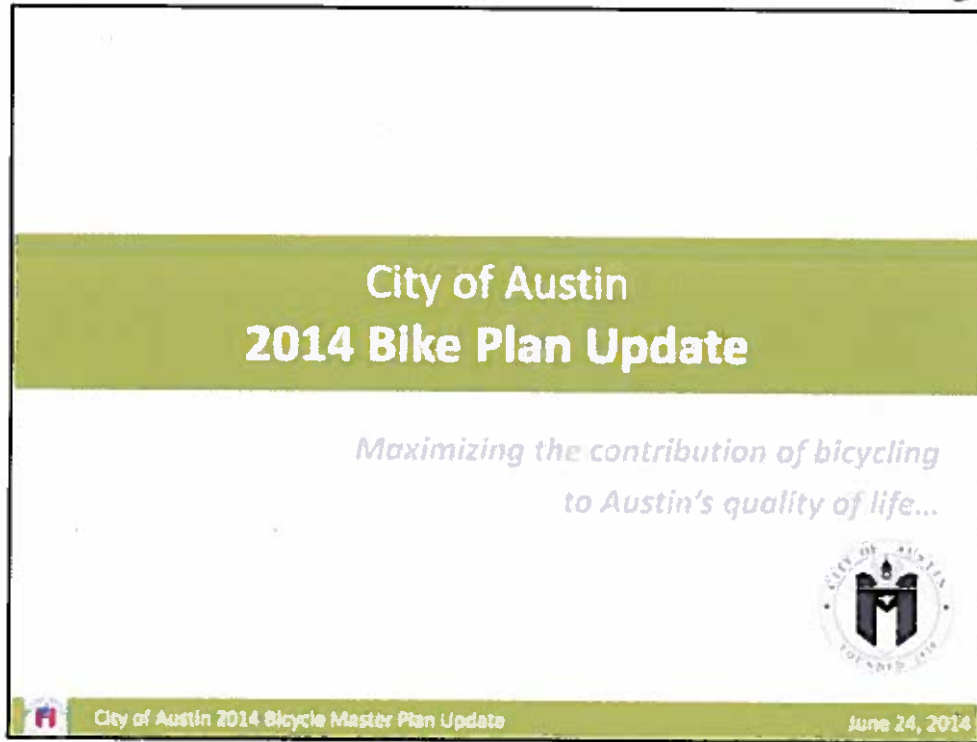
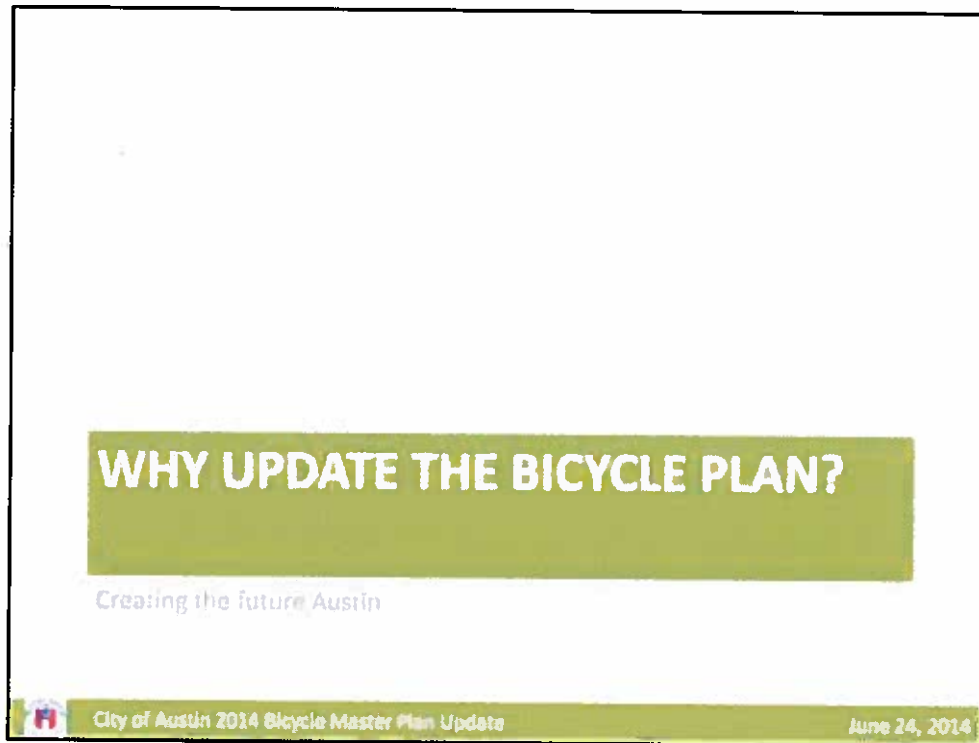


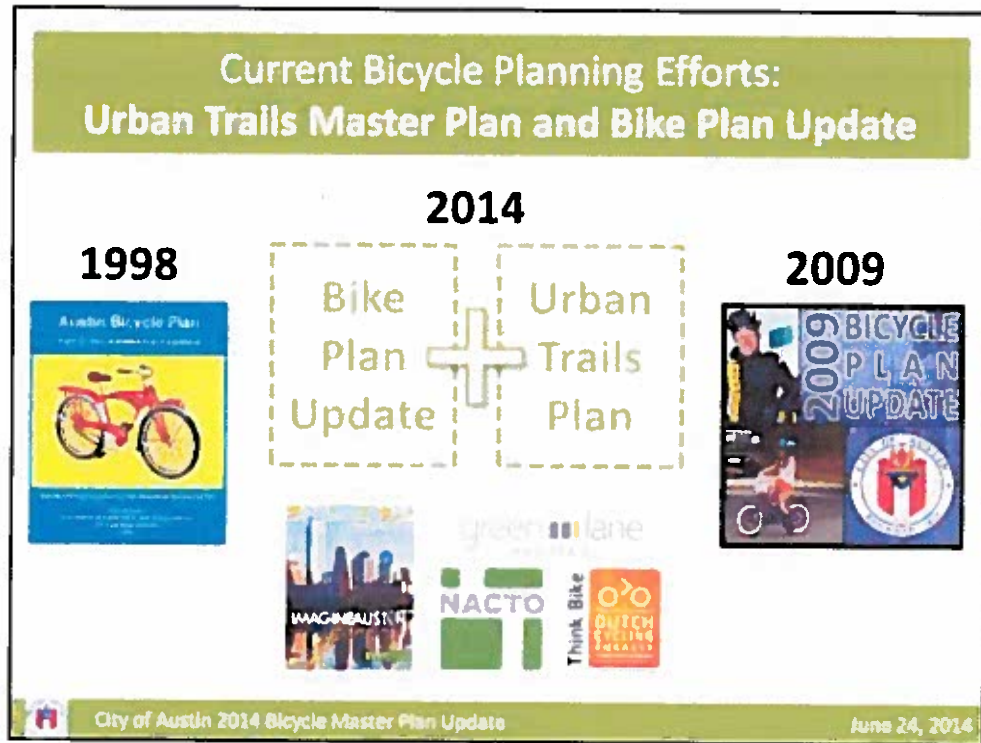
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- The following is an overview of the content that is proposed to be included in the 2014 Bicycle Plan Update



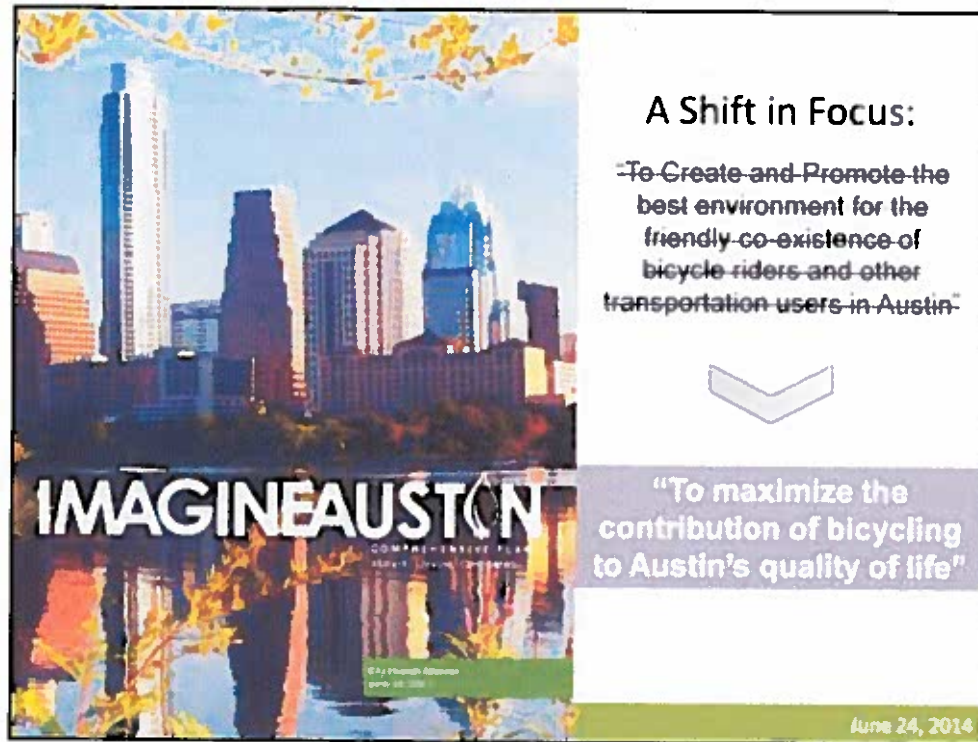
- A brief explanation of why this update is important



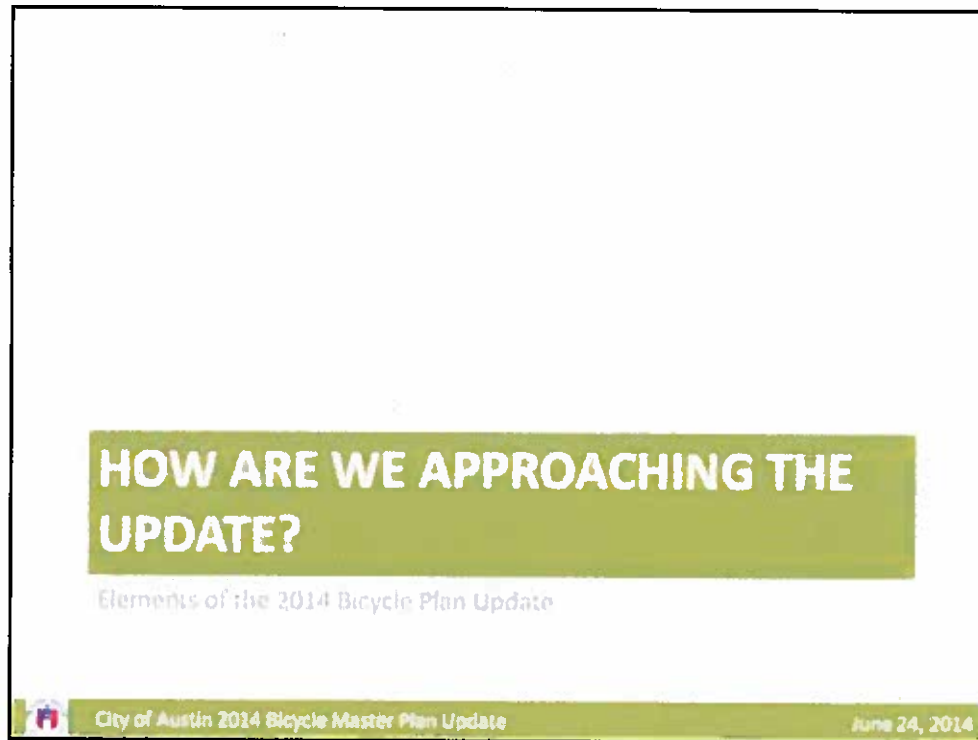
- The Bike plan builds on existing plans with latest influences from Imagine Austin, the NACTO bikeway design guide, Austin's participation in the Green Lane Project, and Austin's Think Bike event



