

North Central Texas
Council of Governments

North Central Texas Watershed Stakeholders Meeting

March 4, 2025



North Central Texas Council of Governments

Environment
& Development

www.nctcog.org/WaterResources



United States
Environmental Protection
Agency



*This project was funded
by the U.S. Environmental
Protection Agency
through the Texas
Commission on
Environmental Quality*

Housekeeping Items

- Please remember to fill out the sign-in sheet in the back and take an agenda
- Refreshments are available in the back
- Please silence cell phones and other devices
- Restrooms and emergency procedures

Today's Agenda

Welcome and Introductions

Presentation: Riparian Area Initiative

- Aleksander Prebensen, Project Lead, Stormwater Management Division, City of Fort Worth

Presentation: Total Maximum Daily Load Implementation Plan Update


- Joy Douglas, Environment and Development Planner, NCTCOG

Roundtable Discussion

NCTCOG Update

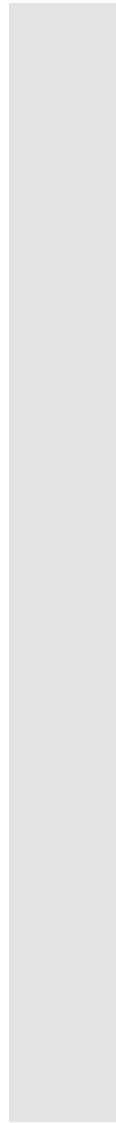
- Corinne Buckley, Environment and Development Planner, NCTCOG

Wrap-Up and Adjourn



Riparian Area Initiative

Aleksander Prebensen, Project Lead
Stormwater Management Division
City of Fort Worth

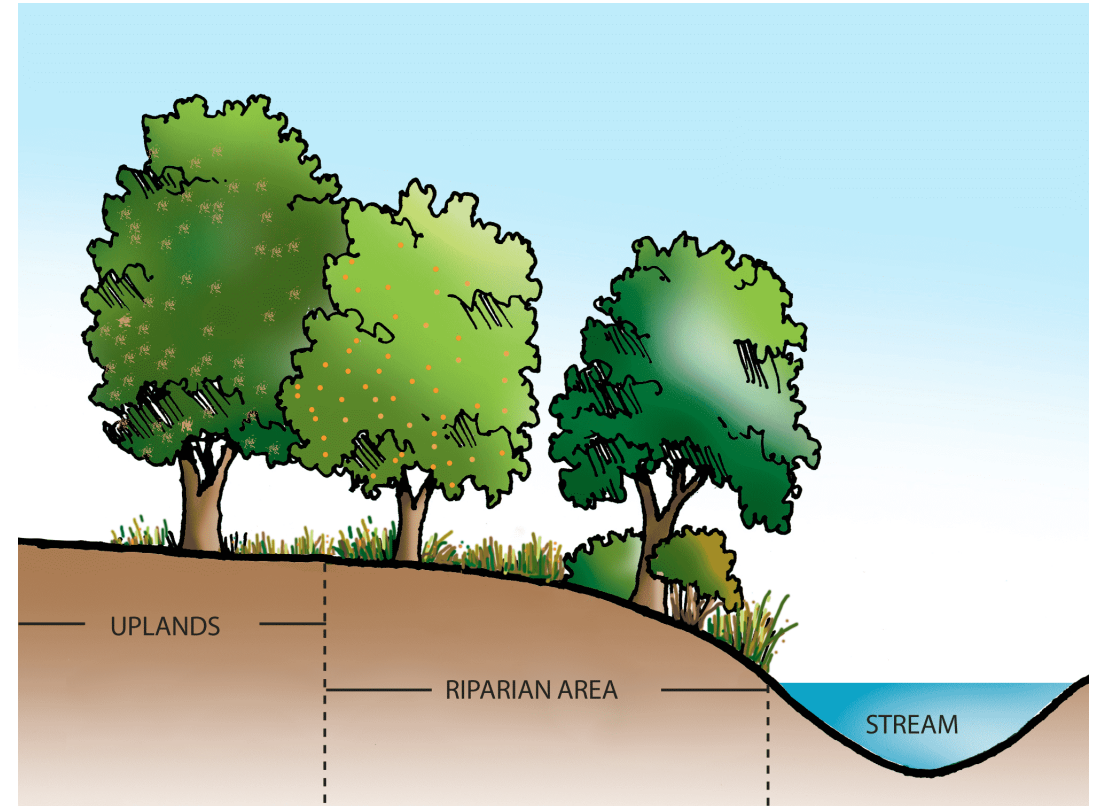


What is a Riparian Area?

Proposed Riparian Area Definition:

Riparian areas are ecosystems that occur along watercourses or water bodies where vegetation is strongly influenced by the presence of water. These areas serve many purposes and are beneficial for water quality, wildlife, recreation, and health.

Adapted from the National Resource Conservation Service and Texas Parks & Wildlife definitions



