



BUILDING A BICYCLE FRIENDLY NEIGHBORHOOD

A GUIDE FOR COMMUNITY LEADERS

WASHINGTON AREA BICYCLIST ASSOCIATION

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INTRODUCTION

INTRODUCTION & HOW TO USE THIS GUIDE

This document is intended to empower community members and leaders bringing the benefits of increased and improved bicycling to their communities. It is intended to assist community advocates in articulating the case that bicycling is good for communities, to offer recommendations on how to communicate those benefits to non-cyclists and the broader community, and to provide explanations of the different types of bike facilities and programming that can encourage bicycling for transportation, recreation, community, and health. In short, this book is designed to enable you to articulate and communicate the case for biking and for concrete improvements to bike infrastructure that your local government can act on.

Throughout the document the main text will attempt to speak in general terms, discussing processes and projects applicable across the country. Callout boxes will provide more specific detail and application using Washington, DC as a specific case-study to show how these concepts have been implemented and used in that specific setting.

We are grateful for the support of over 100 community leaders and bicyclists who responded to our calls, questions, and surveys. It is their input that told us what information about biking they deem most useful to share with community advocates.¹



HOW BIKING PROJECTS HAPPEN

HOW BIKING PROJECTS HAPPEN:

BIKE MASTER PLANS & COMMUNITY DEMAND

Before getting into the details, it is important to provide background on how transportation planning decisions in general, and biking infrastructure decisions in particular, are made.

In many jurisdictions there is a bicycle master plan that sets big-picture goals and lists key infrastructure projects to be undertaken in support of bicycling. Often, big-ticket items like bridges and trails must be included in the master plan before funding will be allocated. Master plans are normally created by local transportation agencies or planning agencies, often with assistance from expert bicycle planning consultants. During the master planning process, the coordinating agency seeks to engage the bicycling community and greater public to set major goals and priorities for a five to ten year period. The final bicycle master plan is approved by a local city council and that becomes the operational workplan for the transportation department staff

THE DC BIKE PLAN / MULTIMODAL TRANSPORTATION PLAN

In 2013, the District of Columbia will begin work on its first “Multi-Modal Master Transportation Plan”. Previously, the District had a plan for bicycles, a plan for major roadway improvements, and a short-term restriping plan. With the major growth of bicycling; the creation of the Circulator bus system; the introduction of bikesharing and carsharing; the coming of streetcars; and the importance of Metrobus and Metrorail to mobility in the District, DDOT decided an integrated approach is needed. This Master Transportation Plan will update and eventually replace the existing plans. Thus, it is a critical document for the future of bicycling and all transportation in the District.

assigned to improve biking. After that time period has expired, the master bike plan requires an update or a completely new plan.

The best opportunity to propose a significant new element of bicycle infrastructure for your community is in the public comment period of the master plan process. It is significantly easier to push elected officials and transportation department officials to prioritize implementing a project when it has already been included in a publicly vetted plan.

However, a master plan is not the only opportunity or even the most common opportunity to improve bike infrastructure. As the master planning process only happens every five to ten years (and has not happened at all in some communities), there remains the ability to pursue individual projects that would improve bicycling at the neighborhood level. Individual leaders and residents can advocate for projects in their neighborhoods by gathering public support for an improvement and requesting that improvement from the appropriate transportation officials.

The remainder of this document is intended to provide the roadmap and tools to do so.



BENEFITS OF BIKING

BENEFITS OF BIKING

Many bicyclists or advocates of bicycling assume that the general public understands the benefits of bicycling. This is often not the case, and it is important to recognize that members of the public see bicyclists as arrogant or rude for taking the lane for their safety, or as scofflaws. Additionally, not everyone will come to bicycling for the same reason. Fortunately, bicycling has many individual and community benefits, and it is likely that at least one of them will resonate with members of your audience. Presented below are a number of arguments for the benefits of bicycling. Take care to tailor the appropriate argument to the appropriate audience.

AFFORDABILITY

According to AAA estimates, annual car ownership and usage costs \$8,946 in 2012. Operating a bike costs \$120 annually, providing reliable transportation at a fraction of the cost. For many families transportation cost is the second

COST COMPARISON: COMMUTING FROM ALABAMA AVE & MLK JR. AVE TO L'ENFANT PLAZA

Driving

Round trip driving distance: 9.8 miles

Driving cost: \$5.44

(9.8 miles x \$.555/mile, IRS cost of driving)

Daily parking: \$7/day

(\$140 monthly contract / 20 work days per month)

Total driving cost per day: \$12.44

Annual driving cost: \$3,110

(250 work days/year)

