

# City of Austin Urban Trails Master Plan

April , 2014



# Urban Trails Plan Summary

Section 1	Introduction
Section 2	Existing Urban Trails
Section 3	Public Input
Section 4	Goals
Section 5	Urban Trail Standards
Section 6	Operational Requirements
Section 7	Implementation



# Section 1 – Introduction



# Purpose - Urban Trails Master Plan

## Urban Trails Master Plan

- Standards and Definition
- Improve Existing Trails
- New Trail Corridors
- Cost and Prioritization
- Recommended Policy

## Cycle Track Update

- Identify Criteria for Cycle-Track Recommendations
- Develop a Cycle-Track Network
- Cost and Prioritization



- Form a Seamless All-ages Friendly Active Transportation Network
- Develop Plans Consistent with Imagine Austin Comprehensive Plan (IACP)

# Best Practices Review – Urban Trails Plan

- Few communities have created an urban trails plan. Typically, trail plans are a component of park plans or have a recreation focus.
- Relevant examples include Seattle (2013), Fort Collins (2013), Portland (2009)
- Definitions of urban trails are similar to that used by the City of Austin.



# Definition of an Urban Trail

A citywide network of non-motorized, multi-use pathways that are used by bicyclists, walkers and runners for both transportation and recreation purposes.

- Defined by the 2009 Bicycle Master Plan
- Follows guidance from Imagine Austin
- Considers definitions used by other communities
- Confirmed by Citizen Advisory Group and Technical Advisory Group



Southern Walnut Creek Trail

# Characteristics of an Urban Trail

(both existing or proposed corridors)

- Serve both transportation and recreation users
- Multiple connections to City around it
- Can accommodate a variety of bicycle and pedestrian users
- Potential for aesthetic appeal (increases usage)
- Perceived to be safe (increases usage)
- Links to the active transportation network
- Multi-use
- All weather surface



# Section 2 –Existing Trails





# Existing Urban Trails in Austin

- **300 miles of trails** of all types.
- **25+ miles** of existing urban trails (or having the potential locational and connectivity requirements of an urban trail).
  - Boardwalk (component of Butler Trail) – 1+ miles
  - Country Club Trail – 4 miles
  - Johnson Trail – 1 mile
  - LAB – 2 miles
  - Shoal Creek Trail – 4 miles
  - Southern Walnut Creek Trail – 5 miles
  - Northern Walnut Creek – 3 miles  
Phase I under construction
  - US 290 Sidepath to Manor – 5 miles

# Shoal Creek Trail (urban trail component only)

Year Built	Early 1960's
Total Length	4 miles +/-
Average Trail Width	6' to 10'
Pavement Material	Concrete in some areas, native material in others
Pavement Condition	Average to fair
Notable Features and Potential	<ul style="list-style-type: none"><li>▪ Serves much of the core area of Austin north and west of Downtown, can connect to future urban trails paralleling MOPAC</li><li>▪ Excellent access from surrounding areas. Total of 15 access points and 5 major trail head locations.</li></ul>
Additional Investments Required	Widening of trail, improvements to gaps where width is inconsistent, lighting, wayfinding improvements



# Shoal Creek Trail



# Planned Urban Trails

- Planned urban trails are currently under design, but are not yet fully funded.
- Includes 30+ miles:
  - Onion Creek Trail (City of Austin portions) – 10+ miles
  - CAPMETRO Rails with Trail – 20+ miles (may include some on-street bicycle facilities where rail corridor width is constrained)
  - YBC Trail (Southwestern Austin) – 7 miles +/-



# Section 3 – Public Input





# Public Input on Urban Trails

- Designed to engage all members of the Austin community.
- The purpose was:
  - to learn about how the community uses Urban Trails,
  - hear feedback on current trails and recommendations for the future, and
  - incorporate preferences for existing and future trails into the master plan.

