

# CHAPTER 1

## PEOPLE, POLICIES, & GOALS



## OVERVIEW

Cambridge is a great place for people to bicycle, whether for a trip to the grocery store, a ride along the river, or a pleasant way to get to work. This can be seen in the large numbers of people who are out and about on a bike. Many days see multitudes of people using the bike facilities going to work or school on a weekday morning, or enjoying a family trip on a weekend. It is a primary goal of this Plan that the city be a place where anyone who would like to bicycle is able to do so.

The focus for the Bicycle Plan 2020 Update is on the people who are part of the city, including those who already enjoy riding and those who would like to but are not yet. The latter may be young children just learning to ride a bike or adults who are hesitant for a variety of reasons. We have been working since the previous plan to extend access for all through our enhanced programs such as Safe Routes to School, expansion of the Bluebikes bike share system (both the available network and the range of affordable options), and continued expansion of a high comfort bicycling network. During the 2020 Update process we heard from members of the community about what is working well and where they would like to see additional efforts.

The Cambridge Bicycle Plan lays out a vision for where we as a city want to be. The fundamental guiding principle for this plan is to enable people of all ages, abilities and identities to bicycle safely and comfortably throughout the city. This Plan provides the framework that will help meet this goal.

# A PLAN FOR EVERYONE

This is a plan for people. This plan strives to center the experiences people have when moving about the city, recognizing that needs and perspectives are diverse. The goal of establishing a more equitable society and a more equitable city is at the forefront of public policy considerations in Cambridge. The terms “equitable” and “equity” can be used in many ways, and it is not the role of this specific plan to claim to represent all of its meanings for all people.

For the purposes of this work, we are concerned with achieving a future in which one’s age, gender, race/ethnicity, physical ability, or any other identification does not predict (or limit) their quality of life, health outcomes, involvement in crashes, or mode of transportation.

While we recognize that bicycling is a part of a larger solution for supporting people’s mobility needs, it stands out as an especially affordable, healthy mode of transportation that can create opportunities for people. We recognize that barriers currently exist that might prevent or discourage people from bicycling, so our focus is on reducing barriers and providing opportunities.

*As a plan for everyone, the 2020 Cambridge Bicycle Plan Update process included collecting **Bicycle Stories** from people that bike in Cambridge. Stories were collected online and at public outreach events. A related effort, called **Cambridge Bicycle Conversations**,<sup>1</sup> focused on engaging with and collecting experiences from people of color, seniors, people with disabilities and people participating in the city’s affordable housing programs. These stories and experiences not only helped make this a plan for everyone, but are also shared throughout this document to illustrate the diversity of people that bike and their experiences.*

## DIVERSITY OF USERS

Throughout this plan, we use the term “all ages, abilities and identities” to refer to the diversity of users. The word “identities” is included to recognize that many factors beyond age and physical ability influence how people experience bicycling.

People are often put in separate boxes based on their mode of travel—drivers, pedestrians, transit users, and bicyclists. People within each box are incorrectly assumed to behave the same way and share the same perspectives. However, the reality is that Cambridge residents potentially use many of these forms of transportation. Furthermore, people who bicycle, or are interested in bicycling, come from every walk of life and are representative of the full range of the population.



As we consider how to address the needs of different users, we take into consideration their diversity\* with respect to:

## AGE

People have different needs and abilities throughout the course of their lives. Young children not only need to learn how to ride as well as the fundamentals of rules of the road; their cognitive and perceptual abilities are not fully able to manage the complexities of navigating a traffic environment until they are about 10-12 years old. At the other end of the life scale are older people who may need to travel more slowly, or may need to consider using bicycles that support potential balance issues (e.g., an adult tricycle).

## PHYSICAL ABILITY

Bicycling is generally accessible for the vast majority of people, regardless of physical fitness, but not everyone can or wants to ride at the same pace or on the same type of bicycle. Recumbent bicycles, adult tricycles, hand-crank cycles and tandem bikes are examples of the kinds of bicycles that may help to support riders for whom a more standard bicycle is not an option. There are some people whose constraints make walking not viable but bicycling accessible.

## GENDER

Women are under-represented in their use of bicycling for transportation in the U.S.—an imbalance not present in all places. Research studies have revealed that women are more concerned about traffic safety than men, but other factors are at play as well, including cultural expectations (e.g., perceptions of what norms are for women or expectations for clothing) and the generally greater burden placed upon women for family and household obligations. In other Western

\*We recognize that this may not cover every possible permutation or representation.



***"I can't walk or run but I use this to go everywhere. I cycled 10,500km on this in the last seven years. Without this tricycle I would have to use a wheelchair."***

- Donald Drebaum

countries where bicycling is the norm (e.g., Denmark or the Netherlands), many household obligations such as food shopping or transporting children to school is done by bicycle, and more than half of bicycle trips are made by women. In the U.S., those trips are more likely to be made by car.

While the research and evidence about under-representation of women has been fairly well documented, less is known or understood about how other identities—such as being nonbinary, nongendered or LGBTQ+—may inform a person's relationship to bicycling.

## ECONOMIC SITUATION

For some people, owning a bicycle is a cost that is beyond their means, considering the maintenance and items such as helmets and locks, as well as the purchase cost of the bicycle itself. Other costs are more hidden: is there a place to store the bike? What about insurance for a lost or stolen bicycle?

## RACE

In the U.S., people of color have experiences and face barriers that differ significantly from those of the white population (or those who may appear white to others and be treated as such). On a national level, people of color are more likely to suffer a fatal crash,<sup>2,3</sup> and to experience harassment from law enforcement and the general public. While people of other races have such experiences, studies based on national data show that Black people are more likely to be stopped by the police<sup>4</sup> (and these stops often escalate), and drivers are less likely to yield to people with darker skin tones<sup>5</sup> when they are walking or biking. These and other facts translate into some people of color expressing concerns about safety when using the transportation system and experiencing disproportionate negative outcomes. These

concerns may play a role in discouraging some people of color from trying biking or biking more.

## CULTURAL BACKGROUND/IDENTITY

Riding a bicycle may be perceived differently through the lens of some cultures or communities. It may be looked at as “lower class,” or “only for children,” or “not for women.” There may also be impacts to people whose appearance presents differently to those in a community, and therefore may potentially be treated differently or have concerns about being treated differently.

