Public Works Council Meeting

May 16, 2024



1. Welcome, Introductions, & Roll Call

The meeting agenda, presentation, and any handouts are located on the Public Works Council webpage: https://www.nctcog.org/envir/committees/public-works-council



Please mute your line



Please use the chat function to add your name and organization for attendance



Action Items



2. Meeting Summary

The February 15, 2024 meeting summary is available for review: https://www.nctcog.org/getattachment/8a0f0bb0-e575-40fd-867c-8275c64df25b/PWC_DraftMeetingSummary_2024_02-8275c64df

The Public Works Council will vote to approve the summary



Discussion Items



3. UTA Public Works Recruitment and Retention Plan

Presented by:

UTA Faculty Advisor - Dr. Kevin Carr UTA Students - Kylie Sosa, Daniela Pedraja, Tiffany Melkoski, and Madison Dalton







The Team



Madison Dalton

Management



Tiffany Melkoski Management / Marketing



Kevin Carr, PhD
Clinical Assistant Professor
University of Texas at Arlington



Daniela Pedraja Economics

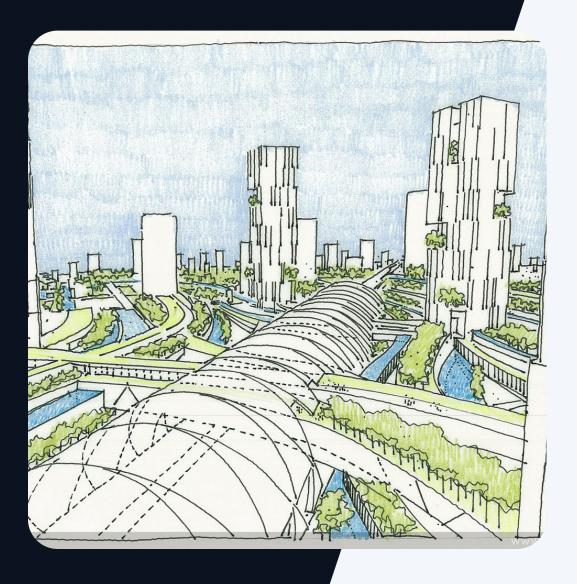


Kylie Sosa
Communications

Scope of Work



Develop an innovative outreach strategy for recruitment focused on reaching the next generation to address current and future workforce gaps in technical and field positions within public works. Design outreach with a sustainable marketing campaign to raise awareness about public works careers among students at high schools, technical colleges, and community colleges. Alongside traditional marketing best practices, students will consider incorporating user experience, user interface, video, virtual reality, augmented reality, marketing, and/or technology for effective outreach and high engagement with potential candidates interested in these fields of work.



Agenda

- Our Team
- Scope of Work
- Survey
- Paper Campaign

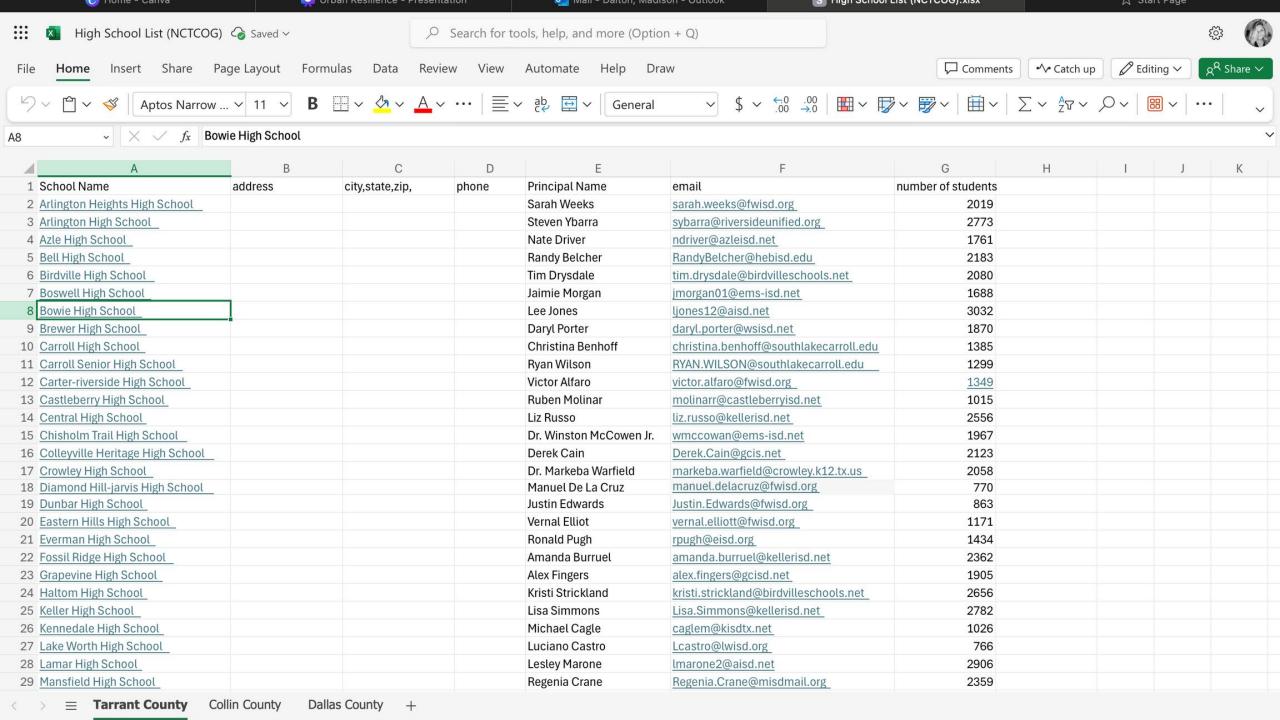
- Commercial Campaign
- Virtual Reality
- Q&A

