

North Central Texas
Council of Governments

BICYCLE AND PEDESTRIAN ADVISORY COMMITTEE

North Central Texas Council of Governments

Virtual Teams Meeting

May 19, 2021

2:00 p.m. - 4:00 p.m.

AGENDA

| | | |
|--|--|---|
| <p>2:00 – 2:05 (5 min)</p> | <p>1. Welcome – Introductions Discussion of the February 24, 2021 BPAC meeting summary, as necessary.</p> | <p>Kathy Nelson, Chair, City of Grapevine</p> |
| <p>2:05 – 2:30 (25min)</p> | <p>2. Local Community Updates a. Connect Dallas Mobility Plan Update - Kathryn Rush, City of Dallas b. DCTA Activities for Bike Month in May – Mary Worthington, DCTA c. Safe Route to School Assessments – Chris Funches, City of Arlington d. Upcoming Events – Robert Caskey, City of Frisco, Vice-Chair</p> | <p>Various BPAC Members and Guests</p> |
| <p>2:30 – 2:50 (20 min)</p> | <p>3. TxDOT Interim Guidance for Design Practices to Accommodate Bicycles An overview of the Texas Department of Transportation interim guidance for bicycle facilities until such guidance is formally incorporated in TxDOT's Roadway Design Manual (RDM), including planning principles, context considerations, selection guidance, and more.</p> | <p>Kenneth Mora, TxDOT</p> |
| <p>2:50 – 3:05 (15 min)</p> | <p>4. Comprehensive Accessibility Program (TCAP) An overview of the TxDOT Comprehensive Accessibility Program (TCAP), the effort to identify and prioritize ADA noncompliant pedestrian facilities in the State Right of Way. The TCAP is one piece of the overall Department-wide ADA Transition Plan currently under development by the Office of Civil Rights.</p> | <p>Becky Byford, TxDOT</p> |
| <p>3:05 – 3:15 (10 min)</p> | <p>5. Trinity Trails Mural Gallery Project and Trail Improvements An update on the Trinity Trails mural gallery as well as the Clear Fork Trail phased improvements, including a trail design approach which separates pedestrian and bicycle travel modes.</p> | <p>Tina Nikolic, Tarrant Regional Water District</p> |
| <p>3:15 – 3:55 (40 min)</p> | <p>6. NCTCOG Updates a. Update on the Bishop Arts Bicycle Parking Pilot Project – Matt Fall b. Bicycle and Pedestrian Demand Zones – Julie Anderson c. Best Practices for Trails and Bikeways GIS Fields and Attributes – Daniel Snyder d. Monthly Trail Usage Update – Daniel Snyder e. Possible Additional Regional Database Trail Attributes – Daniel Snyder f. Mobile Bicycle and Pedestrian Count Equipment – Daniel Snyder g. 2015-2019 Online Interactive Bicycle/Pedestrian Crash Maps – Bobby Kozub h. Regional Veloweb Trail Implementation: Highlights of efforts to advance the planning and engineering of regionally significant trail corridors (Fort Worth Bomber Spur Trail) – Kevin Kokes</p> | <p>Various NCTCOG Staff</p> |
| <p>3:55 – 4:00 (5 min)</p> | <p>7. Other Business/Open Discussion This item provides an opportunity to bring items of interest before the Committee or propose future agenda items.</p> | <p>Kathy Nelson, Chair, City of Grapevine</p> |

Next BPAC Meeting

The **next** meeting of the Bicycle and Pedestrian Advisory Committee is scheduled for **August 18, 2021**, from 2:00-4:00pm

Bicycle and Pedestrian Advisory Committee – 2021 Roster

| Agency Representing | Name |
|--|-----------------------|
| Town of Addison | Janna Tidwell |
| City of Allen | Krishan Patel |
| City of Arlington | Anthony Cisneros |
| City of Bedford | Michele Wilson |
| City of Burleson | Heather Houseman |
| City of Carrollton | Marcos Fernandez |
| City of Cedar Hill | Shawn Ray |
| City of Cleburne | Laura Melton |
| City of Colleyville | Lisa Escobedo |
| City of Coppell | John Elias |
| City of Dallas | Jessica Scott |
| City of Denton | Chandra Muruganandham |
| City of DeSoto | Tony Irvin |
| City of Duncanville | Athena Seaton |
| City of Euless | Alexander Harvey |
| City of Farmers Branch | Mitzi Davis |
| Town of Flower Mound | Kari Biddix |
| City of Fort Worth | Jeremy Williams |
| City of Frisco | Robert Caskey |
| City of Garland | Josue De la Vega |
| City of Grand Prairie | Brett Huntsman |
| City of Grapevine | Kathy Nelson |
| City of Greenville | Letora Anderson |
| City of Irving | Cody Owen |
| City of Keller | Cody Maberry |
| City of Lancaster | Emma Chetuya |
| City of Lewisville | Sagar Medisetty |
| City of Mansfield | Chris Ray |
| City of McKinney | Robyn Root |
| City of Mesquite | Wes McClure |
| City of Midlothian | Heather Dowell |
| City of North Richland Hills | Joe Pack |
| City of Plano | Drew Brawner |
| City of Richardson | Jessica Shutt |
| City of Rowlett | Carlos Monsalve |
| City of The Colony | Eve Morgan |
| City of Waxahachie | Colby Collins |
| City of Weatherford | Chad Marbut |
| City of Wylie | Robert Diaz |
| Dallas County | Minesha Reese |
| Ellis County | Joseph Jackson |
| Hunt County | Kevin St. Jacques |
| Rockwall County | Lee Gilbert |
| Tarrant County | Kristen Camareno |
| Wise County | Chad Davis |
| Dallas Area Rapid Transit | Patricio Gallo |
| Denton County Transportation Authority | Tim Palermo |
| North Texas Tollway Authority | Kelly Johnson |
| Trinity Metro | Jennifer Grissom |
| TXDOT Dallas District | Dan Perge |
| TXDOT Fort Worth District | Phillip Hays |

An aerial photograph of the Dallas skyline, showing numerous skyscrapers and buildings. The image is overlaid with a semi-transparent blue filter. In the top left corner, the text 'Connect Dallas' is displayed in a large, stylized font. 'Connect' is in green and 'Dallas' is in blue. The 'C' in 'Connect' is a large, thick, green letter that partially overlaps the 'D' in 'Dallas'.

Connect Dallas

www.dallascityhall.com/connectdallas

NCTCOG Bicycle & Pedestrian Advisory Committee
May 19, 2021

Kathryn Rush, Chief Planner
Department of Transportation
City of Dallas

Why Dallas Needs a *Strategic* Mobility Plan

- **Our needs far outweigh our resources.** Examples:
 - Sidewalks: 2,100 miles are missing.
 - Pavement Maintenance: We need to spend double our current annual budget to prevent further decline of pavement condition.
- **Environmental Sustainability:** The Comprehensive Environmental & Climate Action Plan (CECAP) calls for the City to reduce single-occupant vehicle mode share by 26% by 2050.
- **Safety:** City Council set a Vision Zero goal of eliminating traffic fatalities by 2030.
- **Equity:** It is difficult for low-income people to travel around Dallas and inequities are increasing.

How do we balance these needs and priorities?



The Strategic Mobility Plan was developed to...

- ✓ Modernize how we prioritize transportation resources
- ✓ Create a roadmap that guides transportation planning and investments over the next 5 years
- ✓ Align transportation efforts with broader city goals (environmental, equity, housing, economic development, safety)
- ✓ Identify a strategy based on public input

What is Guiding the Plan?

21st Century
Challenges

Council Priorities

DSMP Driving Principles

Safety



Sustainability



Equity



Economic Vitality



Innovation



Housing



Preferred Transportation Vision

Scenario A – Compact, Connected, and Multi-Modal

Land Use

Promotes compact growth and transit-oriented development

65

New Roadway Lane Miles

225

New Miles of Transit

885

New Miles of Bikeway & Trails

Total cost by 2045

\$\$\$\$\$

Roadway

Transit

Bicycle

Sidewalks

Transportation Demand Management

Technology



Defining Our Strategy

Driving
Principles

+

Preferred
Strategy/
Vision
(Scenario A)



STRATEGY

1. Project Prioritization Framework & Strategic Mobility Network
2. Policy Modernization Recommendations
3. Project Delivery Recommendations

2. Policy Modernization Recommendations

| | Safety | Environmental Sustainability | Equity | Economic Vitality | Housing | Innovation |
|---|--------|------------------------------|--------|-------------------|---------|------------|
| Update the Bike and Thoroughfare Plans | ✓ | ✓ | ✓ | ✓ | | |
| Develop a Freight Master Plan | ✓ | ✓ | | ✓ | | ✓ |
| Operationalize Vision Zero | ✓ | | ✓ | | | |
| Align Land Use Goals with Driving Principles | | ✓ | ✓ | ✓ | ✓ | |
| Establish a Streamlined Project Development Process | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Establish a Transit Support Program | | ✓ | ✓ | ✓ | ✓ | ✓ |
| Reform the Development Review Process | | ✓ | ✓ | ✓ | ✓ | |
| Emphasize TDM to Improve System Efficiency | ✓ | ✓ | ✓ | ✓ | | ✓ |
| Proactively Manage the City's Curbside Assets | ✓ | | ✓ | ✓ | | ✓ |
| Enhance Internal & External Coordination | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Align the CIP with <i>Connect Dallas</i> Principles | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

- Projects are only one piece to achieving our transportation vision and goals.
- Policies set a systematic framework for decision-making.
- Updated plans supply our projects and mode-specific recommendations.
- Aligning internal operations and processes ensures we can succeed.

3. Project Delivery Recommendations

Funding Recommendations

1. Adequately and sustainably fund maintenance
2. Fund maintenance separately
3. Dedicate funding for local priority projects
4. Dedicate annual funding to bicycle infrastructure, trails and new sidewalk construction
5. Dedicate funding to Vision Zero implementation
6. Dedicate funding to transit-supportive mobility
7. Dedicate funding to technology improvements
8. Increase clarity of project type groupings

↑ Funding Increase
 ↓ Funding Decrease
 ↔ Funding Remains Consistent

| Project Type | Driving Principles | | | | | | 2017 Bond Amount | Proposed Change in Funding |
|----------------------------------|--------------------|----------------|--------|-------------------|---------|------------|------------------|----------------------------|
| | Safety | Sustainability | Equity | Economic Vitality | Housing | Innovation | | |
| Maintenance | | | | | | | \$300 M | ↑ |
| Upgrading Unimproved Streets | ✓ | ✓ | ✓ | ✓ | ✓ | | \$45.9 M | ↔ |
| Street Connectivity Improvements | | ✓ | | ✓ | | | \$6.0 M | ↔ |
| Expanding Street Capacity | | | | ✓ | | | \$8.5 M | ↓ |
| Livable Streets | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | \$80.2 M | ↑ |
| Traffic Management & Technology | ✓ | ✓ | | | | ✓ | \$39.2 M | ↔ |
| Vision Zero/Safety | ✓ | ✓ | ✓ | | | ✓ | \$24.3 M | ↑ |
| Sidewalk Plan Implementation | ✓ | ✓ | ✓ | | ✓ | | \$14.3 M | ↑ |
| Transit Enhancements | ✓ | ✓ | ✓ | | | ✓ | \$0 | ↑ |
| Local Priorities | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | \$0 | ↑ |

Thank you!

Kathryn Rush, Chief Planner
Department of Transportation
City of Dallas

www.dallascityhall.com/connectdallas



Bike to Work Day Free Ride Campaign

Presented by: Mary Worthington, Community Relations Manager

DCTA Bike to Work Day Free Ride Campaign



Campaign Overview

- DCTA is joining the League of American Bicyclists and many organizations across the country in celebrating Bike to Work Day by offering free rides all day to passengers who bring their bikes on board on Friday, May 21.
- The promotion will be valid on the following DCTA services: A-train, Connect Bus (Denton and Lewisville), Lewisville Lakeway and DDTC Evening On-Demand and University of North Texas (UNT) Campus Shuttles.



GOALS AND OBJECTIVES (S.M.A.R.T.)

- Inform target audience about promotion
- Share with targeted partners and local organization for additional awareness of the promotion
- Increase number of cyclists who ride DCTA free year over year
- Drive traffic to the promo webpage that will be featured in the media center
- Generate engagement and promotion awareness through DCTA's owned media channels (social media, email marketing, etc.)

**BIKE TO
WORK
DAY**

**FREE RIDE
PROMOTION**



Target Audience

- Cyclists and people interested in riding bikes
- Current and potential riders
- Community partners and local organizations and businesses (with a tie-in to cycling and bikes)
- Local universities and colleges
- Stakeholders and member cities



Questions and Answers

Contact: Mary Worthington, Community Relations Manager
mworthington@dcta.net

City of Arlington –
Department of
Public Works &
Transportation
Sidewalk Program

2018 SAFE ROUTE TO SCHOOLS ASSESSMENTS

2018 SAFE ROUTE TO SCHOOL ASSESSMENTS

Assessment Guidelines

- Provide detailed information for 2019 SRTS Call for projects.
- School Attendance Zones
- Pedestrian Infrastructure
 - School Zones and Signage
 - Sidewalks
 - ADA Curb Ramps
- Provide analysis of all streets in walking perimeters of school zones.

2018 SAFE ROUTE TO SCHOOL ASSESSMENTS

School Assessed

- Della Icenhower Intermediate School
- Dunn Elementary School
- Moore Elementary & Boles Jr. High School
- Speer Elementary School
- Thornton Elementary School

DELLA ICENHOWER INTERMEDIATE SCHOOL PROPOSED CONDITIONS



2018 SAFE ROUTE TO SCHOOL ASSESSMENTS

Assessments Results

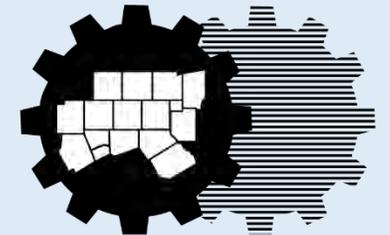
- Received data for pedestrian improvements:
 - Maps
 - Cost Estimates
 - Written Assessments
- Ability to apply for grants over the next 3 years from locations assessed.
- Provides an overview of the amount of infrastructure improvements needed for feasibility studies.
- City of Arlington received approximately \$3.5 Mil for the construction of SRTS Locations.

UPCOMING EVENTS AND TRAINING

Bicycle and Pedestrian Advisory Committee

May 19, 2021

Robert Caskey, BPAC Vice-chair, Senior Traffic Engineer, City Of Frisco



**North Central Texas
Council of Governments**

MAY IS BIKE MONTH



With so many reasons to ride, what's yours?



#BIKEMONTH BIKELEAGUE.ORG/BIKEMONTH

Bike Month Events in DFW:



Bike to Work Week: May 17-23

dcta.net/rider-info/passenger-info/bikes-and-transit/bring-your-bikes

MAY IS BIKE MONTH

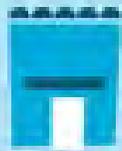
With so many reasons to ride, what's yours?



I RIDE FOR CLEANER AIR.



I RIDE TO ENJOY A LIFELONG SPORT.



I RIDE TO SAVE MONEY ON GAS.



I RIDE TO FEEL THE WIND ON MY FACE.



I BIKE TO THE BUS TO GET PLACES FASTER.



I RIDE FOR LESS TRAFFIC.



I RIDE BECAUSE IT MAKES MY BUSINESS RUN BETTER.



I RIDE TO TURN MY COMMUTE INTO A WORKOUT.

I RIDE TO CREATE A HEALTHIER COMMUNITY FOR MY RIDE.



#BIKEMONTH BIKELEAGUE.ORG/BIKEMONTH

Bike Month Events in DFW:

Join us to celebrate the completion of the White Settlement Bridge

Saturday, May 22nd at 11:00AM

We will gather at Angelo's and then walk, run or cycle across the bridge. The Model A club will also take the lead for any cars that want to join in the procession.



Angelo's is located at 2533 White Settlement Rd, Fort Worth, TX 76107.

Celebrate the opening of the White Settlement Bridge!

Saturday, May 22 @ 11 AM

A ceremonial walk, run, roll, jog across the bridge

The logo for Fort Worth Opera GO. It features the letters 'FWO' in a tall, thin, black sans-serif font. The letter 'O' is replaced by a red circle. Below 'FWO' are the letters 'GO' in a large, bold, black sans-serif font. The entire logo is centered within a white square, which is itself centered within a large circular graphic with a purple-to-orange gradient. There are also small decorative elements: a blue plus sign and a blue circle in the top left, and a blue dot in the bottom right of the circular graphic.

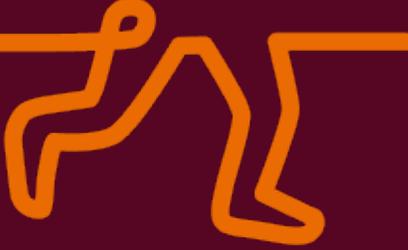
FWO
GO

Fort Worth Opera GO at Fort Worth Bike Sharing

Where: The Trailhead at Clear
Fork (Near Press Café)

When: *Thursday, May 20, 2021,*
at 6:30 PM (30-minute concert)

Cost: FREE

Walk
Bike 
 Places

Indianapolis June 15–18, 2021

walkbikeplaces.org

APBP 2021 Conference



ASSOCIATION OF PEDESTRIAN
& BICYCLE PROFESSIONALS



**VIRTUAL EVENT
SAVE THE DATES!**

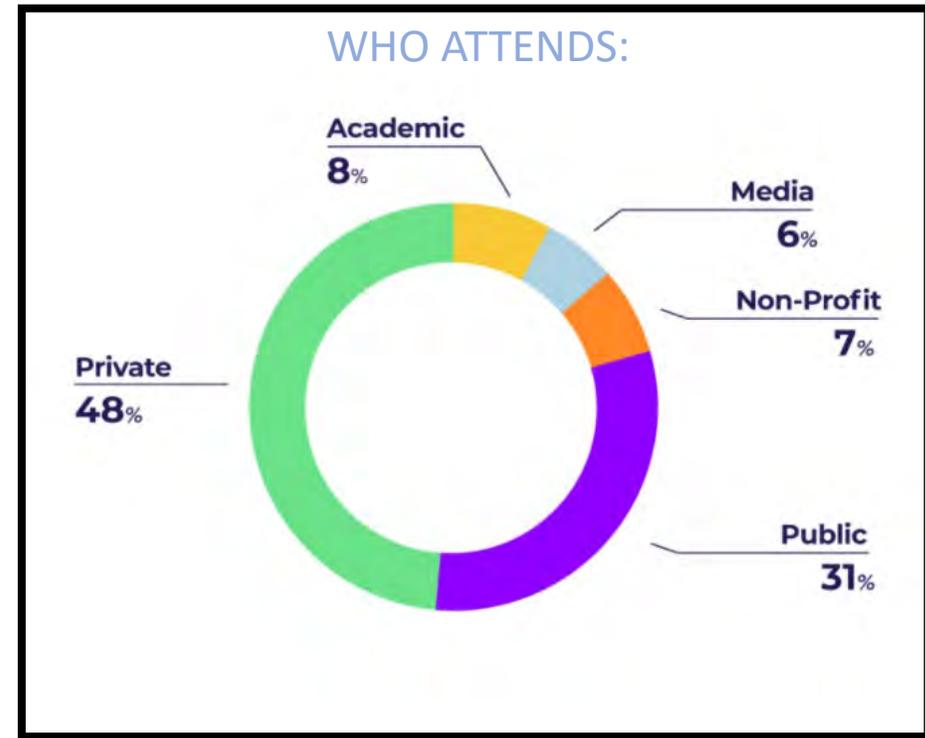
Wednesday, July 28
Wednesday, August 4
Wednesday, August 11

apbp.org/2021-conference

CoMotion MIAMI LIVE:

A Bold New Blueprint for Mobility.
Technology, Policy and Business leaders
Come Together to Design the Future of
Urban Mobility

COMOTIONMIAMI.COM



Institute for Transportation
Engineers

ITE.org

2-week,

Virtual Event!!

July 20-29

ite



2021 Annual Meeting and Exhibition

BIKE TRAVEL WEEKEND

**JUNE 4-6,
2021**



Adventure
Cycling
Association



REGISTER NOW!

adventurecycling.org/resources/bike-travel-weekend



BikeDFW

Bike Friendly Fort Worth – Friendly Ride



Saturday, May 29th, 2021

- No-drop ride open to everyone
- Meet at the red pavilion in **Trinity Park**
- Roll out at 12 PM

VIRTUAL June Dallas Bicycle Coalition Meeting



Wednesday, June 2nd, 2021

Information about cycling and mobility
in the City of Dallas

Register: bikedfw.org

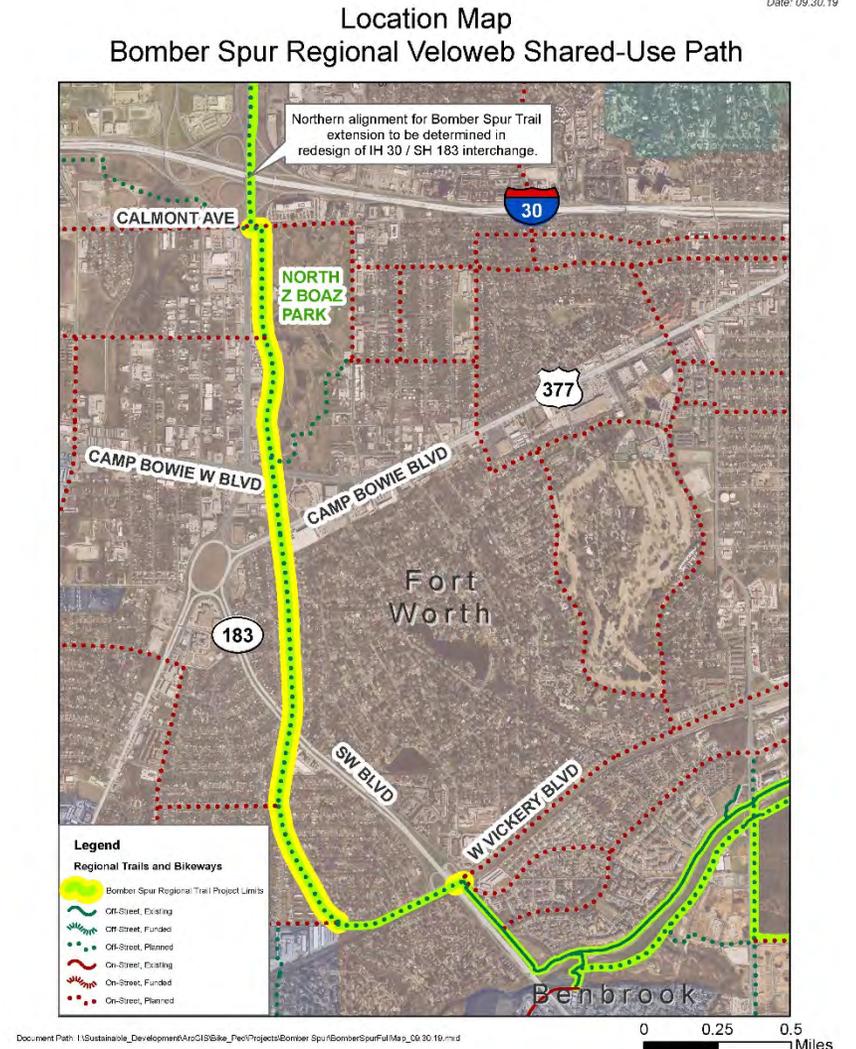
Master Plans Underway or Anticipated in 2021

- Town of Addison Trails Master Plan (expected late summer completion)
- Flower Mound Parks and Trails Master Plan (expected Jan 2022)
- McKinney Parks and Trails Master Plan (expected June 2021)
- Carrollton Trails Master Plan (expected fall 2021)
- City of Denton Mobility Plan (expected fall 2021)
- City of Denton Trails Master Plan (late 2021)

Plans and Projects Underway cont....

Regional Projects

- **Fort Worth**
Bomber Spur Regional Trail Preliminary Engineering:
(SH 183/Calmont Ave. on the north to SH 183/ Vickery Blvd on the south)

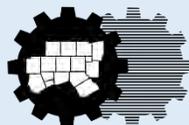


Other Events or Training?

For any suggestions/topics for future training opportunities that NCTCOG can help coordinate or promote, please contact:

Matt Fall
mfall@nctcog.org

Bobby Kozub
rkozub@nctcog.org



North Central Texas
Council of Governments



BICYCLE ACCOMMODATION DESIGN GUIDANCE

Ken Mora, P.E., Design Division/Roadway Design
Section

Table of Contents

- 1 General Background
- 2 Projects Exceptions
- 3 Area Types (Urbanized, Rural)
- 4 Facility Types (Urbanized, Rural)
- 5 Design Exceptions and Design Waivers
- 6 Project Implementation Guidance

General Background

In August 20, 2013 a Guidance Memorandum from the U.S. Department of Transportation was issued that states:

“The Federal Highway Administration (FHWA) <supports> taking a flexible approach to bicycle and pedestrian facility design. The American Association of State Highway and Transportation Officials (AASHTO) bicycle and pedestrian design guides are the primary national resources for planning, designing, and operating bicycle and pedestrian facilities.”

Further emphasis was recently provided by FHWA’s *Bicycle and Pedestrian Planning, Program, and Project Development* guidance:

“Bicycle and pedestrian needs must be given "due consideration" under Federal surface transportation law (23 U.S.C. 217(g)(1)). This consideration should include, at a minimum, a presumption that bicyclists and pedestrians, including persons with disabilities, will be accommodated in the design of new and improved transportation facilities. In the planning, design, and operation of transportation facilities, bicyclists and pedestrians should be included as a matter of routine, and the decision to not accommodate them should be the exception rather than the rule.”

General Background

The TxDOT Bicycle Accommodation Design Guidance document provides interim guidance for design practices that accommodate bicycles until the guidance is formally incorporated in TxDOT's Roadway Design Manual (RDM). Note this Guidance will be incorporated into the Rev 1/2 RDM release currently scheduled for July 2021.

The current RDM (July 2020 version) does include some guidance in Chapter 6 – Special Facilities; Section 4 – Bicycle Facilities and the TxDOT Bicycle Accommodation Design Guidance document provides more details and clarifications.

Accommodating bicyclists of different ages and abilities applies to all types of roadways except those that specifically prohibit bicycle travel. Bicycle accommodations should be designed to accommodate the greatest number and type of bicyclists with the safest facility possible within local constraints.

Due to the wide range of constraints that engineers may need to consider in their design, the TxDOT Bicycle Accommodation Design Guidance outlines the flexibility allowed when selecting the appropriate bicycle accommodation.

Projects that may not be excepted regardless of Location

Note, projects located on the Texas Bicycle Tourism Trails Example Network are not excepted from bicycle accommodations regardless of location. The TxDOT Statewide Planning Map provides additional information on MPO boundaries, area types, and the Texas Bicycle Tourism Trails Example Network.

Additionally, all On-System bridges regardless of location, involving bridge replacement, bridge deck replacement, or bridge rehabilitation will need to meet the bicycle clear space requirements specified in the General Bicycle Accommodation Selection Guidance portion of this document, and are not excepted. Off-system Bridges where this addition may represent an unreasonable increase in cost may be excepted from the bicycle clear space requirement.

Projects that may be Excepted

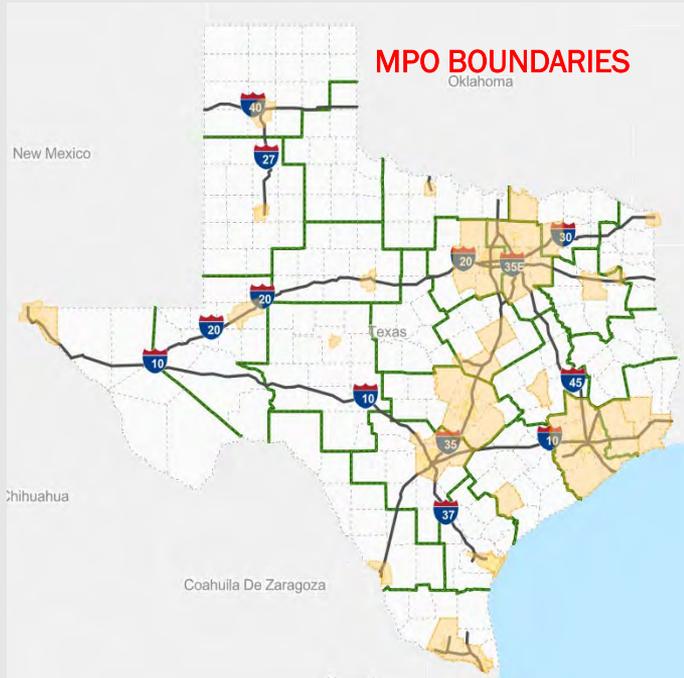
- The project is on a roadway where bicycle travel is specifically prohibited by law or Texas Transportation Commission Minute Order.
- The project is located outside of a respective Metropolitan Planning Organization (MPO) Boundary; AND is also located outside of any respective city limits with a population of 2,500 or greater. The TxDOT Statewide Planning Map provides additional information on MPO boundaries and area types. Before using this exception, seek out and consider local stakeholder input and community need.
- The project is in an urbanized setting (defined as a city, town, or Census-designated place with population of 2,500 or greater) where a locally preferred alternative route has been adopted or implemented and bicycle accommodations are deemed impractical within the scope of the project. The project is in an urbanized setting with limited roadway improvements and there is already a future project programmed (e.g., MPO Active Transportation Plan) where the bicycle updates make more sense in the context of overall transportation improvements.
- The cost to provide features exclusively for bicyclist accommodations is excessively disproportionate to the need or likely uses. While a determination of “excessively disproportionate” should be concluded on a case-by-case basis and well documented, exceeding 20% of the total project cost (including design, construction, ROW, etc.) may be considered as a general guideline. This exception should not be used if the project will help complete a gap in an overall bicycle network.

Projects that may be Excepted

- The source of funding specifically precludes improvements other than those for which the funding is intended. Note that although Category 8 funding (which includes HSIP, Statewide systemic widening, and Road to Zero) does not currently have funding allocated specifically for bicycle accommodations, it is though allowable to place money that has been specifically designated for bicycle accommodations into Category 8. Note, the following link from FHWA provides funding opportunities for bicycle facilities.
(https://www.fhwa.dot.gov/environment/bicycle_pedestrian/funding/funding_opportunities.cfm)
- The type of work is limited in scope such that major roadway elements are not being constructed or reconstructed. For example: safety end treating culverts only, MBSF replacement only, sealcoat only, and other types of preventative maintenance projects. Note that resurfacing can provide the opportunity to restripe and/or improve the riding surface for bicycle accommodations in certain instances and, as such, would not necessarily warrant an exception. Other projects with a narrow scope should be evaluated to determine if negative impacts to the bicycle accommodations may result.

Not excepted due to Location (and does not meet other exception criteria)

Not Excepted: Within MPO boundary, or outside of MPO boundary but has a population of 2,500 or greater. A population of between 2,500 – 49,999 is defined by the US Census as an Urban cluster.



