

OSDH Statewide Risk Assessment (SRA)

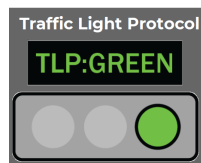
Anthony Degeare – Lead Planner

Jack Dimpsey – Hub Developer

Ryan Baldrachi – Hub Developer

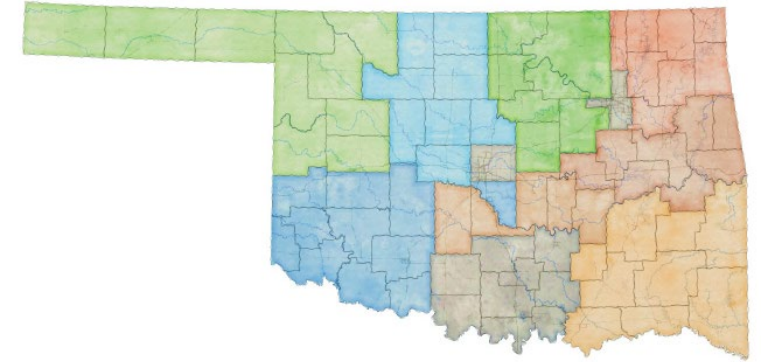


OKLAHOMA
STATE DEPARTMENT OF HEALTH
EMERGENCY PREPAREDNESS & RESPONSE SERVICE



Statewide Risk Assessment

The OSDH Statewide Risk Assessment (SRA) is an **analysis and assessment** of all reasonably anticipated **hazards** within the State, particularly those impacting the public **health and medical systems**.



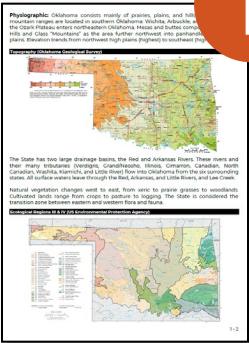
- **Risk assessment** is required under multiple standards, so we support statewide (i.e., SRA), jurisdictional (i.e., JRA), and facility (i.e., HVA) risk assessment.
- Available to partners via an **ESRI Hub Site** (also through our OK Health Alert application and as a document).



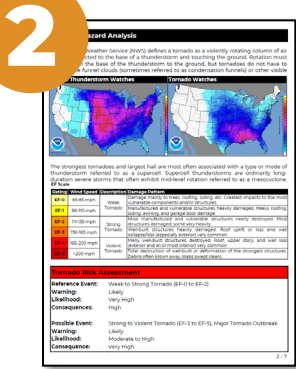
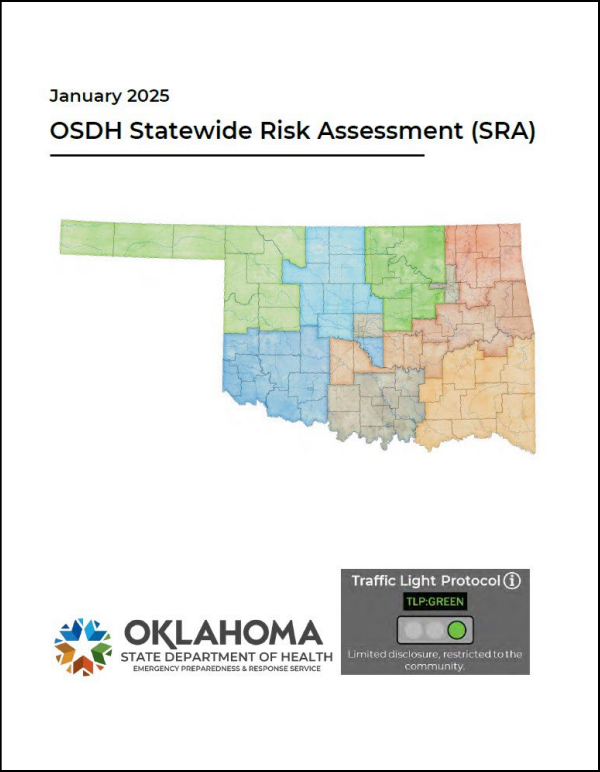
Statewide Risk Assessment

