



## CHAPTER 1

# INTRODUCTION



### Plan Goals:

1. To significantly increase bicycle use across the City of Austin over the next decade.
2. To increase bicycle safety across the City of Austin.

### Benchmarks:

1. Increase bicycle usage in the central city to 10% of all trips and 5% citywide by 2020.
2. Maintain number of bicycle-motor vehicle crashes through 2015. Reduce bicycle-motor vehicle crashes by 5% by 2020.

Bicycles are an efficient and inexpensive form of transportation and with increased use can reduce dependency on foreign oil, improve Austin's air quality, reduce roadway congestion, and improve the health and livability of our community. Everyday approximately 3,500 Austin residents use a bicycle as their primary mode of transportation to work (US Census Bureau, 2006 American Community Survey). This plan strives to build upon current usage of the bicycle for transportation by providing a compilation of best practices that improve conditions for bicycling.

America has millions of bicyclists. Exactly how many depends on whether one is measuring bicycle ownership or frequency with which people ride. The National Sporting Goods Association estimates 37.4 million people (age 7 and older) participated in bicycle riding in 2007 in the United States (National Sporting Goods Association, 2007). People participate in bicycling for a variety of reasons – recreation, fitness, commuting to work, and to travel to non-work destinations. Most cities with a large university, such as Austin, have higher than average bicycle use for both transportation and recreation. Austin has a younger than average population associated with various institutions of higher learning, suggesting that actual rates of bicycle usage may be higher than the national average.

Bicyclists groups, such as the League of American Bicyclists, brought about the construction of roadways in the U.S. with the Safe Roads movement of the 1890s. Unfortunately, after the automobile came on the scene (using mass production techniques developed by bicycle manufacturers), the bicycle was gradually pushed out of the transportation picture. Most roadways have been designed mainly for motorized traffic for the last 60 years.

Despite the lack of inclusion of bicycle facilities, since the 1991 Intermodal Transportation Efficiency Act, inclusion has been supported by federal law. Much bicycle use has shifted from the utilitarian riding of the early 20th century to mostly recreational use today. This shift is not surprising given the hurdles placed in a cyclist's way by a system designed strictly for automobiles. Though bicycle usage for utilitarian trips is less prevalent than recreational riding, bicycling for commuting purposes is on the rise, and is predicted to increase as fuel costs rise.

Table 1.1 illustrates bicycle mode share of commute trips to work from the US Census Bureau. In US, the bicycle as a means of transportation to work has increased slightly from 0.42% in 1990 to 0.47% in 2006. While Texas has seen a decrease in bicycle mode share, Austin has seen a significant increase in bicycle trips as a percent of total commute trips, from 0.79% in 1990 to just under 1% in 2006. Cities comparable to Austin

|                                                                                                           | 1990         | 2000         | 2006         |
|-----------------------------------------------------------------------------------------------------------|--------------|--------------|--------------|
| US                                                                                                        | 0.42%        | 0.39%        | 0.47%        |
| Texas                                                                                                     | 0.25%        | 0.24%        | 0.23%        |
| <b>Austin, TX</b>                                                                                         | <b>0.79%</b> | <b>0.96%</b> | <b>0.96%</b> |
| Dallas, TX                                                                                                | 0.10%        | 0.14%        | 0.18%        |
| Fort Worth, TX                                                                                            | 0.19%        | 0.13%        | 0.12%        |
| Houston, TX                                                                                               | 0.36%        | 0.47%        | 0.45%        |
| San Antonio, TX                                                                                           | 0.15%        | 0.16%        | 0.08%        |
| Portland, OR                                                                                              | 1.18%        | 1.84%        | 4.42%        |
| San Francisco, CA                                                                                         | 0.99%        | 2.08%        | 2.45%        |
| Seattle, WA                                                                                               | 1.55%        | 0.97%        | 2.44%        |
| Source: US Census Bureau, Decennial Census, 1990, 2000; US Census Bureau, American Community Survey, 2006 |              |              |              |

This document combines the 1996 and 1998 Bicycle Plans into one updated Bicycle Master Plan. The first Chapter outlines the history of bicycle planning in Austin, accomplishments since the 1996/1998 Plan, and an explanation of the development of this plan. Chapters 2 through 5 go into detail about each of the Plan elements—Bicycle System, Education & Promotion, Safety & Enforcement, and Implementation & Funding—and outlines the recommended actions to accomplish each objective to ultimately achieve the goals of the Plan. Chapter 6 concludes with a reiteration of the importance of implementing this bicycle plan and a recommendation of critical first steps the City of Austin should take to spearhead this effort. Lastly, the appendices include supplementary information related to major topics of the Plan.

1. Bicycle System
2. Education & Encouragement
3. Safety & Enforcement
4. Implementation & Funding

This Plan urges that the City of Austin take its bicycle program and facilities to the next level. Austin has a chance to truly set itself apart; to continue to denote itself as a city that is a positive environmental trend-setter and as a city that looks to the future and values the quality of life that it offers its citizens. Once and for all time, bicycling should be permanently ingrained as a way of life, as a common means of getting around, and as an image of Austin as an efficient and intelligent city.





### ***BENEFITS OF BICYCLING IN AUSTIN***

Bicycling has many environmental, economical, and social benefits, making it an essential part of Austin's transportation system and its identity. The broadening of transportation options beyond those requiring an engine can help restore the environment and improve health – indeed, important aspects of urban life. The personal and societal benefits of bicycling are myriad, ranging from individual health improvement to personal and community cost savings. For every person who makes a trip by bicycle instead of by car there is less pollution, less fuel used, less space taken on the road, and less need for additional roadways.

#### **Economic Benefits**

The economic benefits of bicycling touch nearly every aspect of society, including individual transportation expenses, social costs, job creation, and tourism.

Bicycling allows for a more affordable cost of living. The League of American Bicyclists estimates that regular commuting by bicycle costs a mere \$120/year (PBIC, Economic Benefits). On the other hand, AAA estimates that the total cost for the average sedan (including fuel, insurance, and maintenance) is \$5,576 per year. In 2005, transportation costs consisted of 18% of the average household's expenditures. Gasoline has had the most notable impact on rising transportation costs. Since 1999, the share of gasoline and motor oil of total transportation expenditures has increased from 15% in 1999 to 24% in 2005. Gas prices are expected to continue to rise, and as they do so, so will transportation costs. Austin can address this critical issue by continuing to strongly emphasize other modes of transportation.

Congestion is one of the most troublesome long-term problems facing our community today. It intensifies environmental problems,

increases commuting times, raises vehicle operating costs (wasted fuel, excess wear on brakes, tires, and the engine), lowers worker productivity (from stress and fatigue), boosts insurance costs by increasing the risk of accidents and time spend in a sedentary position, and slows the delivery of business products. Annual U.S. motor vehicle congestion costs have been estimated at \$78 billion (Shrank & Lomax, 2007, p. 31). Additionally, the 1995 National Personal Transportation Survey found that approximately 40% of all trips are less than two miles in length, which represents a 10-minute bike ride (PBIC, Transportation Benefits). Replacing these vehicle trips with a bicycle trip could constitute a significant environmental and economic benefit.

The cost of driving has an immense economic impact on the community. The Santa Cruz County Regional Transportation Commission's Commute Solutions website estimates that the true cost of driving a vehicle is approximately \$1.38/mile per year. This constitutes approximately \$0.43 per mile of indirect cost to society from accidents, roadway construction, external pollution, etc. Austin

drivers travel nearly 30 miles per day each way, and based on \$0.43 per mile, it costs the Austin community more than \$3.3 billion in indirect costs to support driving. Clearly, encouraging trips by bicycle benefits all taxpayers.

Bicycles are not only affordable forms of transportation and recreation, but are enjoyable and accessible to most individuals. With rising bicycle sales and cycling in the US, many cities have seen concomitant increases in jobs in the bicycle industry. In Portland, OR, the number of jobs created by bicycling related ventures has quadrupled in the past 10 years.

Austin is proud to play host to a multitude of sporting events each year. Events that are focused on cycling, or that include cycling are large contributors to Austin's tourism economy. The 2007 LiveStrong Challenge and Survivor Summit were estimated to bring in \$5.5 million to the city in 2007. There are a number of large scale events planned for 2009 and beyond, including an official Ironman Triathlon. Maintaining our status as a cycling-friendly city helps foster Austin's identity as a premier destination for event promoters.

Environmental Benefits

According to the US EPA, in 2003, about 81% of transportation greenhouse gas emissions came from on road vehicles (EPA, 2006, p. 7). A shift to bicycles for these trips would yield a disproportionately large pollution control benefit.

Automobiles emit about 1 pound of carbon dioxide per mile driven. Even small increases in the number of bicycle trips taken per day can have an exponential impact on the environment. If the average bicycle commuter takes two 5-mile trips per day, then at current commuter levels in Austin, bicycling is reducing carbon dioxide emissions by nearly 79,000 pounds per day. Over the course of a year, emissions are reduced by nearly 29 million pounds.

Health Benefits

In February 2004, Mayor Will Wynn challenged Austinites to become the fittest city in the country. Building upon that goal will help Austin maintain its leadership role in fitness issues in Texas and in the US.

The Texas Department of State Health Services reports that nearly 66% of adults and over 35% of school-aged children are considered obese or overweight. These conditions cause financial strains on the individual and on the health care system in general.

Providing for bicycling as a safe, comfortable, and reliable means of both transportation and recreation can have a direct, positive impact on the health of our citizens. For many working individuals, adhering to a regular exercise schedule is difficult. Availability of facilities is a critical component of their success. At 25 calories per mile for the average person, bicycling is an attractive exercise solution.

Quality of Life Benefits

Bicycling allows Austinites to opt out of our traffic congestion, and to multi-task fitness into their busy days. Richard Florida, author of *The Rise of the Creative Class*, states that bicycling provides the kind of outdoor recreational opportunities that the creative class desires (SSTF, 2007, p. 9). Off-street trails are consistently shown in surveys to be Austinite’s favorite part of our parks system and a top spending priority. As a city where nearly 100% of the bicycle network is on-street, Austin has a tremendous growth opportunity in developing off-street bicycle networks to rival the many miles on the ground in Madison, Minneapolis, Eugene, Portland, Seattle, and other cities competing with Austin for creative class identity.

Additionally, the nature of bicycling causes an inherent interaction with one’s surroundings, including physical environmental features, and equally important, other individuals. Just as a diverse community of Austinites comes together on a daily basis to enjoy the Lady Bird Lake Hike and Bike Trail, bicycling offers the same social connection to the city. In Austin, there already exists a multitude of cyclists with different cycling focuses who identify themselves as part of an overall cycling community with common goals. The maintenance of a strong community fabric is integral to maintaining Austin’s reputation as one of the best places to live in the U.S.

Building a Sustainable City

Across the country, bicycling has garnered the attention of many cities as a leading component of building a sustainable city. In cities like Portland and Seattle, cycling is quickly becoming a standard means of transportation. In their success, many cities across the country are in the process of developing cycling strategies, which will change how cities view the development of infrastructure for transportation.

Austin has an opportunity to be in the forefront by increasing its cycling street network, improving biking conditions, and improving infrastructure to create a viable sustainable alternative choice for transportation. The goals and objectives of this Bicycle Plan support efforts of the Climate Protection Plan, whose goal is to make Austin the leading city in the nation in the fight against climate change.



Bicyclists on Riverside Drive riding in the Tour de Fat.