Population: 2,627 – urban cluster
(YKM District)



The land use context that surrounds a potential bicycle accommodation may influence the type of users (e.g. target design user), the number of users, and the potential interactions of other roadway users with the facility. Two context groupings have been used when providing guidance for bicycle facility selection:

- Urban and Suburban Contexts (referred to as “urbanized” and includes urban core and rural town which is defined in FHWA’s *Separated Bike Lane Planning and Design Guide*)
- Rural Contexts

Area Types (Urban Core)

- Context includes high density areas, with mixed land uses within predominantly high-rise structures and small building setbacks.
- Predominantly found in central business districts and adjoining parts of metropolitan areas.
- The area is accessible to automobiles, commercial delivery vehicles, and public transit.
- Major transit terminals may be present, as well as transit corridors, including bus and rail transit.
- There are high levels of pedestrian and bicycle users and motor vehicle speeds are relatively low.
- Residences are often apartments or condominiums.
- On-street parking is limited and time restricted more than the urban context.
- Substantial parking in multi-level structures attached/integrated with other structures.



Source: Gresham-Smith Partners

Area Types (Rural Town)

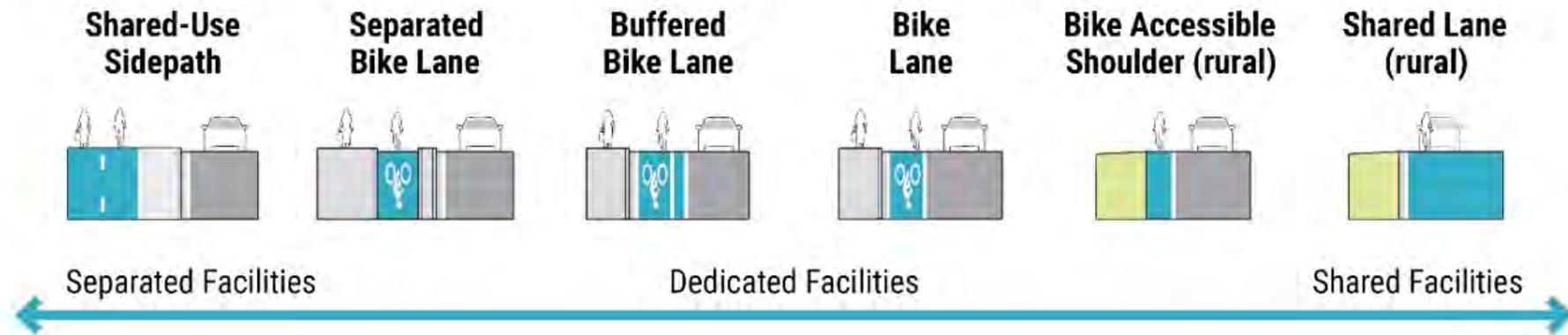
- Context is applicable to roadways in rural areas located within developed communities.
- Low development densities, diverse land uses, on-street parking and sidewalks in some locations, and small building setbacks.
- Rural towns may include residential neighborhoods, schools, industrial facilities and commercial main street business districts each of which presents differing challenges and differing levels of pedestrian and bicycle activity.
- Meet the needs of not only through travelers, but also the residents of the community.



Source: Gresham-Smith Partners

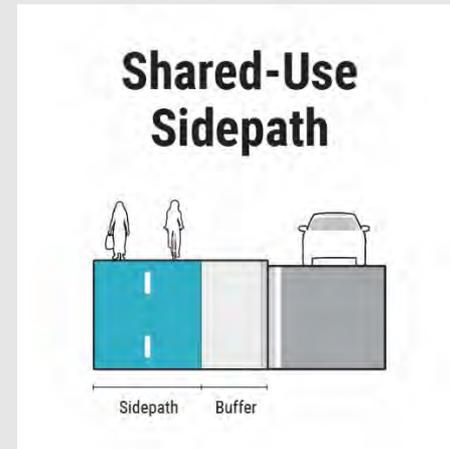
Facility Types

Below is a description and brief design guidance for the most common bicycle facility types. From left to right, it shows decreasing separation between bicyclists and motor vehicles.



Shared Use Paths Adjacent to Roadways (Sidepaths)

- Are located within a roadway corridor following the roadway alignment
- Are typically separated from motorized vehicular traffic by a landscaped buffer or a barrier
- Two-way travel, because in addition to bicyclists, users may include inline skaters, skateboarders, pedestrians, and runners
- Conflict points such as driveways and frequent street crossings should be mitigated to the greatest extent practicable to maximize comfort and safety
- A bicycle design speed of 15 mph is generally appropriate
- The desired width for a sidepath is 11 to 15 feet or more (SUPLOS calculation)
- To maximize service life and to assure a reasonable SUPLOS grade, paved widths should not be less than 10 feet
- As path user volumes increase, designers should consider increasing the width of the sidepath up to 15 feet
- Standard minimum width is 10 ft. A minimum width of 8 feet may be used in rare circumstances
- Horizontal and vertical alignments provide frequent, well-designed passing and resting opportunities where the width is at least 10 feet



Facility Types (Urban, Urban Core, Suburban, & Rural Town)

Table 3: SUPLOS example calculation (higher foot traffic)

| Segment Name | Path Width | Centerline | Volume (users per hour in 1 direction) and Mode Split | | | | | | SUPLOS grade |
|--------------|------------|--------------|---|------------------|-------|---------|-----------------|------------------|--------------|
| Name | Width (ft) | 1=Centerline | One-Way (per hour) | Adult Bicyclists | Peds | Runners | In-Line Skaters | Child Bicyclists | |
| More Peds | 12.0 | 0 | 100.0 | 20.0% | 60.0% | 15.0% | 2.0% | 3.0% | C |

- A SUPLOS grade of “C” or better is desirable over the life of the facility to ensure it is comfortable and safe for all users
- Table 3 provides a sample SUPLOS calculation with higher foot traffic
- When foot traffic exceeds 15%, SUPLOS degrades more rapidly
- Counts or projected counts should be made in anticipated peak hour, analogous parallel facilities may be used for additional guidance as well
- *Texas Bicycle and Pedestrian Count Exchange* (<https://mobility.tamu.edu/bikepeddata/>) has pedestrian and bicycle count data for various facilities statewide
- [FHWA SUPLOS Users Guide and calculator is located at https://www.fhwa.dot.gov/publications/research/safety/pedbike/05138/](https://www.fhwa.dot.gov/publications/research/safety/pedbike/05138/)

Separated Bike Lanes

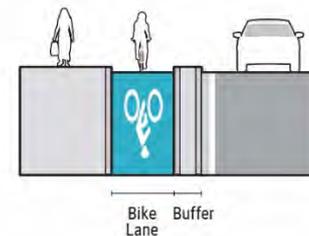
- A separated bike lane is a bicycle lane that is physically separated from the adjacent motor vehicle traffic by vertical elements in the street buffer
- Vertical elements may include raised medians, flexible posts, concrete curbs, or parked vehicles.
- Typically designed to operate one-way but may also operate two-way
- These are sometimes also referred to as protected bike lanes
- Separated bike lanes combine the user experience of a shared use sidepath with a designated area for bike use only like a conventional bicycle lane, separate from pedestrians
- They are distinct from the sidewalk but may be at sidewalk level
- The desirable width of a separated bike lane depends upon the volume of users and the context of the design as shown in **Table 5** for one-way separated bike lanes

Table 5. One-Way Separated Bike Lane Widths (Minimum to Desirable)

| Peak Hour Directional Bicyclist Volume | Between Vertical Curbs or Flex Posts | At Sidewalk Level |
|--|--------------------------------------|-------------------|
| < 150 | 6.5 – 8.5 feet | 5.5 – 7.5 feet |
| 150 - 750 | 8.5 – 10 feet | 7.5 – 9 feet |
| > 750 | ≥ 10 feet | ≥ 9 feet |
| Constrained Condition* | 5 | 4 |

*Peak Hour Directional Bicyclist Volume not applicable

Separated Bike Lane

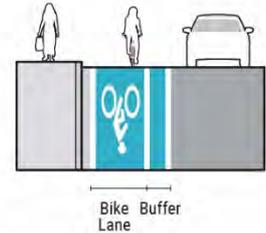


Raleigh, NC
Street Level with Flexible Post Separation

Buffered Bike Lanes

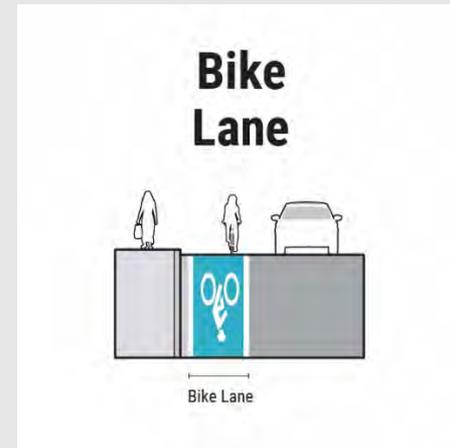
- A buffered bike lane is a one-way bike lane that is separated from the adjacent motor vehicle lane or parking lane by a striped buffer area that may include chevrons, diagonal lines, or wide pavement marking stripes
- When sufficient roadway width is present, or if the number of travel lanes is reduced, a buffer may be striped between a bike lane and travel lane to provide additional comfort for both bicyclists and motorists
- The buffer adds to the perception of safety and encourages greater use of the on-street bicycle network
- Providing added separation between motorists and bicyclists who may be traveling at substantially different speeds appeals to a wider array of bicycle users
- The desirable useable width of a buffered bike lane is 5 to 7 feet exclusive of the buffer
- The minimum useable width is 4 feet exclusive of the buffer
- Buffers should be a minimum of 2 feet wide for speeds of 45 mph or less, and 3 feet wide for 50 mph or greater and delineated by two solid white lines

Buffered Bike Lane



Bike Lanes

- Bike lanes are one-way facilities on a roadway that typically carry bicycle traffic in the same direction as adjacent motor vehicle traffic
- Bike lanes are provided for the exclusive use of bicyclists and are identified through signage, striping, or other pavement markings
- Bike lanes allow bicyclists to ride at comfortable speeds and encourage a position within the roadway where they are more likely to be seen by motorists
- Bike lanes are typically on the right side of the street, between the outside travel lane and curb, parking lane, or road edge
- Bicyclists may leave the bike lane to pass other bicyclists or avoid debris and other traffic conflicts
- Bike lanes should only be used in locations with speeds of 45 mph or less
- For high speed locations, a buffered bike lane is recommended
- The desirable width of a bike lane is 5 to 7 feet
- The minimum width is 4 feet and should only be used when all other cross-sectional elements have been minimized
- A 6 to 7 foot bike lane is desirable adjacent to parallel parking to allow the bicyclist to avoid riding in the door zone (the minimum bike lane width is 5 feet in this situation)

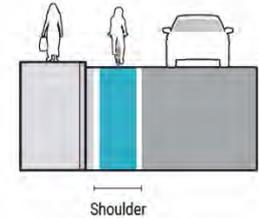


Facility Types (Urban, Urban Core, Suburban, & Rural Town)

Bike Accessible Shoulders

- Bike accessible shoulders are one-way facilities on a roadway that carry bicycle traffic in the same direction as adjacent motor vehicle traffic
- A bike accessible shoulder is one that is at least as wide or wider than a bike lane to accommodate bicyclists and paved to provide a smooth, solid surface across its width
- While the bike accessible shoulder distinguishes predictable areas for bicyclist and automobile movement, bicyclists may leave the shoulder to pass other cyclists or avoid debris and other traffic conflicts
- A minimum width of 4' is allowable in low speed (45 mph or less) conditions
- A minimum width of 5' is allowable for high speed conditions.
- A minimum width of 5' is required for shoulders adjacent to bridge railings, MBGF, and other vertical elements
- Some shoulders should be up to 10 feet wide adjacent to higher speed roadways to allow bicyclists to operate with more separation to the high-speed traffic
- Roadways indicated in TxDOT's *Bicycle Tourism Trails Study* should be designed with a minimum 8-foot shoulder
- Bike accessible shoulders are not for use by pedestrians

Bike Accessible Shoulder (urban)



Facility Types (Urban, Urban Core, Suburban, & Rural Town)

Bike Accessible Shoulder

Rumble Strip Design and Gap Placement

- Rumble strips are used to warn the driver that they are leaving the travel way and is beneficial on the safety of bicycles using the shoulder
- Allowances should be made in the shoulder to provide an adequate width for bike accommodations beyond the rumble strip
- Profile pavement markings serve a similar function as milled rumble strips and can be considered an option to avoid reduction in width of the accessible shoulder
- Where bicycle traffic is expected, rumble strips should be designed to minimize crash risk for bicyclists
- Where bicyclists are operating at 20 mph or less, a minimum 15 ft gap every 40 to 60 ft should be provided
- Where bicyclists are operating over 20 mph, the gap should be increased to 20 ft or more or the rumble strips should be located on the right side of the shoulder to allow bicyclist to avoid them if they need to enter the travel lane

Figure 9 Rumble Strip Placement in a Shoulder

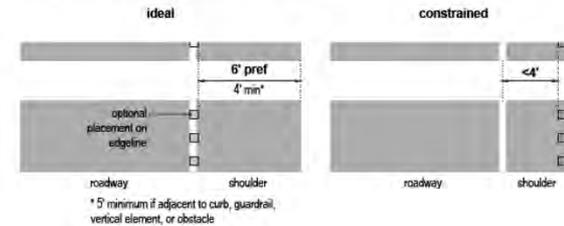
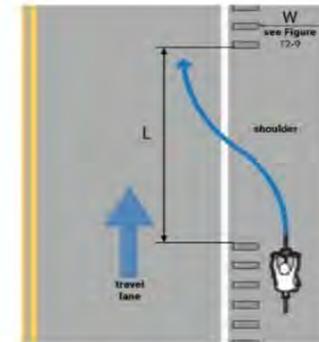


Figure 10 Rumble Strip Design and Gap Placement



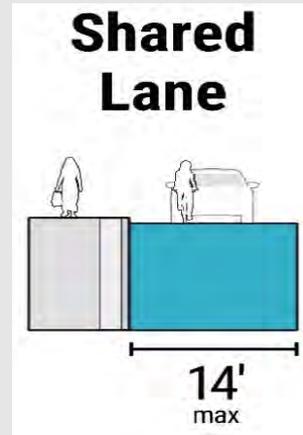
Rumble strip gap (L) dimensions:

1. Where bicyclists are operating at 20 mph or less, a minimum 15-foot gap every 40 to 60 feet allows half a second for a bicyclist to cross the rumble strip
2. Where bicyclists are operating over 20 mph, the gap should be increased to 20 feet or more or the rumble strips should be located on the right side of the shoulder to allow bicyclists to avoid them if they encounter a need to enter the travel lane (e.g. a downhill location)

Facility Types (Urban, Urban Core, Suburban, & Rural Town)

Shared Lanes (wide outside lane)

- Shared lanes (wide outside lane) are lanes that allow compatibility of operation for both motorized vehicles and bicycles
- Bicycles may be operated on all roadways except where prohibited by statute or regulations
- Shared lanes without markings already exist in many different urban, urban core, suburban and rural town settings
- Note that although marked shared lanes are allowed in the TMUTCD for certain conditions, TxDOT as a general policy does not recommend marked shared lanes for TxDOT roadways due to the higher speed nature of TxDOT roadways as compared to local jurisdictions
- In Urbanized applications, Shared wide outside lanes should only be used in locations with low volumes (3,000 ADT or lower) and low speeds (35 mph or less)
- 14 feet is the maximum and 13 feet is the minimum “usable width” for a shared wide outside lane
- The usable width is measured from the lane stripe to either the gutter joint or one foot from the nominal face of a monolithic curb
- If the usable width is greater than 14 feet, a bike lane should be provided instead (use of minimum travel lane widths may be necessary to incorporate the bike lane)



Facility Types (Rural)

Shared Use Path

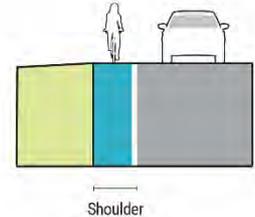
- A Shared Use Path adjacent to roadway (sidepath) with separation from the roadway is an option on rural facilities
- Additional option is an SUP on an independent alignment
- While it is recognized that these types of facilities are not usually feasible on most rural projects, consideration should be given to using them on the Texas Bicycle Tourism Trails Example Network and rural roadways with ADT over 6000
- See the urban sidepath guidance and the AASHTO Bike Guide for additional information



Bike Accessible Shoulders

- Bike accessible shoulders in rural areas function similar to bike accessible shoulders in urban areas with the exception that the roadway will typically not have a curb at the edge
- See the urban shoulder guidance and the AASHTO Bike Guide for further design guidance

Bike Accessible Shoulder (rural)

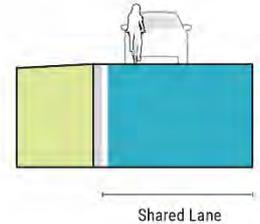


Facility Types (Rural)

Shared Lanes (wide outside lane)

- See the urban shared lane guidance and the AASHTO Bike Guide for further design guidance
- In Rural applications, shared wide outside lanes should only be used in locations with very low volumes (1,000 ADT or lower) and speeds of 45 mph or less

Shared Lane (rural)



Design Exceptions & Design Waivers (Urbanized or Rural Context)

(Note, Projects that may be excepted (Slides 7 & 8) do not require Design Exceptions or Design Waivers)

Design Exceptions

- Bike Lane: If the minimum width specified in the Basic Design Guidelines is not met.
- Shared Lane (Wide Outside Lane): If the traffic volume, speed, or width criteria (14-ft maximum, 13-ft minimum) specified in the Basic Design Guidelines are not met.

Design Waivers

- Shared Use Path (Independent alignment or Side Path): If the minimum width criteria (minimum 10-ft, 8-ft rare circumstance), buffer width, and other geometric criteria specified in the Basic Design Guidelines, and the associated AASHTO Bike Design criteria are not met.
- Separated Bike Lane/Buffered Bike lane: If the minimum criteria specified in the Basic Design Guidelines are not met.
- Bike Accessible Shoulder: For new construction, reconstruction, or widening projects where right-of-way is being acquired, a Design Waiver is required if a minimum width defined in the Basic Design Guidelines is not provided.

Bicycle Guidance Implementation date

| | By November 1st, 2021 approved 30% Plans or schematic | By November 1st, 2021 30% Plans or schematic not approved |
|---------------------------------|---|---|
| Let Prior to September 2022 | Optional | Optional |
| September 2022 Letting or later | Optional | Required |



THANK YOU

Ken Mora, P.E.
Design Division/Roadway Design Section



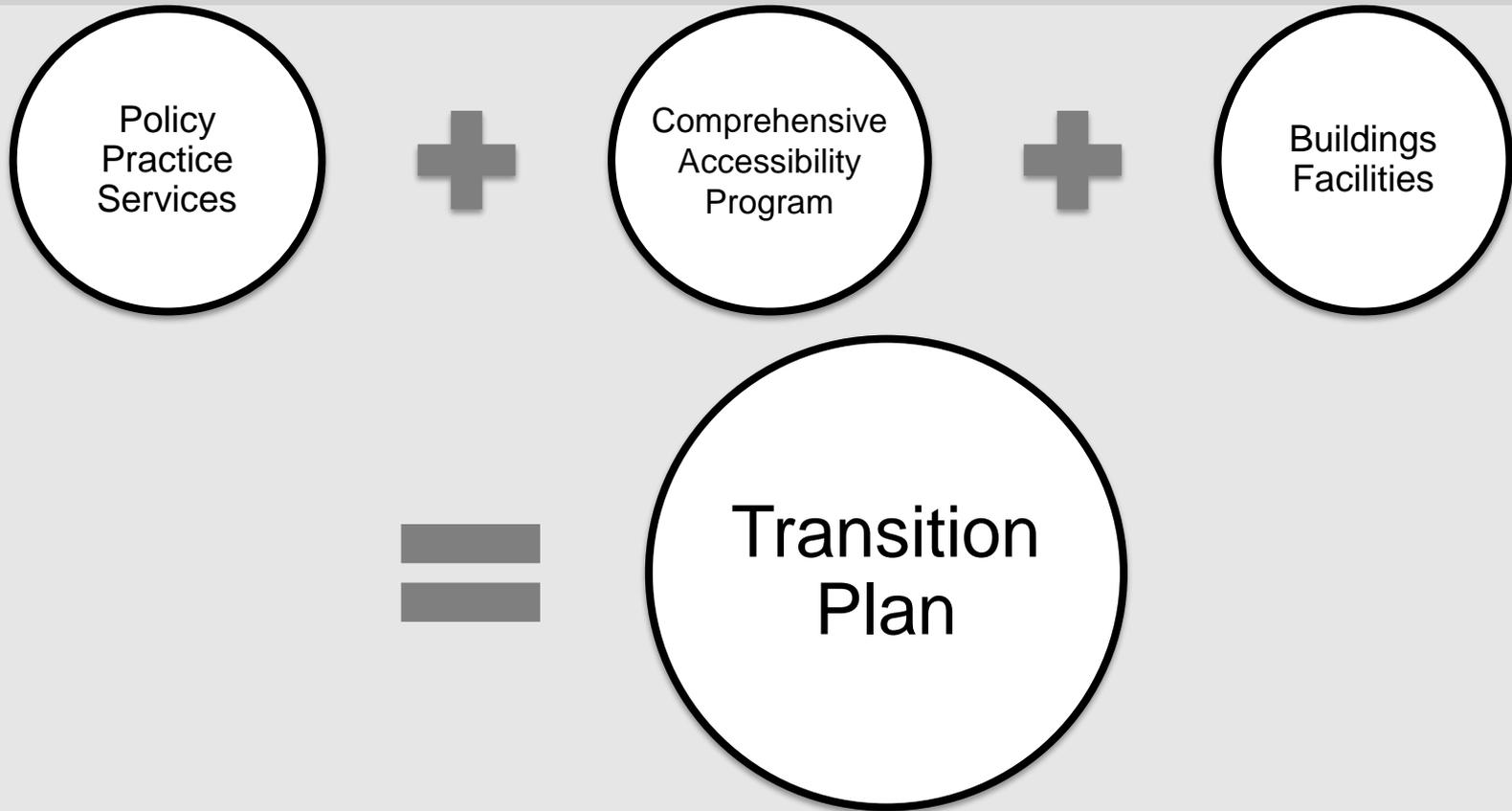
TxDOT Comprehensive Accessibility Program (TCAP)

Becky Byford, P.E.

TxDOT Design Division Landscape Architecture Section

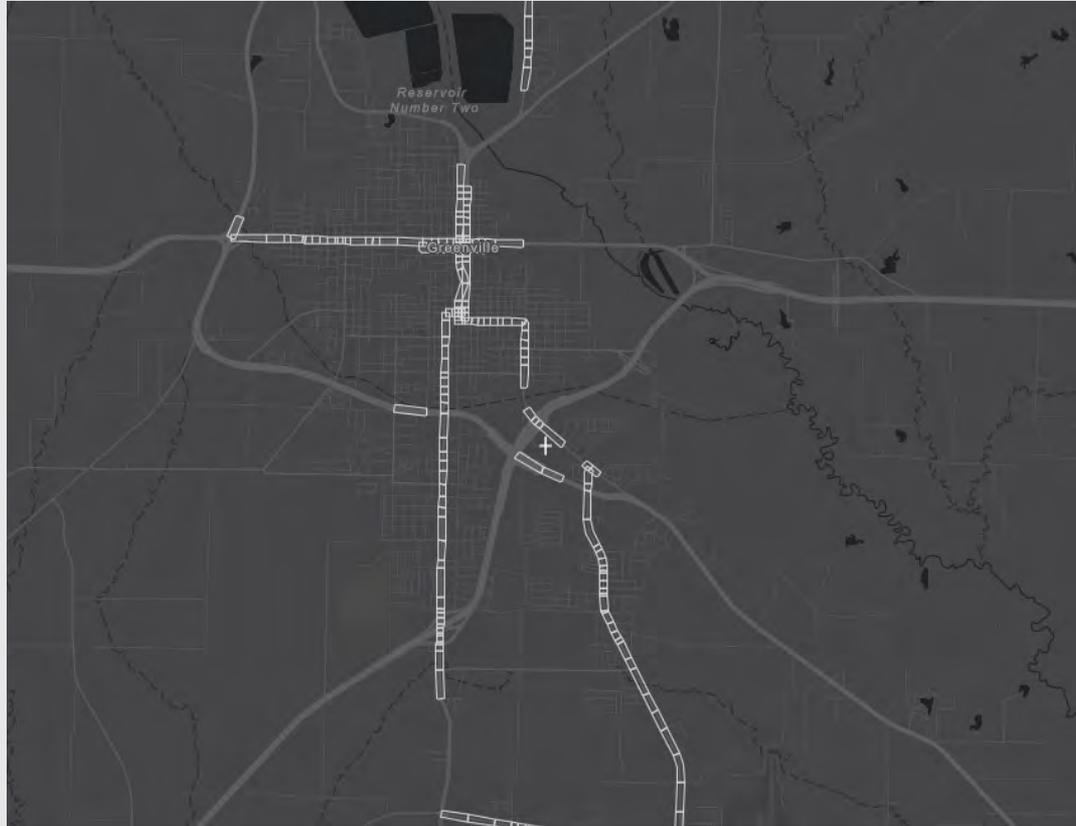


One Piece of the TxDOT ADA Transition Plan





The screenshot displays the TCAP Web Viewer interface. At the top, navigation tabs include Home, Projects, Reports, Map, and Settings. The current project is identified as 'SH 80 San Marcos' and the tool as 'TCAP Toolbox'. A search bar at the top left contains the text 'hita Falls'. Below the search bar is a map thumbnail showing a regional overview with labels for Denton, Plano, Fort Worth, Dallas, and Arlington. The main map area shows a detailed view of the Dallas-Fort Worth metropolitan area with red lines representing project routes. A sidebar on the left contains filter controls: 'Filter by Active Project' (unchecked), 'Intersection' section with fields for Route 1 ID, Route 1 Name, Route 2 ID, and Route 2 Name, and 'Corridor Segment' section with fields for Corridor ID (US0087-KG_76) and Page ID (US0087-KG_76). Below these are 'Begin' and 'End' fields, and 'TxDOT Identifiers' for District, County, and City. At the bottom of the sidebar, there are 'Display Style' buttons (None, Cost, Activity, Severity, Control Section, Project) and a 'Search Filter' section. The main map area includes a scale bar (20 mi), a scale indicator (1:1159581), and a legend at the bottom right showing 'in project scope' (blue dot) and 'belongs to project' (orange dot). The bottom status bar indicates 'SUMMARY 0 items ACTIVE 0 items'.



Data in Corridor Segment



Compliance Report for Curb Ramp



Access Compliance Report for Public Rights of Way (Curb Ramps)

| | | |
|-------------------------------|------------------------|-------------------------|
| ADA ID: 90810190528142245 | Route 1 Name: SS0302 | Route 2 Name: WALNUT ST |
| Ramp Type: Blend Trans (Perp) | Overall Compliance: No | Total Cost: 1086.75 |



Location In Intersection: NE
TxDOT District: Paris
County: Hunt
City: Greenville
Control Section: 013507
Severity Score: 0
Initial Validation Status: Pass
Stop Condition 1: N/A
Stop Condition 2: Signal

Possible Solutions:
 Remove & Replace Gutter. Utility Present.

PROW/ADA:
 R302.7, R304.5.3

| Compliance | Description | Data | Compliance | Description | Data |
|------------|-------------------------------|------------|------------|-------------------------------|------|
| N/A | Ramp Length (in) | 72 | N/A | Flare Type LT | |
| Yes | Ramp Width (in) | 60 | | Sloped | |
| Yes | Ramp Run Slope (%) | 3.2 | Yes | Flare Slope LT (%) | 2.7 |
| Yes | Ramp Cross Slope (%) | 0.5 | N/A | Flare Traversable LT | Yes |
| N/A | Landing Present | Yes | N/A | Flare Type RT | |
| Yes | Landing Length (in) | 54 | | Sloped | |
| Yes | Landing Width (in) | 60 | N/A | Flare Slope RT (%) | 3.8 |
| Yes | Landing Run Slope (%) | 1.9 | N/A | Flare Traversable RT | No |
| Yes | Landing Cross Slope (%) | 0.7 | Yes | DWS Provided | Yes |
| N/A | Landing Curb (Y/N) | No | Yes | DWS Contrast | Yes |
| N/A | Landing Shared | No | Yes | DWS Length (in) | 70 |
| No | Gutter Ponding | Yes | Yes | DWS Full Width | Yes |
| Yes | Gutter Lip Height (in) | 0 | Yes | DWS Offset (in) | 0 |
| Yes | Gutter Run Slope (%) | 0.8 | | | |
| No | Gutter Cross Slope (%) | 2.5 | Yes | Perp Joint Present | Yes |
| N/A | Marked Crosswalk 1 | Yes | N/A | Marked Crosswalk 2 | N/A |
| N/A | Crossing 1 Direction | To W | N/A | Crossing 2 Direction | N/A |
| N/A | Marked Crosswalk 1 Width (in) | 73 | N/A | Marked Crosswalk 2 Width (in) | N/A |
| Yes | Ramp Inside Crosswalk 1 | Yes | N/A | Ramp Inside Crosswalk 2 | N/A |
| N/A | Crossing 1 Slope (%) | 0.3 | N/A | Crossing 2 Slope (%) | N/A |
| N/A | Crossing 1 Cross Slope (%) | 1.3 | N/A | Crossing 2 Cross Slope (%) | N/A |
| N/A | Road Run Slope (%) | N/A | N/A | Clear Space | Yes |
| N/A | Road Cross Slope (%) | N/A | N/A | Clear Space To Crosswalk (in) | N/A |
| Yes | Overall Surface Condition: | Acceptable | Yes | Any Obstructions? | No |
| Yes | Curb Slope | 1.5 | N/A | Obstruction Type | |
| | | | | N/A | |
| | | | N/A | Utility Inventory Item | Yes |
| | | | N/A | Utility Hazard Type | |



Manhole

Overall Notes:
 N/A

Data collection and reporting for curb ramps and island curb cuts are derived from the TxDOT Pedestrian Facilities Curb Ramps PED-18 standard. The reports herein have been classified to the closest interpretation of the appropriate standard based on field conditions. All circumstances of features outside technical specifications are interpreted to provide the closest match to these standards and should not be considered absolute.