The OSDH Statewide Risk Assessment (SRA) is organized into 4 major sections:

Basic
Geography &
Demographics



Health & Medical
System Risk
Assessment



Hazard Analysis
&
Risk Assessment



County-Specific
Information &
Vulnerabilities

Basic Geography and Demographics

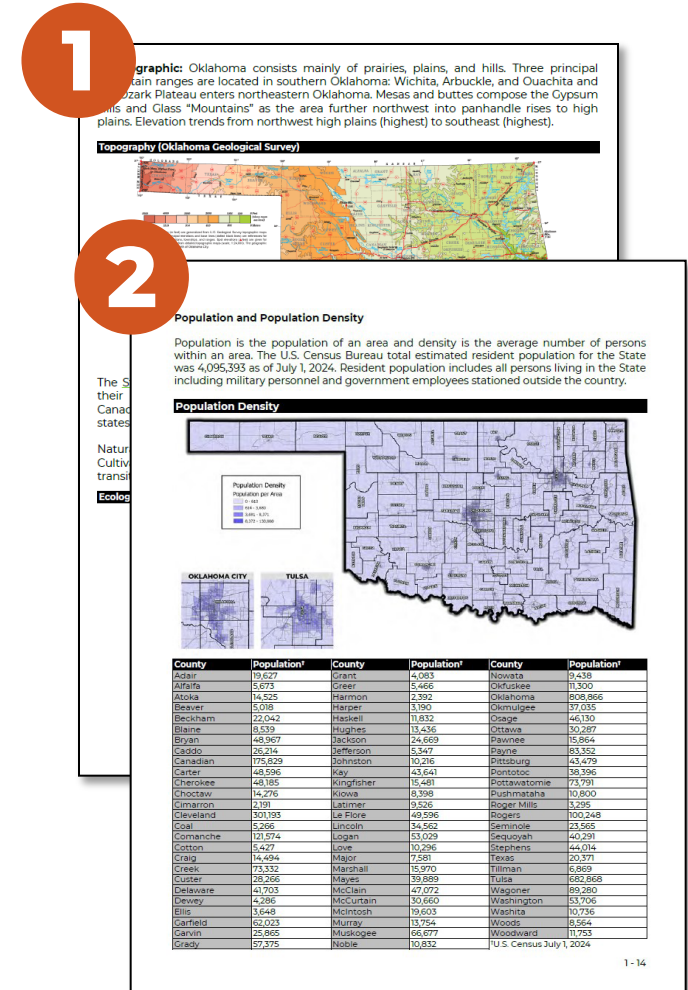
Geographic and demographic information is presented in narrative, geospatial, and tabular formats.

1 Geographic Information

Summarizes geography and major characteristics of the State.

2 Demographic Information

Demographic information focuses on Census-derived data and drills down to the county-level.



Hazard Analysis and Risk Assessment

The traditional risk assessment consists of an analysis and assessment of 25 natural, technological, and human-caused hazards.

1 Hazard Analysis

Describes hazards and occurrences - planning is an expected output.

2 Risk Assessment

Risk Assessment “box” at the end of each Hazard - likelihood and severity of a reference and possible event(s).

