

**North Central Texas Council of Governments (NCTCOG)
Flooded Road Information Systems Project
Request for Proposals**

Questions and Responses

Question #1: Can you clarify why pricing is being requested in this scenario? Based on our understanding, this still falls under engineering services, which would typically preclude pricing discussions.

Response: NCTCOG has reviewed and evaluated the scope of work and does not believe there are engineering elements. Because of our partnership with the engineering community, NCTCOG has decided to update the procurement to be a qualifications-based procurement. Therefore, NCTCOG is no longer requesting a pricing proposal as part of a proposer's submission.

Question #2: What historical data is available (flooding reports/complaints, precip, soils)?

Response: It is the responsibility of the Consultant as part of Task 2A to determine the availability of data and to source this information.

Question #3: What real-time data is available, through sensors, etc.; what is the coverage of these data inputs?

Response: NCTCOG's Transportation Department will work with NCTCOG's Environment & Development Department to supply available sensor data, if available.

Question #4: Data architecture of real-time/sensors?

Response: Any data that NCTCOG is aware of will be included, including real-time sensors

Question #5: What is the goal/target to predict

- a. Rainfall?
- b. Roads flooding?
- c. Both?

Response: Both. NCTCOG is laser focused on safety. NCTCOG is interested in the mechanics of safety and the interface of rainfall on transportation facilities.

Question #6: Can the proposal due date be extended by a few weeks?

Response: Yes. NCTCOG has extended the proposal's due date by three weeks to March 21, 2025. An addendum to the RFP Document has been posted on the website.

Question #7: After the two-year period of this project, is this expected to be an ongoing funded and supported system?

Response: It is expected this project will continue after its creation and run as a flood predictor for the region for the foreseeable future. The method and funding for this has not been identified.

Question #8: Is this system intended to be a replacement for flood warning system by individual COG members or a separate independent system from those existing systems?

Response: No, NCTCOG does not intend to eliminate any flood warning systems.

Question #9: How does the scope of this effort relate to the NCTCOG Transportation and Stormwater Infrastructure (TSI) Hydrologic & Hydraulic Assessment project?

Response: This program is separate from the TSI study due to the specific nature of the flood warning system and the area of assessment. It is anticipated that the TSI study would use these results and/or data for their efforts.

Question #10: Does the scope of this project include developing hydrologic and hydraulic modeling software?

Response: Not necessarily. The Consultant should include whatever is needed to accomplish this project if it is required as part of the engineering elements.

Question #11: Task2D refers to a "... feedback comparison system ..." and the ability "... to recalibrate the software program model. Each model revision will provide greater accuracy for future events." Does NCTCOG require the consultant to recalibrate the software within the duration of this contract or design the software, so it is capable of automatic recalibration in the future?

Response: The latter. Methodology would require some ability to forecast to see if the observations are correct (recalibration).

Question #12: Does NCTCOG require software to utilize Artificial Intelligence and/or Machine Learning methods?

Response: No, artificial intelligence was listed as an example.

Question #13: Does NCTCOG expect the consultant to develop new software or use publicly available software?

Response: Either. NCTCOG does not have a preference.

Question #14: Can commercially available proprietary software be used?

Response: Yes, it is up to the Consultant to propose how to conduct the study.

Question #15: Does NCTCOG require ownership of the software source code?

Response: No, NCTCOG does not require ownership.

Question #16: What is the source of funding for this project?

Response: The source of the funding is the Surface Transportation Block Grant Program. This project was identified in NCTCOG's 2024 Strategic Transportation Funding Program.

Question #17: Does NCTCOG believe that the scope of this solicitation does not qualify as engineering services requiring a Qualifications Based Selection (QBS)?

Response: Please see response to Question #1.

Question #18: Does NCTCOG intend to operate and maintain the software after completion of this project? And does NCTCOG anticipate future funding for operations and maintenance of the software?

Response: Yes, NCTCOG intends to use this information after completion of this project. NCTCOG is not intending for there to be traditional Phase 2 consultant services after this phase. NCTCOG understands there may be some licensing arrangements for NCTCOG to continue after the initial phase.

Question #19: From previous contracts with NCTCOG, your terms and conditions are non-negotiable. Please confirm that this is still the case.

Response: NCTCOG may accept some modifications to the contract language, but changes would be limited. Consultants should include proposed adjustments in their responses.

Question #20: What scale or resolution of roadway flooding from major highways to residential streets does the NCTCOG require for the flooded roads information system to provide?

Response: These would be determined with Type 1 or Type 2 errors. NCTCOG requests weighted emphasis towards a higher volume street or a street that floods more regularly. NCTCOG would rather the Consultant be more cautious in closing a street than not and the application send people into flooded waters.

Question #21: Task 2A: Does NCTCOG have any existing data ready/expected for use or is this fully for the consultant to find?