Rush hour commute time: 18 minutes

Metro

Round trip rush hour fare: \$6.80

Annual transit cost: \$1,700

Rush hour commute time: 20 minutes

Biking

Round trip biking distance: 8.8 miles

Daily bicycling cost per day: \$1.32

(8.8 miles x \$.15/mile, cost of bicycling)

Annual bicycling cost: \$330

Rush hour commute time: 25 minutes

Commute times estimated by Google Maps

largest component of the household budget after housing and steps that can reduce transportation costs frees up income for other needs. It is not necessary to go car-free to get the economic benefits of bicycling, however. Any trip taken by bike rather than by car eliminates gas costs, wear and tear on the vehicle, etc. The IRS estimates the cost of operating a vehicle to be 55.5 cents per mile. The per-mile cost of operating a bike is negligible. And in urban areas, it is important to include the cost of parking in the calculation. Many people pay over \$5 per day simply to park their cars while working, with the average monthly downtown parking bill estimated to be approximately \$162. Bike parking, by comparison, is free.

MOBILITY

People need to get places. Whether to work, school, or the grocery store, some trips are simply necessary. The 1995 National Personal Transportation Survey (NPTS) found that 40% of all trips in the United States are less than 2 miles in length, which could be completed in 10 minutes. Replacing some car trips with bicycle trips can have a significant impact on local congestion. For those with cars, mobility may not seem to be a problem—but cars are costly and not an option for

THE DC MULTIMODAL COMMUTE

In the District, some areas are well-served by Metrorail and bus. Others are not. A bike makes it possible to have a multi-modal commute in which you bike to or from the Metro or bus. For example, if you live 2 miles from a Metro stop where trains come every 8 minutes, but the bus to that metro only comes every 45 minutes, you can avoid the uncertainty and delay of the bus by biking to the metro and locking your bike there or, during most hours of the day, taking your bike on the metro. Capital Bikeshare is an especially attractive option for this type of trip if a bikeshare station is nearby, as there is no need to worry about what to do with a bike once you get to the Metro. Just dock the bike and continue on your way.

all. With increased traffic and congestion, using a car for mobility does not necessarily mean you are getting where you need to go in the most efficient manner. Especially in areas of limited or unreliable public transportation options, a bike is a strong option for functional trips. On a bike you are in control of your own timing and route.

HEALTH

Biking is a form of physical activity that fits easily into daily life. Rather than having to fit in time for a trip to the gym, you can use your commute to improve your cardiovascular fitness, to lose weight, and to limit the risk of diabetes in a low-impact method. Bicycling is a form of moderate intensity exercise, which has been shown to address concerns related to:

- Obesity & Body Mass Index;
- Blood Pressure
- Lipid Levels
- Cardiovascular disease;
- Diabetes;
- Colon Cancer;
- Depression; and
- Cognitive Functioning

ENVIRONMENTAL SUSTAINABILITY

Transportation requires energy, and anything that uses energy has environmental costs. But the environmental impact of burning calories to reach one's destination is far less than the environmental impact of burning

gasoline. The environmental benefits of biking go far beyond the direct impacts of fuel consumption and associated air pollution, however. One of the greatest threats to the health of our rivers and waterways is polluted (with chemicals and heavy metals) runoff from parking lots and roadways. While many bicyclists enjoy paved trails and roadways, they do not require massive areas of impervious surfaces like mega-highways or parking lots. Additionally, bicycle access to trails often provides an important opportunity for urban residents to experience the natural environment in an engaging way.

COMMUNITY SAFETY

When traveling by bicycle, a person is able to engage with one's surroundings in a way that is not possible in an automobile. On a bike, a person is not separated from surroundings by doors, windshield, etc. and is therefore able to interact with others. Thus, bicyclists are able to act as not just "eyes on the street," but engaged eyes on the street capable of actively contributing to community safety.



**THE IMPORTANCE OF BIKE INFRASTRUCTURE
TO GET PEOPLE BIKING**

THE IMPORTANCE OF BIKE INFRASTRUCTURE TO GET PEOPLE BIKING

The previous section discussed the benefits of bicycling generally. But most people will not be comfortable pulling a bicycle out of the basement and hopping into traffic. Estimates show that approximately 7% of people are sufficiently confident in mixing with car traffic without some sort of accommodation. Recent studies show that the addition of bike infrastructure both significantly increases the number of people biking and significantly decreases the risk of injury while biking.

Up to 67% of people prefer to ride a bike in a space designated for bikes, according to a Portland Bureau of Transportation study. Unfortunately, most roads were not built with such space dedicated for bicycling. Therefore, the question is how to reorganize and repurpose existing space to provide room for bicyclists to operate safely and comfortably. Such discussions naturally involve tradeoffs, but there are a number of key infrastructure types that have been locally tested and found to be safe and effective for accommodating current bicyclists and attracting new riders.