## ***HISTORY OF BICYCLE PLANNING IN AUSTIN***

### **Early Planning Efforts**

In response to the general growth of bicycle use in Austin and the problems encountered by bicyclists, the Austin City Council adopted the Proposed Austin Bicycle Plan in 1972. The 1972 plan established the concept of a city-wide bicycle system linking neighborhoods, recreational areas, shopping areas, and schools. Two pilot projects were developed in response to the 1972 plan: The University Project and the Wooldridge School Project. These resulted in the completion of bicycle lanes and signed bicycle routes in the University of Texas area. Notable bicycle projects emerging from that plan include bicycle lanes on Guadalupe Street, Berkman Avenue, Far West Boulevard, and Mary Street. Additionally, the Urban Transportation Department developed an area bicycle plan which consisted of several bicycle lanes and streets with bicycle routes.

Between 1972 and 1975 numerous planning efforts were undertaken to translate the concepts identified in the 1972 plan into an actual bicycle plan for Austin. An interim plan was developed in 1975, the Austin Area Bicycle System: Interim Report, which contained an extensive discussion of the safety, educational, and legal considerations which would be supportive of the proposed system and bicycling in general. It also provided general design standards, a possible implementation strategy, and a limited assessment of the associated construction and maintenance costs.

The 1975 plan established a firm base for transportation and recreational bicyclists. Local routes were designed with school age children in mind, and an elaborate integrated hike and bike system was envisioned with miles of scenic trails throughout the city. The proposed system included 95 miles of paths, 199 miles of bicycle lanes, and 87 miles of designated bicycle streets to be implemented over a six-year period.

As is practiced today, bicycle lanes and paths were planned and implemented by separate departments. This can have an effect on efficient connectivity coordination and is something recognized today as an area of bicycle recreational and transportation planning that needs improvement.

### **The 1980 Austin Bikeway Plan**

The 1979 Austin Tomorrow Plan gave official recognition to the transportation role of the bicycle and resulted in the City Council's adoption of the Austin Bikeway Plan in 1980 and accompanying Bikeway Design Manual. By 1980, the City of Austin had implemented 36 miles

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of the bicycle system including 4.2 miles of multi-use paths, 27.7 miles of bicycle lanes and 4 miles of designated bicycle streets.

The Bikeway Plan increased the scope of the 1975 plan to include fourteen cross-town commuter routes. The new Bikeway Plan proposed over 200 miles of bicycle facilities (paths, lanes, and streets) to be implemented over the next ten years. In September 1981, the City Council created its first Bicycle Program Manager position within the Urban Transportation Department.

In 1981 and 1984 Austin voters authorized \$825,000 and \$1,118,000 in bond funding for bicycle projects in the Austin Bikeway Plan. These funds were in addition to roadway improvement projects that included bicycle facilities. By the end of 1987, the existing bicycle system had grown to approximately 180 miles with 15 miles of bicycle paths, 52 miles of bicycle lanes, 12 miles of wide outer traffic lanes or paved shoulders, and 102 miles of bicycle-compatible streets (some signed as designated bicycle routes), despite the removal of the City Bicycle Program in 1984.

### **Bicycle Planning in Austin is Strengthened**

The late 1980s and early 1990s saw significant accomplishments, but efforts were hindered due to a lack of a City Bicycle Program. The Bikeway Plan was amended in 1989 to include the 5-kilometer, 20' wide Veloway loop in the Circle C Development in southwest Austin. The Texas Parks and Wildlife Commission awarded a \$500,000 matching grant to the City of Austin for construction of the Veloway and in March 1993 the Veloway opened.

The first edition of the Austin Bicycle Map was created in 1991 by a partnership among the City of Austin, the Texas Bicycle Coalition (TBC), and several local bicycle shops. Using a volunteer team of cyclists, TBC surveyed both Austin Bikeway Plan routes and routes popularly used by cyclists. The team, riding in afternoon peak traffic, rated the routes on their ease of use by bicyclists, based on traffic speed and volume, pavement width and condition, grade, and visibility. The final map identified a 4-tiered network of recommended routes, based on the experience level of bicyclists, from "suitable for all cyclists" to "suitable for experienced cyclists [only]". The 7th edition of the Austin Bicycle Map was produced in 2008 and reflects the existing bicycle routes in the city. It also shows the level of ease of use for each bicycle lane or facility. The maps are very popular, and based on feedback and demand from citizens, is a proven essential tool in promoting bicycling in Austin. The map is used by both transportation and recreational bicyclists.

In October 1991 The Austin Bicycle Safety and Mobility Task Force (BTF)



Bicycling in Austin and the Central Texas region has long been a popular activity. Here, bicyclists line up for the Tour of Texas ride in 1984.

Photo contributed by Tom Reventas



## 1991 Bicycle Safety & Mobility Task Force Recommendations

1. Maintain a Bicycle Program Manager Position;
2. Mandate bicycle safety education for children;
3. Fund a helmet usage and safety campaign;
4. Pass a resolution recognizing that all streets are open to bicycle traffic; and
5. Create a Citizen's Advisory Committee.

was formed to improve the safety and mobility of bicyclists and motorists in Austin. Through a series of 30 task force and committee meetings and one public hearing, the members of this task force in consultation with at least 60 Austinites sought to forge various perspectives into a plan of action to improve bicycle mobility and safety in Austin. Their final report, which was submitted to City Council on April 23, 1992, recommended five general City Council actions, stating that these actions would have an overwhelmingly positive effect on bicycling as a part of Austin's transportation mix.

City Council took no formal action after receiving a presentation on the BTF recommendations. However, on August 5, 1993, the City Council reinstated the Austin Bicycle Safety and Mobility Task Force, to be in force for one additional year (City of Austin, 1993). In 1994 the City Council re-instated the Bicycle Program Manager in the Department of Public Works and Transportation. With a new Bicycle Program Manager and a severely outdated bicycle plan, the City updated and adopted the Austin Bicycle Plan in 1996 (Part 1-Policy) and 1998 (Part 2-Facilities).

Since 1994, the Bicycle Program remained an important City Program. In 1997 the pedestrian component was added to the Program. In 2009, the City experienced a major re-organization affecting the Public Works Department (where the Bicycle and Pedestrian Program resides), which included the creation of a new Transportation Department. With the creation of the Transportation Department and departure of those assets from the Public Works Department, the Child Safety Programs stayed with Public Works and became part of the Bicycle and Pedestrian Program to provide the City with a single organizational element responsible for bicycle and pedestrian safety. Therefore, in 2009 the Bicycle and Pedestrian Program was absorbed into a newly created Division, the Neighborhood Connectivity Division.

## ***AUSTIN'S 1996 & 1998 BICYCLE MASTER PLAN***

The Austin Bicycle Plan (the "Plan") was prepared with public input and in cooperation between all City of Austin Departments. The Plan was completed in two phases, the first of which was finished in 1996, and the second in 1998. The original plan served to meet requirements set forth in the Intermodal Surface Transportation Efficiency Act of 1991 ("ISTEA"), requiring Metropolitan Planning Organizations to include bicycle and pedestrian modes in their comprehensive plans for transportation in their regions, and in the re-authorization of the Act, the Transportation Equity Act for the 21st Century (TEA-21), in 1998.

The primary purpose of Part 1 was "to significantly increase bicycling transportation options in the City of Austin" and outlined several overall

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goals, including:

- To institutionalize bicycle transportation in all transportation and recreation planning, design, and construction activities in order to meet the needs of the cycling public;
- To improve bicycle safety by recommending actions which reduce bicycle related collisions and falls;
- To increase the level of commuting and utilitarian bicycling as a cost-effective and efficient transportation alternative by providing coordinated bicycle facilities, enforcement of traffic laws, and promotional campaigns for bicycling;
- To fund, create and maintain a functional system of on- and off-street bicycle routes that will enable safe bicycle transportation until overall roadway improvements are made that allow travel on all roadways;
- To establish and maintain safe standards and guidelines for bicycle facilities, programs, and projects; and
- To integrate and coordinate multiple modes of transportation through provision of bicycle/transit interfaces on buses and light rail, and bike & ride facilities at transit stations so that bicycling can play an important role in congestion demand management.

The first phase was a policy plan. It evaluated the deterrents to bicycling through local surveys and research of surveys in other cities. The plan concluded that the most frequently mentioned obstacle to bicycling in the city was inadequate facilities. It outlined objectives and policies that sought to improve the bicycling environment through construction of bicycle facilities as well as enforcement, educational and promotional objectives.

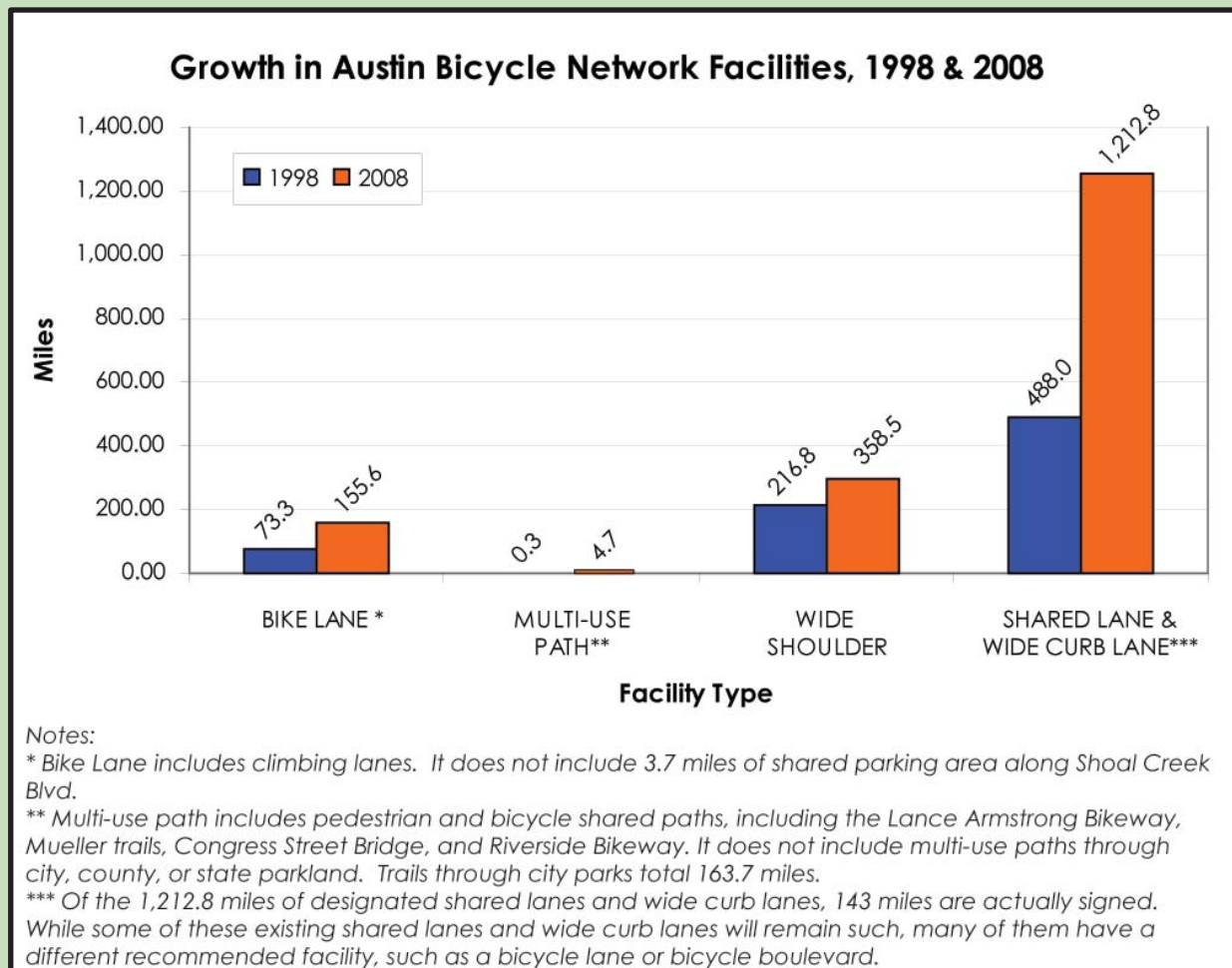
The second part of the plan focused on building the desired infrastructure and facilities that would enable bicycling as a viable transportation option. The methodology followed that described in Selecting Roadway Design Treatments to Accommodate Bicycles by the Federal Highway Administration (FHWA) in 1992. It identified two types of routes: crosstown routes that connected east and west and north and south areas of the city, and attractor routes, which identified potential attractors, or destinations, and the desired routes serving each attractor. This process led to identifying and prioritizing recommended routes. Routes were prioritized as high priority or secondary priority based on the cost and not actual importance of the route. The Plan identified 528.4 miles of Priority 1 routes and 685.2 miles of Priority 2 routes to be implemented.



