

Brokering Information by Community Lifelines

- Due to the large attendance, all participants are muted for the duration of the session to prevent background noise.
 - Please use the Q&A functionality within Zoom for questions that are relevant to the whole group.
 - We will address these Q&A at the end of the webinar!



While you wait...



Contribute to a NAPSG survey on this topic:

<https://arcg.is/0q15bX>

Brokering Information by Community Lifelines



April 6, 2021

Hosted by National Alliance for Public Safety GIS (NAPSG) Foundation

napsfoundation.org | [@napsfoundation](https://twitter.com/napsfoundation)

Featured Speakers



Chris Vaughan -
Geospatial
Information Officer,
Federal Emergency
Management Agency



Austen McMillin -
Lifelines and Logistics
Coordinator, City of
Houston Office of
Public Safety and
Homeland Security



Zach Stanford -
State Coordinator, OK
Department of
Emergency
Management and
Homeland Security



Tom Moran –
Executive Director, All
Hazards Consortium



Stacie Neal, CEM –
Planning Division
Director, Virginia
Department of
Emergency
Management

Agenda

Session Moderator

Chris Vaughan, Federal Emergency Management Agency – *Background: Community Lifelines Construct*

Speakers

Austen McMillin, City of Houston Office of Public Safety and Homeland Security – *Houston Region Catastrophic Preparedness Program.*

Zach Stanford, Oklahoma Department of Emergency Management and Homeland Security – *Data-Powered Community Lifelines.*

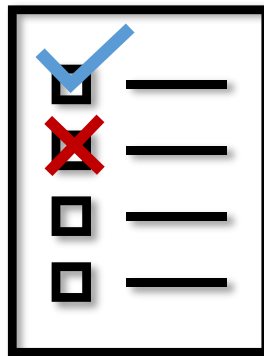
Tom Moran, All Hazards Consortium and **Stacie Neal**, Virginia Department of Emergency Management – *Data Innovations in Transportation and Energy Leading to Faster Recovery.*