Several tools for engagement were employed to gain a wide perspective on behavior and ideas about bicycling and Urban Trails in Austin.



# Public Input on Urban Trails

- The statistically valid survey expresses the opinion of the general Austin community. The results from this study help us understand general perceptions and attitudes about bicycling in Austin.
- The trail user and online surveys represent the bicycling community in Austin. Participants of these surveys currently utilize or would like to utilize bicycle and Urban Trail facilities.
- The input from public meetings helped identify specific routes for improvements and expansions as well as overall feedback on the Urban Trail network.
- Statistically valid survey: 603 respondents
- Austin Urban Trail User survey: 189 respondents
- Online survey: 2,392 respondents
- Public meetings and Targeted Outreach
  - 6 public events
  - Questionnaire: 105 respondents
  - Online Open House survey: 66 respondents



# Bicyclists in Austin

## 4 Types of Bicyclists

The Statistically Valid Survey used a method of classification popularized in Portland, Oregon to describe the types of bicyclists found in Austin.

Strong & Fearless	Very comfortable without bike lanes	2%
Enthusied & Confident	Very comfortable with bike lanes	15%
Interested but Concerned	Not very comfortable, interested in biking more/ Not very comfortable, currently cycling, not interested in biking more	39%
No Way No How	Physically unable/ Very uncomfortable on paths/ Not very comfortable, not interested in biking more, not currently cycling	44%