Compliance Report for Corridor Segment



Corridor ID: SS0302-KG_0.934
Page ID: SS0302-KG_0.934_0

Access Compliance Report - Public Rights-of-Way (Corridor: Sidewalk & Intersection Items)



ADA Survey Summary

| Item Description | Quantity | Unit |
|--|----------|------|
| 1 Discontinuity Displacement <= 1" | 15 | EA |
| 2 Discontinuity Displacement > 1" | 0 | EA |
| 3 Discontinuity Opening > 0.5" | 0 | EA |
| 4 Poor Surface Condition | 2 | SY |
| 5 Utility Obstruction | 3 | EA |
| 6 Traffic Signal Obstruction | 0 | EA |
| 7 Sign Obstruction | 0 | EA |
| 8 Temp/Private Obstruction | 0 | EA |
| 9 Low Vegetative Obstruction | 3 | EA |
| 10 Overhead Vegetative Obstruction | 0 | EA |
| 11 Other Obstruction* | 0 | EA |
| 12 Commercial Entrance | 135 | LF |
| 13 Residential Entrance | 54 | LF |
| 14 Total Sidewalk Length Assessed | 1030 | LF |
| 15 Average Sidewalk Width | 96 | IN |
| 16 Curb Ramps In Page Report | 8 | EA |
| 17 Island Curb Cuts In Page Report | 0 | EA |
| 18 Signal Ped Button Posts In Page Report | 2 | EA |
| 19 Bus Pads In Page Report | 0 | EA |
| 20 Missing Sidewalk/Gaps in Connectivity | 0 | LF |
| 21 Buried/Narrow Sidewalk | 0 | LF |
| 22 Missing Sidewalk Connection to Bus Pads | 0 | LF |
| 23 No Sidewalk Observed | 0 | LF |
| 24 Corridor Severity Score | 43.81 | |

Inventory

Displacements_Inventory

- ◆ Displacements Less Than 1"
- ◆ Displacements 1" or Greater
- ◆ Poor Surface Condition
- ◆ Sidewalk Joint Gap

Obstructions_Inventory

- Utility Obstruction
- Traffic Signal Obstruction
- Sign Obstruction
- Temporary Obstruction
- Overhead Vegetation
- Low Vegetation
- Other Obstruction
- Residential Driveway
- Commercial Driveway
- Not Surveyed
- Missing Sidewalk
- Missing Bus Connection
- Buried/Narrow Sidewalk
- See Feature Comments
- Sidewalk Collection Path
- Curb Ramps in Adjacent Corridor
- Island Curb Cuts in Adjacent Corridor
- Signals in Adjacent Corridors
- Bus Stop Pads In Adjacent Corridor

Running Slope (Aligned)

[Not Costed]

- 5.1 - 8.3%
- 8.4 - 10.0%
- 10.1 - 12.5%
- > 12.5%

ADA Compliance Cost Estimate **

| Item Description | Quantity | Unit | Unit Price | Item Cost |
|--|----------|------|------------|---------------------|
| 1 Discontinuity Displacement <= 1" | 5 | EA | \$190.00 | \$ 950.00 |
| 2 Discontinuity Displacement > 1" | 0 | EA | \$690.00 | \$ 0.00 |
| 3 Discontinuity Opening > 0.5" | 0 | EA | \$90.00 | \$ 0.00 |
| 4 Poor Surface Condition | 0 | SY | \$90.00 | \$ 0.00 |
| 5 Utility Obstruction | 3 | EA | \$6210.00 | \$ 18630.00 |
| 6 Traffic Signal Obstruction | 0 | EA | \$2490.00 | \$ 0.00 |
| 7 Sign Obstruction | 0 | EA | \$1870.00 | \$ 0.00 |
| 8 Low Vegetative Obstruction | 3 | EA | \$190.00 | \$ 570.00 |
| 9 Overhead Vegetative Obstruction | 0 | EA | \$380.00 | \$ 0.00 |
| 10 Other Obstruction | 0 | EA | \$1870.00 | \$ 0.00 |
| 11 Commercial Entrance | 135 | LF | \$446.00 | \$ 59558.00 |
| 12 Residential Entrance | 39 | LF | \$370.00 | \$ 14467.00 |
| 13 Running Slope Violation | 0 | SY | \$90.00 | \$ 0.00 |
| 14 Cross Slope Violation | 248 | SY | \$90.00 | \$ 22319.00 |
| 15 Running and Cross Slope Violations | 25 | SY | \$90.00 | \$ 2273.00 |
| 16 Non-Compliant Curb Ramps and Total Cost* | 8 | EA | VARIES | \$ 14718.00 |
| 17 Non-Compliant Island Curb Cuts and Total Cost* | 0 | EA | VARIES | \$ 0.00 |
| 18 Non-Compliant Signal Ped Button Posts and Total Cost* | 2 | EA | VARIES | \$ 6583.00 |
| 19 Non-Compliant Bus Pads and Total Cost* | 0 | EA | VARIES | \$ 0.00 |
| 20 Missing Sidewalk/Gap in Connectivity | 0 | SY | \$70.00 | \$ 0.00 |
| 21 Buried Sidewalk | 0 | SY | \$90.00 | \$ 0.00 |
| 22 Missing Sidewalk Connection to Bus Pads | 0 | SY | \$70.00 | \$ 0.00 |
| Total | | | | \$ 140066.00 |

Compliance

Displacements

- ◆ Displacements 1" or Greater
- ◆ Displacements Less Than 1"
- ◆ Poor Surface Condition
- ◆ Sidewalk Joint Gap

Obstructions

- Utility Obstruction
- Traffic Signal Obstruction
- Sign Obstruction
- Temp or Private Obstruction
- Overhead Vegetation
- Low Vegetation
- Other Obstruction
- Driveway Violation

Running Slope (Deviated)

[Costed]

- 5.1 - 8.3%
- 8.4 - 10.0%
- 10.1 - 12.5%
- > 12.5%

Cross Slope

- 2 - 3%
- 3.01 - 4%
- 4.01 - 7%
- > 7%

Visual Survey Items

- ◆ Cross Slope
- ◆ Discontinuity
- ◆ Displacements Less Than 1"
- ◆ Low Vegetation
- ◆ Other Obstruction
- ◆ Overhead Vegetation
- ◆ Poor Surface Condition
- ◆ Private Obstruction
- ◆ Sign Obstruction
- ◆ Traffic Signal Obstruction
- ◆ Utility Obstruction
- ◆ Low Vegetation
- ◆ Other Obstruction
- ◆ Residential Driveway
- ◆ Commercial Driveway
- ◆ Driveway Violation
- ◆ Non-Compliant Signal
- ◆ Compliance Signal
- ◆ Non-Compliant Bus Stop Pad
- ◆ Compliance Bus Stop Pad
- ◆ Non-Compliant Curb Ramp
- ◆ Compliance Curb Ramp
- ◆ Non-Compliant Curb Cut
- ◆ Compliance Curb Cut
- ◆ Sidewalk Discontinuity
- ◆ Not Surveyed
- ◆ Missing Sidewalk
- ◆ Missing Bus Connection
- ◆ Buried/Narrow Sidewalk
- ◆ See Feature Comments

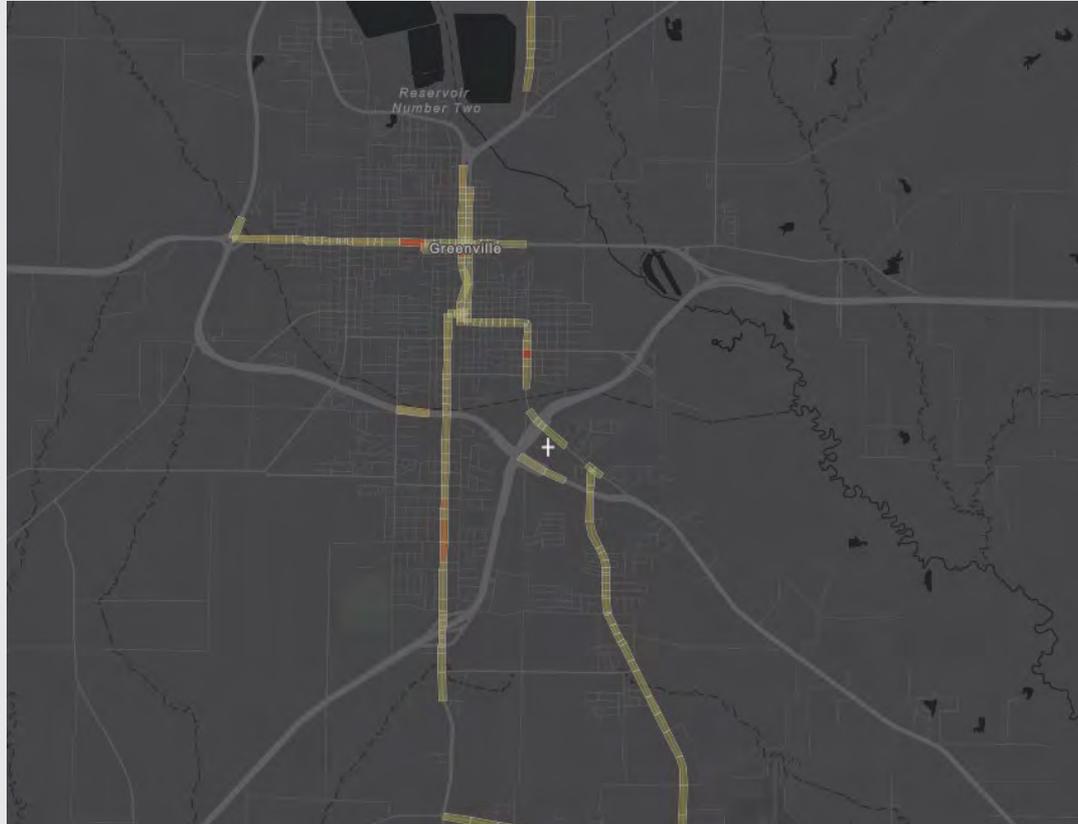
* Note: Some items combined for display. See Unit Cost Table for specific Unit Costs for each type of obstruction, curb ramp, island, signal ped button post, or bus pad replacement. Missing sidewalk/gaps in connectivity reported together in compliance report and are separate in the GIS layers.

** Note: ADA pedestrian issues have been identified and quantified in the ADA Survey Summary. There are instances where multiple issues can be resolved with a single corrective measure. The ADA Compliance Cost Estimate reflects the best estimation of quantities and cost to resolve all identified ADA issues.



- Measure of ADA compliance
- Compliant or not compliant
 - Based on PROWAG
- If not compliant, how severe?
 - Functional (lower score)
 - Example: sidewalk with 2.1% cross slope
 - Safety Issue (higher score)
 - Example: sidewalk with 7% cross slope

Severity Score – Visual

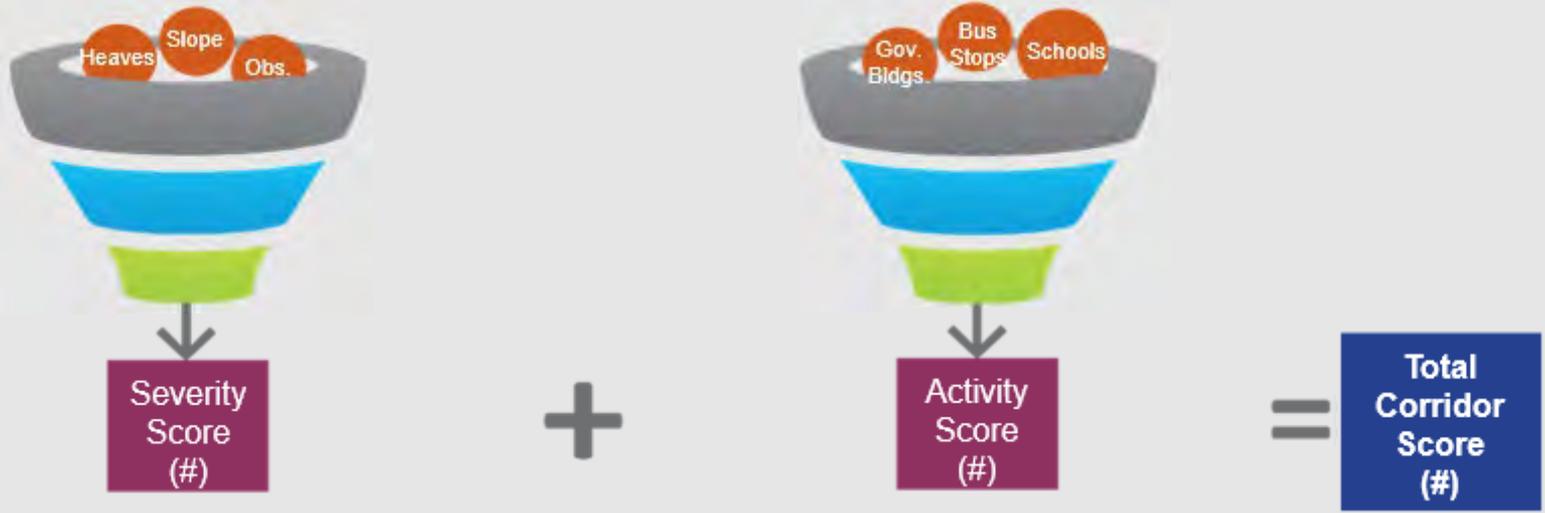




- Estimated level of pedestrian usage
- More frequent usage may increase priority for remediation
- Includes:
 - Govt. Buildings
 - Schools
 - Hospitals & Medical Centers
 - Bus Stops
 - Census: % Disabled, Employment Data, and % Ped/Bike/Transit Commuters



Prioritization



Sample Point / Grade System*

| | | | | |
|----------------------|-----------------------|-----------------------|-----------------------|------------------------|
| A 0-20 pts | B 21-40 pts | C 41-60 pts | D 61-80 pts | F 81-100 pts |
|----------------------|-----------------------|-----------------------|-----------------------|------------------------|

Scoring Defined in Transition Plan

Prioritization



| ID | File | Zoom | Ctrl Sec | City | Total Cost | Activity | Severity | Score | Rank |
|--------------------|-----------|------|----------|------------|-------------|----------|----------|--------|------|
| SH0034-KG_42.476_0 | File icon | Q | 017307 | Greenville | \$0 | 15.25 | 0 | 15.25 | A |
| SH0034-KG_42.434_0 | File icon | Q | 017307 | Greenville | \$2,760.00 | 21.25 | 0.30 | 21.55 | A |
| SH0034-KG_42.404_0 | File icon | Q | 017307 | Greenville | \$3,250.00 | 24.75 | 14.53 | 39.28 | B |
| SH0034-KG_42.351_0 | File icon | Q | 017307 | Greenville | \$11,388.00 | 24.75 | 30.26 | 55.01 | B |
| SH0034-KG_42.311_0 | File icon | Q | 017307 | Greenville | \$21,737.00 | 30.75 | 37.33 | 68.08 | C |
| SH0034-KG_42.28_0 | File icon | Q | 017307 | Greenville | \$4,471.00 | 30.75 | 0.75 | 31.50 | A |
| SH0034-KG_42.191_0 | File icon | Q | 017307 | Greenville | \$18,091.00 | 30.75 | 3.92 | 34.67 | A |
| SH0034-KG_41.567_0 | File icon | Q | 017307 | Greenville | \$18,147.00 | 45.75 | 3.27 | 49.02 | B |
| SH0034-KG_41.507_0 | File icon | Q | 017307 | Greenville | \$23,986.00 | 45.75 | 7.29 | 53.04 | B |
| SH0034-KG_41.753_0 | File icon | Q | 017307 | Greenville | \$24,211.00 | 53.25 | 86.20 | 139.45 | D |
| SH0034-KG_41.569_0 | File icon | Q | 017307 | Greenville | \$34,921.00 | 47.25 | 79.61 | 126.86 | D |
| SH0034-KG_41.495_0 | File icon | Q | 017307 | Greenville | \$11,378.00 | 26.25 | 32.36 | 58.61 | B |
| SH0034-KG_41.413_0 | File icon | Q | 017307 | Greenville | \$50,480.00 | 20.25 | 74.54 | 94.79 | C |
| SH0034-KG_41.317_0 | File icon | Q | 017307 | Greenville | \$14,503.00 | 12.75 | 17.72 | 30.47 | A |
| SH0034-KG_41.214_0 | File icon | Q | 017307 | Greenville | \$15,322.00 | 18.75 | 7.12 | 25.87 | A |
| SH0034-KG_41.13_0 | File icon | Q | 017307 | Greenville | \$17,285.00 | 16.25 | 26.07 | 42.32 | B |
| SH0034-KG_41.004_0 | File icon | Q | 017307 | Greenville | \$16,006.00 | 22.25 | 37.37 | 59.62 | B |
| SH0034-KG_40.955_0 | File icon | Q | 017307 | Greenville | \$2,608.00 | 28.25 | 15.00 | 43.25 | B |
| SH0034-KG_40.704_0 | File icon | Q | 017307 | Greenville | \$47,941.00 | 29.75 | 0.30 | 30.05 | A |
| SH0034-KG_40.683_0 | File icon | Q | 017307 | Greenville | \$33,065.00 | 34.25 | 12.72 | 46.97 | B |
| SH0034-KG_40.618_0 | File icon | Q | 017307 | Greenville | \$24,060.00 | 34.25 | 8.50 | 42.75 | B |



| | A | B | C | D | E | F | G | H |
|----|---|--|--------------------------|--------------|----------------|----------------------------|---|---|
| 1 | | | | | | | | |
| 2 | | ADA Violation Summary and Cost Estimate | | | | | | |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | User Defined | | |
| 7 | ADA Remediation Items | Quantity* | Count/Sum in Violation** | Unit | Unit Cost | Estimated Remediation Cost | | |
| 8 | Sidewalks | | | | | | | |
| 9 | Heavings, Under 1 inch | | 2,660 | Each | \$190 | \$505,400 | | |
| 10 | Heavings, Over 1 inch | | 2,660 | Each | \$690 | \$1,835,400 | | |
| 11 | Poor Surface Condition | | 6 | Square Yards | \$90 | \$540 | | |
| 12 | Joint Gaps | | 0 | Each | \$90 | \$0 | | |
| 13 | Vegetative Protrusions, Low | | 0 | Each | \$190 | \$0 | | |
| 14 | Vegetative Protrusions, Overhead | | 0 | Each | \$380 | \$0 | | |
| 15 | Utility Obstructions | | 0 | Each | \$6,210 | \$0 | | |
| 16 | Traffic Signal Obstructions | | 0 | Each | \$2,490 | \$0 | | |
| 17 | Other/Misc Obstructions | | 0 | Each | \$1,870 | \$0 | | |
| 18 | Sign Obstructions | | 0 | Each | \$1,870 | \$0 | | |
| 19 | Commercial Driveways | | 516 | Linear Feet | \$440 | \$227,040 | | |
| 20 | Residential Driveways | | 0 | Linear Feet | \$370 | \$0 | | |
| 21 | Non-Standard Run Slopes | | 0 | Square Yards | \$90 | \$0 | | |
| 22 | Non-Standard Cross Slopes | | 2,593 | Square Yards | \$90 | \$233,370 | | |
| 23 | Non-Standard Run & Cross Slopes | | 11 | Square Yards | \$90 | \$990 | | |
| 24 | Sidewalk Subtotal | | | | | \$2,802,740 | | |
| 25 | Commercial Driveways, Linear Foot | 541 | 516 | | included above | | | |
| 26 | Residential Driveways, Linear Foot | 0 | 0 | | included above | | | |
| 27 | | | | | | | | |
| 28 | Missing Sidewalk Segments | | 0 | Square Yards | \$70 | \$0 | | |
| 29 | Buried/Narrow Sidewalks | | 0 | Square Yards | \$90 | \$0 | | |
| 30 | | | | | | | | |
| 31 | Intersections | | | | | | | |
| 32 | Curb Ramps | 55 | 55 | Each | \$3,700 | \$203,500 | | |
| 33 | Median/Curb Cuts | 0 | 0 | Each | \$7,328 | \$0 | | |
| 34 | Signal Ped Posts | 19 | 19 | Each | \$3,000 | \$57,000 | | |
| 35 | | | | | | | | |
| 36 | Transit | | | | | | | |
| 37 | Bus Pads | 4 | 3 | Each | \$1,615 | \$4,845 | | |
| 38 | Missing Connection to Bus Stop | | 0 | Square Yards | \$70 | \$0 | | |
| 39 | | | | | | | | |
| 40 | Overall Estimated ADA Remediation Cost, \$ | | | | | \$3,068,085 | | |
| 41 | | | | | | | | |

Data Export



| Prioritization Summary | | | | | | | | | |
|------------------------|------------------|-----------------|------------|-----------------|----------------|--|-----------------------------|-------------------------------|----------------|
| A | B | C | D | F | Ranking Scale | | | | |
| 0.00 | 34.50 | 66.50 | 108.50 | 165.00 | Range - Min | User-Defined | | | |
| 34.49 | 66.49 | 108.49 | 164.99 | > 165 | Range - Max | *** Form Calculates Range - Max from User Defined Values | | | |
| Corridor Segment ID | Highway Name | Begin Street | End Street | Control Section | Priority Rank | Priority Score | User-Defined Activity Score | Pre-calculated Activity Score | Severity Score |
| 60 | FM1570-KG_0.0 | FM1570-KG_0.0_0 | FM1570-KG | BU0069D | DEL RA DR | A | 23.8 | 8.8 | 15.0 |
| 61 | FM1570-KG_0.127 | FM1570-KG_0.127 | FM1570-KG | US0069 | DEL RA DR | A | 15.5 | 8.8 | 6.8 |
| 62 | SH0034-KG_39.939 | SH0034-KG_39.93 | SH0034-KG | WESLEY | JOHN ST | B | 54.1 | 16.3 | 37.8 |
| 63 | SH0034-KG_42.28 | SH0034-KG_42.28 | SH0034-KG | GS0000 | KARI LN | A | 31.5 | 30.8 | 0.8 |
| 64 | SH0034-KG_42.54 | SH0034-KG_42.54 | SH0034-KG | GS0000 | IH0030 | B | 59.6 | 28.8 | 30.9 |
| 65 | SH0034-KG_41.967 | SH0034-KG_41.96 | SH0034-KG | GS0000 | ROBIN RD | B | 49.0 | 45.8 | 3.3 |
| 66 | SH0034-KG_42.434 | SH0034-KG_42.43 | SH0034-KG | GS0000 | BURNETT DR | A | 21.6 | 21.3 | 0.3 |
| 67 | SH0034-KG_42.558 | SH0034-KG_42.55 | SH0034-KG | GS0000 | IH0030 | A | 33.3 | 28.8 | 4.5 |
| 68 | SH0034-KG_42.756 | SH0034-KG_42.75 | SH0034-KG | GS0000 | MUSTANG XING | A | 30.8 | 28.8 | 2.0 |
| 69 | SH0034-KG_41.753 | SH0034-KG_41.75 | SH0034-KG | GS0000 | TRADERS ST | D | 139.5 | 53.3 | 86.2 |
| 70 | SH0034-KG_42.476 | SH0034-KG_42.47 | SH0034-KG | GS0000 | MOCKINGBIRD LN | A | 15.3 | 15.3 | 0.0 |
| 71 | SH0034-KG_42.351 | SH0034-KG_42.35 | SH0034-KG | GS0000 | GS0000 | B | 55.0 | 24.8 | 30.3 |
| 72 | SH0034-KG_42.404 | SH0034-KG_42.40 | SH0034-KG | GS0000 | GS0000 | B | 39.3 | 24.8 | 14.5 |
| 73 | SH0034-KG_42.491 | SH0034-KG_42.49 | SH0034-KG | GS0000 | IH0030 | A | 22.8 | 22.8 | 0.0 |
| 74 | SH0034-KG_42.311 | SH0034-KG_42.31 | SH0034-KG | GS0000 | GS0000 | C | 68.1 | 30.8 | 37.3 |
| 75 | SH0034-KG_41.13 | SH0034-KG_41.13 | SH0034-KG | GS0000 | WOODROW AVE | B | 42.3 | 16.3 | 26.1 |
| 76 | SH0034-KG_41.317 | SH0034-KG_41.31 | SH0034-KG | GS0000 | WEBB AVE | A | 30.5 | 12.8 | 17.7 |
| 77 | SH0034-KG_41.495 | SH0034-KG_41.49 | SH0034-KG | GS0000 | EASTLAND AVE | B | 58.6 | 26.3 | 32.4 |
| 78 | SH0034-KG_42.611 | SH0034-KG_42.61 | SH0034-KG | GS0000 | POPLAR AVE | A | 31.8 | 28.8 | 3.1 |
| 79 | SH0034-KG_41.907 | SH0034-KG_41.90 | SH0034-KG | GS0000 | MUSTANG XING | B | 53.0 | 45.8 | 7.3 |
| 80 | SH0034-KG_41.569 | SH0034-KG_41.56 | SH0034-KG | GS0000 | MOCKINGBIRD LN | D | 126.9 | 47.3 | 79.6 |
| 81 | SH0034-KG_41.064 | SH0034-KG_41.06 | SH0034-KG | GS0000 | ROBIN RD | B | 59.6 | 22.3 | 37.4 |
| 82 | SH0034-KG_41.413 | SH0034-KG_41.41 | SH0034-KG | GS0000 | MITCHELL AVE | C | 94.8 | 20.3 | 74.5 |
| 83 | SH0034-KG_42.191 | SH0034-KG_42.19 | SH0034-KG | GS0000 | HIGHLAND ST | B | 34.7 | 30.8 | 3.9 |
| 84 | SH0034-KG_41.214 | SH0034-KG_41.21 | SH0034-KG | GS0000 | EASTLAND AVE | A | 25.9 | 18.8 | 7.1 |
| 85 | SH0034-KG_40.764 | SH0034-KG_40.76 | SH0034-KG | GS0000 | POPLAR AVE | A | 30.1 | 29.8 | 0.3 |
| 86 | SH0034-KG_39.984 | SH0034-KG_39.98 | SH0034-KG | GS0000 | BURNETT DR | B | 46.5 | 17.8 | 28.8 |





Becky Byford, P.E.

Pedestrian Facility Project Manager

(512) 416-2749

Rebecca.Byford@txdot.gov

Mark Baker, RLA, LI

Transportation Landscape Architect

(512) 416-3087

Mark.Baker@txdot.gov

Pete Krause, RLA

DES LA Section Director

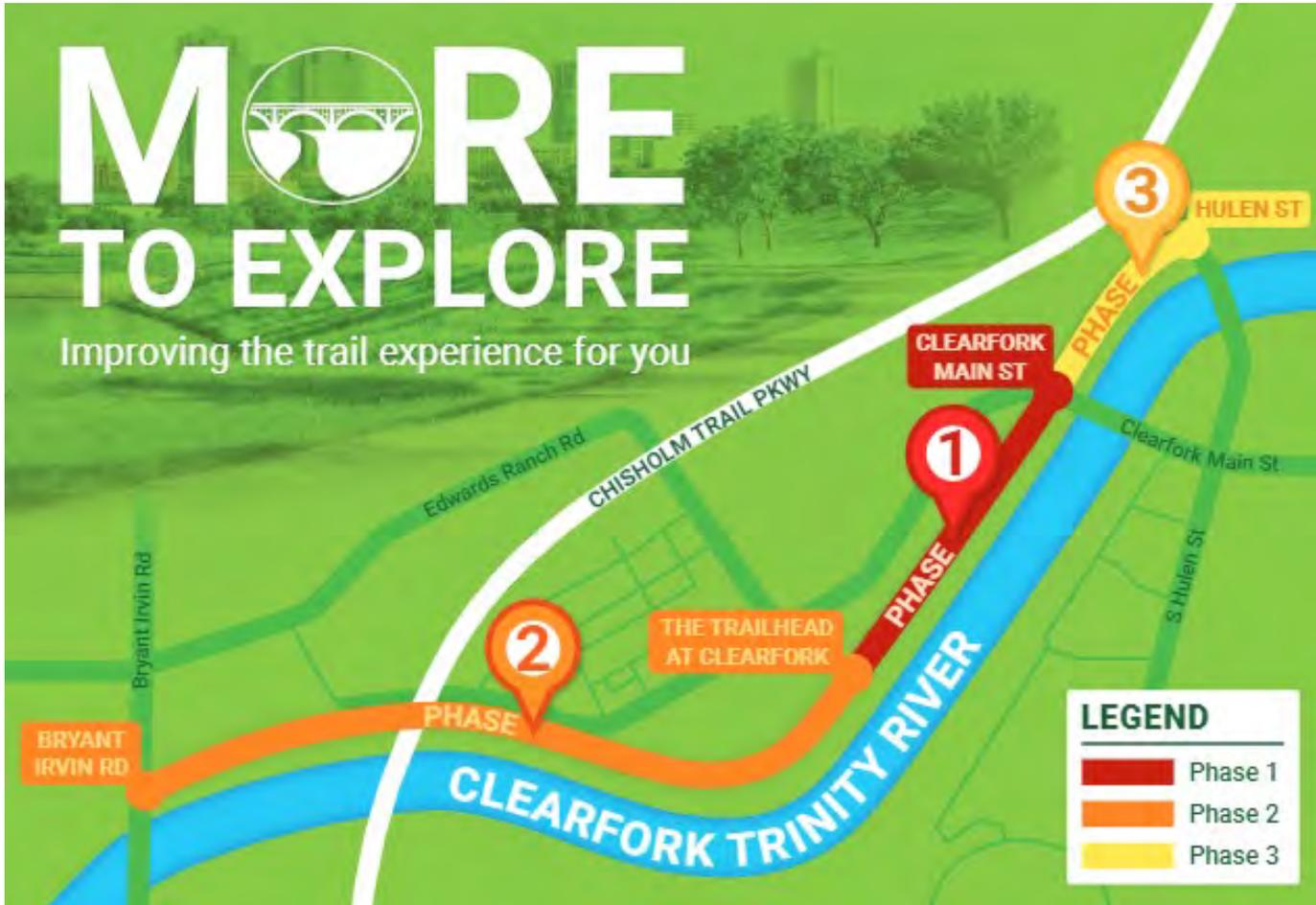
(512) 416-2714

Pete.Krause@txdot.gov



TRWD

Tarrant Regional Water District



PROJECT DETAILS

1.5 miles of separate concrete and soft surface trails

3 phases over the course of 12 months, started in November 2020

BEFORE PICTURES



Meandering soft surface trail



In-progress



10 ft wide concrete trail

TRWD Painting the River: A trinity Trails Mural Gallery

GOALS

- Create a destination along the trails
- Initiate adventure and desire to explore
- Enhance quality of trail experience with chance encounters

PROCESS

Call for Artist

- Received over 200 applications
- Narrowed down to 80 artist
- Result 23 artist on 27 structures

Scheduling

9 months to complete all structures



Painting The River: A Trinity Trails Mural Gallery



INTERACTIVE STORY MAP



#8-Backyard Princesses

ARTIST: Anya Boz HOMETOWN: Brooklyn, NY



#9-Cloud 9

ARTIST: Jimmy Jenkins HOMETOWN: Fort Worth, TX



#10-Giving and Receiving

ARTIST: Adrian Brooks HOMETOWN: Wimberly, TX



#11-Cowboy Punk 2077

ARTIST: John Worley HOMETOWN: West Hollywood, CA



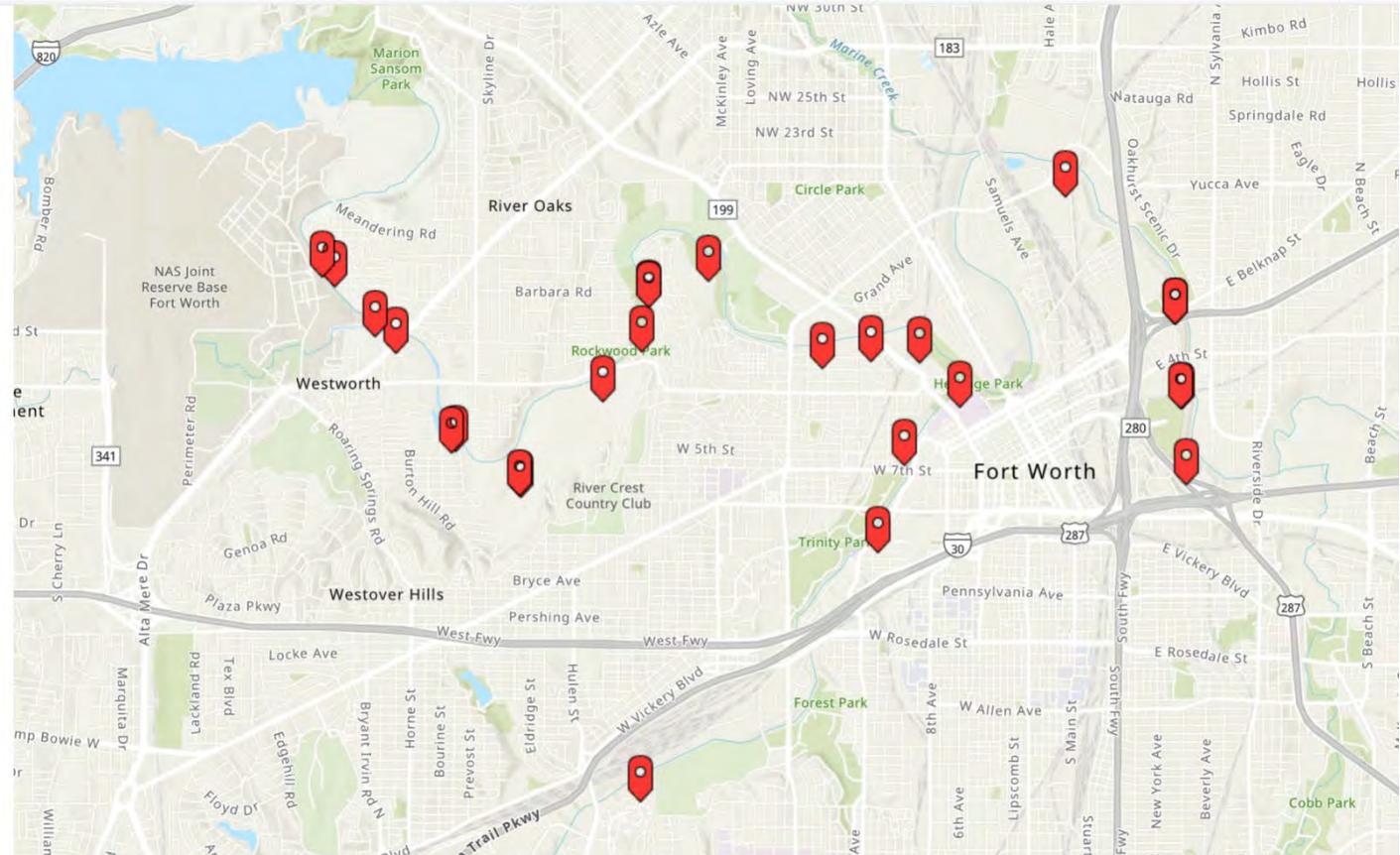
#11-The Panther

ARTIST: Rojografito HOMETOWN: Fort Worth, TX



#13-The Birds

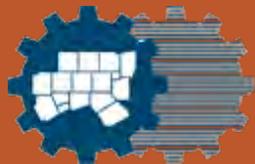
ARTIST: Nolan Muller HOMETOWN: Plano, TX



Website: Trinitytrailsfw.com

Bicycle Parking Parklet Pilot Project: Dallas Bishop Arts District

Bicycle and Pedestrian Advisory Committee
May 19, 2021



North Central Texas
Council of Governments



Bicycle Parking Parklet: PROJECT SCHEDULE

(February 28, 2018)

The *Blue-Green-Grey Silo-Busting Initiatives* approved by Regional Transportation Council

(August 23, 2018)

Executive Board authorizes NCTCOG to enter into agreements with the private sector

(July 20, 2019)

Project initiated after agreement finalized with consultant, Amanda Popken Development

(December 9, 2020)

Dallas City Council approves the *Street Seats* program, allowing for private or public parklet options and the use of up to two curbside parking spaces

(December 18, 2020)

Ribbon cutting event to mark final parklet installation

Bicycle Parking Parklet Pilot Project - 2019

- Cost: \$38,500
- Funds were used for the development and implementation of an eco-friendly bike parking and public seating parklet in the Bishop Arts District in Dallas.
- Pilot project established a replicable *green* parklet design, suitable for mixed use and neighborhood walkable retail districts.



