

[growcycling.itdp.org](https://growcycling.itdp.org)



## Action Plan for Rapid Cycling Growth in **Your City**

Your action plan displays the top 10 measures your city can take to improve conditions for cyclists and grow ridership in the short term, while devising a more comprehensive, long-term approach to support cycling as a viable transportation mode.

Actions are categorized into three types: **Infrastructure, Policies, and Education/Awareness-building.**

Actions are weighted according to their relative impact in terms of expanding access, security, safety, and awareness of cycling. Actions were also given a score for time and cost to implement. These scores can help to compare individual actions, and to prioritize action plans according to different criteria. In some cases, actions included in a plan may already be implemented, but could be improved upon.





## CONNECTED NETWORK OF BICYCLE INFRASTRUCTURE

### ACTION TYPE **Infrastructure**

| IMPACT      | TIME        | COST        |
|-------------|-------------|-------------|
| <div></div> | <div></div> | <div></div> |

Bicycle infrastructure—which includes protected and unprotected cycle lanes, neighborhood greenways, low-speed, low-volume streets, and protected intersections—should be implemented as part of a connected network, designed to ensure that cyclists have various safe route options between destinations. To improve the safety and visibility of cyclists on major roads, protected bicycle lanes—which use planters, parked cars, posts, or curbs to physically separate cyclists from vehicles—are preferred. Protected lanes have been linked to an increase in ridership, and can help to decrease bicycle crashes and injuries. For example, after implementing a bicycle lane on Kinzie Street, a busy street in downtown Chicago, the street saw a 55% increase in bicycle ridership<sup>1</sup>.

Much the same as sidewalks, cycle lanes should be well lit, both to ensure cyclists are visible to one another and drivers, and to create an environment where people commuting by bicycle feel safe regardless of the time of day. Cycle lanes should also be maintained over time—particularly to minimize damage from potholes or other road quality issues—and should include features that reflect city conditions (i.e.: trees planted along bicycle lanes in cities with high daytime temperatures).



A network of safe, connected bicycle infrastructure is critical for encouraging more—and more types of—people to travel by bicycle.

Source: ITDP

- Install protected bicycle lanes and/or add protection to existing lanes
- Transition “quick build” or temporary cycle lanes to permanent design
- Ensure bicycle lanes connect with greenways, low-speed low-volume streets, and cycle highways to form a network throughout the city
- Ensure lanes are well-lit, well-maintained, and reflect city conditions

### RESOURCE:

Global Street Design Guide ([NACTO](#))

Streets for Walking and Cycling ([ITDP](#) + [UN Habitat](#))

Design Manual for Bicycle Traffic ([CROW](#))

Share the Road: Design Guidelines for Non Motorised Transport in Africa ([UNEP](#) + [FIA Foundation](#))

<sup>1</sup> Chicago Department of Transportation. 2011. [Initial Findings: Kinzie Street Protected Bike Lane](#).

## DESIGN COMPLETE STREETS

ACTION TYPE **Infrastructure**



Complete street designs reduce traffic volumes and speeds, improving cyclist and pedestrian safety and comfort, and contributing to a city's network of bicycle infrastructure. Related street design treatments could also play a role. For example, **filtered permeability** allows through-access for pedestrians and cyclists but restricts through-access for vehicles. This can be achieved through a physical closure using bollards or curbs, through the creation of one-way streets for vehicles (two-way for cyclists), or through signage. Similarly, completely pedestrianizing certain streets frees up space for non-car modes, and for other uses like green space. In Barcelona, the heavily pedestrianized street network, known as "superblocks," is supported by a commitment to build 300 km of bicycle lanes and a frequent bus network<sup>1</sup>. These alternatives ensure that walking, cycling, and taking public transit become the fastest, most convenient modes for the majority of trips.

- Redesign vehicle-dominated streets as complete streets that prioritize safe cycling and walking

### RESOURCE:

Complete Streets Framework Toolkit  
([ITDP India](#))



Complete streets, like this one in Mexico City, prioritize space for walking and cycling, improving safety and reducing stress for people.  
Source: ITDP Mexico

<sup>1</sup> Bausells, M. 2016, [Superblocks to the rescue: Barcelona's plan to give streets back to residents](#).



## QUICK-BUILD PROTECTED CYCLE LANES

ACTION TYPE **Infrastructure**



Protected cycle lanes are critical for cyclist safety, and the increased safety that comes from a network of protected lanes, as opposed to disconnected lanes, can seriously encourage ridership<sup>1</sup>. Several cities have taken a “quick-build” approach to installing bicycle lanes, which has led to significant increases in bicycle counts and overall ridership. Compared to moving through a full, often arduous design process, quick-build lanes implement an intermediate design using non-permanent materials. This helps build near-term public support for cycling infrastructure, allowing people to directly experience safety improvements as opposed to theorizing their benefits. In 2016, Canadian cities Calgary and [Edmonton](#) voted to implement “minimum grid” networks of protected lanes that use flexible, inexpensive planters and bollards to allow for alteration and adaptation as needed after lanes are installed. Since the lanes were installed in 2017, Edmonton’s bicycle counts have nearly doubled, and a road safety review is underway to evaluate the impact of the cycle lane network on cyclist safety. In [Calgary](#), bicycle counts doubled and the percentage of female cyclists increased by 8% during the 18-month pilot program following the installation of the city’s quick-build bicycle lane network.