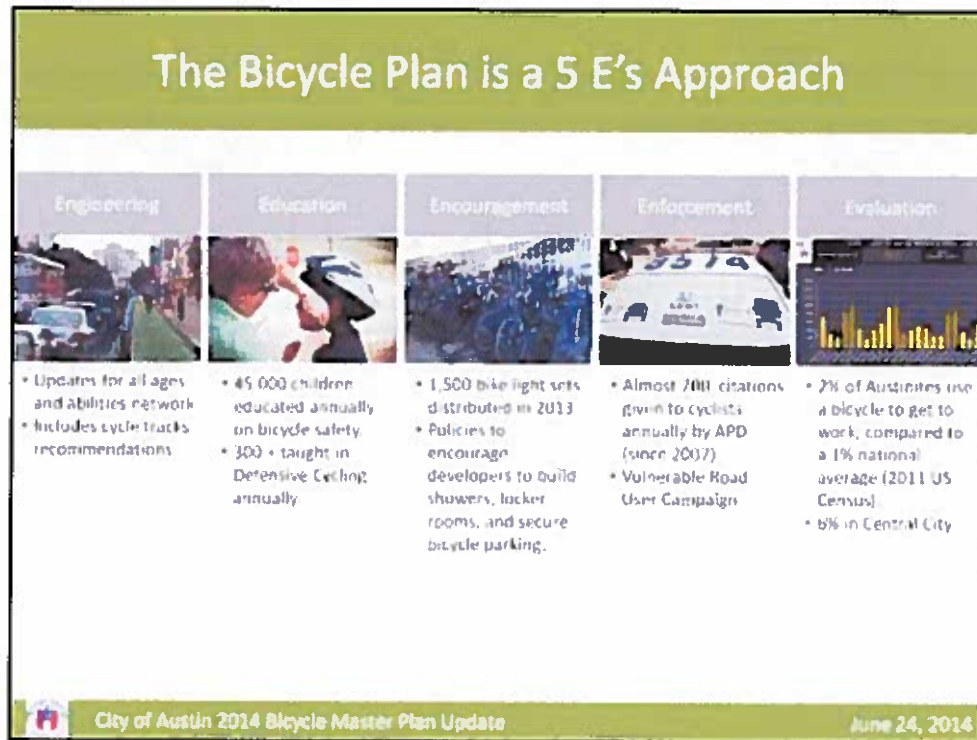
- Integrating Imagine Austin plan into 2014 Bicycle Plan
- Bicycling is integral in all 8 priority programs



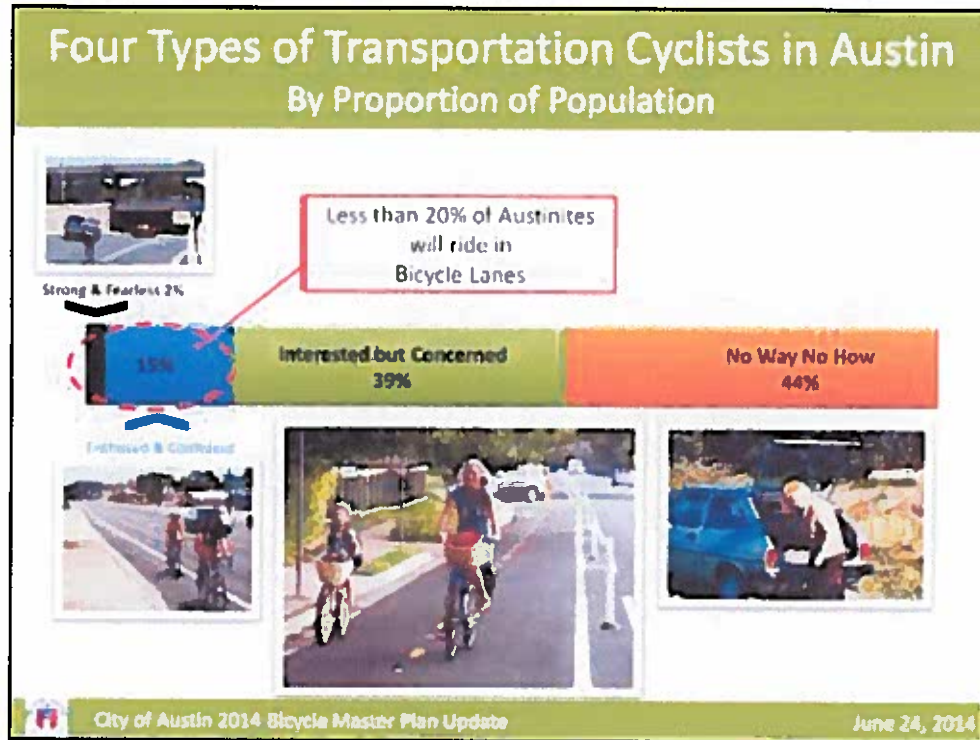
- Update the vision for the bicycle plan
- This is a very important change in focus and is the foundation for our approach to the conversation for the 2014 update



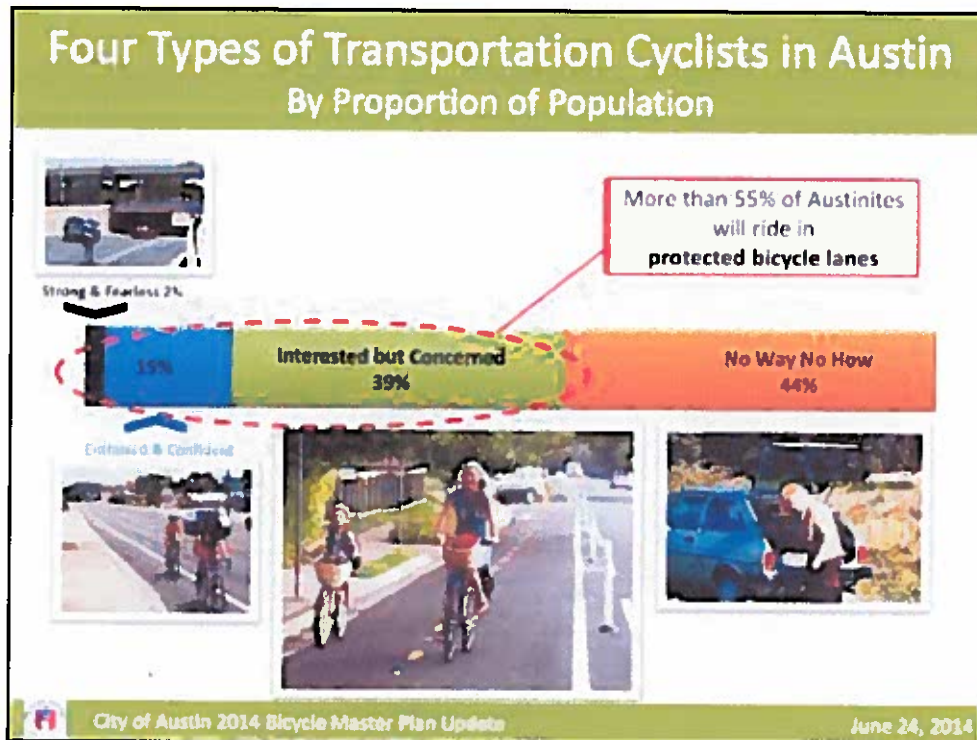
- An overview of our approach and fundamental elements that make the 2014 Bicycle Plan a significant change to the the 2009 plan



- The bicycle plan is a 5 E's plan.
- The most significant update from the 2009 Plan, and the content of this presentation, will be in the Engineering / Infrastructure recommendations and approach, the other sections will get minor updates



- Existing bicycle lanes based infrastructure attracts less than 20% of Austin's population



- A network of protected bicycle lanes will attract 55+% of the population. If we want a significant increase in bicycling and the benefits it brings to the City and its citizens, we will have to pursue protected networks.



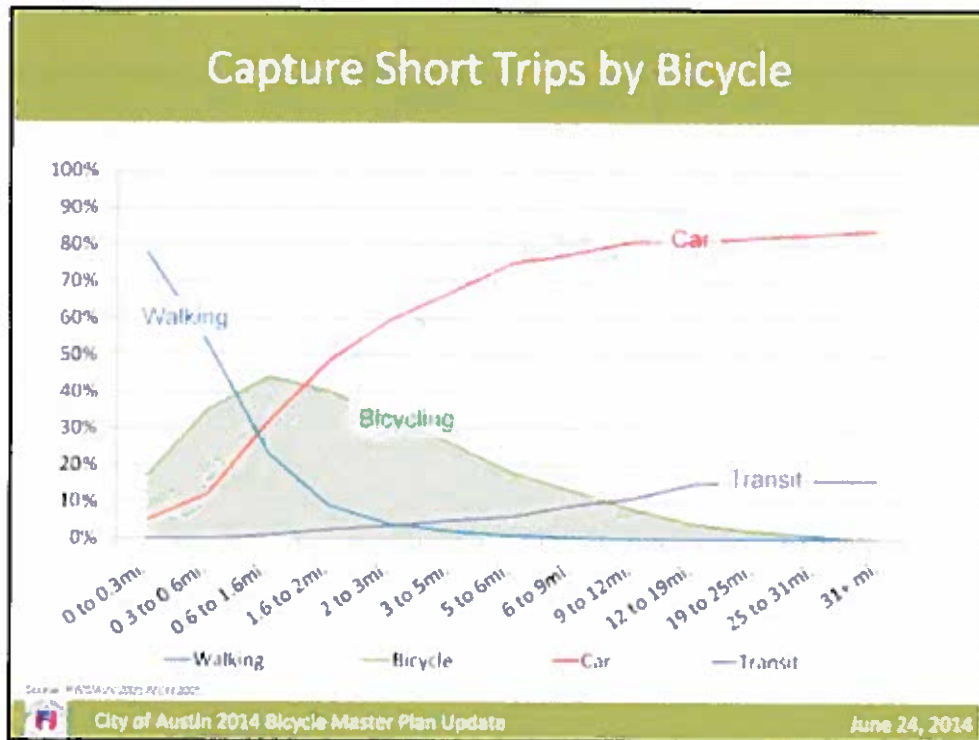
- Guadalupe next to Campus



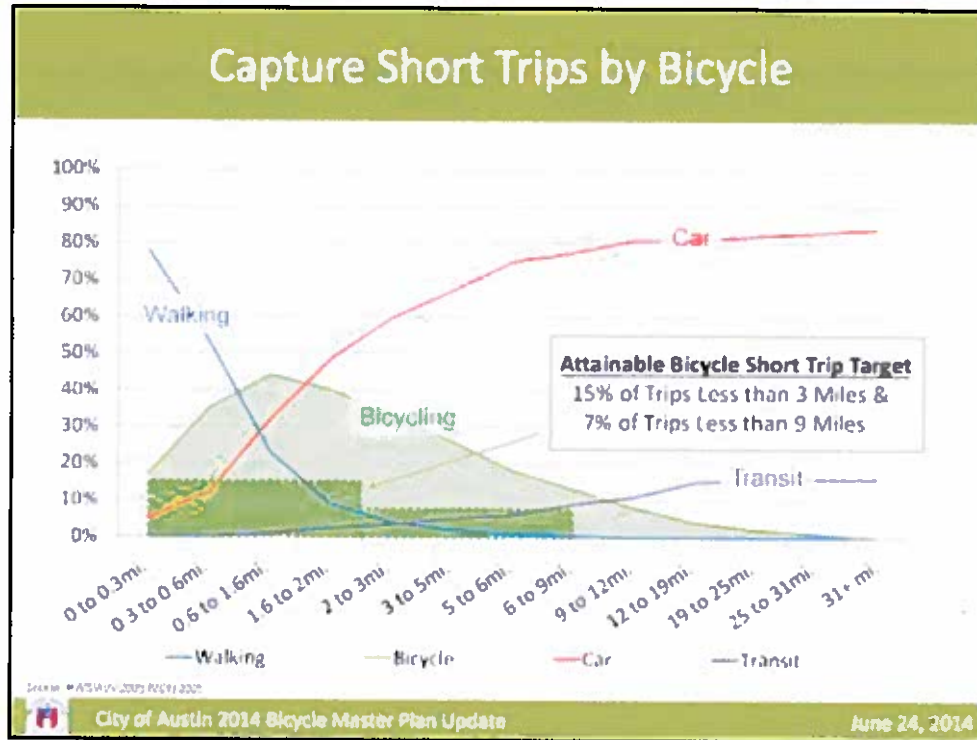
- Bluebonnet Lane Cycle Track in south Austin adjacent to Zilker Elementary