Illustrator: Gary Bentrup, USDA national Agroforestry Center 2015

Benefits of Protecting Riparian Areas

Helps protect people & property from flooding



Access to green space improves mental health



Provides recreation opportunities & trail connections



Stabilizes stream banks & reduces erosion



Preserves habitat & wildlife corridors

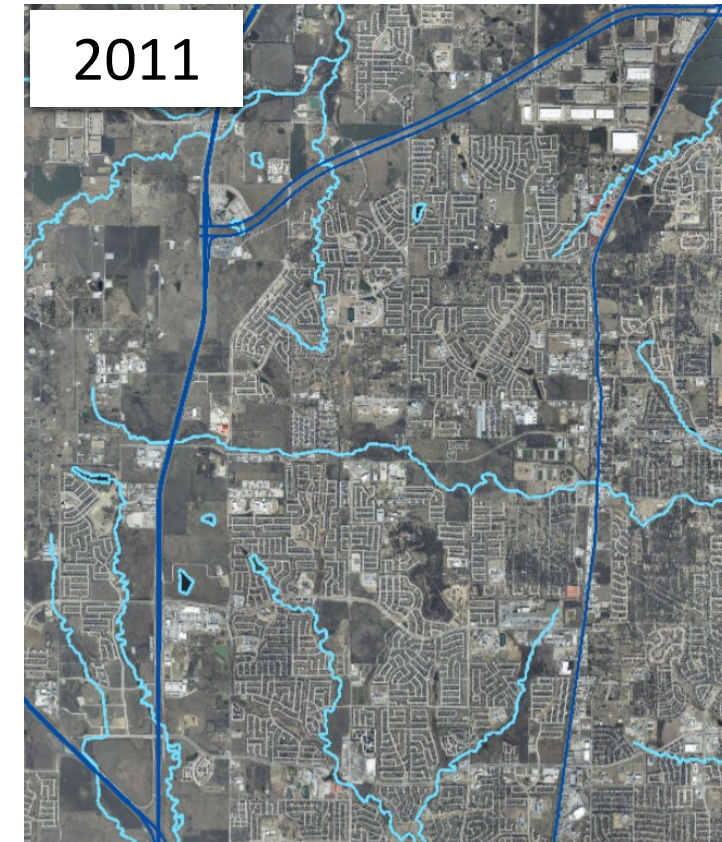
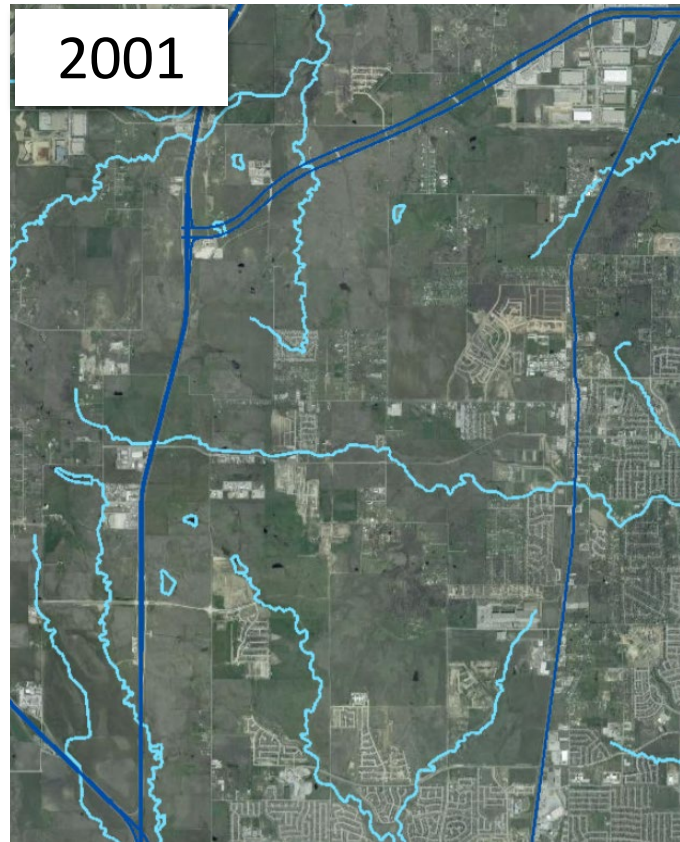


Filters pollutants & reduces sedimentation



Pressures on riparian areas

- Development increases:
 - Impervious surfaces and soil compaction
 - Stormwater runoff, sedimentation, and pollutants
 - Stream flow velocities that can cause erosion
- Extreme rainfall events in Texas are becoming more frequent and severe, and are expected to worsen in the future



Riparian Area Initiative Stakeholders

Communities & Industries

- Community Members
- Private Property Owners
- Academia
- Riparian Area & Water Specialists
- Engineers & Landscape Architects
- Development & Real Estate

Partner Agencies

- US Army Corps of Engineers
- US Department of Agriculture
- Texas Parks & Wildlife
- North Central Texas Council of Governments
- Tarrant Regional Water District
- Streams & Valleys

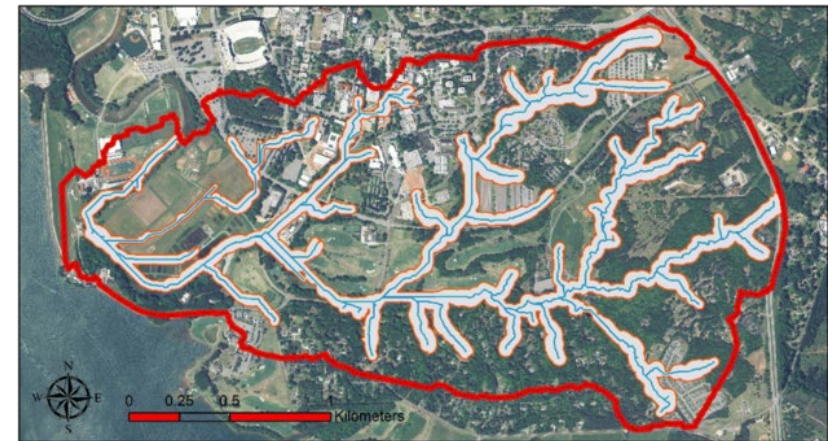
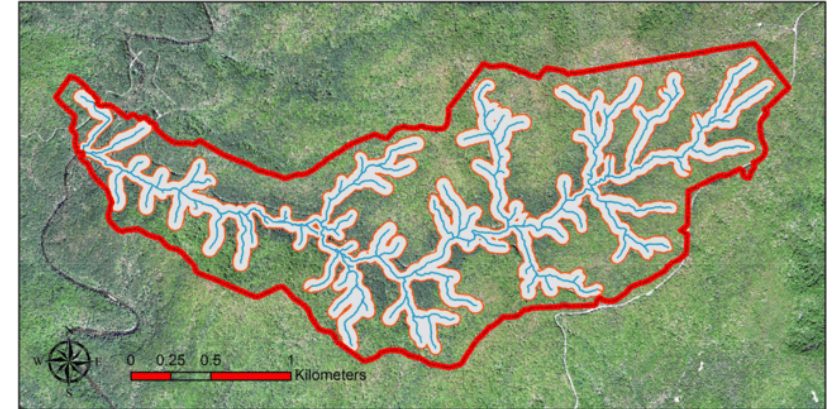


**US Army Corps
of Engineers®**



Riparian Area Initiative Anticipated Outcomes

- Update the development process to incorporate the riparian area buffer and associated development incentives
- Provide a map of the buffer for developers and City staff
- Provide an overlay where development incentives apply
- Update applicable development criteria manuals, ordinances, and policies



Modeling and monitoring riparian buffer zones using LiDAR data in South Carolina

An aerial photograph showing a residential neighborhood on the left, characterized by houses with grey roofs and swimming pools, separated from a large, dense forest on the right by a winding river. The text 'Green Space Impacts on Communities' is overlaid in white on the forest area.

Green Space Impacts on Communities

Environmental Benefits of Walkable Communities

- Reduces greenhouse gas emissions
- Improves urban microclimates
- Minimizes land use
- Reduces air pollution
- Improves water management
- Promotes alternative transportation
- Preserves green space
- Cuts ambient noise



Congress for New Urbanism (CNU)

FEMA Ecosystem Service Value of Riparian Areas

Benefit	Value Per Acre Per Year
Erosion Control	\$13,823
Water Filtration	\$6,239
Recreation & Tourism	\$6,215
Flood & Storm Hazard Reduction	\$6,052
Habitat	\$2,547
Other: Aesthetic, Air, Biological, Climate, Food, Water Supply	\$1,557
Total Benefits Per Acre Per Year	\$37,199

Table values estimated based on 2022 data

Social Benefits of Walkable Communities

- Improves happiness and mental health
- Reduces obesity and chronic disease
- Fosters social interaction
- Reduces pedestrian deaths
- Tends to reduce crime
- Enhances “sense of place” and community identity
- More accessible



Congress for New Urbanism (CNU)

Economic Benefits of Trails & Greenways

- Near the Katy Trail in Dallas, developers reported a **25% premium** for properties sold. *Dallas Morning News*
- Trails generated the highest **Return on Investment** of any park typology, **over 50:1** from 1998-2016. *HR&A study of Dallas Park System*
- Property values associated with a single greenway resulted in estimated **\$13.64M new property tax revenue** for Austin. *Journal of Leisure Research*