Quick-build protected cycle lanes in Seville, Spain caused bicycle mode share to double, and an 11% decrease in vehicle mode share.

Source: Adriana, Flickr CC

- **Design and implement a quick-build network of protected cycle lanes**
- **Prioritize low-cost, flexible interventions to demonstrate the benefits of safe cycling infrastructure in the near term**

### RESOURCE:

Quick Builds for Better Streets  
([PeopleforBikes](#))

Tactical Urbanist’s Guide  
([StreetPlans](#))

### WHERE THIS WORKED:

The most well-known example of a quick-build cycle lane network is in Seville, Spain. In 2006, the city passed its Urban City Masterplan, which conceived of a segregated bicycle lane network to support Seville’s transport system, and a Bicycle Master Plan was approved in 2007. A local cyclist advocacy group known as A Contramano contributed to proposals for the design of the cycle lane network. In just two years, Seville built a connected 77-km network of fully separated cycle lanes, and completed 43 additional kilometers by 2013. Many of the bidirectional lanes were converted from on-street parking spaces. Daily cyclist counts rose by almost 600% from 330 in 2006 to 1,935 in 2011, and daily average trips grew from approximately 13,000 to over 72,000. Bicycle mode share grew from 5% to almost 9%, and private vehicle mode share fell by 11% over the same period<sup>2</sup>.

<sup>1</sup> Marques and Hernandez-Herrador. 2017, [On the effect of networks of cycle-tracks on the risk of cycling. The case of Seville.](#)

<sup>2</sup> Marques et al. 2015, [How infrastructures can promote cycling in cities: Lessons from Sevilla.](#)

## INTERSECTION TREATMENTS

ACTION TYPE **Infrastructure**

IMPACT

TIME

COST

- Extend painted cycle lanes through intersections
- Install bicycle traffic signals
- Integrate fully protected intersection designs into plans for protected cycle lanes

Intersections are typically where cyclists feel most vulnerable, and unsafe intersections that force vehicles and cyclists to merge into a shared lane or cross lanes to turn have caused cyclist deaths<sup>1</sup>. A variety of treatments can be implemented at intersections to make cyclists more visible to drivers and reduce instances of mixing. These treatments can be relatively inexpensive, such as extending painted cycle lanes through intersections for added visibility or adding painted **turn queue boxes**. Others, albeit more expensive and complex, such as installing and integrating bicycle-specific traffic signals, or fully protected intersections that allow cyclists to navigate through the intersection without having to mix with vehicle traffic, can offer additional protection. This approach, implemented most notably in a few cities in the Netherlands, can be particularly attractive if protected lanes are being planned for (or already exist on) intersecting roads<sup>2</sup>.



This two-stage queue box at a San Francisco intersection designates a place for cyclists to wait safely to make a left turn.

Source: Matt Johnson, Flickr CC

<sup>1</sup> Meyer, D. 2017, [DOT Tests Out New Intersection Design for Protected Bike Lanes](#).

<sup>2</sup> Hembrow, D. 2014, [The myth of the "standard Dutch junction"](#).





## BIKESHARE

### ACTION TYPE **Infrastructure**

#### IMPACT



#### TIME



#### COST



Bikeshare systems have been effective in addressing myriad barriers to cycling, notably concerns about cost, bicycle theft, storage, and maintenance, as well as in helping facilitate one-way bicycle trips. Bikeshare has also been successful at introducing people to urban cycling for commuting as well as recreational purposes, and has been combined with citywide efforts to shift mode share away from private cars for short trips. Ensuring that bikeshare is accessible to all—through requirements that operators provide alternatives for people without smartphones, strong internet access, and credit cards, as well as through equitable distribution of bicycles and stations—is a critical element of successful system design.

Over the past decade, bikeshare systems have diversified to meet the needs of people making many different types of trips. Tandem bicycles are offered in bikeshare systems like Detroit's in the US, and Rosario's in Argentina, and can meet the needs of people with limited mobility or visual impairment. Private bikeshare operator, Zagster, offers a cargo tricycle which can be integrated into any Zagster bikeshare fleet. Tandem, cargo, and other alternate bicycle types meet specific needs that traditional bikeshare may not, and these are typically more expensive to purchase for personal use.

GPS-enabled dockless bikeshare systems eliminate the need for expensive station infrastructure and present opportunities for scaling bikeshare to achieve better systemwide coverage and performance. Dockless bicycles may also be preferable for trip chaining, since they do not have to be locked at a station. Cities entering into partnerships with private companies offering dockless bikeshare should carefully consider resource and staffing needs to design and manage the program, particularly if multiple operators are providing service.

- **Design and implement a bikeshare system**
- **Require access alternatives for low-income groups, and users without smartphones and/or credit cards**
- **Expand user base by integrating non-traditional bicycle types**
- **Integrate bikeshare with transit through a common form of payment and/or reduced fare transfers**

### RESOURCE:

The Bikeshare Planning Guide ([ITDP](#))

### WHERE THIS WORKED:

In 2010, Mexico City launched the largest public bikeshare system in Latin America, Ecobici, with more than 1,000 bicycles and 85 stations. Ecobici has since undergone multiple expansions and now includes 480 stations in 55 neighborhoods, as well as 6,800 bicycles. Pedal assist electric bicycles were added to the system in 2018. Ecobici was originally implemented in line with Mexico City's bicycle mobility strategy, which intended to address environmental, social, economic, and health concerns related to auto transport. The strategy also included investments in infrastructure, bicycle parking, a weekly Open Streets event, and other community rides and outreach<sup>1</sup>. Ecobici was identified as a measure to help meet the target of raising Mexico City's bicycle mode share to 5%. A 2017 survey of Ecobici users found high utilization and mode shift rates: 86% used the system five times per week, 60% did not previously use a bicycle as a mode of transport before using Ecobici, and 20% of users shifted from using private vehicles or taxis to Ecobici<sup>2</sup>.