Student Survey

Upon receiving feedback from the high school students, we can:

- Better understand our target demographic.
- Analyze survey results to understand trends.
- Create engaging content on students' preferred social media platform(s).
- Publicize benefits of these careers with topics that most engage and attract students.

What are your top 3 requirements for * employment?	
Your answer	
Has your school provided information * about possible career opportunities in public works?	
yes	
O no	
Are you aware of Public Work * opportunities?	
O yes	
no North Central Texas	





How will we keep the students engaged?







Print Ad Campaign

- QR Code
- Printed pamphlets highlighting career opportunities and standout employees
- Super Bowl ad



Hear Their Stories



[Insert Name Here]
started off with a career in
water maintenance. He
was able to climb up the
ranks and find a career in
management while
serving on the North
Central Texas Council of
Governments!

Join Public Works Today!

Field Availabilities

Engineering
Street
Transportation
Internships
Workforce
Development
Electrical
Water Maintenance
Project Management
Public Works





Ad Campaign

- Fully customizable to each city based on need by adding or taking out segments
- Can be done as an "musketeer" or individual campaign
 - If done together can share the expenses

























Our Community, Our Work

Become a partner in your community today, ask us how!





360 Immersive Virtual Reality





Questions?

Thank you for the opportunity to serve.





4. Bridge Asset Condition Improvement through Logical and Cost-Effective Intervention

Presented by:

Dr. Nur Yazdani, Professor, Department of Civil Engineering, UTA



NCTCOG Bridge Asset Condition Maintenance and Improvement through Logical and Cost-Effective Intervention

Public Works Meeting: May 16, 2024

Nur Yazdani, Ph.D. P.E.

Professor, Department of Civil Engineering

Naima Zenika

Graduate Assistant, Department of Civil Engineering





Outline

- Project Tasks
- Prevalent Defects in "Fair" Bridges
- Prevalent Defects in "Poor" Bridges
- Maintenance Actions for Repair
- Cost Analysis
- Benefit-Cost Analysis Tool