Trailhead on Clear Fork Trinity
Dallas Morning News

Increased Home Prices Near Green Space

On average, home prices increase:

- 20% – adjacent to passive park
- 32% – next to a larger and longer greenbelt area for hiking and biking
- 22% – near tree-covered undeveloped area
- 37% – near heavily wooded open land

Community Economics - A Literature Review
University of Washington Study



Biking on the Medina River Greenway Trails
San Antonio Parks & Recreation

Changing Attitudes of Homebuyers

- **National Association of Realtors Survey:**
 - 85% of respondents said sidewalks and places to walk are very/somewhat important
 - 56% of respondents would prefer a house with a small yard and be able to walk to places
 - 78% of respondents would pay more for a walkable community
 - 90% of Millennials & Gen Z would pay more for a walkable community
 - Millennials represented 38% of all home buyers in the U.S. in 2024, up from 28% in 2023



Getty Images

Riparian Area Survey Results

- Strong public support for protecting riparian areas:
 - 95% of respondents say that preserving riparian areas is "Very Important"
 - 96% of respondents support regulations and incentives to better protect riparian areas
- Recreational amenities that residents would like to see in riparian areas:
 - Trails
 - Bird Watching & wildlife viewing areas
 - Launches for non-motorized water sports
- These are very similar to results from Open Space public survey.

An aerial photograph showing a residential neighborhood. A paved road with a yellow center line runs diagonally from the bottom left towards the top right. To the right of the road, there is a thick, lush green forest that acts as a buffer between the road and several houses. The houses are scattered throughout the forested area and are visible in the upper right and lower right. The overall scene is a mix of natural greenery and human development.

Riparian Area Buffer & Potential Development Incentives

Best Practice Recommendations from Benchmarking

- Wider buffers offer the most flood control and ecosystem benefits – *TX Parks and Wildlife*
- Buffers should be 100ft minimum from stream bank and have 3 zones – *National Association of Wetland Managers (NAWM)*
- Offer incentives for developers to encourage more sustainable development – *NAWM*
- Offer realistic exemptions – *USDA*
- Plant vegetation, as appropriate – *Virginia Dept. Of Conservation & Recreation*
- Should be easy to understand and apply – *KPI Tech*

"The most effective buffers are at least 100ft wide, composed of native forest, and are applied to all streams, including very small ones."

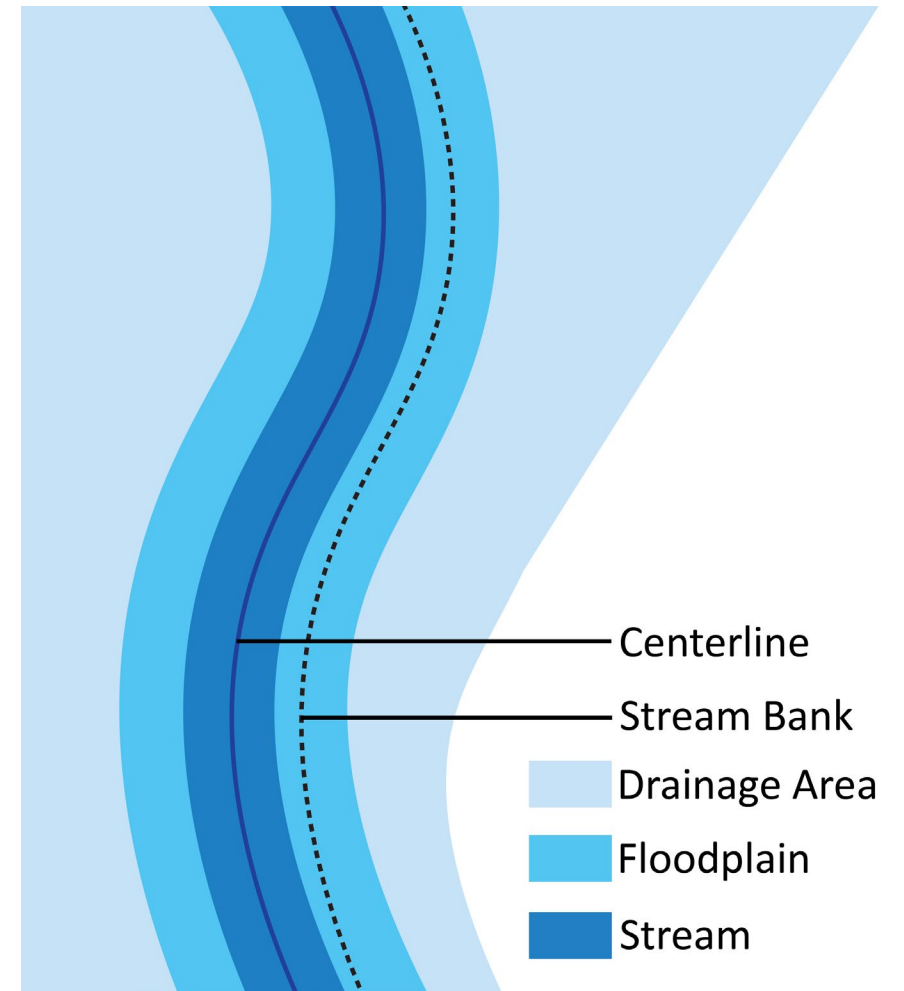
Carl Vinson Institute,
University of Georgia

Defining the Riparian Area Buffer – Data Availability

- Size of stream/river, floodplain, and drainage areas – stream/river centerline and floodplain data available, but not stream banks and drainage areas
- Water quality – impaired streams and reservoirs are mapped
- Soil type and erosion potential – we have clay soil, high erosion potential in some areas, but no detailed erosive conditions data available
- Slope – Contours available, but not detailed slope analysis
- Other considerations:
 - Typical development patterns in Fort Worth are low-density
 - Any buffer would only apply to new development
 - Streams are primary habitat and wildlife corridors in developed areas
 - Amount and type of vegetation – primarily tree canopy and native grass

Proposed Riparian Buffers

- Buffer Options:
 - 100ft from stream centerline
 - 150ft from stream centerline
 - FEMA Floodplain or 100ft from centerline, whichever is greater
- Buffer Exemptions
 - Utilities
 - Access roads and bridges
 - Trails
 - Stormwater outfalls & infrastructure
 - Kayak & Watercraft Launches
 - Ephemeral Streams



David Weekley Model Site Development Plan

- Pro-bono plan to help determine which development incentives should be considered
- Utilized other real-world developments as a basis for the overall site plan and proposed housing forms
- Helped the City determine which incentives are feasible and could be implemented within our existing processes



Model Site Development

- Simplified plan showing how to incorporate riparian buffers and incentives that achieve multiple goals:
 - Diverse housing stock and missing middle housing
 - Mixed use & commercial corridor
 - Green space and tree preservation
 - Complete streets and trails
 - Sheet flow – utilize natural topography