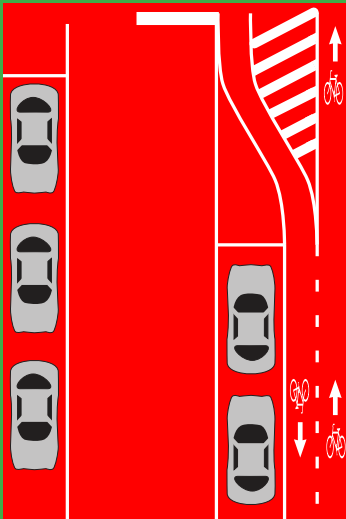
KNOW WHAT TYPES OF INFRASTRUCTURE ARE POSSIBLE

The following list of bicycle facility types are listed in decreasing order of preference.² This list is not intended to give full design details. Rather, it is meant to help you decide what most suits your community's needs and answer questions about the choices.

CYCLE TRACKS

The term “cycle track” is often confusing or off-putting for many people unfamiliar with the term, as it can conjure images of competitive track cycling and make people think of cyclists without brakes whizzing through their neighborhoods.³ Actually, cycle tracks are the safest and most inclusive category of on-road bicycling facilities, and are meant to mimic as closely as possible the physical separation of multi-use trails.

Cycle tracks can be one-way or two-way, are of sufficient width for bicyclists, include an additional buffer area, and—most importantly—have physical separators such as bollards, flex posts, planter boxes or curbs to keep cars from entering the bike portion. Essentially, cycle tracks are like on-road trails and provide the greatest injury risk reduction of any type of bike facility.⁴



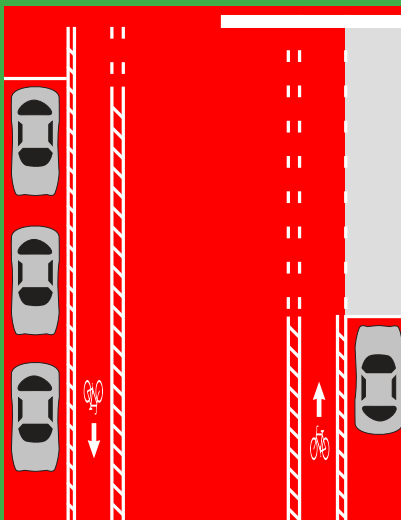
HOW TO USE A CYCLE TRACK

Cars: Drivers are not allowed to drive, park or stand in cycle tracks. While crossing cycle tracks at intersections and driveways, drivers must pay extra attention to bicyclists using the facility.

Bikes: Bicycle riders should ride to the right while in a cycle tracks and never the wrong way down a one-way cycle tracks. Riders should ring a bell or give an audible signal when passing. Pay extra attention at intersections and driveways for cars crossing the cycle track.

BUFFERED BIKE LANE

A buffered bike lane is a lane of sufficient width for bicycle usage, plus an additional amount of space designed to give room for car doors to open safely without striking the cyclist or impinging on the bike travel area. Buffered bike lanes have all the features (both positive and negative) of standard bike lanes, but address the challenge of cyclists in bike lanes being struck by the opening doors of parked vehicles. There is no physical separation from car traffic in a buffered bike lane. Emerging practice is to place the buffered bike lane between the sidewalk and the row of parked cars, so that the row of parked cars becomes a buffer between the moving automobile traffic and bicycle traffic. Either way, riding in a buffered bike lane provides a more safe and comfortable experience than a standard bike lane, which is attractive to new bicyclists.



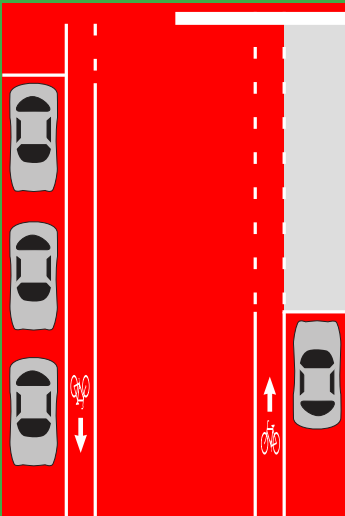
HOW TO USE A BUFFERED BIKE LANE

Cars: Drivers are not allowed to drive, park or stand in buffered bike lanes. When turning across a buffered bike lane, check the lane for bicyclists, signal and move into the bike lane before making a turn. Always check side view mirrors before opening a car door.

Bikes: Bicycle riders should always ride with traffic. Local law does not require bicyclists to ride in bike lanes. Ride in the center in a buffered bike lane to avoid the unexpected opening doors of parked cars.