# Public Input

**41%** of adults and over **75%** of kids ride bikes in Austin

**23%** of adults ride a bike often  
**3%** ride daily

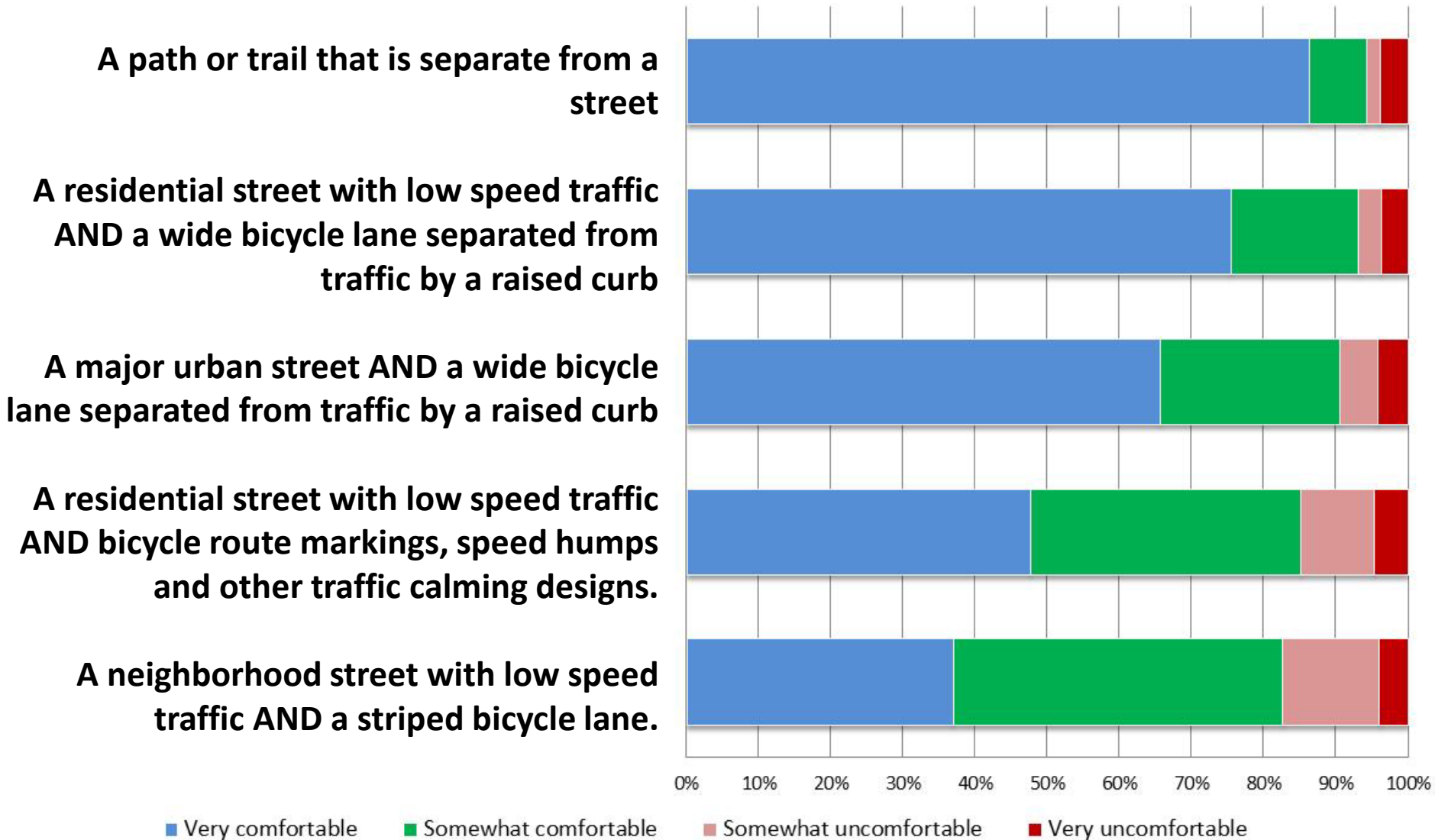
**54%** want to ride more

**Top 7 barriers** preventing people from riding a bike are:

1. Weather too hot (75%)
2. Destinations too far (52%)
3. Do not feel safe (46%)
4. Bicycle lanes, trails not connected (44%)
5. Lack of shade (40%)
6. Bicycle lanes, trails not available (40%)
7. Takes too long (38%)

# Public Input

## Scenario Preferences

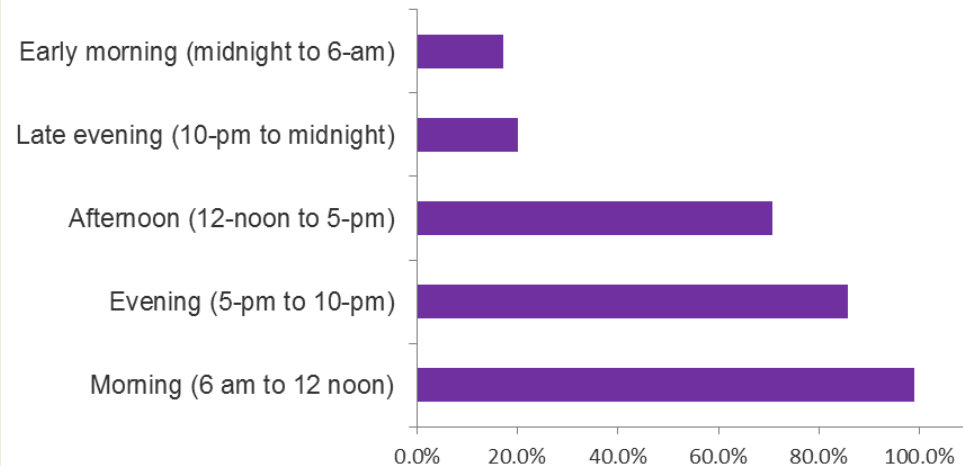
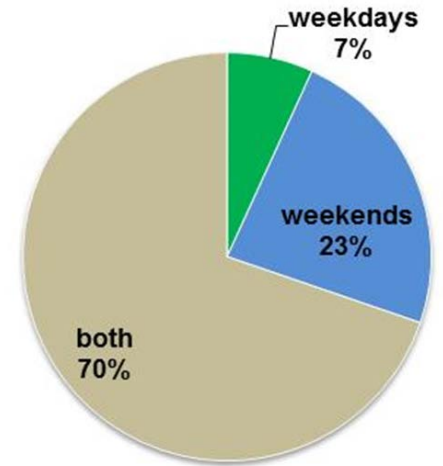


# Public Input

## Current Urban Trail Users

- Heavier usage on the weekends.
- Main use is recreation.
- Two peak periods:
  - 6 AM to 12 noon
  - 5 PM to 10 PM.
- The majority of trail users arrive by bicycle followed by driving a car.