Potential Incentives

- Height & Density
 - Allow higher density, increased height, and/or smaller lot sizes than current zoning
 - Aligns with 2024 Texas Comptroller housing affordability report findings
- Reduced Minimum Parking
 - Reduce spots per unit/bedroom & offsite parking
- Urban Forestry & Canopy Credits
 - Align with master plan and ordinance updates
- Park Dedication Requirements
 - Meet existing criteria & trail can count as one of the required amenities



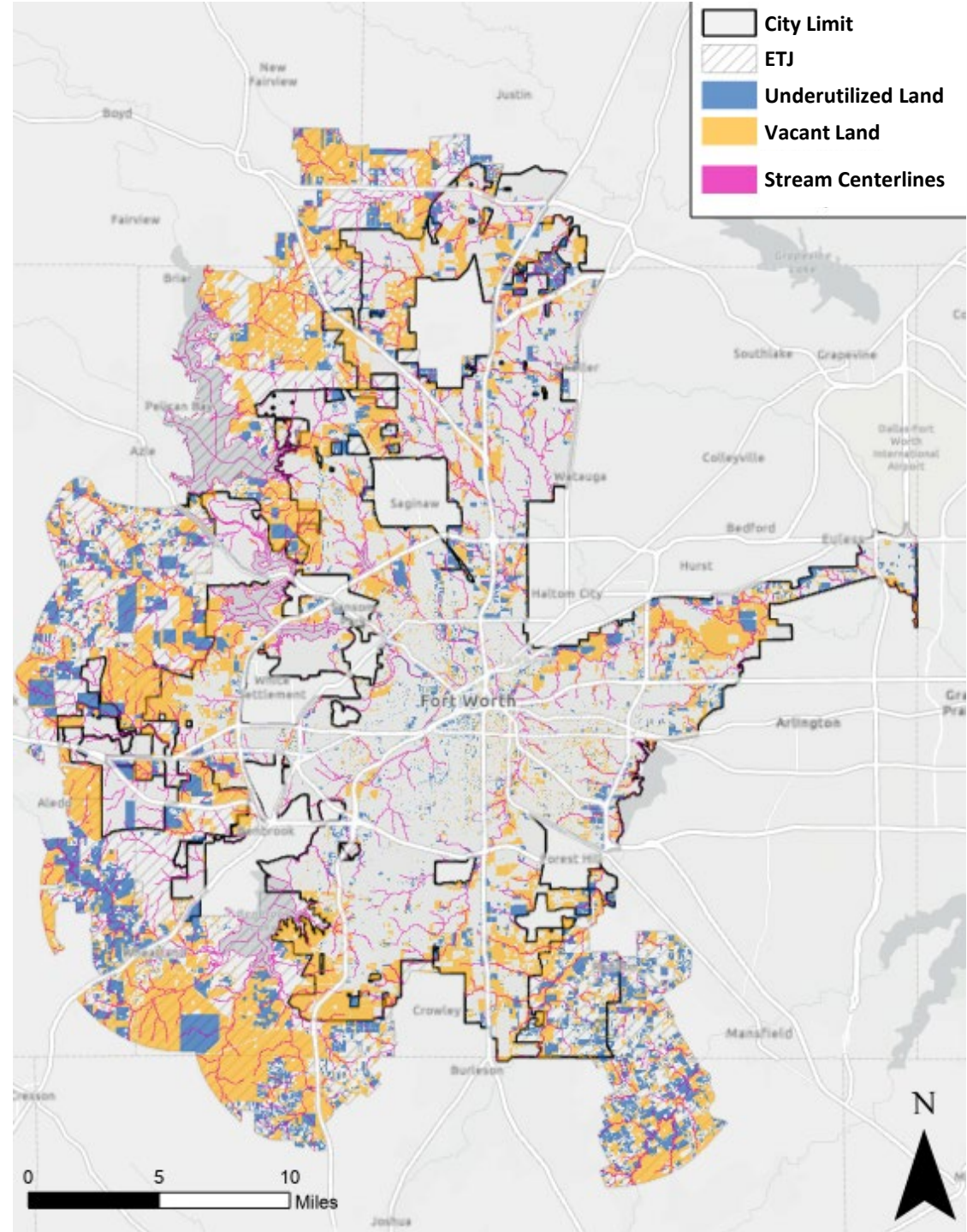
Old Town Commons, Alexandria, VA

Developable Land & Buffer Options

Total Developable Land: 179,665 acres

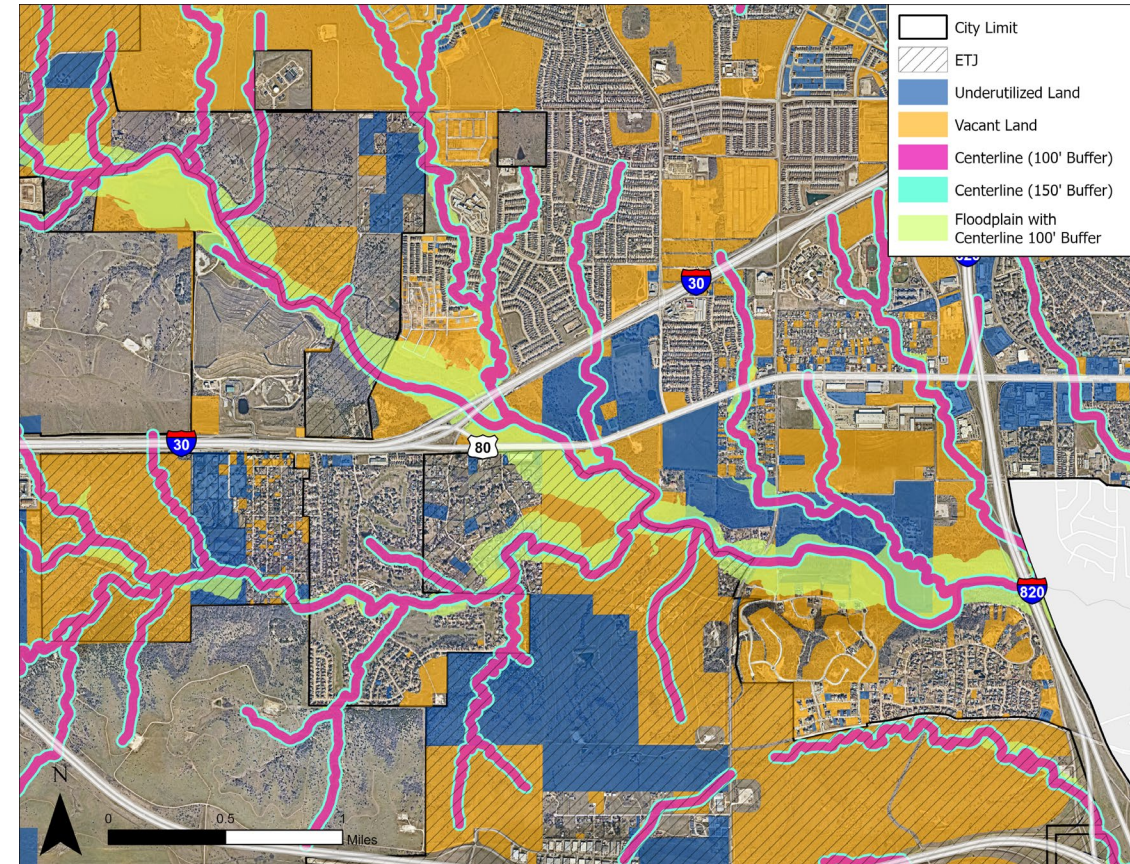
Buffer Size	Acres	Percent of Developable Land
Stream Centerline (100ft Buffer)	15,174	8.4%
Stream Centerline (150ft Buffer)	22,111	12.3%
FEMA Floodplain & 100ft Buffer	32,621	18.2%

Note: The stream centerline data does capture some ephemeral streams, but these will be exempt from the buffer requirement.