Summary Memo

Retrofitting Neighborhood Commercial Green Bicycle Parking
Green Blue Grey Project



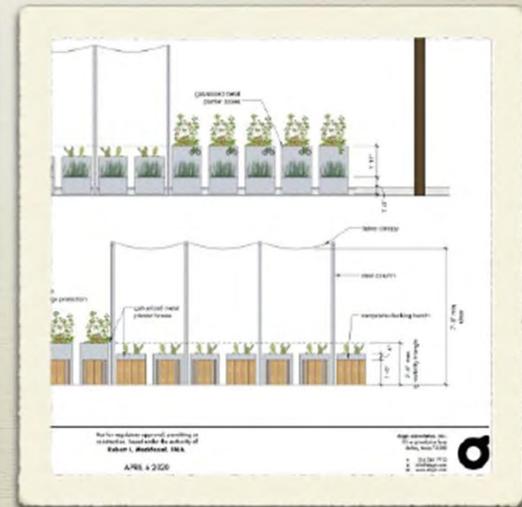
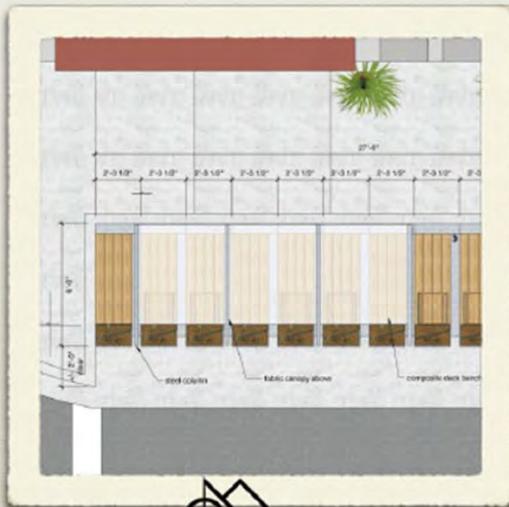
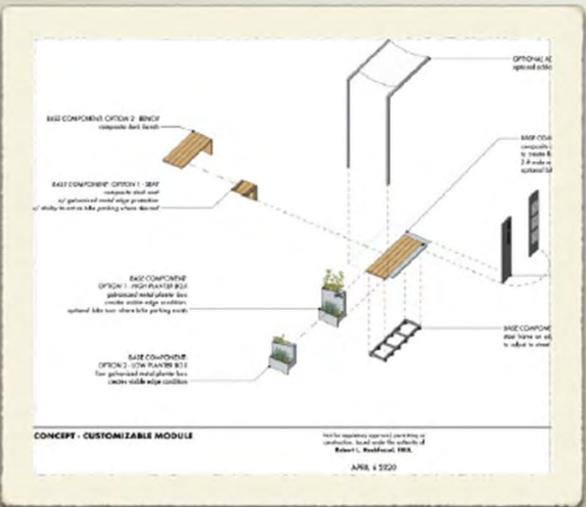
MARKETING & PROMOTIONS

Project Promotion

- May 20, 2020 Presentation to NCTCOG regional Bicycle Advisory Committee Zoom call
- May 27, 2020 Presentation to Dallas Bike Coalition by Zoom call
- October 1, 2020 Panel discussion and presentation of parklet project at virtual event "Future of Public Space" Presented by Urban Land Institute, American Institute of Architects and Dallas Architecture Forum
- October 7, 2020 Presentation to Dallas Bicycle Coalition virtual meeting



Initial Design

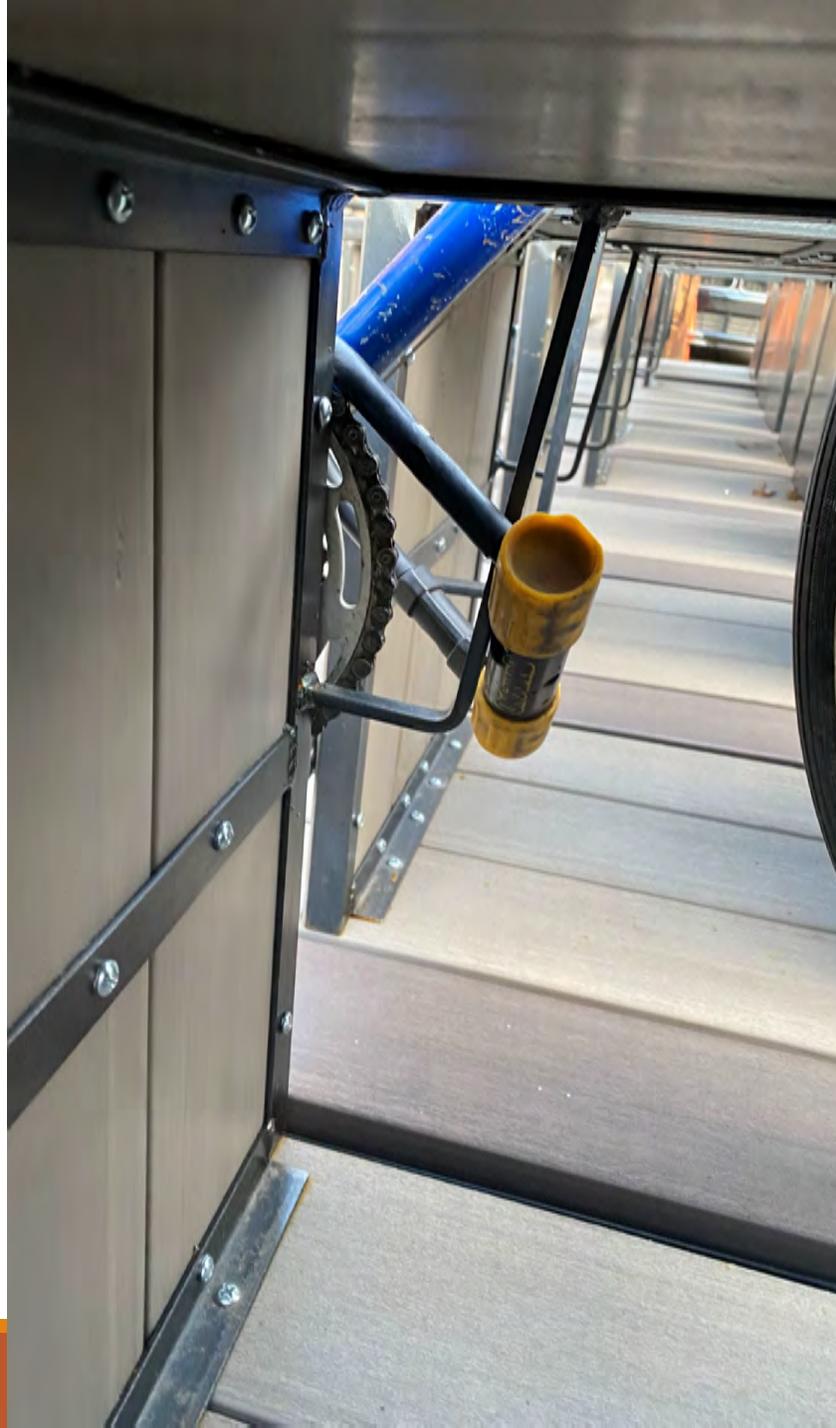


Pilot Project OVERVIEW

- Easily replicable parklet bicycle parking design, suitable for the context of various mixed use and neighborhood walkable retail districts
- Construction plans for the bicycle parking parklet have been open-sourced and available at:
 - nctcog.org/trans/plan/bikeped/planningprojects
(under *Completed Plans*)
 - Also, will be available at bikedfw.org/parklet.html
- Pilot project installed at the intersection of N Bishop Avenue and W 8th Street in Dallas, to address the parking demand in the Bishop Arts District
- Accommodates parking for up to 13 bicycles by using a small angle iron under the corner of each bench as a lock post. The modular design allows for larger or smaller installations
- Retrofitted two automobile parallel parking spaces, with the parklet constructed on top of the existing street pavement adjacent to the street curb (no pavement cuts)







Thank You!

Contact

Kevin Kokes, AICP

Program Manager

kkokes@nctcog.org

Matt Fall

Senior Transportation Planner

mfall@nctcog.org

Open-sourced construction plans for the bicycle parking parklet available at:

nctcog.org/BlueGreenGrey

bikedfw.org/parklet.html



North Central Texas
Council of Governments

Demand Zones for Walking and Bicycling

BICYCLE AND PEDESTRIAN ADVISORY COMMITTEE

MAY 19, 2021

JULIE ANDERSON, SR TRANSPORTATION PLANNER

Purpose of Demand Zones

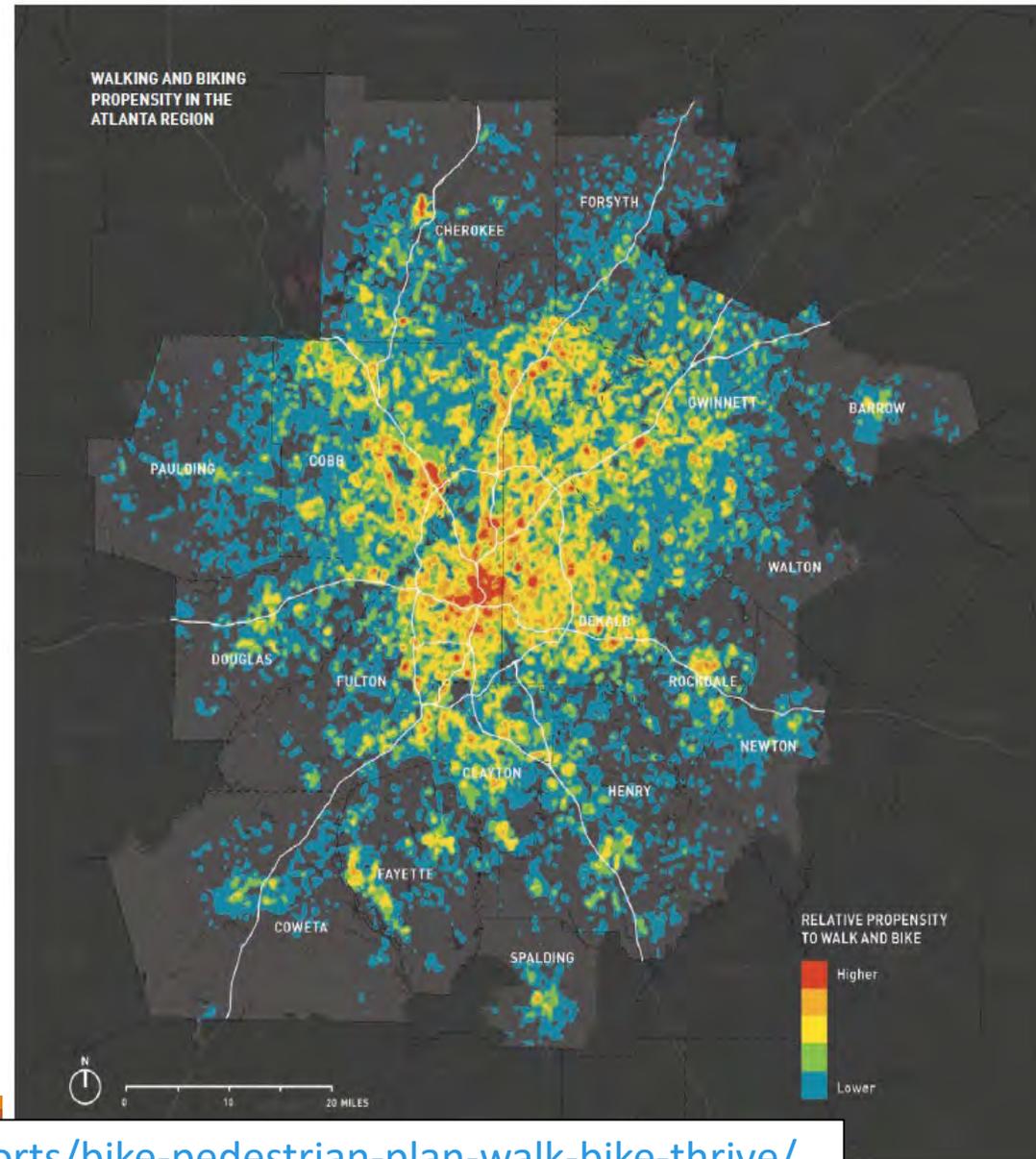
Define and locate areas in the region with the potential highest demand for walking and bicycling

Integrate into the Mobility 2045 Plan Update

Use these areas to prioritize future investment for walking and bicycling infrastructure

Example: Atlanta Regional Commission

| | |
|---|--|
|  | LIVE Areas with higher population density have higher rates of walking and biking. Population density was analyzed at the census block level to identify areas of high and low population density. |
|  | WORK Like population density, higher densities of workers translates to higher propensity for people to walk and bike. Employee density was analyzed at the block level to identify areas for high and low population density. |
|  | PLAY Trails and parks are attractors and generators of walking and biking activity. Proximity to trails and parks was analyzed. |
|  | TRANSIT More than 3/4 of all transit trips start or end with a walking trip |
|  | LEARN Schools are a significant source of walking and biking by populations that either can't drive because they are not old enough or are more likely to walk or bike for economic reasons. Proximity to elementary, middle, and high schools, as well as universities, was analyzed. |
|  | SHOP Retail shopping areas are also attractors for walking and biking trips. Density of retail jobs, which can be used as a proximity for density of stores, was used to analyze areas with higher retail density. |



<https://atlantaregional.org/plans-reports/bike-pedestrian-plan-walk-bike-thrive/>

Draft

Criteria for Creating Demand Zones

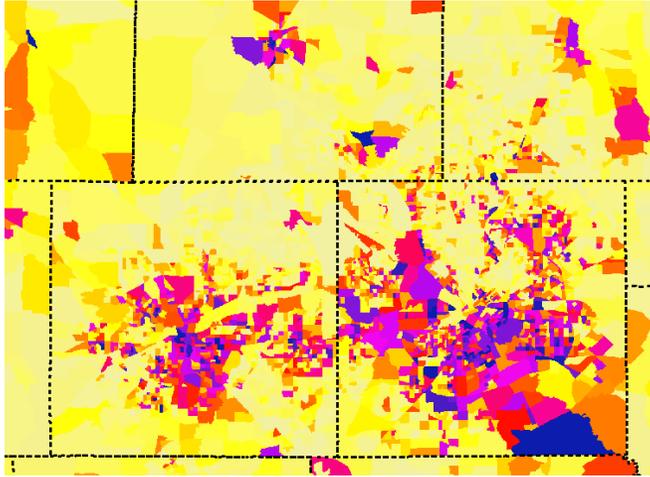
Factors that most likely contribute to the desire or need to walk/bicycle

| Criteria | Data Source | Data Boundary | Weight |
|--|---|--|------------|
| Employment and Population Density | NCTCOG 2015 Employment and Population estimates (2015 ACS 5-year estimates) | Transportation Service Zone (TSZ), imputed from census block group | 35% |
| High Density of Short Trips | 2019 LOCUS location-based service data | Census block group | 20% |
| Low-Income Populations (EJ) | 2018 ACS 5-year estimates (NCTCOG EJI) | Census block group | 15% |
| Zero Car Households | 2018 ACS 5-year estimates (NCTCOG EJI) | Census block group | 15% |
| Areas of High Congestion | Travel demand model forecast for Mobility 2045 | Raster | 15% |

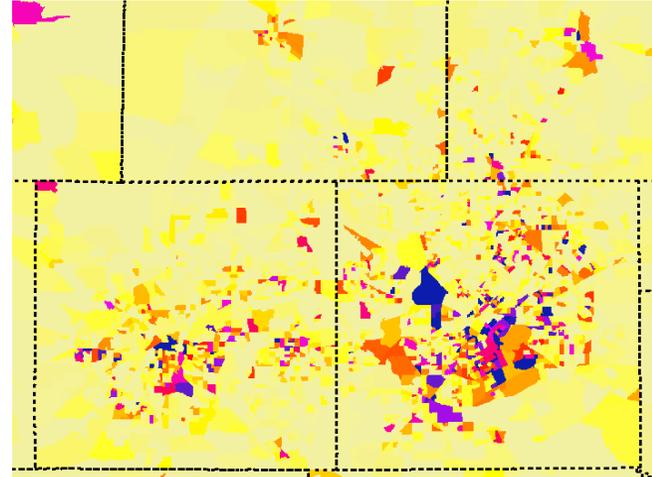
Note: when available, data sources will be updated with most recent Census data

Normalizing Data Over Different Ranges

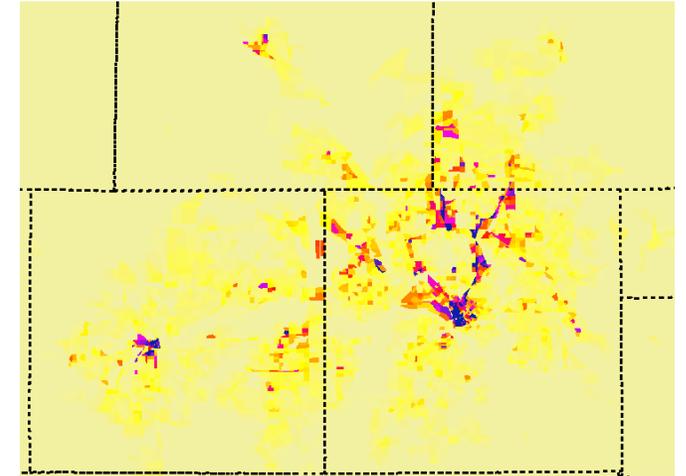
High : 100
Low : 0



Low Income Populations



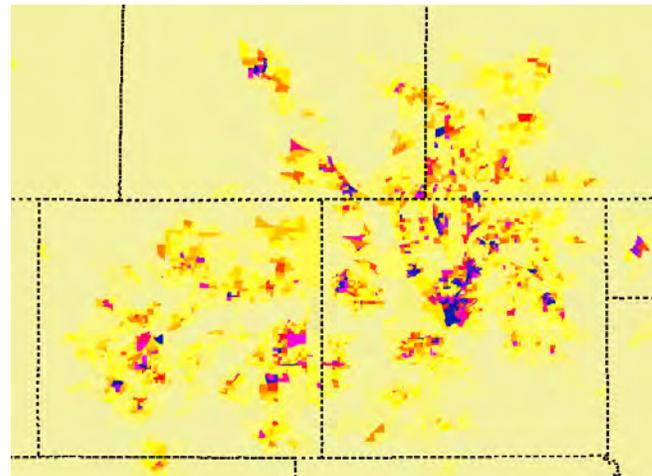
Zero Car Households



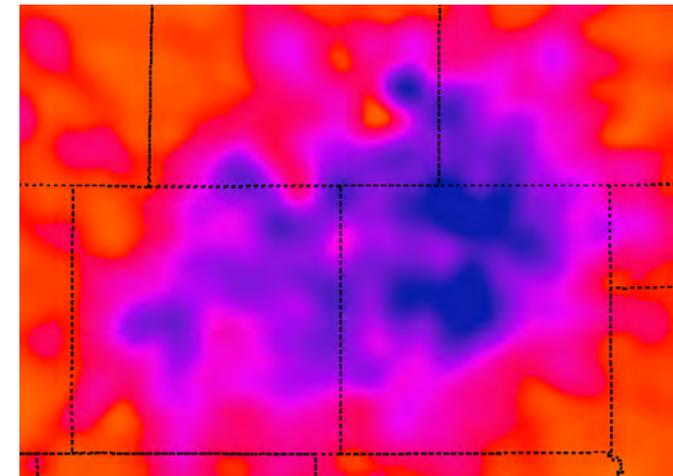
Population/Employment Density

Each dataset has a different numerical range, so the values were normalized using ArcGIS tools to establish one scale range for all datasets

Draft



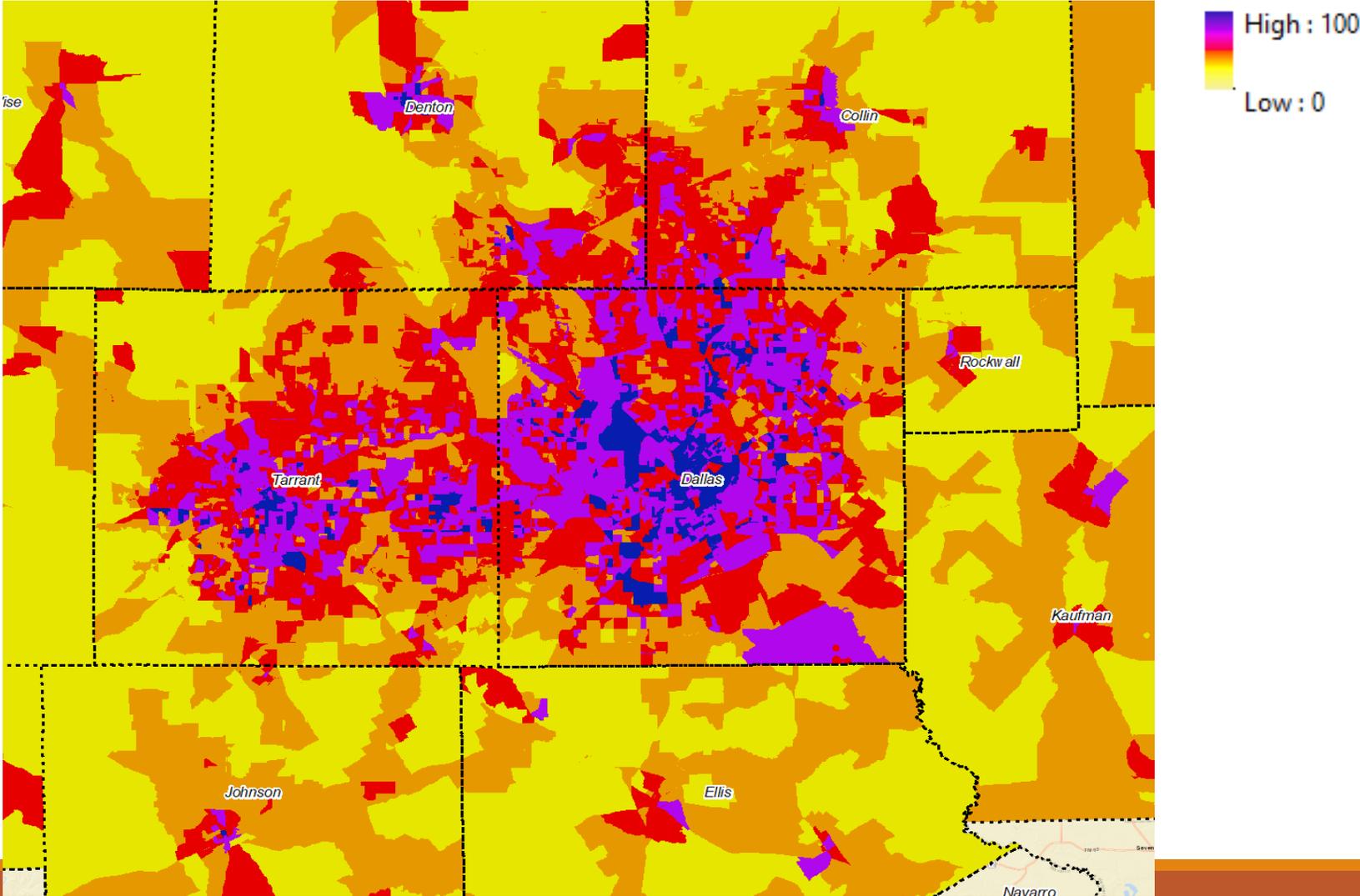
Density of Short Trips



Areas of High Congestion

All datasets were then merged and weighted using ArcGIS tools to establish one dataset of demand zones

Draft

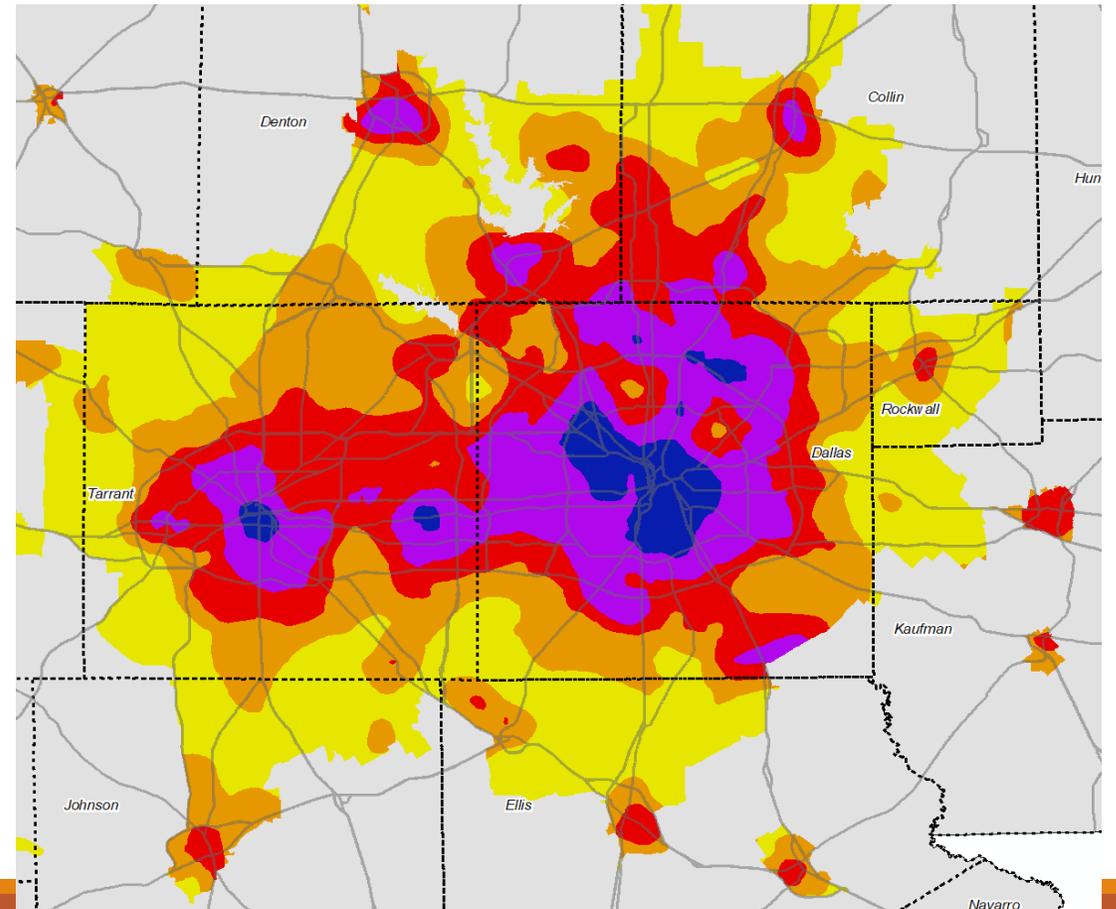
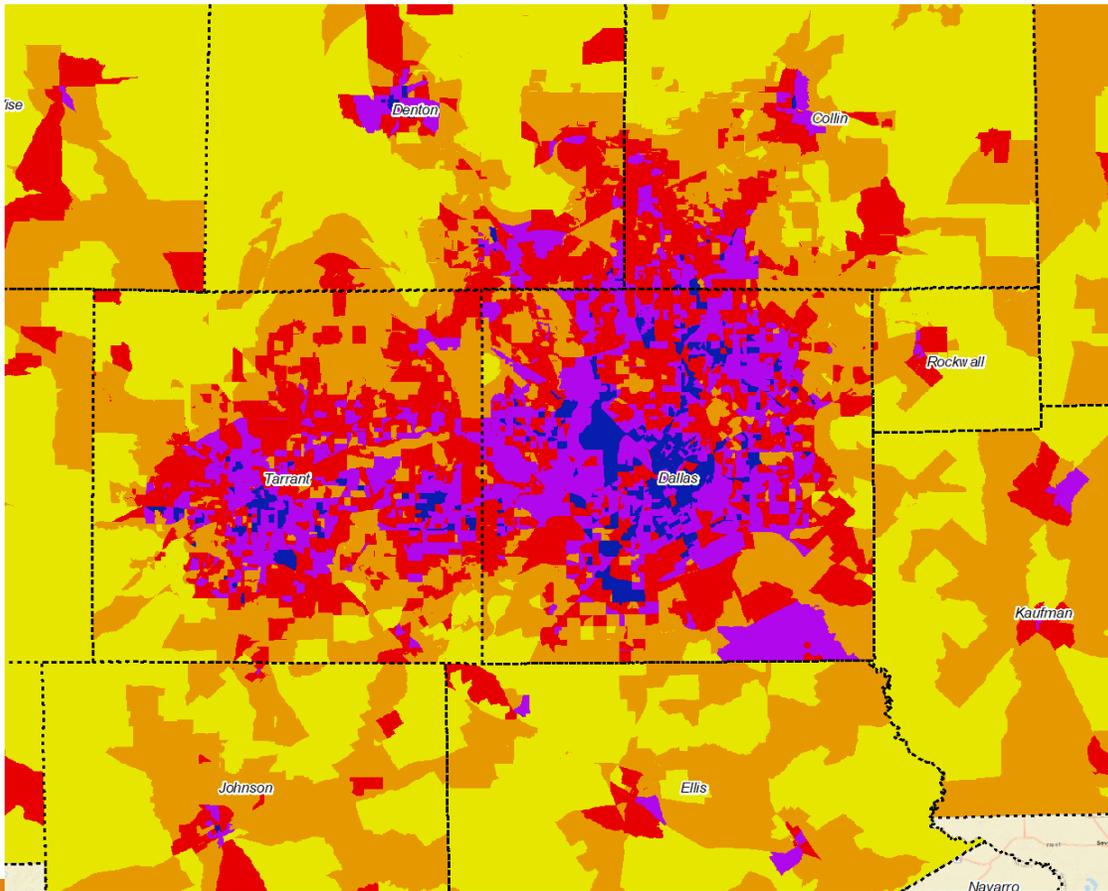