STANDARD BIKE LANE

A standard bike lane is a portion of the road set aside by markings for use by bicyclists. Generally, it is placed between the lane of parked cars and the travel lane. Standard bike lanes provide dedicated space for people riding bikes but do not provide physical barriers preventing automobiles from impinging on the space. Two common encroachments into a bike lane are parked or standing vehicles that force a bicyclist into the general travel lane to pass. And, the act of “dooring” or when a car door is suddenly opened in front of bicyclist riding close to park cars in a bike lane may strike the bicyclist causing injury.



The diagram illustrates a standard bike lane configuration. On the left, a red area represents the parked car zone with three car icons. A white dashed line separates this from the bike lane. The bike lane is a red strip with a white dashed line on its left and a white solid line on its right. A white arrow with a bicycle icon points forward in the bike lane. To the right of the bike lane is a grey travel lane. A car icon is shown turning right from the travel lane into the bike lane. A bicyclist icon is shown riding in the bike lane, positioned to the left of the parked cars to avoid the 'dooring' hazard.

HOW TO USE A STANDARD BIKE LANE

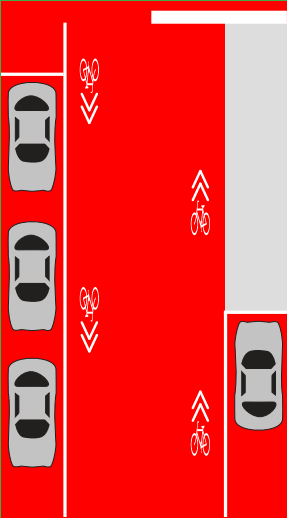
Cars: Drivers are not allowed to drive, park or stand in bike lanes. When turning right, check the lane for bicyclists, signal and move into the bike lane before making a turn. Always check side view mirrors before opening a car door into a bike lane.

Bikes: Bicycle riders should always ride with traffic. Local law does not require bicyclists to ride in bike lanes. While in the bike lane, ride to the far leftmost side to avoid the unexpected opening doors of parked cars.

SHARROW

The term sharrow stands for “shared use arrow” and refers to a visual pavement marking depicting a bicycle beneath a double chevron. A sharrow does not create dedicated space for bicyclists, but is used to communicate to both drivers and bicyclists that a particular roadway is likely to be used by cyclists and where on the roadway cyclists are recommended to ride.

Cyclists who understand the markings will generally ride directly over the sharrows if they are placed properly. These markings are often used in areas of congestion where there is insufficient space available to provide dedicated space, but where bicycle usage is sufficient enough that the markings are useful in letting drivers know to expect bikes and in helping cyclists to know the safest place within the lane to ride.



HOW TO USE A SHARED LANE MARKING

Cars: Drivers should expect to see people riding bicyclists on all streets, but especially when sharrows are present. The law requires at least three feet of lateral space between a car and the bicyclist when passing.

Bikes: Sharrows remind bicyclists of proper lane positioning, specifically outside of the door zone. The door zone is the four feet of space next to parked cars. Bicyclists should avoid riding in the door zone because car doors can suddenly open and cause a crash.

ROAD DIETS

Achieving safety improvements to neighborhood streets for both bicyclists and pedestrians often requires use of a technique called a Road Diet. Engineers and planners reallocate the space of a street making more available to pedestrians and bicyclists while maintaining efficient car access. Below is a hypothetical example of what Minnesota Ave SE could look like if the road was put on a diet.

PROPOSED ROAD DIET OF MINNESOTA AVE SE

Walking & Biking: The crosswalks are 10 feet shorter taking less time to cross the street. Car traffic moves at a safer speed with two travel lanes instead of four. Enhanced Crosswalks feature flashing signals for increased visibility, and curb extension provide a safe place to stand while waiting to cross the street and make pedestrians more visible to drivers. Bicyclists have access to bike lanes separated from cars, keeping car traffic moving smoothly.



Driving: More Parking becomes available curbside which slows down traffic speeds and provides a buffer between moving cars and the sidewalk. The traffic will also move smoother with one travel lane and it discourages speeding and dangerous lane changing. Most of these changes require drivers to pay more attention and slow down, reducing the likelihood, frequency and severity of crashes.

SIGNAGE

Many jurisdictions have additional warning and regulatory signage relating to bicycling that can be placed when specific criteria are met. There are a variety of types that range from simply a picture of a bicycle to “Bikes May Use Full Lane.” Diamond shaped signs that are yellow or orange are merely warning signs, which roughly mean “Look out for bikes” in some form. White rectangle-shaped signs inform roadway users of a rule.



Some types of signs are clearer, and therefore better, than others. A common example of an unclear sign is the often-used “Share the Road” sign (see right). Many motorists interpret this sign as indicating that bicyclists should move over out of the travel lane to share the road with cars. When in fact it means the contrary, that motorists should adjust their driving to share the road with bicyclists who have a right to be on the roadway.