The Community Lifelines Construct

Chris Vaughan, FEMA

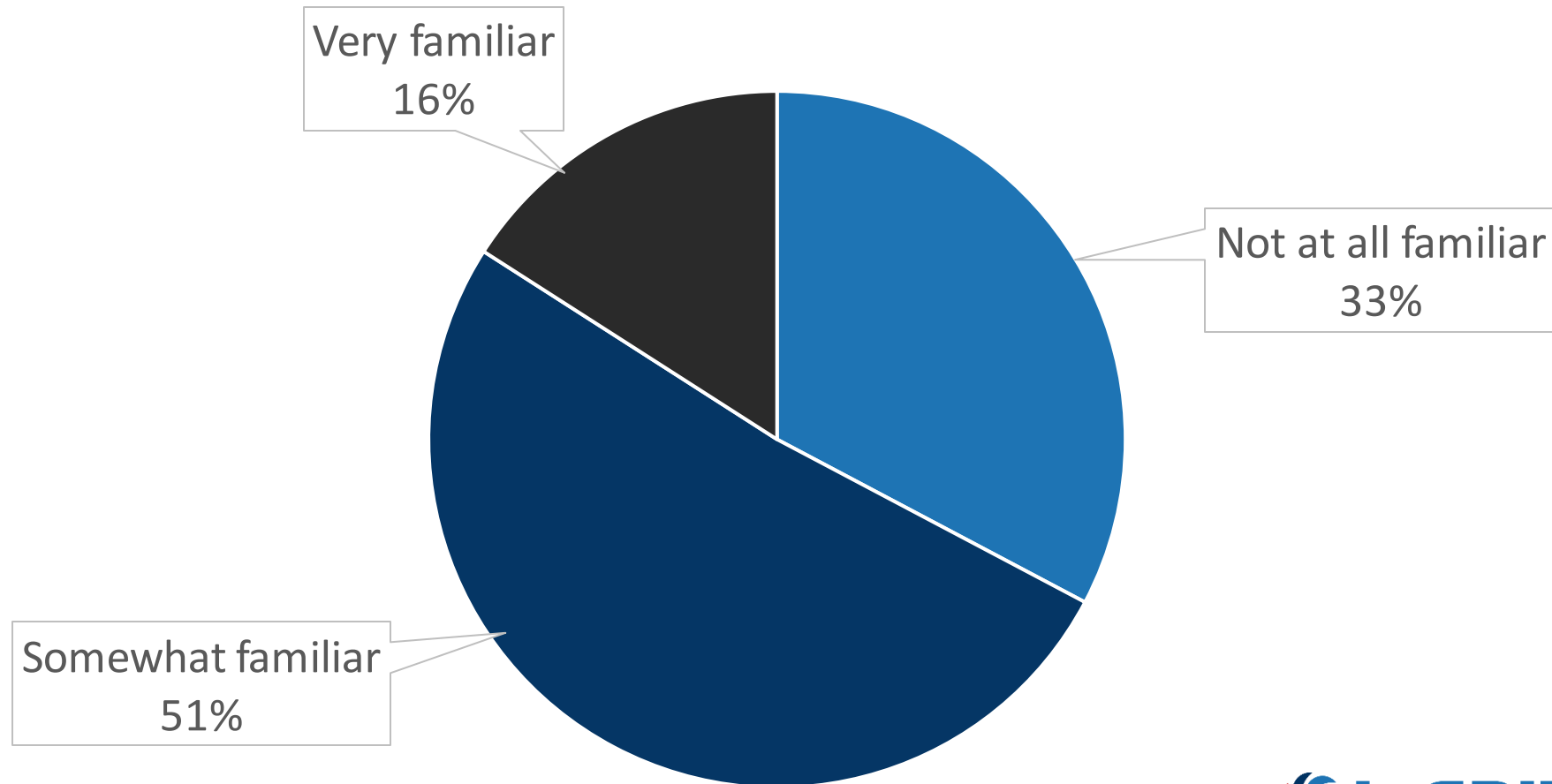
Quick Poll!

1. Describe your familiarity with the Community Lifelines Construct?
2. How far along is your organization in implementing the Community Lifelines Construct?