Response: NCTCOG has some data it can provide. NCTCOG will inventory what is available and provide that but without knowing how work will be conducted it is hard to know what all is needed.

Question #22: Task 2B: What is the anticipated lead-time for warnings during real-time conditions monitoring?

Response: See the answer to Question #20. NCTCOG wishes to influence navigational data.

Question #23: Will the software system also feed information to the TxDOT Lonestar system or systems that feed into the TxDOT Drive Texas website?"

Response: Possibly. NCTCOG does not want to predetermine who would accept data until it is known what the tool can predict.

Question #24: Can the public dissemination component leverage probabilistic information? For example, is it acceptable to communicate that "XX road is likely to be closed due to predicted conditions" or does the communication system require deterministic predictions?

Response: See Question #20. NCTCOG is asking the application to decide with deterministic predictions whether the road will be open/closed.

Question #25: Do you expect usage of any specific or existing flood models or other tools for use towards this software development?

Response: NCTCOG is not prescribing anything.

Question #26: In reference to the Disadvantaged Business requirement. Can you explain if this is a hard requirement or a good faith requirement?

Response: The Disadvantaged Business Enterprise requirement is a good-faith requirement. Prime Consultants should make sufficient good faith efforts to meet the goal. If the goal is not obtained, Prime Consultants will be asked to document adequate good faith efforts showing that it took all necessary and reasonable steps to achieve the DBE goal by their scope, intensity, and appropriateness to the objective. Additional information is available at 49 Code of Federal Regulations Part 26.

Question #27: Is there a directory of Disadvantaged Businesses?

Response: Yes. A list of Disadvantaged Business Enterprises is posted on the NCTCOG website.

Question #28: Will NCTCOG provide support for data collection, such as facilitating contact with existing data providers (if applicable)?

Response: Yes, NCTCOG believes this is its role and expects the Consultant will need its help in this area.

Question #29: Does NCTCOG have existing agreements with third-party data providers, such as weather services or transportation agencies, that the Consultant can leverage?

Response: NCTCOG does not have any agreements with weather services, but we do have agreements with other transportation agencies. NCTCOG will make all the information available that we can obtain.

Question #30: Will the Consultant be responsible for the cost of data acquisition, or will NCTCOG provide funding or access to required data sources?

Response: Yes. NCTCOG will help to give the Consultant information on what data is available. Please check NCTCOG's website.

Question #31: How will the collected data – real-time data access be managed after the contract ends?

Response: The product will be provided to NCTCOG. Depending on the product, there may be fees or license costs and NCTCOG will decide how to proceed based on the quality of the product received.

Question #32: What are the expectations for ongoing system maintenance and updates after the project is completed?

Response: Consultant assistance for a Phase 2 would not be supported. However, NCTCOG may be open to a license fee for access to data.

Question #33: Will NCTCOG define specific thresholds (e.g., flood depth, road closure criteria, or standing water levels) for triggering alerts in the system?

Response: No, NCTCOG is not establishing these thresholds. The thresholds would be determined during the project with NCTCOG and the Consultant.

Question #34: What level of access will NCTCOG have to the software source code and data models developed during the project?

Response: See response to Question #15.

Question #35: Are there any preferred data formats or integration requirements for external systems such as Waze, Google Maps, or 511DFW?

Response: NCTCOG does not have a preference.

Question #36: Will the Consultant be responsible for public outreach and training, or will NCTCOG handle awareness efforts regarding the new system?

Response: No.

Question #37: Will the Consultant need to ensure compliance with specific cybersecurity or data privacy regulations for handling flood risk and transportation data?

Response: Yes. NCTCOG has set agency provisions. Additionally, the Texas Department of Transportation (TxDOT) will have additional requirements but those are unknown at this time.

Question #38: What type of flooding should be covered by the flood warning system – pluvial, fluvial or both?

Response: Both, since either can cause roadway flooding.

Question #39: Should the software system be deployed within gauged watersheds only? Or do you require deployment in ungauged watersheds?

Response: No, the software system will also be deployed within ungauged watersheds. The fidelity of the system for gauged systems would not be robust enough.

Question #40: Does NCTCOG maintain any internal GIS portals, dashboards, or existing flood-detection platforms that need direct integration?

Response: No, none of these require direct integration.

Question #41: Are open-source GIS applications acceptable or is a commercial GIS solution preferred?

Response: Any software will be acceptable as long as it is compatible with GIS or Google Earth.

Question #42: Would the software program's flood results be shared with each city and county or would this be limited to within the NCTCOG GIS system?

Response: The results are to be publicly disseminated as a warning system and would be available to everyone from the public, including cities and counties.

Question #43: Do all counties within NCTCOG already have their own bespoke operational flood warning system in place?

Response: NCTCOG does not have this information, although many counties have a flood warning-type system.