Buffer Option #3 - FEMA Floodplain or 100 feet, whichever is greater

- Provides greatest flood control benefits along Trinity River and larger creeks.
- Generally larger than 150ft buffer along Trinity River and larger creeks, but smaller than 150ft buffer along smaller creeks and streams.
- Includes 32,621 acres
- 16,426 acres are in the floodway
- 18.2% of estimated developable land






Discussion

Thank You





Total Maximum
Daily Load
Implementation
Plan Update

Joy Douglas, Environment and Development
Planner NCTCOG





TMDL I-Plan Update

March 4, 2025

Joy Douglas, Environment and Development Planner
North Central Texas Council of Governments

Bacteria Impairments in the DFW Metroplex

- What does impairment mean?
 - A waterway is not meeting state water quality standards for its designated use.
- What could be causing the impairment?
 - Pet waste,
 - Sanitary sewer overflows,
 - Agricultural practices,
 - Wastewater treatment plants,
 - Illicit discharges,
 - Onsite sewage facilities (septic systems), and
 - Wildlife waste
- What is a total maximum daily load (TMDL)?
 - A budget for a pollutant that a waterway can receive and still safely maintain its designated use.

How is NCTCOG working with local governments to address TMDLs?



Approved by the Commission: December 11, 2013
Approved by the Coordination Committee: July 11, 2012
Revised by the Coordination Committee: June 15, 2017, June 13, 2019,
June 30, 2020, June 27, 2024

Implementation Plan Twenty-Five Total Maximum Daily Loads for Bacteria in the Greater Trinity River Region

Upper Trinity River

Segment 0805

Assessment Units 0805_03 and 0805_04

Cottonwood Branch and Grapevine Creek

Segments 0822A and 0822B

Assessment Units 0822A_02 and 0822B_01

Lower West Fork Trinity River

Segments 0841, 0841B, 0841C, 0841E, 0841G, 0841H, 0841I,
0841J, 0841L, 0841M, 0841R, 0841T, and 0841U

Assessment Units 0841_01, 0841_02, 0841B_01, 0841C_01, 0841E_01,
0841G_01, 0841H_01, 0841I_01, 0841J_01, 0841L_01, 0841M_01,
0841R_01, 0841T_01, and 0841U_01

Mountain Creek Lake Tributaries

Segments 0841F, 0841K, 0841N, 0831P, 0841Q, and 0841V

Assessment Units 0841F_01, 0841K_01, 0841N_01, 0841P_01,
0841Q_01, and 0841V_01

Sycamore Creek

Segment 0806E

Assessment Unit 0806E_01

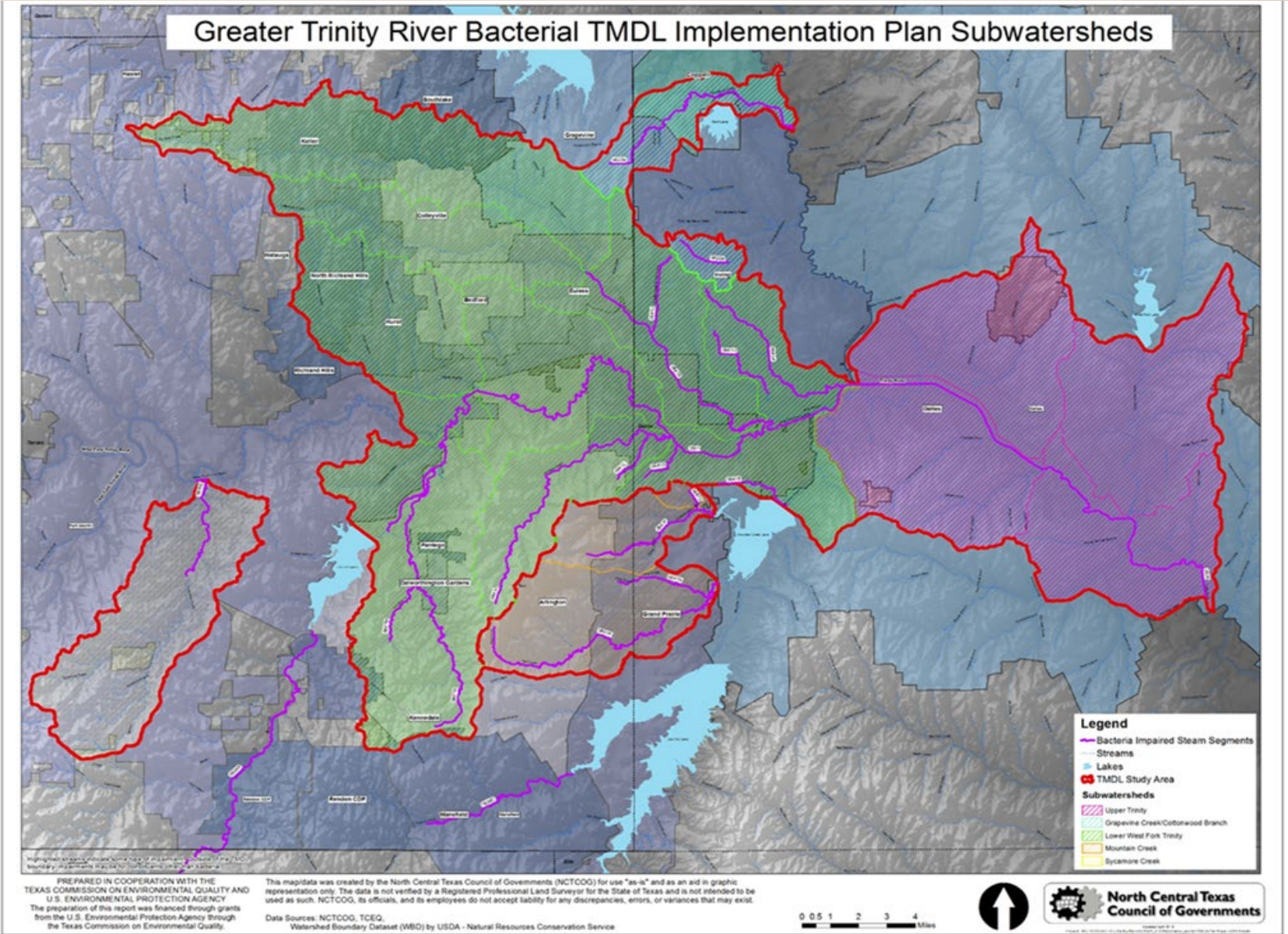
- Through the I-Plan, NCTCOG works with local governments to implement Best Management Practices (BMPs) To reduce the sources of bacteria. The I-Plan includes BMPs for
 - Participation in regional initiatives,
 - Education and outreach,
 - Ordinance, guideline, or management plan adoption, and more!
- This I-Plan also guides the projects and workshops selected by the TMDL Coordination Committee.

