

Introduction



Caption: Family riding to the first day of school at Zilker Elementary in a new protected bicycle lane.

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The City of Austin Bicycle Master Plan 2014 (the Plan) reflects today's best practices in municipal planning for bicycling at a national and international level. The Plan is an update of the 2009 Bicycle Master Plan and reflects the latest innovation in approaches.

The 2009 Plan kick-started a significant expansion of the bicycle network, the creation of supportive bicycle policies and a strong increase in bicycle ridership. Since the publication of the 2009 Plan, bicycling has become increasingly recognized as a mainstream solution to everything from traffic congestion to air quality to obesity to a key factor in creating vibrant cities.

The City of Austin has been on the forefront of this bicycling resurgence. In April 2012, Austin was selected as one of six Green Lane Project cities by the People for Bikes organization. The Green Lane Project catalyzes the installation of protected bicycle lanes as a strategic opportunity to advance bicycling in the United States. Both local and national studies have shown the majority of the population does not feel comfortable riding in a painted bicycle lane on a busy street, but would feel safe in a protected bicycle lane. This understanding is the foundation of the 2014 Bicycle Master Plan. Building on this foundation, the Plan set a goal of creating an all ages and abilities bicycle network.

Vision

The 2009 Plan focused on what the City of Austin should do to support bicycling. The 2014 Plan focuses on how bicycling can support the goals of Imagine Austin, the city's comprehensive plan.

Vision - 2014 Plan:

“Help people in Austin of all ages and abilities bicycle comfortably and safely for transportation, fitness and enjoyment. Encourage bicycling in ways that benefit not just people who bicycle, but the whole community, by helping to activate the Imagine Austin Comprehensive Plan for our shared sustainable future.”

Purpose

The purpose of the Plan is to inform and educate the general public, government staff, and elected officials of the potential of bicycling to help realize Imagine Austin goals and build support for the implementation of this plan. The Plan also guides and provides strategies for the implementation of bicycle infrastructure, policies and programs for all City departments, partner public agencies and the private development community.

Jurisdiction

The Austin 2009 Bicycle Plan covers the City of Austin, including its extraterritorial jurisdiction. The 2014 Plan updates the 2009 Bicycle Master Plan and, as an appendix to the Austin Metropolitan Area Transportation Plan (AMATP), serves as the regulatory document for the provision of bicycle programs and facilities for the City of Austin. The Plan also encourages the City of Austin and surrounding areas to coordinate their efforts to ensure a strong local bicycle network and fulfillment of a well-connected and comprehensive, regional bicycle network.

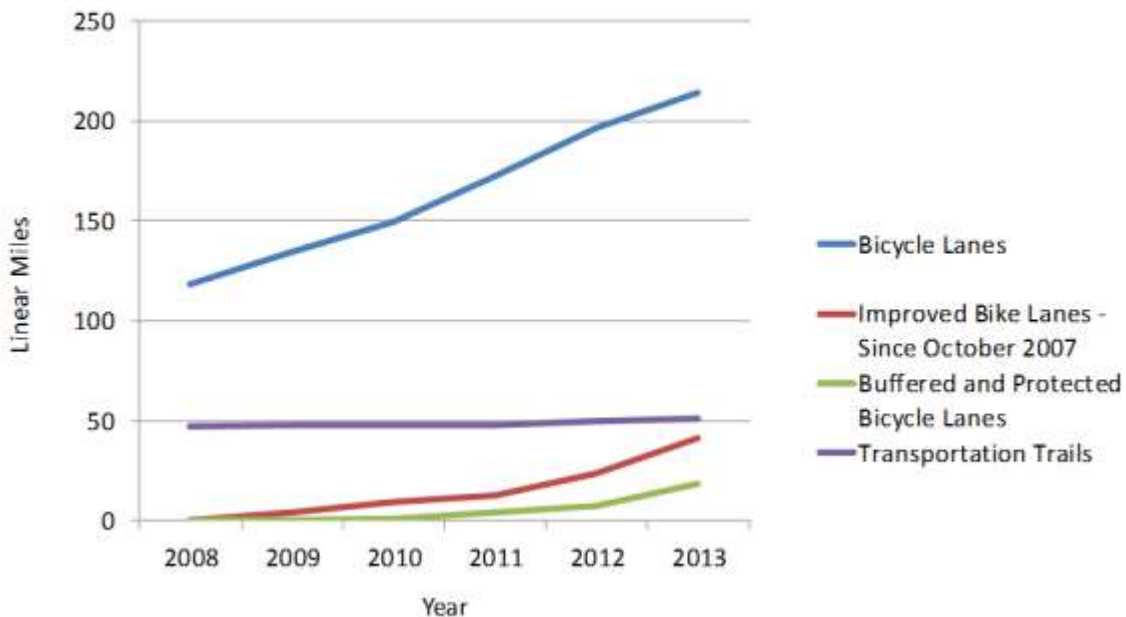
Achievements Since 2009 Bike Master Plan

