**, examine the jurisdiction’s age-friendly action plan via **LivableMap.AARP.org** to see if cycling is among its age-friendly goals.
- Find data about the community, or a street within it, from the interactive **AARP Livability Index (AARP.org/LivabilityIndex)**.

## 5 TESTIFY!

Another way to pursue solutions — especially if distributing the report doesn’t result in the desired outcome or if local officials are unwilling to meet — is to testify at a public meeting or hearing.

City, town and county council meetings usually include time for community members to speak about a concern. Testimony rules vary greatly. Some meetings require speakers to register and submit materials in advance. Many have a time limit for remarks.

**TIP:** If more time is needed for explaining the audit findings, bring along others to testify. Each person can handle a portion of the report or presentation, so instead of a 2-minute airing, the bike audit can be discussed over 2, 4 or 6 minutes by several speakers.

## 6 PROPOSE SOLUTIONS

Elected officials constantly hear about problems. What isn’t as common is for them to hear about a problem *and* a solution.

Strategies, plans and proposals can come from the community. In fact, the chances of achieving positive change increase when knowledgeable community members inform, work with and assist the local leaders and transportation officials who will implement the solutions.

## ONCE ALL THAT’S DONE, DO IT AGAIN!

- Choose a different location and invite local leaders and decision-makers. Download and print the needed worksheets (see page 29). ■

## Seeking Solutions

Outreach should begin at the local level. State representatives can be contacted later if needed or if the roadway is within state jurisdiction.

### ELECTED OFFICIALS WHO MAY BE OF HELP\*

- **Local:** Mayor, county executive, city council members, county council members/commissioners, town council members, alderpeople, district or ward liaisons
- **State:** Governor, delegate, senator, assembly member

### GOVERNMENT OFFICES THAT MIGHT HAVE JURISDICTION

- **Local:** Department of Public Works, Department of Streets and Sidewalks, Department of Transportation, Regional Planning Commission
- **State:** Department of Transportation
- **Federal:** Department of Transportation

### ORGANIZATIONS THAT CAN HELP ADVOCATE FOR CHANGE

- **Area agencies on aging**
- **Businesses and business groups**
- **Civic associations**
- **Homeowners associations**
- **Public health agencies**
- **Local advocacy organizations** (e.g., AARP)
- **Local media** (newspapers, websites, TV)
- **Schools**
- **Houses of worship**
- **Nonprofits**
- **Walking and bicycling groups**

**TIP:** Visit **BikeLeague.org/Map** to find bike clubs, organizations, businesses, cycling instructors and other local people who can help advocate for change.

\* *The job titles and department names will vary by location.*



TAKING ACTION

# Strategies for Safer Streets and Cycling

**E**lected officials and other local leaders don't know everything about every aspect of managing or planning for a community's needs. After all, in many communities, local government is a part-time — and unpaid — job. The daily grind of immediate needs often prevents community leaders from addressing complicated or long-term problems, learning about new and improved best practices, or staying updated about innovative ideas and solutions. There are often so many issues to address that they also need to be reminded about policies, plans, and concerns.

Following are some traffic-calming methods and roadway design changes that make streets safer for all roadway users, especially bicyclists. Many local leaders aren't even aware of these terms, definitions and solutions. They could use your help coming up with answers.



Lancaster, Pennsylvania



Davis, California

◀▲▼ **PLACEMAKING** features such as painted intersections give the intersection higher visibility and call more attention to it to encourage drivers to look for other street users. They also create a more attractive place for all roadway users. Local artists are often involved in developing these areas. (See page 27 for more about placemaking.)

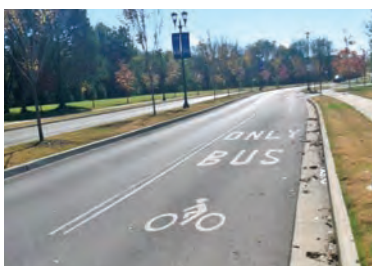


Des Moines, Iowa



Akron, Ohio

▼ A **LIMITED LANE** can be used by only cyclists and public transit buses.



Houston, Texas



Washington, D.C.