## EVALUATION OF *BICYCLING IN AUSTIN TODAY*

In May 2007, Austin achieved a tremendous milestone: The League of American Bicyclists designated Austin as a Silver Level Bicycle Friendly Community, recognizing Austin's efforts to improve its bicycling environment. This follows previous accolades, such as a November 2001 Bicycling Magazine ranking of Austin as the #2 city for bicycling in cities with a population between 500,000 and 1 million, second to Seattle. These recognitions illustrate the success of Austin's efforts over the past decades in implementing a bicycle plan, but also point out how much further the city has to go.

Since 1998, approximately 82 miles of bicycle lanes have been added to the bikeway network. Currently, the City of Austin has a 1,732-mile bicycle network, including 4.7 miles of multi-use paths, 156 miles of bicycle lanes, 358 miles of paved shoulders, 878 miles of shared lanes, and 334 miles of wide curb lanes streets. Of the shared lanes and wide curb lanes, 143 miles are signed. The chart below illustrates the growth in bicycle facilities between 1998 and 2008.



Existing bicycle facilities are also illustrated in more detailed sector maps in Chapter 2: Bikeway Network.

**Legend**

- Existing Bicycle Lanes
- Other Existing Bicycle Facilities
- Austin City Limits
- Limited Service & ETJ
- Outside Austin Jurisdiction

0 1 2 4 Miles

SCALE

NORTH



Lance Armstrong Bikeway



Pfluger Bicycle and Pedestrian Bridge



Climbing Lane along S. Lamar Blvd.

The Bicycle Plan has assisted in the realization of construction of several bicycle routes that have been completed or are currently underway. A few of these projects include:

### **E. 4th Street at IH 35 Crossing**

A paved connection adjacent to the railroad tracks beneath the IH35 overpass was installed to provide a safe bicycle and pedestrian route across IH35. This project was completed with the cooperation of TXDOT and is part of the Lance Armstrong Bikeway

### **Lance Armstrong Bikeway**

The Lance Armstrong Bikeway (LAB) is made up of a combination of off-street bike path, on-street bike lanes, and signed bike routes. As of 2008, 90% of the 6-mile bikeway is complete. This bikeway runs east to west from MoPac at Lake Austin Blvd. to US 183 at the Montopolis Bridge.

### **Pleasant Valley Bikeway and associated Bicycle Lanes**

Bicycle lanes and a separated bikeway were installed along the Pleasant Valley corridor from Roy G. Guerrero Park to Oltrof Street in southeast Austin.

### **Pfluger Bridge**

In 2001 the Pfluger Bridge was complete as an alternative to Lamar Boulevard for bicyclists and pedestrians. The bridge, shared among pedestrians and bicyclists, crosses Lady Bird Lake, connecting Lamar Boulevard at Riverside Drive to the Town Lake Hike and Bike Trail along Cesar Chavez Boulevard.

### **Gracy Farms Barrier Removal**

A multi-use path was constructed adjacent to a one-way eastbound ramp to provide bicycle and pedestrian access westbound across FM 1325 and MoPac. This project was completed with the cooperation of TXDOT.

### **Stratford-Barton Springs Road Connection**

The multi-use path along Loop 1 (Mopac) running between Zilker Botanical Gardens and the Austin Nature Center connects Stratford Drive with Barton Springs Road. The paved path is approximately one quarter mile long. The path has appropriate signs indicating turns, stops, and steep hills. The path was completed with the cooperation of TXDOT and funded in partnership with Capitol Metro.

### **Metric Blvd Bicycle Lanes**

Bicycle lanes have been added to Metric Boulevard. From Kramer Lane to Rutland Drive the road is not wide enough to accommodate a bicycle lane. "Share the Road" signs were installed in this "gap" section.

### **Barton Springs Road Bicycle Lanes**

In 2002 bicycle lanes between Lamar Boulevard and Robert E. Lee along restaurant row were completed as part of a road reconstruction project. In fall 2008, the city of Austin completed those bicycle lanes west of Robert E. Lee to MoPac.

### **South Lamar Climbing Lane**

In August 2008, a bicycle climbing lane along south bound Lamar Boulevard, between Barton Springs Road and Treadwell Street, was installed.

The Bicycle Program has received financial support both from the general fund as well as bonds and grants since 1998. Funding to implement the current Bicycle Plan has occurred through varying sources since the bicycle program was reinstated in 1994. Since adoption of the current Bicycle Plan in 1998, there has been \$17 million in bond funding allocated exclusively to bicycle transportation. Implementation of the Austin Bicycle Plan beyond the \$17 million is due to supportive public policies, the existence of the Bicycle Program, the integration of bicycle facilities into relevant City projects and and by private developments. Additionally, the City has leveraged the bond funding by using it to match federal and state grant opportunities. Lastly, funding through general operational budgets of relevant departments also plays a role in implementing the Austin Bicycle Plan, but to date has not been thoroughly coordinated. Specifics on how this source can be strengthened are described in the action items of this plan.

The end-use facilities portion of the bicycle system, such as bicycle parking, has also progressed over the last decade. Through a successful Bicycle Rack Program (BRP), the City has installed approximately 3,600 bicycle racks throughout the city. The focus of the BRP is to provide bicycle parking to serve buildings that were built prior to the bicycle parking City Code requirements. Also, through City Council initiatives, such as the Commercial Design Standards and the City Green Building Program, there now exist shower and locker room facility incentives for new developments.

## CONDITIONS IN AUSTIN IN 2008

### Population and Employment Demographics

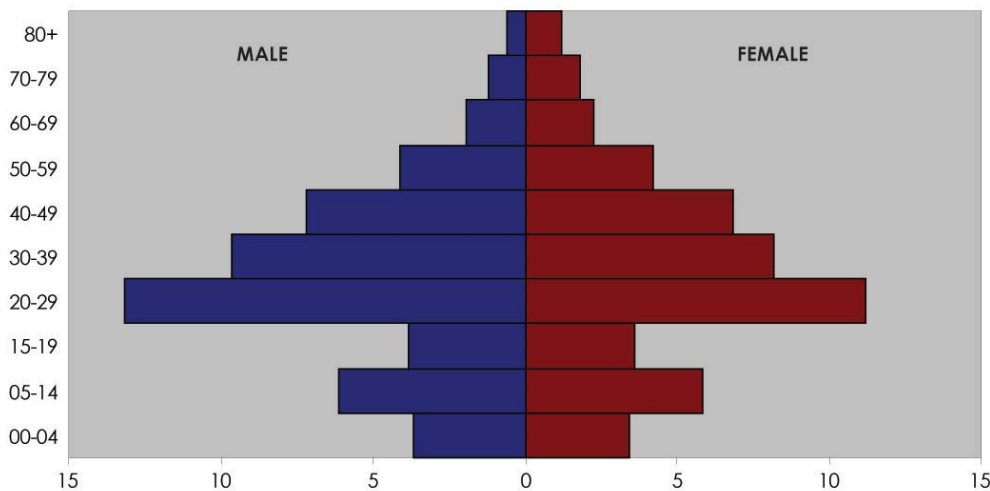
Bicycle planning is a key element of a multi-modal transportation system that supports evolving land use patterns. The urgency to implement the infrastructure, educational, and promotional goals of this Bicycle Plan is supported by shifting demographics, a high level of projected growth, and changing development patterns favoring bicycling.

Austin has several features that make it a good candidate for significantly increased bicycle use. There is a major university and several smaller post secondary educational institutions, which correlate with high bicycle use. The climate is mild enough to encourage year round bicycle use. There is a significant portion of the population supportive of actions which protect the environment and sustain the community who view bicycle riding as a sound alternative to the automobile. And, the planned density associated with the expansion of public transit to include rail supports both walking and cycling.



Austin has been successful in attracting a variety of employers in different employment sectors. Government sector is the largest employment sector in the Central Texas region, including jobs from the Federal, State, and local governments, accounting for 20.4% of the workforce. Other major industries in the Austin area include Trade, Transportation, and Utilities (18.2%), and Professional and Business Services (14.7%). With a median population age of 29.6 and several higher education institutions, companies are attracted to Austin's young, intelligent workforce. Among private sector employers, the largest include Dell, IBM, Seton Healthcare Network, and St. David's Healthcare, all of which employ over 6,000 employees (Austin Chamber of Commerce). The influx of high-tech businesses has earned Austin the moniker of "Silicon Hills."

**Population Age by Sex  
City of Austin, 2000**



Source: US Census Bureau, 2000 Sample File 1, Table P12. Sex by Age, [www.census.gov](http://www.census.gov)

Austin's strong and diverse employment opportunities described above have sustained stable population growth in the city and Central Texas region, maintaining a high number of persons in the age range likely to bike (20 to 49). Since 2000, the population of the City of Austin has grown from 656,562 in 2000 to 735,088 in 2007 (Austin Chamber of Commerce). The growth of 53,331 persons represents an 8.1% growth rate over the six year period, and an average capture rate of 49% of growth

Austin has a very young population, as shown by this pyramid chart. The 20-49 population cohort represents a significant portion (56.22%) of Austin's population.

in Travis County during the same period. Population projections created by the City of Austin Demographer suggests that the City of Austin will grow to 942,544 people by 2020 and 1,253,606 by 2038 (City of Austin, 2008).

### Key Drivers of Bicycling in Austin

The 1998 Bicycle Plan identified destinations that had the potential to attract bicyclists, which it called attractors. Many of the attractors the plan identified included universities or colleges, employment centers such as downtown, shopping centers, and recreation areas.

Since 1998, much has changed in Austin, as have the key drivers of bicycling in Austin. Today, the four primary drivers of bicycling in Austin include The University of Texas (UT), revitalization of Downtown Austin,

the prospect of rail, and Austin’s fitness community. UT represents a significant destination among students, professors, and other employees of the university. In 2007 UT created a campus bicycle plan to address the increasing number of bicyclists on campus and to implement measures that would prevent conflict between bicyclists and motor vehicles, and bicyclists and pedestrians. This action taken by UT represents a growing interest in bicycling transportation integration and safety.