1 Peralta, M.D. 2017, [Lessons from Ecobici for the Implementation of Public Bicycle Systems in Mexico](#).

2 Secretaría del Medio Ambiente. 2018, [Presenta Sedema encuesta de percepción sobre uso de la bicicleta en la CDMX](#).



## E-BIKESHARE

ACTION TYPE **Infrastructure**



Electric bikeshare has been growing in popularity since 2013. Pedal-assist electric bicycles have been integrated into existing public bikeshare systems in Paris, Barcelona, Mexico City, and other cities, and are also offered by privately-financed bikeshare operators. Some cities have implemented fully electric bikeshare systems. The battery-powered boost offered by pedal-assist bicycles can be attractive to riders in hilly cities, cities with high average temperatures, and those with destinations far from one another. Pedal-assist bikeshare can also appeal to commuters who do not want to get sweaty while traveling to work or change clothes when they arrive. Other electric micromobility modes, such as standing electric scooters, can provide similar benefits when offered as part of shared schemes. E-bikeshare may pose additional costs to public bikeshare systems because the bicycles are more expensive and stations may need to be replaced or retrofitted with charging capabilities. However, research indicates that electric bicycles and e-scooters may be attractive to people who would not consider riding a pedal bicycle, indicating a greater opportunity for mode shift and related benefits.

- **Create an e-bikeshare system or add e-bikes to existing bikeshare**
- **Consider potential to attract new users with e-bikes, and potential operating cost increases**

### RESOURCE:

The Bikeshare Planning Guide ([ITDP](#))

The Electric Assist: [Leveraging E-bikes and E-scooters for More Livable Cities](#)



Mexico City integrated e-bikes into its bikeshare system, Ecobici, in early 2018.

Source: Enrique Abe, Mexico City's Ministry of Environment, Department of Cycling Culture and Infrastructure.



## BUILT ENVIRONMENT ADAPTATIONS

ACTION TYPE **Infrastructure**

| IMPACT      | TIME        | COST        |
|-------------|-------------|-------------|
| <div></div> | <div></div> | <div></div> |

- Add protected bicycle lanes to bridges during scheduled maintenance
- Install or retrofit wheel ramps on pedestrian stairs
- Build car-free bridges

Cities crosscut by waterways present an inherent challenge for cyclists. Bridges built for vehicles to cross such waterways are often uncomfortable and difficult to traverse on a bicycle, with cyclists often forced to share lanes with cars or dismount and walk. Adapting the built environment by retrofitting existing bridges can improve comfort and safety for cyclists. Similarly, in cities where pedestrian flyovers are common, like Guangzhou and Kuala Lumpur, or with neighborhoods connected by pedestrian stairs, like Rio de Janeiro and Beirut, installing wheel ramps on these structures can make navigating them with a bicycle easier. While bicycle riders will likely still need to dismount, wheel ramps ensure that riders do not need to carry their bicycle to use a flyover or pedestrian staircase. Wheel ramps on rail station stairs can make bicycle-train trips easier to facilitate as well.



Separated bicycle lanes along the Broadway Bridge in Portland, Oregon provide a safe, low-stress connection for cyclists between the east and west sides of the city.

Source: John Luton, Flickr CC

### WHERE THIS WORKED:

Portland's Tilikum Crossing, which does not allow cars, provides a comfortable connection for cyclists, pedestrians, and public transit riders between the city's east and west sides. Copenhagen's [Cykelslangen](#), an elevated bicycle path, provides a thoroughway across the harbor and connects two lively waterfront neighborhoods on opposite banks of the Sydhavnen River. While car-free bridges may not be feasible in many locations, retrofitting existing bridges to improve comfort and safety for cyclists could encourage use and improve connectivity. In São Paulo, the Av. Antartica bridge was retrofitted with a two-way cycle track that opened in 2016, and scheduled maintenance of the city's Laguna Bridge included adding a protected bicycle path and pedestrian path. As was the case in São Paulo, such retrofits, including building new, widening or adding protection to existing cycle lanes, could be made in tandem with planned bridge maintenance, widening, or similar activities.



## IMPROVE BICYCLE PARKING

ACTION TYPE **Infrastructure**



- Adopt a citywide standard for bicycle parking design and placement
- Install public bicycle parking
- Implement development incentives for installing bicycle parking and indoor storage

Bicycle parking and storage facilities provide convenience, safety, and security for cyclists. Adequate bicycle parking—located in well-lit areas with moderate pedestrian traffic—especially at or near transportation hubs and other central destinations, can significantly reduce the risk of bicycle theft and may encourage people to consider purchasing their own bicycle. Research shows a link between areas with denser bicycle rack concentrations and higher bicycle ridership<sup>1</sup>. Parking should accommodate non-traditional bicycles, like three-wheelers and cargo bikes, when possible. Since bicycle parking is typically in high demand around key destinations, such as schools, transit stations, and commercial or employment centers, one method of increasing the volume of bicycle parking is to incentivize developers to install bicycle parking—both traditional bicycle racks and indoor bicycle storage—as part of new and renovated developments. In Copenhagen, for example, new developments are required to include bicycle parking that meets a set of minimum requirements. The city's [Municipal Plan](#) requires four bicycle parking spaces per 100 square meters of floor area for residential developments and workplaces. Establishing a [citywide standard for the design and placement of bicycle racks](#) can help reduce the time and resources spent analyzing each installation individually. Finally, siting self-service bicycle repair stations, which typically provide a free air pump and tools for basic repairs, near bicycle parking facilities can help to ease concerns about riders experiencing unexpected maintenance issues.