Group and Smooth the Output Raster Dataset

Focal Statistics tool used to smooth the raster

Draft

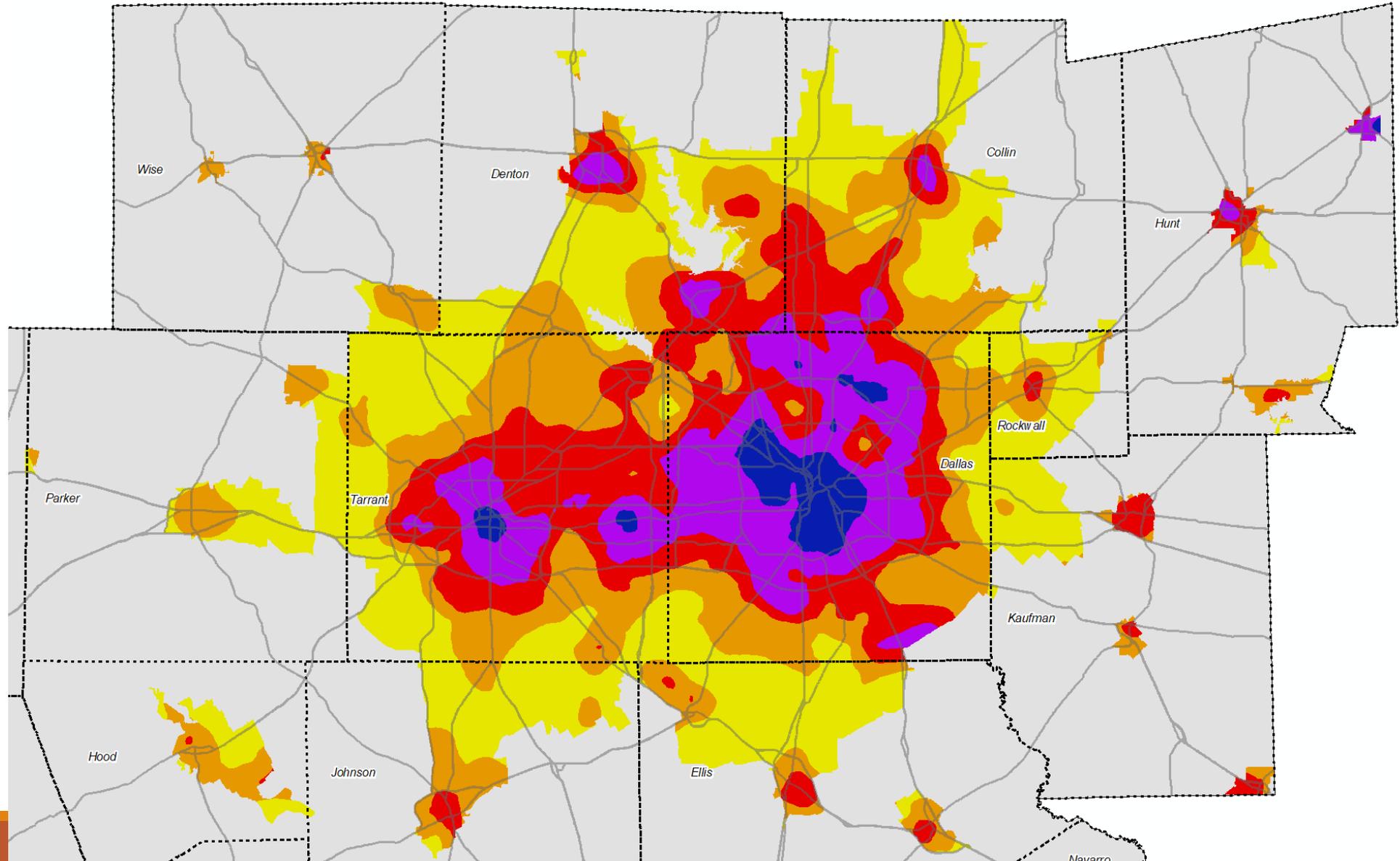
Aggregates and smooths the values with the surrounding areas and creates a larger homogenous zone



Demand Zones

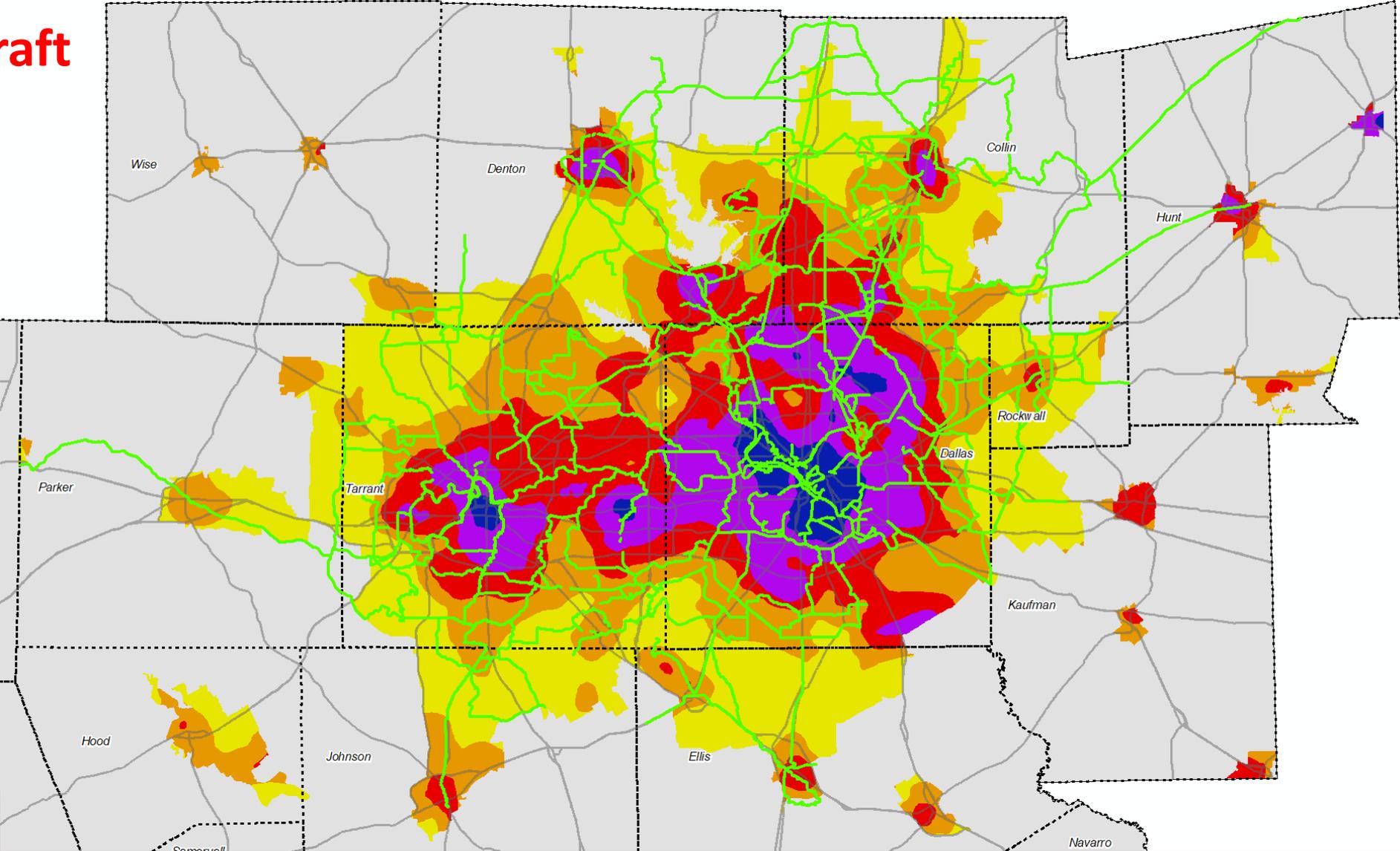


Draft



Current Planned, Funded and Existing Regional Veloweb Overlayed on Demand Zones

Draft



How the “Demand Zones” Could be Used

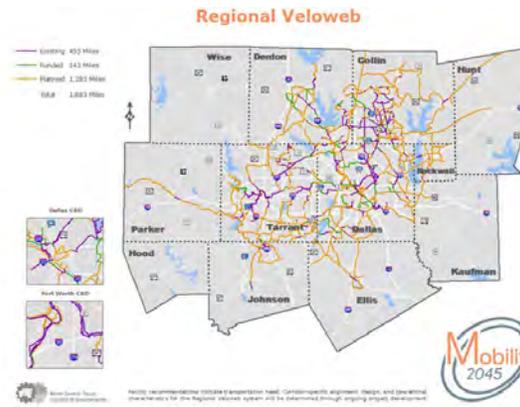
Regional Network (funding/implementation)

- Regional Veloweb network
- Regional on-street bikeway network



Local

- Prioritize access to transit stations/stops
- Prioritize connections to major trip generators such as:
 - Employment centers
 - Schools and Universities
 - Entertainment districts
 - Public Facilities (Community centers, public libraries, etc.)

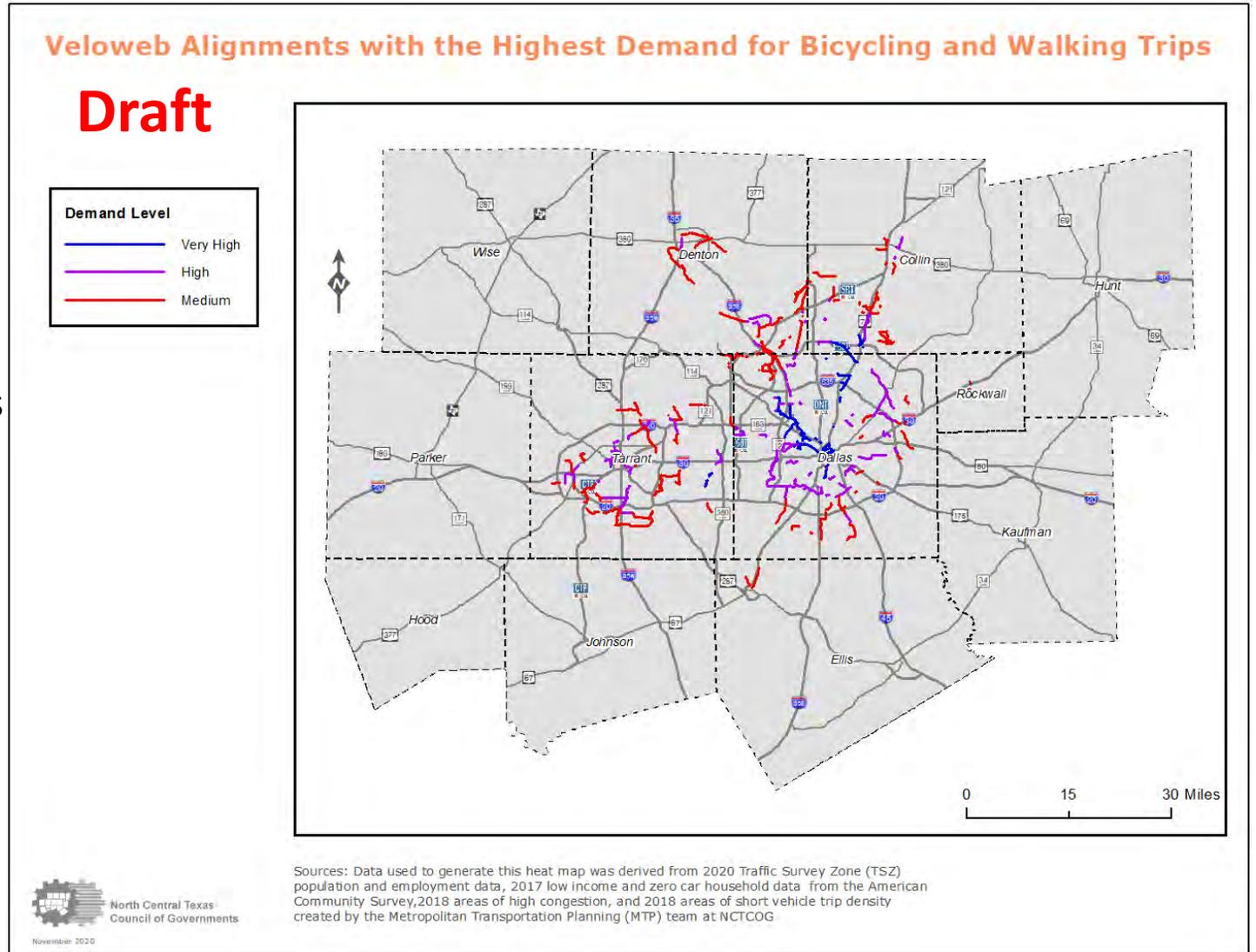


Next Step

Using Demand Zones to Prioritize the Regional Network

Identify segments located within the highest Demand Zones. These alignments could be **further analyzed** to prioritize and rank segments for funding.

- Some segments may have a greater impact than others as fully connected transportation corridors,
- OR
- Some segments may have more challenges than others to implement in the short term (next 10 years).



Project Schedule

May 18, 2016:

BPAC Briefing

Introduction to need for demand zones, overview of examples from around the county, sample methodology

August 21, 2019:

BPAC Briefing

Initial discussion of criteria to be used to identify priority zones for investment

May 19, 2021:

BPAC Presentation and Discussion

August 2021:

BPAC Discussion (Next Steps)

Using Demand Zones to Prioritize the Regional Network

2021-2022:

Refine and finalize Demand Zones, Identify priorities for implementing the Regional Network

June 2022:

Integration into Mobility Plan (2045 Update)

Staff contacts:

Karla Weaver, AICP

Senior Program Manager
kweaver@nctcog.org

Kevin Kokes, AICP

Program Manager
kkokes@nctcog.org

Julie Anderson

Sr. Transportation Planner
janderson@nctcog.org

Daniel Snyder, AICP

Transportation Planner III
dsnyder@nctcog.org

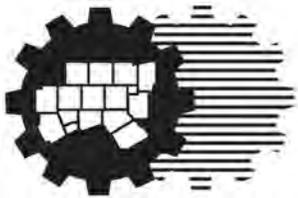
Discussion/Questions

Best Practices for Trails and Bikeways GIS Fields and Attributes

Bicycle and Pedestrian Advisory Committee

May 19, 2021

Daniel Snyder, AICP



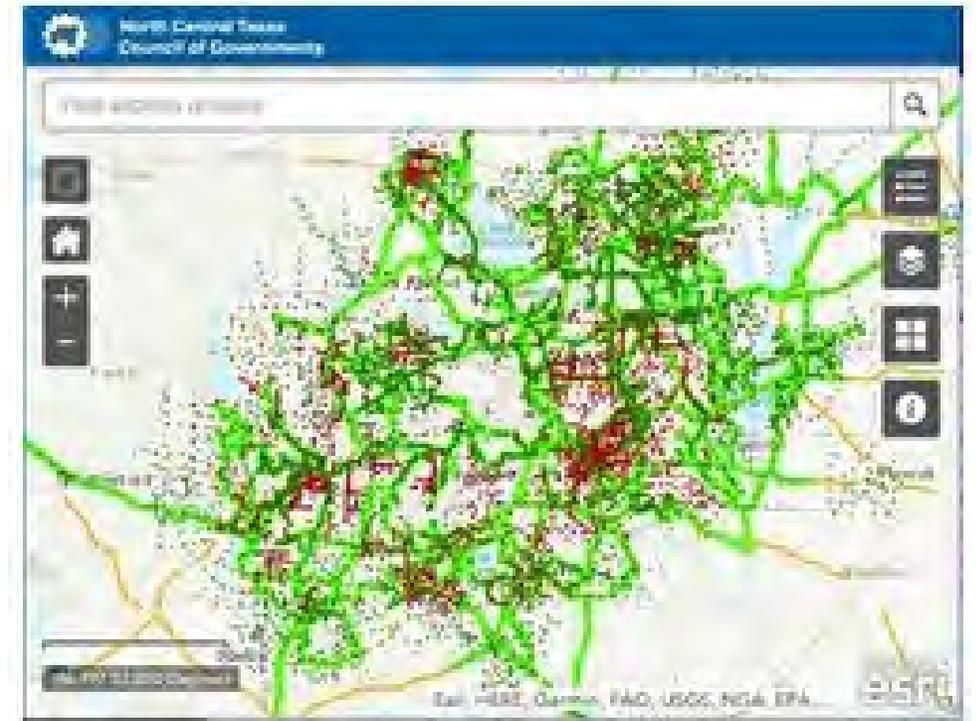
**North Central Texas
Council of Governments**

Integrating New and Updated GIS Fields and Attributes

Tips to consider for the preparation of GIS files for local plans/plan updates **and including in contracts/agreements with consultants.**

Maintaining an accurate inventory of trails and bikeways in the region is a strategic priority to aid in future planning efforts and in communicating with the public.

An accurate and well-maintained geodatabase is critical to utilize GIS analysis such as Network Analyst which measures connectivity.



Interactive Map of Trails and On-Street Bikeways: www.nctcoq.org/veloweb

Trail Width

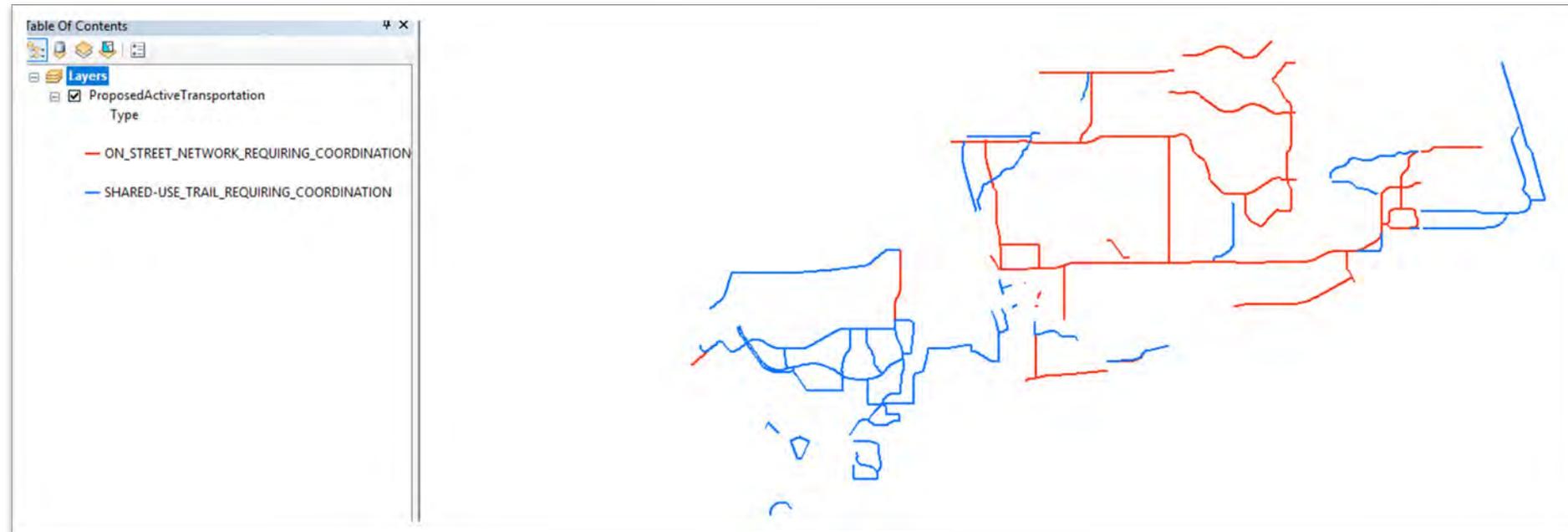
Only include trails that are **10 feet or wider**, per AASHTO's established minimum bikeway width guidance (min. 10-14-foot width).



Facility Type

There should be a clear distinction in the fields and attributes between:

- “**Off**-street” bicycle facilities such as shared use paths, and
- “**On**-street” bikeways such as bike lanes



Off-Street Trail Alignments

“Off-street” trails are outside of a road’s right-of-way and should be aligned to the most accurate location.



Off-Street “Sidepath” Alignments

“Off-street” sidepaths are within a road’s right-of-way and should be digitized to the most accurate location.

Existing sidepath on both sides of the roadway



Funded sidepath on one side of the roadway



NOTE: Sidepaths must be a minimum of 10ft. Anything less is considered a wide sidewalk and will NOT be included in the Regional Veloweb map

On-Street Bikeway Alignments

“On-street” facilities (bike lanes etc.) to be digitized using the roadway centerline to designate the type of on-street accommodation (**center line miles** rather than **lane miles**).



Lane Miles



Challenges: Does not display well on citywide or regional map



Center Line miles

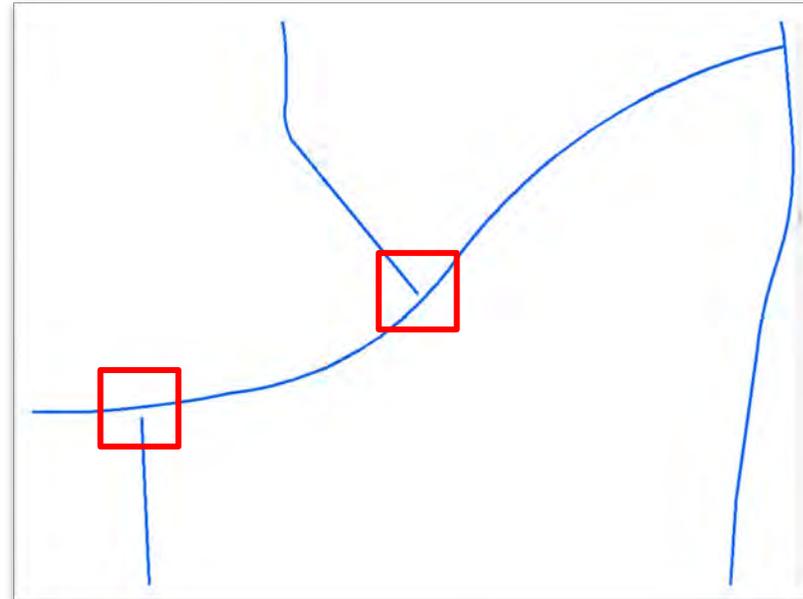


Correct On-Street bike facility digitization

Connectivity and Line Snapping

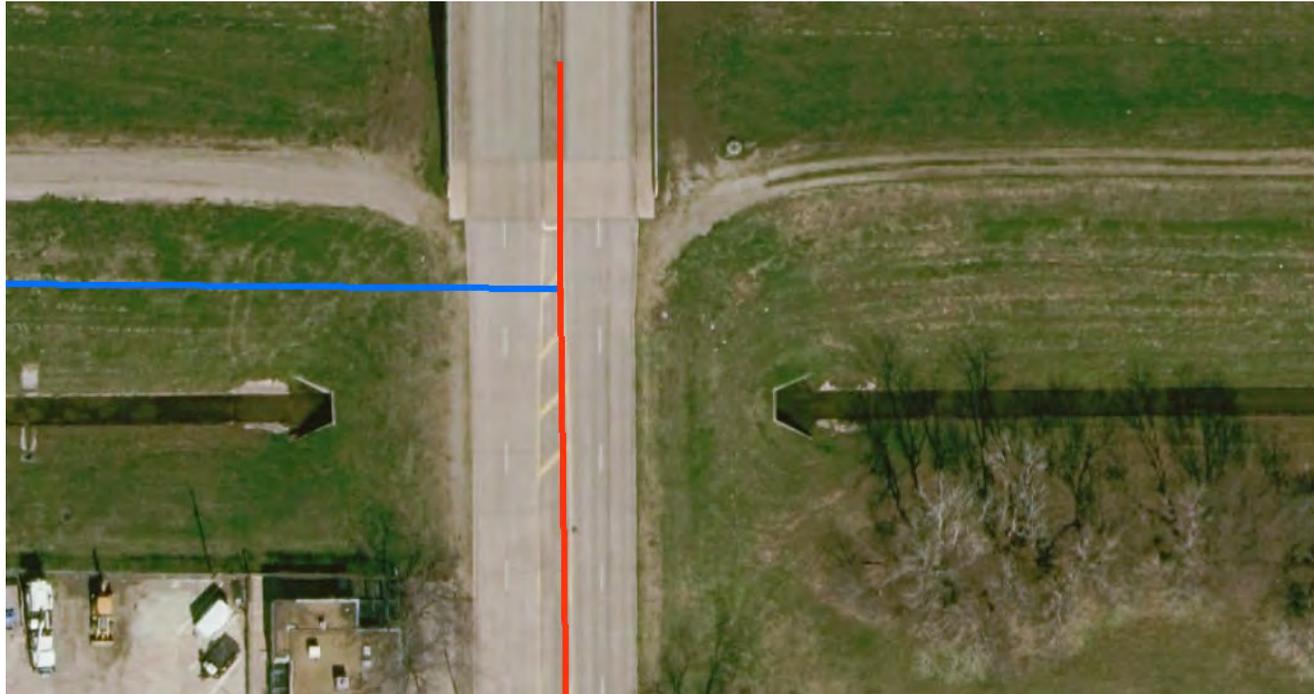
Avoid Gaps!

Feature lines should be continuous and connected with the rest of the network.



Off-Street Connected to an On-Street Facility

“Off-street” facility alignments should snap to an “On-Street” feature line vertex at intersections.



Recommended Fields and Attributes to Include in the GIS File

| Attribute Field | Attribute Options | Description of Attribute |
|--|---|---|
| Status | Existing | An existing facility. |
| | Funded | A facility that has secured funding, however construction has not been completed. |
| | Planned | A facility that is planned according to the city's adopted plan, however, it does not have funding for construction. |
| On or Off Street | <u>Off Street</u> | Paths (or trails), including grade separated facilities like bridges or underpasses, located outside of the roadway. |
| | <u>On Street</u> | Bikeways located on the roadway adjacent to or shared with the motor vehicle travel lanes. |
| Trail Name | Varying | Trail alignment that has a trail name associated with it. This field will be blank if there is no associated trail name. |
| Facility Type* (Described in more detail on the next page.) | <ul style="list-style-type: none"> • Bike Lanes • Buffered Bike Lanes • Separated Bike Lanes • Two Way Cycle Track • Shared Lane Markings • On-Street • Paved Shoulder • Shared Use Path • Wide Sidewalk | A classification that designates the type of path or bikeway in accordance with AASHTO or NACTO guidance. Definitions listed below. |

*Facility Type as described by the NACTO *Urban Bikeway Design Guide (2011)* and AASHTO *Guide for the Development of Bicycle Facilities (2012)*:

Contact Information

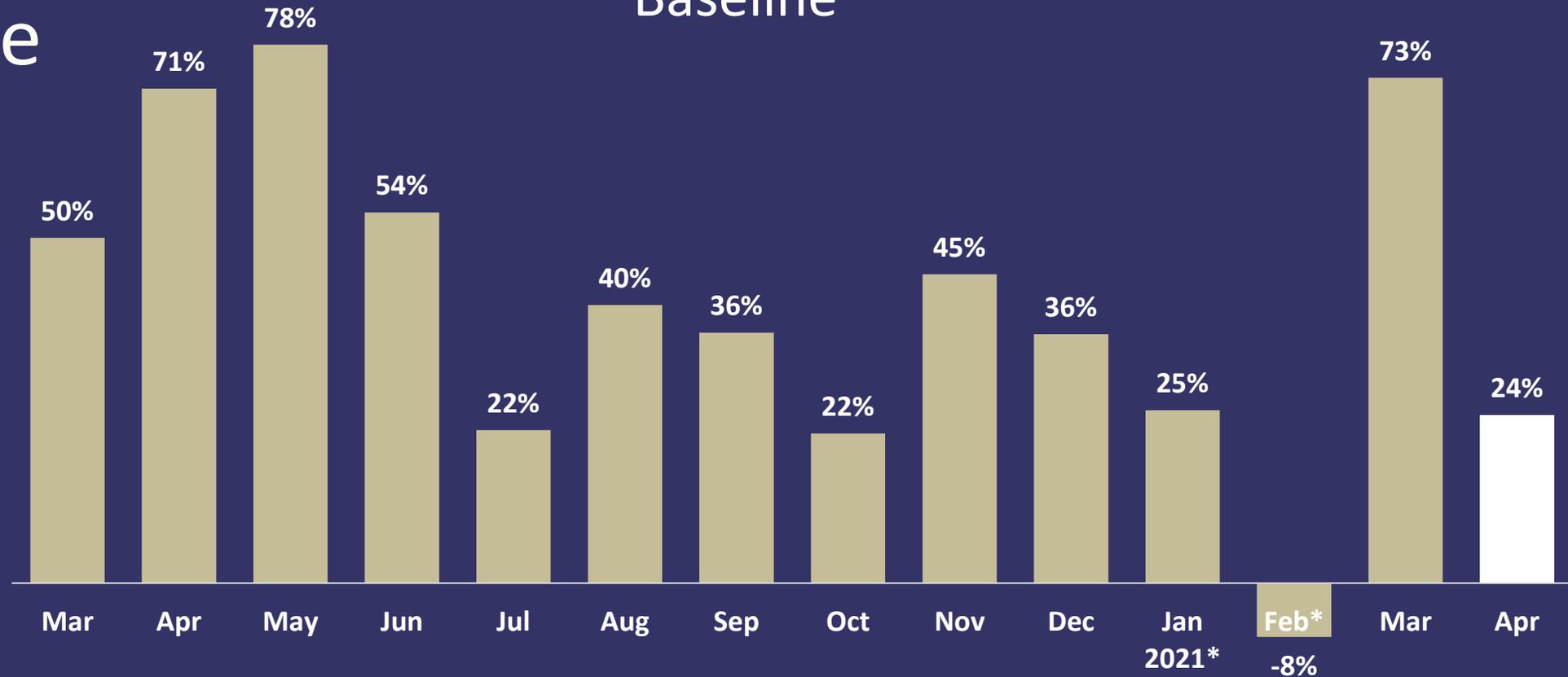
Daniel Snyder, AICP

Transportation Planner

dsnyder@nctcog.org

Monthly Trail Usage Update

Increase in Full Week Trail Usage vs Baseline



Source: NCTCOG – collected at 8 sites located in Plano, North Richland Hills, Denton, Dallas, Fort Worth, and Allen.

