

SUMMARY

TSI Technical Advisory Group Meeting
Friday, December 5, 2025
10:30 AM – 12:00 PM, Virtual Meeting via Microsoft Teams



https://teams.microsoft.com/l/meetup-join/19%3ameeting_OTQzNjU4NGltZTdiZS00YmlwLWlxZDMtMDdkYmlwYjg3ZmQ1%40thead.v2/0?context=%7b%22Tid%22%3a%222f5e7ebc-22b0-4fbe-934c-aabddb4e29b1%22%2c%22Oid%22%3a%22108abda-7ad1-4d0a-bb4a-daf8dca047a2%22%7d

Meeting ID: 283 504 801 831 0

Passcode: yR3ji38q

Dial in by phone

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Phone conference ID: 864 202 421#

I. Update on Project Progress

Jeffrey Neal (NCTCOG) opened the meeting by noting this was the first TAG session since May and provided an overview of recent accomplishments. Key progress included the fourth round of stakeholder subarea meetings (September–October), a successful county government workshop in July, and multiple site visits to communities such as Aubrey, Argyle, Benbrook, Celina, Flower Mound, and Forest Hill. A major milestone was the first multi-community meeting in southeastern Tarrant County, where small towns collaborated with Fort Worth and Tarrant County to address upstream/downstream flooding and transportation issues. Neal emphasized that technical tasks—such as hydrology and hydraulics (H&H) modeling—are forming the foundation for identifying mitigation projects and alternatives.

II. Impacts of Valley Storage Loss

Landon Erickson (USACE) presented on valley storage, which refers to the volume of water stored in a floodplain during a flood. He explained that development within floodway fringes reduces this storage, worsening flood hazards. Using a case study from Mary's Creek in Benbrook, Erickson showed that encroachment could increase peak flows by 20–30%, raise 100-year flood depths by over a foot, and cut flood response times nearly in half. Homes in this area already fall under FEMA's "extreme hazard" category, facing potential flood depths of nine feet and velocities of 10 feet per second during major events. Transportation infrastructure is also impacted, with deeper and more frequent roadway overtopping and higher maintenance costs. Erickson stressed that valley storage loss is preventable through strategies such as prohibiting development in floodplains or adopting compensatory volume ordinances, citing Fort Worth's pending ordinance and the Corridor Development Certificate program as best practices.

III. Model Development Codes and Floodplain Ordinances

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integrating **Transportation**
& **Stormwater Infrastructure**

Erin Blackman with NCTCOG discussed efforts to compile a repository of codes and ordinances aimed at reducing flood risk through regulatory tools. These model codes will help communities integrate flood mitigation into land use, zoning, and subdivision regulations, promoting green stormwater infrastructure, nature-based solutions, and higher construction standards for flood-prone areas. Erin announced a hybrid workshop scheduled for late January to solicit stakeholder input and encouraged participants to share local examples via an online survey. She noted that Fort Worth’s proposed valley storage ordinance, expected to go before council on December 8, will be closely monitored as a benchmark.

IV. Watershed Modeling and Optimization

Matthew Lepinski (NCTCOG/ UTA) introduced the watershed optimization process, which uses hydrologic modeling to determine ideal storage locations and sizes to reduce projected 2070 flows to current levels. The methodology involves calculating future storage requirements, applying optimization algorithms, and analyzing feasible alternatives such as detention ponds or green infrastructure. Matt shared results from the Eagle Mountain pilot study, which estimated a need for approximately 6,200 acre-feet of storage to offset future runoff. Scenarios combining local on-stream detention and regional facilities demonstrated that optimization could mitigate nearly all anticipated flooding impacts. Jeff Neal expanded on the transportation component, describing how bridge and culvert locations serve as critical control points for flow management. Prioritization factors include scour-critical status, traffic volumes, functional classification, detour lengths, and historical significance. Neal emphasized the multi-purpose design concept—leveraging transportation structures for flood mitigation and environmental benefits—which improves project cost-benefit ratios and funding eligibility.

V. Flood Warning System Evaluation

Matt Lepinski outlined plans to develop a scalable, transferable roadmap for enhancing community alert capabilities. This effort includes compiling memos on regional characteristics, existing capacity, and gap analysis to form a comprehensive master plan for the TSI footprint. The roadmap will help communities strengthen or establish flood warning systems using best practices and existing resources. Upcoming events include a January pre-workshop and a February stakeholder workshop to present findings and gather feedback. The evaluation will also integrate with transportation initiatives, such as flooded-road detection projects, to improve real-time alerts.

VI. Outreach to TxDOT/Local Governments

a. Community Site Visits: Since May, the team visited 24 communities across the West and North study areas, gathering input on local flood challenges and infrastructure needs.

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b. County Government Workshop: Held in July, this workshop featured presentations on flood mitigation strategies and was considered highly successful. Resources and recordings are available on the TSI website.

c. Stakeholder Subarea Meetings – Round 4: Conducted in September–October, these meetings provided updates on technical progress and gathered feedback on proposed strategies.

d. Meeting with TxDOT: Jeff Neal reported productive discussions with TxDOT at both local and statewide levels, aligning TSI efforts with TxDOT’s Transportation Resilience Plan. Collaboration aims to integrate flood mitigation into transportation planning and leverage funding opportunities.

VII. Next Steps and Upcoming Events

The team will continue refining technical outputs, including optimization models, policy inventories, and flood warning system plans. Key upcoming events include:

- Model Development Codes Workshop: Late January (hybrid format).
- Flood Warning System Pre-Workshop: January.
- Flood Warning System Stakeholder Workshop: February 17. Jeff Neal emphasized that the next several months are critical for finalizing strategies, securing stakeholder buy-in, and preparing for implementation. Participants were encouraged to stay engaged and share feedback to ensure successful outcomes.