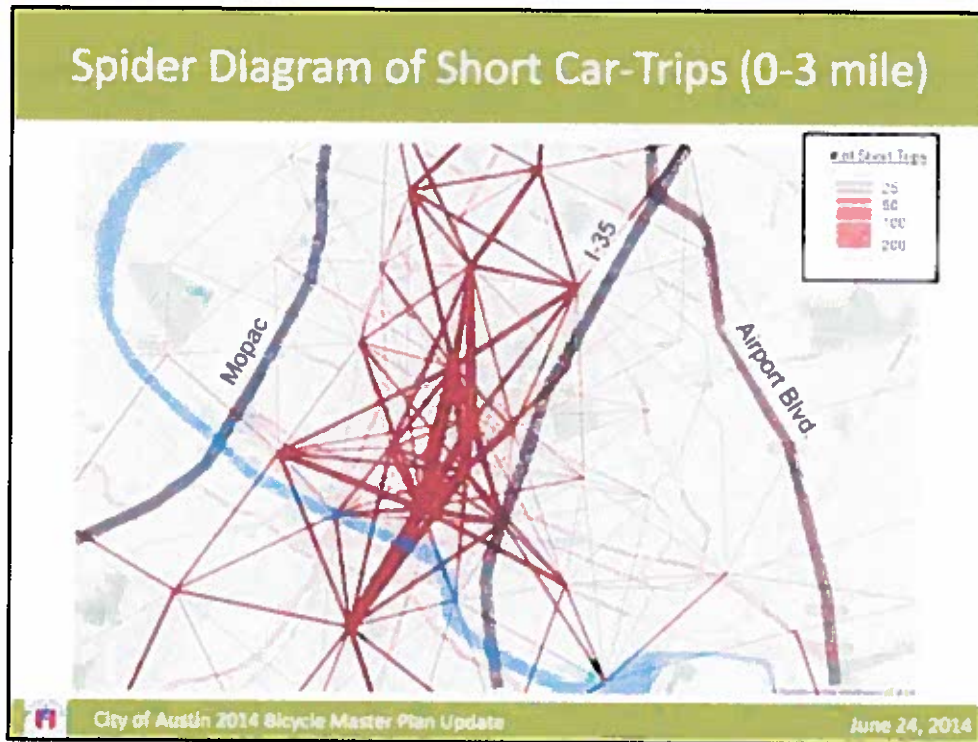
- Barton Springs Road



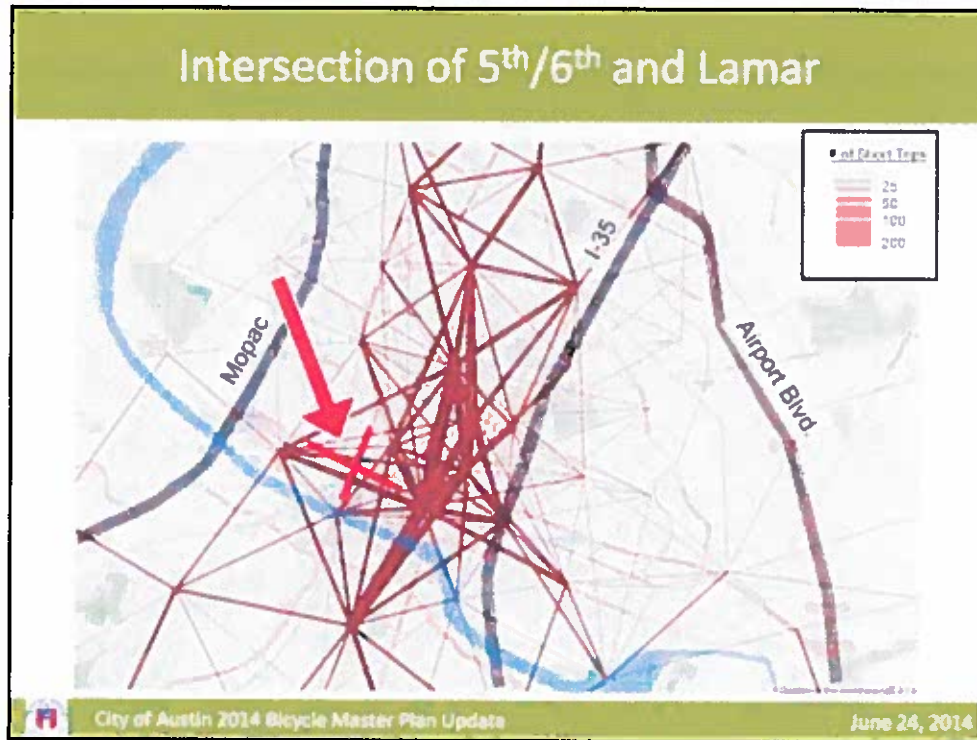
- Each mode is more and less useful at different trip lengths. For short distances walking and bicycling are best, for longer distances cars and transit are better
- Given a safe bicycle network, trips in the 1-3 mile range can be the mode with the largest mode share.
- Targeting infrastructure investments to capture short trips is critical



- The green shaded boxes show the Bicycle Plan updates trip capture targets. The plan will capture the impact of achieving these targets.

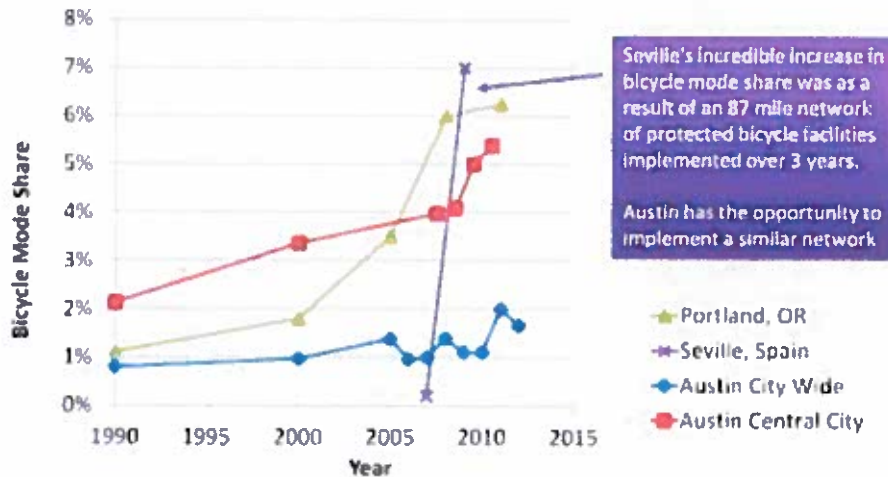


- You can see most of the short trips occur in the central city.
- They occur in every direction but you can see a north-south patterns as you would expect in our city.



- This notoriously congested intersection has 50% of short trips going through it, a portion of which are perfect candidates to be converted to bicycle trips.

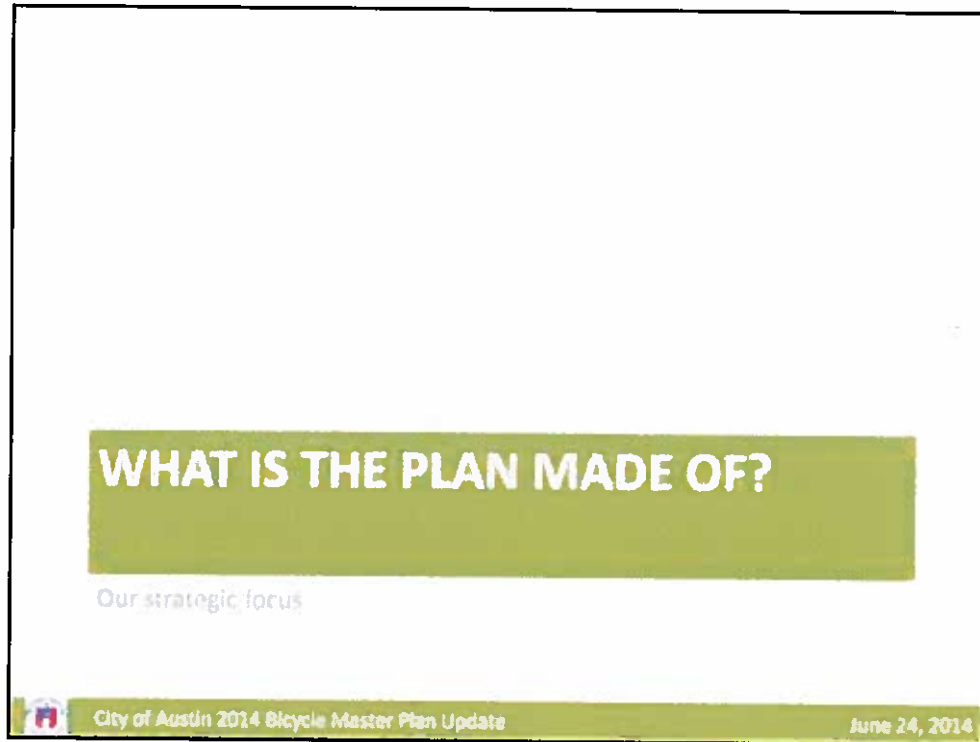
Rise of Cycling in Over Time in Portland, Seville, and Austin



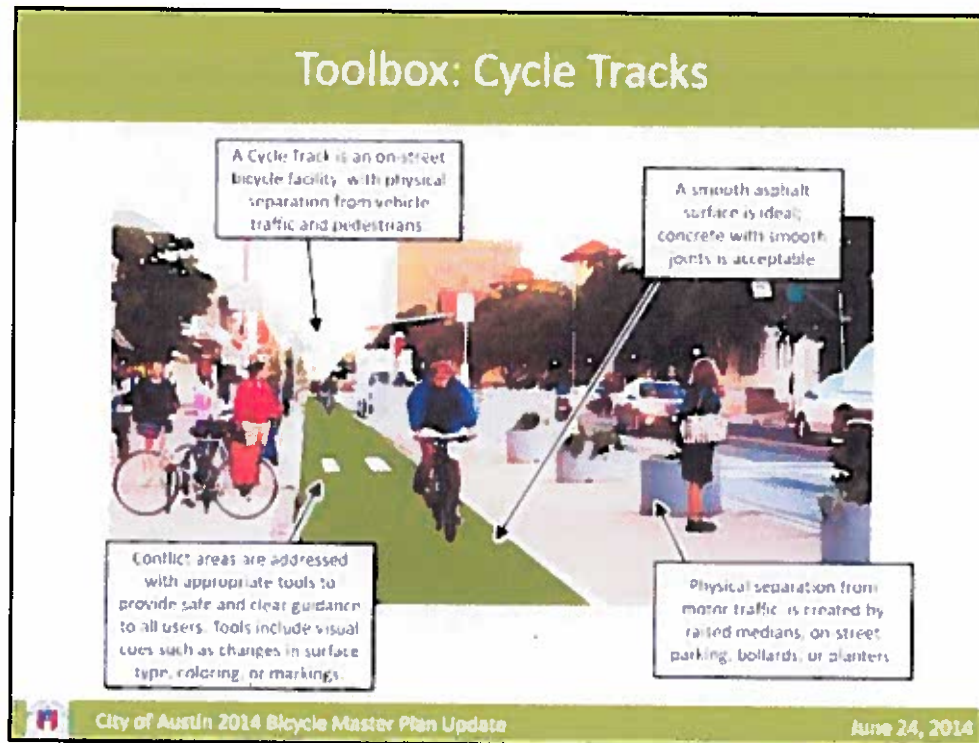
City of Austin 2014 Bicycle Master Plan Update

June 24, 2014

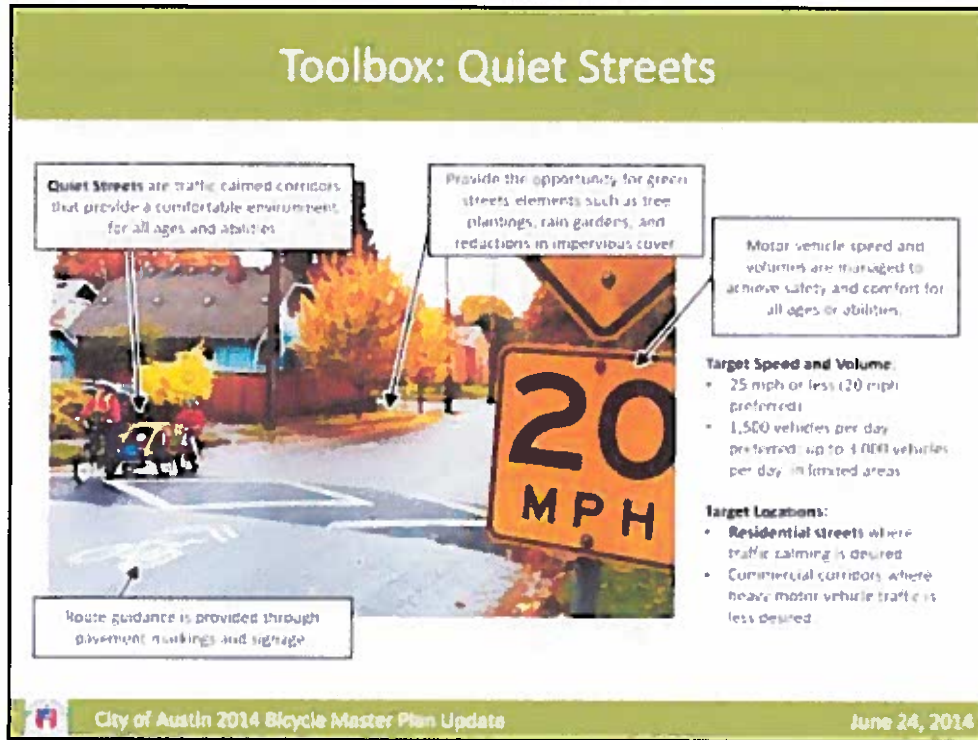
- Seville was able to achieve a higher bicycle mode share than Portland, OR in only 3 years due to the implementation of an 87 mile Dutch inspired protected facility network for \$43 million.