Signs can be useful in places where other types of bike facilities cannot fit or are inappropriate, and where clear notice of the likely presence of cyclists is helpful to avoid conflicts, such as at blind curves on popular cycling roads, at the entrance to trails or other bike facilities, or where cyclists frequently make left turns from within the leftmost travel lane.



BUILDING COMMUNITY SUPPORT

BUILDING COMMUNITY SUPPORT

Government officials responsible for bike infrastructure get dozens of calls daily from citizens asking for specific improvements. The reality is, they aren't likely to get to everyone's pet project immediately, and they are even less likely to put a great deal of effort into a project that faces community opposition. Thus, if you want a bike facility in your neighborhood, it is up to you to get your community on board. It does not take an enormous showing of support. You do not need 10,000 signatures. But it is incredibly helpful to approach your transportation official with the support of a number of community members and neighborhood groups already on-board.

While electronic communications are important and can help you to share your ideas with neighbors, and other cyclists, in most communities you will ultimately need to present your case at a public community meeting or forum. Whether before a small neighborhood association or a full city or county council, here are a few tips drawn from experience.

When making the case for a bicycling improvement in a public meeting, it is important to clearly explain and communicate what you are asking the community to do or

GET SUPPORT FROM YOUR NEIGHBORHOOD ASSOCIATION

In the District of Columbia, civic associations and Advisory Neighborhood Commissions (ANC) are often a first step in getting support for bicycling initiatives. In many cases, the inclusion of a bicycling item on the agenda will bring out others in the community who care about biking. Contact your ANC representative or civic association leader in advance to ask if your item can be placed on the formal agenda or, if it cannot, that time be reserved for concerns raised by the public.

accept. In most cases, the majority of the audience will not be cyclists and will not understand behaviors and terms that may be obvious to cyclists.

BE PATIENT AND EXPLAIN BEFORE SIMPLY ADVOCATING YOUR POSITION

At a recent community meeting that lasted three hours local bicyclists presented an argument in favor of sharrows on a neighborhood street. As the meeting became more heated, one shouted at a motorist opposing the sharrows: “Anyone who opposes a sharrow must just hate cyclists. They don’t hurt you and they might make me a little safer. You just don’t care about the safety of others!” The next week, advocates met the woman who was opposing the sharrows at another community event and engaged her on the issue. She had opposed them because she thought that she was not allowed to drive over the bike marking once it was placed in the road. She continued that she did not have any other means of getting to her home except to use the road on which the sharrow was proposed. Once it was explained that she was welcome to drive across the sharrow, she immediately replied with: “That doesn’t affect me. I already watch for bikes. But go ahead if people want it.” Most people in the room for a community meeting will likely not be bicyclists.

BE CAPABLE OF ANSWERING CONCERNS FROM THE PEDESTRIAN, MOTORIST & HOMEOWNER PERSPECTIVE

Most will be neighborhood residents who, generally speaking, live where they live because they like it and do not want to see major changes that will not directly benefit them. Thus, it is important not just to communicate the direct benefit to bicyclists of improved bike infrastructure, but also to clearly

communicate the benefits to others. Attributes that bicyclists view as positive externalities may provide the key reason for non-cyclists to support a project. Common examples include: giving bicyclists safe space so they do not ride on sidewalks, slowing traffic through the neighborhood without resorting to speed bumps or added roadway signage, or adding “eyes on the street” to improve general community safety.

The motorist perspective can be more challenging, as it is often more difficult to find those externalities that help motorists as motorists (though they are still helped in their broader roles as community members). But it is important, when advocating for bike facilities, to have a clear response when asked questions such as: “Will this take away parking?” “Will bikes hit my car if this project is done?” “How will I cross this to park and to exit?” Because final design will likely not be done at the time of this conversation you may not have complete answers to the exact impacts, but it is critical to demonstrate that you have considered the impact of the project on the interests of motorists as part of your overall consideration. Sometimes, to best

USING THE “COMPLETE STREETS” APPROACH AND LANGUAGE TO BROADEN THE CALL FOR STREET IMPROVEMENTS

A “Complete Street” has been designed to meet the needs of everyone who uses it, regardless of their transportation mode, age, health, disability, etc. D.C., most surrounding jurisdictions, and the Metropolitan Washington Council of Governments have adopted Complete Streets policies. Accommodations for bicyclists are frequently left out of roadway projects; Complete Street policies give bicyclists an opportunity to require their transportation departments to show how they’ll be accommodated. For bicyclists seeking community support for projects, it can be more effective to advocate for a Complete Street, rather than proposing a cyclist-specific improvement.

use public space, the answer may be that the project will significantly impact motorist space or operations. Clearly articulating those impacts early in the process—while possibly difficult and likely to spur opposition—provides the opportunity to work through the issues as a community.