The 2009 Bicycle Master Plan set the stage for a significant expansion of the bicycle network, primarily through painted bicycle lanes, resulting in a subsequent increase in bicycling.

Expansion of the Bicycle Network

Since 2009, Austin’s bicycle lane network grew from 126 miles to 210 miles, a 70 percent expansion in just five years. The City of Austin completed dozens of new signature projects and removed numerous barriers to bicycling. Project examples include new bicycle lanes on South Congress Avenue, Barton Springs Road, Cameron Road, South Lamar Boulevard and Guadalupe Street. Additionally, existing bicycle lanes are routinely made safer and more comfortable by widening or buffering the bicycle lane, and by addressing parking in the bicycle lane. Many more projects are in construction or in design and restriping projects are often coordinated with street resurfacing, in order to create work efficiencies.

Austin Bicycle Network by Year



Caption: Expansion of bicycle network over time. The bicycle network has nearly doubled since 2009, while significantly increasing the quality of existing facilities. "Bicycle Lanes" refers to painted bicycle lanes.

Sidebar or graphic grid of project highlights:

- **Guadalupe/Lavaca Transit and Bicycle Accommodations:** In 2014, Capital Metro launched MetroRapid, a faster, more convenient transit service which includes signal prioritization, real-time arrival information and transit priority lanes through Downtown Austin along the Guadalupe and Lavaca Street corridors. These transit priority lanes are paired with buffered bicycle lanes and sharrows throughout Downtown Austin. In addition to separated bicycle facilities throughout Downtown Austin, this project also allowed the City of Austin to upgrade the existing bicycle lane on Guadalupe near the University of Texas campus (referred to as, "the Drag"). The Drag includes the first green-colored bicycle facility physically separated from motor vehicles by parked cars, planters and pedestrian refuge areas.
- **The Pfluger Bridge and its "Extension"** span Lady Bird Lake from 2nd Street to Riverside Drive and parallel Lamar Boulevard. This bridge serves not only as an alternative, non-motorized crossing of Lady Bird Lake, but also a public space for activities.

Increase in Bicycling

As a result of the significant expansion of the bicycle network the number of people riding bicycles has significantly increased, particularly in Central Austin. The U.S. Census Bureau and the American Community Survey are primary sources to measure changes in percent of people who ride bicycles to work.

- The expanded bicycle network resulted in a citywide bicycle mode share of 2 percent in 2011, nearly doubling rates from 2009. Mode share indicates people who primarily commute to work