1

Hazard Analysis

The National Weather Service (NWS) considers fog and related phenomena such as mist to be primarily visibility hazards since fog greatly reduces visibility even to near zero at times. Fog and mist are aerosols composed of water droplets or ice crystals dispersed in the air. Both can form when water vapor condenses, but mist is composed of larger droplets (~100 µm) which are often associated with extremely light rain or drizzle. Fog is composed of much smaller droplets (~10 µm) that form when the Dew Point is within about 3-4°F (2-3°C) of the Air Temperature. It is considered surface-based stratus, which is a low-level cloud that often forms in patches and may not exhibit the features of a typical cloud. It is also considered a low cloud base (i.e., lowest altitude at which clouds are visible) that may be at or near ground-level or low enough to obscure features (e.g., top of elevated structures, terrain, etc.). Several types of fog-forming mechanisms are recognized, but the most common type typically forms in the overnight and early morning hours, when air is stable, winds are relatively light, and the ground and air temperatures begin to cool toward the Dew Point Temperature (~100% Relative Humidity). Dense fog is possible in areas where moisture is abundant and droplet sizes are larger. Freezing fog can also occur if air temperatures are at or near freezing.

Visibility is an important variable in transportation, including motor vehicle, aviation, and maritime safety. Fog has resulted in numerous motor vehicle accidents, including multi-vehicle collisions or pileups. Multi-casualty and multi-fatalities have occurred. Fog is often cited as a factor in weather-related multi-car accidents in the State, but accidents have ranged from single to several dozen vehicles. On February 4, 2010, a combination of fog and freezing fog (ice is another leading cause of weather-related multi-vehicle accidents) led to a massive 42-vehicle pile-up along I-40 in Oklahoma City. Dense fog and freezing fog are considered the most hazardous. The NWS issues a Dense Fog Advisory for fog that reduces visibility to 1/4 mile or less. However, visibility can go from relatively good to low or even zero over very short distances (particularly at highway speeds or in changing terrain), which is also often a contributing factor in motor vehicle accidents. Fog has also been dense enough to interfere with navigation of streets even while walking. Fog is one of several low-visibility hazards (including smoke and dust) which are frequently associated with accidents and may mix with smoke and other airborne particulates (a phenomenon sometimes referred to as super fog) to further diminish visibility.

2

Hazard Assessment

Reference Event:	Dense Fog, Visibility ≤0.25 (One-Quarter) Mile
Warning:	Likely
Likelihood:	High
Consequences:	Low
Possible Event:	Dense Fog, Visibility Near Zero
Warning:	Likely
Likelihood:	Moderate
Consequence:	Low to Moderate

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Health and Medical System Assessment

The health, medical, and response systems are described. The health and medical system assessment includes 16 hazards.

1 Health, Medical, & EM Systems

Describes the health, medical, and emergency response systems.

2 Health & Medical Assessment

Assessment based on consequences to the health and medical systems - traditional hazards are “triggers.”

1 System Organization – Regional Medical Response System (RMRS)

2 Healthcare Facility Incapacitation

Healthcare facility incapacitation refers to the partial or complete loss of a facility. It can occur with both community and facility-level hazards. It can also occur for non-catastrophic reasons such as economic and business decisions. Facilities sometimes also place themselves on what is often referred to as “divert,” “selective,” or similar status, where they divert ambulance patients or specific types of emergencies to other facilities because of patient load or other situations. This is normally temporary. Unanticipated incapacitation of a facility may result in evacuation of patients. Moreover, loss of IT and/or electronic medical records may inhibit patient care services which may effectively incapacitate a facility or even a health system. Critical laboratory facilities and supplies should also be considered.

Healthcare Facility Incapacitation		Triggering Events
Warning:	Unlikely	Major Mechanical Failure
Likelihood:	Very Low to Low	Severe Weather/Tornado
Consequence:	Moderate to High	Structural Damage/Failure
Risk:	Low	IT Systems Failure/Cyber Incident
		Medical Materiel/Personnel Shortages
		Economic/Business Decision

Healthcare Facility Utility/Mechanical Failure

Utility outage is the loss of critical utilities such as electrical power, water, wastewater, solid waste, and related services which occur at the community-level or outside of the facility. Mechanical failures can impact these and other services but occur inside the facility. Facility-level failures include environmental control system failures (i.e. ventilation, cooling, and heating), elevators, cooking and refrigeration, ruptured pipes, medical gas and vacuum system failures, failure of the facility's back-up power system (i.e. generator), etc. Utility/Mechanical failures can be serious, particularly if back-up systems fail to operate in critical situations and/or they are prolonged duration. Fuel and other consumables required to operate these systems (i.e. generators) should be included here.