BE PREPARED TO ADDRESS COMMON PRE-CONCEPTIONS ABOUT BICYCLISTS

In nearly every community meeting, regardless of topic, advocates are often asked to address attendees' pet peeves about bicyclists. Generally, questions arise about bicyclists stopping at stop signs, riding on sidewalks, or riding in the “middle of the road” which slows drivers. You will be confronted with these issues too, so be ready to answer.

BICYCLISTS AS SCOFFLAWS

It does little good to argue that many or most cyclists follow traffic rules. Such a statement will not change perceptions. But you can state that some cyclists do not follow roadway rules because they feel that the roadway was not designed for them, and that better facilities that are clear for cyclists and keep them safe will encourage people to use the system more properly.

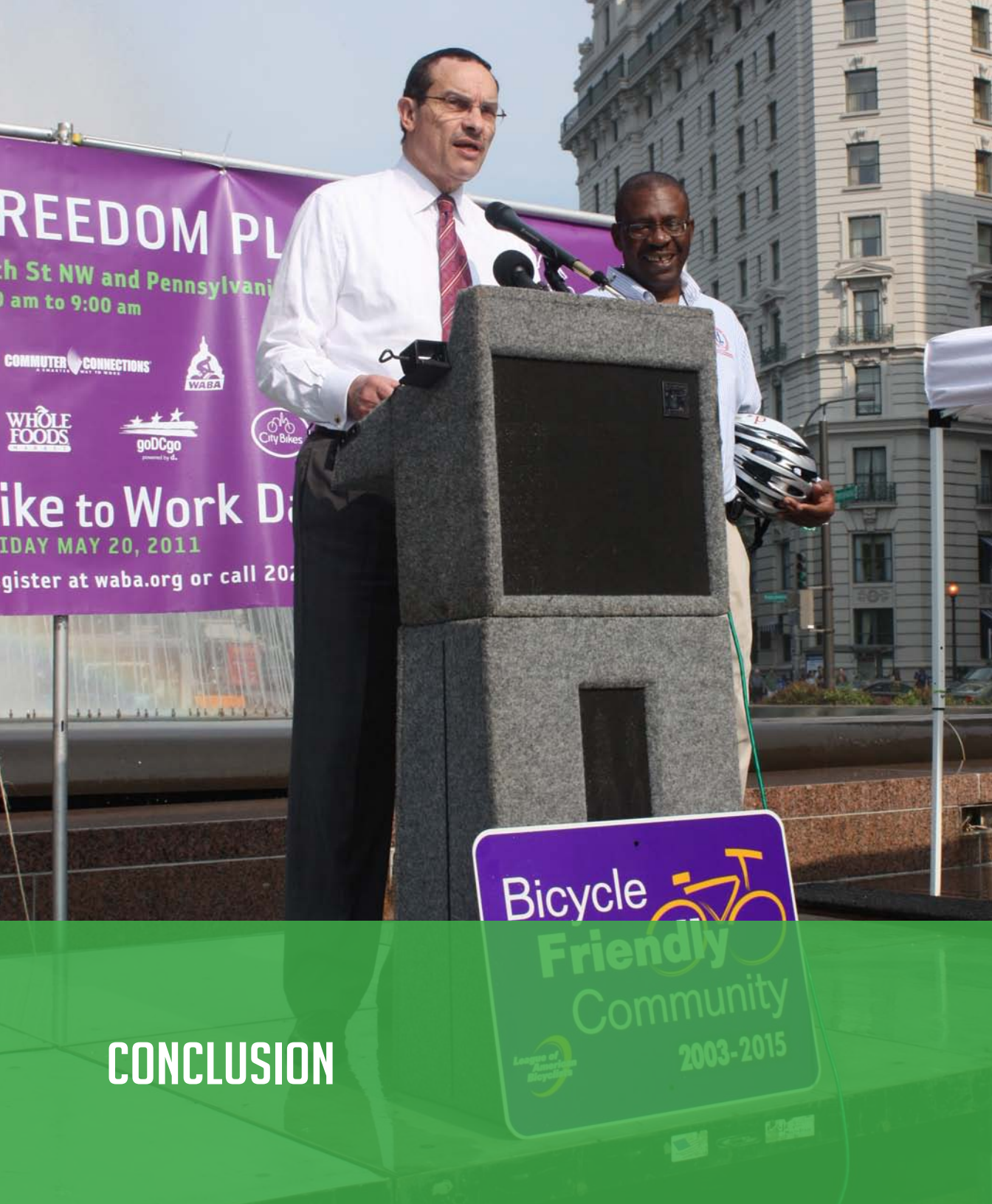
SIDEWALK RIDING

Pedestrians often complain of bikes on the sidewalk. Let them know that where safe bike facilities exist, most bicyclists prefer to use them. But where the option is a road on which a bicyclist feels unsafe or a sidewalk, the bicyclist will choose the sidewalk. It can also help to remind non-bicyclists that