The University of Texas as an Attractor

According to the National Bicycling and Walking Study, Case Study No. 1, the most significant variable affecting bicycle community is the presence of a major university. The University of Texas at Austin is only one of several higher education institutions in Austin that have the potential to increase bicycling. The population base for all local universities combined is over 90,000 students, faculty, and staff. All of these colleges and universities, including Austin Community College, Concordia University, Huston-Tillotson University, and St. Edward’s University, represent a major destination for a significant portion of Austin’s population.

A Transforming Downtown

Another driver of bicycling in Austin is the transforming downtown. A renewed interest in the downtown Austin area has resulted in development that mixes commercial, residential, and employment uses. Since 2000 several residential and mixed use projects have been built in downtown, with several more planned, and over 2,000 people moved into the downtown area between 2000 and 2007 (Downtown Austin Alliance, 2000). With people living in close proximity to their jobs and shopping, these developments have the potential to encourage walking and bicycling as alternatives to driving. Austin’s downtown is projected to be home to over 12,000 residents by the year 2027 (Downtown Austin Alliance, 2008).

The Advent of Commuter Rail

Similarly, the Capital Metro MetroRail is also a key driver of bicycling in Austin. Public transit is an alternative transportation mode to the car, but it should still be supplemented with modes to get from the station to the ultimate destination. Bicycling is one of those modes, and thus the link between mass transit and bicycling must be taken into consideration. Moreover, the mixed use development pattern occurring in downtown has also been identified as the preferred pattern around commuter rail stations throughout Austin. These future activity centers have the potential to be easily accessible by bicycle, and should be planned accordingly.

A Climate for Riding

Yes, it’s hot at times, but climate should not be a deterrent to bicycling in Austin. Some of the best bicycling cities around the world have more hostile climates for bicycling than Austin. Despite hot summers, Austin offers an appealing climate for bicycling throughout the year. According to the National Oceanic and Atmospheric Administration Austin’s climate is classified as humid subtropical, with hot summers and mild winters (NOAA, 2004). Most of the winter is mild with daytime temperatures in the 40s to 60s, and freezing temperatures on average of 25 days each year. Summer temperatures reach upper 90s for a majority of days, with lows at night typically in the low to mid 70s. Sunshine is predominant in Austin, ranging from 50% in winter to 75% in summer. Comparatively, Tucson, AZ, a city similar to Austin in terms of population, land area, and climate, has a bicycle mode split of 2.28%, despite the hot climate of this region. This illustrates that climate is not a major deterrent to bicycling when considering bicycle transportation. The factors of weather can easily be overcome with the right amenities, education on appropriate clothing and equipment, and the availability of end of trip showers and changing facilities.



A commuter on North Lamar Boulevard.

### Interest in Fitness

Finally, Austin has a history of being one of the fittest cities in the country. It's no wonder, given the abundance of outdoor, affordable, passive recreation opportunities coupled with a health conscious population. In 2004 Mayor Will Wynn established the Mayor's Fitness Council in an effort to encourage physical fitness and improved nutrition among Austin residents and make Austin the fittest city in America. This environment creates a strong potential for increasing bicycle use for recreation as well as commuting purposes.

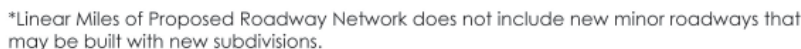
### **Increasing the Use of Bicycles for Transportation**

In FHWA National Bicycling and Walking Study, Case Study No. 1, levels of bicycle commuting in twenty cities were compared relative to a number of objective physical, environmental, and infrastructure features. The most significant variable appears to be the dominating presence of a major university. These cities have considerably higher rates of bicycling than other cities. In fact, no other factor correlates so consistently with high levels of bicycle commuting. Shorter commute distances and widespread primary bicycling facilities also appear to correlate with high levels of bicycle commuting, though the relationship is not as strong as for the presence of a university. Cities with a higher proportion of the population commuting five miles or less tend to have more bicycle commuters, though when university towns are removed from this group, the relationship also is somewhat weaker. Considerably more important is the ratio of bicycle facilities to road mileage. Even when university towns are excluded from consideration, cities with higher levels of bicycle commuting have on average 70% more bicycle facilities per roadway mile and six times more bicycle lanes per arterial mile. Thus the presence of on-road facilities is a highly significant factor even given the considerable difference in the levels of bicycle commuting between the two groups (Goldsmith, 1992, p. 1).

This study implies three things for bicycling in Austin:

1. There is a latent potential for dramatically increased bicycle usage in Austin,
2. There are barriers to increased bicycle use from low density land use and a road network for automobiles alone, and
3. The latent potential for increased cycling can be at least partly realized with increased facilities.

Current markets for bicycling transportation have not been adequately tapped. For example, more effort should be expended in targeting specific demographic markets; for instance, all university towns and university districts in larger cities should be able to achieve very high levels of bicycle usage (Goldsmith, 1992, p. 3). The University of Texas as well as the smaller colleges and universities provide a large base of potential bicycle transportation system users (approximately 90,000 people) in areas where automotive transportation is limited by the need for parking. Improved bicycle facilities (both on/off street and end-use facilities), combined with promotion and increased enforcement and training for cyclists and motorists, would likely increase bicycle use for utilitarian purposes in central Austin. Additionally, women tend to bicycle commute less than men, suggesting that targeting that market would be successful in increasing bicycle commute numbers.





### Workforce Commuting Habits

The City of Austin has made tremendous progress since the adoption of the 1996 and 1998 Bicycle Plans in expanding the bicycle network. In the past decade the City's bicycle network has expanded and bicycling has become an important part of daily life for many Austinites. Between 1990 and 2006, bicycle commuting to work has increased noticeably; however, this still only captures a very small portion of potential bicycle trips. Table 1.2 illustrates the commuting mode split for bicyclists between 1990 and 2006. As the table illustrates, while the total number of commuting trips made by bicycle has increased, these trips still encompass less than 1% of the total commuting trips.

| Table 1.2 Means of Transportation to Work, City of Austin                                                                                           |              |              |              |              |              |              |
|-----------------------------------------------------------------------------------------------------------------------------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|
|                                                                                                                                                     | 1990         |              | 2000         |              | 2006         |              |
|                                                                                                                                                     | Total        | % Share      | Total        | % Share      | Total        | % Share      |
| Total Workforce (16+)                                                                                                                               | 244,258      |              | 353,109      |              | 379,540      |              |
| Commuting Workforce*                                                                                                                                | 237,329      |              | 341,080      |              | 360,297      |              |
| Car; truck; van                                                                                                                                     | 212,415      | 89.50%       | 309,036      | 90.61%       | 325,479      | 90.34%       |
| Drove alone                                                                                                                                         | 179,851      | 75.78%       | 259,905      | 76.20%       | 276,875      | 76.85%       |
| Carpooled                                                                                                                                           | 32,564       | 13.72%       | 49,131       | 14.40%       | 48,604       | 13.49%       |
| Public Transp.                                                                                                                                      | 12,417       | 5.23%        | 15,743       | 4.62%        | 15,952       | 4.43%        |
| <b>Bicycle</b>                                                                                                                                      | <b>1,885</b> | <b>0.79%</b> | <b>3,280</b> | <b>0.96%</b> | <b>3,468</b> | <b>0.96%</b> |
| Walked                                                                                                                                              | 8,058        | 3.40%        | 8,995        | 2.64%        | 7,901        | 2.19%        |
| Other Means**                                                                                                                                       | 3,107        | 1.31%        | 4,381        | 1.28%        | 7,497        | 2.08%        |
| Worked at home                                                                                                                                      | 6,929        | 2.84%        | 12,029       | 3.41%        | 19,243       | 5.07%        |
| *Note: Commuting Workforce is Total Workforce, less those who Worked from Home. Bicycle Mode Share is calculated as percent of Commuting Workforce. |              |              |              |              |              |              |
| **Other Means includes taxi, ferry, motorcycle, and other means not listed.                                                                         |              |              |              |              |              |              |
| Source: US Census Bureau, Decennial Census, 1990, 2000; American Community Survey, 2006                                                             |              |              |              |              |              |              |

The increase in bicycle ridership is likely due to increasing environmental awareness, rising gasoline prices, and growth and maintenance of bicycling facilities. A study conducted by the Humphrey Institute of Public Affairs on behalf of the Minnesota Department of Transportation showed that bicycle commute mode share was higher and increased more significantly in proximity to new and improved bicycle routes than elsewhere in the city (Cleaveland and Douma, 2003, p. 8. Austin now has more than 1,200 miles of bicycle facilities, a 60% increase from 1998 (including 688 miles of shared lanes).

Additionally, areas closer to and within the central area<sup>1</sup> represent a larger share of the bicycle journey to work transportation mode. The census tracts with the highest level of bicycle commuting are concentrated around the downtown and university areas, generally the central area.

**Table 1.3 Transportation to Work: Travis County, City of Austin, Central Austin Areas, 1990 and 2000**

| Area            | 1990       |       | 2000       |       | Change |
|-----------------|------------|-------|------------|-------|--------|
|                 | Bicyclists | Rate  | Bicyclists | Rate  |        |
| Travis County   | 1,951      | 0.66% | 3,341      | 0.80% | 1,390  |
| City of Austin* | 1,885      | 0.79% | 3,280      | 0.96% | 1,395  |
| Central Area**  | 1,254      | 2.12% | 2,368      | 3.23% | 1,114  |

\* City of Austin jurisdiction extends beyond Travis County boundary

\*\* Central Area defined as the area roughly bound by Oltorf St., Pleasant Valley Rd., FM 2222, and MoPac (Loop 1)

Source: US Census Bureau, 1990 Summary Tape File 3 Table P049. Means of Transportation to Work; 2000 Summary Tape File 3 Table P30. Means of Transportation to Work for Workers 16+ Years.