- An overview of the detailed recommendations of the 2014 Plan Update



- Visual guide of the principal tools used in the plan



- Visual guide of the principal tools used in the plan

Toolbox: Intersection Treatments

INTERSECTION TREATMENTS help users comfortably cross major streets on key routes.

Intersection Treatments include

- Crossing signs and markings
- Median refuge islands and curb extensions
- Crossing devices including actuated warning beacons and signals



Crossing times should account for all ages.

Actuated warning beacons and signals make the toughest crossings safe and comfortable



Median refuges make tricky crossings a simple two step process

Widths accommodate trailers and cargo bikes



City of Austin 2014 Bicycle Master Plan Update

June 24, 2014

- Visual guide of the principal tools used in the plan

Creating a Network:



- Austin's approach will involve all of these facility types to form one all ages and abilities network
- Our street network does not support reliance on only one of these facility types

Creating a Network:



The 8 to 80 Test:



***An 8 year old traveling
with an 80 year old should
be able to traverse the city
comfortable and safely.***



- The plan proposes to hold our network to the 8 to 80 test

Recommended Bicycle Facility

Speed and Volume Criteria

		Average Annual Daily Traffic (vehicle per day)		
		Less than 3,000	3,000-9,999	10,000+
85th Percentile	< or = 30	Quiet Street	Bike Lane	Buffered
Speed (MPH)	31-40	Bike Lane	Buffered	Protected
Measured or	41-50	Buffered	Protected	Protected
Projected	> 50	Protected	Protected	Protected

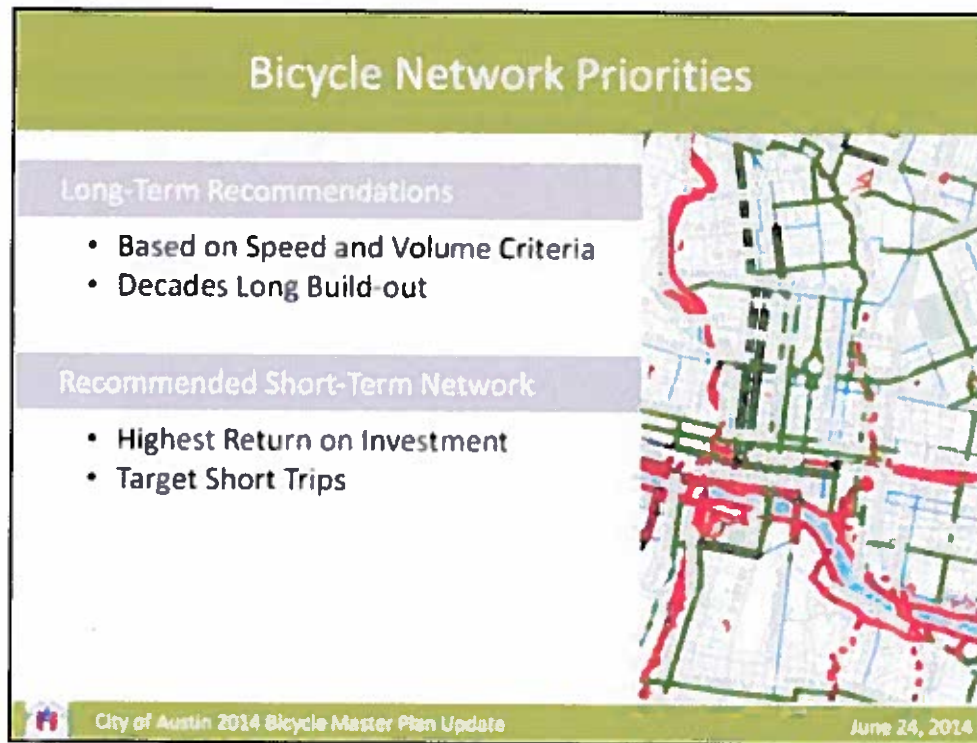
*Local streets that are important for the all ages and abilities network with less than 3,000 vpd and 30 MPH should be treated as necessary to meet the performance guidelines for Quiet Streets.

Special Consideration Will be Given To

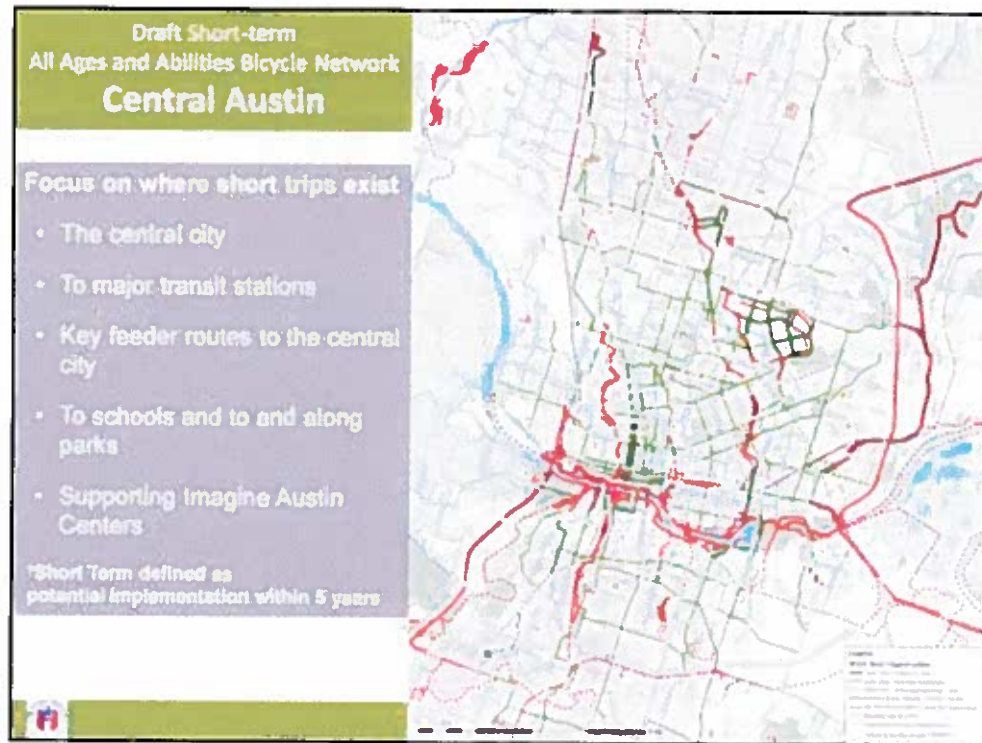
- On-street parking pressures
- Delivery activity
- Network context



- One of the biggest changes from the 2009 Bicycle Plan was to use the speed and volume criteria shown above instead of basing the recommendations from a 20 year old 1992 FHWA report on recommended bicycle facilities.
- The criteria above acknowledges, per current research and best practice, that on higher speed and volume roadways that protected bicycle facilities are necessary to attract the largest portion of the population that is interested in riding a bicycle for transportation but concerned about safety due to motor vehicle traffic.



- In addition to long term recommendations based on speed and volumes of motor vehicle traffic, a feasible short term all ages and abilities network is recommended



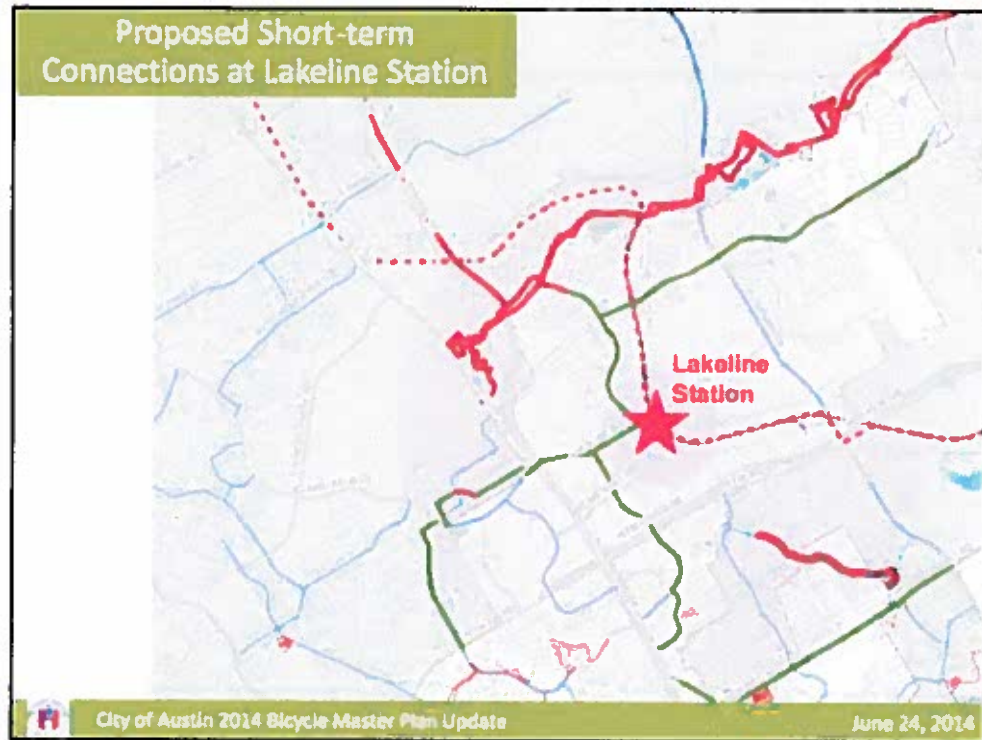
- This is a view of the short term network in the central city composed of on-street facilities and Urban Trails

Bicycle Lane Network Barriers

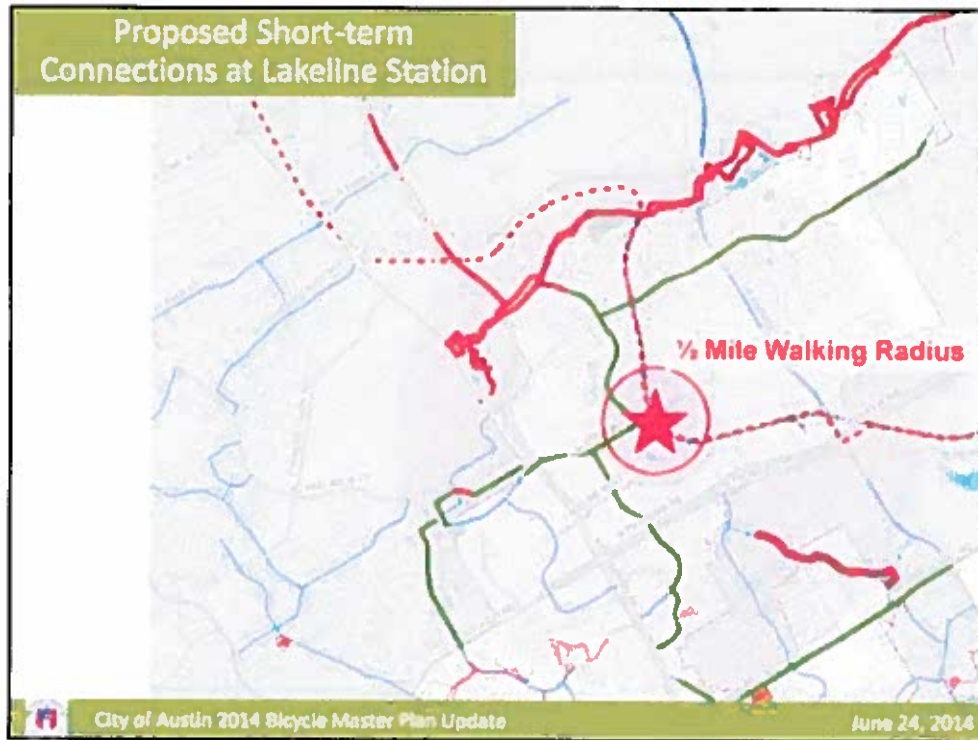
- Updated top 100 barriers
- Removal of barriers prioritized in plan