▲ A **RAISED BYPASS LANE** diverts cyclists to a safer spot and provides curb access for buses without blocking a bike lane. (Two styles and placement options are shown.)





Berkeley, California

◀ **A BICYCLE CUT-THROUGH** creates a narrow path for cyclists to connect from one road to another while limiting motor vehicle traffic.



Arlington, Virginia

◀ Adding a **BULB-OUT**, or **CURB EXTENSION**, will widen a sidewalk and narrow a roadway to reduce pedestrian crossing distances as well as driving speeds. Where funding or political will is limited for a permanent installation, a painted street mural, planters and flex posts placed before and after a midblock crossing can slow cars and increase visibility. (See page 27 for more about “pop-up” demonstrations.)



Bozeman, Montana



Washington, D.C.

▼▲ **RESTRIPING** and **LANE PAINTING** can help turn an existing roadway — such as Boston’s Huntington Avenue or Pennsylvania Avenue in D.C. (that’s the U.S. Capitol in the distance) — into a space that can more safely accommodate cyclists.



Boston, Massachusetts



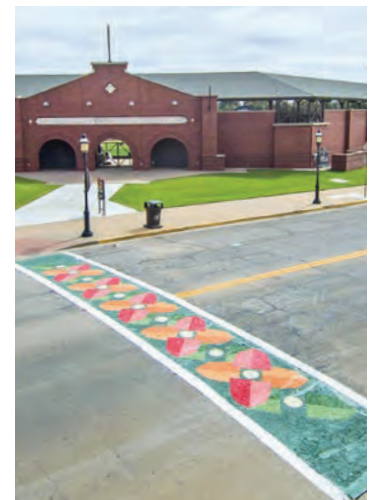
Madison, Wisconsin

▲ When temperatures rise, the shade provided by a **TREE CANOPY** helps cool down streets, sidewalks and entire neighborhoods.



Wilmette, Illinois

▲▶ Visible **CROSSWALKS** tell pedestrians and cyclists (of all ages) where to cross — and alert drivers to keep an eye out for pedestrians and cyclists. Artistic crosswalks and raised crosswalks can make the crossings even more noticeable.



Enid, Oklahoma

Continued ▶



## TAKING ACTION

► Tires lose air. Nuts and bolts get loose. This public library offers a **BICYCLE FIX-IT STATION** with an air pump, tools and a rack for lifting the bike off the ground during the repairs.



New Orleans, Louisiana



Las Vegas, Nevada

▲ **BUS BIKE RACKS** enable cyclists to hop onto public transit where the roads aren't bike-friendly, if a destination is far or when the weather turns bad.

## Bridges, Tunnels, and Runnels

An overpass trail **(1)** helps riders avoid dangerous intersections completely by allowing them to travel above the roadway. An underpass tunnel **(2)** is another way to help cyclists and pedestrians avoid mixing with vehicle traffic on high-speed roads and dangerous intersections. Murals and public art helps make the spaces more welcoming and pleasant to use. A narrow ramp or “runnel” **(3)** helps people push bikes up stairs. The ramp often reduces the distance bicyclists need to ride and eliminates the need to carry a bike up a flight (or several) of stairs.



**(1)** Marshall, Minnesota



**(3)** Kirkland, Washington (above), Washington, D.C. (below)



**(2)** Columbia, Missouri





► **AUTOMATED COUNTERS** (the tall red structure at right) record and display the number of people cycling, walking and rolling past. The resulting data is a great way to document the popularity and use of a walk-bike-friendly location.



Carmel, Indiana

## Signage and Signals

Pavement markings **1** help keep sidewalks and streets safe for all users by telling cyclists where bikes are and aren't allowed. Crossings and shared paths are made safer by the presence of **2** user-controlled, lighted Walk or Bike buttons (officially “rectangular rapid flashing beacons”) and **3** **4** instructional walk-bike signage. The lights in a bike-only traffic signal **5** display a silhouette of a bicycle, shown here in green. Paired with a contraflow bike lane (defined on page 12), the signal enables cyclists to travel without crossing into the path of traffic. (Both safety measures were installed at the pictured location after a bicyclist was struck from behind and killed by a motorist. The white “ghost bike” in the foreground is a memorial in her honor.)