When do you use the trails?



# Public Input

## **Benefits of a connected and protected Active Transportation Network:**

1. Improved quality of life
2. Increased health/ physical activity
3. Reduced congestion

## **Most important potential Urban Trail improvements:**

- Improve access to trails from nearby neighborhoods and businesses
- Separate areas for walkers and bicyclists
- Add Lighting
- Amenities like drinking fountains
- Improve smoothness of trails
- Widen trail surfaces
- Signage and Wayfinding

# Section 4 – Urban Trail Goals for Austin



# Urban Trail Goals for Austin

1. Create an network that it easy to get to.
  - In the core area of the City, no point is further than a 5 minute bicycle ride or a 10 minute walk from an urban or park trail.
  - In other parts of the City, no resident is further than a 10 minute bicycle ride or a 15 minute walk from an urban or park trail.



# Urban Trail Goals for Austin

2. Link all urban trails to the on-street bicycle and sidewalk network around them
  - Create frequent gateways or access points to the urban trail network.
  - Ensure that any user can safely ride or walk to the urban trail nearest to them.



# Urban Trail Goals for Austin

3. Make trails wide enough to accommodate both recreation and transportation uses.
  - Are developed with all weather surfaces that can accommodate both pedestrians and bicycles
  - Are developed with accessibility for all users and all levels of ability, including users with disabilities.





# Urban Trail Goals for Austin

4. Incorporate trail amenities and features to reflect the uniqueness of Austin.
  - Incorporate amenity features, including mile markers, wayfinding, periodic trailheads, gateway features, parking and access points to increase interest in the urban trail corridors.
  - Include interpretive/educational features and public art components that link the trail to the area around it.
  - Promote the use of urban trails with maps, wayfinding and periodic events celebrating Austin's unique urban trails system.



# Urban Trail Goals for Austin

5. Adequately maintain and operate urban trails.
  - Plan and fund periodic upgrading/replacement of urban trail paving and associated features.
  - Include adequate levels of lighting and safety patrols to maintain a strong sense of security along all urban trails.



# Section 5 – Urban Trail Standards



# Trail Standards

Primary national resources for trail standards and design guidelines include The American Association of State Highway and Transportation Officials (AASHTO), the National Association of City Transportation Officials (NACTO), the Federal Highway Administration (FHWA) and the Institute of Transportation Engineers (ITE). This plan considers recommendations set forth by these entities and supports the use of these resources for trail standards and design guidelines.

Resources include:

- *AASHTO Guide for the Development of Bicycle Facilities*, 2012
- *NACTO Urban Bikeway Design Guide*, 2011 and *Urban Street Design Guide*, 2013
- *ITE Designing Urban Walkable Thoroughfares*, 2010
- FHWA Memorandum on *Guidance: Bicycle and Pedestrian Facility Design Flexibility*, 2013
- TMUTCD (Texas Manual on Uniform Traffic Control Devices)
- ADAAG (Americans with Disabilities Act Accessibility Guidelines)
- TTI (Texas Transportation Institute)
- TxDOT (Texas Department of Transportation)
- U.S. Department of Transportation
- TAS (Texas Accessibility Standards)



# Trail Standards

- The trail standards will include a range to accommodate different environmental, contextual, and stakeholder needs.
- Creating a range of design standards takes into account the many constraints and particularities of varying trail settings.
- This flexible approach to trail design aims to maintain and accommodate Austin's superior development and design standards.