Question #44: Is there a current master spatial file (i.e., vector layer) which represents all features / elements of the NCTCOG transportation network?

Response: There is no master file, but NCTCOG shares this data individually on their regional data portal: <https://www.nctcog.org/regional-data>.

Question #45: Does this network include data on bridge deck heights?

Response: No, this data does not include bridge deck heights.

Question #46: Who will be the end users of the Software? County Representatives? Engineers? Emergency management personnel?

Response: End users will include NCTCOG engineers and planners, with Emergency Preparedness and Environment & Development Departments also users of the software.

Question #47: The RFP references artificial intelligence programs. Does NCTCOG prefer a hydrology and hydraulics modeling approach which also leverages Artificial Intelligence and Machine Learning assuming this approach is calibrated, validated and demonstrates accuracy comparable to a solely physics-based H&H approach?

Response: Please see response to Question 12. If you do use Artificial Intelligence or Machine Learning, there are a set of requirements in the RFP.

Question #48: Task 2A requires maps of the aggregated data. Does NCTCOG expect these maps to be digital and/or dynamic and delivered into a GIS system or printed?

Response: NCTCOG has no preference.

Question #49: Does the NCTCOG have historic data on road closures and flood locations to validate against?

Response: NCTCOG does not possess this data.

Question #50: Does NCTCOG have historic data on high water marks from previous flood events?

Response: NCTCOG does not have this data.

Question #51: Does NCTCOG have historic Pin2flood pin locations available for validation?

Response: NCTCOG does not have this data.

Question #52: How will ground truth data about new flood events be collected? I.e., which roads are inundated?

Response: It is up to the Consultant to determine if ground truth data is needed and how to obtain it.

Question #53: Does this data gathering fall to the Consultant, or will local resources be used to gather the ground truth data and supply this to the Consultant?

Response: NCTCOG will provide all the available data it has access to, but the remainder of the data should be acquired by the Consultant.

Question #54: What current tools are used to disseminate warnings to first responders?

Response: Cities and counties are responsible for providing information to first responders.

Question #55: For task 2e. will the next version of 511DFW provide push notifications?

Response: If this tool is successful, NCTCOG would like to push notifications through 511DFW.

Question #56: For Task 2B. (real-time flood data), how frequently must updates occur? (e.g., every 5 minutes, 15 minutes, hourly)?

Response: The frequency would be determined by the Consultant based upon the methodology they use to gather the data and how they plan to use it in the program.

Question #57: Are there any defined IT security or privacy requirements for the application?

Response: Yes, please see response to Question 37.

Question #58: Is the solution required to be hosted on premises, or will a cloud hosted solution be acceptable?

Response: Either method is acceptable.

Question #59: For task 2D, what is the preferred method for reporting model accuracy?

Response: NCTCOG has no preferred method.

Question #60: What key performance indicators (KPIs) or success metrics will define a "successful" flood warning system?

Response: There are two goals for the system: 1) save human lives and 2) reduce the risk to first responders. Consultants also have additional goals from their industry. The consultant should provide those in their response.

Question #61: Is there a mechanism for extending the scope if additional funding becomes available?

Response: Proposers should not assume there is additional funding, except for a licensing arrangement, at the outset of this project.

Question #62: The RFP calls for an 18-24 month timeline. Are there any mandatory interim milestones or deliverables (e.g., pilot test at 12 months)?

Response: No, NCTCOG is not prescribing any specific items with specific timelines.

Question #63: The 511DFW system looks to be primarily a desktop system, is that accurate?

Response: The 511DFW system was recently updated and may now push to phones.

Question #64: There is a reference that this project is going through a Texas Department of Transportation (TxDOT) procurement? There was recently a state procurement for something similar. Is this connected?

Response: This project is not going through TxDOT procurement; however, NCTCOG's funding will be under an Agreement with TxDOT. TxDOT does not need to approve NCTCOG's procurement or consultant selection.

Question #65: Please explain Type 1 and Type 2 errors again.

Response: As an example, I am building a bridge. I can overbuild the bridge to make sure it does not collapse, or I can tighten the design to save money. For bridges, those are usually over built to err on the side of not having the bridge collapse versus than saving some money and the road collapse and risk human life.

In this project, the risk reduction would be indicating the rainfall to be greater and shutting down a network/roadway prematurely to not risk human life or first responder safety, than deciding not to because of uncertainty.

Question #66: Are these funds impacted by the Administration; federal funding issue/Executive Orders?

Response: There is always a possibility there will be some impact. However, these funds come to NCTCOG by formula. NCTCOG believes the Administration and Executive Orders are largely focused on discretionary grants.

Question #67: Has there been any collaboration with the National Weather Service?

Response: NCTCOG has not had collaboration with the National Weather Service at this point to maintain the neutrality of the system.