## LANGUAGE

While there is a lot of material and educational information on bicycling, most of it is in English. It is important to consider all communications, including working to present materials in clear language, avoiding jargon, and expanding materials in other languages for the community.



## EXPERIENCE

Personal experience influences one's comfort level with bicycling in Cambridge. Has one biked as a child; has one ever biked in an urban setting; has one had negative or positive experiences; has one experienced harassment, either by officials or by other road users?

It is important to acknowledge that we must be considerate of and supportive of all people and their needs. Meeting the needs of the diversity of users requires providing infrastructure that is safe, comfortable, and inviting, as well as shaping programs to prioritize diverse and inclusive participation.

*I had a kid three years ago. That changed my cycling...I ride at a quarter of the pace. Now she's like, 'I want to go on the bike' instead of the stroller. People always wave to her on the street.*

—Bicyclist who rides daily with her daughter.

## PROVIDING ACCESS & ADDRESSING BARRIERS

In order to provide more equitable access to bicycling, we need to consider both providing access and removing barriers to the extent possible. These considerations apply to all aspects of planning for bicycling and are addressed throughout this document. Below is a sampling of how access and barriers apply to various topics and how they can be addressed (see additional information in relevant chapters in the document).

## ACCESS TO A BICYCLE

One of the most direct ways of making bicycling available to all is the provision and ongoing support of the public bicycle share system, Bluebikes. Bluebikes is owned by Cambridge and its partner municipalities, with a commitment to maintaining the system. The City of Cambridge has a goal of establishing a station within at least 1/4 mile of every resident and ideally within 1/8 of a mile. The availability and easy access of a public bicycle share system means that one does not need to own a personal bicycle. Moreover, programs such as the Income Eligible Program ensure that it is affordable to all. Educational offerings about how to use bike share help support this access as well.

Some people may of course prefer to own their own bikes, and Bluebikes may not be convenient for all destinations or function adequately for all abilities. Bluebikes are also only available for those 16 and over, so bicycles for children should also be considered. Cambridge has an "Earn-A-Bike" program specifically aimed towards children (see Chapter 6). Similar programs may be created for adults, and one grass roots organization (Cambridge Bike Give Back) works to refurbish abandoned bikes to give to those in need.

Other economic support that the City provides includes an extensive series of free classes, equipment such as helmets and lights, and free tune-ups at various times and events for the public (see below and in Chapter 6).

## ACCESS TO KNOWLEDGE

It is the City's intent that all children in the Cambridge Public School system learn to ride, learn rules of the road, and receive on-bike training in riding on the roads. This is done through the Safe Routes to School program and physical education classes. In addition, free bike classes are available to any Cambridge resident (including how to ride in traffic, how to maintain a bike, how to use Bluebikes, etc.), and specialized classes for older adults are offered as well. Supportive programs include

community rides and educational and outreach materials in multiple languages. All who take a City-provided class are eligible to receive a free helmet.

Educational programming is structured so that it is geared towards age and ability groups. Classes and programming have also been created specifically for women and older adults to create a comfortable environment.

Group rides or events that are fun, social, and empowering are effective at encouraging people to get out on their bikes. These events are particularly successful when led by people that are part of the community. The City supports grassroots community groups with resources such as free

Bluebikes passes or providing support materials such as bike lights or helmets.

### ACCESS TO SAFE BICYCLE STORAGE

Through its extensive public bicycle parking program and thorough zoning requirements, the City works to ensure that people have safe and convenient places to store bicycles. One challenge is that older buildings may not have useable space; this is a challenge the City will continue to work on.



Soul on Wheels was created by Cambridge resident James Pierre as a means of supporting men of color riding bikes for health and fun while highlighting fashion, style, and local designers.

## OVERCOMING PERCEPTUAL BARRIERS

One's culture, gender, race, physical ability and prior experience all contribute to how one relates to and perceives bicycling. One perceptual barrier expressed by many people is that biking requires high levels of physical ability or athleticism. By listening to people and hearing what they need, we can provide the most relevant resources and support.

Cambridge has conducted significant bicycle and public health related outreach to traditionally

underrepresented populations, i.e., groups who are not seen in the bicycling community at levels equal to their presence in the broader community. This includes some racial and ethnic groups, as well as women, older individuals, and some foreign-born communities.

Cambridge also values an "Empowerment Model," meaning that we support organizations within communities in their efforts and programming. For example, Bluebikes access may be provided for free in order to support community rides.



***"These are my two kids. The one in front, I can just be right next to him. The one in the back, we can talk about what we see and point out different features of the city. It is great we get to go outside together and see the city. I've lived here for eight years and things have improved a lot. I've seen changes to streets that were a bit hairy before. I am excited that there are even more changes that are going to happen."***

– Roy, bicycle commuter during the week and leisure rider with his children during weekends.



## ACCESS TO SAFE & COMFORTABLE FACILITIES/CONDITIONS

**Network:** The network of bicycle-friendly streets and paths needs to connect people in a way that will serve their needs. This means connecting residential areas with places of employment, transit stations, schools, parks, shopping areas, etc.

**Facilities:** The Bicycle Network Vision is built around the premise that each street will be designed as an “all ages, abilities and identities” facility, with a level of comfort that works for everyone. The tools and facility types in the plan will be used as the Network is built out.

**Vision Zero:** Principles will be used to identify gaps in safety and priority will be given to addressing locations where high proportions of crashes occur.

**Personal safety:** In addition to safety from traffic crashes, routes need to feel and be safe for people to travel. Ensuring adequate lighting and visibility is fundamental for all streets and paths in the city. People should also feel that they can travel freely and not be harassed by others. Sometimes harassment can come from other road users (people driving are sometimes aggressive toward people bicycling) but can also come from law enforcement officers (residents have reported being inaccurately told that they were not allowed to bicycle on a sidewalk, or were questioned about the ownership of the bicycle they were riding).

**Family friendly:** Biking is an increasingly viable option for families. Creating a network of facilities for all ages, abilities, and identities is central to providing family-friendly conditions. Families also benefit from programs and events that encourage biking, bike parking that is close to entrances, and accommodates smaller bikes and cargo bikes, and connections to schools, daycares, and other family-oriented destinations.