Bicycle parking should be well-marked and easy for cyclists to find, like these racks in Helsinki which double as a reminder that bicycle parking is a more efficient use of space compared to parking a car.

Source: Hugovk, Flickr CC

<sup>1</sup> Sens, J. 2010, [Relating Bike Racks and Bike Ridership](#).

## PREMIUM BICYCLE PARKING

ACTION TYPE **Infrastructure**



- Install covered bicycle parking and/or rentable lockers at high-volume destinations
- Build secure long-term parking facilities

Premium bicycle parking, including covered parking, secured facilities, and rentable lockers improve on standard bicycle racks by offering additional protection from the weather and theft. Made almost entirely of metal, bicycles rust when left exposed to rain or snow, and rusty bicycle chains can make for an unpleasant riding experience. For this reason, covered bicycle parking made available at high-volume destinations, like schools, museums, commercial districts, and tourist attractions, can make cycling a more attractive option, especially in cities where precipitation is common. Secure parking facilities for bicycles, common in the [Netherlands](#) and Japan, operate like parking garages, providing covered storage and the security of an attendant. Alternatively, some cities, including Paris, offer rentable lockers for long-term bicycle parking. This can be particularly helpful in areas where people may not have space in their homes or apartments to store a bicycle. Rentable bicycle lockers could also be installed at rail stations, as is the case in Washington, DC, to encourage cycling as a first-last mile solution.



Bicycle parking garages are common in cities in the Netherlands for long-term secure bicycle storage.

Source: Carlos Felipe Pardo, Flickr CC



## MUNICIPAL CODE AMENDMENTS TO EXTEND LEGAL PROTECTION TO CYCLISTS

ACTION TYPE **Policy**

IMPACT



TIME



COST



Amending state or municipal codes to include clear penalties for vehicle violations that put cyclists at increased risk, such as not observing speed limits, parking in bicycle lanes, or close-passing, can improve interactions between cyclists and drivers by providing legal protections for cyclists should a crash occur. For example, in the Netherlands, liability for damages falls to the “more powerful road user,” which requires drivers to prove they took every measure possible to avoid contact with a cyclist to not be at fault. Unclear ordinances regarding rights-of-way and yielding lead to confusion and unsafe conditions for vulnerable road users like cyclists. For example, the Massachusetts State Code vaguely states that after passing a cyclist, a vehicle driver can only make a right turn crossing a bicycle lane if the driver is traveling a “safe distance” from the cyclist and at a “safe speed”, but does not define that distance nor speed. Clear ordinances should be communicated to drivers through public awareness campaigns, driver’s education classes, or similar programs.

- Establish clear penalties for violations that put cyclists at risk
- Clarify rights of way and proper yielding of lanes



## SAFE PASSING LAWS FOR VEHICLES

ACTION TYPE **Policy**

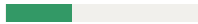
IMPACT



TIME



COST



- Adopt safe passing laws
- Designate funding and training for safe pass enforcement

Many bicycle crashes occur when cars try to pass cyclists too closely. The practice of 'close-passing' is dangerous enough to deter would-be cyclists from sharing the road with cars. Adopting safe passing laws for vehicles—which typically require drivers to leave one meter of space when passing a cyclist—can help to reduce this aggressive driving practice and improve safety for cyclists. Funding and support should also be designated for safe passing enforcement. In 2018, the UK passed a law banning the practice of close-passing. In addition to the new law, the government will offer additional training to driving instructors to ensure that cyclist safety is at the forefront when conducting lessons with new drivers. Police forces have additional funding to cite drivers for not complying with the close-passing ban.<sup>1</sup>

<sup>1</sup> UK Department of Transport. 2018, [Government Focus on Cycling Awareness and Training in Boost to Cycle Safety](#).



## BICYCLE MASTER PLAN AND FUNDING

ACTION TYPE **Policy**



Bicycle master plans describe a long-range strategy for making cycling a viable transportation option in a city, region, or country. These plans often go beyond the commitment—albeit critical—to build bicycle infrastructure. Bicycle master plans can introduce a vision for how cycling fits into the city’s mobility landscape and set goals to expand ridership. Cities across the world, including [Los Angeles](#) and Bogotá, have their own bicycle master plans; in Europe, the [Netherlands](#) and [Austria](#) have national bicycle master plans. A successful bicycle master plan should include a strategy for improving bicycle access, advancing infrastructure, with an emphasis on designing, connecting, and expanding bicycle routes, as well as fostering a safe, secure environment for cycling. Bicycle master plans must also take the existing city conditions, including current land use and climate, into account. [Phoenix](#), for example, includes plans to use public art as a way of shielding people from the city’s heat and exposure to the sun. Considerations for how proposed projects within the plan will be financed, as well as draft budgets, should be included.