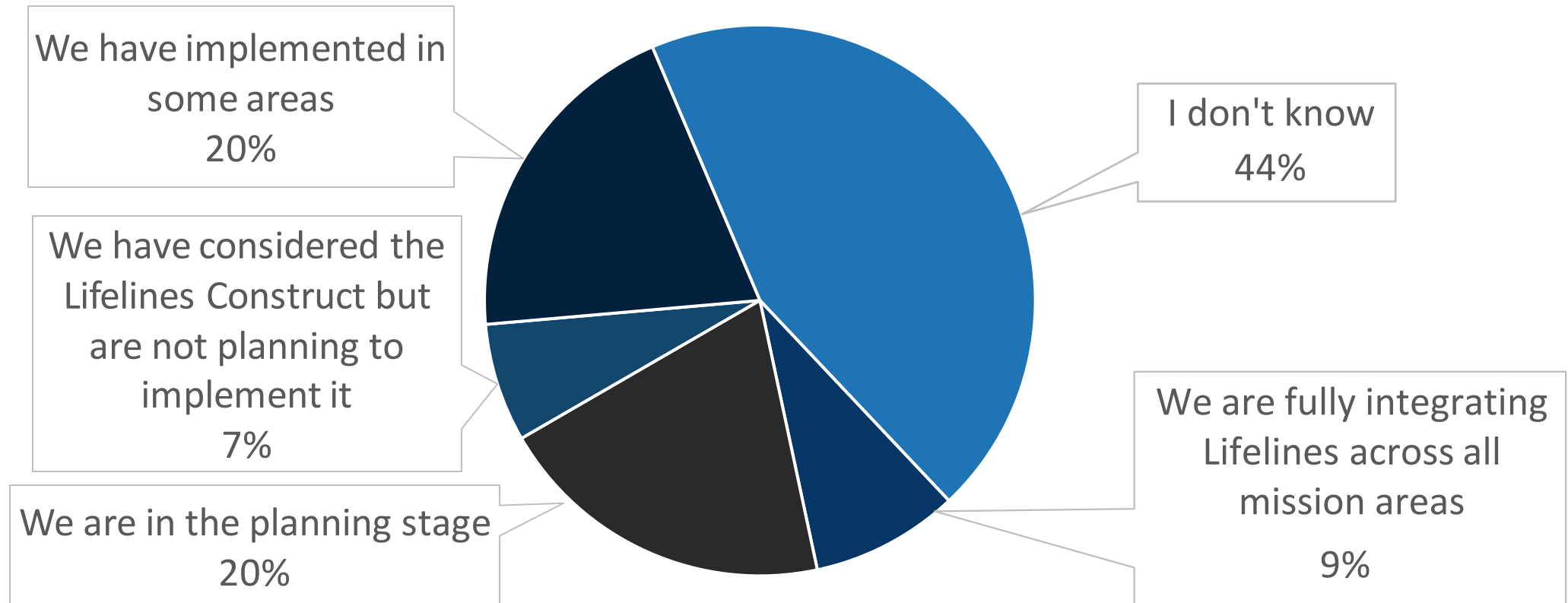
Poll Results

How familiar are you with the Community Lifelines Construct?



Poll Results

How far along is your organization in implementing the Community Lifelines Construct?





Community Lifelines

A lifeline enables the **continuous operation** of a critical business and government function and is **essential to human health and safety, or economic security.**

There are **7 Lifeline Components** and **28 Subcomponents**

Stabilization occurs when basic lifeline services or capabilities are provided to survivors (may be temporary solutions requiring sustainment,)



Why are we using Lifelines?

To help:

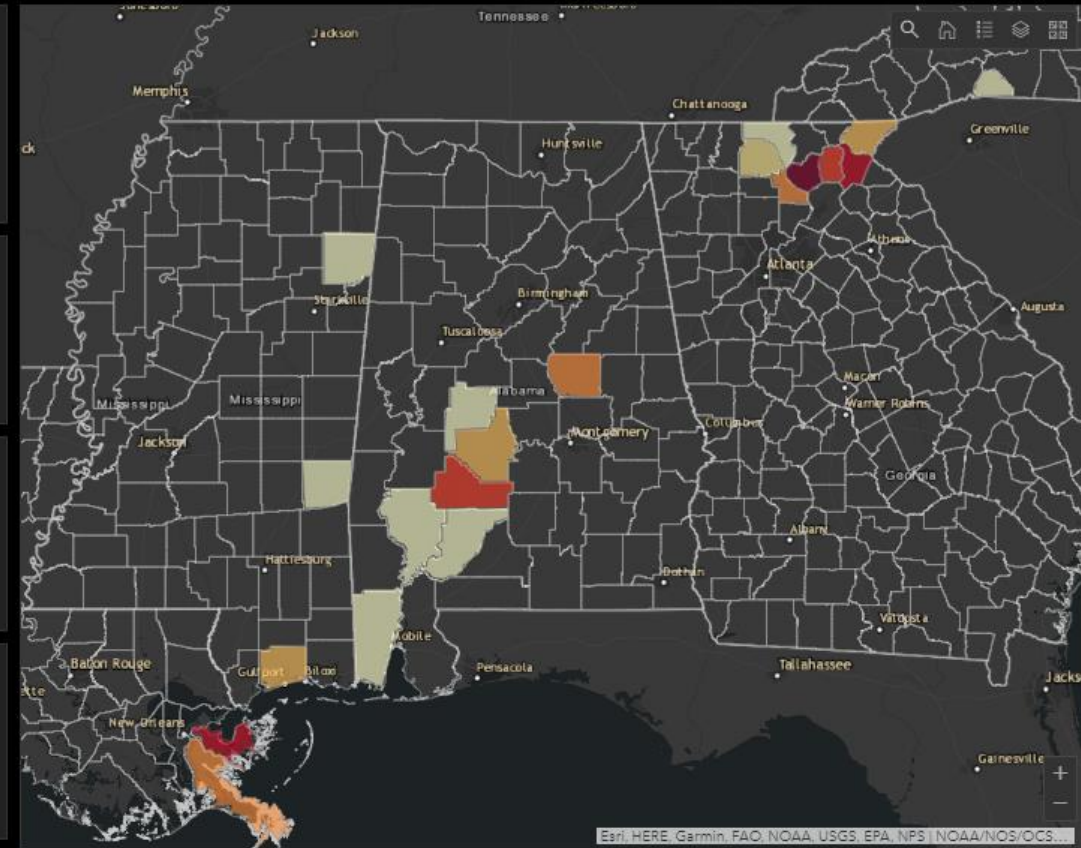
- Prioritize stabilization of the critical services
- Communicate incident impacts with plain language. (e.g., Transportation vs ESF #1.)
- Identify rapid and decisive intervention required to stabilize the incident.
- Communities build back stronger and smarter.