Utility Outage/Mechanical Failure		Triggering Events
Warning:	Unlikely	Major Disaster (All Incident Types)
Likelihood:	High	Severe Weather/Winter Storm/High Winds
Consequence:	Moderate	Incidental Utility System Outage
Risk:	High	Facility Mechanical/Equipment Failure
		Repair/Construction Work
		Standby Power/Generator Failure

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County Information and Vulnerabilities

Hazards and vulnerabilities for specific counties and regions are addressed on a county-by-county basis.

1 County-Specific Information

Hazards and vulnerabilities include municipalities, transportation routes, heavy industry, U.S. military bases, large employers, medical centers, large educational institutions, large retail centers, large entertainment venues, special events, etc.

1	Jackson County	Health District: 5	RMRS Region: 3
	Municipalities: Altus* (C), Blair (T), East Duke (T), Eldorado (T), Elmer (T), Headrick (T), Martha (T), Olustee (T)		
	Transportation: US-62, US-283, SH-5, SH-6, SH-34, Burlington Northern Santa Fe (BNSF) Railroad (Class I), Farmrail (FMRC) Railroad (Class III), Stillwater Central (SLWC) Railroad (Class III)		
	Airports: Altus Air Force Base (LTS – US Air Force), Altus/Quartz Mountain Regional Airport (AXS – General)		
	34	Jefferson County	Health District: 8
		RMRS Region: 3	
	Municipalities: Addington (T), Hastings (T), Ringling (T), Ryan (T), Sugden (T), Terral (T), Waurika (C)		
	Transportation: US-70, US-81, SH-5, SH-32, SH-79, SH-89, Union Pacific (UP) Railroad (Class I)		
	35	Johnston County	Health District: 8
		RMRS Region: 3	
	Municipalities: Bromide (T), Mannsville (T), Milburn (T), Mill Creek (T), Ravia (T), Tishomingo* (C), Wapanucka (T)		
	Transportation: US-377, SH-1, SH-7, SH-12, SH-22, SH-48, SH-78, Burlington Northern Santa Fe (BNSF) Railroad (Class I)		
	Airports: Tishomingo Airpark (OF9 – General)		
	36	Kay County	Health District: 3
		RMRS Region: 2	
	Municipalities: Blackwell (C), Braman (T), Kaw City (C), Kildare (T), Newkirk* (C), Ponca City (C), Tonkawa (C)		
	Transportation: I-35, US-60, US-77, US-177, SH-11, SH-156, Blackwell Northern Gateway (BNGR) Railroad (Class III), Burlington Northern Santa Fe (BNSF) Railroad (Class I)		
	Airports: Blackwell-Tonkawa Municipal Airport (BKN – General)		
	37	Kingfisher County	Health District: 2
		RMRS Region: 1	
	Municipalities: Cashion (T), Dover (T), Hennessey (T), Kingfisher* (C), Loyal (T), Okarche (T)		
	Transportation: US-81, SH-3, SH-33, SH-51, SH-132, Union Pacific (UP) Railroad (Class I)		



Using The Assessment

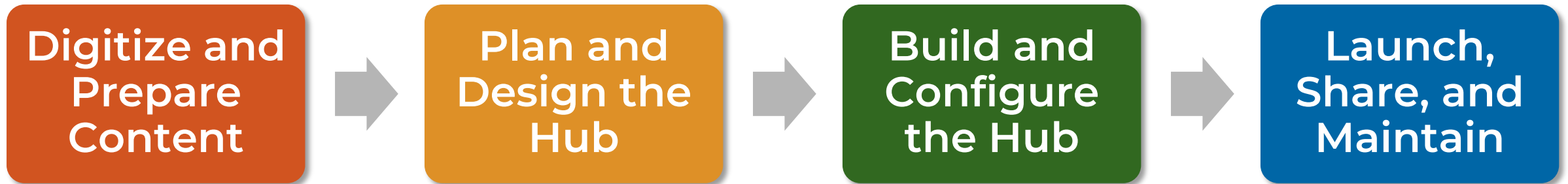
- Planning is the major anticipated output as we expect to use the assessment to **develop plans and guide readiness**.
- We encourage **feedback**, vetting, and use of the assessment as a both a resource by partners and in their own risk assessments.
- Findings of this assessment may vary from those of individual institutions and communities (i.e., spatiotemporal differences such as statewide vs. individual communities or facilities).