- **Develop a bicycle master plan**
- **Develop a budget to support bicycle master plan implementation**

### RESOURCE:

Sample Bicycle and Pedestrian Master Plans ([Alta Planning](#))  
Bicycle Network Planning & Facility Design Approaches  
([FHWA Global Benchmarking Program](#))

### WHERE THIS WORKED:

Before 2005, it had been almost 30 years since Washington, DC had updated its official bicycle plan. Before updating the plan, officials from the District Department of Transportation (DDOT) traveled to Amsterdam and Copenhagen to better understand how to develop a culture more friendly to cycling. The main takeaway was to treat cycling as an activity for everyone, rather than a specialized hobby for everyone else to drive around<sup>1</sup>. The city’s updated [Cycling Master Plan](#) provided a long-term vision for the future of Washington, DC as a bicycle city. The plan includes three main goals: improving and expanding facilities; adopting cycle-friendly policies; and ramping up education, awareness and enforcement. Over the decade following the release of the updated plan (2006-2016), the mode share of bicycle commuters grew almost 150%, reaching nearly 5% in 2017—the second highest bicycle mode share in the country behind only Portland, Oregon. In 2018, the city earned the League of American Bicyclists’ “Gold” status for bicycle-friendly communities<sup>2</sup>.

<sup>1</sup> Small, A. 2017, [How Washington, D.C., Built a Bike Boom](#).

<sup>2</sup> The League of American Bicyclists. 2017, [Where We Ride: Analysis of bicycle commuting in American cities](#).





## CYCLING ADVISORY COMMITTEE OR WORKING GROUP

ACTION TYPE **Policy**



If capacity does not exist, or there is low political will in government to develop plans for growing cycling, a working group could convene public and private sector stakeholders to identify policy priorities. For example, after identifying cycling as a strategy to reduce congestion and harmful greenhouse gas emissions, Toulouse, France developed a cycle working group that consisted of the city, the public transport authority and operator, and regional representatives. The working group focused on developing a guide to promote cycling, and on introducing a bikeshare system. Similarly, bicycle advisory committees (BACs) are made up of city residents appointed by a local government body to advise the latter on bicycle planning and policies, and can be useful to better understand cyclist concerns. Because they are part of the government structure, BACs can improve transparency and ensure meaningful public input on emerging projects. [The Bicycle Advisory Council](#) in Austin, Texas has been actively involved in advocating for and planning a project to connect on-street bicycle and sidewalk networks, and [Washington, DC's BAC submitted comments](#) critiquing the city's dockless mobility rules adopted in November 2018.

- **Form a multi-stakeholder cycling advisory committee**

### RESOURCE:

Making Bicycling and Walking a Norm for Transportation Agencies: Best Practices for Bicycle and Pedestrian Advisory Committees ([League of American Bicyclists](#))



## FINANCIAL INCENTIVES FOR CYCLISTS

ACTION TYPE **Policy**



- **Extend commuter tax benefits or rebates to employees who cycle to work**
- **Subsidize purchase of a bicycle**

Financial incentives can help to promote the purchase and use of bicycles. Some countries' tax codes enable employers to offer tax benefits to commuters who drive or, in some cases, take public transit to work. Extending these benefits to employees who cycle to work could help to encourage commuting by bicycle by offsetting costs associated with purchasing and maintaining a personal bicycle. For example, employers in [Belgium](#) can credit staff for each kilometer cycled between their home and workplace, with the country paying out over €93 million (US\$104 million) to commuter cyclists in 2015. The Netherlands piloted a similar program in 2018 that enables employers to pay staff €0.19 per kilometer cycled per day to work. [Bari, Italy](#) is set to launch a pilot in February 2019 that credits participating cyclists not only for kilometers cycled to and from work, but for non-commuting bicycle trips as well, albeit at a lower rate per kilometer.

Offering subsidies or rebates can help mitigate some of the financial burden of purchasing a bicycle, particularly in places without a strong bikeshare system. Similar to credits for purchasing electric vehicles, in Sweden, the government granted a subsidy of 25%, or up to €1,000 (US\$1,120), for purchasing an electric bicycle<sup>1</sup>.

<sup>1</sup> Bike Europe. 2017, [Nordic's E-Bike Sales Increase, But Markets Tend to Differentiate](#).



## REVIEW IMPORT TARIFFS ON BICYCLES

- Eliminate or reduce import tariffs on bicycles and e-bikes

ACTION TYPE **Policy**

IMPACT



TIME



COST



High bicycle prices in many countries are often due to high import taxes or value added taxes (VAT). In African countries, the high price and diminishing stock of bicycles is due to their classification as “luxury items.” Markups on border prices have ranged between 200% and 500% in Tanzania, Ethiopia and Ghana, making bicycles unaffordable for the vast majority of the population<sup>1</sup>. Reducing or removing import tariffs on bicycles, and/or reclassifying them as non-luxury goods, would make bicycles more affordable and contribute to a more robust stock of available bicycles for purchase.

<sup>1</sup> The World Bank. 2002, *Cities on the Move*.