19
Cell Towers Out Due to Power

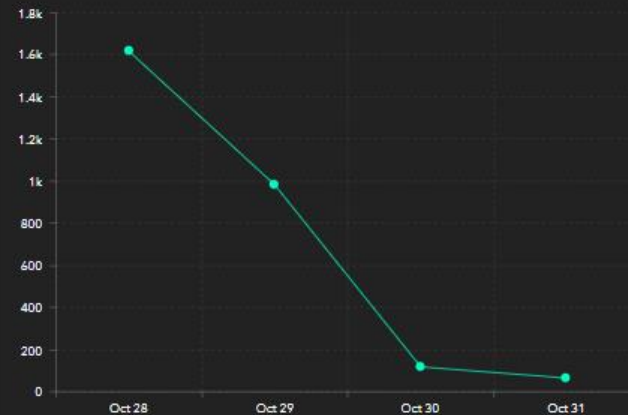
15
Cell Towers Out Due to Transport

31
Cell Towers Out Due to Damage

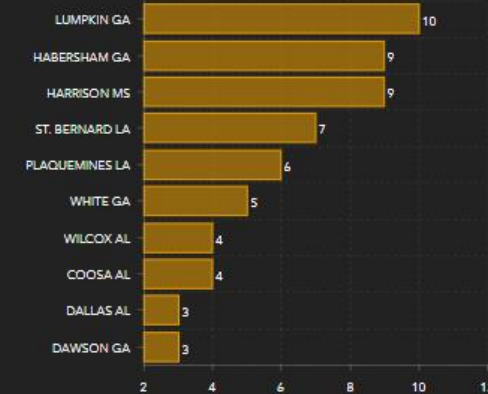
of people affected
39,000 



Total Cell Sites Out Over Time



Total Cell Sites Out by County



of People Potentially Affected by State



How is FEMA Implementing the Lifeline Construct?



1

Situational Awareness

Data Collection of local ground truth information *via live data feeds, if possible.*

2

Event Characterization

Lifeline Component status and impacts via predictive analytics (modeling) and operational intelligence

3

Decision Support Tools

Mission-specific requirements, planning factors, recommended courses of action

Each are improved by live data feeds.

Transportation Response Community Lifeline Public WAZE Feed for Hurricane Laura

SCG Port Status

Open
Open with Restrictions
Closed

USCG Port Status: PENSACOLA

PORT_NAME PENSACOLA
FEMA_REGION 4
LATITUDE 30.41
LONGITUDE -87.21
COMMENTS Port Status NORMAL Draft Rest.30ft. MSIB 01-21
DISTRICT 8
SECTOR Mobile