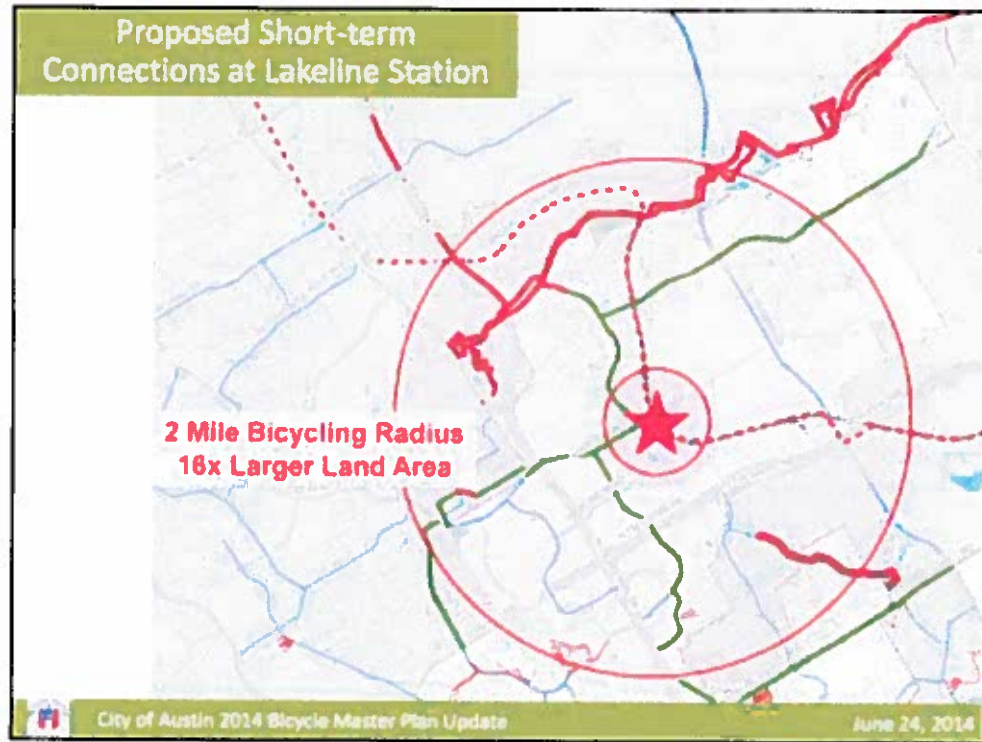
- Removing barriers even with the installation of bicycle lanes will continue to be a central element of the plan
- Past barrier along Barton Spring Road shown
- Barrier Resolved with animation



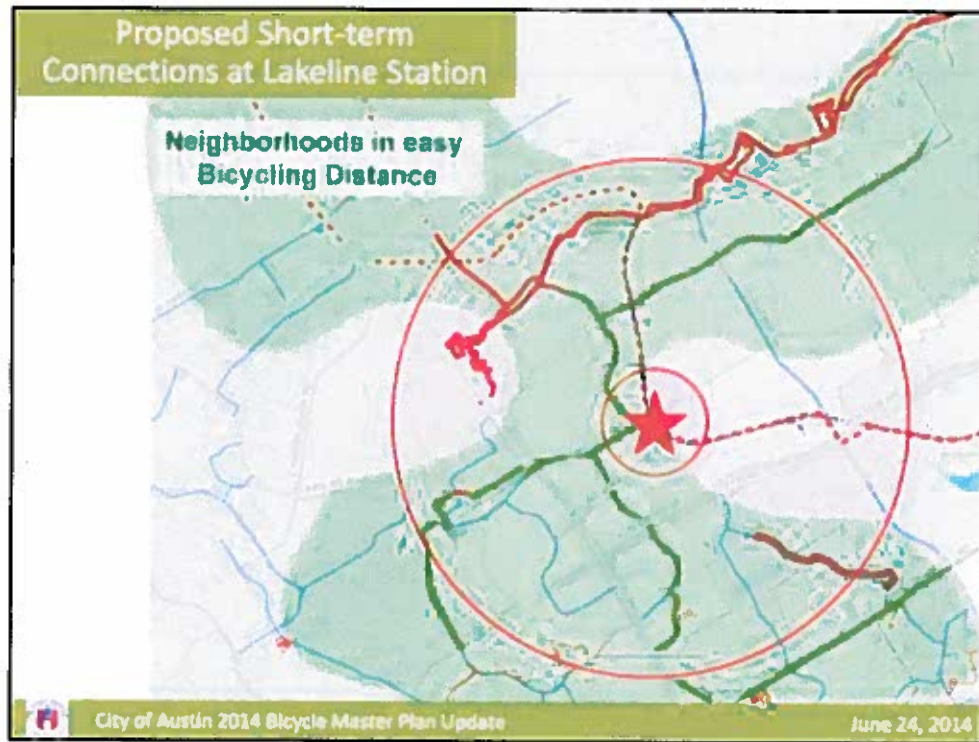
- An example showing the proposed network around the Cap Metro Lakeline station



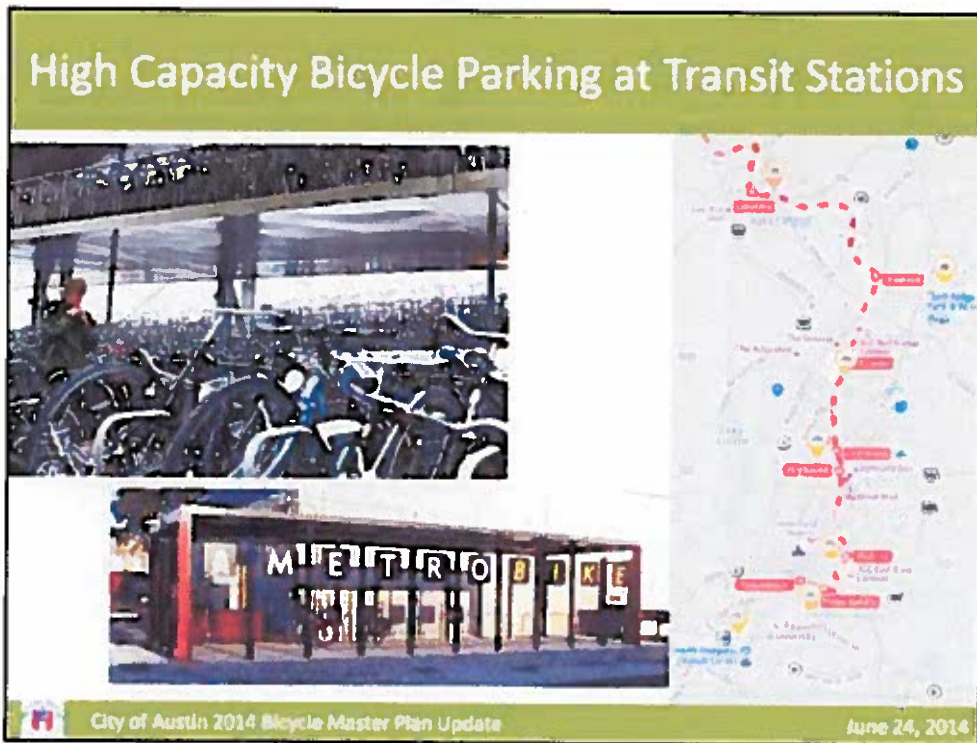
- A 1/2 mile radius around the stations does not reach many destinations



- A 2 mile bicycle radius has a far greater reach to surrounding destinations

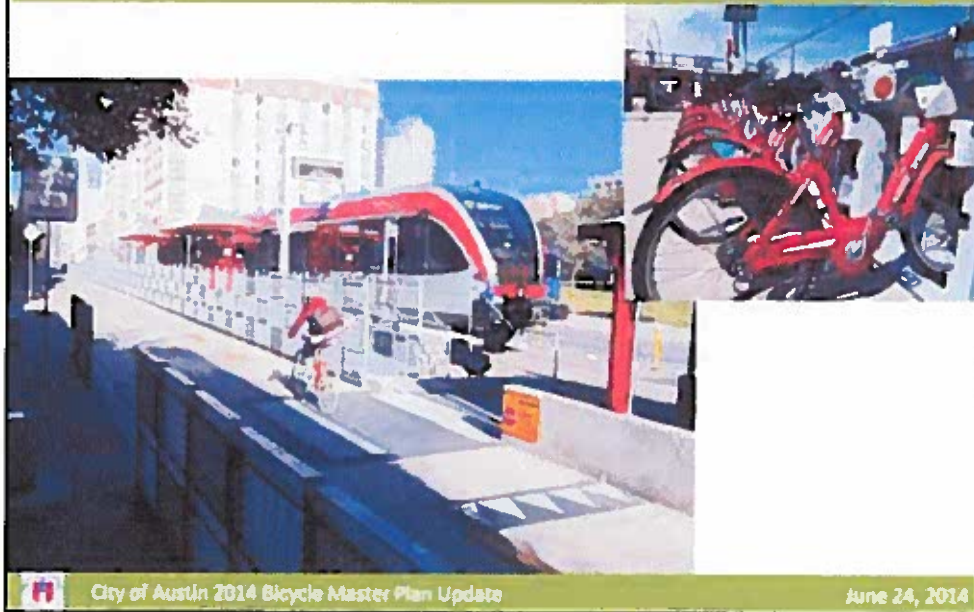


- The shaded areas show the destinations that would have safe bicycle access to the Lakeline station by a reasonable bicycle trip length. This presents an incredible opportunity to increase transit use, support transit oriented development, increase active transportation, and reduce drive alone trips.



- Bicycles should not take limited space on transit vehicles.
- Best practice is high capacity, secure bicycle storage at major transit stations.
- If protected bicycle networks better connect transit stations expanded bicycle parking will be necessary

Integrating Transit with Bike Share





City of Austin 2014 Bicycle Master Plan Update

June 24, 2014

- Bicycle Share systems have significant potential to increase a transit rider's level of service and access to last mile (or two) destinations.
- Plan update will support Bicycle Share network expansion



- Protected bicycle infrastructure will be prioritized to support *projectconnect's* transit vision.
- Safe bicycle access to stations will significant expand the transit system catchment and increase ridership

Implementation and Cost Considerations		 Urban Trails	 On-Street Facilities
		The ultimate protected environment	Providing safe access to local destinations
Cost		\$1.5 - \$2 million per mile*	\$50k - \$500k per mile*
		*For comparison: 6-lane freeway approximately \$51 million per mile 4-lane arterial roadway approximately \$22 million per mile (Source: CAMPO 2035 Plan)	
Timeline		3-8 years per project	6 months - 2 years per project



City of Austin 2014 Bicycle Master Plan Update

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- On-street facilities are much less expensive and can be implemented much faster than urban trails.

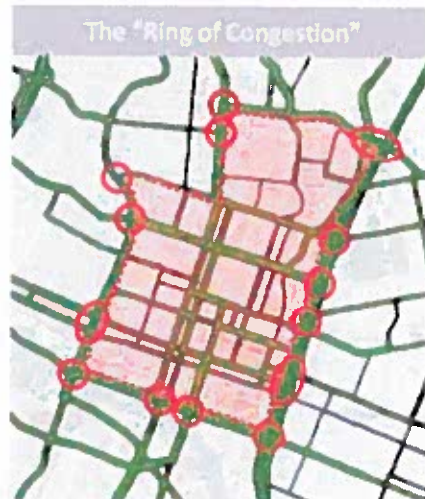
Benefits of Short Term Network Significant Mobility Improvements

Our *DRAFT* Analysis Shows
Of the 300k passenger vehicle trips that
enter the "Ring of Congestion" Daily

36% are less than 3 miles

If only 15% of these trips 0-3 miles
and 7% of trips 3-9 miles
are converted to bicycle trips

There would be a total reduction of
7% all motor vehicle trips
to the Ring of Congestion

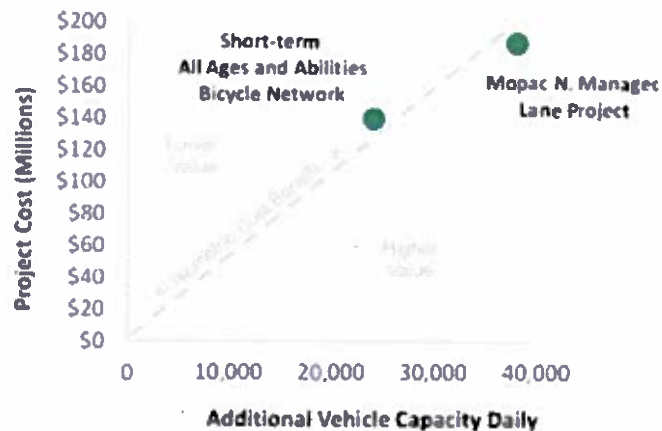


City of Austin 2014 Bicycle Master Plan Update

June 24, 2014

- Meeting our trip capture targets will the proposed short term all ages and abilities network will result in significant mobility improvements

Cost Benefit to Regional Mobility



City of Austin 2014 Bicycle Master Plan Update

June 24, 2014

- The cost benefit of the short-term all ages and abilities bicycle network is on par with other regional mobility investments.
- The benefits of the All Ages and Abilities Bicycle Network are not limited to mobility benefits. Other benefits include health, quality of life, economic development and workforce development, and household affordability.