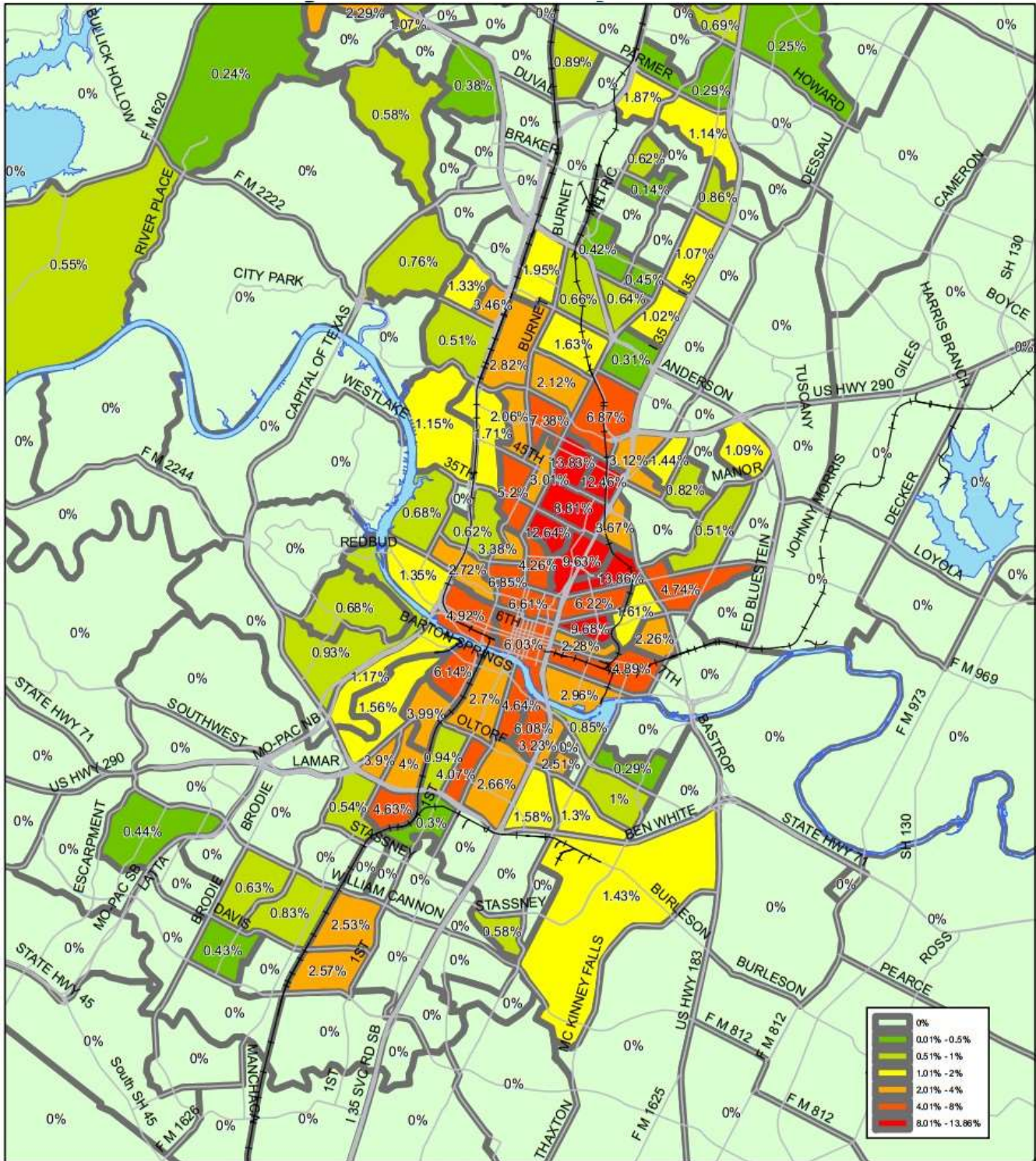
by bicycle, at least three days per week.

- Within the 32 square miles of Central Austin, the mode share reported was 5.5 percent, and as high as 13 percent in certain census tracts in 2012.

The map of Austin's *Bicycle Mode Share to Work from 2011* illustrates bicycle commuter mode share by census tract. It shows the distribution of bicycle commuters in Austin while also indicating areas in Austin where bicycle commuting is not a common mode of transportation.

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City of Austin Bicycle Mode Share to Work from 2011. Existing bicycling is concentrated in Central Austin where there is a high portion of short trips and mix of uses.