Awareness is the most valuable defense against risk — Awareness is the cornerstone of planning and preparedness.



From Paper → Hub

If you are **planning** to develop a paper **plan** into a digital **plan**, then you need to **plan**!



Digitize and Prepare the Content

A Extract and Structure

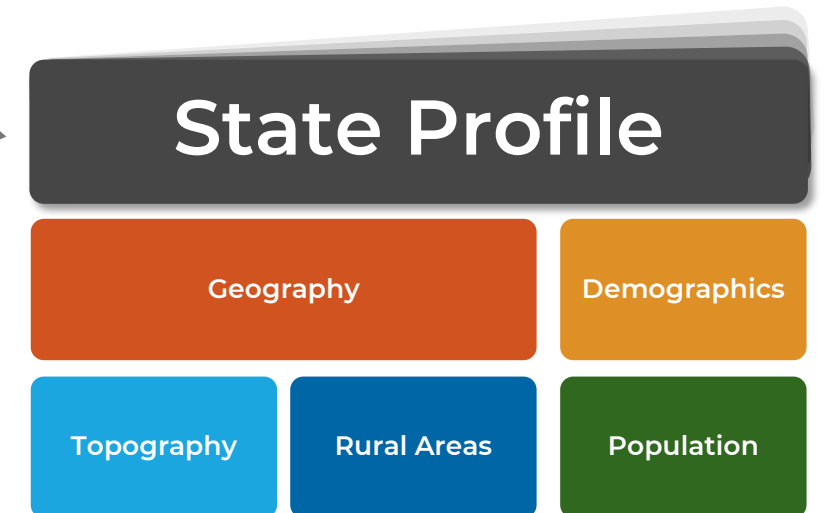
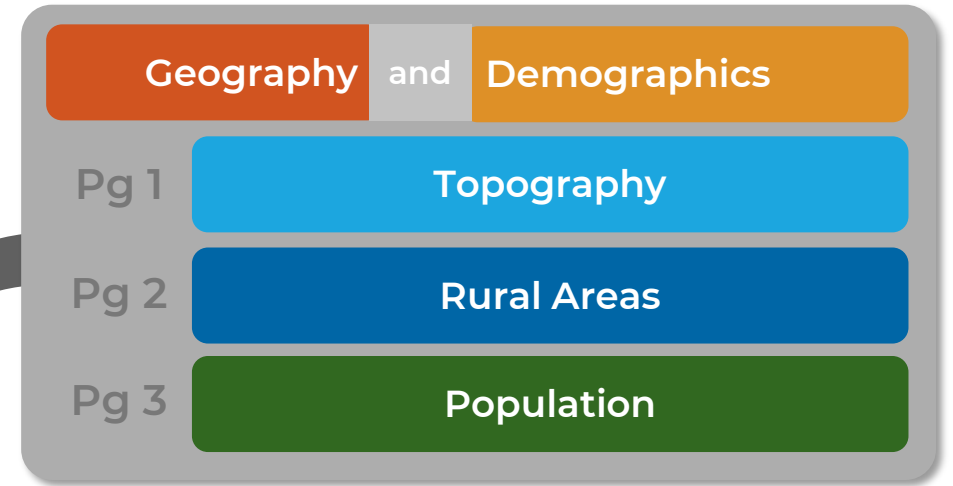
Break the paper plan into digital sections

B Convert to Usable Format

Turn charts / tables into images.