USCG Port Status: PENSACOLA

PORT_NAME PENSACOLA
FEMA_REGION 4
LATITUDE 30.41
LONGITUDE -87.21
COMMENTS Port Status NORMAL Draft Rest.30ft. MSIB 01-21
DISTRICT 8
SECTOR Mobile
PRIMARY_USE General Cargo
SECONDARY_USE
TERTIARY_USE
USCG COPZ Mobile
STATUS Open with Restrictions
PORT_TYPE Major

Layers

USCG Port Status

Border Ports of Entry - Wait Times
 Interstate Rest Areas - Highway Rest Stops
 FAA Major Airport Delay Status
 ESRI Recent Earthquakes
 NOAA nowCOAST Potential Storm Surge Flooding
 NOAA nowCOAST Storm Track
 Chance of 64 Knot (74 mph) Hurricane

Example:

Live data from the US Coast Guard allows us to instantly understand port status. **How?** Through AGOL, the USCG staff provide live updates of the port status, for every USCG port. This feeds into a live status of that we include in our Transportation lifeline dashboard.

Lessons Learned

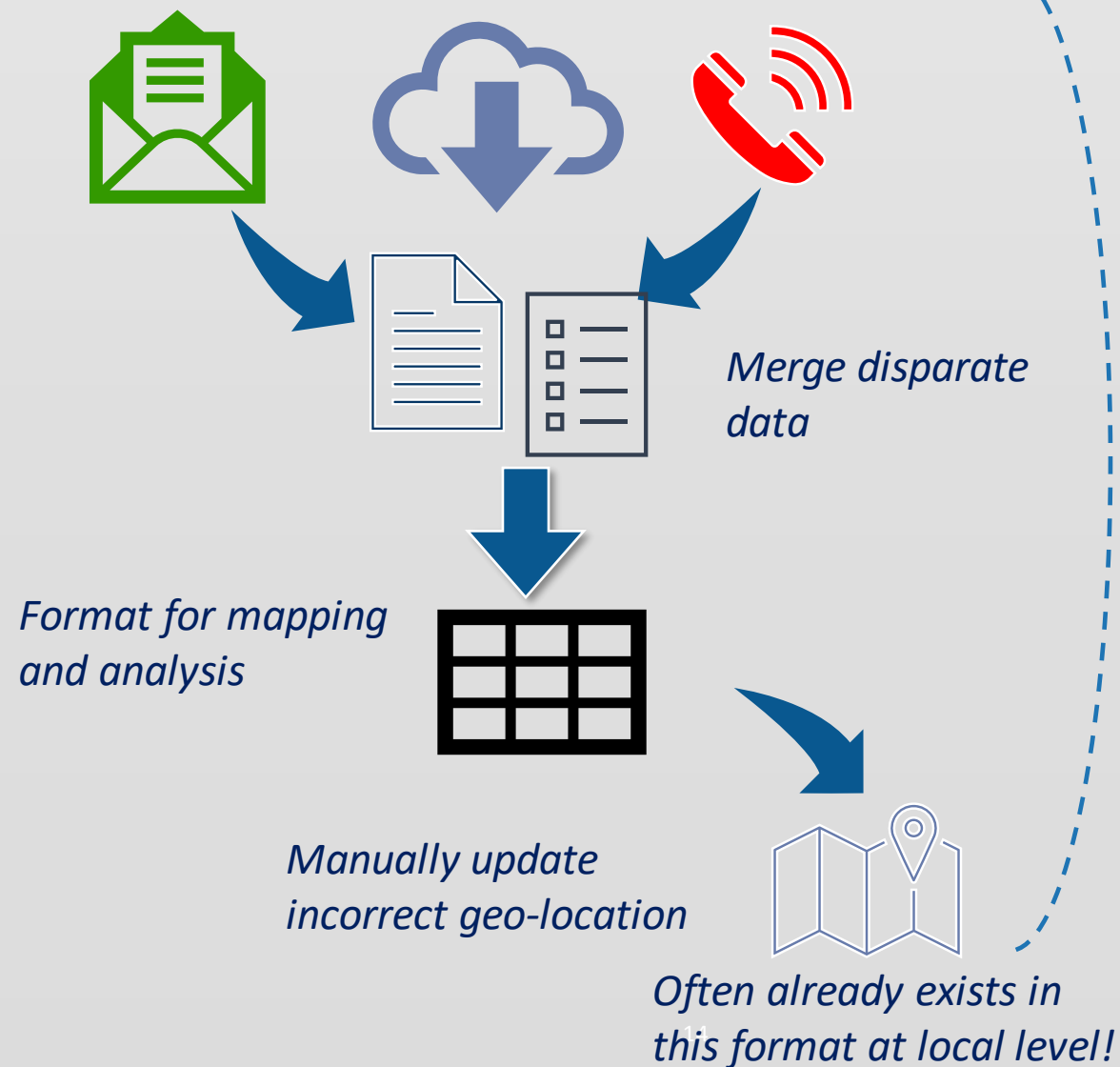
- Lots of data available in static (not live) formats
- Information sharing across the lifelines varies