# The Austin Urban Trail

	Criteria
Minimum Width	12'
Minimum Shoulder	2' (5' preferred)
Min. Vertical Clearance	10'
Maximum Cross Slope	2%
Maximum Grade	5% (8.25 % with handrails)





# Dual Track

	Criteria
Minimum Width	8' for pedestrian side 10' for bicyclist side
Minimum Shoulder	5' user separation 2' shoulder
Vertical Clearance	10'
Maximum Cross Slope	2%
Maximum Grade	5%



Source: American Trails

# Design Considerations

## ASPHALT

VS:

## CONCRETE

### Advantages:

- All-weather, smooth, hard surface
- Lower construction costs than concrete
- Softer surface than concrete, hence preferred by runners

### Disadvantages:

- Longer term, less durable than concrete – required periodic compaction/re-surfacing. Requires budgeting for maintenance
- Not recommended for trails that are subjected to periodic flooding

### Advantages:

- All-weather, smooth, hard surface
- Long life span
- Low maintenance makes it very cost-efficient

### Disadvantages:

- Pavement markings, like paint stripes, do not appear as visible or vibrant against a concrete surface
- Rougher surface (not preferred by runners)





# Bridges and Underpasses

	Criteria
Minimum Width	14'
Vertical Clearance	10'
Railing	42" minimum 48" in some areas



Source: FHWA

# Lighting Requirements Along Urban Trails

## Installed Always (where feasible)

- Under bridges, underpasses, tunnels or locations with limited visibility,
- Where frequent evening or nighttime use is anticipated,
- On routes within ¼ mile from MetroRail stations,
- Where residential density > than 10,000 residents per square mile (i.e. Downtown),
- At trail intersections with roadways or driveways where crossing is required,

## Other Considerations

- **Limit lighting in natural/undeveloped areas to mitigate environmental disturbance**
- Consider timed lighting for commuting (i.e. evening and early dawn)
- Acknowledge that lighting invites nighttime and evening use



# Trail Features and Amenities

Types of trailheads include:

- Access to trail from adjacent streets or trails
- Access to trail from parks

Trailhead features should include:

- Trash receptacles
- Dog-waste pick-up stations
- Benches or other trail furniture
- Bicycle parking
- Information kiosk
- Trail map including a “You are here” orientation
- Landscaping



Other features may include:

- Drinking fountains
- Restrooms
- Shade pavilion
- Parking
- Historical information and pictures in kiosk
- Art installations
- Pedestrian-scale lighting

# Signage and Wayfinding

## Best Practice:

- Uniformity of design
- Legibility
- Placement
- Safety
- Communication
  - 3 D's – distance, direction and destination
  - Trail etiquette signage includes informing users of travel mode, commonly conveyed with pedestrian and bicycle icons, appropriate speed, and “keep right/ pass left” signs.
- Advertise
  - An effective wayfinding system will help guide trail users and attract passersbys.



# Measures of Urban Trails

- Miles of Urban Trails per square mile
- Miles of Urban Trails per population
- Ratio of miles of Urban Trails to overall population
- Ratio of miles of Urban Trails to population by sector (considers population density)
- Proximity to an Urban Trail (percent of population with a 10 minute walk to an Urban Trail). May vary based on population density



# Section 6 – Operational Requirements



# Maintenance Requirements

- Frequently recurring activities
  - Trash pickup
  - Mowing
  - Tree and branch trimming
  - Trail sweeping or debris removal
- Periodic activities
  - Pavement repair
  - Restriping
  - Lighting replacement
  - Sign Maintenance



# Trail Security (Police Department)

- Recommended initial patrol officer level = to be determined, based on initial test trials over last year.
- Patrol operating times from 5 am - midnight.