C Organize content assets

Store documents, datasets, and graphics in a clear structure for easy reference.



Plan and Design the Hub

A Define goals and audience

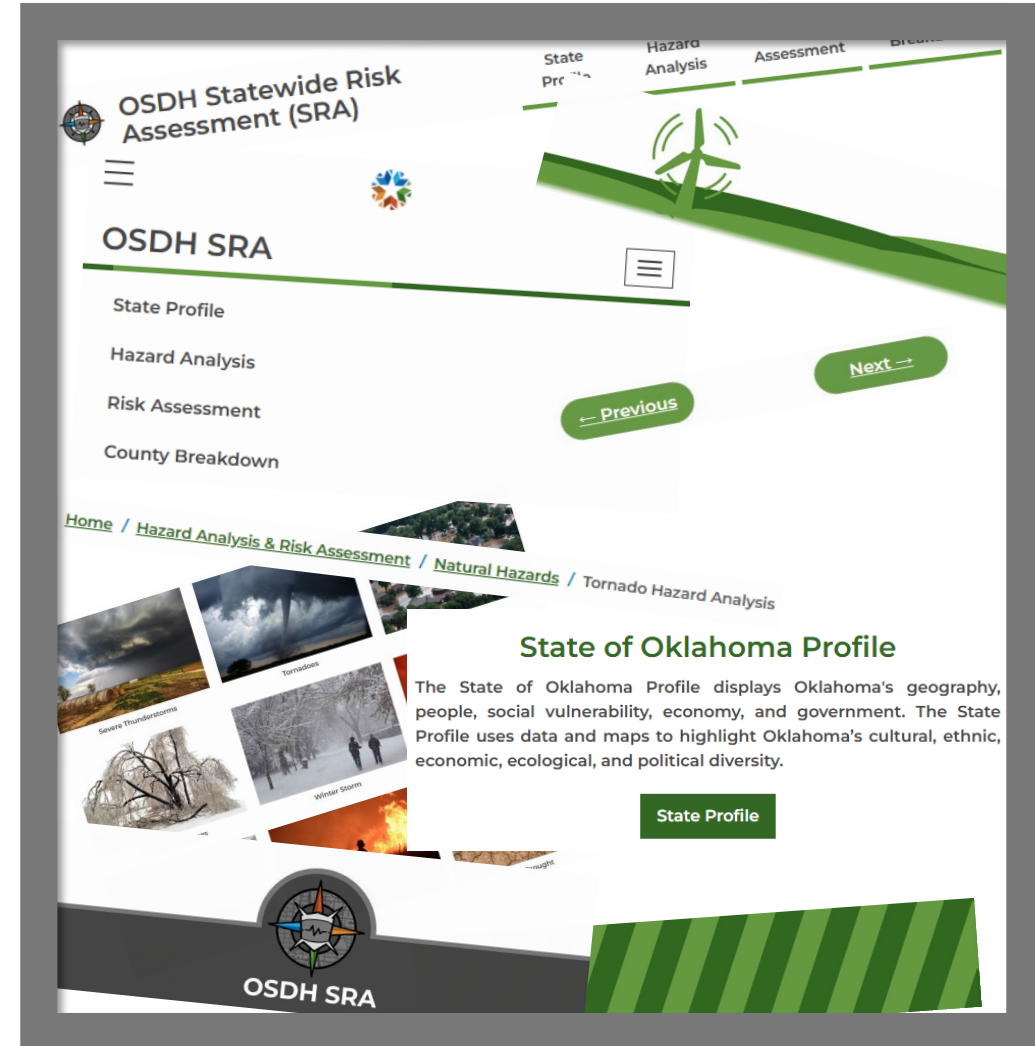
Clarify whether the Hub is for public awareness or partner coordination

B Wireframe Layouts

Sketch how each section should present information.