Data source: American Community Survey, 2007--11 5-year composite dataset, Table B08006, census tracts. US Census Bureau.

Map produced by Eric Dusza, Neighborhood Connectivity Division, Public Works Department, City of Austin, August 2013



The census data captures only the commute trip to work, and does not reflect bicycle trips for non-work purposes, such as going to school, shopping, social or other leisure trips. According to the 2001 National Household Travel Survey, only 11 percent of bicycle trips are commute trips, indicating that 89 percent of bicycle trips are not being represented by the census data (City of Seattle, 2007, p. iii). Considering mode share to work is a useful tool in measuring changes in some bicycling use, but it does not reflect a complete picture of bicycle travel behavior.

Still, Austinites face many challenges to bicycling. Gaps in the network caused by freeways, intersections and disconnected facilities, as well as a lack of awareness and acceptance of bicyclists, has created barriers. Many people have stated in surveys they would enjoy biking to work, but have serious concerns about real and perceived safety problems. Better, protected bicycle facilities and complete networks are necessary to create a significant increase in bicycling.

Shifts in Best Practice Bicycle Planning

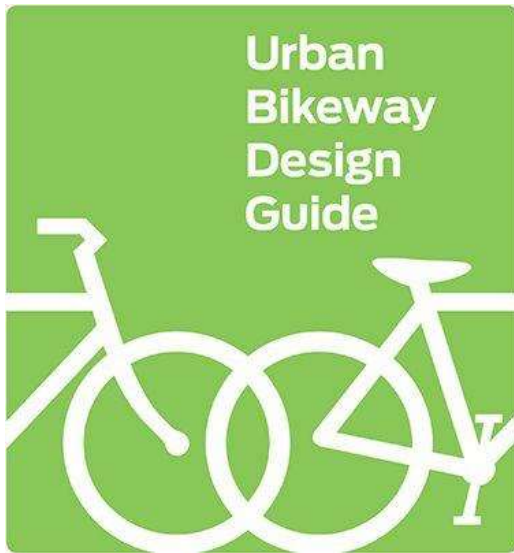
Best practices in bicycle planning have changed significantly since 2009. The following are national shifts in bicycle planning that form the primary building blocks for the 2014 Plan. These best practices and their application to Austin's bicycle network will be discussed more in Chapter 2: Bicycle System.

Protected Bicycle Lanes

National studies have found approximately half of the population is "interested but concerned" – they are interested in bicycling for transportation, but concerned about their safety on the roads. As part of this planning effort, a statistically valid phone survey was conducted in Austin that shows about 40 percent of people fall into this category meaning those surveyed would ride in protected bicycle lanes, but not a painted bicycle lane. Only 15 percent of Austinites will ride in a painted bicycle lane on a busy road. In contrast, protected lanes would attract 55 percent of Austin's population.

This discovery has challenged the City of Austin's Active Transportation Division to use the "interested but concerned" group as its design bicyclists and will serve as a basis for the development of an all ages and abilities network presented in the Plan.

NACTO Urban Bikeway Design Guide



Caption: NACTO The Urban Bikeway Design Guide released in 2011 offered guidance to cities interested in implementing bicycle infrastructure that served people of all ages and abilities.

In 2011, the National Association of City Transportation Officials (NACTO) released the Urban Bikeway Design Guide (NACTO Guide). This guide provides Austin and other U.S. cities with the tools and design guidance to begin implementing protected bicycle lanes and other innovative bicycle infrastructure. While these approaches were common for decades on an international level, the NACTO Guide offered direction in a North American context focused on urban areas and provided an alternative to the Guide for the Development of Bicycle Facilities from the American Association of State Highway and Transportation Officials (AASHTO), also released in 2011.

In August of 2011, the Austin City Council passed a resolution in support of the NACTO guide for bikeway design in Austin. In August 2013, the Federal Highway Association endorsed the use of the NACTO Urban Bikeway Design Guide. The City of Austin incorporated the NACTO Urban Bikeway Design Guide as a reference in its Transportation Criteria Manual in April 2014.