Benefits of All Ages and Abilities Network Continued

- Citywide, a reduction of 170,000 daily driving trips, equating to 460,000 daily miles traveled is projected
- **Boost Affordability:** Due to decreased vehicle miles traveled, individuals would save a total \$170 million in direct driving costs annually.
- **Public Health:** 130,000 people or 15% of Austinites meeting their daily minimum physical activity. Savings from avoidance of disease associated with sedentary lifestyle per person is estimated at \$128 per person.

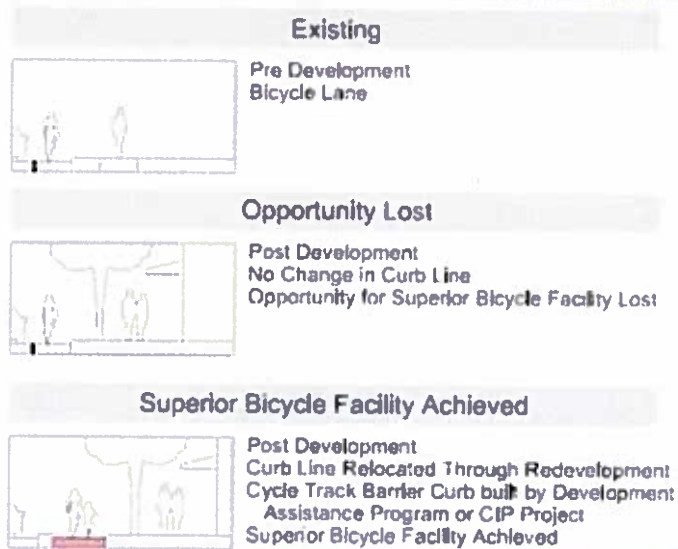


City of Austin 2014 Bicycle Master Plan Update

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- Benefits are calculated from the reduction of vehicle miles traveled resulting from the implementation of the All Ages and Abilities Bicycle Network. Reductions are calculated applying the trip capture targets for short trips that are served by the All Ages and Abilities Bicycle Network

Implementation with Development



City of Austin 2014 Bicycle Master Plan Update

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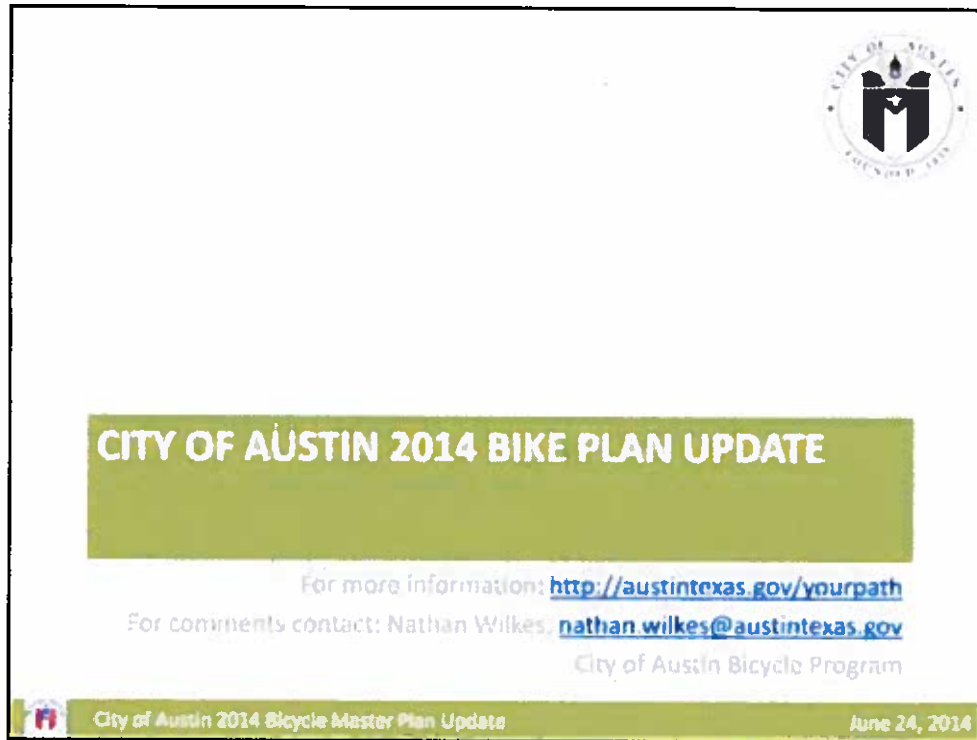
- It is important to ensure that corridors are shaped at time of development to provide safe bicycle facilities.
- This opportunity will not come again for many decades or more.

Boards, Commissions, and Council Status

Date	Meeting	Bike Plan Approval?
7 Apr	Pedestrian Advisory Council	Approved
8 Apr	Urban Transportation Commission	Approved
16 Apr	Environmental Board	Approved
19 May	Parks, Land, Facilities, and Programs Committee	Approved
27 May	Parks Board 6:30pm Boards and Commissions Room	Approved
2 Jun	Comprehensive Planning & Transportation Committee (CPTC) 2:40pm Boards and Commissions Room	Briefed
17 Jun	Bicycle Advisory Council	
24 Jun	Planning Commission	
26 Jun	City Council (conduct public hearing)	



- Schedule and status of boards and commission meetings.



- And thus concludes an overview of the content that is proposed to be included in the 2014 Bicycle Plan Update





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2014 BIKE PLAN

A Vision for Austin

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

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EXECUTIVE SUMMARY

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PROGRESS REPORT: 2009-2014

The City of Austin Bicycle Master Plan 2014 reflects today's best practices in municipal planning for bicycling at a national and international level. An update of the 2009 Bicycle Master Plan (2009 Plan) reflects the latest innovation in approaches and sets a goal of creating an "all ages and abilities" bicycle network.

Milestones Reached Since 2009

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

- Austin's bicycle network grew from 126 miles to 210 miles, a 70 percent expansion in only five years.
- The expanded bicycle network resulted in a citywide bicycle mode share of 2 percent in 2011, nearly doubling rates from 2009. (Mode share indicates people who primarily commute to work by bicycle, at least three days per week.)
- Within the 32 square miles of central Austin, the mode share reported was 5.5 percent in 2012.
- In specific neighborhoods where the City of Austin has made bicycle infrastructure investments, the bicycle mode share is as high as 13 percent.
- The percentage of Austinites who bike for transportation is now 13 percent.

The City of Austin completed dozens of new signature projects and removed various barriers to cycling. Some of these projects included creating new bicycle lanes on South Congress Avenue, Barton

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Springs Road, Cameron Road, South Lamar Boulevard and Guadalupe Street. Existing bicycle lanes were and continue to be routinely made safer and more comfortable by widening or buffering lanes and by addressing parking concerns in the bicycle lane. Many more projects are in construction or in design and are often coordinated with street resurfacing.

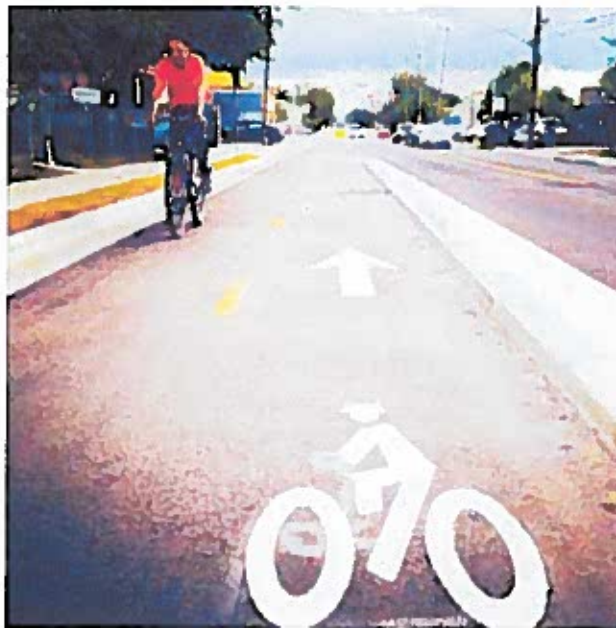
Shifts in Best Practice Bicycle Planning:

The following are significant national shifts in bicycle planning that form the primary building blocks for the 2014 Plan.

- In 2011, the National Association of City Transportation Officials (NACTO) released the Urban Bikeway Design Guide. This guide provides Austin and other U.S. cities with the tools and design guidance to begin implementing protected bicycle lanes and other innovative bicycle infrastructure.
- National studies have found that approximately half of the population is "interested but concerned" – they are interested in bicycling for transportation, but concerned about their safety on the roads. Data from Austin shows about 40 percent of people fall into this group and would ride in protected bicycle lanes, but not a painted lane. Only 15 percent of Austinites will ride in a painted bicycle lane on a busy road. Protected lanes appeal to and could serve 55 percent of Austin's population (2014 Bike Plan Phone Survey, 2013).
- There is an international focus on the importance of complete networks that serve people of all ages and abilities. The most notable success story is from Seville, Spain where an 87-mile network of protected bicycle lanes was installed, resulting in an increased bicycle mode share from 0.5 to 7 percent in only three years. It took Portland, Oregon, a leading U.S. bicycle city, 20 years to accomplish this same shift in behavior.

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- Leading cities across the U.S. are now investing in networks of protected bicycle lanes. New York City has more than 45 miles of protected bicycle lanes and Chicago is expected to complete 100 miles by the end of 2014.
- Short trips (less than three miles) serve as the best option of driving trips that can be converted to bicycle trips. Implementation of protected bicycle lanes should be focused where short trips most frequently occur to maximize the benefit.



Moving Forward Protected Lanes in Austin

In line with these national and international advancements, the City of Austin has begun implementing buffered and protected bicycle lanes.

- Austin was selected for the Green Lane Project in 2012, which catalyzes cities' implementation of protected lanes. One of six U.S. cities selected, bicycle stakeholders in Austin along with Portland, Oregon; Chicago, Illinois; San Francisco, California; Washington D.C.; and Memphis, Tennessee became national experts in protected lanes.

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- The Green Lane Project provided study trips, extensive training, peer support, research and other resources. The study trips took stakeholders to Denmark (2012) and Copenhagen (2013); participants included the City Manager, the City traffic engineer, a city council member, the public works director and other City leadership.
- During this same period, Think Bike brought leading Dutch bicycle planners, designers and policy makers to Austin for a workshop to generate ideas for South Lamar Boulevard and a complete network of protected bicycle lanes.
- Austin's buffered or protected bicycle lanes increased from 6 miles to 20 miles, in the two years following Austin's participation with the Green Lane Project.
- A \$20,000 grant from the Green Lane Project funded this update of the City's 2014 Bicycle Master Plan.

Examples of completed protected bicycle lane projects include Barton-Springs Road, Guadalupe Street, Bluebonnet Lane and Rio Grande Boulevard. Numerous other protected bicycle lanes are currently in the planning and design stages.

ACTIVATING IMAGINE AUSTIN

In 2012, the City of Austin adopted Imagine Austin, the first citywide comprehensive plan in 35 years. It captures the community's collective vision for how residents want Austin to grow and flourish. The 2014 Plan is shaped by Imagine Austin and will serve as a tool for implementing the comprehensive plan's policies and eight priority programs. Imagine Austin establishes big-picture, long-range goals; the 2014 Plan addresses specific projects and programs to activate the comprehensive plan's principles over the next five years.

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Imagine Austin Guiding Principles	Links to Bicycle Master Plan
1. Grow as a compact and connected city.	<ul style="list-style-type: none">• Compact places are connected by a bicycle network that is accessible by people of all ages and abilities.• Bicycling becomes a choice mode for short trips and encourages short trips, catalyzing the transformation to a more compact city.
2. Integrate nature into the city.	<ul style="list-style-type: none">• Trails and bikeways bring people on bikes to and through parks and natural areas, without the impacts of motor vehicles.
3. Provide paths to prosperity for all	<ul style="list-style-type: none">• Austin offers an attractive bicycle network, which helps to retain and attract both employees and employers.
4. Develop as an affordable and healthy community.	<ul style="list-style-type: none">• Cycling for transportation integrates physical activity into daily life, which helps people stay healthy.• Bicycles offer a dramatically lower-cost alternative to car ownership, or the need for a second family car.• Bicycling helps to lower transportation costs – consuming an average 20 percent of the typical household budget in metropolitan areas and a disproportionate 30 percent for low income families earning \$20 to 50 thousand a year (Center for Housing Policy, 2006)
5. Sustainably manage water, energy and our environmental resources.	<ul style="list-style-type: none">• Bicycling provides a non-polluting, energy-efficient, carbon neutral, and low-impact form of transportation
6. Think creatively and work together.	<ul style="list-style-type: none">• Realizing the Bicycle Master Plan requires this.• Creativity and collaboration will yield low-cost, low-impact solutions to achieving many Imagine Austin goals.