Good: NBI rating 7-9

Fair: NBI rating 5-6

Poor: NBI rating 1-4

Project Task Flowchart

Select 109 bridges in DFW Metroplex

Bridge Samples

Good: 37

Fair: 42

Poor: 30

Collect inspection reports from TxDOT AssetWise

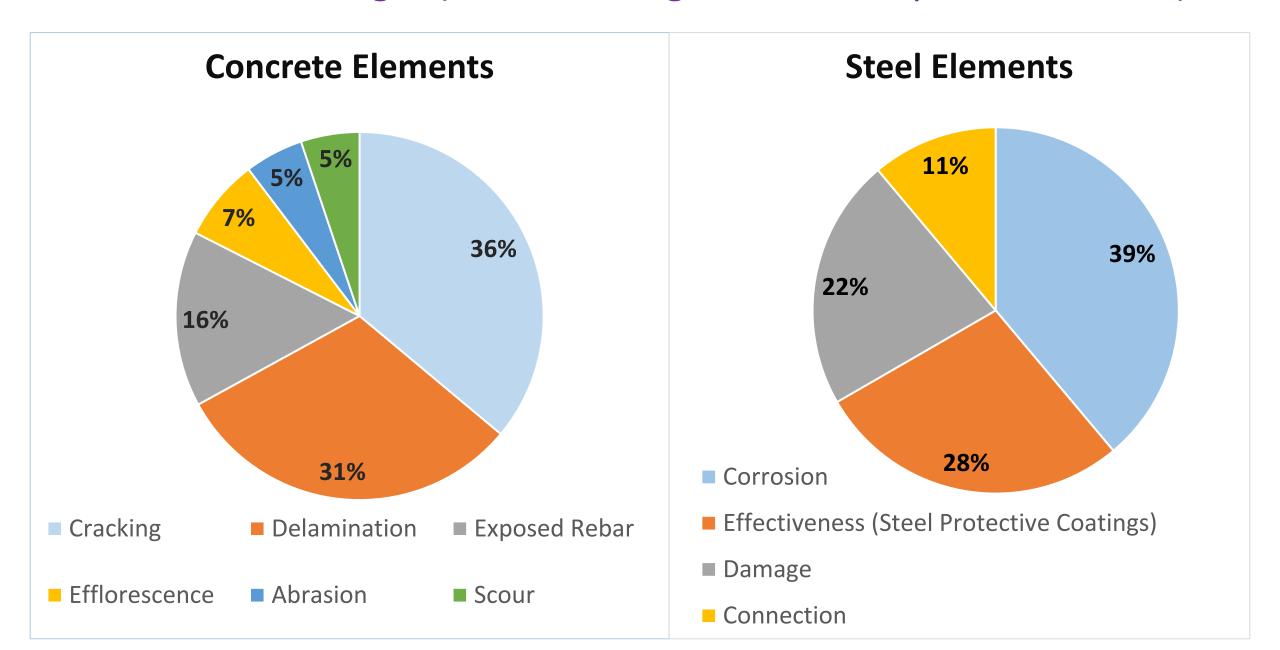
Benefit-Cost Analysis

Suggest most feasible maintenance/repair actions as per TxDOT Average Bid Estimates

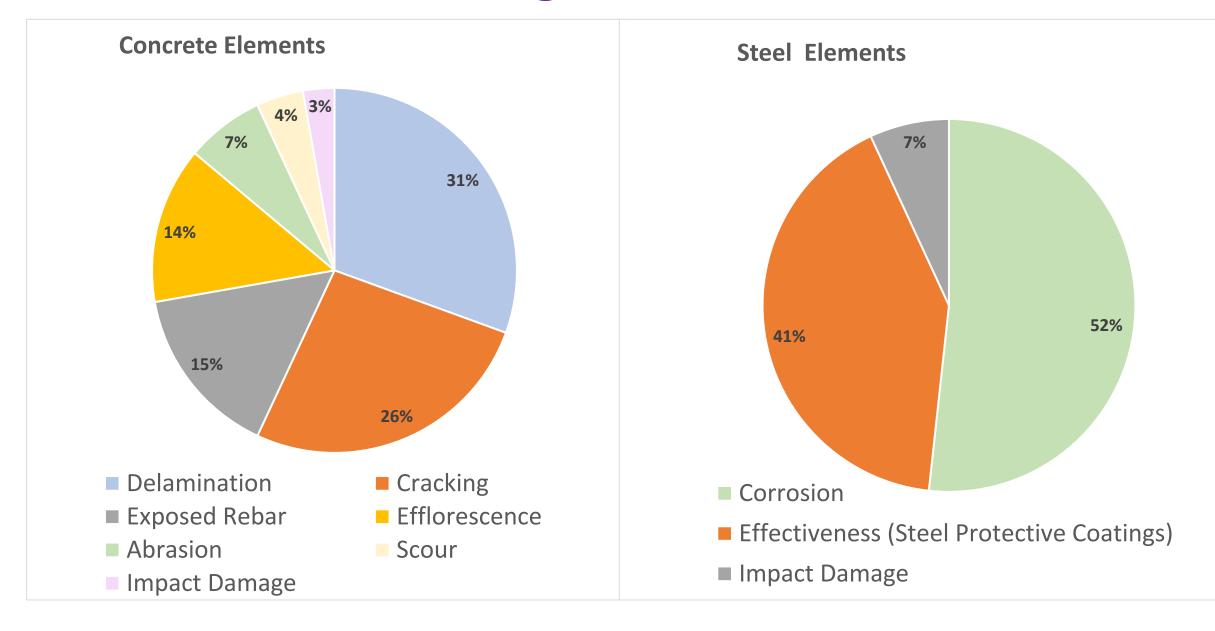
Categorize the most prevalent defects from the inspection reports

Develop user-friendly tool for cost-effective intervention

Defects in Fair Bridges (AASHTO Bridge Element Inspection Manual)



Defects in Poor Bridges



Defects from Inspection Reports













Cracking of a Fair Bridge Deck

Bridge ID: 180570000911196

- 2017 inspection report
 - Deck riding surface had cracks (~1/4" wide) along repairs.
 - Several cracks in deck soffit.
 - Deck component rating Poor.
- 2020 inspection report
 - Deck rating was still 4.
 - Had minor to moderate transverse and block cracking.
 - Most extensive in spans 5 and 6: some cracks spaced as close as 12 in.
 - Recommendation: replace deck.