# Chapter 7 – Implementation



# Previous Efforts

In 2008 the Executive Trails Master Plan workgroup formed, following a directive by Council to coordinate trail efforts by multiple departments (PARD, Public Works, Transportation, Watershed Protection and others).

The workgroup:

- Developed model ordinance in October 2009
- Model ordinance establishes requirements for dedication of land for Urban Trails
- Value of land dedicated can be credited towards meeting parkland dedication requirements
- Ordinance not yet adopted pending development of Urban Trails Master Plan
- May need to clarify the language requiring construction of Urban Trails by the development entity

**Urban Trails Master Plan recommends the adoption of the draft ordinance**



# Implementation by Others

- Developer installed trails
  - Provide incentives for trail building.
    - Include urban trail if planned urban trail corridor crosses property,
    - Provide linkage if existing or proposed urban trail is adjacent to property limits, and/or
    - Create parkland or development incentives to encourage new developments or redevelopments to include urban trails.



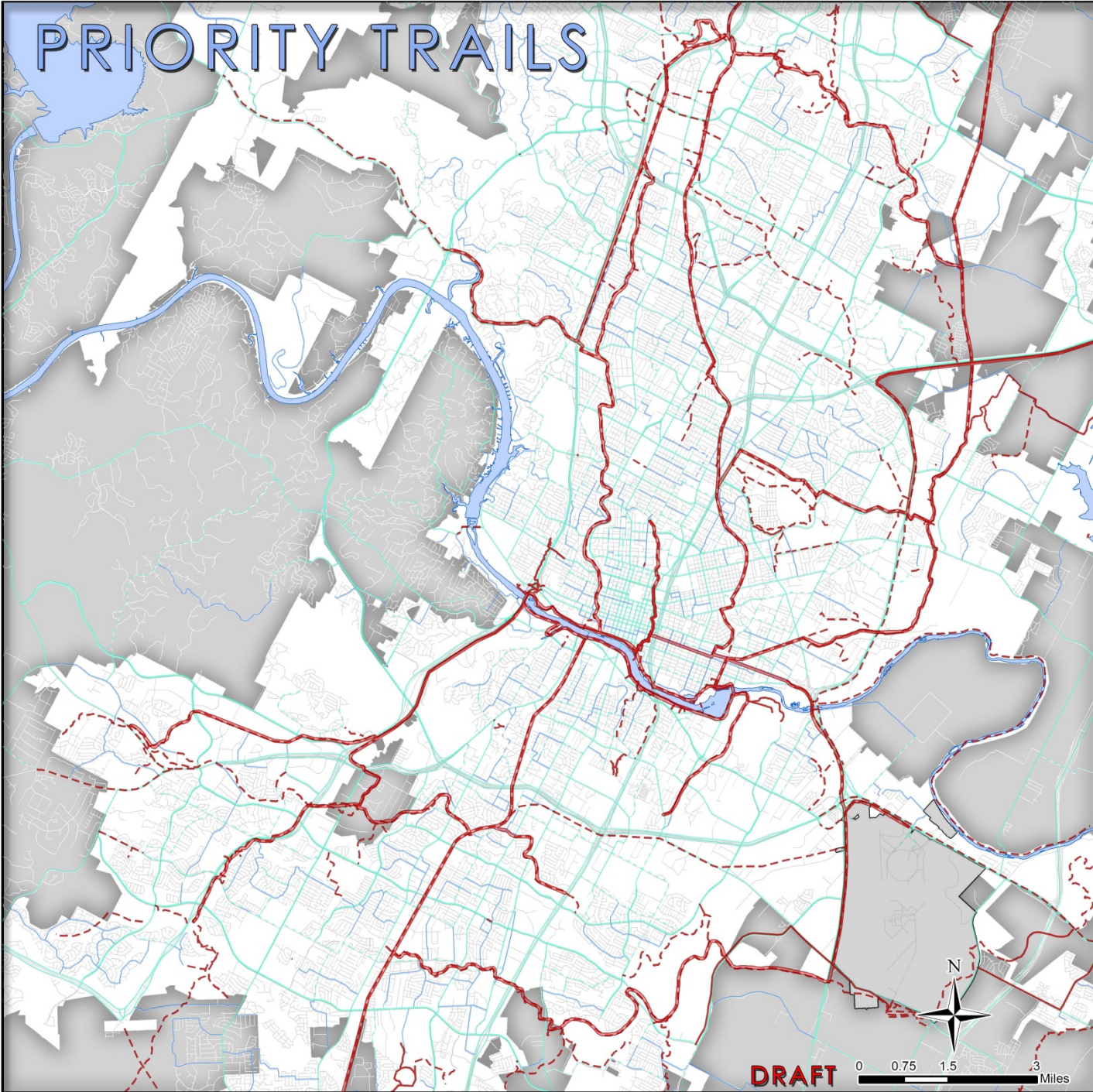
# Key Recommendations – Existing Trails

- Upgrade/renovate Shoal Creek/Johnson Creek Trail corridors (high priority)
- Upgrade Country Club Trail system (high priority)
- Develop Onion Creek Trail system (medium to high priority)

# Key Recommendations – New Urban Trails

- Develop YBC trail corridor in SW Austin (high priority, first of its kind in this area of the City)
- Complete link from MOPAC Bicycle and Pedestrian Bridge to Shoal Creek Trail (high priority)
- Develop Urban Trail from LAB to Highland Mall area (high priority)
- Develop Onion Creek Trail system (medium to high priority)
- Complete link between Northern and Southern Walnut Creek trails (medium priority)

# PRIORITY TRAILS



**DRAFT**

0 0.75 1.5 3 Miles