(4) New Paltz, New York



(1) Estes Park, Colorado



(2) Lincoln, Nebraska



(3) New York City

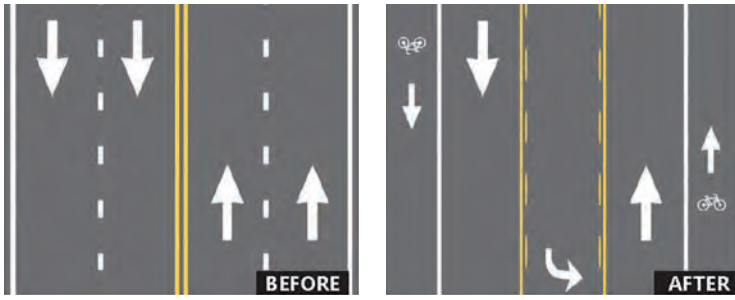


(5) Pittsburgh, Pennsylvania

Continued ►



## TAKING ACTION



▲▼ A **ROAD DIET** or **LANE REDISTRIBUTION** reduces or reassigns the vehicle lanes or the width of a street, or both, to help control traffic speeds and, in many cases, add bike lanes. In the image below, a bike lane was achieved by creating space between the sidewalk and where cars can be parked.



Phoenix, Arizona

▼ Painted **BIKE BOXES** (the solid green rectangles) provide cyclists with a safe and visible way to wait in front of motorists while all are stopped at a red light. This reduces right-turn conflicts between bikes and motor vehicles and keeps cyclists out of the pedestrian crosswalks (seen here in white). Continuing the green **PAINTED BIKE LANES** through the intersection also reduces conflicts and improves visibility.



Decatur, Georgia

## Waterfront Spaces, Connected Places

► Once home to steel mills, Pittsburgh, Pennsylvania's waterfront now hosts multiuse trails that lead to and across several of the city's many bridges, greenways and multimodal connectors. Adventurous cyclists can even travel the 335 miles between Pittsburgh and Washington, D.C., along the Great Allegheny Passage (which is cared for entirely by volunteers) and the Chesapeake and Ohio Canal Towpath (which is part of the National Park Service).



Pittsburgh, Pennsylvania





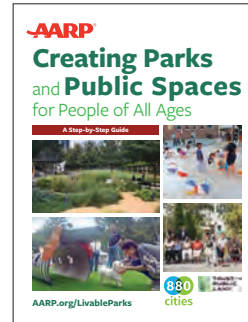
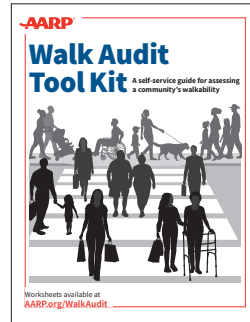
## More Strategies

If a **TRAFFIC SIGNAL** already exists at the location, ask that its timing be adjusted to accommodate slower-moving road users such as cyclists and pedestrians, including children, older adults and people with disabilities.

A **NEIGHBORHOOD COMMUNITY GROUP** can advocate for change, keep an eye out for conditions or activities that prevent people from being able to safely bike, and meet regularly to discuss problems and solutions for safer streets.

Join your community's **BICYCLE AND PEDESTRIAN ADVISORY COMMITTEE** or start one if none exists. It can be a great way to make sure the bike advocate voice is included in official city or municipal decisions and has representation at the city/municipal level ■

## Free Guides: Visit [AARP.org/LivableLibrary](https://www.aarp.org/LivableLibrary)



Combine the energy of pedestrians and cyclists by doing dual street safety audits, using this publication and worksheets as well as the **AARP Walk Audit Tool Kit**.

Need to better connect people (including cyclists) to local parks? Check out the guidance and worksheets found in **Creating Parks and Public Spaces for People of All Ages**.

The solutions in this section can be introduced to a community through a pop-up demonstration, which is a temporary installation (lasting for a few hours, days or weeks) that allows a tactic to be tested and tweaked before a permanent change is made. Learn more in **The Pop-Up Placemaking Tool Kit**.