Average Low Bid Unit Price for Cracking

Condition state	Defects	From TxDOT Concrete Repair Manual	Feasible Intervention From TxDOT	Bid Item No	From TxDOT Average Low Bid Estimates	Units	Avg. Bid Price \$
1	Cracking	Insignificant crack	Rout And Seal	7806004	Concrete crack repair(discrete, rout and seal methods)	LF	99
2	Cracking	Insignificant crack	Surface Seal	7806010	Concrete crack repair (discrete, surface seal methods)	LF	118
3	Cracking	Unsealed crack	Epoxy Injection	7806002	Concrete crack repair (discrete, inject methods)	LF	131
4	Cracking	Moderate Cracking	Gravity Fed Sealant	7806001	Concrete crack repair (discrete, gravity methods)	LF	52

Source: Workbook: Bid Item Average Cost,

Example: Cost of Intervention for Cracking

Bridge ID: 091-022200017105017 (Fair)

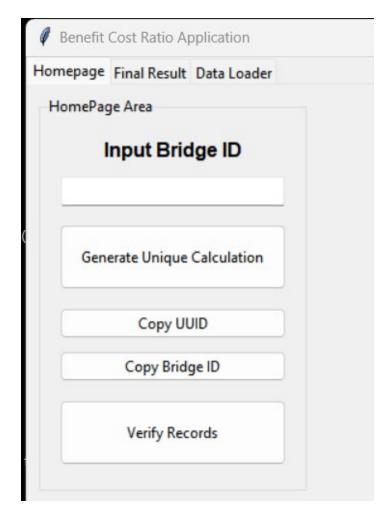
	Total Quantity	Units	CS1	CS2	CS3	CS4
Reinforced Concrete Abutment	106		96	10	0	0
Delamination/Spall/Patch ed Area	2	ft.	0	2	0	0
Cracking (RC and Other)	8		0	8	0	0

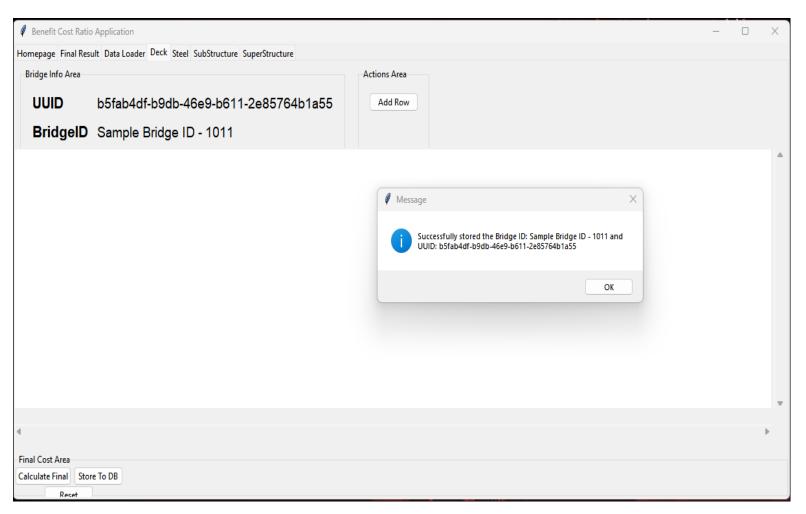
Cost for feasible solution to fix cracking (per Linear Foot)

Condition State	Defects	Feasible Intervention from TxDOT	ervention from Item No		Units	Avg. Bid (\$)
2	Cracking	Epoxy Injection	7806002	Concrete Crack repair (Discrete, Inject methods)	LF	131.67

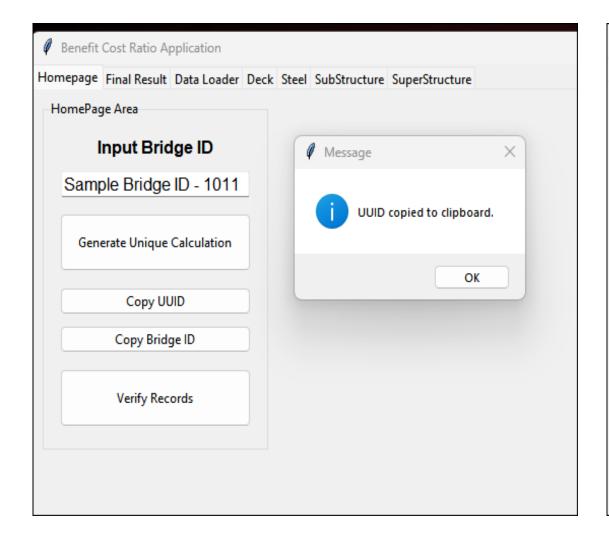
Total cost to fix cracking= \$131.67 x 8 = \$ 1053

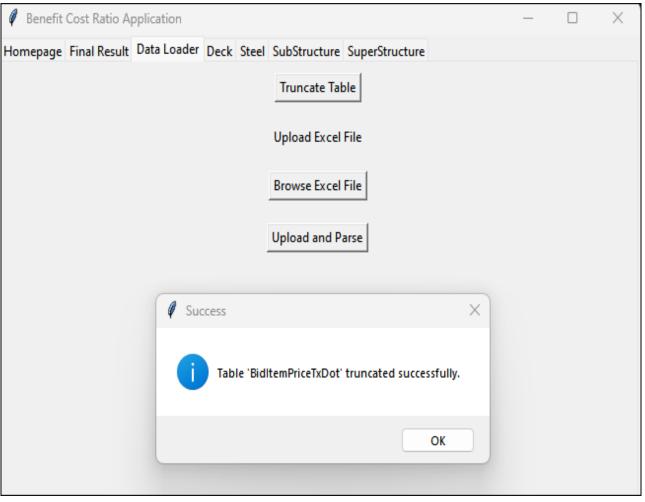
Benefit-Cost Analysis Tool (Benefits: Travel time saving, vehicle operating cost, environmental benefit, safety)