C Visual Design and Navigation

Select fonts, colors, imagery, and choose navigation elements



Build and Configure the Hub

A Add Content

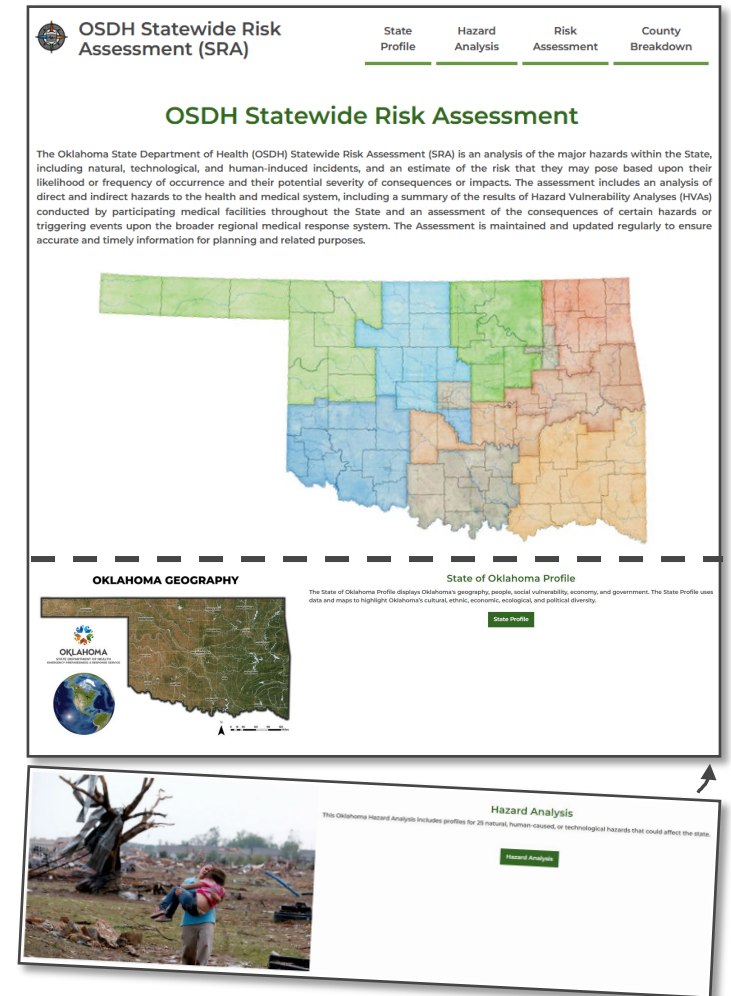
Populate Hub pages with text, datasets, and web apps.

B Enable Interactivity

Encourage exploration through embedded content and navigation.

C Enhance Usability

Choose an intuitive layout with high contrast, clear instructions, and consider accessibility options.



Launch, Share, and Maintain

A Refine and Finalize

Adjust layouts, wording, and interactivity based on feedback.

B Publish and Promote

Launch the Hub and distribute through partner networks.

C Keep it Living

Continuously gather feedback and make adjustments regularly.

The image shows a stack of three feedback forms. The top form is white with a green header that says "FEEDBACK FORM". Below the header, there are three main sections: "Name" with a text box and the instruction "Leave blank if anonymous", "Organization" with a text box and the instruction "Leave blank if anonymous", and a large text area with the instruction "Please feel free to share additional feedback here." At the bottom right of the form is a green "Submit" button.



Making a Feedback Form “Smart”

S123 Link

<https://survey123.arcgis.com/share/cb5ba91e071d439c8af079e82b0b0951>



S123 Field Schema

Injected value



- Each Survey123 form is auto-tagged with the Hub page where feedback is submitted.
- Users only type their feedback while the system records the context.