# POLICY CONTEXT

The Cambridge Bicycle Plan is supported by a set of local policies as well as policies at the regional, state and national level that promote bicycling.

## CAMBRIDGE BICYCLE POLICIES

- + **Bicycling will be promoted as a form of transportation for people of all ages, abilities and identities. This includes addressing physical and structural barriers that limit access to bicycling for some people.**
- + **Street design will be based on Complete Streets principles and the Cambridge Cycling Safety Ordinance.**
- + **Traffic safety education and enforcement will support bicycle safety.**
- + **Facilities will be built to encourage more people of all ages, abilities and identities to bicycle, and to better accommodate people currently riding.**
- + **Bicycling conditions must be given careful consideration when improvements are made for other modes, to avoid adverse impacts and ensure safe bicycling conditions.**
- + **Improvements for bicycling will be considered in all roadway projects undertaken in the city.**
- + **New development projects will be designed and built to encourage users and occupants to access buildings by bicycle.**
- + **Priority will be given to enable children to bicycle safely to school and other destinations through Safe Routes to School programs, bicycle education programs, and supportive infrastructure design.**

Note: A companion document, the [Cambridge Pedestrian Plan](#) provides the policies and design guidelines related to walking facilities.

## CAMBRIDGE MUNICIPAL POLICIES

### VEHICLE TRIP REDUCTION ORDINANCE

In 1992, Cambridge enacted the [Vehicle Trip Reduction Ordinance](#) with a goal of making the city more livable by reducing automobile use and promoting non-polluting forms of transportation. The ordinance established the Bicycle and Pedestrian Mobility Program and a requirement to “design and implement a program to encourage greater use of bicycles as alternatives to single-occupancy vehicles within the city.” The ordinance also required the development of a Bicycle Plan and the implementation of a bicycle network.

### COMPLETE STREETS POLICY

While Cambridge has been designing streets using “Complete Streets” principles for a long time, this practice was formalized in March 2016, when the City Council adopted a Complete Streets Policy, defining the City’s vision for Complete Streets as “safe and healthy streets for everyone” that “are designed and operated to enable safe access for all users, with a particular emphasis on vulnerable road users” like people biking. The policy commits the City to “designing, constructing, maintaining, and operating our streets to provide for a comprehensive and integrated street network of facilities for people of all ages and abilities with a commitment to Complete Streets principles.” This includes incorporating Complete Streets principles into all publicly and privately funded projects and requiring all project designs to follow the most up-to-date design guidance from government agencies and nationally recognized organizations.

## CYCLING SAFETY ORDINANCE

Adopted by the City Council in 2019, the [Cycling Safety Ordinance](#) seeks to advance the City's Vision Zero goals through safety improvements and the construction of a connected network of permanent separated bike lanes across the City. The ordinance required the City to install separated bike lanes on streets undergoing reconstruction if those streets are identified as part of the Cambridge Bicycle Network Vision.

In October of 2020, the [Cycling Safety Ordinance](#) was amended to require the implementation of separated bicycle lanes through "Quick-Build" tools in a more immediate time frame. Appendix H further discusses the process for implementing bicycle facilities.



River Street is an example of a street being reconstructed with fully separated bicycle lanes following the [Cycling Safety Ordinance](#). [Click here](#) to visit the project website.

## TRANSIT STRATEGIC PLAN

In 2015, the City published a [Transit Strategic Plan](#) to guide the City's efforts to improve public transit. This plan is based on the understanding that public transit is an important way for Cambridge residents, workers, students, and visitors to get around. In addition, together with bicycling and walking, public transit is key for the City to realize its environmental, social equity, economic development, and livability goals.

Putting focus to actions that the City and its departments can take to support public transit, the Transit Strategic Plan provides a framework of seven goals:

- + **Maximize public transit's ability to serve all trips**
- + **Increase and prioritize funding for public transit**
- + **Increase efficiency and reliability of public transit services**
- + **Expand service**
- + **Improve usability, accessibility, and safety**
- + **Improve public outreach and participation**
- + **Improve resiliency and preparedness for climate change**

## CAMBRIDGE VISION ZERO

In March of 2016, the City Council adopted [Vision Zero](#), a strategy to eliminate all traffic fatalities and serious injuries by creating a safe, healthy, and equitable transportation network for all. Vision Zero focuses on identifying the steps and collaborative framework necessary to meet the goal of zero fatalities and severe injuries. The City officially released the [Vision Zero Action Plan](#), a blueprint for how the City will achieve its goals, in February 2018.

The overall categories of the Action Plan are:

- + Design and operate safe streets
- + Improve large vehicle, taxi/for-hire vehicle, and TNC safety
- + Ensure equity in all efforts
- + Lead by example
- + Engage the public
- + Create partnerships
- + Use data to direct our efforts and measure our progress

The Vision Zero Action Plan includes initiatives that the City implements proactively and serves as a policy framework for related work across all departments.



Vision Zero program educational and give-away materials.

Among the important initiatives implemented was the adoption of a 25 mph citywide speed limit, with extensive 20 mph zones on most city streets. These changes were implemented in recognition of the fact that limiting motor vehicle speed is essential to having a safe environment for all.

## ENVISION CAMBRIDGE

Envision Cambridge (2019) is a citywide plan created over the course of a three-year planning and public engagement process to guide the City's growth and change through the year 2030. Envision Cambridge establishes Core Values for all the work that we do: Livability, Diversity and Equity, Economic Opportunity, Sustainability and Resilience, Community Health and Wellbeing, and Learning. These Core Values are embodied in the Bicycle Plan as well.

Envision Cambridge includes a Mobility Plan, which sets forth that the City will address transportation challenges by "enhancing its multimodal network locally, expanding connections to regional sustainable transportation, and advocating for progressive transportation policies across the region."

Envision Cambridge also established the Alewife District Plan, which aims to develop Alewife as a vibrant mixed-use district. Among the recommendations for guiding this transformation are proposed mobility improvements, including expanding the bicycle facility network and strengthening the overall street connectivity in the district.