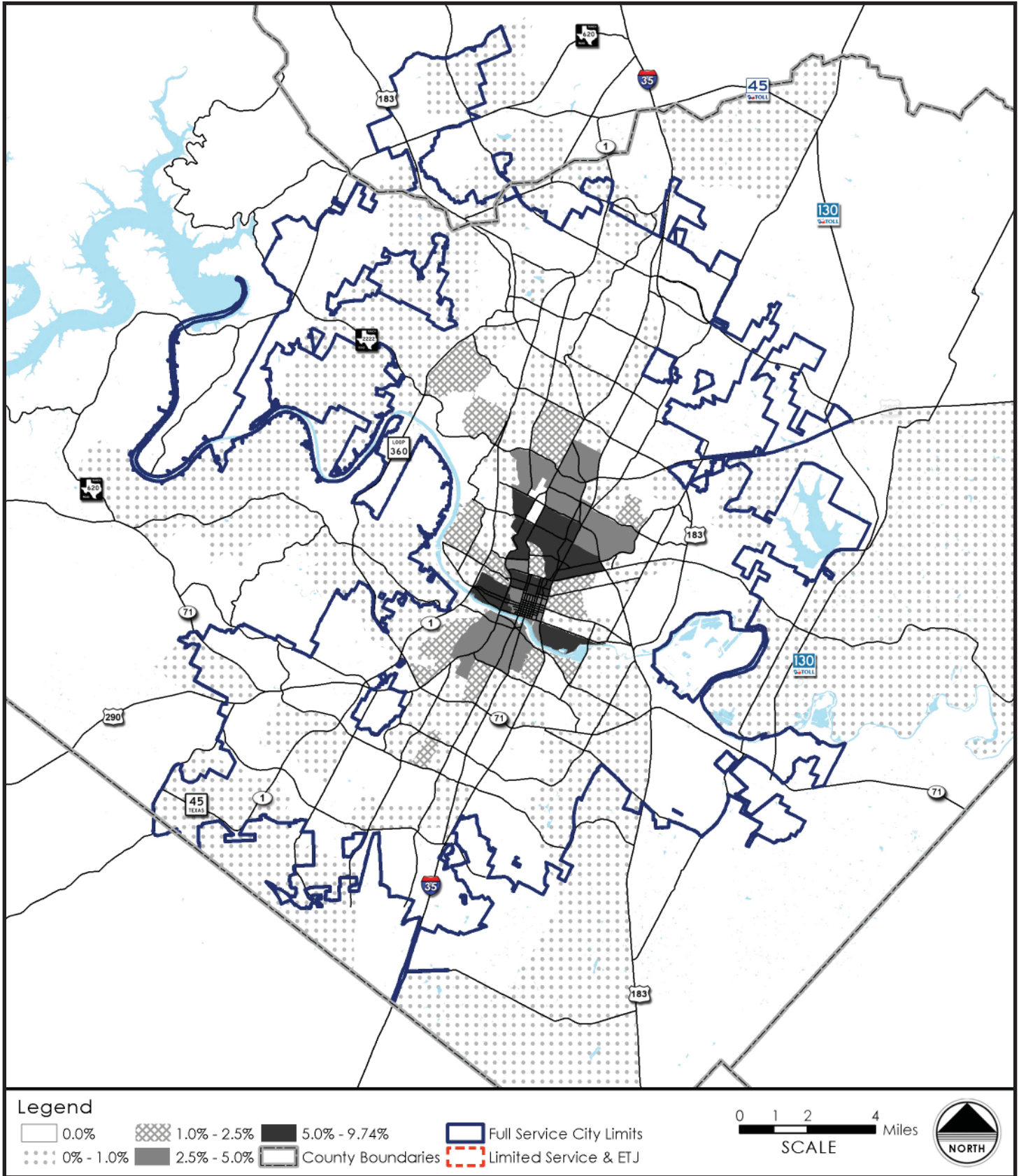
In the central area, bicycling accounted for an average of 3.23% of commuting trips, and ran as high as 9.24%. Today, bicyclists in the central area represents 64.3% of bicycle commuters in Travis County. Furthermore, growth in bicycle commuting in the central area represents approximately 80.1% of the growth in bicycle commuting countywide and 79.9% of growth citywide. Proximity to downtown, the employment center, university, abundance of bicycle facilities, higher density, and bicycle-friendly gridded street pattern all contribute to the higher bicycle commute rates. This supports the argument that people living farther away from work are less likely to commute by bicycle than those living closer to work, suggesting that urban sprawl or low-density development patterns can negatively impact efforts to increase bicycle commuting (Stinson and Bhat, 2003, p. 122-130).

This analysis not only points out the influence the development composition (including density and mixed use) and well-connected street pattern has on promoting bicycle use; it also illustrates a geographic equity issue. While the central area is well supplied with bicycle facilities, there are many neighborhoods throughout Austin that lack or are poorly served with bicycle supporting infrastructure. Thus, bicycling is not considered a viable mode of transportation or recreation. Even in areas where the street pattern is well connected and uses are mixed, bicycling is hindered by the lack of facilities. In these and other areas, changes to

1 Central Area is defined as the area bound by Oltorf St., FM 2222, Pleasant Valley Rd., and MoPac, which includes census tracts 1.01, 2.01, 2.03, 2.04, 3.01, 3.02, 3.03, 4.01, 4.02, 5, 6.01, 6.03, 6.04, 7, 8.02, 8.03, 8.04, 9.01, 9.02, 10, 11, 12, 13.03, 13.05, 14.01, 14.02, 14.03, 16.03, 16.05, 19.01, 19.11, 21.04, 21.05, 21.06, 23.15, and 23.16.



## BICYCLE MODE SHARE BY CENSUS TRACT



## Chapter 1 :: Introduction

the street patterns and cross sections should be considered.

This trend echoes the findings of Fay Cleaveland and Frank Douma of the University of Minnesota Humphrey Institute of Public Affairs, who researched the impact of bicycling facilities on commute mode share in several cities, including Austin. This research found that bicycle commuting was higher close to the central business district, where gridded streets are more bicycle friendly and create a well-connected bicycle facility network (Cleaveland and Douma, 2008, p. 9).

The map on page 20 illustrates bicycle mode share by census tract. This shows the distribution of bicycle commuters in Austin while also indicating areas of the city where bicycle commuting is not a common mode of transportation and where bicycle facilities should be evaluated for improvement. It is clear that areas outside the central area need bicycle facilities.

Finally, it should be noted that the census data captures only the commute trip to work, and does not reflect bicycle trips for non-work purposes, such as shopping, visiting friends or relatives, or other leisure trips. And while this figure does represent trips to school by college and university students, it does not capture trips made by grade-school students to and from school. According to the 2001 National Household Travel Survey, only 11% of bicycle trips are commute trips, indicating that 89% of bicycle trips are not being represented by the census data (City of Seattle, 2007, p. iii). Considering these things, it is highly probable that overall bicycle usage is higher than what the Census represents.

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. These major barriers deter even the most active bicyclists from riding more often and many people that could from bicycling at all.

There are many people who have stated in surveys that they would enjoy riding to work, but who have serious concerns about real and perceived safety problems, lack of bicycle facilities, large commute distances, lack of bicycle parking, and inadequate support facilities such as parking, showers, and/or changing rooms.

Major barriers and problems exist which deter people, including active recreational cyclists, from using the bicycle as a regular means of transportation. Many of these barriers and problems have been identified by the Bicycle Program and by the community:

- Gaps in the system: the need to complete the bicycle route system and connect destinations

According to the 2001 National Household Travel Survey, only 11% of bicycle trips are commute trips, indicating that 89% of bicycle trips are not being represented by the census data (City of Seattle, 2007, p. iii). Considering this, it is highly probable that bicycle usage is higher than what the Census represents.



- Separated Facilities: the need to provide a network of off-street multi-use paths, protected bicycle lanes, and/or bikeways in addition to, or in conjunction, with a completed on-street route system
- Shower & Parking Facilities: the need to provide end-use facilities that allow bicyclists to freshen-up and lock their bicycles securely
- Enforcement: the need to discourage motorists and bicyclists from committing moving violations which compromise their respective safety and that of others
- Education: the need to teach bicyclists good riding habits and advanced skills, and motorists how to drive with bicycles in mind
- Culture: the need for bicycling to become more widely accepted as a viable mode of transportation
- Promotion: the need to promote bicycle use in order to affect change in behavior

Surveys and others sources of comment show that attitudes toward the bicycle are generally positive and a majority of people seem to recognize the contribution bicycle transportation can make to the community. However, use of the bicycle as a travel mode lags far behind stated willingness to consider or try it. Part of this stems from the failure of most communities to address the major impediments to utilitarian cycling - distance and safety. The aim of this Bicycle Plan is to increase use and safety. Increasing use and safety requires an integrated approach involving facility development, public education, enforcement, promotional campaigns, and supportive public policy.

# AUSTIN’S BICYCLE PROGRAM COMPARED TO OTHER BICYCLE PROGRAMS

During the planning process for this plan, and bicycle programs in cities comparable to Austin were interviewed and evaluated based on their administrative qualities, governmental structure, and staffing. Cities were selected based on their population size and their rating as a Bicycle Friendly Community by the League of American Bicyclists (the “League”). Cities selected include Portland, OR; San Francisco, CA; Seattle, WA; and Tucson, AZ. This evaluation is discussed on the following pages.

| Table 1.4 Characteristics of Cities Comparable to Austin    |                                      |                                     |                  |                     |                      |                        |                               |
|-------------------------------------------------------------|--------------------------------------|-------------------------------------|------------------|---------------------|----------------------|------------------------|-------------------------------|
|                                                             | Citywide Bicycle Commute Mode Share* | LAB Bicycle Friendly Rating, Year** | 2007 Population* | Persons per Sq. Mi. | Land Area (Sq. Mi.)* | Miles of Bicycle Lanes | Bicycle Lanes per 10,000 Pop. |
| Austin, TX                                                  | 0.96%                                | Silver, 2007                        | 743,074          | 2,610.4             | 251.52               | 155.5                  | 2.09                          |
| San Francisco, CA                                           | 2.45%                                | Gold, 2006                          | 764,976          | 16,636.0            | 46.69                | 34                     | 0.44                          |
| Seattle, WA                                                 | 2.44%                                | Gold, 2008                          | 594,210          | 6,717.2             | 83.87                | 25.5                   | 0.43                          |
| Portland, OR                                                | 4.42%                                | Platinum, 2003                      | 550,396          | 3,939.3             | 134.32               | 170.6                  | 3.10                          |
| Tucson, AZ                                                  | 2.28%                                | Gold, 2004                          | 525,529          | 2,500.1             | 194.67               | 325                    | 6.18                          |
| *US Census Bureau                                           |                                      |                                     |                  |                     |                      |                        |                               |
| **League of American Bicyclists, Bicycle Friendly Community |                                      |                                     |                  |                     |                      |                        |                               |

## Austin, TX

The City of Austin was recognized as a Bicycle Friendly Community by the League in 2007, at the Silver level. The Bicycle Program is within a broader Bicycle & Pedestrian Program within the Department of Public Works, and contains 7 full time employees, approximately half of which are dedicated full time to bicycling. Its bicycle plan is being updated in 2008, approximately 10 years after its adoption.

The Program focuses primarily on infrastructure planning and implementation, while recently (2006-2008) broadening into more promotion and educational efforts. It encourages strong coordination of existing street maintenance and re-construction programs for opportunities to implement new facilities inexpensively, while also sponsoring and implementing large scale Capital Improvement Projects with the \$17 million in voter approved bond funding received since 1998. The Program also seeks grants and receives funding from



### 'Round the World Practices

The key policies and innovations used in Dutch, Danish, and German cities to promote safe and convenient cycling focus on:

- Extensive networks of separated cycling facilities
- Intersection modifications and priority traffic signals
- Traffic calming
- Traffic education and training
- Bike parking
- Coordination with public transport
- Traffic laws

Together with these explicitly pro-bike initiatives, it is noted that land-use policies encourage compact cities that generate shorter, more bikeable trips, and where car use is made expensive, less convenient, and less necessary through taxes and restrictions on ownership, use, and parking (Pucher & Buehler, 2008).

the Transportation Fund, an enterprise fund established in 1991 and supported by transportation fees. A more detailed discussion of funding opportunities in Austin is discussed in Chapter 5.

### Portland, OR

The City of Portland was recognized as a Bicycle Friendly Community by the League in 2003 and is currently rated Platinum, the highest rating. The current Bicycle Plan was adopted in 1996, and is currently being updated. Portland's Department of Transportation handles bicycle planning in the City; however, the Office of Transportation Options also plays an important role in implementing programs for bicycle promotion. There are 12 full time employees in the Office of Transportation Options.

Between 2000 and 2007 the Office of Transportation Options spent approximately 0.7% of PDOT's capital budget on bicycling. They target improvements at key locations, piggybacking effectively onto other projects, and searching for as much grant funding as possible. They have also relied on Portland Parks, the Bureau of Environmental Services, the Port of Portland, Multnomah County, Trimet, ODOT and Portland Development Commission (PDC) to fund improvements in targeted areas. With partners at the Bicycle Transportation Alliance (BTA) and the Community Cycling Center they have also developed what are perhaps the nation's best encouragement and youth education programs.