Note: Baseline is March 2019-February 2020; No adjustments for weather were applied.

Note: Trail usage impacted in February 2021 by week-long winter storm.

Regional Database Trail Attributes

Bicycle and Pedestrian Advisory Committee

May 19, 2021

Daniel Snyder, AICP



Fields and Attributes Requested for Trail/Bikeway GIS Files

| Attribute Field | Attribute Options | Description of Attribute |
|--|---|---|
| Status | Existing | An existing facility. |
| | Funded | A facility that has secured funding, however construction has not been completed. |
| | Planned | A facility that is planned according to the city's adopted plan, however, it does not have funding for construction. |
| On or Off Street | <u>Off Street</u> | Paths (or trails), including grade separated facilities like bridges or underpasses, located outside of the roadway. |
| | <u>On Street</u> | Bikeways located on the roadway adjacent to or shared with the motor vehicle travel lanes. |
| Trail Name | Varying | Trail alignment that has a trail name associated with it. This field will be blank if there is no associated trail name. |
| Facility Type* (Described in more detail on the next page.) | <ul style="list-style-type: none"> • Bike Lanes • Buffered Bike Lanes • Separated Bike Lanes • Two Way Cycle Track • Shared Lane Markings • On-Street • Paved Shoulder • Shared Use Path • Wide Sidewalk | A classification that designates the type of path or bikeway in accordance with AASHTO or NACTO guidance. Definitions listed below. |

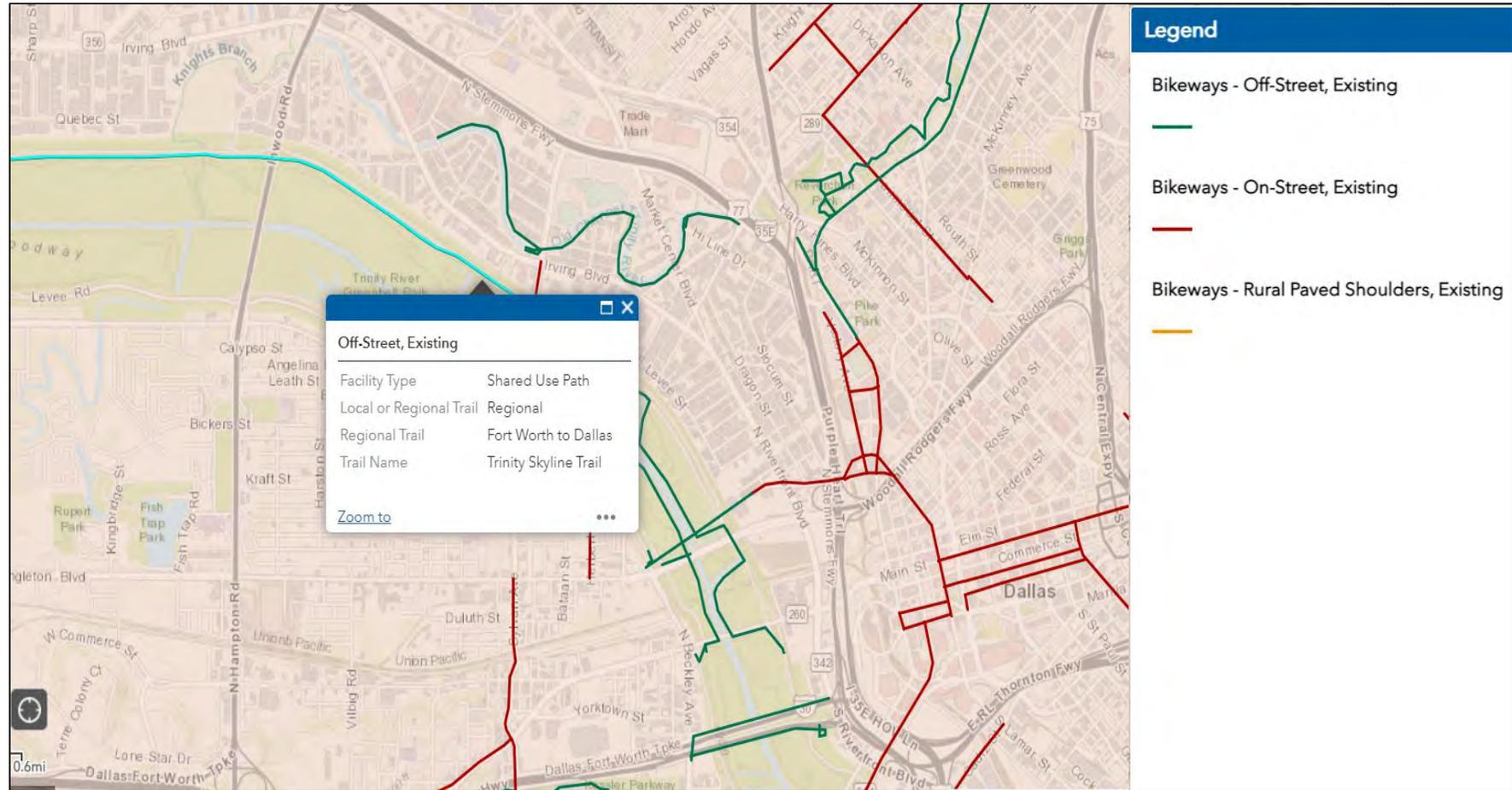
*Facility Type as described by the NACTO *Urban Bikeway Design Guide (2011)* and AASHTO *Guide for the Development of Bicycle Facilities (2012)*:



Current and Potential Attributes in Online Map

Map Attributes

- On- or Off-Street
- Funding Status
- Facility Type
- Local or Regional Trail
- Regional Trail Name
- Trail Name



Focus of NCTCOG's Regional Database

- NCTCOG's database and online map reflect the information included in Mobility 2045, which is a "transportation" plan.
- The database and online map do not include recreation focused facilities. (Park loops, wide sidewalks, etc.)

Additional Information that Could be Added to the Regional Database as a Resource

- **Soft surface trails** (Does not meet ADA or AASHTO guidance for a shared use path.)
- **Lighting** (Is an enhancement to basic shared use path construction among other accommodations such as drinking fountains, benches, landscaping, etc.)
- **Others?**

Poll



Question 1

Is there a benefit of including surface type and lighting with the regional network database?

- a. Yes**
- b. No**
- c. Not sure**



Question 2

- **In the chat box please provide any other relevant trail or bike facility information for transportation planning purposes.**



Question 3

Can your agency provide NCTCOG with the data (Surface type, Lighting, Other suggested data) on an ongoing basis?

- a. Yes**
- b. No**

Additional Information

Please provide this PowerPoint presentation to your GIS staff for reference purposes.

Contact Info: Daniel Snyder, AICP
dsnyder@nctcog.org

Mobile Bicycle and Pedestrian Count Equipment

Bicycle and Pedestrian Advisory Committee

May 19, 2021

Daniel Snyder, AICP



**North Central Texas
Council of Governments**

Mobile Counter Loan Program

Off-Street Counters

- Two sets of Off-Street Counters
- Each set contains one tube counter and one infrared sensor



On-Street Counters

- Two sets of On-Street Counters
- Each set contains two tube counters



What is the most significant barrier for your agency borrowing and installing NCTCOG's mobile count equipment?

- a. Unsure about where to perform a count
- b. Lack of staff to coordinate, install, and maintain the mobile counters
- c. Lack of time and/or the amount of effort to coordinate these activities
- d. There is no barrier

At the regional level, what case studies from mobile count data would be the most insightful for planning in your community?

- a. Before and after counts of new infrastructure projects
- b. Baseline counts on different types of facilities
- c. Baseline counts on the same type of facility in different contexts
(rural, suburban, urban)

What season would your agency most prefer to collect mobile count data?

- a. Winter
- b. Spring
- c. Summer
- d. Fall
- e. No preference

Contact Information:

If interested in borrowing the mobile count equipment, please reach out to Daniel Snyder to get the process started!

Daniel Snyder, AICP

Transportation Planner

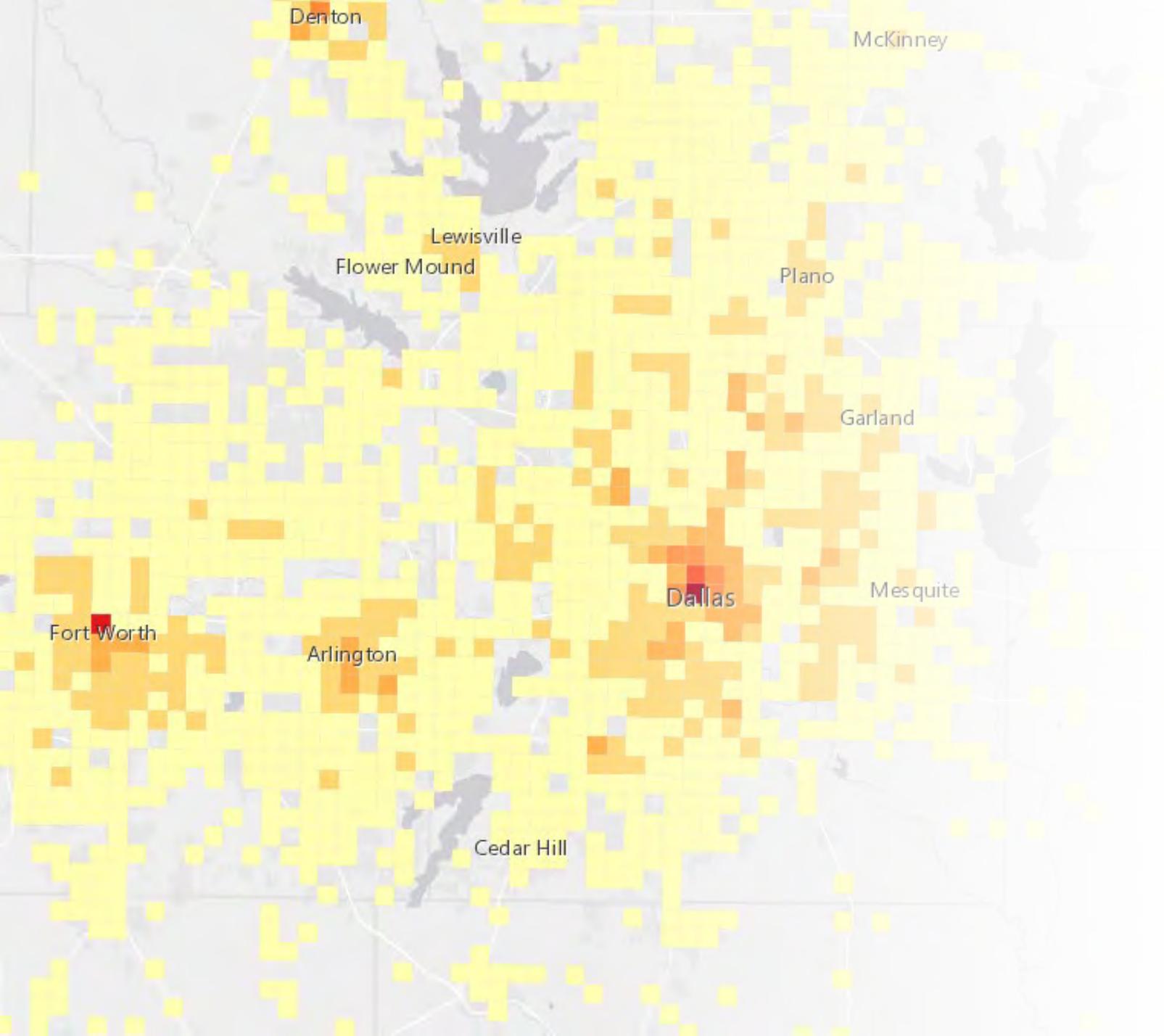
dsnyder@nctcog.org

Kevin Kokes, AICP

Program Manager

kkokes@nctcog.org





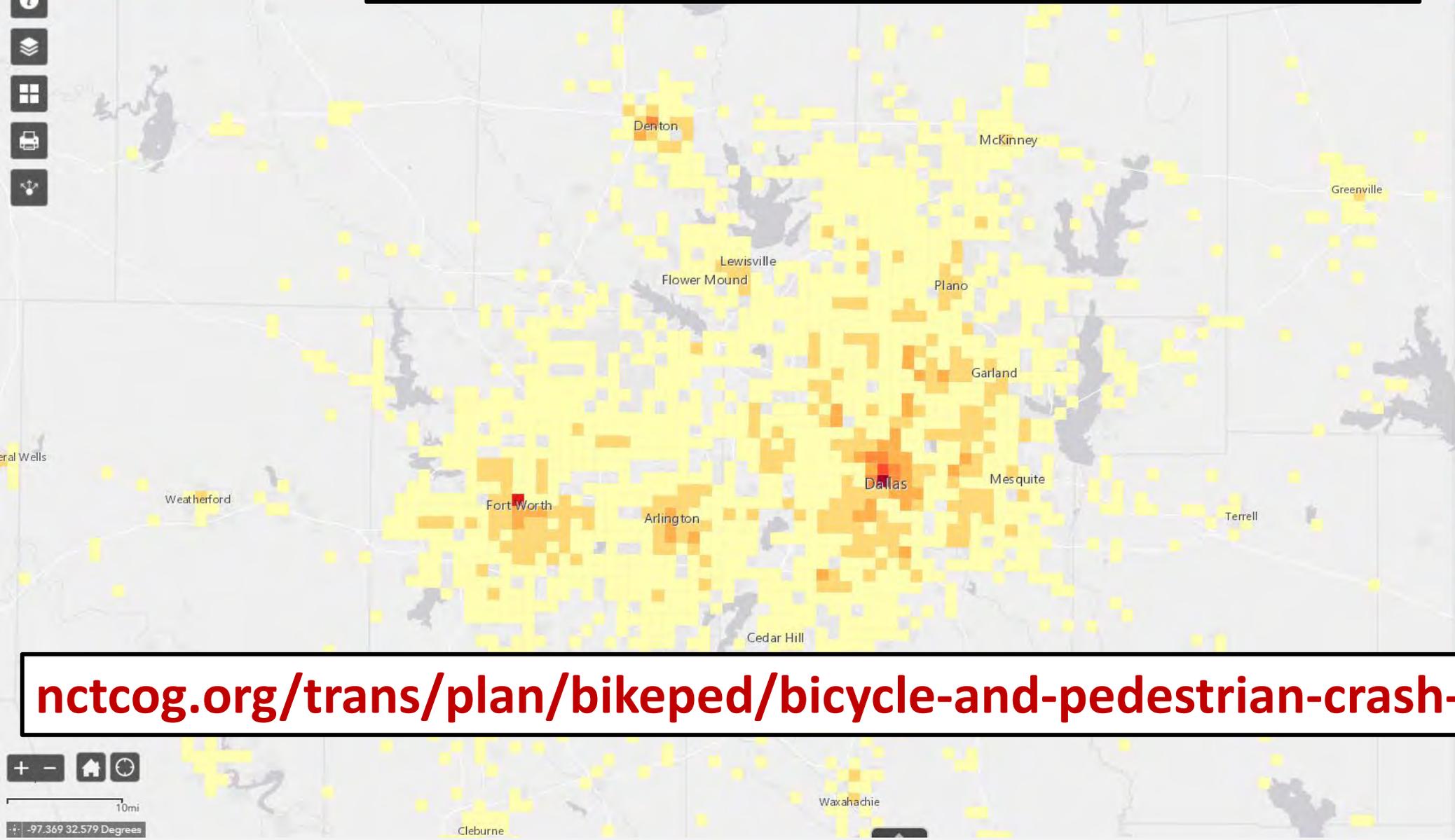
Online Bicycle and Pedestrian Crash Map

Bobby Kozub

NCTCOG - Transportation Planner

2/24/2021

ONLINE INTERACTIVE CRASH MAP



Legend

- Fatal Bicycle Crash Location (Blue star icon)
- Non-Fatal Bicycle Crash Location (Blue circle icon)
- Fatal Pedestrian Crash Location (Green star icon)
- Non-Fatal Pedestrian Crash Location (Green circle icon)
- Roads (Grey line icon)

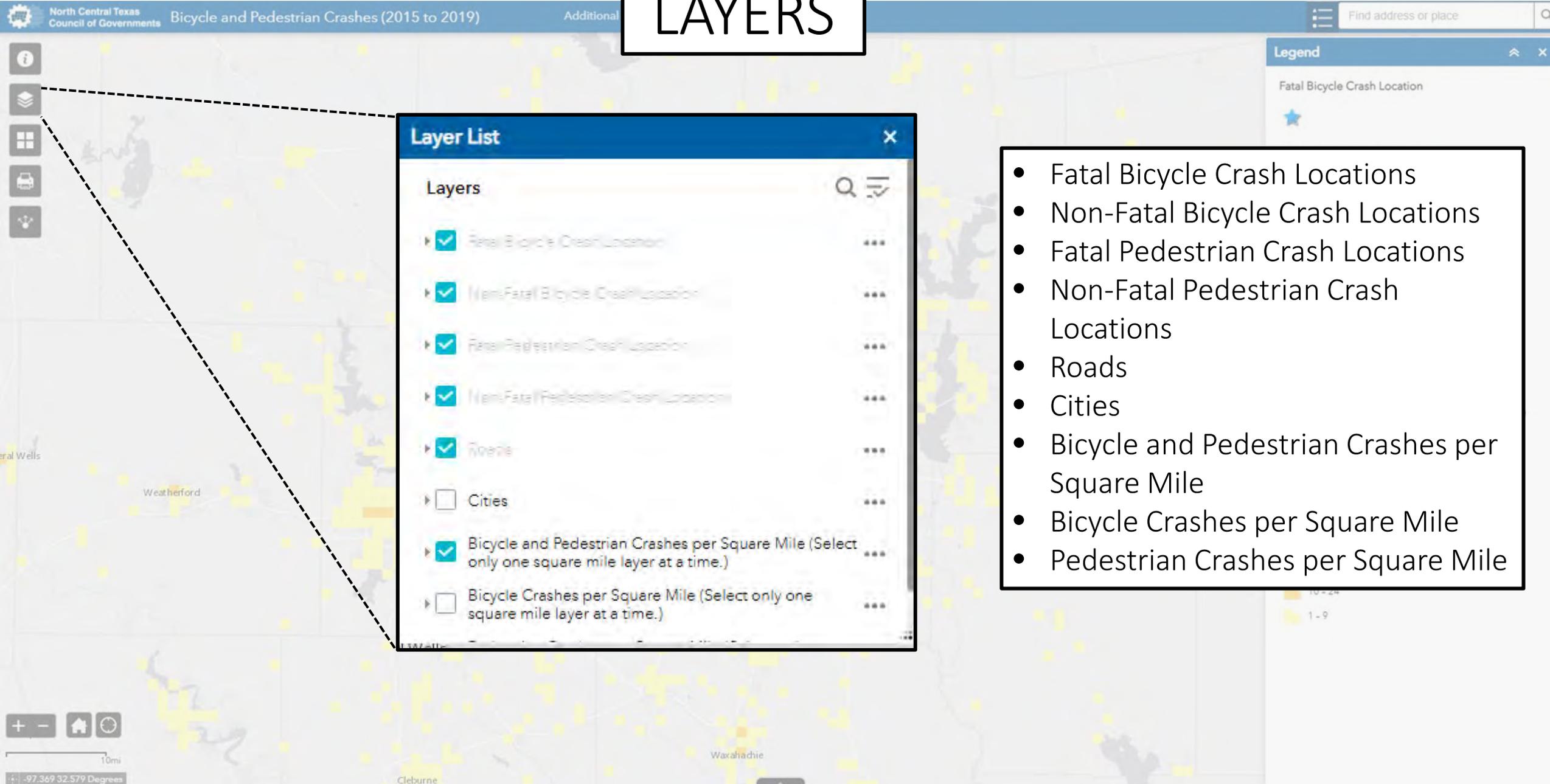
Bicycle and Pedestrian Crashes per Square Mile (Select only one square mile layer at a time.)

Number of Crashes

- 150+ (Dark red)
- 100 - 149 (Red)
- 75 - 99 (Orange-red)
- 50 - 74 (Orange)
- 25 - 49 (Light orange)
- 10 - 24 (Yellow-orange)
- 1 - 9 (Yellow)

nctcog.org/trans/plan/bikeped/bicycle-and-pedestrian-crash-information

LAYERS



- Fatal Bicycle Crash Locations
- Non-Fatal Bicycle Crash Locations
- Fatal Pedestrian Crash Locations
- Non-Fatal Pedestrian Crash Locations
- Roads
- Cities
- Bicycle and Pedestrian Crashes per Square Mile
- Bicycle Crashes per Square Mile
- Pedestrian Crashes per Square Mile

BASE MAPS



Basemap Gallery

| | | |
|-------------------|---------------------|---------------------|
| | | |
| Dark Gray Canvas | Imagery | Imagery with Labels |
| | | |
| Light Gray Canvas | National Geographic | Oceans |
| | | |
| OpenStreetMap | Streets | Terrain with Labels |
| | | |
| | | |

Legend

- Fatal Bicycle Crash Location
- Non-Fatal Bicycle Crash Location
- Fatal Pedestrian Crash Location
- Non-Fatal Pedestrian Crash Location
- Roads
- Bicycle and Pedestrian Crashes per Square Mile (Select only one square mile layer at a time.)
- Number of Crashes
 - 150+
 - 100 - 149
 - 75 - 99
 - 50 - 74
 - 25 - 49
 - 10 - 24
 - 1 - 9



PRINT OPTIONS

Legend

- Fatal Bicycle Crash Location 
- Non-Fatal Bicycle Crash Location 
- Fatal Pedestrian Crash Location 
- Non-Fatal Pedestrian Crash Location 
- Roads 
- Bicycle and Pedestrian Crashes per Square Mile (Select only one square mile layer at a time.)
Number of Crashes
 - 150+ 
 - 100 - 149 
 - 75 - 99 
 - 50 - 74 
 - 25 - 49 
 - 10 - 24 
 - 1 - 9 

Print

Map title:

Layout:

Format:

 Advanced  Print

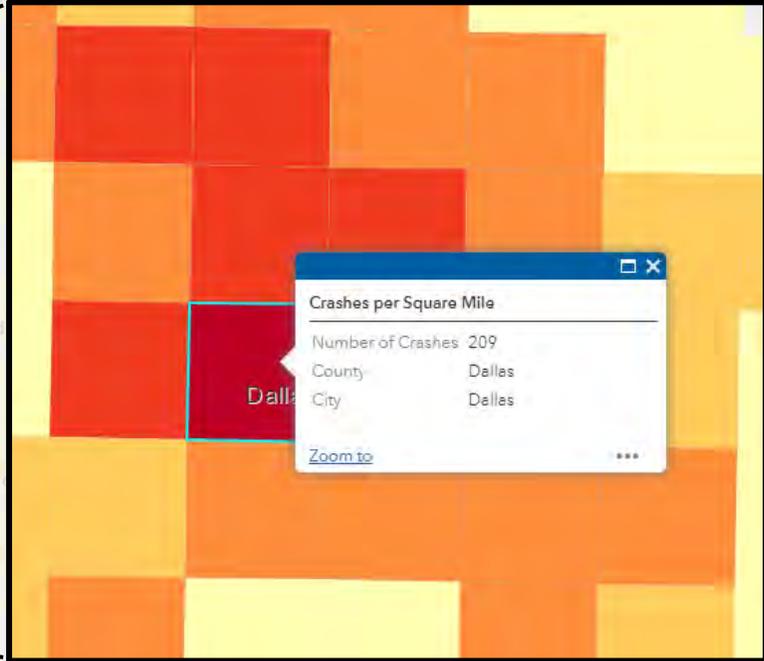
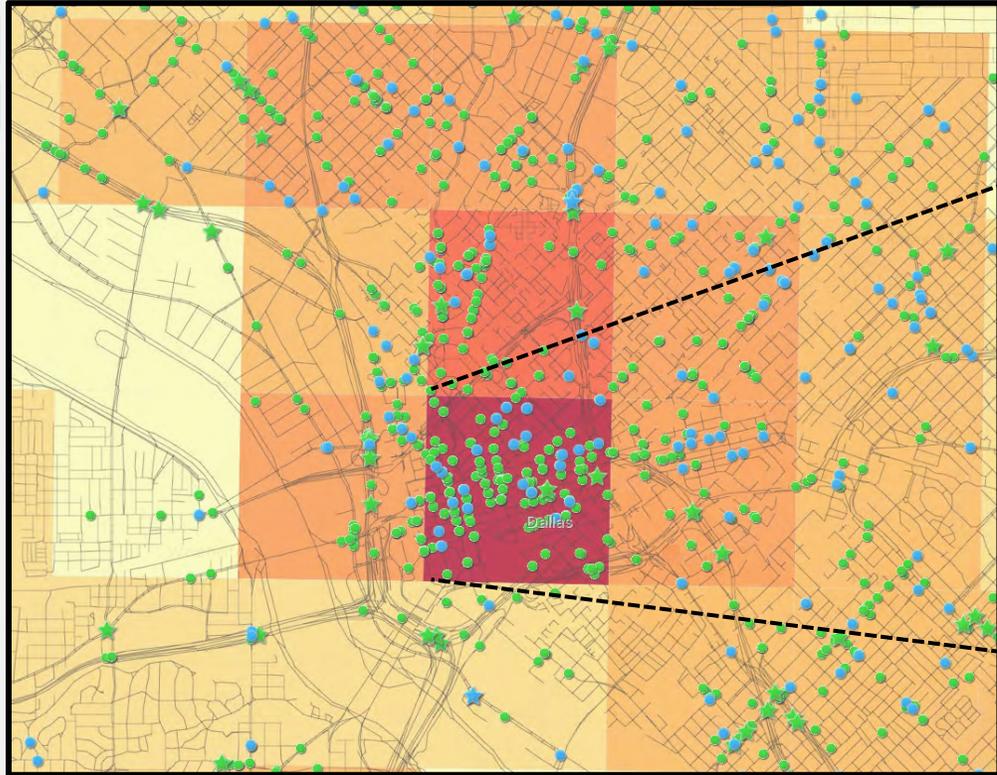
SQUARE MILE "CELLS"

Legend

- Fatal Bicycle Crash Location
- Non-Fatal Bicycle Crash Location
- Fatal Pedestrian Crash Location
- Non-Fatal Pedestrian Crash Location
- Roads
- Bicycle and Pedestrian Crashes per Square Mile (Select only one square mile layer at a time.)
- Number of Crashes
 - 150+
 - 100 - 149
 - 75 - 99
 - 50 - 74
 - 25 - 49
 - 10 - 24
 - 1 - 9

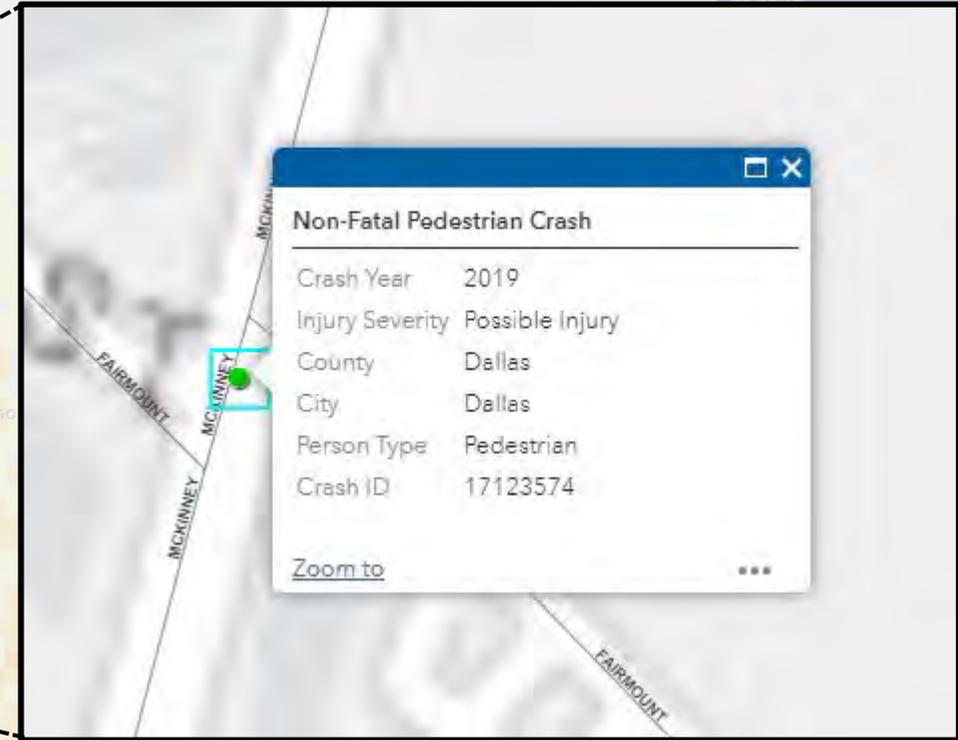
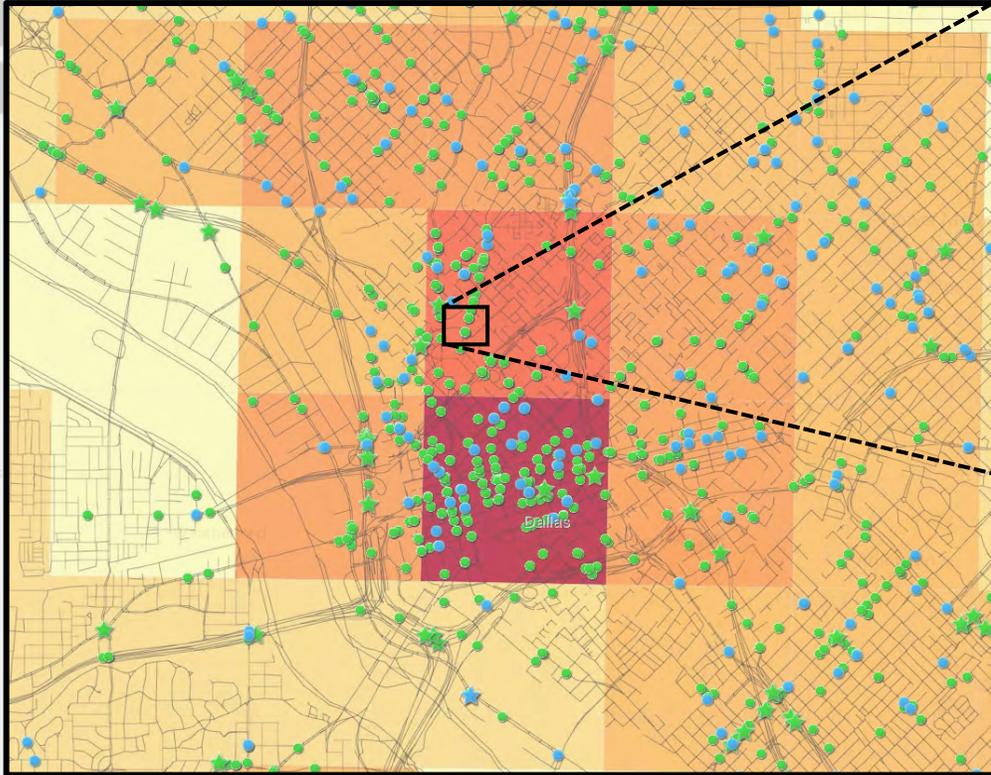


SQUARE MILE "CELLS"



- Square-Mile Attributes:**
- Number of Crashes
 - County
 - City

CRASH LOCATIONS



Crash Information Includes:

- Year
- Injury Severity
- County
- City
- Person Type (Pedestrian or Bicyclist)

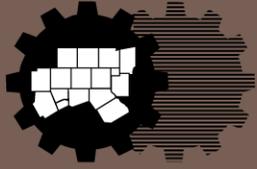
LINK IN CHAT!