Capturing Short Trips

Bicycling, like walking, is human powered, meaning there is a finite amount of energy a person will expend to make a trip. As a result, short driving trips of less than three miles are most easily able to convert to bicycle trips. To maximize the benefit of the investment in protected bicycle lanes, implementation should be focused where short trips most frequently occur.

Building a Complete Bicycle Network

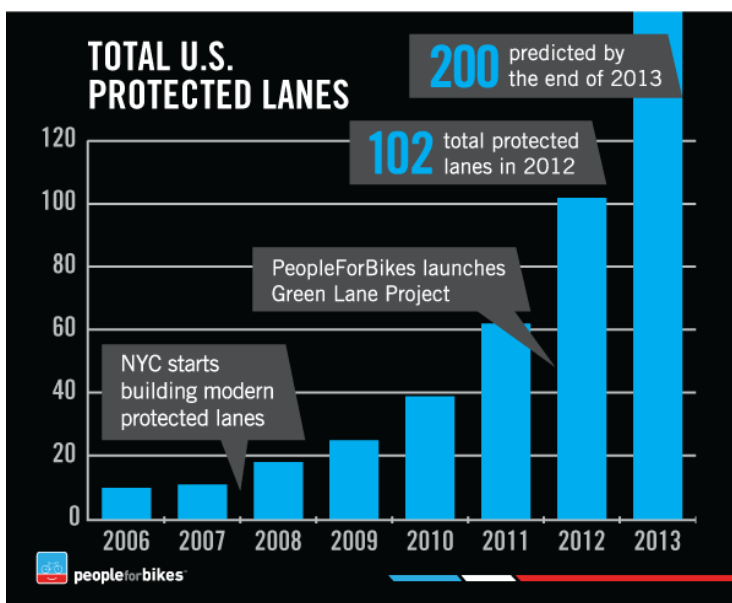
There is an international focus on the importance of complete networks that serve people of all ages and abilities. In Seville, Spain, an 87-mile network of protected bicycle lanes was installed, resulting in an increased bicycle mode share from 0.5 to 7 percent in just three years. It took Portland, Oregon, a leading U.S. bicycle city, 20 years to accomplish this same shift in behavior. Leading cities across the U.S. are now investing in networks of protected bicycle lanes. New York City now has more than 45 miles of protected bicycle lanes and Chicago is expected to complete 100 miles of protected bicycle lanes by the end of 2014.

Moving Forward with Protected Lanes in Austin

In line with national and international advancements in best practices, the City of Austin has taken significant steps to implementing buffered and protected bicycle lanes.

Green Lane Project

As one of six U.S. cities selected for the Green Lane Project in 2012, the Austin bicycling community ramped up efforts to implement protected lanes within the city. The Green Lane Project provided study trips to Denmark and Copenhagen, extensive training, peer support, research and other resources. Project participants included the City Manager, the City Traffic Engineer, a City Council Member, the Public Works Director and other City leadership. Since the launch of the Green Lane Project, implementation of protected bicycle lanes is rapidly spreading throughout the U.S.



Caption: Since the launch of the Green Lane Project, protected bicycle lanes in the U.S. have been rapidly increasing (People for Bikes, 2014).

A \$20,000 grant from the Green Lane Project partially funded the City's 2014 Bicycle Master Plan.

Think Bike Event

Building upon the Green Lane Project, the City of Austin held a Think Bike event in November 2012. The event brought a team of world-leading Dutch planners, designers and policy makers to Austin to share experiences in a three-day workshop. The results of this workshop included the framework for the all ages and abilities bicycle network and a re-envisioned South Lamar Boulevard, a key bicycle corridor. The workshop also engaged several citywide stakeholders including the Austin Independent School District, Texas Department of Transportation and Capital Area Metropolitan Transit Authority.

NACTO Cities for Cycling Roadshow

In November 2013, Austin hosted representatives from Portland, New York City and Chicago, and the NACTO Cities for Cycling program. The focus of this workshop was to share the success and

experience other U.S. cities have found with protected bicycle facilities. The NACTO Roadshow coincided with the kickoff of the public input open houses for the Plan.