## Clean, Clear Lanes



Minneapolis, Minnesota

▲ Bike lanes need to be maintained just like any other transportation infrastructure. In places with winter snow and ice, it's essential to have the budget and equipment to properly maintain bikeways year-round. In Minneapolis, the bike lanes and paths are cleared by the city at the same time as the roads.

▼ Communities that install protected bike lanes need to keep those pathways clean. Many cities with protected bike infrastructure have invested in mini street sweepers like the one seen here.



Jersey City, New Jersey



## TAKING ACTION

## Learn More

- **AARP Community Challenge:** [AARP.org/CommunityChallenge](https://www.aarp.org/CommunityChallenge) or [LivableMap.AARP.org](https://www.livablemap.org)  
Founded in 2017, the annual AARP Community Challenge grant program helps communities make immediate improvements and jump-start long-term progress in support of residents of all ages.
- **AARP Livability Index:** [AARP.org/LivabilityIndex](https://www.aarp.org/LivabilityIndex)  
Using more than 50 national sources of data, the AARP Livability Index scores every neighborhood and community in the United States for the services and amenities that affect people's lives in seven critical categories: housing, neighborhood, transportation, environment, health, engagement, and opportunity.
- **AARP Network of Age-Friendly States and Communities:** [AARP.org/AgeFriendly](https://www.aarp.org/AgeFriendly) or [LivableMap.AARP.org](https://www.livablemap.org)  
Membership in the network means that the community's elected leadership has made the commitment to actively work toward making its town, city, county or state a great place for people of all ages.
- **Bicycle Friendly America:** [BikeLeague.org/BFA](https://www.bikeleague.org/BFA)  
Used by states, communities, businesses and universities to make bicycling a real transportation and recreation option for all people, the League of American Bicyclists' Bicycle Friendly America program provides advocates and changemakers with a road map and hands-on assistance for building places and spaces that are more welcoming to people who bike. The Bicycle Friendly America awards recognize communities, businesses and universities for advancing cycling programs, infrastructure and safety.
- **E-Bike Smart:** [Ebikesmart.org](https://www.ebikesmart.org)  
Electric bicycles (e-bikes) have many benefits and are becoming more common. This online guide from The League of American Bicyclists and People for Bikes provides safety guidance and technical information about using an e-bike.
- **Smart Cycling Resources:** [BikeLeague.org/RideSmart](https://www.bikeleague.org/RideSmart)  
Find free and low-cost safety materials, including *The Smart Cycling Quick Guide*, *The Smart Cycling Video Collection* and a directory of cycling instructors certified by the League of American Bicyclists' Smart Cycling program.

## EXTERNAL RESOURCES

Search online for these organizations and publications.

- **America Walks**
- **Association of Pedestrian & Bicycle Professionals**
- **Centers for Disease Control and Prevention: Active People, Healthy Nation<sup>SM</sup>**
- **Mineta Institute: 50+ Cycling Survey**
- **National Association of City Transportation Officials (NACTO)**
- **Safe Routes Partnership**
- **Smart Growth America**
- **Streetsblog**
- **U.S. Department of Transportation Safe System Approach**
- **Vision Zero Network**
- ***A Guide to Inclusive Cycling*** by Wheels for Wellbeing
- ***Getting to the Curb: A Guide to Building Protected Bike Lanes That Work for Pedestrians*** by Walk San Francisco
- ***Small Town and Rural Design Guide*** by Alta Planning + Design
- ***Tactical Urbanists Guide*** by Street Plans Collaborative
- ***Traffic Calming Measures*** by the Institute of Transportation Engineers

# AARP Bike Audit Tool Kit

## A SELF-SERVICE GUIDE FOR ASSESSING A COMMUNITY'S BIKEABILITY

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### Several of the communities and projects pictured in this publication have a connection to programs sponsored by AARP and/or the League of American Bicyclists.\*

Page 3: **South Bend, Indiana** — Member, AARP Network of Age-Friendly States and Communities | Bicycle Friendly America, Silver Community Award

Page 8: **Portsmouth, New Hampshire** — Member, AARP Network of Age-Friendly States and Communities | Bicycle Friendly America, Bronze Community Award