For any questions, please reach out to:

Bobby Kozub

rkozub@nctcog.org

[**nctcog.org/trans/plan/bikeped/bicycle-and-pedestrian-crash-information**](https://nctcog.org/trans/plan/bikeped/bicycle-and-pedestrian-crash-information)



North Central Texas
Council of Governments

Regional Veloweb Trail Implementation

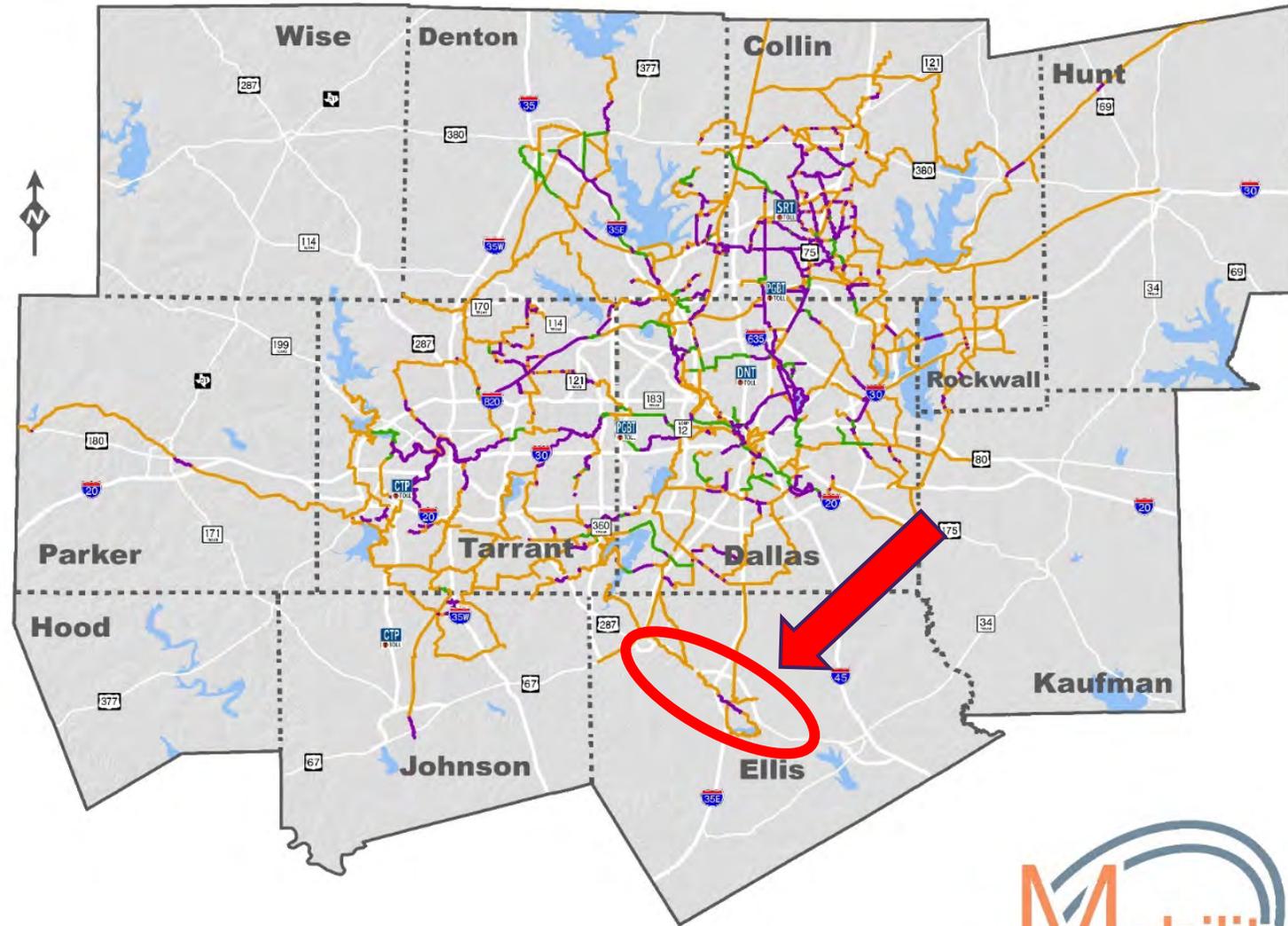


May 19, 2021

Bicycle and Pedestrian Advisory Committee

Regional Veloweb

- Existing 455 Miles
- Funded 143 Miles
- Planned 1,285 Miles
- Total 1,883 Miles



Ellis County (Midlothian to Waxahachie)

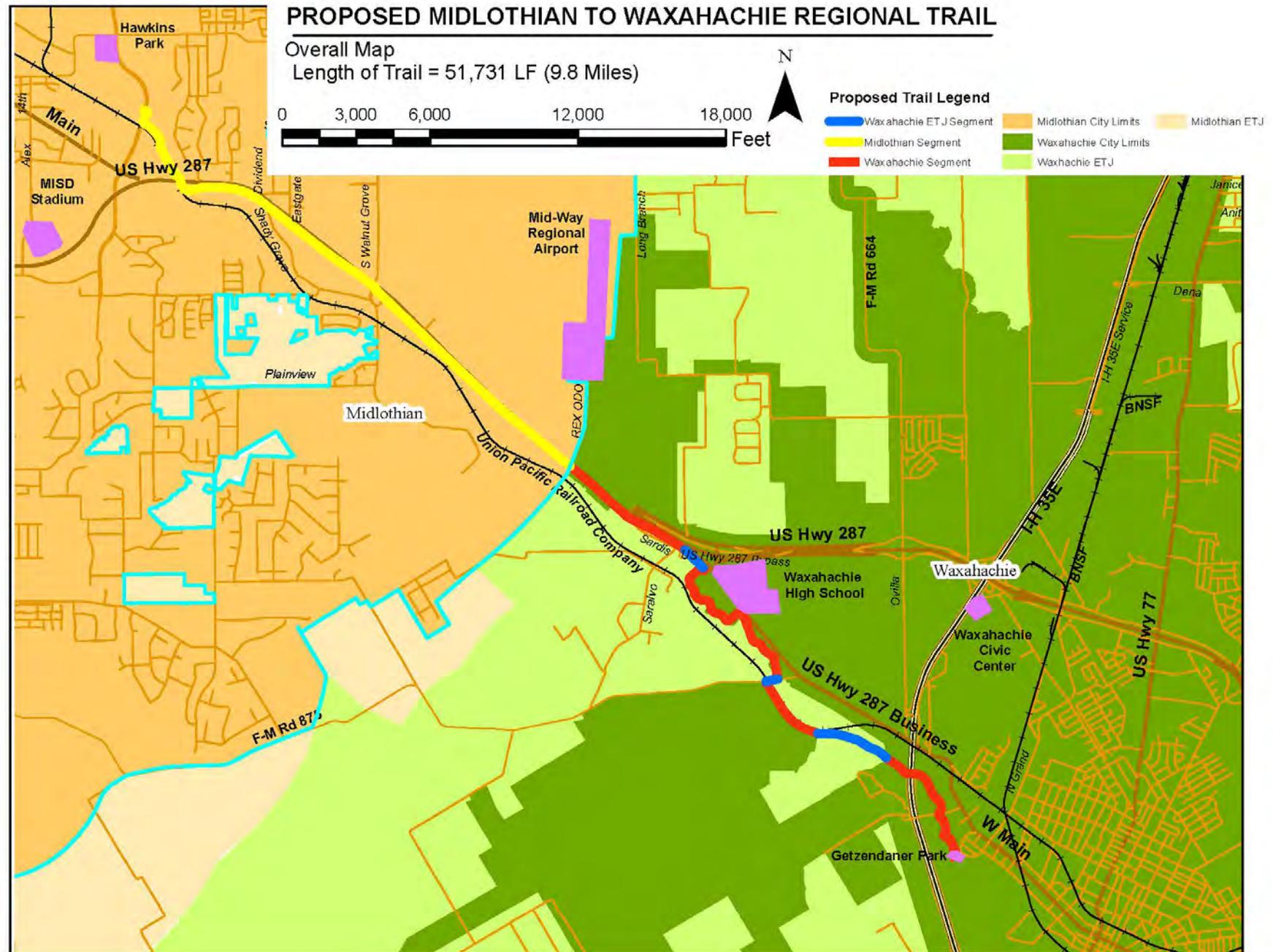
Project Area 9.8 miles

US 287 5.2 miles

Off-System 4.6 miles

Scope of Work 15% preliminary engineering

Opinions of Probable Construction Cost (2020) \$12.4 million



Denton to Dallas Regional Veloweb Trail

nctcog.org/Den_DallasTrail

| | |
|--|----------------------------------|
| Project Area | 57 miles |
| Counties | 2 |
| Cities | 9 |
| Light Rail and Commuter Rail Stations | DART Green Line and DCTA A-Train |
| Existing Trail | 37 miles |
| Funded Trail | 12 miles |
| Planned Trail | 8 miles |

Preliminary Engineering (completed in 2020)

Approx. 8 mi. from DCTA Hebron Station to Campion Trail (Coppell / Irving) and 3 miles of trail connections

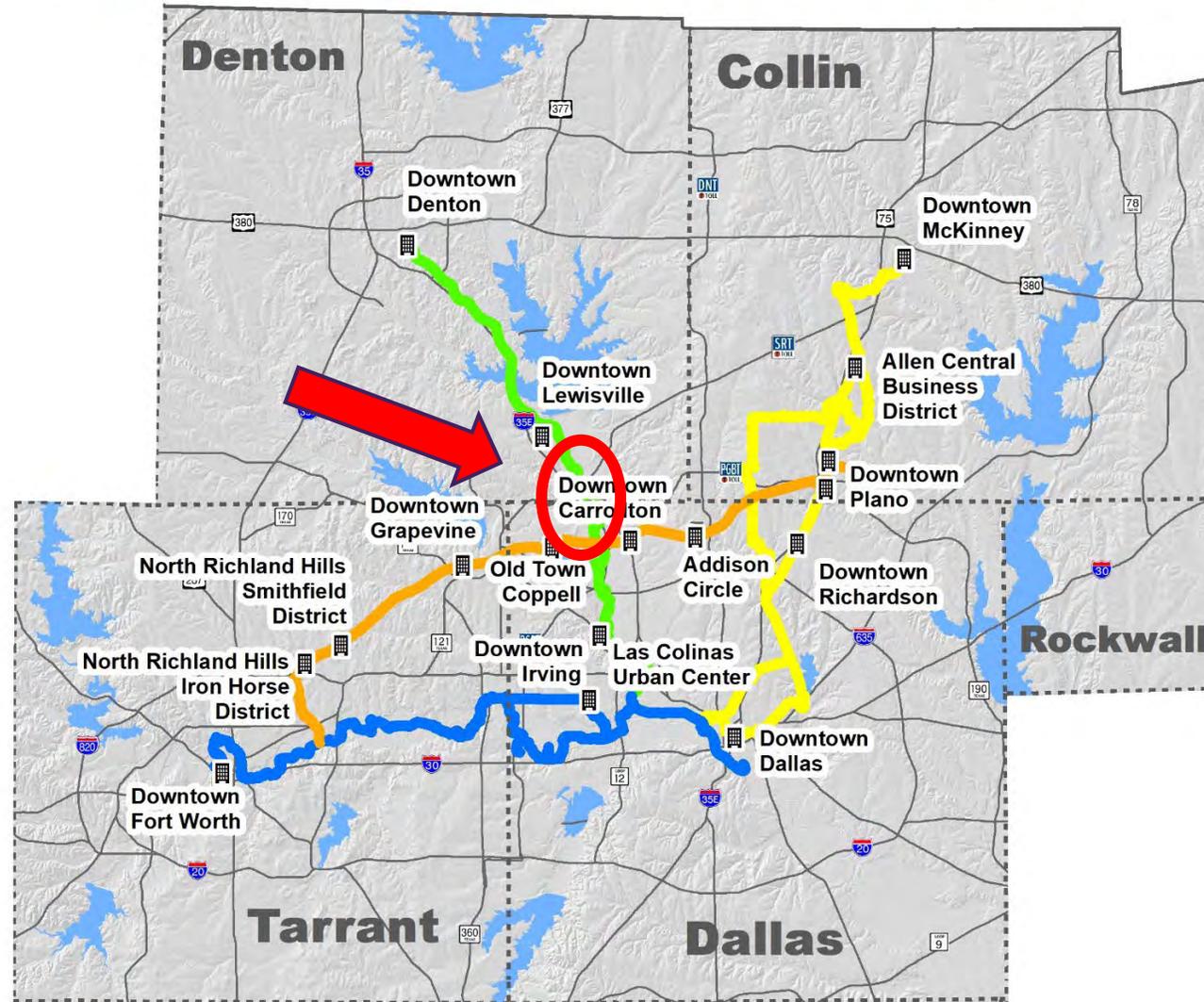
- Transportation Agencies: DCTA, DART, TxDOT, NTTA
- Cities: Lewisville, Carrollton, Coppell, Dallas
- Counties: Denton Co. and Dallas Co.

Denton to Dallas Regional Trail

Total Length: 52 Miles



Highlighted Regional Trail Corridors



| | Existing/Funded | Planned | Total |
|--|------------------------|-------------------|-------------------|
|  Fort Worth to Dallas Regional Trail Corridor | 62.7 miles | 2.9 miles | 65.6 miles |
|  Cotton Belt Regional Trail Corridor | 37.9 miles | 16.6 miles | 54.8 miles |
|  Dallas to McKinney Regional Trail Corridor | 67 miles | 15 miles | 82 miles |
|  Denton to Dallas Regional Trail Corridor | 49 miles | 8 miles | 57 miles |

Regional Veloweb Trail to Rail Stations (Lewisville, Carrollton, Coppell)

PRELIMINARY ENGINEERING FOR REGIONAL VELOWEB TRAIL CONNECTIONS TO RAIL STATIONS IN DENTON AND DALLAS COUNTIES

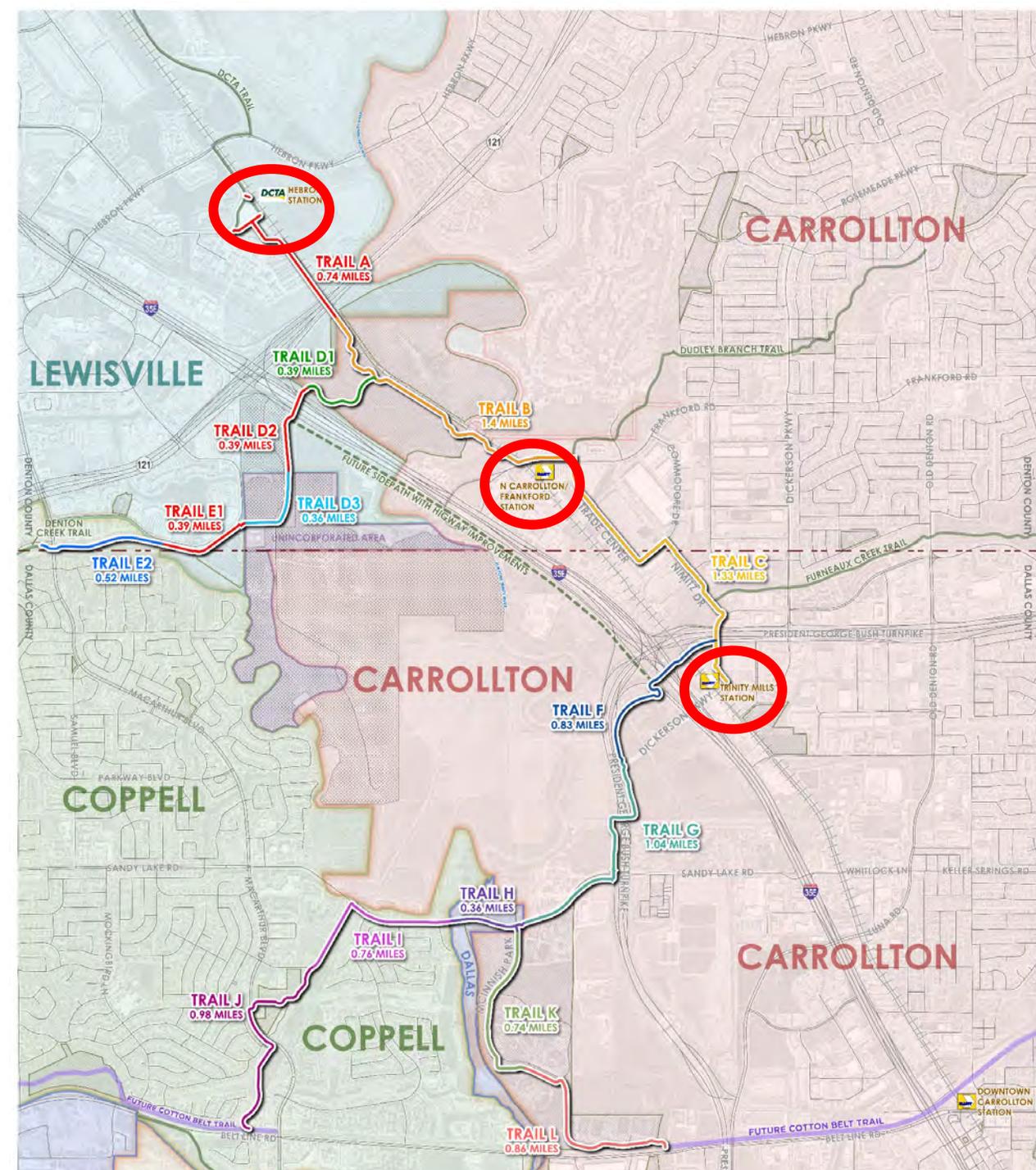
Overall Cost Estimate Summary (2020)

PRELIMINARY OPINION OF PROBABLE CONSTRUCTION COST (15% SCHEMATIC SET)

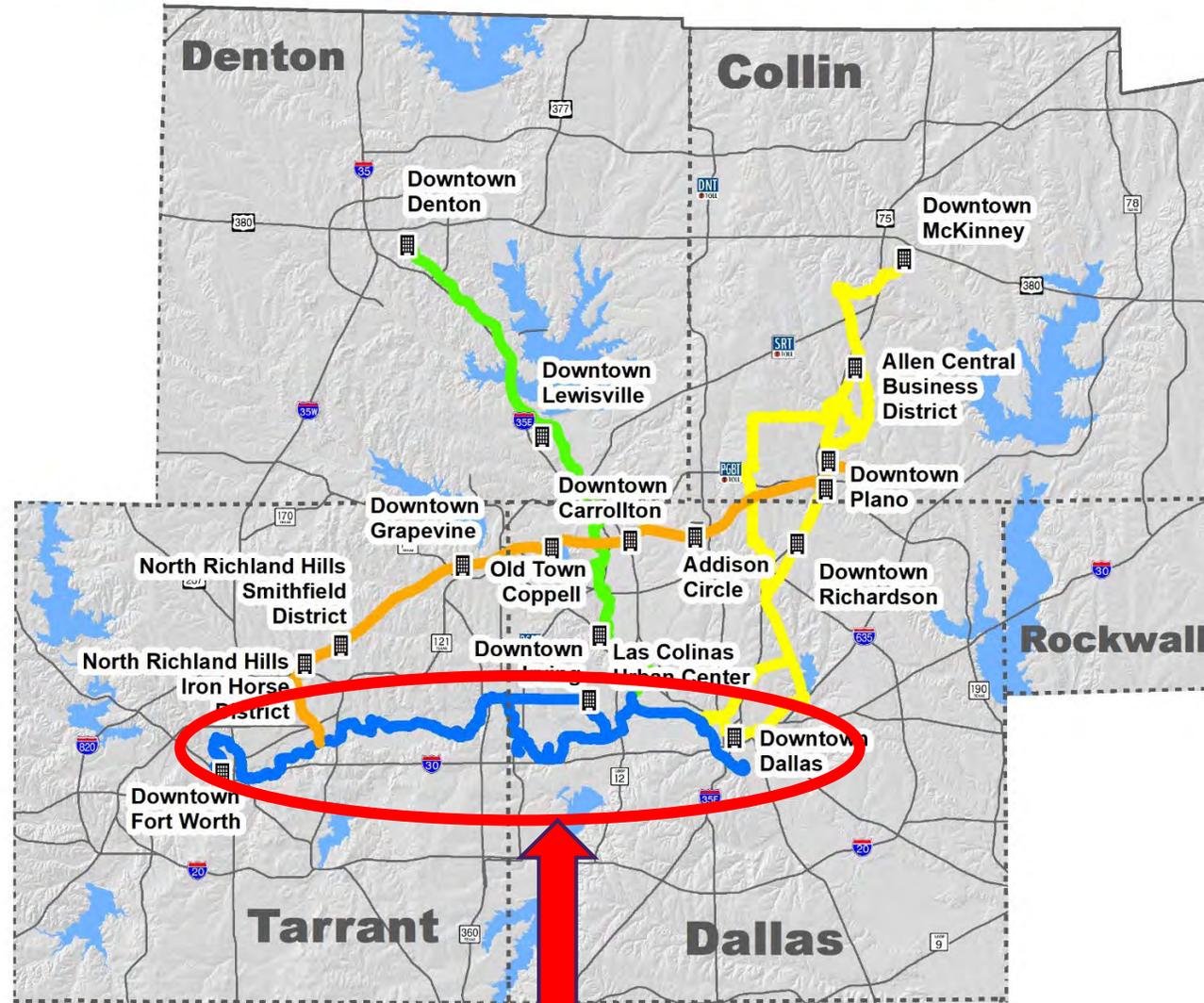
**ALL 2020 BASE BID TOTALS INCLUDE A 20% CONTINGENCY

| TRAIL SEGMENT | JURISDICTION | TOTAL ESTIMATED COST - 2020 12' WIDE TRAIL at 5-YEAR FLOOD ELEVATION |
|---------------------------------------|----------------|---|
| A (3915 LF = 0.74 Miles) | Lewisville | \$ 2,066,830.00 |
| B (7418 LF = 1.40 Miles) | Carrollton | \$ 6,494,930.80 |
| C (7009 LF = 1.33 Miles) | Carrollton | \$ 4,501,120.00 |
| D1 (2063 LF = .39 Miles) | Carrollton | \$ 3,729,220.00 |
| D2 (2051 LF = .39 Miles) | Lewisville | \$ 2,624,576.00 |
| D3 (1917 LF = .36 Miles) | Unincorporated | \$ 1,186,556.40 |
| E1 (2082 LF = .39 Miles) | Lewisville | \$ 796,384.80 |
| E2 (2761 LF = .52 Miles) | Coppell | \$ 1,151,113.60 |
| F (4374 LF = 0.83 Miles) | Carrollton | \$ 2,760,470.73 |
| G (5473 LF = 1.04 Miles) | Carrollton | \$ 2,312,419.20 |
| H (1885 LF = 0.36 Miles) | Dallas | \$ 990,301.00 |
| I (3994 LF = 0.76 Miles) | Coppell | \$ 1,021,965.73 |
| J (5188 LF = 0.98 Miles) | Coppell | \$ 1,268,134.00 |
| K (3900 LF = 0.74 Miles) | Carrollton | \$ 869,731.20 |
| L (4563 LF = 0.86 Miles) | Carrollton | \$ 852,670.00 |
| GRAND TOTAL 2020 (11.09 Miles) | | \$ 32,626,423.47 |

| TRAIL SEGMENT TOTAL PER CITY | JURISDICTION | TOTAL ESTIMATED COST PER CITY |
|------------------------------|----------------|-------------------------------|
| 6.59 Miles | Carrollton | \$ 21,520,561.93 |
| 2.26 Miles | Coppell | \$ 3,441,213.33 |
| 0.36 Miles | Dallas | \$ 990,301.00 |
| 0.36 Miles | Unincorporated | \$ 1,186,556.40 |
| 1.52 Miles | Lewisville | \$ 5,487,790.80 |

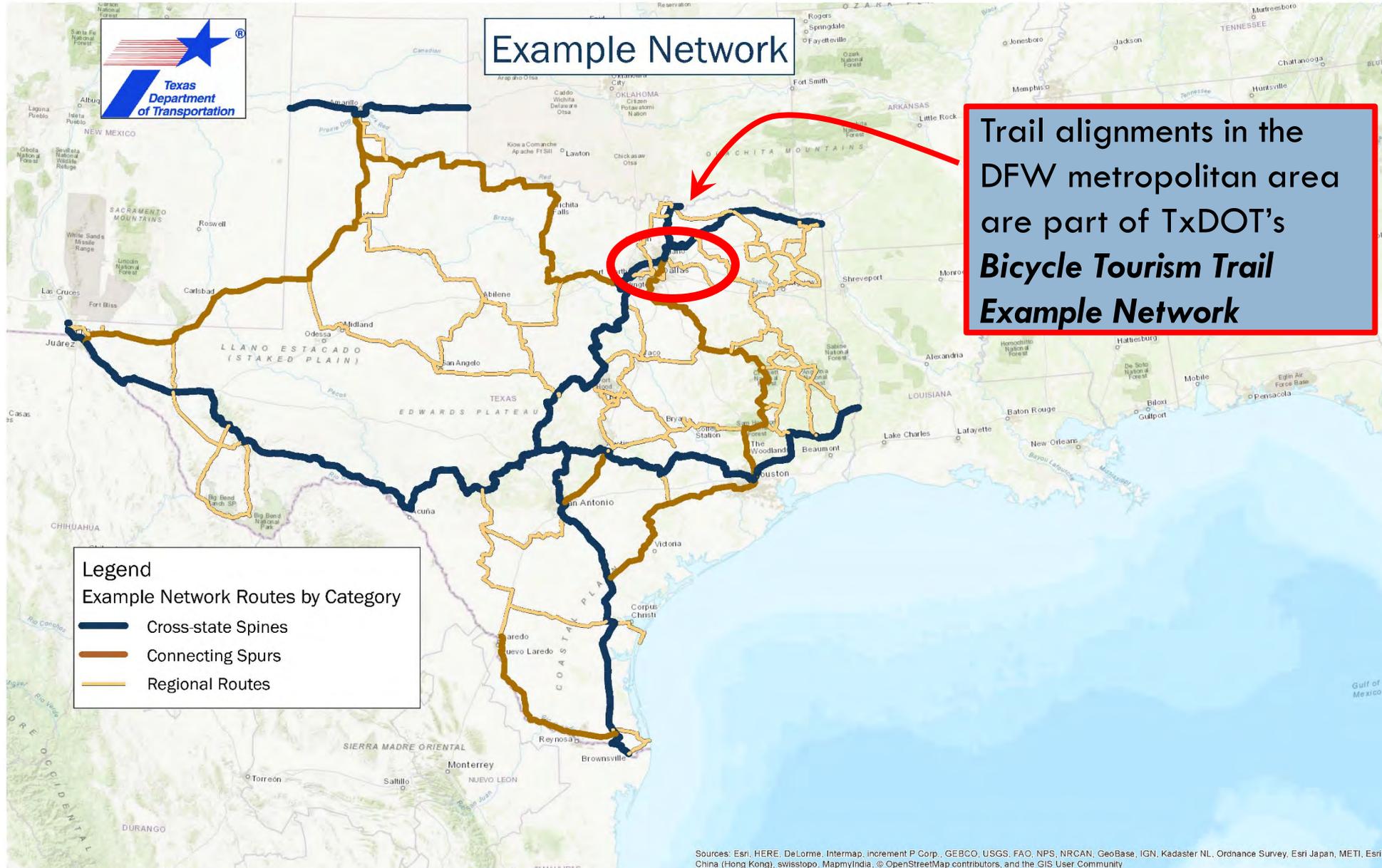


Highlighted Regional Trail Corridors



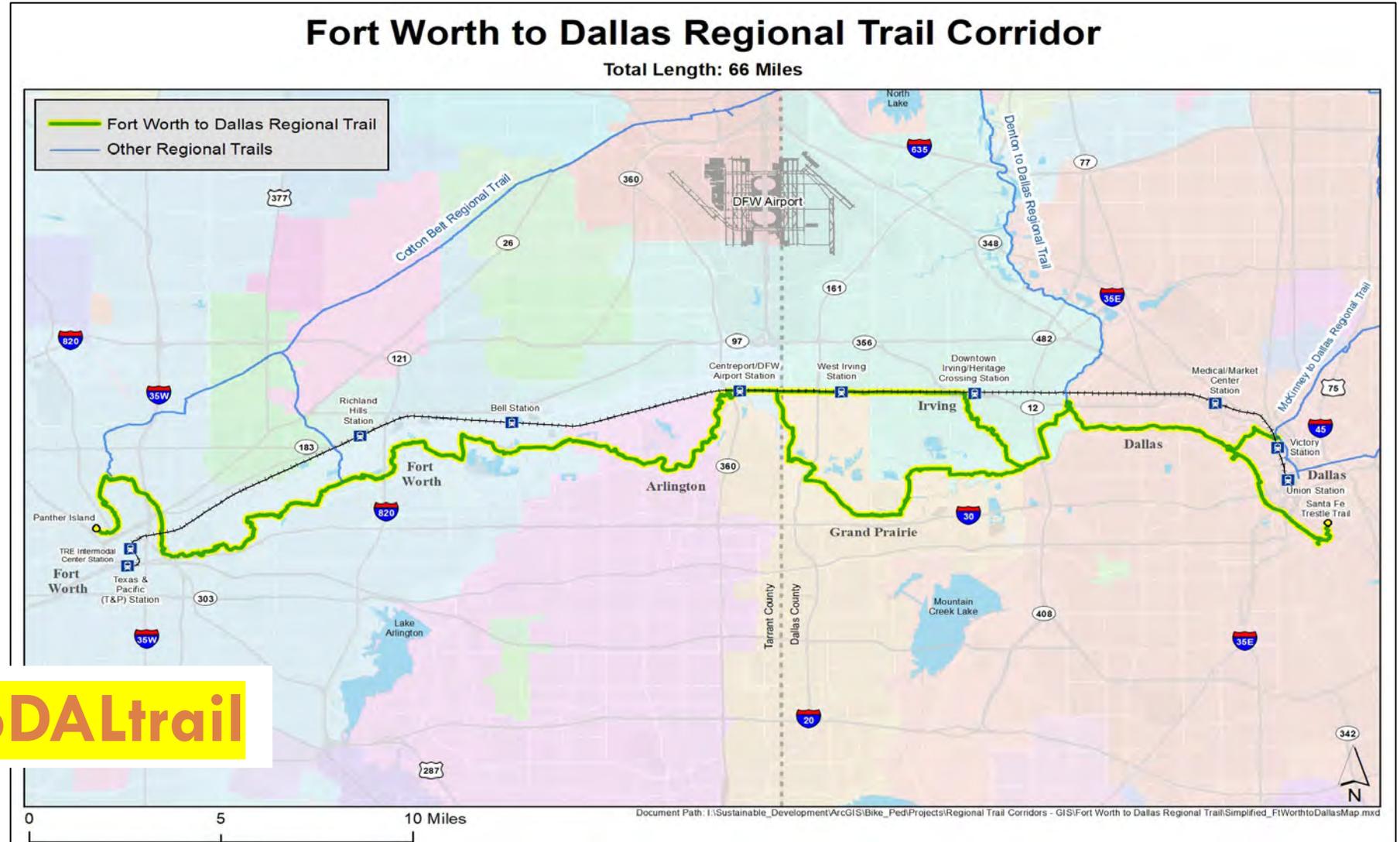
| | Existing/Funded | Planned | Total |
|--|------------------------|-------------------|-------------------|
| Fort Worth to Dallas Regional Trail Corridor | 62.9 miles | 2.9 miles | 65.8 miles |
| Cotton Belt Regional Trail Corridor | 37.9 miles | 16.6 miles | 54.8 miles |
| Dallas to McKinney Regional Trail Corridor | 67 miles | 15 miles | 82 miles |
| Denton to Dallas Regional Trail Corridor | 49 miles | 8 miles | 57 miles |