Available TMDL Resources

- What is a TMDL? Tri-Fold Brochure
- What is a TMDL? Educational Explainer Video
- Don't Feed the Birds Explainer Video
- Other Activities:
 - Quarterly Newsletters
 - BMP Library
 - Workshops and Webinars



North Central Texas I-Plan Project Area



I-Plan Background

- Approved by the Commission: December 11, 2013
- Approved by the Coordination Committee: July 11, 2012
- The goal of the I-Plan is to restore the primary contact recreation use in the 25 bacteria impaired segments in the Project Area by reducing concentrations of the indicator bacteria *E. coli* to levels established in the TMDLs.

I-Plan Scope

- Identifies Sources of Pollution: Pinpoints the sources of pollutants within the watershed.
- Sets Reduction Goals: Establishes specific targets for reducing pollutant levels.
- Outlines Actions: Details the regulatory and voluntary activities needed to achieve these goals.
- Engages Stakeholders: Involves local communities, governments, and organizations in the implementation process.
- The I-Plan is essential for translating the scientific goals of the TMDL into practical, actionable steps to improve water quality.

I-Plan Strategies Focus Areas



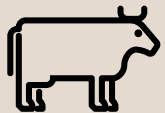
1.0 Wastewater



2.0 Stormwater



3.0 Planning and Development



4.0 Pets, Livestock, and Wildlife



5.0 Onsite Sewage Facilities.



6.0 Monitoring Coordination



7.0 Education and Outreach



8.0 Best Management Practices



9.0 Implementation Strategy

I-Plan Revisions

- NCTCOG is currently working with stakeholders to review the Implementation Plan strategies to ensure they are up to date and relevant.
- Stakeholders are invited to participate on Strategy Task Forces to provide their feedback on any revisions, additions, or overall comments on the Implementation Plan.
- [Link to TMDL I-Plan](#)

Get Involved!

- Upcoming Task Force Meetings:
 - **Planning & Development Strategy Task Force:** March 10, 2025, 11 AM - 12:30 PM
 - **Pets, Livestock, & Wildlife Strategy Task Force:** March 26, 2025 at 10:30 AM - 12 PM
 - **On-Site Sewage Facility Strategy Task Force:** tentatively slated to meet on April 10, 2025 at 9:30 AM - 11 AM
 - **Monitoring Coordination Strategy Task Force:** tentatively slated to meet on April 29, 2025 at 1:30 PM - 3 PM
 - **Education & Outreach Strategy Task Force:** tentatively slated to meet on May 12, 2025 at 9:30 AM - 11 AM

Upcoming TMDL Events

- **Upper Trinity River Basin Coordinating Committee Meeting:** March 6, 2025 at 9:30 AM -11:30 AM
- **Green Asset Management Webinar** is tentatively scheduled for April 29, 2025 – details forthcoming

Thank You!

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Questions and Comments



Roundtable

Please share your current relevant water quality-related activities and information and, if applicable, identify any areas of potential collaboration.