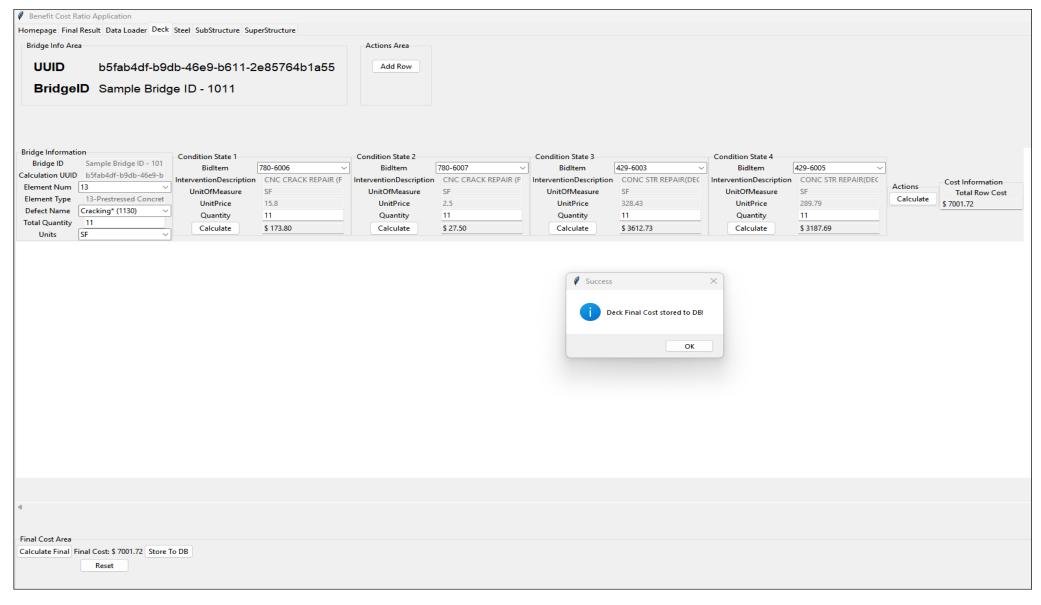


Benefit-Cost Analysis Tool





Element Inspection Data Input



Final Cost Calculation Tab

		5 10			
JUID Area		Final Costs Area Bridge ID Elements	Final Cost	Total Maintenance Cost	
	UUID		\$7,001.72	\$7,001.72	
		Superstructure			
e9-b61	1-2e85764b1a55		\$0.00		
D-4-:	F1 C	Substructure		_	
Ketri	eve Final Cost		Calculate Total		
ADT_TRk* Business purpose ADT Emission Costs	\$1.06 \$7.76	ADT w/o TRK \$ Value of Travel Time Saving (VTTS)/Day Total benefit/day	\$9.00 \$98.37 \$284.99	Personal purpose ADT Vehicle operating cost/ Day Total benefit/ year	\$7.94 \$178.86 \$101456.30
Maintenance cost	7001.72	BCR	14.49	Calculate BCR	
	Repopulate	Clear All Fiel	ds		
				Calculate Fields	

Project Extension Ideas

Frequency of Preventative Maintenance

- Develop a preventive maintenance schedule based on the predictive models.
- Recommendations for types and scheduling of periodic inspections, maintenance, and assessment to prevent or delay the progression of defects.

Implementation of social/environmental justice as a benefit

• Consider environmental justice in the decision process, minimize displacing marginalized communities, address pollution disparities, and encourage community engagement.