What we can do better...

- Lifeline and stabilization targets should be identified during planning (data collection)
- Establishing workflows for sharing (dissemination) would reduce RFI's and manual inputs
- Promulgate best practices and leverage advances/success in the community
- Need a standard reporting/schema or a standardized ontology

Subcomponent

Twice Daily / Static Data Source(s): spreadsheet, document, email, list on website, etc.



How to Implement the Lifelines





FEMA Guidance

- ✓ National Response Framework 4th Edition
- ✓ Incident Stabilization Guide

Community Lifelines Toolkit


- ✓ Reporting and Briefing templates
- ✓ Fact Sheets and Teaching Aids

Geospatial Dashboards and Data







INSERT STATE SEAL

DR-####-SS: [Incident Name] Incident Management Senior Leadership Brief
As of DD MMM YYYY (0000 TZ) Updates in [Blue](#)





Lifeline: Energy (Power & Fuel)




Summary: [text]


Stabilization: Energy sector can support the Federal and SLTT response by enabling all other Lifelines and is not a limiting factor for providing goods, resources, and services to meet the immediate needs of the survivors.


Key Partners: DOE, GSA

Component	Sub-Components	Status	Impact	Actions	Limiting Factor	ETA to Green
	Generation Systems Transmission systems Distribution Systems	Facility Status:	Customer Outages: ## (##%)	PRTs, Generator Teams, etc		
	Refineries/ Fuel Processing Fuel Storage Pipelines Fuel Distribution (e.g. fuel points,	Facility Status:	Gas Stations Closed: ##%	Fuel Points: [Insert locations] Fuel (gal) at ISB: ##		




FEMA Incident Stabilization Guide
November 2019 (Operational Draft)