### San Francisco, CA

The City of San Francisco was recognized as a Bicycle Friendly Community by the League in 2006 and is currently rated Gold. The City of San Francisco Municipal Transportation Agency has a Bicycle Program committed solely to planning for bicycle transportation. The program has 9 full time employees and 1 intern. The City's Bicycle Plan was last adopted in 1997. The plan was updated in 2005, but it has not been adopted due to an environmentally related lawsuit.

Historically, funding for the bicycle program and program implementation comes via a grant that is supported by a sales tax. The program leverages those funds to obtain regional air quality funds and state bicycling transportation funds.

### Seattle, WA

In 2008, the City of Seattle received a Gold level Bicycle Friendly Community by the League. Seattle's Department of Transportation has a Bicycle and Pedestrian Program with 8 employees. About half of the employees are fully committed to bicycle planning. The current Bicycle Plan was adopted in 2007.

The 2008-2013 Capital Improvements Program allocates approximately \$22 million toward implementing the Bicycle Master Plan. These funds are provided as part of the Bridging the Gap funding package, a property tax levy approved by voters in November 2006. These funds are in addition to other CIP funds that implement other bicycle-related projects and programs.

**Tucson / Pima County AZ**

The City of Tucson was recognized as a Bicycle Friendly Community by the League in 2004 and is currently rated Gold. Tucson’s Bicycle and Pedestrian Program is in the Department of Transportation. Transportation planning in Tucson is done at the regional level by the Pima Association of Governments Regional Transportation Authority (MPO). The MPO’s transportation plan, which was last adopted in 2006, has a component on bicycle planning. Locally, the city has one full time and one part time planner for bicycle planning. Pima County also has a Bicycle and Pedestrian Program with 5 full time employees; who split their time between bicycle and pedestrian planning. Pima County focuses primarily in unincorporated areas of the County, but it is common for the County, cities in Pima County (including Tucson), and the Regional Transportation Authority to collaborate to implement programs, such as the LAB Safety Program or Safe Routes to School.

Bicycle projects in both the City of Tucson and Pima County are most significantly funded by federal Surface Transportation Program (STP) funds, passed down from the Pima Regional Transportation Authority. The City and region also apply for Transportation Enhancement grants and grants available for Safe Routes to School. Additionally, a regional 1/2 cent of the sales tax has been committed to alternative modes of transportation, including bicycling, that is available to both the City of Tucson and Pima County. This tax typically brings in approximately \$130,000 per year for bicycle and pedestrian projects (in the City of Tucson). Additionally, the gas tax is available for bicycle facilities when they are built within highway right-of-way.



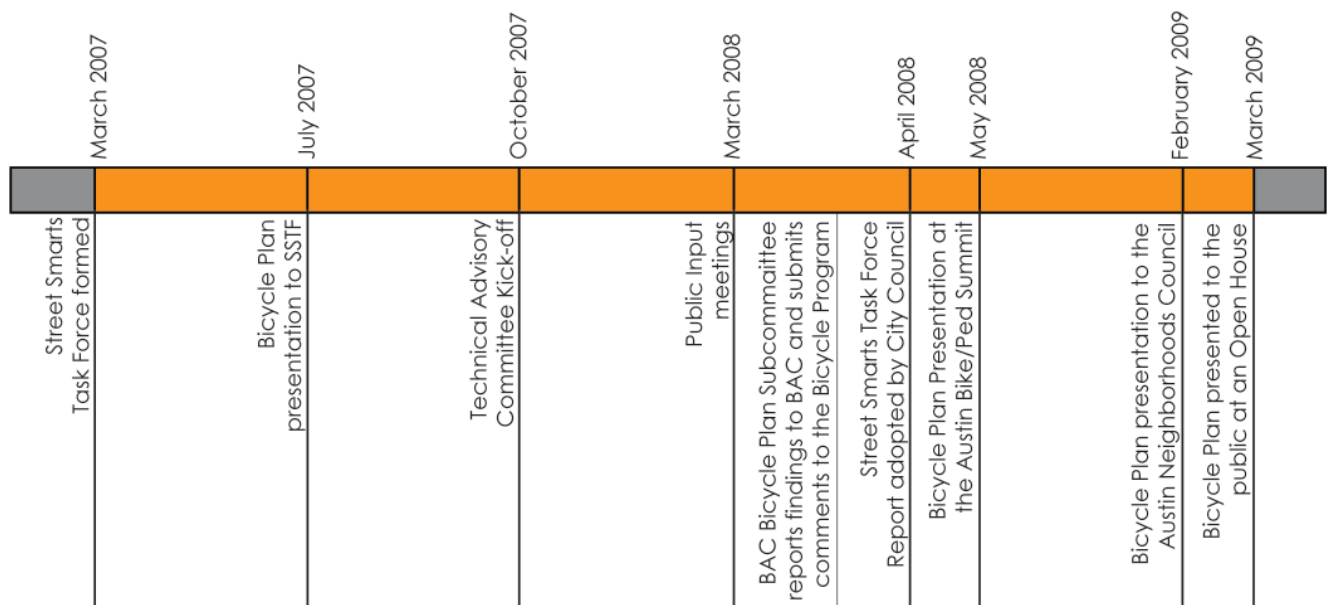
## PLAN DEVELOPMENT

The Austin 2009 Bicycle Plan Update (the Plan) was prepared with public input and in cooperation with all City of Austin Departments. The original plan served to meet requirements set forth in the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA), requiring Metropolitan Planning Organizations to include bicycle and pedestrian modes in their comprehensive plans for transportation in their regions. That plan accomplished that requirement. This updated plan serves to identify qualifying projects for funding under SAFETEA-LU, the most recent reauthorization.

This plan is also part of the Transportation component of the City's Comprehensive Plan, Austin Tomorrow, and serves to guide implementation of multiple Comprehensive Plan policies. This Plan outlines its own vision, goals, and objectives as well as identifying specific bicycle corridors (routes) and bicycle facility recommendations for those routes (for example, bicycle lanes, bikeways, multi-use path, shared lanes, wide curb lanes, bicycle boulevards, traffic calming, etc). Lastly, the appendices include supplementary information related to the major topics of the Plan.

By including this plan as part of the City's comprehensive plan, the City of Austin recognizes that bicycling is an important part of the Austin transportation system and its role in realizing other goals and objectives related to the environment and quality of life.

### Major Public Meetings of the Bicycle Plan Update Planning Process



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This plan includes many concrete steps to improve bicycling in Austin. However, a continuing Bicycle Program and citizen involvement will be necessary after the Plan is adopted by the City Council to bring about the goals of the Austin 2009 Bicycle Plan Update. Additionally, implementation will require extensive internal and external coordination and possibly City Code amendments. The plan also requires an ongoing commitment to funding to insure that appropriate bicycle facilities are installed in a timely manner (as with inclusion with other Capital Improvement Projects).

### Citizen Input

This plan is the result of significant public input, inter-agency coordination, and detailed field work. The issues that emerged during this process helped shape the development of this Plan.

In March 2007, Austin Mayor Will Wynn and 7-time Tour de France winner, Lance Armstrong, joined forces to empower a task force to look at ways to increase bicycling in Austin. The task force was named the Street Smarts Task Force (SSTF). The SSTF, along with numerous other public outreach efforts outlined below, facilitated and shaped the public input needed to make this a uniquely Austin Bicycle Master Plan.

### The Street Smarts Task Force

The Street Smarts Task Force played an important role in the creation of the Austin 2009 Bicycle Plan Update. The SSTF was formed to implement the goals of the Austin Bicycle Plan and the Mayor's Fitness Council. It addressed and examined causes of recent bicycle fatalities and injuries in Austin and looked at ways to improve bicyclist and motorist safety in the community (City of Austin, n.d.e).

Three subcommittees were formed to research policies and techniques regarding bicycle policies, infrastructure, law enforcement, and education and promotion. Over the course of a year, the SSTF held open meetings, and in April 2008 presented their findings and recommendations to City Council. The SSTF's findings and recommendations have been integral in identifying key steps that the city needs to take to implement the Austin Bicycle Plan and has proven to be a useful tool in updating the Bicycle Plan.

The SSTF recommendations are categorized into four elements: infrastructure; education and promotion; safety and enforcement; and board



The SSTF recommends that the Bicycle Advisory Committee be established as a permanent council, appointed by City Council, and make on-going recommendations regarding bicycle and pedestrian issues, based on citizen input, to the Mayor and City Council (SSTF, 2008, p. 11).

Street Smarts Task Force



and commission. A summary of the recommendations in these elements is described below:

- **Infrastructure**

The City of Austin should be creative in building a bicycle network that improves Austin's infrastructure to a world-class level where bicycling for recreation or commuting becomes easy, attractive, and safe for every citizen. The bicycle network is more than just bike lanes; innovative solutions are the key to solving some of the larger gaps in the Austin bicycle network.

- **Education and Promotion**

The City of Austin should take a leading role in educating the public about bicycling safety and promoting the use of bicycles. Providing education and promotion is an integral part of a sound bicycle network that creates a safer, more predictable environment for all transportation users. Just as we provide training for driver of motor vehicles, we must provide information for bicyclists to safely operate their vehicles. Education and training increase confidence which translates into a greater number of individuals choosing to use a bicycle.

- **Safe Behavior and Law Enforcement**

The City of Austin should embrace bicycling in Austin as a safe and legitimate form of roadway use through its law enforcement policies and procedures. Thorough data reporting, reviewing of law enforcement policies, and implementation of additional traffic safety regulations will enhance the goal of providing a safe and accessible bicycle network.



- **Establish a Board or Commission**

The City of Austin should establish a permanent council-appointed advisory Bicycle and Pedestrian Board or Commission to make on-going recommendations regarding bicycle and pedestrian issues to the Mayor and City Council. These recommendations would be based on citizen input and the status of on-going implementation of the City's Bicycle Plan. The focus for the commission should be viability, safety and effectiveness of bicycle transportation in Austin (SSTF, 2008, p. 11).

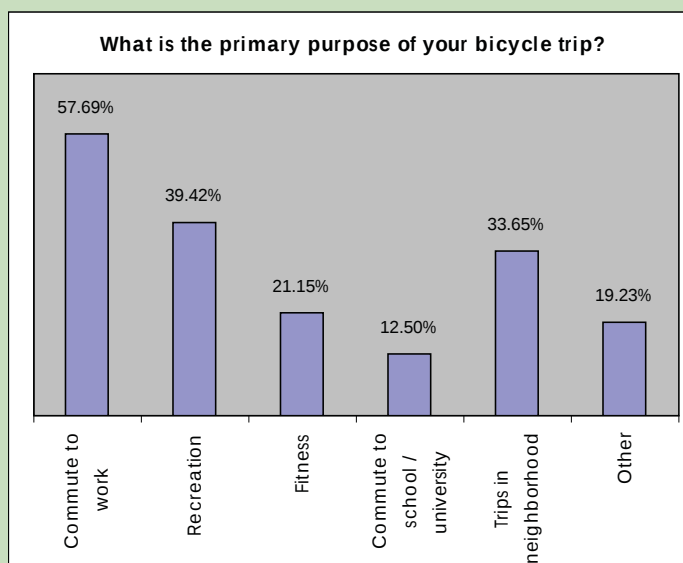
The conclusion and recommendations of the SSTF report has significant influence over the objectives and recommended actions included in this Plan.