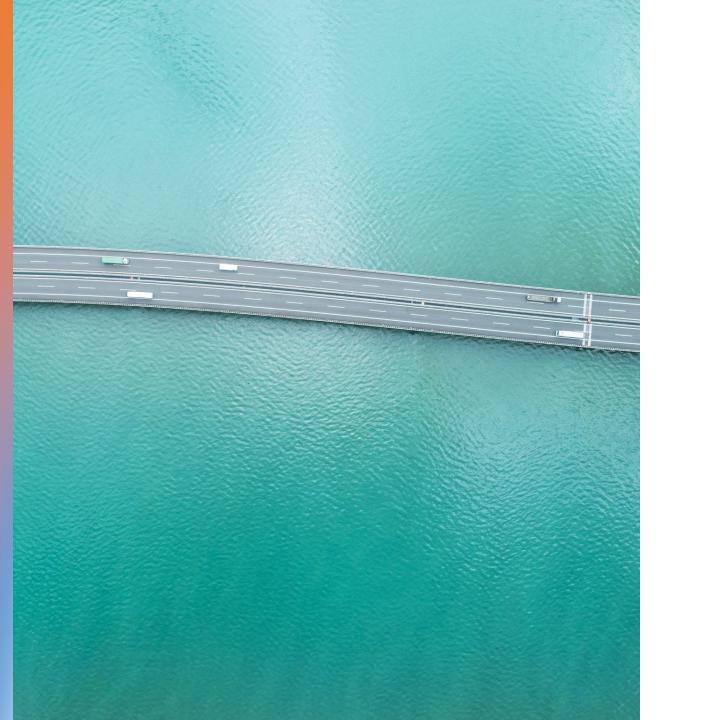
Project Extension Ideas

Priority setting of bridges for rehabilitation

• Develop a prioritization framework considering the vulnerability of each bridge to climate-triggered extreme events, the consequences of failure, and the importance in the transportation network.

Comprehensive defect list and intervention strategies

- Compile a comprehensive list of common bridge defects based on historical data and expert knowledge.
- Identify effective intervention strategies for each type of defect, including repair methods and preventive measures.



THANK YOU

5. Promotion of TXShare's Pavement Analysis Contract

Presented by:

Diane Palmer-Boeck, NCTCOG's TXShare





The TXShare Cooperative Purchasing Program is the direct outcome of municipal governments partnering together to identify common needs for public entities across and beyond the state of Texas.



No longer must you shop cooperative programs and hope that you'll find a suitable solution to your purchasing needs, come to TXShare and let us build it, instead!



Various TXShare Opportunities

- Pavement Analysis Services
- Regional Early Flood Warning and Detection
- Water Utility Materials and Parts

SURVEY

- Street (Concrete/Asphalt) and Sidewalk Repairs
- Pump & Motor Maintenance
- Street Striping
- Street Panel Lifting
- Street Crack Sealing

- Article Collaboration
 - TML: TXShare Leads Infrastructure Enhancement with Awarded Pavement Analysis Contracts
- Joint Training and Workshops
 - Newly Awarded Contracts
 - Potential RFP's
 - Roundtable Discussions
- Shared Resources Platform
 - Potential Marketplace to your contracting needs
- Innovation Labs
 - Through research and possible RFI's
 - Provide an environment to learn/experiment with new and emerging technologies

WWW.TXSHARE.ORG 51

6. Regional Public Works Draft FY25 Work Program

Draft FY25 Work Program

Continuation of:

- General regional public works activities
- Public Works Construction Standards
- Sustainable Public Rights of Way
- integrated Stormwater Management program
- Hydrologic and flooding technical assistance
- Regional training and presentation opportunities



6. Regional Public Works Draft FY25 Work Program

Additional program activities for FY25:

- Labor force and career paths
- TXShare contracts
- Partnerships to explore training opportunities
- Other program activities?





Information Items



Standing Seat	FY24 Representative
Arlington	Chris Funches
Carrollton	Jody Byerly
Collin County	Mark Hines
Dallas	Derek White
Dallas County	Cecelia Rutherford
Denton	Brett Bourgeois
Denton County	Stephen Belknap



Standing Seat	FY24 Representative
Fort Worth	Juan Cadena
Frisco	David Chacon (replaced by Dane Stovall)
Garland	Mike Rozelle
Irving	Walter Thomas
McKinney	Paul Sparkman
Plano	Carrie Jones
Richardson	Jim Dulac



Subregion Seat	FY24 Representative
Denton/Lake Cities	Jeffrey McSpedden, Hickory Creek
DFW North	Clayton Riggs, Flower Mound
East	Scott Monaghan, Fate
Mid-Cities	Caroline Waggoner, North Richland Hills
Northeast	Andrew Figueroa, Celina
Northeast Dallas	Ronnie O'Brien, Rowlett
Northwest	Dillon Luna, Northlake
Southeast Dallas	Brooks Williams, Ferris
Southwest	Jeremy Hutt, Cleburne
Southwest Dallas	Robert Woodbury, Cedar Hill
West	Matt Leppla, Weatherford



Private Seat	FY24 Representative
Texas Council of Engineering Labs/Geoprofessionals Serving Texas	Lyndon Cox, Terracon Consultants



- Allen
- Arlington
- Aubrey
- Azle
- Bedford
- Benbrook
- Burleson
- Carrollton
- Cedar Hill
- Celeste
- Cleburne
- Colleyville
- Coppell
- Crandall
- Dallas
- Fairview
- Ferris
- Fort Worth
- Garland
- Godley
- Grand Prairie

- Haltom City
- Hudson Oaks
- Hurst
- Irving
- Joshua
- Keller
- Kennedale
- Lewisville
- Little Elm
- Mansfield
- McKinney
- Mesquite
- Midlothian
- Murphy
- North Richland Hills
- Northlake
- Plano
- Ponder
- Princeton
- Red Oak
- Rhome

- Richardson
- River Oaks
- Rockwall
- Royse City
- Seagoville
- Southlake
- University Park
- Watauga
- Waxahachie
- Weatherford
- Wilmer
- Wylie
- Collin County
- Denton County
- Ellis County
- Tarrant County

Thank you to our costsharing members! The Public Works Work Program would not be possible without your contributions!