# Four Priority Levels

YEARS 1 – 10 +/-	<b>HIGH PRIORITY</b> <ul style="list-style-type: none"><li>■ <b>Immediate</b> (low cost projects, can be done now, possible funding identified) (2-3 years)</li><li>■ <b>Near Term</b> (critical gap connectors, etc.)</li><li>■ <b>Mid Term</b> (builds on near term projects, etc.)</li></ul>
YEARS 10 +	<b>LONG TERM</b> <ul style="list-style-type: none"><li>■ <b>Long term</b> (after 10 years, within ETJ area, etc.)</li></ul>

**Goal is development of majority of immediate, near term, and mid term projects within 10 years.**

# Prioritization Criteria – Existing Urban Trail Corridors

## Benefits of the Segment being evaluated

- Level of usage
- Importance to area connectivity
- Improvements help overcome gap or barrier
- Helps address area with previous crashes

## Feasibility

- Adequate corridor width for improvements?
- Owned by City or entity that allows improvements?
- Ease of Implementation/Constructability?
- Impact on existing surrounding environment?
- Potential cost range of recommended improvements?
- Level of citizen support or concern?





# Urban Trail Corridors - Prioritization Criteria

Criteria	Level of Importance (Weighting)
▪ Corridor availability – City owned?	2x
▪ Local connectivity	2x
▪ Network connectivity	2x
▪ Importance to citywide connectivity	2x
▪ Qualities of the corridor (scenic, centrally located, easy access, etc.)	1x
▪ How easy will it be to construct?	1x
▪ Environmental Considerations?	1x
▪ Citizen support or concern for the corridor?	1x
▪ Area population	1x
▪ Helps overcome gap or barrier	1x
▪ First in its area of the City	1x

- Uses a point system
- Some criteria are deemed to be key to the overall system, and are weighted to emphasize that importance



# Prioritization Example – Environmental Considerations

Weighting: 1x

Criteria:

- Route has few impacts to existing trees and wildlife habitat (2 points).
- Route may have significant impact on vegetation and wildlife habitat (1 point)
- Route has significant impact on existing vegetation, habitat and/or water quality (0 points)



# Questions?