## EXPAND AND FUND ENFORCEMENT EFFORTS

ACTION TYPE **Policy**



- **Train enforcement officers to identify driving behavior that puts cyclists at risk**
- **Deploy enforcement officers on bicycles**
- **Cite and/or fine vehicles blocking cycle lanes**

To foster a safe cycling environment, cities need to invest resources into training enforcement officers to cite driving behaviors that are dangerous to cyclists, such as close-passing, and ensure that parked vehicles and other obstacles do not block cycle lanes. Cities should develop training programs that introduce enforcement officers to common safety concerns of cyclists, and frame these concerns with specific data on bicycle crashes and injuries. Further, enforcement officers on bicycles as opposed to vehicles could lead to a better understanding of cycling conditions. [Washington, DC's Department of Public Works](#) recently began sending officers out on bicycles to experience the uncomfortable conditions cyclists face throughout the city. Officers on bicycles may also be able to address safety issues in real time or respond more quickly to reports and incidents.

Additionally, efforts already in place to keep designated bus lanes clear, such as dedicated tow-truck enforcement teams, could be expanded to cycle lanes. Traffic cameras could also help to ensure that unprotected cycle lanes remain clear of parked vehicles by photographing the license plates of and ticketing vehicles driving or parking in cycle lanes. Seoul implemented a [similar program](#) to address the issue of private vehicles using bus-only lanes. Monitoring cycle lanes and issuing tickets for parking violations will help to establish norms for drivers not to block these lanes.



## REDUCE VEHICLE SPEEDS

ACTION TYPE **Policy**



Lower vehicle speeds have been consistently linked to reductions in fatal crashes, particularly between vehicles and cyclists. A 2018 study commissioned by the International Transport Forum recommends that speeds on roads often used by pedestrians and cyclists<sup>1</sup> be limited to 30 km/h (just under 20mph)<sup>2</sup>. Reduced speeds can be implemented two ways: (a) lowering posted speed limits and enforcing them or (b) self-enforcing street design. The design of self-enforcing roads encourages drivers to comply with posted speed limits because of traffic-calming elements and heightened awareness of the presence of cyclists and pedestrians. Traffic-calming measures can include roundabouts and narrowed lanes, while awareness of cyclists and pedestrians can be improved through raised or painted intersection crossings, curb extensions or bulb-outs, or more frequent intersection crossings. Self-enforcing street designs may also be useful in cities where corruption (i.e.: enforcement officers issuing citations) may obscure more formal enforcement of road speeds.

- Establish and enforce low speed limits for vehicles
- Implement traffic-calming infrastructure for self-enforcement

### RESOURCE:

Streets for Walking and Cycling  
(ITDP + UN Habitat)

Urban Bikeway Design Guide (NACTO)

<sup>1</sup> US Department of Transportation Federal Highway Administration. 2018, [Self-Enforcing Roadways: A Guidance Report](#).

<sup>2</sup> International Transport Forum. 2016, [Zero Road Deaths and Serious Injuries: Leading a Paradigm Shift To a Safe System](#).





## VEHICLE PARKING POLICIES

ACTION TYPE **Policy**



Mandated parking minimums, which require developers to provide vehicle parking regardless of whether it is needed or used, result in valuable urban space wasted on parked cars—or the potential for parked cars. Parking minimums increase the cost of housing, reduce density, and limit overall mobility. In addition to freeing up space for housing and other critical uses, reducing or eliminating parking minimums, adopting parking maximums (as was done in Mexico City in 2017) and increasing the price of on-street parking to reflect the true cost of that space are all reforms that could indirectly encourage mode shift to non-car alternatives. In early 2019, Rio de Janeiro reduced parking requirements from one space per housing unit to 0.25 spaces, and now requires one bicycle parking space per housing unit. The reform also removed parking minimums for housing units within 800 meters of a transit stop. Freed-up space that had been reserved for on-street parking can be reallocated to infrastructure that supports cycling and walking, making streetscapes more comfortable for non-car modes.

- **Reduce or eliminate off-street vehicle parking minimums**
- **Adopt vehicle parking maximums**
- **Adopt bicycle parking minimums**

### RESOURCE:

Less Parking, More City ([ITDP](#))

Parking and the City ([Donald Shoup](#))



## CONGESTION PRICING

ACTION TYPE **Policy**



Congestion pricing has two direct outcomes: (a) making drivers more aware of the true costs of driving during peak periods, and (b) encouraging drivers to substitute driving during peak periods with making that trip at a different time or using a different transportation mode. Congestion pricing disincentivizes single-occupancy vehicle trips and shifts travelers to non-car modes not subject to the congestion charge, like cycling, walking, and public transit. Thus, congestion pricing requires strong and competitive alternatives to driving—namely, frequent transit and safe, comfortable cycling and walking routes—that can adequately support those who choose not to or cannot afford to pay the congestion charge. Revenues generated from congestion pricing can be designated to cycling and walking infrastructure and related improvements. However, congestion pricing requires a high level of political will and stakeholder buy-in, which could be barriers to its implementation.

- **Implement a charge for vehicle trips within a specified zone**
- **Designate revenues to support cycling and walking infrastructure improvements**

### RESOURCE:

Congestion Charging and Cycling ([ECF](#))



## FUEL TAXES

ACTION TYPE **Policy**

IMPACT



TIME



COST



- Increase taxes on gasoline and other dirty motor fuels
- Direct fuel tax revenues to support cycling and pedestrian projects

Historically, gasoline and other fuel taxes have funded transportation infrastructure improvements like roadway maintenance. However, in many places, these taxes have not been increased in decades and do not accurately reflect the negative impacts of heavy vehicle use; the federal gas tax in the United States has not been raised since the early 1990s, although certain states have raised state gas taxes since then<sup>1</sup>. Increasing fuel taxes can disincentivize private vehicle use and encourage a shift to cycling, walking, or public transit where available, especially for short and non-essential trips. Revenues from fuel taxes can also support pedestrian and cycling infrastructure projects, as has been done in Colorado (where local governments have the option to apply gas tax revenues to any transit project including active transportation) and other states<sup>2</sup>. However, research shows that fuel taxes can disproportionately affect lower-income groups, who may not be able to substitute a less expensive mode or trip in response to a fuel tax increase<sup>3</sup>. Concerns also arise around the impact on fuel tax revenues of a societal shift away from gasoline-powered vehicles in favor of hybrid and electric vehicles.