## CLIMATE ACTION PLAN

The City's Climate Action Plan (CAP), updated in 2018, builds upon the City's first Climate Protection Action Plan originally adopted in 2002, and formalizes the City's commitment and approach to achieving net zero greenhouse gas (GHG) emissions, and thereby being carbon neutral by 2050.

The Climate Action Plan’s chapter on transportation identifies three key strategies and 17 actions to reduce GHG emissions in the transportation sector. Key among these is supporting active transportation. The CAP also estimates the GHG emission reductions that could be achieved from these strategies and actions, further affirming the critical role of active transportation in achieving the City’s carbon neutral goal. Among the specific actions identified:

- + **Formally adopt mode shift targets that increase walking, bicycling and transit trips.**
- + **Increase multimodal access, such as separated bike lanes, to key public facilities.**
- + **Complete Bicycle Network Vision improvements to facilitate safe and comfortable bicycle trips.**

## SCHOOL WELLNESS POLICY

The Cambridge Public Schools Wellness Policy and Implementation Procedures support and encourage opportunities for all students to be physically active, including through the use of active transportation, such as walking or riding a bike. This is achieved through in-school programming and education, as well as policies that help to make schools and the surrounding streets safe, convenient, and welcoming for those who choose to travel to and from school on foot or by bike. Examples of these programs and policies include in-school pedestrian and bicycle safety and education, establishing safe and convenient bike parking at schools, and ensuring crossing guards are present at appropriate intersections along key walking and biking routes. The Wellness Policy and Implementation Procedures outline the role, rights, and responsibilities of district administrators, staff, parents, and students, and meet or exceed federal and state guidelines.



## ZONING ORDINANCE

For larger projects requiring a Special Permit, proponents must show that the project does not have an adverse impact on the bicycling environment and may be required to mitigate impacts so that additional support of bicycling is provided. The ordinance states: “Development should be pedestrian and bicycle-friendly... Pedestrians and cyclists are able to access the site safely and conveniently; cyclists should have secure storage facilities conveniently located on-site and out of the weather. If bicycle parking is provided in a garage, special attention must be made to providing safe access to the facilities from the outside.” Zoning ordinances are discussed in greater detail in Chapter 6 and Appendix I includes more specific information on bicycle parking requirements.

## PARKING AND TRANSPORTATION DEMAND ORDINANCE

Passed in 1998, the Parking and Transportation Demand Management (PTDM) Ordinance requires anyone adding vehicle parking spaces to commit to an approved plan to limit the number of single occupancy vehicle (SOV) trips going to a particular site. The approved plan must include specific ways the proponent will promote non-SOV travel and the projects will have ongoing monitoring to ensure compliance. People who ride bicycles benefit from this policy in several ways. Fewer vehicle trips being made within the city creates an easier environment for bicycle travel, and required improvements and programs promote and enhance conditions for people bicycling. The PTDM ordinance is discussed further in Chapter 6.



## NEW MOBILITY PLANNING

A planning process is underway to help the City learn about and plan for new mobility options in a way that aligns with and advances existing values and policies. This process is not intended to change existing transportation plans or current priorities for active mobility, except to preserve or strengthen an existing transportation mode in the face of pressure from new mobility.

The planning process focuses on ride-hail vehicles, carshare, micro-transit, e-scooters, e-bikes, shared and private autonomous vehicles, sidewalk robots and delivery drones, transportation electrification, and Mobility as a Service.

Specific bicycling related ideas being examined include prioritizing street design to ensure easy movement of space-efficient and high-capacity modes in order to serve the highest number of people with the mobility system. It is also considering mobility data specifications for bikeshare, scooters, transit, and, eventually, ride-hail vehicles, private AVs, AV transit and delivery drones/ sidewalk robots, in order to have a sophisticated understanding of system operations and oversight needs for these modes. In addition, possible strategies to reduce illegal motor vehicle parking in the public right of way to minimize conflicts between modes and support electrification of the transportation system, including e-bikes, are being explored.

## CITY COUNCIL GOALS

The Cambridge City Council sets guiding goals that are updated from time to time. The current list contains several that are relevant to bicycling:

- + **Goal 1: Increase access to affordable housing for all income groups.**
- + **Goal 2: Ensure that Cambridge offers economic and educational opportunity to all.**
- + **Goal 3: Deepen our commitment to sustainable use of energy and strengthen our capacity for resilience.**
- + **Goal 4: Expand and deepen community engagement.**
- + **Goal 5: Develop more proactive, inclusive, and transparent city planning process.**
- + **Goal 6: Make it easy to move safely through the City, especially by sustainable modes of transportation.**
- + **Goal 7: Increase opportunities for all residents to enjoy the City's open spaces.**
- + **Goal 8: Ensure that Cambridge remains an Innovation Hub that integrates businesses of all sizes into a thriving ecosystem.**
- + **Goal 9: Improve Council's capacity to collaborate more effectively, make better decisions, and increase its accountability to the public.**
- + **Goal 10: Ensure City's budget allocates resources responsibly and responsively.**
- + **Goal 11: Ensure Public Safety efforts reflect current and emerging challenges and opportunities in a way that incorporates Cambridge's core values.**
- + **Goal 12: Eliminate Bias within the City workplace and wider community.**

## REGIONAL POLICIES

**Metropolitan Area Planning Council (MAPC)** is the region’s planning agency. Its stated policy is that it “supports, promotes and facilitates the increased use of bicycle transportation..... [and is] dedicated to helping local authorities plan, fund and implement projects that enhance bicycle transportation.”

In 2007, the Regional Bicycle Plan was published, which outlines the following Goals and Strategies for the Greater Boston area, in which Cambridge is located:

- + **Encourage more trips by bicycle in each community.**
- + **Make bicycling and bicycle accommodations a part of standard operating procedure.**
- + **Improve evaluation and prioritization of bicycle project proposals.**
- + **Assist and encourage local initiatives.**
- + **Work with state and federal agencies to simplify and coordinate funding programs.**
- + **Increase regional knowledge about bicycling.**

## STATE POLICIES

The Commonwealth of Massachusetts has developed a number of policies and initiatives that support and enhance bicycle transportation. Referenced here are the most relevant.