106% of budget received

Donations

TexasMaterials



North Central Texas
Council of Governments
Environment & Development

Public Works Roundup

- 25th YEAR!!!
- August 22
- Hurst Conference Center
- Call for Sponsors Open
- Call for Presentations Open
- Registration Opens in June







Open to 1-2 staff per participating entity

First-come, first-served

Email with registration info went to current participants





Cost Share Review Subcommittee

- Met virtually May 13
- Volunteers:
 - Michael Owen, Fort Worth
 - Robert Woodbury, Cedar Hill
 - Dillon Luna, Northlake
 - Cecelia Rutherford, Dallas County
 - Sam Davis, TexasMaterials





Sustainable Public Rights of Way Subcommittee





iSWM Subcommittee

- Next iSWM Meeting: July 24, 2024
 - 1:30 pm, in-person at NCTCOG Offices
 - Agenda items include task selection for FY25 Work Program
- Upcoming Events
 - iSWM Training on Development Submittal & Review
 - iSWM Community Workshop
- Upcoming Deliverables
 - iSWM Presentation at TSPE Preston Trail Chapter June 20, 2024
 - Research on Cumulative Impacts of Small Footprint Developments
 - Memorandum on feeback from Development Training





Other Program Activities



9. Other Program Activities

Update on State Flood Planning Process

Draft 2024 State Flood Plan posted for public comment:

https://www.twdb.texas.gov/flood/planning/sfp/doc/Draft%202024 %20State%20Flood%20Plan_Volume%20l.pdf

Public Meeting scheduled for 10 a.m. May 30

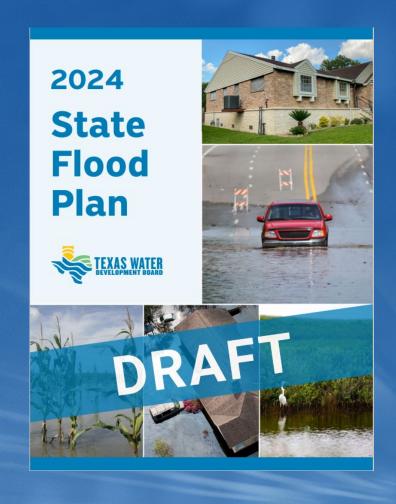
Comment period ends June 17

In person: Austin at the Stephen F. Austin Building, 1700 North Congress Avenue, Room 170 in Austin

Virtual: GoToWebinar

Stakeholder Comments: online form

Questions: statefloodplan@twdb.texas.gov





9. Other Program Activities

Cooperative Technical	Partnership Program
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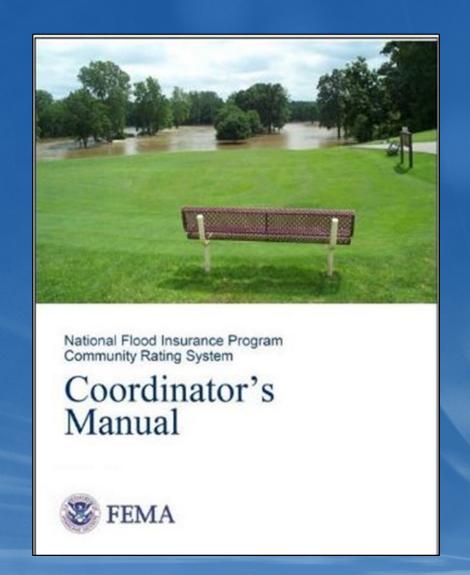
East Fork Activities	Start Date	Expected End Date	% Complete
Terrain Data Capture	2/2022	6/2022	99%
Field Surveys	7/2022	11/2022	98%
Hydrologic Data	8/2022	9/2023	99%
Hydraulic Data	8/2022	9/2023	99%
Roodplain Mapping	2/2023	1/2024	26%
Rood Risk Review Meeting	7/2023	5/2024	99%
Rood Resilience Meeting	3/2024	7/2024	0%
Rood Risk Products	1/2024	6/2024	0%
Total Project Percent Cor	mplete		72%

Hbg Branch Activities	Start Date	Expected End Date	% Complete
Terrain Data Capture	4/2022	5/2022	97%
Field Surveys	5/2022	8/2023	96%
Hydrologic Data	8/2022	9/2023	99%
Hydraulic Data	8/2022	9/2023	99%
Roodplain Mapping	7/2023	1/2024	88%
Rood Risk Review Meeting	1/2024	5/2024	99%
Rood Resilience Meeting	3/2024	7/2024	0%
Rood Risk Products	1/2024	6/2024	1%
Total Project Percent Co	mplete		88%



9. Other Program Activities Community Rating System (CRS) Users Group:

- Voluntary incentive program that exceeds minimum NFIP requirements
- NCT Users Group meets to collaborate, receive training, support one another...
- Identifying topics and dates for the next meeting
- Thoughts and ideas?