## Citywide Public Meetings

In late-March, early-April 2008 the Bicycle and Pedestrian Program and their consultant held four citywide public meetings to get input from the community. These public meetings were not only to provide information to the interested citizens, but also to solicit their input and needs to identify priorities for the Bicycle Plan Update. Over 1,000 comments by citizens of Austin were received during these meetings. Appendix C describes the public input process in more detail.

In February 2009, a final series of public meetings were held by the Bicycle and Pedestrian Program and their consultant to showcase the newly updated Plan and assure the community was ready to move forward with the formal adoption of the Plan.

A questionnaire was distributed at the Bicycle Plan Public Meetings to collect information from participants regarding their riding habits and their opinions on priorities for the bicycle system. A notable comment made during the meetings was that while a majority of bicycle trips are made for commuting purposes (57.7%), respondents showed that recreation, fitness, and neighborhood trips are other popular reasons for bicycling. The results illustrate that a significant share of bicyclists ride for reasons other than commuting to work or school. A bicycle program that focuses primarily on commuters is overlooking a large portion of the bicycling community. Therefore, efforts to improve the bicycle network and encourage bicycling should recognize and address the needs of those who cycle for recreational and other utilitarian purposes. Additional survey results are discussed in Appendix C.



## 2008 Bicycle and Pedestrian Summit

Held in Austin in May 2008 and sponsored by the Capital Area Metropolitan Planning Organization (CAMPO), the 2008 Bicycle and Pedestrian Summit was held to promote improvements in bicycle and pedestrian transportation in the region by sharing ideas and bridging disciplines. The City of Austin's Bicycle Program was an active participant in the 2008 Austin Bicycle Summit. Information on existing facilities in Austin, this plan, and strategies for the future were presented to participants to obtain feedback. Austin City Council Member Brewster McCracken was the keynote speaker.





### Bicycle Advisory Council

The Bicycle Advisory Council (BAC) is a citizen group whose purpose is to “advise the Bicycle and Pedestrian Program and all other departments of the City, and other jurisdictions which address transportation issues, on all matters relating to the use of the bicycle” (Austin BAC, 2007). They function much like a neighborhood association in that they have elected members and by-laws. Their existence implements a stated objective of the previous Austin Bicycle Plan which was to “Establish and continue a Bicycle Citizens’ Advisory Council”. The BAC formed a subcommittee specifically to review and comment on this plan.

### Austin Neighborhood Council

The Austin Neighborhoods Council (ANC) was formed in 1973 and was created to be the city wide umbrella organization to support neighborhood interests. The ANC’s motto is “Strength through Unity” and reflects the successful collaboration fostered between a wide range of separate associations. In the last 35 years the ANC has participated at all levels of government, and many ANC officers have gone on to serve on the City Council and on numerous Boards and Commission. Included in the eight stated purposes of the ANC, one is to “Research those plans, resolutions, ordinances, and legislation which affect neighborhoods in the Austin area and to make specific recommendations where and when wanted, and another is “To Provide it’s members information and education through forums, seminars, etc., on those subjects related to neighborhood concerns” (ANC, 2005). On February 25, 2009 the City of Austin Bicycle Program presented this Plan in its draft form to the ANC, and the ANC then posted to its membership information about how to access the DRAFT Bicycle Master Plan update.

### U.S. Public Mail Notification

U.S. mail notification of the Planning Commission and City Council public hearing dates for adoption of this Plan were sent to over 550 stake holder’s in Austin, including but not limited to neighborhood associations, businesses, land developers and agents, and partner governmental and quasi governmental agencies.

### Other Outreach Efforts

The Bicycle and Pedestrian Program used several different methods to inform the public of the Bicycle Plan Update and public meeting dates and times. Notices for public meetings were printed in the Austin American Statesman in the Public and Special Notices sections, as well as in the Community Calendar and the XL section. The Austin Chronicle printed a story about the meetings and included the meetings in their



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Calendar section. Additionally, the Bicycle and Pedestrian Program contracted with Motorblade (a car-free poster distribution company, operated on rollerblades) to post 170 fliers and posters around town.

On-line efforts included a banner on Austin360.com, posting on the Austin Parks Foundation webpage, the Neighborhood Planning and Zoning Department on-line community calendar, and the BicycleAustin on-line forum.

E-mails were sent to existing e-mail addresses in the Capital Area Metropolitan Planning Organization's (CAMPO) contact list and 200 postcards were sent to bicycle-related stakeholders from the CAMPO list. E-mails were also sent to the Bicycle Advisory Council, the Street Smarts Task Force, and the Bicycle and Pedestrian Program's bicycle stakeholder list of over 400 interested parties.

### The Need for Ongoing User and Citizen Input

The plan will thrive on ongoing active participation from bicyclists and other interested parties. One forum for public input is a subcommittee of the Urban Transportation Commission, dealing with pedestrian and bicycle transportation issues. This subcommittee could provide regular public hearings on proposed bicycle issues, including exemption requests and changes to the bicycle network. Without compelling reasons to omit them, bicycle and pedestrian access should be included in all transportation projects. The Commission should ensure that the bicycle network is completed as planned in order to promote bicycle transportation in Austin. This would emphasize the integration of bicycling into the regular transportation system in Austin. This subcommittee and the Urban Transportation Committee in general serve to advise the City Council on transportation items, different from the Bicycle Advisory Council (described below), which serves to advise City staff on bicycling items.

The Bicycle Advisory Council (BAC), created in response to an objective in the previous plan, should continue to provide guidance and advice to the bicycle program manager on issues of importance to the cycling community. Membership on this council should be informal, but have regular members and bylaws, and be open to all interested citizens of Austin. In 2007 the BAC adopted by-laws and voted in official members. The group's next step in 2008-2009 will be to list themselves within the City of Austin Community Registry to receive notification of ongoing activities related to development that affect the bicycle network and system.

It is recommended that the Bicycle and Pedestrian Program staff meet annually with the Austin Cycling Association (ACA) to discuss issues, status of implementation of this plan, and to maintain open lines of





communication. This meeting could be a combined meeting of the ACA and other bicycle stakeholder groups in Austin.

## Jurisdiction of the Plan

The Austin 2009 Bicycle Plan Update covers the City of Austin and its extraterritorial jurisdiction (ETJ). The City of Austin and surrounding areas should coordinate their efforts to ensure a strong local bicycle network and fulfillment of a well-connected and comprehensive, regional bicycle network.

## Austin 2009 Bicycle Plan Update Methodology

The vision of the Austin 2009 Bicycle Plan Update is for Austin to become a world-class bicycling city. The goals defined in the previous bicycle plan are still important goals, and it is the intent of this update to achieve those goals; this plan serves to update those goals and revise them as needed per best practices and new information. The Austin 2009 Bicycle Plan Update has redefined the overarching goals to accomplish the plan's vision. The two overall goals of the Austin Bicycle Master Plan are:

- To increase bicycle usage in the central city to 10% of all trips and 5% citywide by 2020.
- To increase bicycle safety by maintaining (at current level) number of bicycle-motor vehicle crashes by 2015 and reduce bicycle-motor vehicle crashes by 5% by 2020.

In support of these overall goals, a set of complementary facility improvement, education and promotion, safety and enforcement, and implementation strategies are recommended. Within these four principle areas, specific and strategic goals, objectives, and actions are identified. They are:

- **Bicycle System**

Addresses the network itself including on-street and off-street facilities, and connectivity within the network and among various modes of transportation. It also addresses supporting facilities such as bicycle parking, shower facilities, and signage.

- **Education & Promotion**

To make Austin a safer city in which to bicycle, bicyclists should be familiar with and practice safe bicycling skills. Motorists should learn the rights of bicyclists and how to drive safely in the presence of bicyclists. Promoting bicycling as a healthy and safe way to travel will encourage use. More bicyclists on the road make it safer for all modes, as bicyclists and drivers become more aware of each other's

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needs and habits the more they interact.

- **Safety & Enforcement**

Enforcing traffic laws is a key component of improving safety and educating motorists and bicyclists about the rules of the road. By holding bicyclists and motorists accountable for their actions, they will be more inclined to follow the rules to create a safe and inviting environment for both modes of transportation.

- **Implementation**

Finally, identifying a strategic action plan, responsibilities, and funding sources will support the implementation of the Austin 2009 Bicycle Plan Update.

Benchmarks are then established for each goal and objective to monitor progress of plan implementation over time.

### **Relationship to Other Plans, Regulations, & Guidelines**

Below are documents and plans that will be used to implement this plan. To create a complete network and garner support from several levels of government collaboration among these plans and policies is necessary. If they are not aligned, an incomplete system may be implemented, and the goals of this plan would not be accomplished. Through action items in this plan, these documents should be amended as necessary to achieve excellence in bicycle facility planning, design, and operation. To realize this plan, amendments to local and regional documents shall consider impacts to bicycle facility planning and design (both positive and negative). National and state documents should consider the impact of their regulations and guidelines on bicycle facility planning. The documents and plans listed below do not represent each and every document or plan which could have an affect on this plan. Many existing plans are not listed here, but that does not diminish the coordinating efforts between this Bicycle Plan and those plans, and any future plan that may be created. Documents or other plans that impact the Bicycle Plan include, but are not limited to:

#### US Department of Transportation Manual on Uniform Traffic Control Devices (MUTCD)

The MUTCD is published by the Federal Highway Administration and defines standards to install and maintain traffic control devices on streets and highways. Standardizing traffic control devices ensures uniformity across the nation, helps to reduce crashes and congestion, improves efficiency of the transportation system, and reduces the cost of traffic control devices (USDOT, 2003). The most





### Summary of Bicycle Policies within the CAMPO Mobility 2030 Plan:

1. Improve connections to bicycle, transit and roadway systems.
2. Provide bicycle facilities with construction and reconstruction of roads unless bicycles are prohibited from the roadway, or the constructing jurisdiction has demonstrated that providing the bicycle facility is not feasible due to excessive cost.
3. Provide bicycle connections across controlled access facilities as part of construction or reconstruction unless the constructing jurisdiction has demonstrated that providing the connection is not feasible due to excessive cost or not warranted due to insufficient demand. If not currently warranted, preserve an option for providing a future connection. Connections should be coordinated with locations of transit stops and activity centers.
4. Enhance bicycle facilities in higher intensity mixed-use areas.
5. Complete the 2030 regional bicycle system.
6. Coordinate transportation and recreational bicycle facilities, especially where recreational facilities are destinations.
7. Increase public awareness and involvement in bicycle planning.
8. Encourage minimum design criteria for new bicycle facilities and ensure that existing facilities are adequately maintained.
9. Allocate at least 15 % of available Federal Surface Transportation Program-Metropolitan Mobility dollars to bicycle and pedestrian projects through the CAMPO TIP process.

recent edition of the MUTCD is 2003, with revisions in 2004 and 2007. To adapt to changes in travel patterns, needs, and technology, the MUTCD is updated periodically to reflect the best and most effective devices and practices being implemented. Changes are based on experimentation of new traffic control devices, recommendations by jurisdictions or other parties, and/or research. Amendments to the MUTCD receive extensive review by the FHWA.

### American Association of State Highway and Transportation Officials (AASHTO)

AASHTO is a non-profit non-partisan group that represents transportation departments across the United States and provides guidelines for the design of five modes of transportation: air, highways, public transit, rail, and water. These guidelines are reviewed and updated periodically. The primary goal of AASHTO is to foster development, operation, and maintenance of an integrated national transportation system (AASHTO, 2007).

### Texas Transportation Code

The Texas Transportation Code establishes the transportation laws in Texas. Chapter 551 of Title 7 addresses the operation of bicycles, mopeds, and play vehicles.