### MASSACHUSETTS DEPARTMENT OF TRANSPORTATION PROJECT DEVELOPMENT AND DESIGN GUIDE (2006)

In this document, three Guiding Principles are laid out: Multimodal Consideration, Context-Sensitive Design, and a Clear Project Development Process. The document defines Multimodal Consideration as the following:

“To ensure that the safety and mobility of all users of the transportation system (pedestrians, cyclists and drivers) are considered equally through all phases of a project so that even the most vulnerable (e.g., children and the elderly) can feel and be safe within the public right of way.”

In January of 2020, Engineering Directive E-20-001 was implemented to update the MassDOT design criteria for pedestrian, bicycle, transit, and vehicle facilities. The design guidance is ‘intended to provide project proponents with sufficient flexibility to address the unique and diverse conditions encountered on the Commonwealth’s streets and highways”.

### MASSACHUSETTS DEPARTMENT OF TRANSPORTATION GREENDOT POLICY, JUNE 2010, UPDATED 2012 AND 2014

GreenDOT is the Massachusetts Department of Transportation’s Comprehensive Sustainability Initiative. Through this initiative, policies for promoting and supporting bicycling are articulated.



## Key goals:

- + Design a multimodal transportation system.
- + Promote healthy transportation and livable communities.
- + Triple mode share of bicycling, transit and walking by 2030.

## MASSACHUSETTS DEPARTMENT OF TRANSPORTATION HEALTHY TRANSPORTATION POLICY DIRECTIVE, SEPTEMBER 9, 2013

“All MassDOT funded and/or designed projects shall seek to increase and encourage more pedestrian, bicycle and transit trips. MassDOT has established a statewide mode shift goal that seeks to triple the distance traveled by walking, bicycling and transit by 2030, promoting intermodal access to the maximum extent feasible will help the agency meet this goal.”

## MASSACHUSETTS DEPARTMENT OF TRANSPORTATION 2019 STATEWIDE BICYCLE TRANSPORTATION PLAN

“The Plan lays out an action-oriented strategy built around three key principles. First, reverse the decades-long practice of prioritizing automobile travel over all other modes by granting people biking the same level of importance as drivers in planning, design and maintenance processes. Second, fix the types of physical gaps and barriers in the transportation system that discourage everyday biking, such as uncomfortable roadway crossings, poorly maintained roads, and lack of bike parking. Third, lead the Commonwealth and support municipalities – municipalities own 80% of the Commonwealth’s roads – to advance everyday biking.”

## MASSACHUSETTS DEPARTMENT OF TRANSPORTATION SEPARATED BIKE LANE PLANNING & DESIGN GUIDE 2015

The Guide “presents considerations and strategies for the development of separated bike lanes. The Guide provides a framework for determining when separated bike lanes are appropriate and feasible. It presents design guidance for separation strategies, bike lane configuration, and considerations for transit stops, loading zones, utilities, drainage, parking and landscaping. The Guide defines separated bike lane design principles for intersections, introduces intersection design treatments and provides examples of typical intersection configurations. It clarifies when to consider signalization and provides guidance on signal phasing and timing as well as location of signal equipment. The Guide concludes with maintenance strategies, including seasonal operations and maintenance considerations.”

## MASSACHUSETTS DEPARTMENT OF TRANSPORTATION 2019 MUNICIPAL RESOURCE GUIDE FOR BIKEABILITY

“As part of the Bike Plan, MassDOT developed the Resource Guide in recognition of the important role the 351 cities and towns in Massachusetts will play. Created for municipal staff, elected officials, community members, and anyone interested in biking, the Resource Guide introduces core concepts to enhance community bikeability and directs readers to additional resources for more detailed information.”

## THE MASSACHUSETTS CLEAN ENERGY AND CLIMATE PLAN FOR 2020

The goal to “Increase Efficiency and Diversity in Transportation Energy Use” includes a recommended action to “Encourage the Increased Use of Bicycling and Walking as Long-Term Alternatives to the Private Automobile”:

“Walking and bicycling represent viable alternatives for short trips if the infrastructure exists to support and encourage non-motorized travel. Especially in suburban work, shopping and even residential settings, the land use and supporting urban design is too often oriented to support only automobile travel. Buildings surrounded by large parking lots are the current norm. DOER (Department of Energy Resources) will work with transportation and municipal agencies to provide a variety of infrastructure facilities and amenities that will promote the use of bicycling and walking and to encourage designated bicycle routes to bus, train and carpooling terminals. This will include evaluating the use of abandoned railroad beds as potential bikeway facilities.”

An update to the 2020 plan, the Clean Energy and Climate Plan for 2030, is currently [under development](#) at the time of writing.

## FEDERAL POLICIES

Bicycle transportation is supported at the federal level by the United States Department of Transportation Policy Statement on [Bicycle and Pedestrian Accommodation, March 2010](#):

“The DOT policy is to incorporate safe and convenient walking and bicycling facilities into transportation projects. Every transportation agency, including DOT, has the responsibility to improve conditions and opportunities for walking and bicycling and to integrate walking and bicycling into their transportation systems. Because of the numerous individual and community benefits that walking and bicycling provide – including health, safety, environmental, transportation, and quality of life – transportation agencies are encouraged to go beyond minimum standards to provide safe and convenient facilities for these modes.”

In 2013, FHWA released a [memorandum expressing support for a flexible approach to bicycle and pedestrian facility design](#), citing, among others, AASHTO’s Guide for the Development of Bicycle Facilities and NACTO’s Urban Bikeway Design Guide.

FHWA encourages agencies to use these guides and resources to help fulfill the aims of the 2010 policy statement.

“...DOT encourages transportation agencies to go beyond the minimum requirements, and proactively provide convenient, safe, and context-sensitive facilities that foster increased use by bicyclists and pedestrians of all ages and abilities, and utilize universal design characteristics when appropriate.”

More information and details on federal policies and programs can be found [here](#).

# PLAN VISION, GOALS & TARGETS

These Plan Vision, Goals and Targets were established for the 2015 Bicycle Plan. They represent aspirational objectives for achieving meaningful progress towards our goals and will be monitored and assessed over time.

## VISION

Bicycling is an important component of Cambridge's transportation system. Cantabrigians envision the day when they will be able to bicycle safely and comfortably to all destinations within the city. Streets and roads will be well designed to accommodate bicycling as a mode of transportation for people of all ages, abilities and identities.