TxDOT's Bicycle Tourism Trails Study



Fort Worth To Dallas Regional Veloweb Trail

| | |
|--------------------------|----------|
| Project Area | 66 miles |
| Counties | 2 |
| Cities | 5 |
| TRE Rail Stations | 3 |
| Existing Trail | 50 miles |
| Funded Trail | 13 miles |
| Planned Trail | 3 miles |



nctcog.org/FWtoDALtrail

Trail Branding

Regional Trail Naming Competition

Arlington River Legacy Trail

| Destination | Miles |
|---------------|---------|
| Destination A | 1.5 Mi. |
| Destination B | 7.5 Mi. |
| Destination C | 16 Mi. |
| Destination D | 21 Mi. |

Regional Trail Logo to be created



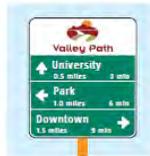
San Antonio Mission Trail



East Coast Greenway



Indianapolis Cultural Trail



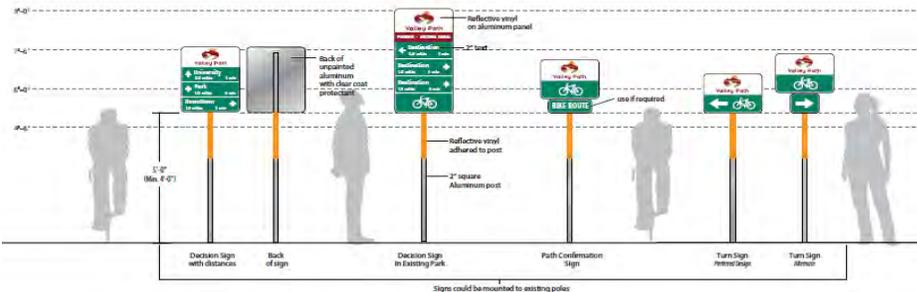
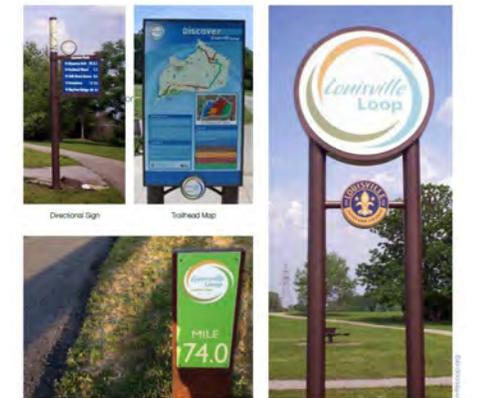
BeltLine Trail - Atlanta



Razorback Trail - Northwest Arkansas



Louisville Loop



Schedule and Next Steps

(Fort Worth to Dallas Regional Trail)

February 2019 Initial Coordination Meeting Conventions & Visitor Bureau Depts

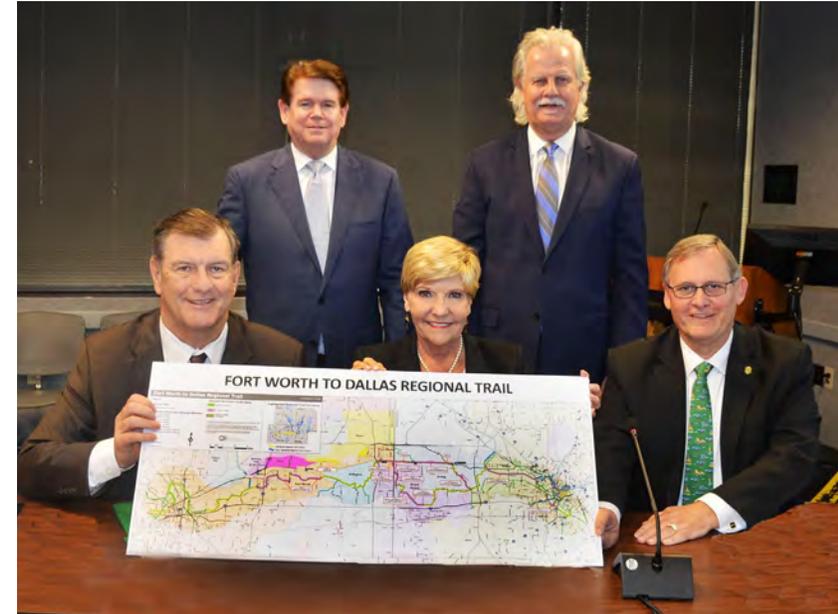
April 2019 Meeting with Mayors at NCTCOG (Branding/Marketing Initiative)

2021 **Develop branding/marketing plan**

2022 Fabricate and install wayfinding signage and regional 911 emergency signage (installation as each trail section is completed)

2022 Purchase and install real-time display counters

December 2023 Complete construction of the final trail sections and **celebrate with a regional ribbon cutting event** for the entire corridor

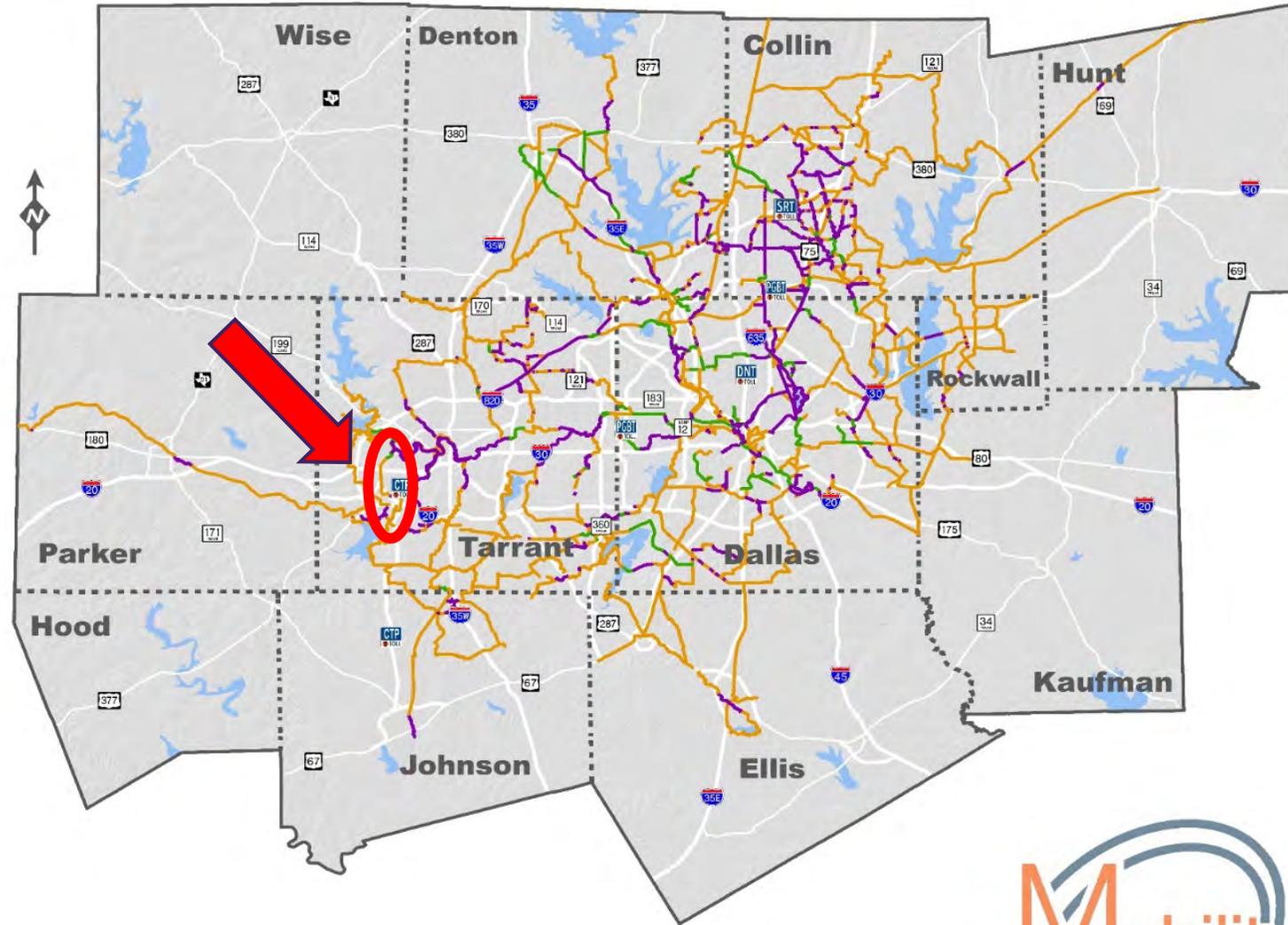


April 2019

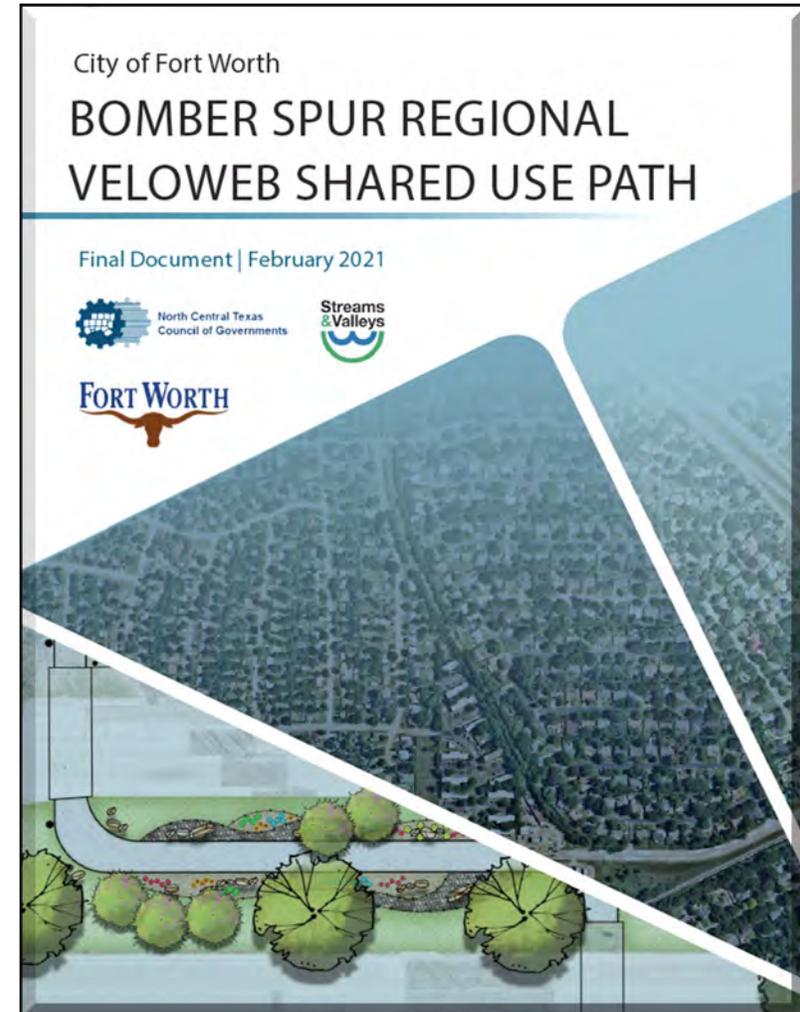
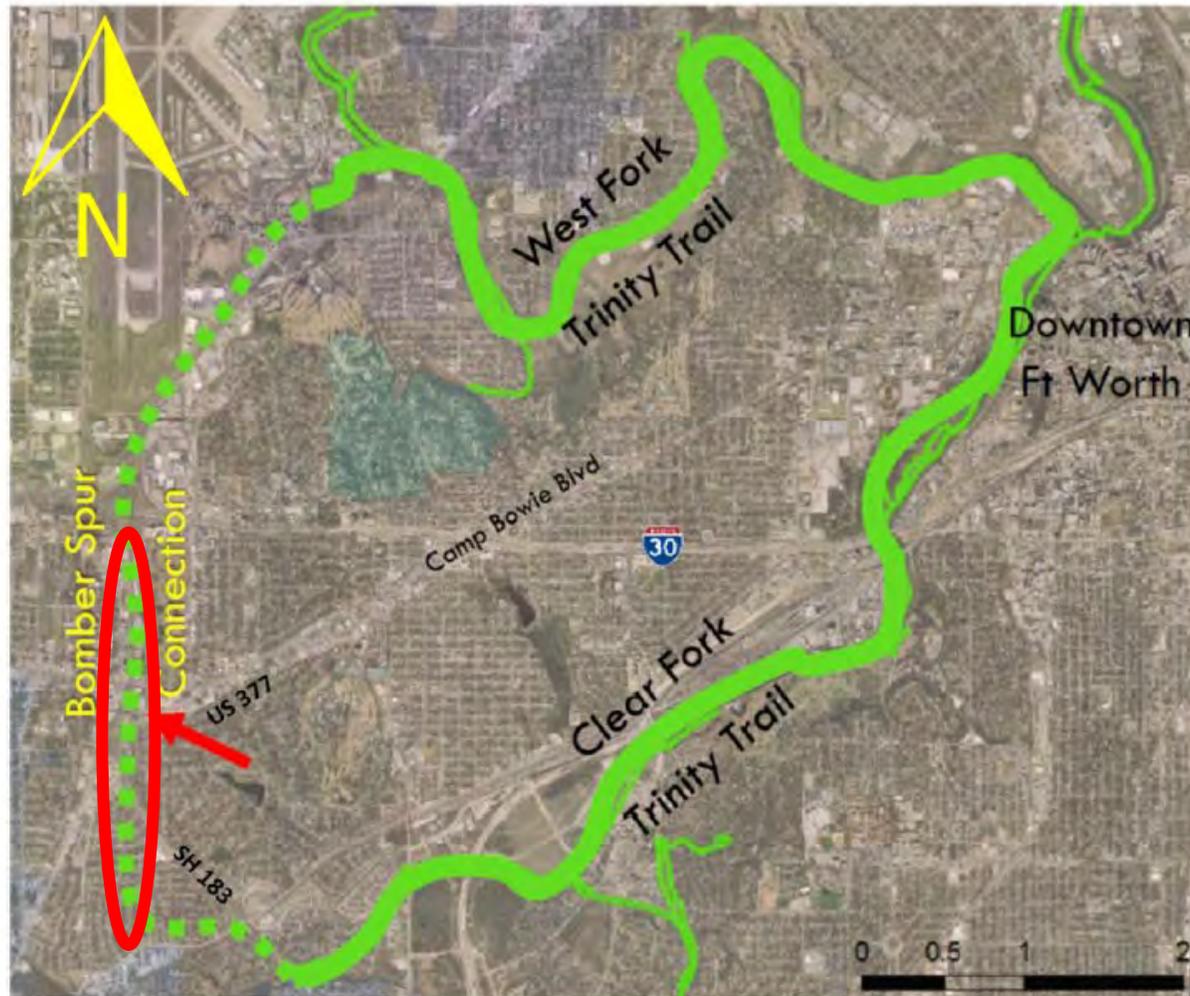


Regional Veloweb

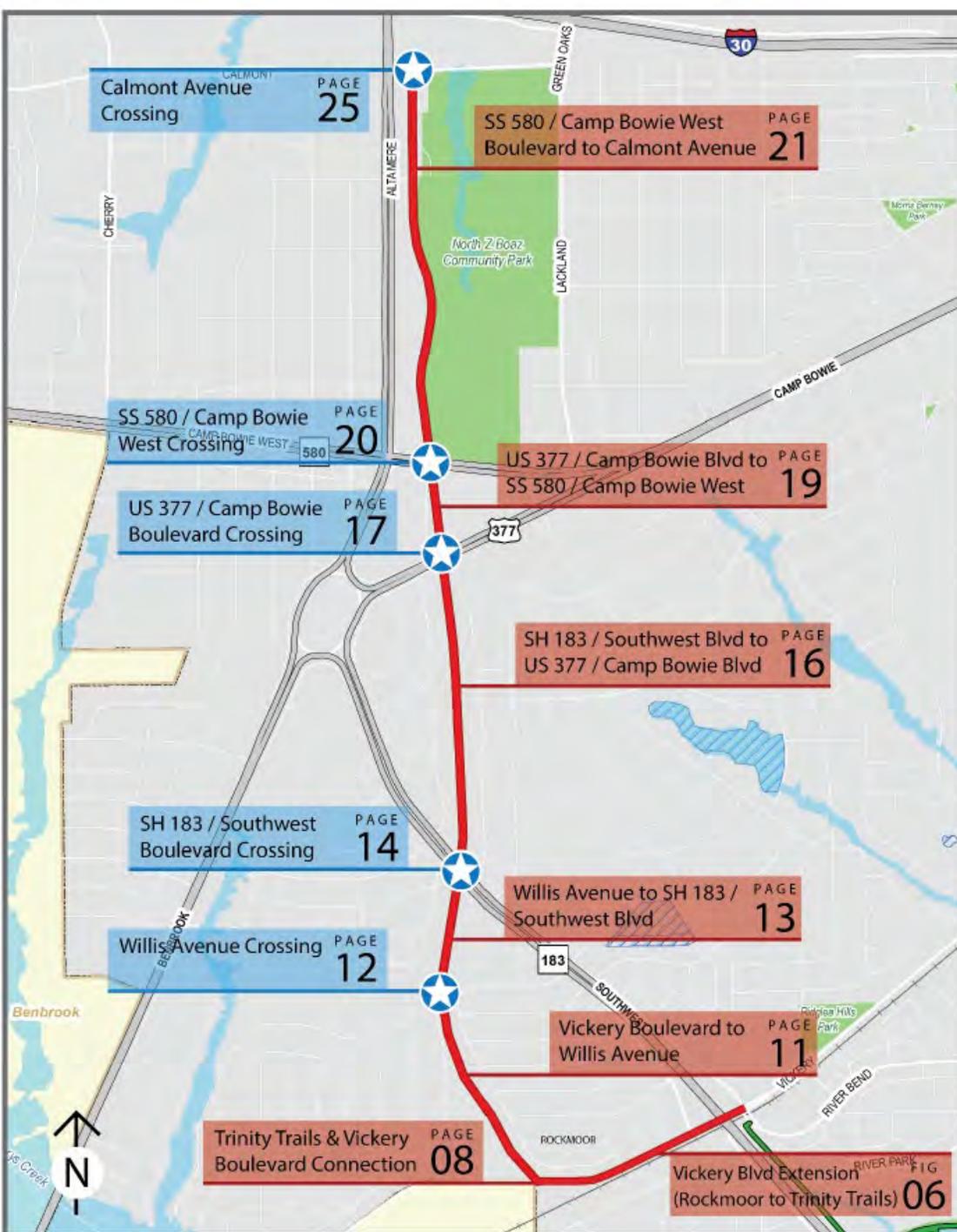
- Existing 455 Miles
- Funded 143 Miles
- Planned 1,285 Miles
- Total 1,883 Miles



Fort Worth Bomber Spur Trail (Prelim. Engineering)



Fort Worth Bomber Spur Trail (Prelim. Engineering, cont.)



□ Project Limits:

Calmont Ave. to SH183/W Vickery Blvd.
intersection (**3.1 miles**)

□ Scope of Preliminary Design:

- 12 ft.-wide hard surface path
- Roadway crossings and safety measures
- 30% design
- right-of-way and easement requirements

□ Partnership:

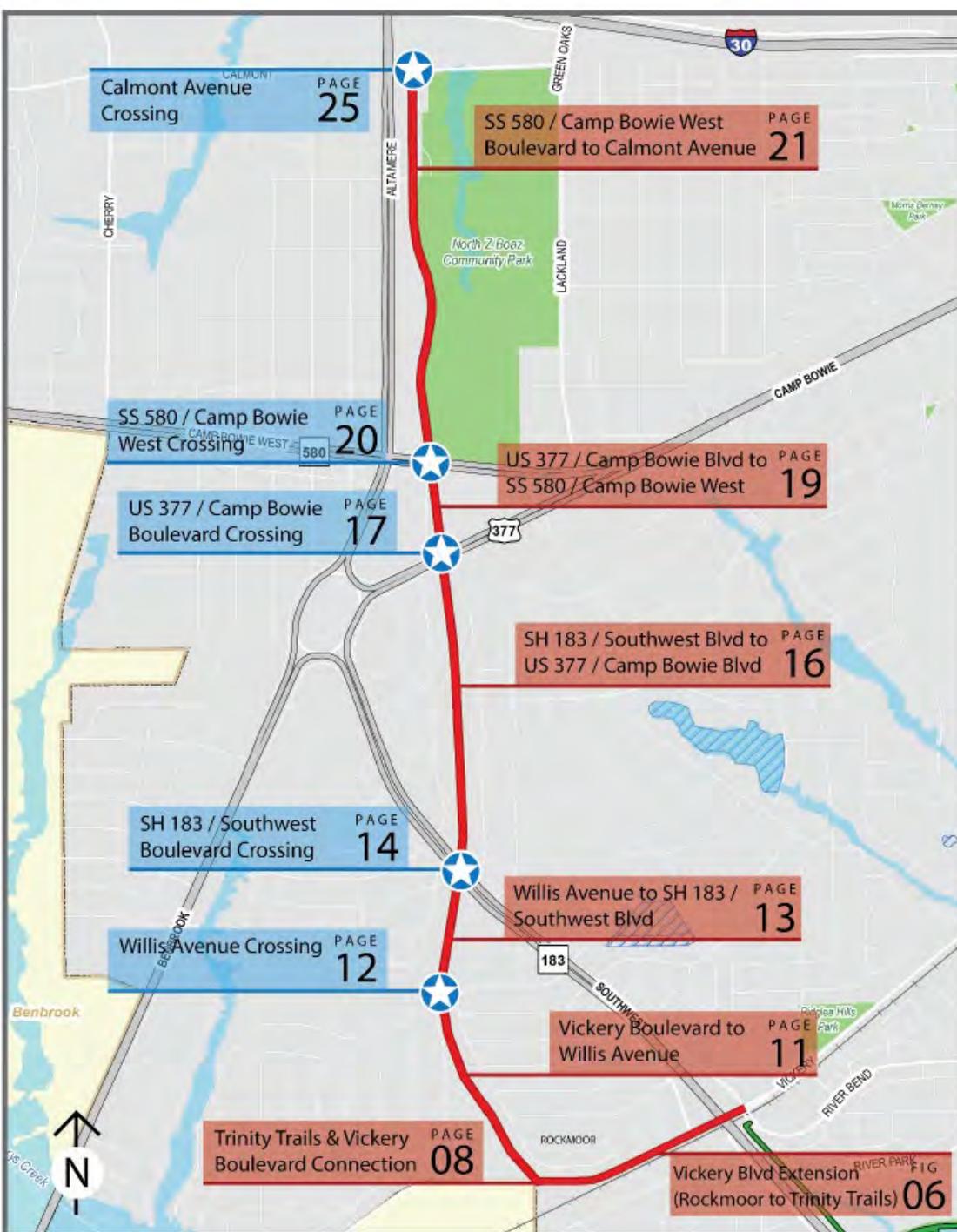
- City of Fort Worth, Streams & Valleys, Inc. and NCTCOG

Fort Worth Bomber Spur Trail (Prelim. Engineering, cont.)

Opinions of Probable Construction Cost:

| | |
|---|--------------------|
| Base Design (2020) | |
| Base Construction Sub Total | \$5,014,680 |
| Construction Contingency (25%) | \$1,254,100 |
| Engineering Survey, SUE, Environments (15%) | \$940,700 |
| City Project Management, Inspections, Material Testing (6%) | \$376,500 |
| Base Sub Total | \$7,585,980 |
| Trail Bridge Alternative (SH 183/Southwest Blvd.) | +\$5,535,300 |
| Upgraded Bridge Aesthetics Allowance | +\$400,000 |
| Public Art Allowance | +\$63,000 |
| Vickery Extension | +\$855,000 |

nctcog.org/trans/plan/bikeped/planningprojects



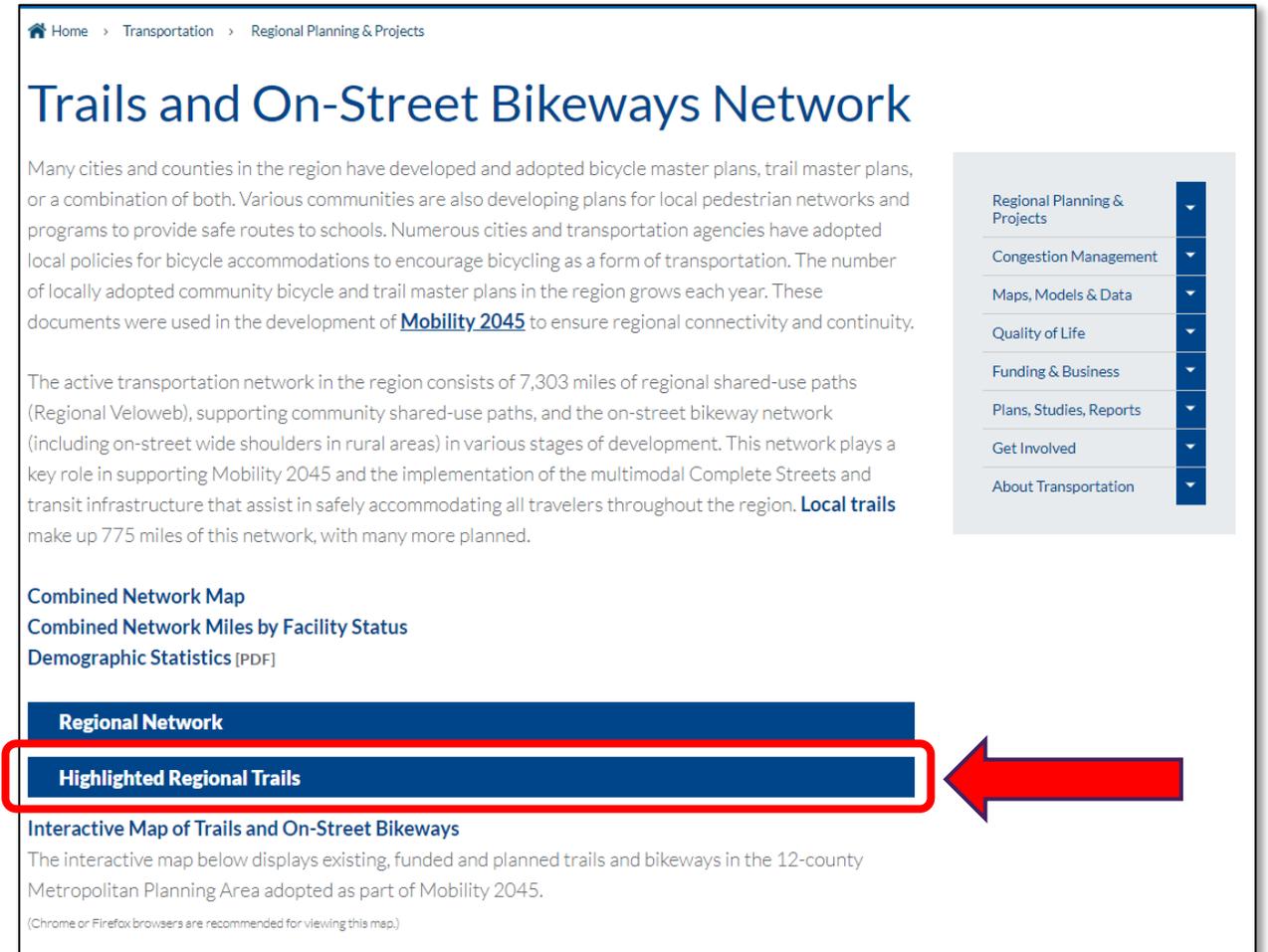
Questions

Kevin Kokes, AICP
Program Manager

kkokes@nctcog.org



nctcog.org/Veloweb



Home > Transportation > Regional Planning & Projects

Trails and On-Street Bikeways Network

Many cities and counties in the region have developed and adopted bicycle master plans, trail master plans, or a combination of both. Various communities are also developing plans for local pedestrian networks and programs to provide safe routes to schools. Numerous cities and transportation agencies have adopted local policies for bicycle accommodations to encourage bicycling as a form of transportation. The number of locally adopted community bicycle and trail master plans in the region grows each year. These documents were used in the development of [Mobility 2045](#) to ensure regional connectivity and continuity.

The active transportation network in the region consists of 7,303 miles of regional shared-use paths (Regional Veloweb), supporting community shared-use paths, and the on-street bikeway network (including on-street wide shoulders in rural areas) in various stages of development. This network plays a key role in supporting Mobility 2045 and the implementation of the multimodal Complete Streets and transit infrastructure that assist in safely accommodating all travelers throughout the region. **Local trails** make up 775 miles of this network, with many more planned.

[Combined Network Map](#)
[Combined Network Miles by Facility Status](#)
[Demographic Statistics](#) [PDF]

- Regional Planning & Projects
- Congestion Management
- Maps, Models & Data
- Quality of Life
- Funding & Business
- Plans, Studies, Reports
- Get Involved
- About Transportation

Regional Network

Highlighted Regional Trails

[Interactive Map of Trails and On-Street Bikeways](#)

The interactive map below displays existing, funded and planned trails and bikeways in the 12-county Metropolitan Planning Area adopted as part of Mobility 2045.

(Chrome or Firefox browsers are recommended for viewing this map.)