people have to learn how to bike in the city and with traffic, so many people may lack the experience of confidence to take to the roads at the outset. It is rarely helpful to get into the details of the law regarding sidewalk riding—especially in DC, where the issue is unnecessarily complicated—or to bring up instances of unsafe or unlawful pedestrian behavior. Those who want people on bikes to move off the sidewalks should be approached as potential supporters of separate bicycle facilities.

THE MIDDLE OF THE ROAD

The complement to the pedestrian who wants bikes off the sidewalk is the motorist who wants bikes out of the road. As tempting as it can be to take this effort to kick cyclists off the street as an opportunity to defend your hard-fought right to the roadway, the more productive approach is to once again present the bike facility you want as a solution to the motorist's concern. A simple answer that does not miss the opportunity to provide a reminder of the bicyclist's right to the road but still focuses on gaining the motorist's support for the bike facility is: "While people on bikes have a right to the road, even if we slow cars down a bit, it's unpleasant for us too having cars following closely behind and wanting to get around. If the roadway had a protected bike lane we would each have our space and I would prefer to use the bike lane and have cars passing at a safe distance."



FREEDOM PL

h St NW and Pennsylvania
am to 9:00 am

COMMUTER CONNECTIONS
A TRANSIT PARTNERSHIP



ike to Work D

DAY MAY 20, 2011

register at waba.org or call 202

CONCLUSION



CONCLUSION

We hope that this document is helpful in providing a basic toolkit for bringing bicycling improvements to your community. However, we know that this basic list of arguments for the benefits of biking, types of infrastructure improvements, and public meeting tips provides only basic information. If you find that you need more detailed information or support to improve bicycling in your neighborhood, contact your local bicycle advocacy organization.⁵ If you are in the Washington, DC area that is the Washington Area Bicyclist Association, and you can reach us at advocacy@waba.org. We have a wealth of advocacy information, as well as outreach, education, and safety programming to help make communities better for bicycling and to help people enjoy biking in a confident and safe manner.

ENDNOTES

- 1** A significant number of responses to WABA's community leader surveys came from residents of Washington, DC's communities east of the Anacostia River. This is due, in part, to our focused one-on-one efforts in these neighborhoods, which have traditionally received limited investment in roadway safety infrastructure. However, as the sample was intended to provide qualitative feedback and scoping advice rather than statistically significant quantitative data, we note this selection bias but do not deem it a flaw.
- 2** These are simply the main types of facilities in their simplest forms. There are endless variations on these types, and design engineers at the local department of transportation should be capable of intelligently adapting these forms of infrastructure to fit the needs of a given roadway. The details of designing a particular facility for traffic is beyond the scope of this booklet, but references to additional design guidance are in the Resources section.
- 3** If the term is confusing to your audience, you can alternatively call it a "protected bike lane."
- 4** AJPB Dec 2012 Table 4, showing that a cycletrack presents 11% of the risk of cyclist injury as compared to a major street route with parked cars.
- 5** You can find a list of major bicycle advocacy groups on the website of the Alliance for Biking and Walking (www.peoplepoweredmovement.org), and if there is not an advocacy organization in your neighborhood, the Alliance can help provide you the information to start one.

APPENDIX A: SOURCES CITED

Geller, Roger. (2005) “Four Types of Cyclists.” Portland Office of Transportation. Retrieved from <http://www.portlandoregon.gov/transportation/article/158497>