## GOALS

- 1 Make a significant shift towards bicycling as a sustainable transportation mode
- 2 Create a transportation system that is safe for and accessible to users of all ages, abilities and identities
- 3 Innovate and be an early adopter of best practices in bicycle infrastructure

## TARGETS

- A By 2020, 10% of all trips in Cambridge will be made by bicycle
- B By 2030, 20% of all trips in Cambridge will be made by bicycle
- C By 2020, the percentage of children walking and bicycling to school will increase 20% over 2015 numbers
- D Crash rates will continue to decrease with a goal of zero fatalities or serious injuries by 2020
- E All streets will be bicycle friendly
- F New facilities are prioritized based on the Bicycle Network Vision

## PROGRESS TOWARDS TARGETS

The 2015 Plan was ambitious in its goals and in general, positive progress has been made. However, it was not possible to capture measurements in 2020 due to the impacts of the COVID-19 pandemic, as various public health orders and public caution led to significant changes in travel behavior. Due to these circumstances, we plan to measure trip data once conditions have stabilized and adjust the targets accordingly.

In the meantime, here is a snapshot look at data from 2019. From this we conclude that there has been an increase in the number of people using bicycles in Cambridge since the 2015 Plan was published. See Chapter 3 for more in-depth analysis of this and other data.

Target	2015	2019
A. By 2020, 10% of all trips in Cambridge will be made by bicycle	7%* (work trips)	8%* (work trips)
B. By 2030, 20% of all trips in Cambridge will be made by bicycle		
C. By 2020, the percentage of children walking and bicycling to school will increase 20% over 2015 numbers	31.6% of students**	42.8% of students**
D. Crash rates will continue to decrease with a goal of zero fatalities or serious injuries by 2020	16.2/million BMT (bicycle miles traveled) † (2014)	12.5/million BMT † (2019)
E. All streets will be bicycle friendly	57% of streets are high comfort ‡	63% of streets are high comfort ‡
F. New facilities are prioritized based on the Bicycle Network Vision	n/a	67% of separated bike lane miles built since 2015 are on streets that were part of the 2015 Bicycle Network Vision

\*These figures are based on American Community Survey Journey to Work data, which only considers the modes people use to travel to and from their jobs. Research<sup>6</sup> indicates that in 2009, journey to or from work constituted only 10.9% of trips that Americans take by bike. The other 89.1% of bike trips are for errands, shopping, visiting friends, social outings, recreation, etc.

\*\*Based on surveys of students at four K-8 schools in 2015 and surveys of students at all 17 K-8 schools in 2019.

† See Chapter 3 for details.

‡ For more information on high comfort streets, see Chapter 5.

# DEVELOPING THE VISION

Cambridge's high-quality bicycle infrastructure and programs have already made it one of the most bicycle-friendly cities in the country. Its large and passionate bicycling community was an invaluable resource to developing and updating the 2015 Cambridge Bicycle Plan and Bicycle Network Vision, providing information on the experience and needs of those who know local biking conditions best. For the 2020 Update, extended efforts were undertaken to reach as many voices as possible, including those who may not be proactive about engaging in planning efforts. This plan reflects the many voices of those who live, work and travel in Cambridge and who participated in the process at on many levels, both in the original 2015 plan development and this 2020 Plan Update.

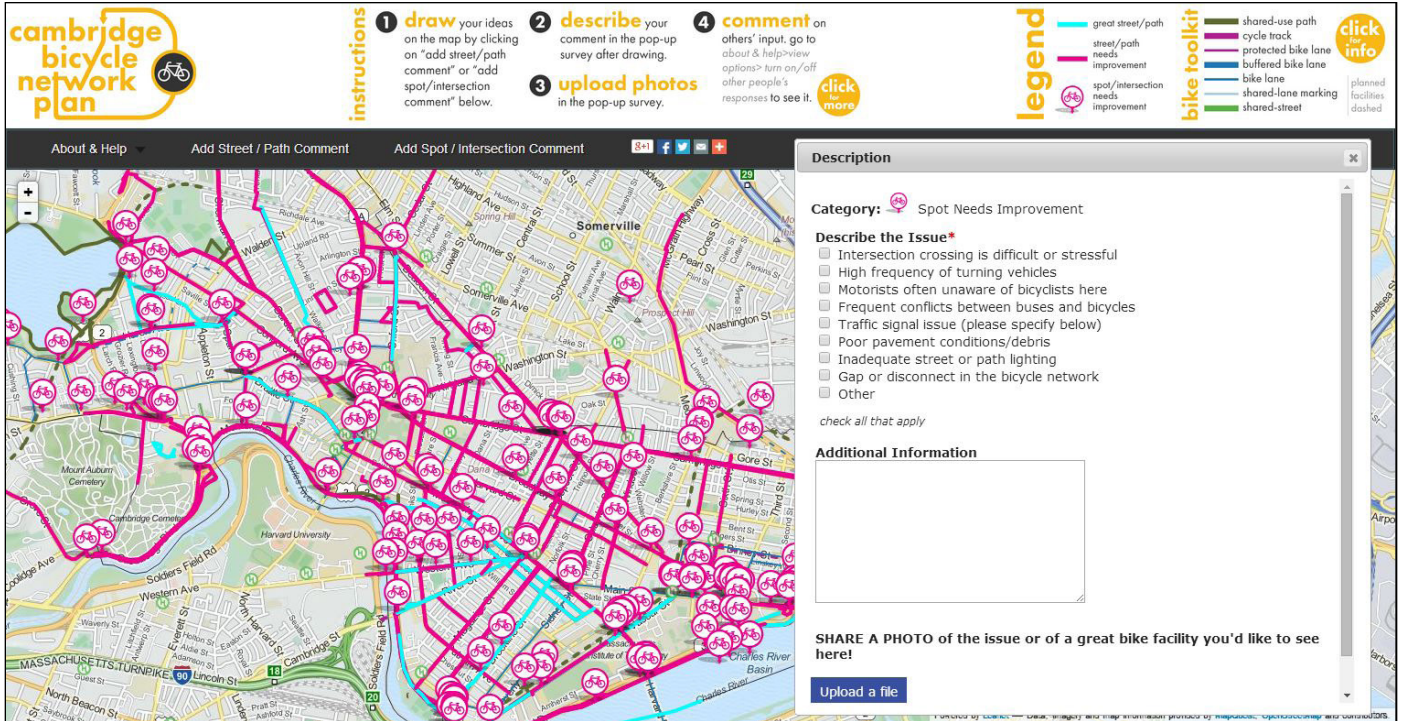
In order to develop a network that provides safe and convenient biking options for people of all ages, abilities and identities, the planning team conducted a variety of activities for both the 2015 and 2020 processes to gather input from the public, assess existing biking conditions in the city, and ultimately develop an updated Bicycle Network Vision.