New Protected Lanes

In the two years since Austin's involvement with the Green Lane Project, Austin's buffered or protected bicycle lanes increased from 6 to 20 miles. Examples of completed protected bicycle lane projects include Barton Springs Road, Guadalupe Street, Bluebonnet Lane and Rio Grande Boulevard. Numerous protected bicycle lanes are currently in the planning and design stages.

- **Bluebonnet Cycletrack:** When Bluebonnet Lane was identified as roadway in need of maintenance, the City of Austin Bicycle Program partnered with the City of Austin Child Safety Program to improve the needs of the staff and students at Zilker Elementary (located on Bluebonnet Lane). The school principal agreed to remove parking on one side of the street, in favor of creating a two-way bicycle facility on the other side of the street. This collaborative effort saw daily bicycle riders to Zilker Elementary increase from four students a day, to nearly 50 students a day.
- **Barton Springs Road:** Barton Springs Road, a major east/west route in Austin, previously lacked bicycle facilities creating a barrier for bicyclists. The project, which was constructed for approximately \$750,000 using 2010 Mobility Bond Funding, now boasts a westbound off-street path and an eastbound wide buffered bicycle lane.
- **Mueller Development Bicycle Facilities:** The former site of the Austin Mueller Airport was redeveloped into an infill mixed-development community, consisting of residents of diverse ages, backgrounds and income levels. This site is the perfect community for an all ages and abilities network. The developers and designers of the Mueller neighborhood have embraced separated facilities and are using them to connect the neighborhood to businesses and schools.



Caption: New protected bicycle lanes on Berkman Drive as part of the Mueller Redevelopment project (Photo courtesy of Greg Griffin).

The Planning Framework

The 2014 Bicycle Master Plan is one of many plans that work together to shape our community and create the place Austinites have envisioned. The Plan, as an appendix to the Austin Metropolitan Area

Transportation Plan (AMATP), serves as the regulatory document for the provision of bicycle programs and facilities for the City of Austin. The following gives an overview of the planning framework that surrounds the Plan.

Activating Imagine Austin



Caption: The Imagine Austin Plan, adopted in 2012, guides the vision for the future of Austin.

In 2012, the City of Austin adopted Imagine Austin, the first citywide comprehensive plan in 35 years. It captures the community’s collective vision for how residents want to shape the city as it grows.

The Plan is shaped by Imagine Austin and will serve as a tool for implementing Imagine Austin policies and eight priority programs. The comprehensive plan establishes big-picture, long-range goals; the 2014 Plan addresses specific projects and programs to activate its principles over the next five years.

Imagine Austin Guiding Principles	Links to Bicycle Master Plan
1. Grow as a compact and connected city	<ul style="list-style-type: none"> ● Compact places are interconnected by a bicycle network that is accessible by people of all ages and abilities. ● Bicycling becomes a choice mode for short trips and encourages short trips, helping Austin evolve to a more compact city.
2. Integrate nature into the city	<ul style="list-style-type: none"> ● Trails and bikeways bring people on bikes to and through parks and natural areas, without the impacts of motor vehicles.

3. Provide paths to prosperity for all	<ul style="list-style-type: none"> ● Austin offers an attractive bicycle network, which helps to retain and attract both employees and employers.
4. Develop as an affordable and healthy community	<ul style="list-style-type: none"> ● Bicycling for transportation integrates physical activity into daily life, which helps people stay healthy. ● Bicycles offer a dramatically lower-cost alternative to vehicle ownership, or the need for a second family vehicle. ● Bicycling helps to lower transportation costs which now consume an average 20 percent of the typical household budget in metropolitan areas and a disproportionate 30 percent for low income families earning \$20,000 to \$50,000 a year. (A Heavy Load http://www.cnt.org/repository/heavy_load_10_06.pdf, 2006).
5. Sustainably manage water, energy and our environmental resources	<ul style="list-style-type: none"> ● Bicycling provides a non-polluting, energy-efficient, carbon neutral, and low-impact form of transportation.
6. Think creatively and work together	<ul style="list-style-type: none"> ● Creativity and collaboration will yield low-cost, low-impact solutions to achieving many Imagine Austin goals.