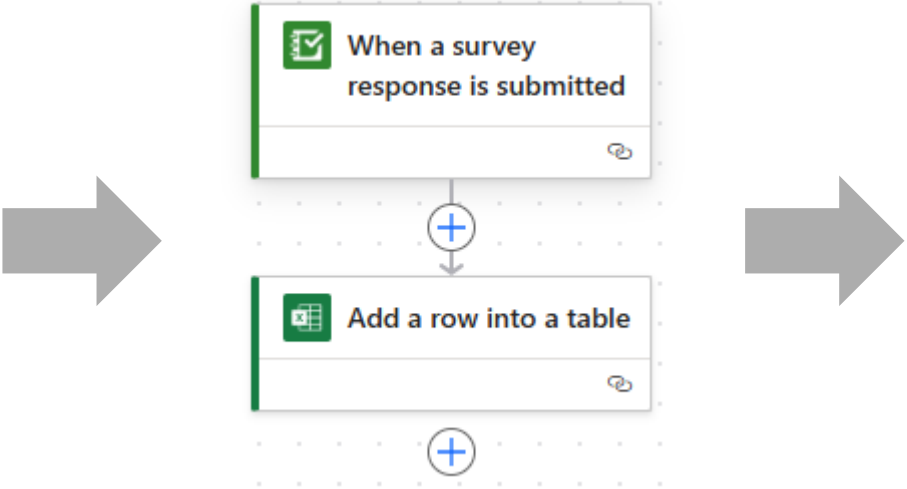
Automated Feedback Handling

Feedback Submitted

FEEDBACK FORM

Thank you for sharing feedback. Your feedback will contribute to the enhancement of the OSDH Statewide Risk Assessment.

Power Automate Flow



Excel Populated with Feedback

Specific Webpage Visited	Elements needing addressing or revision	Recommend for this item	Why does element need addressing?	Additional Feedback
County/Information	Need to add the following towns to Grady County's assessment: Town of Amber, and The City of Marco.			
Geography	I like this information for Hazard Mitigation Plan reasons. I clicked on our County hoping it would have specific information to our County relative to the information generally given here for the entire State.	It might be nice to click on each County and have all the information outlined for the entire State, categorized in the same format specific just to that County.	Data necessary for various Planning reasons for each jurisdiction that is compatible with the State information and data.	
Demographics	I don't know if it is necessary to explain that Greer County Oklahoma along with Harmon and Jackson and part of Beckham used to be Greer County, Texas and it took a US Supreme Court decision to make Texas return the area back to Oklahoma.	Since it is mentioned how Counties were formed out of the "Oklahoma Territory, it might be a good idea to explain the actual development of Greer, Jackson, Harmon, and Beckham Counties that were Greer County, Texas.	1. Historical Accuracy 2. Perhaps the impact of this struggle to maintain Oklahoma status, put additional burdens on at least Greer and Harmon Counties that would qualify them for additional services. Maybe some Native Tribes might have been located in Greer, Harmon, and Jackson Counties if the struggle over jurisdiction wouldn't have been an issue.	
AllRiskPopulations	I am not seeing a legend that identifies what the colors represent.	Add a legend for each map that identifies what the colors represent.	If there is no way to quantify the data then the information is useless.	
Demographics	It might be necessary to identify that the Greer, Harmon, Jackson, and some of Beckham County Oklahoma was actually Greer County, Texas, and it took a US Supreme Court case to settle the dispute. (In fact several US Supreme Court cases if I remember correctly)	Since the data is showing how Counties were formed from the Oklahoma Territory, it might be more historical and useful to make mention of this, because these Counties just weren't formed out of the Oklahoma Territory without there being quite a dispute, and finally a decision by the US Supreme Court.	Not only would this support and reflect the actual Historical data, but it may have also impacted the reason that Native Tribes were not settled in these Counties because they may not have been in Oklahoma at the time, which today, not having Tribes represented on Tribal land in your County, can negatively impact your County economically.	

Hosted on Teams / SharePoint

- Power Automate instantly routes feedback into an Excel file in Teams.
- All submissions are stored alongside the Statewide Risk Assessment draft.



OSDH

Statewide Risk Assessment Hub Demo