Page 15: **Miami Beach, Florida** — Member, AARP Network of Age-Friendly States and Communities | Bicycle Friendly America, Silver Community Award

Page 15: **Charlotte, North Carolina** — Bicycle Friendly America, Bronze Community Award

Page 15, 22: **New York, New York** — Member, AARP Network of Age-Friendly States and Communities | Bicycle Friendly America, Silver Community Award

Page 15, 16, 20, 22, 23: **Washington, D.C.** — Member, AARP Network of Age-Friendly States and Communities | Bicycle Friendly America, Gold Community Award

Page 16: **Cambridge, Massachusetts** — Massachusetts Institute of Technology, Bicycle Friendly America, Silver University Award

Page 16: **Nashville, Tennessee** — Member, AARP Network of Age-Friendly States and Communities | Bicycle Friendly America, Bronze Community Award

Page 16: **Annapolis, Maryland** — Bicycle Friendly America, Bronze Community Award | Annapolis Arts District, AARP Community Challenge grantee

Page 16: **Sunrise, Florida** — City of Sunrise, AARP Community Challenge grantee | Bicycle Friendly America, Bronze Community Award

Page 17, 25: **Lincoln, Nebraska** — Heartland Bike Share and BikeLNK, AARP Community Challenge grantee | Bicycle Friendly America, Silver Community Award

Page 17: **Lebanon, New Hampshire** — Friends of the Northern Rail Trail, AARP Community Challenge grantee | Bicycle Friendly America, Bronze Community Award

Page 17: **Cleveland, Ohio** — Member, AARP Network of Age-Friendly States and Communities | Bicycle Friendly America, Bronze Community Award | Bike Cleveland, AARP Community Challenge grantee

Page 17: **Honolulu, Hawaii** — Member, AARP Network of Age-Friendly States and Communities | Bicycle Friendly America, Bronze Community Award | Bikeshare Hawaii, AARP Community Challenge grantee

Page 17: **McDonough, Georgia** — Heritage Senior Activity Center, AARP Community Challenge grantee

Page 20: **Austin, Texas** — Member, AARP Network of Age-Friendly States and Communities | Bicycle Friendly America, Gold Community Award | Walk Austin, AARP Community Challenge grantee

Page 20: **Wilmington, Delaware** — Urban Bike Project of Wilmington, AARP Community Challenge grantee

Page 22: **Lancaster, Pennsylvania** — Member, AARP Network of Age-Friendly States and Communities | Bicycle Friendly America, Bronze Community Award

Page 22: **Des Moines, Iowa** — Member, AARP Network of Age-Friendly States and Communities | Bicycle Friendly America, Bronze Community Award

Page 22: **Davis, California** — Bicycle Friendly America, Platinum Community Award

Page 22: **Akron, Ohio** — Member, AARP Network of Age-Friendly States and Communities | Bicycle Friendly America, Bronze Community Award

Page 22: **Houston, Texas** — Member, AARP Network of Age-Friendly States and Communities | Bicycle Friendly America, Bronze Community Award

Page 23: **Wilmette, Illinois** — Bicycle Friendly America, Bronze Community Award

Page 23: **Bozeman, Montana** — Member, AARP Network of Age-Friendly States and Communities | Bicycle Friendly America, Silver Community Award

Page 23: **Boston, Massachusetts** — Member, AARP Network of Age-Friendly States and Communities | Bicycle Friendly America, Silver Community Award

Page 23: **Madison, Wisconsin** — Member, AARP Network of Age-Friendly States and Communities | Bicycle Friendly America, Platinum Community Award

Page 23: **Arlington, Virginia** — Member, AARP Network of Age-Friendly States and Communities | Bicycle Friendly America, Silver Community Award

Page 23: **Enid, Oklahoma** | Main Street Enid, AARP Community Challenge grantee

Page 24: **New Orleans, Louisiana** — Bicycle Friendly America, Silver Community Award

Page 24: **Las Vegas, Nevada** — Bicycle Friendly America, Silver Community Award

Page 24: **Marshall, Minnesota** — Bicycle Friendly America, Bronze Community Award