Creating Complete Streets

In June 2014, the City of Austin adopted a Complete Streets Policy. The guiding principles include:

- Serving people of all users and modes. This includes people walking, bicycling, taking transit and driving. This also includes people of all ages and abilities.
- Creating connected travel networks.
- Utilizing best-practice design criteria and context-sensitive approaches.
- Protecting Austin’s environment and promoting its sustainability.
- Coordinating between all City of Austin departments.
- Applies to all roadways and all projects and phases.

The Plan unequivocally supports the vision of complete streets through the shift to provide bicycle facilities for people of all ages and abilities.

Relationship to Other Plans, Policies, and Regulations

Many plans, policies and regulations must align to support the implementation of the Plan. If they are not aligned, an incomplete system will result, and the Plan's goals may not be fully realized. Through action items in the Plan, these documents should be amended as necessary to achieve excellence in bicycle facility planning, design and operation.

Amendments to local and regional documents should consider impacts to bicycle facility planning and design. National and state documents should consider the impact of their regulations and guidelines on bicycle facility planning. Notable documents or plans that relate to the Plan include the following:

Citywide Plans, Policies and Regulations

- [The Imagine Austin Comprehensive Plan](#)
- [2014 Austin Strategic Mobility Plan](#)
- [Complete Streets Policy](#)
- [Austin Urban Trails Master Plan](#)
- [TXDOT Austin District and State Wide Bicycle Plans \(under development\)](#)
- [Code Next, Land Development Code update \(under development\)](#)
- [Austin Transportation Criteria Manual \(under development\)](#)
- [Austin Metropolitan Area Transportation Plan](#)
- [Capital Area Metropolitan Planning Organization \(CAMPO\) Mobility 2035 Plan](#)

Area and Corridor Plans, Policies, and Regulations

- [Downtown Austin Plan](#)
- [Great Streets Plan](#)
- [Neighborhood Plans](#)
- [Transit Station Area Plans/Transit Oriented Development Plans](#)
- [Corridor Plans](#)
- [Capital Metropolitan Transit Authority Rails with Trails Plan](#)

Bikeway and Road Design Guidance, Manuals and Codes

- [National Association of City Transportation Officials \(NACTO\) Urban Bikeway Design Guide](#)
- [American Association of State Highway and Transportation Officials \(AASHTO\) Guide for the Development of Bicycle Facilities](#)
- [U.S. Department of Transportation Manual on Uniform Traffic Control Devices \(MUTCD\)](#)
- [Texas Department of Transportation Manual on Uniform Traffic Control Devices \(TMUTCD\)](#)
- [Texas Transportation Code](#)

The City of Austin is currently working on revising the Land Development Code with the CodeNEXT effort, revising the Transportation Criteria Manual (TCM) to ensure that land development and roadway design include accommodations for all modes.

Development of the 2014 Bicycle Plan

In August 2012, the Green Lane Project awarded a \$20,000 grant to the City of Austin to update its Bicycle Master Plan to include protected bicycle lanes. On behalf of the City of Austin, the Green Lane Project contracted with McCann Adams Studio assist with the creation of the Plan. Due to the limited scope of the grant, City staff took the lead in developing the plan update, supported by the staff at

McCann Adams Studio.

At the same time, the Public Works Department was also working to produce the first Urban Trails Master Plan. City staff recognized an all ages and abilities bicycle network was necessary to fully integrate on-street and off-street bicycle facilities. As a result, outreach for both the Bicycle Master Plan Update and the Urban Trails Master Plan was fully integrated under the joint effort entitled “Your Path to Austin.”