## CAMBRIDGE BICYCLE PLAN 2015

The Cambridge Bicycle Plan 2015 was developed with the input of thousands of people who care about our city. The Plan outlined policies and goals, provided information on the breadth and depth of supporting programs, and presented a vision for an expanded network. The 2015 Plan was developed using a variety of input activities and data analyses to understand what users want, identify concerns and priorities, gain input on important routes and destinations, understand levels of bicycle use, and evaluate safety and comfort. Activities included:

- + **Online survey with 733 responses. Details on the survey results are included in Chapter 3.**
- + **Street teams that collected comments at venues throughout the City.**
- + **Wikimap, on online map tool, and paper map comments collected at events throughout the City gathered over 2,000 comments.**
- + **Bicycle count data evaluation from 17 locations.**
- + **Crash analysis using available 2008-2012 data.**
- + **Bicycle level of comfort analysis on all streets in Cambridge. See Chapter 5 for more information.**

For more information, see the [Cambridge Bicycle Plan 2015](#)



Screenshot of WikiMap #1 from the 2015 Cambridge Bike Plan process.



Gathering public input on the 2020 Update in September 2020.

## 2020 PLAN UPDATE PROCESS

The 2015 Plan guided City efforts and programs, including expanding the high-comfort bicycle network, but much has already changed in a few short years.

Through this 2020 update, we incorporated new policies, reviewed data, and gathered input on how things are working and what people’s hopes are for the future. We wanted to look at where we are in the development of the network, and plan mindfully for the next opportunities in the near and longer terms.

## CHANGES SINCE THE 2015 PLAN

In 2016, the City adopted a Vision Zero Policy and a Complete Streets Policy. In 2019, Envision Cambridge (the blueprint for the city’s growth and change) was published and the Cycling Safety Ordinance was passed and later amended in 2020. Our public bike share system (initially Hubway, now Bluebikes) has grown significantly in terms of reach and membership. Our Safe Routes to School program is now fully established in every public school, with educational programs in elementary, middle and high school. The City’s public bike workshops and outreach events happen every month of the year and the bike network has been expanded by over 20 miles in just five years.

## PROCESS FOR THE 2020 UPDATE

The process for the 2020 Update began in a similar manner to the process for the 2015 Plan, but with additional targeted outreach to ensure broader and more in-depth reach. The City began conducting outreach and collecting community input in the spring, summer and fall of 2019. This included a public Open House in June 2019, an online crowdsourcing WikiMap that also went live in June, and tabling at community events across the city throughout the summer. Tabling was done at locations where people already were gathering in order to try to reach people where they were, and to make it easy for people throughout the community

to voice their thoughts. Among places and events included were Danehy Park Family Day; PARK(ing) Day; Cambridge River Festival; Cambridge Bicycle Committee Ride events; and Family Bike Night Event at a local library.

At these in-person events, members of the public provided feedback on maps, visual preference surveys, and feedback forms, as well as verbally to staff. Opportunities to give input were advertised on City and project webpages, on social media, and through public email newsletters. City staff also received direct input from advocacy groups, institutions, and businesses, as well as reviewing the process and input with the Cambridge Bicycle Committee (the City’s official advisory committee; see Chapter 6). This first phase of input in 2019 informed initial updates to the Bicycle Network Vision and a list of Action Items for bicycle improvements.

When the COVID-19 pandemic required the cessation of in-person activities, previously planned activities like open houses were cancelled. Public outreach in modified ways took place in September/October 2020.

Information about the 2020 Bicycle Plan Update and the opportunities for feedback and input were posted on the [Cambridge Bicycle Plan 2020 webpage](#), the City of Cambridge homepage, and on City of Cambridge and Community Development Department social media. Notification was also sent directly to community members through the City of



**Lawn signs throughout the city let people know about the Bike Plan Update and how they could participate.**



Community members weigh in on the Visual Preference Survey (which streets people identify as being more or less comfortable for traveling on) during PARK(ing) Day in 2019.



Volunteers from the Cambridge Bicycle Committee engaged the public with intercept surveys and bike light giveaways.



Cambridge Daily Update (an e-newsletter with nearly 18,000 subscribers) as well as the Bicycle Plan 2020 and Active Transportation Report e-newsletters. City staff also placed over 50 informational yard signs in public open space throughout Cambridge. The yard sign included a link and a QR code that directed to the webpage for the 2020 Bicycle Plan Update, where community members could access more information and the Community Needs Survey.

The Community Development Department conducted 11 in-person outreach events at outdoor locations across the city between September 17-October 2, following City of Cambridge COVID-19 guidelines (additional in-person outreach events were planned beyond October 2 but were cancelled due to a change in City policy regarding activities during the COVID-19 pandemic). At these outreach events, staff members shared information about the Bicycle Plan, collected paper surveys and other feedback, and provided printed information for those who preferred that to online reading. Outreach locations were chosen to reach community members in as many different areas of the city as possible.