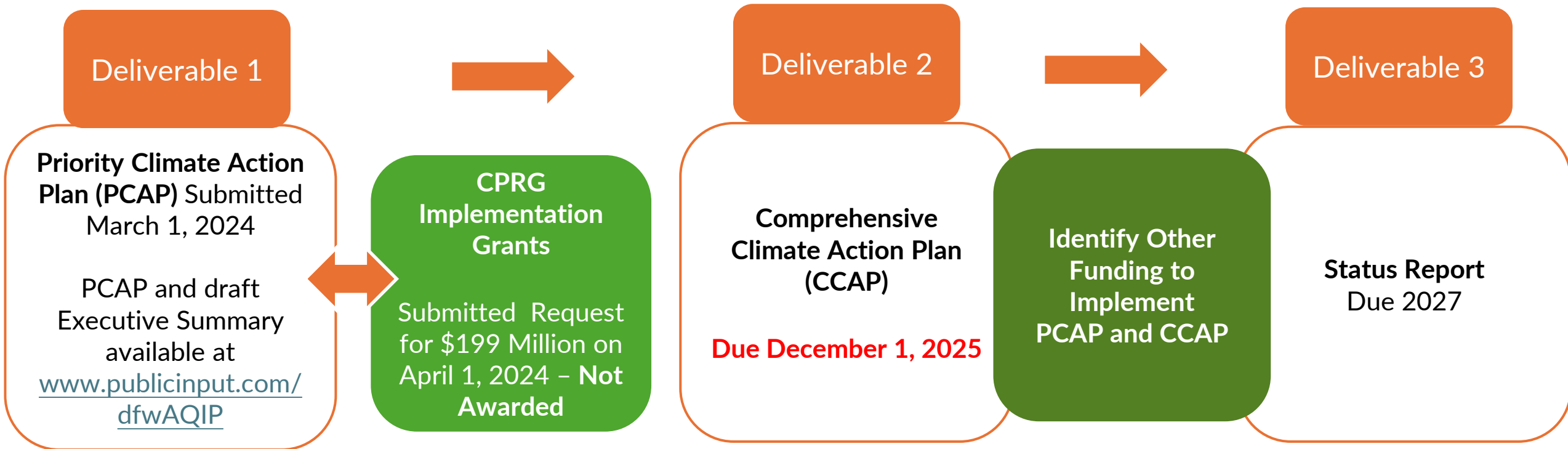
NCTCOG Update

Dallas-Fort Worth Air Quality Improvement Plan

Dallas-Fort Worth Air Quality Improvement Plan

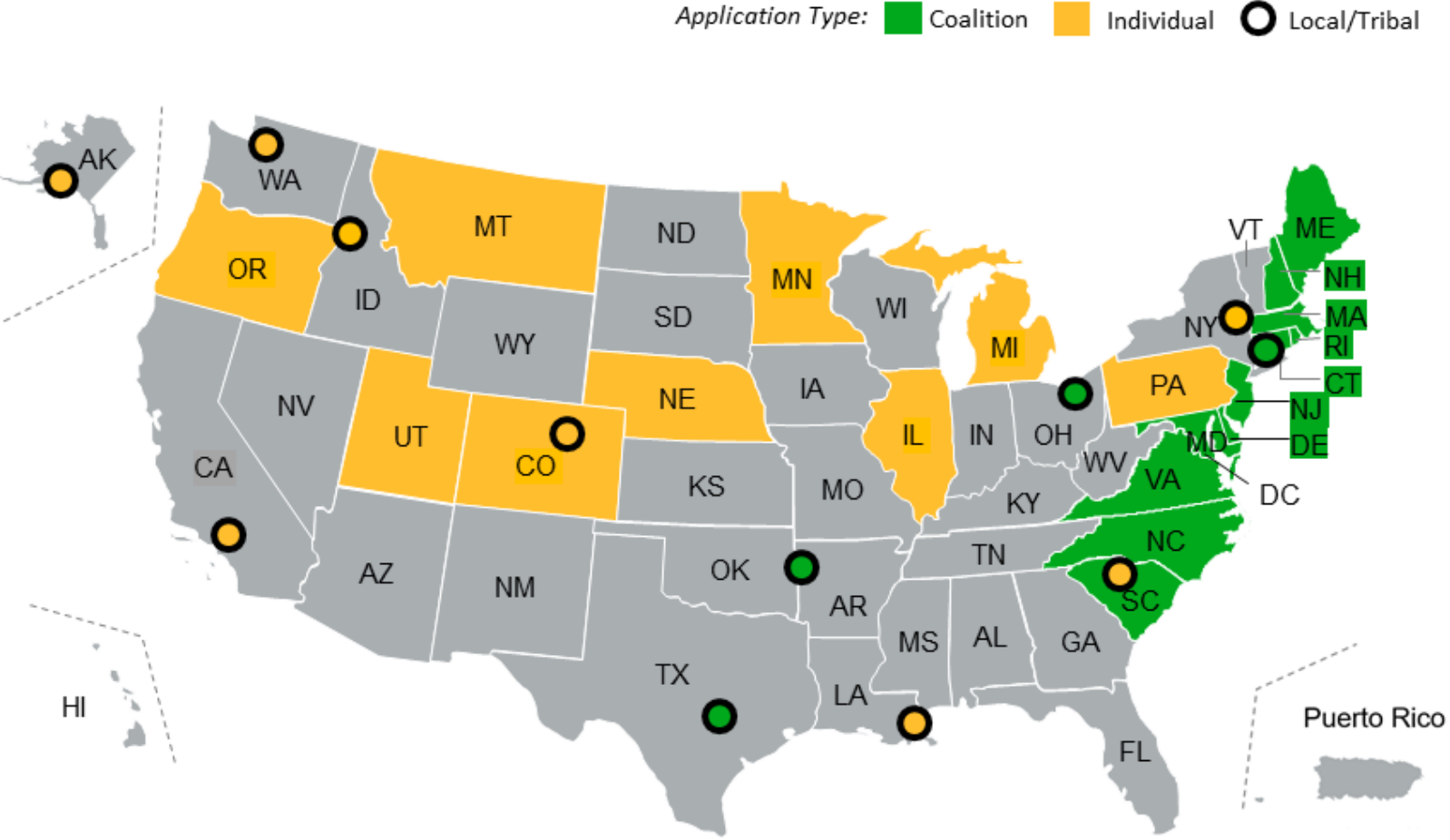
Stakeholders in the region are collaborating with the North Central Texas Council of Governments (NCTCOG) to develop the **Dallas-Fort Worth (DFW) Air Quality Improvement Plan (AQIP)**

The DFW AQIP-Priority Climate Action Plan development is supported by funding from the Environmental Protection Agency's (EPA) Climate Pollution Reduction Grants (CPRG): Planning Grants



CPRG Implementation Grant Awardees

EPA Region	States	Total Amount Awarded
1	CT, ME, MA, NH, RI, VT	~708M
2	NJ, NY	~252M
3	DE, DC, MD, PA, VA, WV	~1.17B
4	AL, FL, GA, KY, MS, NC, SC, TN	~430M
5	IL, IN, MI, MN, OH, WI	~889M
6	AR, LA, NM, OK, TX	~198M
7	IA, KS, MO, NE	~307M
8	CO, MT, ND, SD, UT, WY	~978M
9	AZ, CA, HI, NV	~500M
10	AK, ID, OR, WA	~323M



Source: [EPA Climate Pollution Reduction Grants](#)



DFW AQIP-PCAP and CCAP Requirements

Priority Climate Action Plan (PCAP)

- Near-term (5 years), high-priority, implementation-ready measures

Tasks	Description
GHG Emissions Inventory	Calculate the GHG produced in the 16 counties in North Texas
Quantified GHG Reduction Measures	Identify and quantify benefits of measures
Review of Authority to Implement	Review GHG reduction measures to ensure they can be implemented
Funding Analysis*	Identify funding to implement measures

*Not required for PCAP, NCTCOG voluntarily included

Comprehensive Climate Action Plan (CCAP)

- Long-term (25 years) measures to meet emission reduction goals

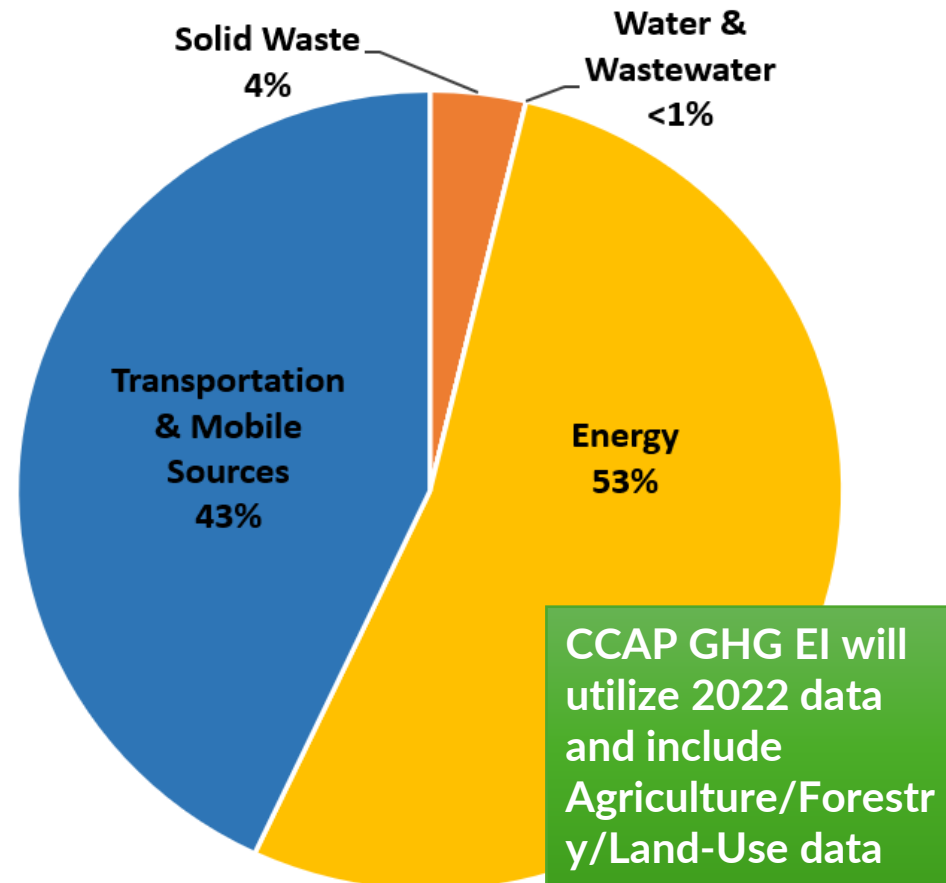
Tasks	Description
All PCAP Tasks**	PCAP Tasks will be updated/enhanced for CCAP
Workforce Analysis	Determine what workforce gaps exist and strategies to fill them
GHG Targets/Goals	Develop near-term and long-term targets for GHG reductions
GHG Projections	Develop comprehensive sector-based emission projections for a near and long-term