Page 24: **Columbia, Missouri** — Bicycle Friendly America, Silver Community Award

Page 24: **Kirkland, Washington** — Bicycle Friendly America, Bronze Community Award

Page 25: **Carmel, Indiana** — Bicycle Friendly America, Silver Community Award

Page 25: **Augusta, Georgia** — Member, AARP Network of Age-Friendly States and Communities | Augusta Urban Ministries, AARP Community Challenge grantee

Page 25: **Portland, Oregon** — Member, AARP Network of Age-Friendly States and Communities | Bicycle Friendly America, Platinum Community Award

Page 26: **Decatur, Georgia** — Member, AARP Network of Age-Friendly States and Communities | Bicycle Friendly America, Silver Community Award

Page 26: **Phoenix, Arizona** — Bicycle Friendly America, Bronze Community Award

Page 26: **Pittsburgh, Pennsylvania** — Member, AARP Network of Age-Friendly States and Communities | Bicycle Friendly America, Bronze Community Award

Page 27: **Minneapolis, Minnesota** — Member, AARP Network of Age-Friendly States and Communities | Bicycle Friendly America, Gold Community Award

Page 27: **Jersey City, New Jersey** — Member, AARP Network of Age-Friendly States and Communities | Bicycle Friendly America, Honorable Mention

\* This list is current to September 2023.

## Spread the Word

- Order extra copies of this free guide for sharing in your community
- Download the worksheets at [AARP.org/BikeAudit](https://www.aarp.org/BikeAudit) and store them in this pocket
- Subscribe for free to the [AARP Livable Communities e-Newsletter](https://www.aarp.org/LivableCommunities) at [AARP.org/LivableSubscribe](https://www.aarp.org/LivableSubscribe)

## Get in Touch!

- We want to hear about your bike audit. What worked? What didn't?
- If the [AARP Bike Audit Tool Kit](https://www.aarp.org/BikeAudit) helped achieve needed change, please tell us about your success!

Email: [Livable@AARP.org](mailto:Livable@AARP.org) | Facebook: [/AARPLivableCommunities](https://www.facebook.com/AARPLivableCommunities) | X: [@AARPLivable](https://twitter.com/AARPLivable)

Email: [BFA@BikeLeague.org](mailto:BFA@BikeLeague.org) | Facebook: [/LeagueAmericanBicyclists](https://www.facebook.com/LeagueAmericanBicyclists) | X: [@BikeLeague](https://twitter.com/BikeLeague) | Instagram: [@BikeLeague](https://www.instagram.com/BikeLeague)

# Bike Audit Tool Kit

**A self-service guide for assessing a community's bikeability**

By **AARP** and **The League of American Bicyclists**

**In too many communities**, people can't safely cycle to where they need or want to go due to a lack of bike lanes, facilities and other safety features that make streets safe for cyclists *and* drivers.

**A bike audit is a simple activity** in which an individual or team assesses the bikeability of a location by documenting how and if people can safely travel along a community's streets, navigate an intersection and get from point A to B, C and so on.

**Who can conduct a bike audit?** Anyone!

**The *AARP Bike Audit Tool Kit* can be used by local leaders, advocates, community organizations and residents to ...**

- enable people of all ages to get around without having to depend on a car
- help reduce traffic congestion and pollution
- inspire the development of cycling-friendly streets
- increase fitness and exercise opportunities
- gather input about community infrastructure needs
- educate residents about street design elements that support safety
- encourage social interactions among neighbors
- boost property values
- empower community leaders and residents to be the agents of needed change

The ***AARP Bike Audit Tool Kit*** is free and available for download or order.

Visit **[AARP.org/BikeAudit](http://AARP.org/BikeAudit)**.

**Be among the first to hear when we publish other free publications.**

**Subscribe for free to the *AARP Livable Communities e-Newsletter* at [AARP.org/LivableSubscribe](http://AARP.org/LivableSubscribe).**

**Find more cycling resources at [BikeLeague.org](http://BikeLeague.org).**



PHOTO: AARP NEBRASKA

▲ A bike share event in Lincoln, Nebraska, funded in part by the AARP Community Challenge.