In addition to these efforts, the Cambridge Bicycle Conversations project involved interviewing 75 people living or working in Cambridge about biking and transportation in the city. The interviews were conducted between October 2019 and March 2020 and took place where people already were (such as on the street) or at locations of their choosing. Deliberate efforts were made to hear from people of color (61% of respondents), seniors (31% age 65 and over), people with disabilities, and people participating in the city's affordable housing programs. Efforts were also made to hear from people who cycle for a variety of reasons, including for recreation, to travel to work, to save money and to spend time with their children. The informal interviews lasted from 5-45 minutes and were led by researchers and community volunteers.<sup>1</sup>

## MAJOR CHANGES FOR THE 2020 UPDATE

- + Comprehensive update of all chapters to incorporate current data and reflect ongoing changes in Cambridge.
- + Explicit identification of more equitable access as a goal and guiding principle.
- + Updated and expanded Bicycle Facility Toolbox that reflects current best practices and new design approaches, including additional information on Bicycle Priority Streets and Quick-Build Facilities.
- + Updated Network Vision Map.
- + The addition of a framework for prioritizing quick-build projects based on factors including safety, connectivity, feasibility, more equitable access, and requirements of the Cycling Safety Ordinance.



Tabling events at local parks enabled people to learn about the plan and provide feedback.

# HOW THE BICYCLE NETWORK VISION IS USED

The Bicycle Network Vision creates an aspirational concept for a complete system, enabling people of all ages, abilities and identities to travel more safely and comfortably throughout the city. It is used as a guide and reference for long-, medium-, and short-term infrastructure projects undertaken in the city including projects that are part of the City’s Five Year Plan for Sidewalk & Street Reconstruction.

## COMPLETE STREETS

The streets and sidewalks of Cambridge represent the greatest resource of public space in the city. People use them not only for traveling along, but also for “staying” activities such as sitting on benches or enjoying sidewalk cafes, and the spaces are used for green infrastructure including trees, planting areas and stormwater management. Space is also used for motor vehicle use (parking, loading, pick-up and drop-off), parking bicycles and infrastructure that supports transit use, such as bus stops, shelters and subway entrances.

As each street is evaluated for improvements, these components will be taken into consideration, with an emphasis on the overall public policies and goals as referenced earlier in this chapter, and with attention given to public input. The overarching guidance will continue to be in creating Complete Streets, ensuring that they are designed and operated to enable safe access for all users, while enhancing and prioritizing mobility for sustainable transportation modes.

## CYCLING SAFETY ORDINANCE

The Cycling Safety Ordinance (CSO) directs that a street identified in the Vision for greater separation must be reconstructed with a separated facility (with rare exceptions, see the 2019 ordinance). In addition, the 2020 Amendment to the CSO requires 22.6 miles of separated bicycle lanes to be completed by 2026 and anticipates a significant expansion of the network to be created using quick-build tools.



## FIVE YEAR PLAN FOR SIDEWALK & STREET RECONSTRUCTION

The Department of Public Works maintains a [Five Year Plan for Sidewalk and Street Reconstruction](#) that identifies the streets and sidewalks that are anticipated to be reconstructed each year for the next five years.

### GOALS OF THE FIVE YEAR PLAN:

- + **Reconstruct streets, sidewalks and bicycle facilities with an emphasis on a Complete Streets approach: designing the street for all users.**
- + **Provide for comprehensive inspection/repair and upgrading of City utilities, as well as public utilities, so as to ensure new street system integrity is maintained for as long as possible once construction is complete.**
- + **Maintain safe, accessible streets and sidewalks.**
- + **Reconstruct streets, sidewalks and bicycle facilities in a prioritized fashion based on need.**
- + **Construct projects efficiently with minimum disruption to community life.**
- + **Effectively communicate design and construction projects with neighborhoods and facilitate a more integrated design process.**
- + **Provide reasonable access for all users, during street reconstruction.**

The Bicycle Network Vision is used as an overlay on the Five Year Plan, in order to identify and prioritize areas with non-existent or inadequate bicycle facilities, particularly where reconstruction could improve connectivity and route continuity for people who bicycle.

## STREET REDESIGN PROCESSES

Street reconstruction projects look at how improvements can be made for all users, with a Complete Streets emphasis, to enable people of all ages, abilities and identities to travel safely. All projects ensure accessibility with reference to the Americans with Disabilities (ADA) and Massachusetts Architectural Access Board (AAB) standards. Project are also implemented following the Cambridge Bicycle Network Vision and the Cycling Safety Ordinance requirements.

Major projects include a public participation process, where public input is given on how specific street designs can best meet the City's policies and the community's goals. Residents and users are encouraged to participate in these opportunities, which are announced through mailings, direct flying, neighborhood and community groups, and City website and social media outlets.

## PRIVATE DEVELOPMENT INFRASTRUCTURE IMPROVEMENTS AND MITIGATION MEASURES

Infrastructure improvements are often made in connection with private development projects, particularly for larger projects. For many larger projects, mitigation requirements are part of the project permitting process. These improvements and requirements will be made with reference to the Bicycle Network Vision.

## ENDNOTES

- 1 The “Cambridge Conversations” project was performed under a special grant (Mellon/ACLS Scholars & Society Fellowship) and led by Jonathan Shapiro Anjaria, professor of Anthropology at Brandeis University, Cambridge resident and member of the Cambridge Bicycle Committee; several volunteers from the Committee participated.
- 2 Governors Highway Safety Association. “Pedestrian Fatalities by State: 2020 Preliminary Data.” <https://www.ghsa.org/resources/Pedestrians21>.
- 3 Smart Growth America. “Dangerous By Design 2021.” <https://smartgrowthamerica.org/dangerous-by-design/>.
- 4 Frank R. Baumgartner, Derek A. Epp, and Kelsey Shoub. “Suspect Citizens: What 20 Million Traffic Stops Tell Us About Policing and Race.” Cambridge: Cambridge University Press, 2018. <https://www.cambridge.org/core/books/suspect-citizens/A399F1EEA04CFD9618D750AC0095AD96>.
- 5 Tara Goddard, Kimberly Barsamian Kahn, Arlie Adkins. “Racial bias in driver yielding behavior at crosswalks.” Transportation Research Part F: Traffic Psychology and Behaviour, Volume 33, 2015. [https://www.researchgate.net/publication/279313012\\_Racial\\_bias\\_in\\_driver\\_yielding\\_behavior\\_at\\_crosswalks](https://www.researchgate.net/publication/279313012_Racial_bias_in_driver_yielding_behavior_at_crosswalks).
- 6 J. Richard Kuzmyak and Jennifer Dill. “Walking and Bicycling in the United States: The Who, What, Where, and Why.” <http://onlinepubs.trb.org/onlinepubs/trnews/trnews280.pdf>.