Collect & Analyze Data Involvement Assess Hydrology & Hydraulics & Scenarios Identify Transportation Infrastructure Impacts & Develop Decision-Making Tools Stakeholder **Conduct Environmental Planning** Evaluate a Real-Time Flood Warning System

Support & Empower Communities

Integrating Transportation and Stormwater Infrastructure

- Technical Advisory Group meetings
- Site visits and windshield tours
- Water rights and green stormwater infrastructure webinar
- Developer advisory group

Website: www.nctcog.org/tsi

Email: tsi@nctcog.org

Document



9. Other Program Activities

Public Works Emergency Response Team

Update provided by: Clay Riggs, PWERT Chairperson



PWERT

	PWERT EQUIPMENT CHE LOCATIONS	Allen	Balch Springs	Carrollton	Colleyville	Denton	DeSoto	Ellis County	Farmers Branch	Flower Mound	Garland	Grand Prairie	Haltom City	Kaufman County	Lancaster	McKinney	Plano	Princeton	Richardson	Richland Hills	Roanoke	Rowlett	Tarrant County	Weatherford
Light Tower	Generac MLT4060KV LED									1														
Lig Tov	Generac MLT4080	1		1				1	1			1	1		1					1		1	1	1
Message Board	VER-MAC PCMS-1500 Pro (Full-Size)																				1*			
Mes	SolarTech IRT-112- 1548 (Mid-Size)	1	1			1*		1	1	1	1	1	1	1	1			1*	1	1		1	1	1
Dewatering Pump	Godwin CD225M (8")							1												1				
Dewal Pur	Godwin CD250M (10")		1																					
	O Pop-Up																					4		
	Generator :XG10000E	2		2				2	2			2	2		2					2		2	2	2
General Response Trailer		1		1	1		1			1												1		1
Traffic T												1		1		1	1							
	Interdiction Trailer B3X units)																					1*		
Radio	DOX UIII(S)	6							5														-	
Vest		30		50				30	30			30	30		30					30	55	30	-	50
	al but not ust tropost and	- 00		00				00	00			00	50		00						DWE			30

^{*}Received, but not yet transferred or deployable

TO REQUEST THESE RESOURCES FOR AN EMERGENCY, CALL THE PWERT HOT PHONE (469-278-5921) OR CURRENT PWERT LEADERSHIP. PLEASE DO NOT DIRECTLY CONTACT THE CACHE JURISDICTION.

LEADERSHIP:

Chair – Clay Riggs Vice Chair – Ed Balderas Secretary – Travis Houston NCTCOG Liaison – Amanda Everly

(Updated 5-10-24)















PWERT

Start back up Quarterly Meeting:

- January
- April
- July
- October
- Maybe second Thursday of each month

Expect emails requesting contact information to be updated.

9. Other Program Activities

Texas Chapter of American Public Works Association

Update provided by: Katie Barron, North Central Branch President ('23-'24)



AMERICAN PUBLIC WORKS ASSOCIATION (APWA) TEXAS CHAPTER — NORTH CENTRAL BRANCH





UPCOMING LOCAL EVENTS

- May 29th: North Central Branch Social Event—Rangers Game!
 - Texas Rangers vs. Arizona Diamondbacks
 - Afternoon game, first pitch at 1:30pm
 - Dollar Hotdog Day!
 - > \$30 tickets

Registration







UPCOMING LOCAL EVENTS

- June 18th: North Central Branch Membership Lunch
 - > 11:30am to 1:00pm
 - Lewisville City Hall
 - Presentation on Integrated Pavement Restoration
 - ► ELECTION OF NEXT YEAR'S BRANCH OFFICERS/DIRECTORS
 - Lunch provided with advance \$20 registration (\$25 at-the-door)

Registration coming soon



UPCOMING LOCAL EVENTS

- May 19 May 25, 2024: National Public Works Week
- June 3 June 5, 2024: TX-APWA Annual Conference
 - Taking place in: San Antonio, TX
 - Registration is open!
 - https://txapwa.com/

Registration for conference







MORE INFORMATION

https://www.apwa.org

https://nct-apwa.com

Katie Barron, P.E., ENV SP North Central Branch President ('23-'24) kbarron@uptexas.org



NCT Branch Website



10. Future Agenda Items

Council Members and NCTCOG staff may suggest future agenda items



10. Roundtable Discussion





11. Next Meeting

- Next PWC Meeting: August 15, 2024 at 9:30 a.m. (in person)
- More information:
 https://www.nctcog.org/envir/committees/public-works-council



Contact & Connect

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817.608.2360

Kate Zielke
Environment & Development Program Supervisor
North Central Texas Council of Governments
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youtube.com/user/nctcoged