** The first 5 required tasks from the Priority Climate Action Plan table are still required in the Comprehensive Climate Action Plan



DFW AQIP- PCAP GHG EI and CCAP GHG Projections and Goals

2019 DFW 16-County MPA Carbon Dioxide Equivalent (CO₂e) = 105,435,559 Metric Tons



CCAP Projections:

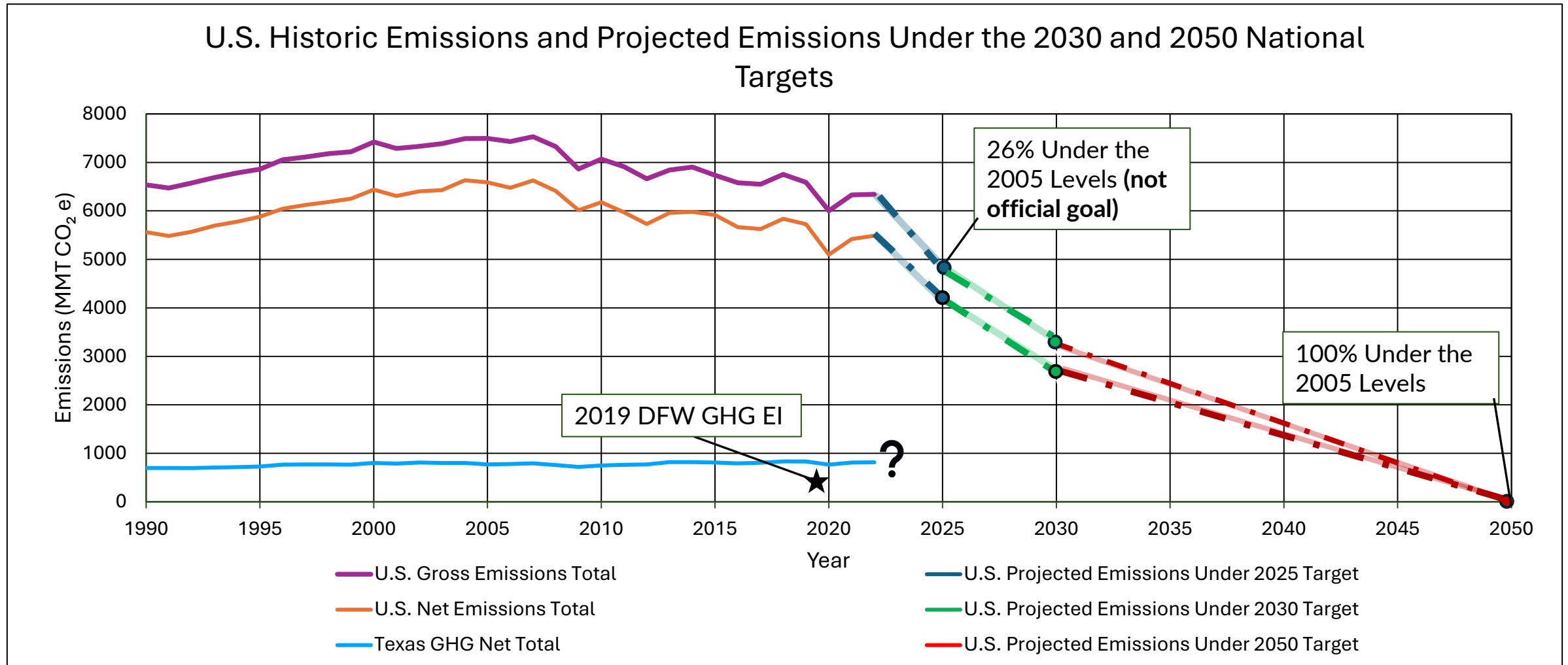
1. “Business as Usual Projections” for near-term (2030) and long-term (e.g., 2050)
2. Projections where measures in the CCAP are fully implemented for near-term and long-term

CCAP Targets/Goals Should:

- Be consistent with U.S. Commitments to reduce GHG emissions by 52% by 2030 and be net-zero by 2050
- Be actionable, ambitious, and achievable
- Be informed by data about largest growing/declining emission sources
- Influence selection and design of measures
- Include near-term (e.g., 2030-2035) and long-term economy wide goals (e.g. 2050)



DFW AQIP-CCAP Targets/Goals



PCAP Measures and CCAP Requirements

A measure is a policy, project or program that is used to reduce GHG emissions

Measures should be specific enough to develop milestones, cost, authority to implement

PCAP measures can be changed or removed from CCAP

New measures can be added to the CCAP

Sector	Number of Measures in PCAP
Transportation	13
Energy	6
Water, Wastewater, Watershed Mgmt	9
Materials Management (Solid Waste)	6
Agriculture, Forestry, and Land Use	5
Cross-Sector	5

CCAP Measure Requirements

Measure description

Quantified GHG and criteria pollutant reductions (**can be aligned with near and long-term targets**)

Key implementing agency or agencies

Implementation schedule and milestones

Expected geographic location

Authority to implement or milestones for obtaining authority

Identification of funding sources and **cost**

Metrics for tracking progress



Next Steps in DFW AQIP

3 Update Measures, Identify Funding, Identify Authority to Implement

1
Finalize 2022
GHG EI – Soon!

2
Develop Business
as Usual
Projections –
Spring 2025

4
Collaborate with
Stakeholders to
Develop GHG
Targets/Goals –
Summer 2025

5
Complete
Benefits Analysis,
Workforce
Analysis, and Post
Draft Plan – Fall
2025



DALLAS-FORT WORTH AIR QUALITY IMPROVEMENT PLAN

Funded through the Environmental Protection Agency's Climate Pollution Reduction Grants

Go to www.publicinput.com/dfwAQIP for more information!

Email us at dfwaqip@publicinput.com to provide any feedback.





Questions and Comments

Upcoming NCTCOG Activities

Overcoming Water Affordability Challenges with
Customer Assistance Programs – April 10, 2025 (Virtual)
Registration coming soon!

Water Resources Council – April 16, 2025 (In-person)
[Add to Calendar](#)

Connect with
NCTCOG E & D
Happenings!

Environment and Development Events Webpage:
www.nctcog.org/envir/events

Subscribe to E & D Email Lists:
www.nctcog.org/envir/mail

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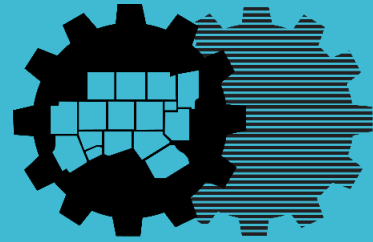
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Thank you for attending!

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