<sup>1</sup> City of Chicago. 2019. [Roadmap for the Future of Transportation and Mobility in Chicago](#).

<sup>2</sup> Advocacy Advance. 2014. [State Revenue Sources that Fund Bicycling and Walking Projects](#).

<sup>3</sup> Schweitzer, L. 2009. [The Empirical Research on the Social Equity of Gas Taxes, Emissions Fees, and Congestion Charges](#).



## CYCLING EDUCATION

ACTION TYPE **Education and Awareness-building**

IMPACT



TIME



COST



In many places, not knowing how to ride a bicycle is a major deterrent to choosing cycling as a transportation mode. Learn to ride programs held at community centers or other local locations that teach people how to ride a bicycle can help address this gap. Women-only classes, family classes, or classes offered in different languages can help reach residents who may be wary to learn to ride. In the Netherlands and Belgium, learn-to-ride classes offered by a local nonprofit are available for immigrants<sup>1</sup>. Offering cycling lessons in public schools, as is done in many places, including [Portland](#) and Washington, DC, is a long-term strategy to create a constituency of confident bicycle riders. Mexico City hosts an annual Summer Bicycle School, held in community locations such as the Historical Center of Mexico City, the Chapultepec Forest, and the Aragon, which has trained over 30,000 people of all ages. In addition to educating students on cycling, Tamil Nadu, in southern India, provides students at government schools with free bicycles.

Additionally, not knowing how to fix minor mechanical issues can prevent people from cycling regularly. Accessing bicycle maintenance shops can be difficult for many cyclists, especially those living in cities without a strong cycling culture. Encouraging bicycle maintenance workshops or stands at community events to introduce riders to basic bicycle maintenance procedures, such as rust removal or brake tightening, could help riders feel more confident knowing they can address minor mechanical issues themselves.

- Establish public learn to ride classes
- Implement cycling lessons for children in public schools
- Partner with local mechanics to offer workshops at public events

### WHERE THIS WORKED:

The Ministry of Transport and Telecommunications in Santiago, Chile discovered that women only comprised 10% of cyclists in the city. From 2007 to 2012, the Ministry implemented a cycling master plan that quadrupled the number of cycle tracks, but failed to attract female riders. Macleta (Women on Bikes), a local NGO in Santiago, discovered that few women knew how to ride and many were afraid to use bicycles in the city. To encourage women to cycle, Macleta offered two levels of classes: a 'Learn to pedal' course for beginners and a 'Get off the sidewalk' course for women who knew how to ride a bicycle, but were uncomfortable with riding around the city. Women and girls now constitute 37% of cyclists in the city.

<sup>1</sup> Walker, P. 2016. [Utrecht's cycling lessons for migrants: 'Riding a bike makes me feel more Dutch'](#).



## AWARENESS CAMPAIGNS FOR CYCLISTS AND DRIVERS

ACTION TYPE **Education and Awareness-building**



- Develop public education campaigns on bicycle security
- Develop “share the road” education campaigns
- Incorporate cyclist safety measures into drivers license exams

One major aspect of bicycle security is understanding where and how to properly lock up a bicycle. Public education campaigns that explain the benefits (and risks) of various lock types and locking techniques could decrease bicycle theft, boost revenue at local bicycle shops selling locks, and increase bicycle security overall. Public education campaigns may also focus on drivers sharing the road with cyclists, or humanizing cyclists, as was the message of the “[All Drivers](#)” campaign in Cleveland, Ohio. In the Netherlands, it is common to learn a practice known as “the Dutch reach”. This method of opening car doors, which involves reaching across the body to open the door with the far hand, forces people to turn their bodies and look out the window, ensuring that no cyclists are approaching, before opening the door. In the Netherlands, the Dutch reach is incorporated into drivers’ license exams, establishing norms for drivers to be aware of cyclists when exiting a vehicle.





## BICYCLE REGISTRATION INCENTIVES

- Provide incentives to encourage bicycle registration

ACTION TYPE **Education and Awareness-building**

IMPACT



TIME



COST



Incentive programs that encourage riders to register their bicycles with local police may reduce instances of bicycle theft. Unlike bicycle licensing, which typically carries a fee and implies that cyclists should pay for their use of street space, the goal of bicycle registration incentive programs should not be to raise revenue. There should not be a penalty for cyclists who choose not to register their bicycles. Instead, riders should be encouraged to register their bicycles so that police can more easily track stolen bicycles back to their owners. Bicycle registration programs are popular on university campuses, where bicycle thefts can be common.<sup>1</sup>

<sup>1</sup> Barrett, N. 2013, [Contest offers incentives for bicycle registration, hopes to decrease theft.](#)



## CAR-FREE DAYS

ACTION TYPE **Education and Awareness-building**



For decades, car-free day events have encouraged people to go about their day without relying on a personal vehicle, generating awareness around the use and benefits of car alternatives like biking, walking, and public transit, particularly for short trips. Car-free days can increase both pedestrian and cycling activity and safety by restricting cars on major roads or throughout the entire city. While many cities hold an annual car-free day, like Paris, which closes an 8-km stretch from the Arc de Triomphe to the Place de la Nation once every year, some cities hold weekly or monthly events limiting car traffic. These are typically referred to as Ciclovías (in Latin America) or Open Streets events.