### Texas Department of Transportation Manual on Uniform Traffic Control Devices (TMUTCD)

Title 23 of the Code of Federal Regulations (23 CFR) required that states either adopt the National MUTCD or a State MUTCD by December 2005. The State MUTCD is reviewed by the FHWA for conformance with the National MUTCD. Additionally, Texas State Transportation Code §544.001 requires that the Texas Transportation Commission adopt a “manual and specifications for a uniform system of traffic-control devices consistent with this chapter that correlates with and to the extent possible conforms to the system approved by the American Association of State Highway and Transportation Officials.” The TMUTCD outlines the standards for traffic control devices such as signs, signals, markings, and other traffic control devices installed in the right of way, or places open to public travel. The most recent edition of the TMUTCD was adopted in 2006.

### Capital Area Metropolitan Planning Organization Mobility 2030 Plan

The Capital Area Metropolitan Planning Organization (CAMPO) was organized in 1973 and is authorized by the Federal Highway Administration as the regional transportation planning agency in the Central Texas region, including Hays, Travis, and Williamson Counties.

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The CAMPO Mobility 2030 Plan is the regional transportation plan, and includes policies and recommendations for bicycle and pedestrian travel and integrates bicycle planning into its regional transportation planning efforts. Bicycle planning at this regional level is necessary to best coordinate individual municipal efforts.

It is CAMPO's policy that bicycle accommodations are provided with all new construction and reconstruction of roadways in the Mobility 2030 plan (CAMPO, 2007, Policy BP-3). The City of Austin should work closely with CAMPO to retrofit state roads with bicycle facilities and to provide the required bicycle facilities on new roadways.

### Austin Tomorrow Comprehensive Plan (ATCP)

The ATCP was adopted in 1979. The Transportation System component of the ATCP identifies several goals, objectives, and policies promoting and planning for the use of bicycles. The 1996 and 1998 Bicycle Plans were adopted as amendments of the ATCP transportation component (The Austin Metropolitan Area Transportation Plan).

In 2008, the Planning Commission reviewed and created an interim update of the ATCP, which was approved by City Council on November 6, 2008. The purpose of the update was to remove obsolete policies and replace them with existing adopted policies and plans. The Interim update reflects the goals and objectives of the 1996 and 1998 Bicycle Plans. In January 2009, the City will begin the planning process for a new comprehensive plan. When adopted, the 2009 Bicycle Plan Update will continue to be a component of the ATCP.

### Austin City Code

The Austin City Code establishes the laws in Austin, including transportation laws and land development regulations. Title 12 of the Austin City Code addresses traffic regulations, including those applicable to bicyclists. Title 25 addresses land development regulations that affect installation of bicycle system network infrastructure.

### Land Development Code

The Land Development Code (LDC) is the legal portion of the City Code that contains the code of ordinances that regulates development in Austin and the extraterritorial jurisdiction, including, but not limited to, buildings, subdivision, and park development. While land in the ETJ is not subject to the zoning code, it is subject to subdivision regulations. Regulations pertaining to bicycle facilities

#### Elements of a Neighborhood Plan

- Represent the views of the stakeholders in a community.
- Identify neighborhood strengths and assets
- Identify neighborhood needs and concerns
- Establish goals for improving the neighborhood
- Recommend specific actions to reach those goals





### Excerpt from the City of Austin Parks and Recreation Department Long Range Plan

“New Goals and Standards: Current targets for parkland acquisition have shifted more to the inner city. The trend in Austin is towards a more dense residential population in the urban core of the City. This is particularly evident in downtown Austin, especially around Lady Bird Lake. Concurrent urban plans in this direction include “Transit Oriented Development”, “Traditional Neighborhood Development”, and “Vertical Mixed Use”. As a result of these efforts, the City has shifted its parkland acquisition program to include “infill” or pocket parks within already developed areas of the City that have little or no parkland. This effort has been guided by the Department’s Gap Analysis. Additionally, targeting linear parks or trails will assist with the goal of providing parkland in the urban core, while also enhancing alternative transportation choices.”



Country Club Creek Trail

in the LDC include, but are not limited to, improving connectivity, provision of bicycle facilities, and bicycle parking, Section 25-6 of the LDC pertains to Transportation and includes bicycle-specific sections.

### Austin Metropolitan Area Transportation Plan (AMATP)

The AMATP is the City of Austin’s long range transportation plan and coordinates with other regional transportation plans, such as the CAMPO Mobility Plan. Like the regional transportation plan, bicycle and pedestrian transportation is an important component of the AMATP.

### Austin Transportation Criteria Manual

The Transportation Criteria Manual (TCM) includes standards for the design of transportation facilities in the City of Austin and its extraterritorial jurisdiction. The standards are based largely upon the guidelines of the Institute of Transportation Engineers and American Association of State Highway and Transportation Officials (AASHTO). Section Seven (7) of the TCM addresses standards for bicycle facilities.

### Austin Parks and Recreation Long Range Plan for Land and Facilities

In 1998, the Austin City Council adopted the Park and Recreation Department’s (PARC) Long Range Plan for Land and Facilities as the City’s Master Plan for parks and recreation (City of Austin, Parks and Recreation Department). Because recreational and utilitarian bicyclists tend to utilize park trails and paths, planning for bicycle use on off-street multi-use trails should be consistent with the goals of both plans.

### Neighborhood Plans

City Council approved the neighborhood planning process in 1996 to achieve the goals of the ATCP and to serve to update portions of the ATCP. Neighborhood plans provide guidance to City departments in influencing Capital Improvement Program expenditures and policy decisions. Neighborhood planning plays an important role in updating and executing the ATCP and provides an important foundation for implementing bicycle planning throughout the city. Neighborhood planning facilitates a process where further, detailed bicycle facility planning can occur. Planners, designers, and engineers should refer to Neighborhood Plans for further specifics regarding bicycle facility location and design.

### Transit Station Area Plans

In response to future commuter rail service, the City of Austin created

## Downtown Austin Plan

At adoption date of the 2009 Bicycle Plan Update, the study of the Downtown Austin Plan was still underway. Therefore, recommendations of that plan may trigger amendments to this plan.





Also, because of the more detailed analysis and planning put into the Downtown Austin Plan, planners, designers, and engineers should refer to the Downtown Austin Plan for further specifics regarding bicycle facility location and design.

### Corridor Studies

In 2001 the City of Austin began a planning process called Corridor Planning in order to address the commercial corridors and enhance how they fit into Austin neighborhoods (City of Austin, n.d.c). It is the effort of this program to “reestablish or enhance corridors as the physical and cultural pathways that link people to each other, to local institutions, and to daily destinations.” It is a method of coordinating land use, transportation, and infrastructure planning to affect how a corridor should look and function (City of Austin, 2001b). Because corridors are seen as a major connection between origin and destination, corridor planning offers an opportunity to plan further and more specifically for bicycle infrastructure along these corridors.

### Austin Climate Protection Plan

The goal of the Austin Climate Protection Plan (ACPP) is to make Austin the leading city in the nation in the fight against global warming. This will be accomplished through actions that reduce greenhouse gas emissions and reducing Austin’s carbon footprint. Because bicycling for transportation will help achieve many of the objectives of the ACPP, both plans serve to complement one another and provide support for implementation of action items in both plans.

### Austin Safe Routes to School (SRTS) Plan

In May 2007, the Health and Human Services Department of the City of Austin produced a Safe Routes to School Plan to improve and increase bicycling and walking to school for 10 elementary and middle schools. The Austin Bicycle Plan can help implement the goals of the Austin SRTS Plan for these schools, and vice versa. The SRTS Plan seeks to achieve its goals by addressing physical infrastructure improvements as well as the need for education, encouragement, and enforcement.

### Austin Trails Master Plan

In April 2008, the Austin City Council passed a resolution mandating the creation of a comprehensive and coordinated urban trails map for the City, to serve as an interim Trails Master Plan. The map includes existing trail networks, as well as potential new additions and gap completions to the network. The Austin Bicycle Plan will serve to compliment and/or implement the trails map and city vision for

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developing a trails network, which is: To create an interconnected non-motorized network of on-road routes and off-road trail corridors that provides transportation, environmental and historic resources preservation, recreation, socialization and health benefits.

In addition to the expansive system envisioned by the Trails Master Plan, the city's geography, land use patterns, and street layout offer ample opportunity for the development of supplemental trails that could significantly enhance mobility and safety for both cyclists and pedestrians. Such connections might be as simple as trails between streets that dead end close to one another or public access along private roads or parking lots that link existing bicycle facilities. The Trails Master Plan planning process would seek to identify such connection and work with appropriate stakeholders to achieve them.

Appendix J contains the conceptual trail map which was presented to City Council on March 26th, 2009. The map included is conceptual in nature but is also a rich interactive tool, dependent upon scale (i.e. at city-wide extent large swaths of conceptual greenways become apparent, and at on a larger scale, more detailed corridors are identified with relation to existing and planned on and off-street bicycle and pedestrian facilities) . Current versions are kept with the Neighborhood Connectivity Division within the Department of Public Works, or its successor, until such time as a Trails Master Plan is completed.

### Great Streets

In December 2000, Council passed a resolution directing City staff to finalize and implement the Downtown Great Streets Master Plan -- to ensure that each emerging project throughout Downtown have consistent streetscape and public right-of-way improvements. In December 2002, the Council adopted the Great Streets Master Plan streetscape standards.

The Great Streets streetscape standards are implemented primarily through two methods. First, through downtown Capital Improvement Program (CIP) street projects. And second, through the "Great Streets Development Program" to assist private development projects with cost of streetscape improvements consistent with the Great Streets concepts. Funding for this program comes from a dedication of 30% of parking meter revenue within the Great Streets boundaries.

The utmost care should be taken to assure Great Street projects are consistent with the Downtown Austin Plan and this plan, to assure the construction of complete streets and efficient downtown circulation routes for all modes of transportation.



### University of Texas Bicycle Plan

In 2007 The University of Texas at Austin (UT) completed a campus bicycle plan, The University of Texas Bicycle Plan – Integrating Bikes into a Pedestrian Campus. UT’s plans have historically envisioned a pedestrian core campus, and the UT Bicycle Plan sought to establish bicycle access and circulation through campus while maintaining pedestrian priority areas. The plan considers several issues, including access, circulation, parking, vehicular interaction, safety and enforcement, education, and bicyclist amenities (Bowman-Melton, 2007, p. 7). Because the UT Plan specifies recommendations on State property, coordination with UT is imperative to achieve maximal connectivity to, from, and within the UT campus.

### Capital Metropolitan Transit Authority Rails with Trails Plan

Recognizing that the railroad rights-of-way can be utilized for bicycle and pedestrian facilities, in 2007 CapMetro created a plan for bicycle and pedestrian trails along its commuter rail red line. The plan consists of off-street, multi-use paths as well as on-street facilities extending from Leander to the Lance Armstrong Bikeway. Fully implemented, the Rails with Trails system could include approximately 30.9 miles of paved, multi-use paths, 1.7 miles of sidewalks, and 8.4 miles of marked on-street bicycle lanes (Capital Metro, 2007).

### Surrounding Jurisdictions

The City of Austin is surrounded by several other cities, and maintenance and creation of roadways may fall into another jurisdiction's control. To allow bicyclists to cross these jurisdictional boundaries, it is important to be aware of the transportation plans of adjacent jurisdictions and coordinate with other jurisdictions to build a regional bicycle network.



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