Timeline for the Development of the 2014 Bicycle Master Plan

Aug 2012	Awarded grant from the Green Lane Project
November 2012 - September 2013	Early plan development and data gathering
October 2013 - November 2013	First round of citywide public input
November 2013 - February 2013	Initial plan review
February 2014	Second round of public input
April 2014 - October 2014	Boards and Commissions
November 2014	City Council

From October 2013 to June 2014, City staff and consultants sought public feedback on general concepts of the plan, proposed routes, changes to bicycle programming and more. This feedback was collected through statistically significant telephone surveys, surveys from trail users, online public surveys, open houses, focus groups, citizen advisory groups, technical advisory groups, feedback from local organizations, participation in local events, and finally through presentations to City boards and commissions (See Appendix C for more information).



Caption: The kickoff for the public open houses for “Your Path to Austin” featured leaders in bicycle planning from Portland, New York City and Chicago as part of the NACTO Cities for Cycling Roadshow.

Austin Environment

Austin is a dynamic and thriving city experiencing one of the highest growth rates of any city in the United States. A net of approximately 110 people move to Austin are every day. With this growth comes growing pains and other changes that set the stage for areas of opportunity to increase bicycling

in Austin.

Infill Development and Transforming Central Austin

One of the primary strategies to accommodate the population growth in Austin has been to support mixed-use infill development patterns. This development pattern was enabled through the adoption of the Commercial Design Standards. Infill development supports diverting short driving trips to walking and bicycle trips. Major redevelopment is occurring in central east, central north and south Austin.

Managing Congestion

Austin's growing pains are most noticeable during rush hour. Avoiding traffic congestion and finding parking is a strong incentive for seeking alternative modes of transportation. Combining bicycle with transit is an appealing option for many traveling to and from downtown Austin. Those that choose to use a bicycle as a mode of transportation enjoy the economic, health and lifestyle benefits of not sitting in traffic.

Managing Affordability

Another significant issue related to Austin's growth is challenges with affordability. Housing prices have been rising steadily for decades but have recently seen significant increases. Particularly troubling is the decline in affordable housing in the central parts of the City where, due to the high potential for short trips, bicycling, walking and transit are the most viable. While this raises questions about the equity of our housing and transportation available in Austin, bicycling provides a viable avenue to significantly reduce transportation costs, the second highest costs in household budgets.

Expanding Menu of Transportation Choices

Just five years ago, transportation choices for Austinites were primarily limited to driving personal vehicles, taking the bus, bicycling and walking. Improved infrastructure and dense live, work, and shop areas have made walking and bicycling more viable transportation choices. Capital Metro's transit service has also improved with both rapid bus and commuter rail options offering high speed and more comfortable service.

There have also been a number of new mobility choices that provide flexibility in assisting people with transportation. Car-sharing companies have established themselves in the Austin market and transportation networking companies have also shown a high interest in offering their services in the Austin area. But perhaps the most noteworthy alternative is Austin's bike share program.

- B-Cycle, Austin's bike share system, was completed in early 2014. As of July 2014, it includes nearly 400 bicycles and 45 stations. On Friday, March 14, 2014, the system set a U.S. record of 2,774 checkouts for an average of 10.1 checkouts per bike/day, besting the previous record in September 2013 of 7.2 checkouts per bike/day, set by New York City's bike share program, Citi Bike. In August of 2014, after only 9 months of operation, the system reached the milestone of 100,000 trips taken.

Interest in a Healthy Austin

In 2012 and 2013 the City and Travis County conducted a Community Health Assessment followed by a Community Health Improvement Plan (CHIP). The CHIP works to implement Imagine Austin's Healthy Austin objectives related to food access, transportation, the built environment, obesity, and

access to healthcare. A five year implementation process for the CHIP is now underway and bicycling and generally changes to the built environment that support active transportation are key avenues to implement recommended prevention strategies.

Austin also has a reputation of being one of the fittest cities in the country. A wide spectrum of rides are hosted by organizations every year including casual recreational rides to competitive bicycling races. This interest in a healthy lifestyle will help create an increase in bicycle use for transportation as well as recreation and fitness.

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