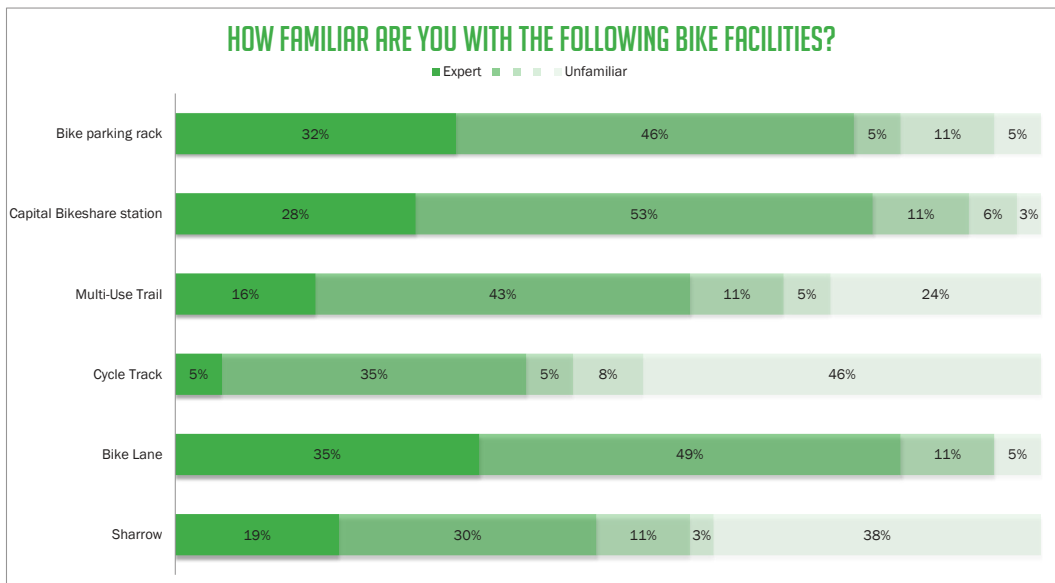
Buehler, Ralph & Pucher, John. (2012) “City Cycling”. Cambridge, MA: MIT Press

“Cost of Owning and Operating Vehicle in U.S. Increased 1.9 Percent According to AAA’s 2012 ‘Your Driving Costs’ Study” (2012, April 27). Retrieved from <http://newsroom.aaa.com/2012/04/cost-of-owning-and-operating-vehicle-in-u-s-increased-1-9-percent-according-to-aaa’s-2012-’your-driving-costs’-study/>

APPENDIX B: SURVEY RESULTS

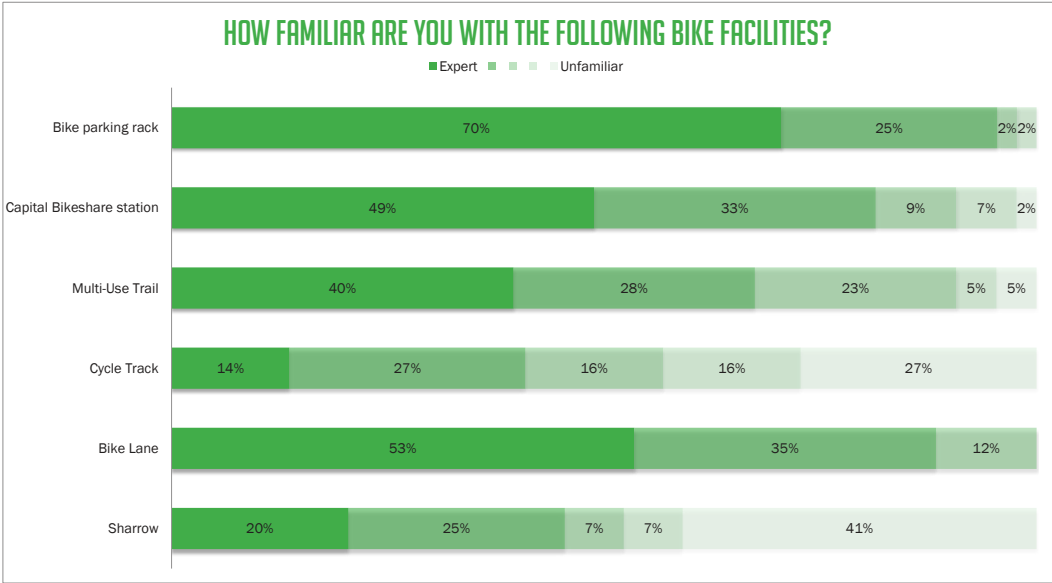
The data summarized in the following graphs was compiled from a pair of surveys sent in late 2012. The first survey was intended to reach community leaders in the Washington area, with an emphasis on ANC's, civic associations, and other neighborhood-level leaders. The second survey was designed to reach individual residents interested in bicycling, with an emphasis on those reached through the Washington Area Bicyclist Association's 2012 outreach programming. The results are not scientific or representative of any larger population, but were primarily intended to provide scoping feedback on this and other materials to be used to engage bicyclists and community leaders in planning for the region's transportation future.

SURVEY RESULTS OF COMMUNITY LEADERS



APPENDIX B: SURVEY RESULTS

SURVEY RESULTS OF RESIDENTS



NOTES



**WASHINGTON
AREA
BICYCLIST
ASSOCIATION**

2599 Ontario Road NW
Washington, DC 20009
(202) 518-0524
www.waba.org

The mission of the Washington Area Bicyclist Association is to create a healthy, more livable region by promoting bicycling for fun, fitness, and affordable transportation; advocating for better bicycling conditions and transportation choices for a healthier environment, and educating children, adults, and motorists about safe bicycling.