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FIVE-YEAR GOALS

The following are the key goals of the Plan.

- **Create An All Ages and Abilities Network:** Provide a bicycle network that serves people of all ages and abilities, providing direct and comfortable connections to where people live, work and play as part of implementing the City's Complete Streets policy.
- **Increase Ridership:** Achieve a significant increase in ridership, especially transportation cycling, and a corollary reduction in motor vehicle miles traveled and/or prevented traffic congestion.
- **Improve Safety:** Improve safety for all roadway users, including people on bicycles.
- **Support Imagine Austin:** Realize the potential of bicycling to support and achieve multiple goals of the Imagine Austin comprehensive plan.
- **Educate:** Inform and educate the public, government staff and elected officials about the potential of bicycling to help realize Imagine Austin and broad community goals.
- **Align:** Guide the development of bicycle infrastructure, policies and programs for all City departments, public agencies and the development community.
- **Build Support:** Develop partnerships and obtain appropriate resources and funding to fully implement the Plan.
- **Invest Strategically:** Make strategic investments to implement the 'All Ages and Abilities Network' and removal of bicycle lane network barriers.
- **Benchmark:** Achieve a platinum-level Bicycle Friendly Community designation by the League of American Bicyclists.

Please also see Summary Table: Goals, Objectives, and Benchmarks at the end of Executive Summary.

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BICYCLE PLANNING STRATEGIES

Make bicycling safe and comfortable for people of all ages and abilities.

The top priority of the Plan is to provide a bicycle network that is safe and accessible for people of all ages and abilities within the next five years. This requires improving Austin streets and rights-of-way in accordance with the City's Complete Streets policy. The 'All Ages and Abilities Bicycle Network' described in this Plan will serve to implement that policy.

Shift short car trips to bicycle trips. People are most likely to travel by bicycle for trips of less than three miles. Research data shows that if safe conditions exist, bicycling can become the preferred mode for these short trips. Therefore, the Plan focuses on physical improvements to areas where people make frequent trips of under three miles. Other prioritized trips include routes to schools and campuses, parks, business and shopping districts, Imagine Austin centers, and other popular destinations.

Family on cycle track.



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Serve longer trips by integrating bicycles and transit. The Plan focuses on providing bicycle routes to major transit stations allowing people to combine bicycling and transit for longer trips. Secure bicycle parking at stations and an expanded bike share system (B-Cycle) will support transit use by making cycling a viable "first and last mile" solution. For longer bicycling trips, priorities include routes to and from Central Austin.

THE BICYCLE SYSTEM

The City's "bicycle system" refers to our physical bicycle network, as well as supporting infrastructure such as end-of-trip facilities (bike racks, bike storage, showers, etc.), transit integration and a robust bike share system. The Plan recognizes the need to provide ongoing attention and maintenance for bicycle network elements.

Each element of the Plan includes objectives, actions and metrics.

Creating an All Ages and Abilities Bicycle Network

The priority recommendation of the Plan is to create an All Ages and Abilities Bicycle Network in the near future. Elements to create a this network include protected bicycle lanes, urban trails and quiet streets.

- **Protected Bike Lanes.** Protected bicycle lanes are bicycle lanes built in the street, which include a physical barrier or vertical separators to protect bicyclists from motor vehicle traffic. These lanes are dedicated for bicycle travel and may be either one-way or two-way streets. Protected lanes transform busy streets into a safer environment by providing security for all roadway users.
- **Urban Trails.** The City's Urban Trails program is developing hard-surface trails designed for use by pedestrians, bicycling and other non-motorized forms of transportation. They are intended for both transportation and recreational use. Urban Trails, separated from motor vehicle traffic, are the most comfortable and attractive environment for cycling and are an integral part of the bicycle network. Urban Trail priorities are set by the Urban Trails Program and guided by the Urban Trails Master Plan.

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- **Quiet Streets.** Local neighborhood streets offer bicycling routes that are inherently safer and more pleasant than busy major roads. Physical improvements to optimize designated "quiet streets" for bicyclists, and integrate them into the bicycle network, will include traffic calming devices and wayfinding signage. These measures also benefit pedestrians, especially on streets that lack sidewalks. Traffic calming techniques will help slow motorized vehicle traffic to safer speeds; consistent bicycle route

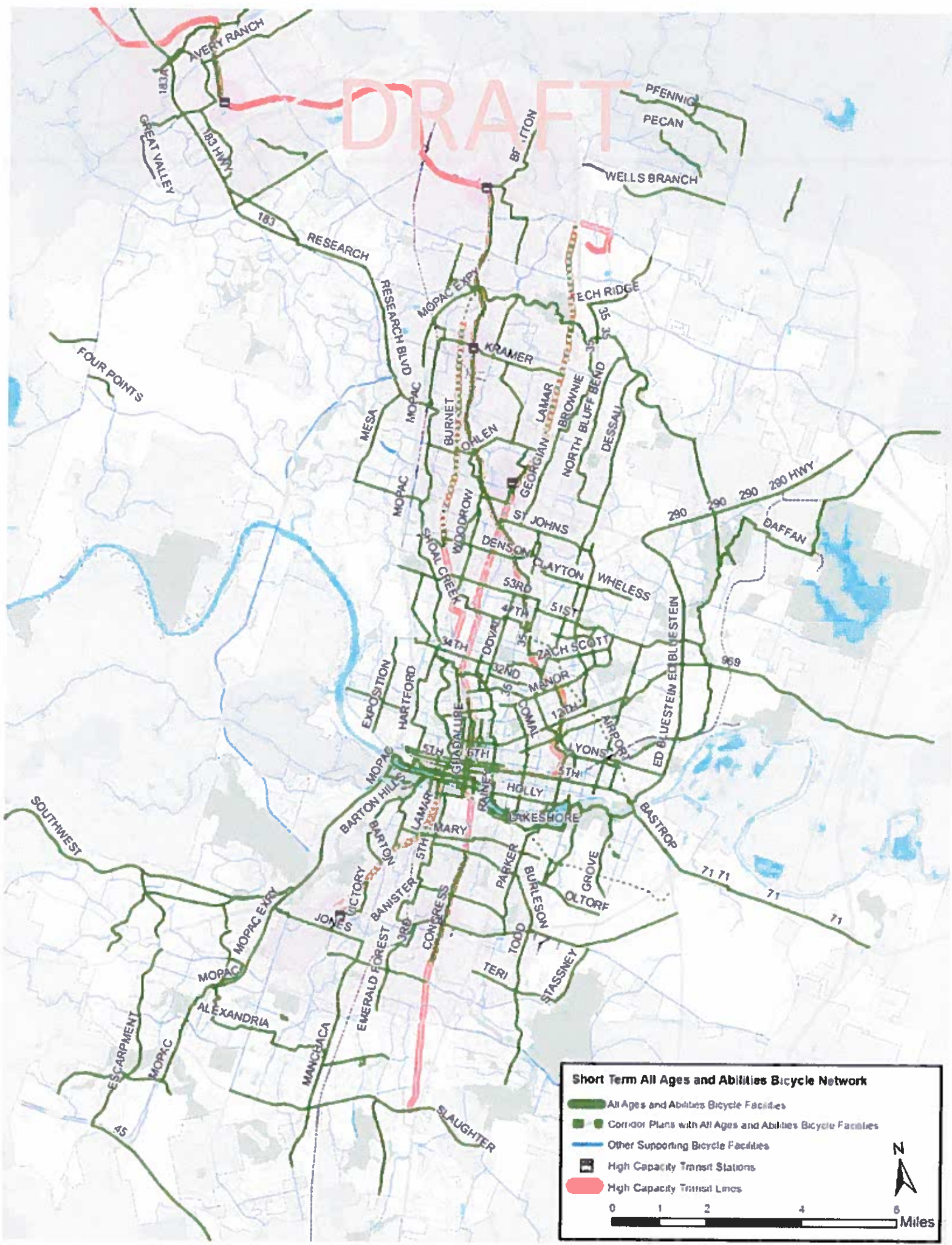
An analysis was conducted by the City staff to determine the most cost-effective bicycle network that could be retrofitted, compatible with existing motor vehicle capacity and parking needs, and not require costly street reconstruction. Areas where short trips could be captured were prioritized including neighborhoods within central Austin, locations near transit stations, schools, parks and other Imagine Austin centers.

Cycle track at
Guadalupe and
24th Street



The cost of the All Ages and Abilities Bicycle Network is \$155 million and leverages many existing and already planned bicycle facilities. The cost

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Short Term All Ages and Abilities Bicycle Network

- All Ages and Abilities Bicycle Facilities
- Corridor Plans with All Ages and Abilities Bicycle Facilities
- Other Supporting Bicycle Facilities
- High Capacity Transit Stations
- High Capacity Transit Lines

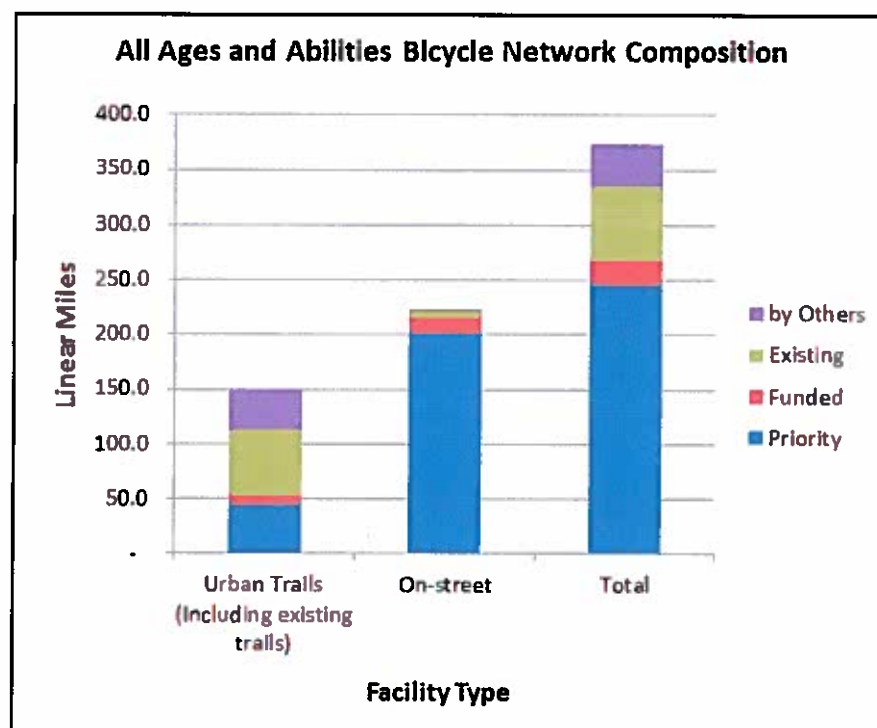
0 1 2 4 6 Miles

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includes \$66 million for 200 new priority miles of on-street facilities at an average of \$330,000 per mile and \$89 million for 44 new priority miles of Urban Trails at an average of \$2 million per mile.

The chart to the right shows the composition of the 370 miles that make up the 'All Ages and Abilities Network'. 220 miles of the network are on-street facilities and 150 miles are off-street facilities, largely urban trails and existing unpaved trails. The chart captures the total miles that are either funded by the City of Austin or to be funded by others such as the Central Texas Regional Mobility Authority as part of a larger toll road project.



Returns on Investment

A detailed cost-benefit analysis was conducted by City staff for the investment of the 'All Ages and Abilities Network' as part of the region's transportation system. The analysis conservatively estimates the benefits resulting from an expected increase in bicycle use and associated decrease in

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motor vehicle use, in addition to the existing bicycle use today. The analysis draws on data from other cities that have existing all ages and abilities bicycle networks, in order to forecast levels of bicycle use where safe networks and short trips overlap (see details on the methodology used in Chapter 2.)

From a mobility perspective, the cost-benefit analysis demonstrates this is an investment of regional significance when compared to other major projects intended to manage congestion. Other benefits that strengthen the case for investment include improved household affordability, economic development, public health and environmental conditions. Returns include:

Reduced car trips. This investment is anticipated to convert 7 percent of the 300,000 daily passenger vehicle trips to the central business district and university area in Austin to bicycle trips. Citywide, a reduction of 170,000 daily driving trips, equating to 460,000 daily miles traveled is projected if the 'All Ages and Abilities Network' is constructed.

Boost affordability. By offering people a viable low-cost transportation option, the bicycle network can help families significantly cut the household expense of owning and operating a vehicle. Due to decreased vehicle miles traveled, individuals save \$170 million in direct driving costs annually.

Regional mobility and congestion management. A \$155 million investment in the All Ages and Abilities Bicycle Network, as compared with a \$180-200 million investment in the Mopac Improvement Project (an 11-mile managed lane project currently under construction) delivers a greater increase in vehicle capacity into downtown per dollar in project costs.