Bogotá's Ciclovía, held every Sunday, has led to more bicycle lanes and bicycle parking throughout the city.

Source: Carlos Felipe Pardo, Flickr CC

- Implement an annual, monthly, or weekly car-free day

### RESOURCE:

Streets for All Toolkit ([WRI](#))

### WHERE THIS WORKED:

More than just getting people out of their cars for one day, open streets events can be useful in institutionalizing political commitment to expand cycling and pedestrian activity. For example, Bogotá, which has held an annual Ciclovía since passing a referendum in 2000, expanded its network of bicycle lanes and added more bicycle parking spaces at public transit stations for its 2015 Ciclovía<sup>1</sup>. In 2009, a law incorporated Ciclovía as a strategy to prevent obesity<sup>2</sup>. These measures have had at least some impact, with a recent study finding that people over the age of 60 were more likely to walk 150 minutes or more per week if they live along a Ciclovía route<sup>3</sup>. Over the past three decades, the Ciclovía route increased from 13 km and 140,000 riders to over 100 km and as many as 2 million people every Sunday.

<sup>1</sup> Smart Cities Dive. n.d., [Bogotá, Colombia Celebrates its 15th Annual Car-Free Day](#).

<sup>2</sup> Sarmiento et al. 2017, [The dual burden of malnutrition in Colombia](#).

<sup>3</sup> Cohen et al. 2016, CicLAvia, [Evaluation of participation, physical activity and cost of an open streets event in Los Angeles](#).



## CRITICAL MASS AND GROUP RIDES

ACTION TYPE **Education and Awareness-building**



Critical mass rides have taken place in cities around the world, and typically draw large groups of cyclists to respond to social movements or to support better conditions for cycling. Critical mass rides are a way for cyclists to claim space on the street and raise awareness. Similarly, group or community rides can also focus on activism, aiming to help people become more comfortable cycling in cities where they may feel otherwise unsafe on a bicycle. For example, in Johannesburg, where many streets remain unpaved and drivers are often unconcerned about the safety of cyclists, an informal group of cyclists has begun organizing group rides to improve cyclist comfort and driver awareness. Community rides can also help to connect people with others like them who also have an interest in cycling (all-female group rides, elderly rides, family rides, etc.). Group ride participants may go on to do further work in the community to advocate for the interests of cyclists.



Group rides can help raise awareness and elevate the profile of cycling as a transport mode.

Source: ITDP Africa

- **Provide support for critical mass rides**
- **Organize group rides to build cycling awareness**

### WHERE THIS WORKED:

In 2002, funding for the construction of dedicated cycle paths in Budapest was eliminated, with the justification that “hardly anybody uses them”. In response, cycling advocates joined together to show that there was, in fact, demand for a cycle-friendly city. In 2004, Critical Mass Budapest formed to promote cycling as a healthy, fast, inexpensive and environmentally friendly mode of transport, and to encourage the local population to use their bicycles for transportation, not just for recreation or sports. Critical Mass Budapest organized ride in less than two weeks that attracted more than 4,000 people. The number of people cycling daily in Budapest doubled for three years in a row after 2004, a virtually unmatched rate of growth. Since then, a Critical Mass demonstration has taken place twice each year (on Earth Day and Car-Free Day), growing to an estimated 100,000 participants in 2013. Critical Mass Budapest organizers cited the turnout at critical mass rides to demand political action and increase municipal budget allocations for cycling improvements. As a result, the Hungarian parliament formed a cycling faction with representatives from all political parties. Spending on cycling infrastructure became a budget line item—the Bike Path Fund—with a dedicated 3% of the annual road development budget. This decision was made with a unanimous vote, and the efforts of Critical Mass Budapest were a discussion topic at the parliamentary session.



## BICYCLE PARKING AND SAFE ROUTES MAPS + SIGNAGE

ACTION TYPE **Education and Awareness-building**



Bicycle parking is another area that awareness-building campaigns could highlight. It is important that cyclists are aware of bicycle parking locations throughout the city; not knowing if there is bicycle parking at a desired location can be a deterrent to making that trip by bicycle. Cities can increase awareness of bicycle parking throughout the city by installing visually interesting or branded racks, and/or distributing maps that show where (and what types of) bicycle parking is available to help people better plan trips via bicycle.

Strengthening wayfinding signage will also help to alert cyclists to preferred bicycle routes, and ensure that drivers are aware of these routes. Directional signs can help cyclists identify bicycle-friendly routes, as well as alert cyclists to nearby transit connections or landmarks. Unique pavement markings that denote streets as part of the bicycle network, such as those used on designated “bicycle boulevards” in US cities like Berkeley or Minneapolis can also help to signal to drivers that cyclists will be present on those roads.

- Publish a city map with bicycle parking locations and safe cycling routes
- Install or update wayfinding signage

### RESOURCE:

Urban Bikeway Design Guide ([NACTO](#))