Public health benefits. Increasing the percentage of travelers who regularly bicycle for transportation directly correlates to improved public health. The increased physical activity associated with shifting short trips to bicycle trips would equate to 130,000 people or 15 percent of Austinites meeting their daily minimum physical activity. Savings from avoidance of disease associated with sedentary lifestyle per person is estimated at \$128 per person.

Environmental benefits. By reducing vehicle trips, bicycling reduces the pollution from motor vehicles. This, in turn, reduces the costs to mitigate

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environmental damage and public health impacts from air pollution that vehicles create. The reduction in miles traveled would result in a reduction of 84,000 metric tons of carbon per year. By comparison Austinites generate 46,000 metric tons of carbon a day.

Barrier Removal

There is an existing and extensive network of painted bicycle lanes. While not offering the same quality as protected bicycle lanes, these lanes can often be installed in locations where protected lanes are not feasible. This will extend the reach of the bicycle network. The Plan prioritizes removal of barriers in the painted bicycle lane network, estimated at a cost of \$10 million.

Bike Share

Building upon the early success of Austin's bike share system, the Plan recommends expansion as a priority investment. Bike share provides transportation for short trips in central Austin, and a "last mile solution" for longer trips by transit, carpools or vehicles into downtown Austin.

Austin bike share



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PROGRAMS

Education and Promotion. Education is as critical to success as the physical bicycle network. Raising awareness, communicating the benefits of bicycling, promoting use of the bicycle network, and helping people learn how to bike safely will be critical to achieving success. The Plan recommends creating a Smart Trips program - a bicycling education and encouragement program designed to reduce drive-alone trips funded appropriately to reach 20,000 households per year. The City of Portland's investment in a Smart Trips program resulted in a 9 to 13 percent reduction in drive-alone trips for the neighborhood served each year for a decade.

Enforcement Programs. In coordination with the Austin Police Department, enforcing the rules of the road for bicyclists is important to create safer conditions for all travelers.

IMPLEMENTATION FRAMEWORK

The Plan follows the five-point implementation framework of Imagine Austin. This alignment strengthens the connection between the plans.

Education and Engagement. The Plan will raise awareness, understanding and support for the Imagine Austin goals and elements. The Plan recommends partnering with other transportation stakeholders to provide systematic education and encouragement.

Internal Alignment. Realizing the Plan will require the City of Austin take a collaborative, cross-departmental approach to execution. It requires integrating City department planning efforts, long-range and short-term capital investments, major initiatives and work programs, and long-range budgets.

Regulations. City code and regulations should support creation of the bicycle network and help produce a built comfortable environment for bicycling. The Land Development Code and Transportation Criteria Manual currently are being revised to help create a more compact and connected city.

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The jurisdiction of the Plan is the City of Austin, including its extraterritorial jurisdiction.

Public Investment. The Plan defines an overall need for approximately \$165 million in City of Austin capital investments for both the All Ages and Abilities Bicycle Network and bicycle lane barrier removal. In addition to capital costs (to construct protected bike lanes, paved trails and other infrastructure), the City and its partners must budget appropriately for operating costs (program staff, education programs, operations and maintenance). City staffing needs to be expanded for the Bicycle Program (housed with the Austin transportation department's Active Transportation Program). The Plan recommends adding at least one Bicycle Program position in each of the next three years.

For an investment strategy, the Plan recommends Austin leadership elevate investment in our bicycle system to a level of regional significance. It recommends a multi-pronged, diverse and creative funding strategy. Traditional funding sources include the City general fund, transportation fund, voter-approved bonds and federal grants. Other innovative funding approaches and partnerships should also be developed.

Partnerships. Many different partners could support Bicycle Master Plan implementation, as the benefits of bicycling are communitywide and help advance all aspects of the community's Imagine Austin vision. Education and engagement activities will broaden the support base for the Plan's realization and open the door to new partnerships.

MEASURING SUCCESS

The Plan recommends ongoing evaluation and annual monitoring of benchmarks to ensure goals, objectives and actions are being met within the set timeframe. It also recommends measuring real outcomes through the regular collection of data from bicycle facility use, ridership counts, surveys, mode splits and other metrics used to track the growth of bicycling over time and qualitatively evaluate the user experience.

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Updates. The Plan should be updated periodically (every five years) to assess progress, identify new opportunities, and re-evaluate vision, goals, objectives and actions.

Summary Table: Goals, Objectives, and Benchmarks

GOAL	OBJECTIVE	METRIC/ BENCHMARK
Create a Network - Provide a bicycle network that serves people of all ages and abilities, providing direct and comfortable connections to where they live, work and play as part of implementing the City's Complete Streets Policy.	N/A	Provide an all ages and abilities bicycle route within ½ mile of 50% of all households, workplaces, and destinations by 2020 and 100% by 2025.
Increase Ridership - Significantly increase bicycle use across Austin for all trip purposes.	N/A	<p>Increase citywide workforce commuter bicycle mode to 3% by 2015 and to 5% by 2020.</p> <p>Increase central city workforce commuter bicycle mode to 10% by 2015 and to 15% by 2020.</p>
Improve Safety - Improve safety for all roadway users, including people on bicycles.	N/A	<p>Reduce bicycle fatalities by 50% from 2009 levels by 2015 and eliminate bicycle fatalities completely by 2020.</p> <p>Reduce the crash rate (number of work-age (16+) bicycle-related crashes as share of bicycle commuters per US Census Bureau journey to work estimates) by 1% every 5 years starting with 5% in 2015 as a baseline year.</p>
Educate - Inform and educate the public, government staff, and elected officials about the potential of bicycling to help realize Imagine Austin and broad community goals.	N/A	Evaluate education and engagement efforts towards the implementation of the Plan every year and include in an annual report
Align - Guide the development of bicycle infrastructure, policies and programs for all City departments, public agencies, and the development community	N/A	Evaluate the extent of internal alignment across all departments towards the implementation of the Plan every year and include in an annual report.

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GOAL	OBJECTIVE	METRIC/BENCHMARK
Build Support - Build support, develop partnerships and obtain appropriate resources and funding to fully implement the Plan.		<p>Fund all priority recommendations by 2020.</p> <p>Create and execute a Bicycle Plan Implementation Charter by 2015 to be signed by all partner public, private, and non-profit organizations that take a stake in the realization and implementation of this Plan.</p> <p>Review and update the charter and signatories every two years.</p>
Invest Strategically - Make strategic investments to implement the "all ages and abilities network" and removal of bicycle lane network barriers.		<p>Complete 50% of the "all ages and abilities network" and removal of bicycle lane network barriers by 2020 and 100% by 2025.</p>
Benchmark - Achieve a Platinum level Bicycle Friendly Community designation by the League of American Bicyclists		<p>Achieve Gold level Bicycle Friendly Community designation by 2015 and Platinum level by 2020.</p>

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SUB GOAL	OBJECTIVE	BENCHMARK
BIKE SYSTEM		
Provide and maintain a comprehensive bicycle system that serves all residents and neighborhoods of Austin, providing safe and comfortable bicycle facilities for people of all ages and abilities.	Complete the creation of a well-connected bicycle network that is safe and convenient for people of all ages and abilities serving all Austin residents and neighborhoods.	<p>Complete 20% of the short term all ages and abilities network by 2017, 50% by 2020, and 80% by 2025.</p> <p>Complete 60% of bicycle network by 2015, 70% by 2020, and 100% by 2030.</p> <p>Remove 30% of barriers list by 2015 and 75% by 2020.</p> <p>Annually contact adjacent jurisdictions to discuss bicycle system and connectivity improvements needed to realize our proposed system.</p>
	Address issues of parking in bicycle lanes.	<p>Address issues of parking in all bicycle lanes by 2020.</p> <p>Establish a citywide ordinance prohibiting parking in bicycle lanes by 2020.</p>
	Provide adequate end-of-trip facilities to advance bicycle transportation.	<p>Reinstate a bicycle rack program or fund a public/private partnership to provide 500 new short-term bicycle parking spaces per year installed on the right-of-way or private property serving existing developments.</p> <p>Provide long-term bicycle parking at Austin Bergstrom International Airport by 2015.</p> <p>Establish incentives for showers and secure ground accessible bike parking rooms in residential and office uses by 2015</p>
	Work with Capital Metro to coordinate the bicycle system with transit.	<p>Coordinate with Capital Metro to equip all Capital Metro buses, rail cars, and van pools with bicycle racks that accommodate three bicycles by 2020, where safe.</p> <p>Include short and long term bicycle parking at 100% of locations meeting transit stop bicycle parking criteria by 2015.</p>

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SUB GOAL	OBJECTIVE	BENCHMARK
PROGRAMS		
Increase bicycle safety and use through education programs	Develop and execute programs to improve bicycle safety and roadway behavior.	Distribute 5,000 Austin Bicycle Map Brochures each year. Educate 1,000 adult bicyclists and motorists about bicycle and motorist safety each year. By 2015, hire one staff member to focus on education and promotional programs.
Increase bicycle use through encouragement programs	Develop and execute encouragement programs to promote bicycling and increase awareness of bicycling among the general public	Increase bicycle mode share of children commuting to school to 25% by 2020. Educate 90% of school-aged children about bicycle safety each year. Conduct safe biking and safe walking encouragement & messaging to school-aged children. Provide encouragement and education outreach to all students, parents, and staff at schools served by new or improved bicycle facilities.
Improve safety for all road users through targeted enforcement / educational campaigns	Strengthen efforts to enforce proper motorist and bicyclist behavior and reduce bicyclist-motorist collisions.	Expand and publicize enforcement of the safe passing law and increase citations by 10% per year. Increase citations for speeding, distraction and impairment by 10% per year and publicize enforcement efforts.
	Ensure best practice bicycle related laws are in place.	Evaluate bicycle laws every 2 years and work with APD and City prosecutors to bring them up to national best practice.
	Ensure consistent interpretation and enforcement of bicycle related laws by Austin Police Department	Evaluate APD Uniform Traffic & Tolerance Policy every 2 years to ensure equitable enforcement for all roadway users. Train 100% of APD law enforcement officers in bicyclist and motorist behavior, laws and bicycle issues in conjunction with the City Bicycle Program.

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SUB GOAL	OBJECTIVE	BENCHMARK
IMPLEMENTATION & FUNDING		
Strengthen implementation efforts through a five-point implementation program to fulfill goals and objectives of this Plan.	Strengthen implementation efforts to fulfill goals and objectives of this Plan.	Evaluate efforts towards the implementation of the Plan every year and include in an annual report. Complete 10% of Action Items by 2015, 40% by 2020, and 100% by 2030.
	Educate and engage all relevant internal and external stakeholders to support the goals and implementation of the Plan.	Evaluate education and engagement efforts towards the implementation of the Plan every year and include in an annual report.
	Create internal alignment across all departments to support the goals and implementation of the Plan	Evaluate the extent of internal alignment across all departments towards the implementation of the Plan every year and include in an annual report.
	Update necessary regulations to support the goals and implementation of the Plan.	Evaluate relevant regulations on the extent of their alignment in support of the implementation of the Plan every year and include in an annual report
	Identify and secure public investment to support the goals and implementation of the Plan.	Fully fund the Short Term All Ages and Abilities Bicycle Network by 2020. Fund the removal of 80% of the top barriers in the supporting bicycle network (bicycle lane network) by 2020. Fund and partner to expand the bicycle share system to 800 bicycles by 2015 and 2,000 bicycles by 2017. Fund and partner to create a Smart Trips program, an educational and encouragement program to reduce drive alone trips, that reaches 20,000 households a year. Submit grant applications for all applicable opportunities towards the implementation of the Plan. Evaluate both local and outside funding towards the implementation of the Plan every year and include in an annual report.

SUB GOAL	OBJECTIVE	BENCHMARK
IMPLEMENTATION & FUNDING		
Cont.	Cont.	Expand Bicycle Program staff by 1 employee by 2015, 2 by 2016, and 3 by 2017.
	Create partnerships to support the goals and implementation of the Plan.	Create and execute a Bicycle Plan Implementation Charter by 2015 to be signed by all partner public, private, and non-profit organizations that take a stake in the realization and implementation of this Plan. Review and update the charter and signatories every two years.
	Periodically monitor implementation progress and update Plan on a regular basis.	Evaluate benchmarks annually, and report them to appropriate City Boards and Commissions. Update the Bicycle Plan at least every ten years, with interim updates every five years.
	Monitor Austin's progress among peer cities.	Achieve gold level Bicycle Friendly Community designation by the League of American Bicyclists by 2015 and platinum level by 2020.

*A more detailed chart of performance measures is provided in Chapter 4, Implementation and Measuring Success, Objective 4.8.

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