National Response Framework
*Fourth Edition
October 28, 2019*





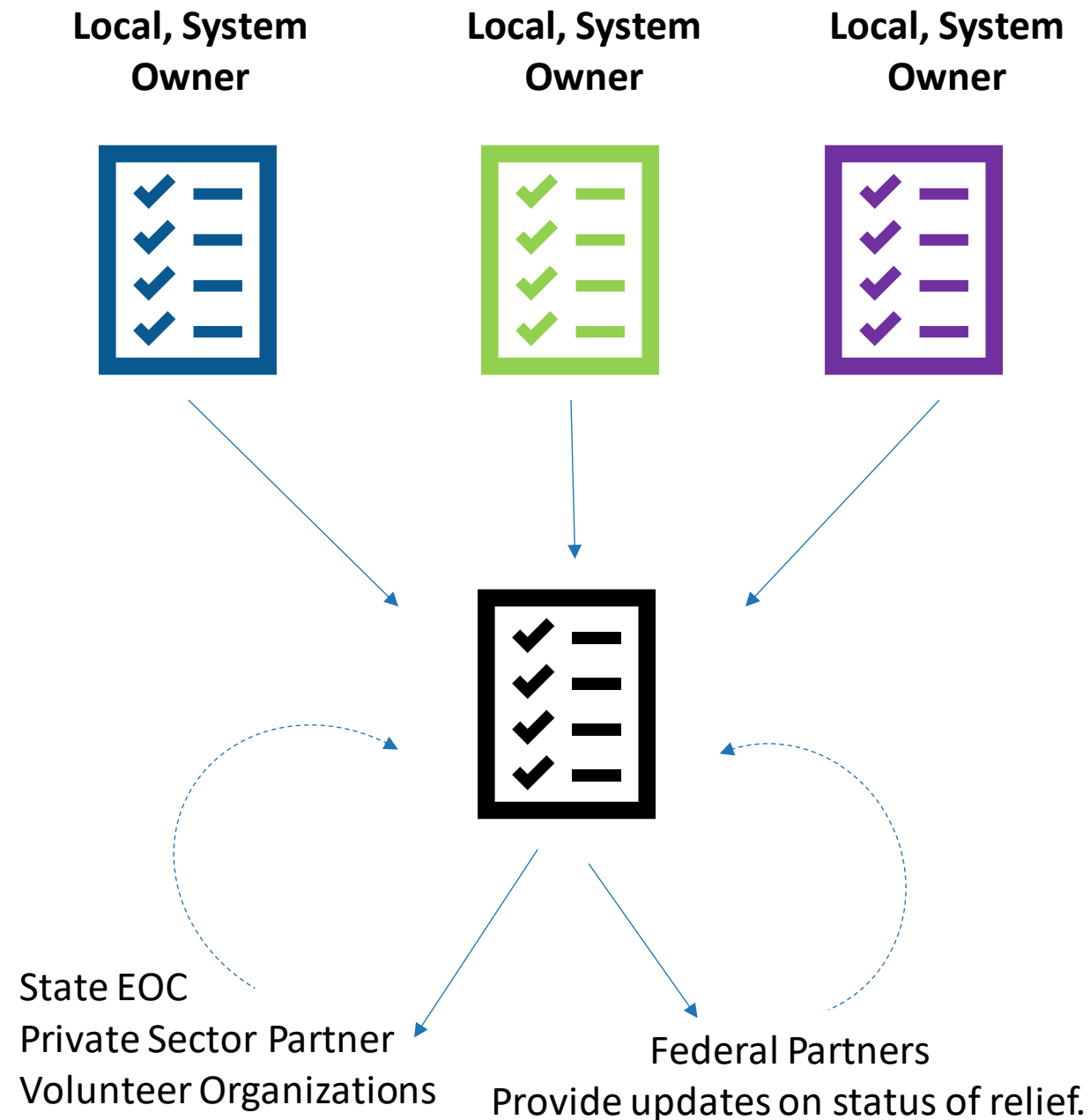
Now what?



Standard data schemas and data transfer systems

How would it work?

1. **System owners (e.g. water treatment facility or port owner)** update status on a database collector tool (like Survey123). This should include **timeframe to restoration and the underlying issue (e.g. power vs equipment failure).**
2. **Alternately—there is a live feed of the status (e.g., Waze updates traffic in near-real time.)**
3. **The data is shared in a standardized format** with mission partners or discoverable via an interoperable system, such as a GIS system or whatever is deemed appropriate.
4. Shared data, when combined, creates an overall **picture of situational awareness** for decision makers.
5. State identifies **resource gaps.**
6. Federal, mutual aid, or private sector partners help **fill resource gaps.**



Houston Region Catastrophic Preparedness

Austen McMillin, City of Houston Office of Public Safety and Homeland Security

Houston Region Catastrophic Preparedness

- Regional Catastrophic Preparedness Grant Program

- 13-County Region
- Community Lifelines
 - Food Water and Shelter
 - Supply Chain
 - Health and Medical
 - Supply Chain
 - Pandemic Modeling and Planning

- Regional Lifelines Steering Committee

- 14 Jurisdiction OEM
- Houston – Galveston Area Council
- Supply Chain Representative
- Working Groups
 - Private Partner
 - Jurisdictions
 - NGO
 - Volunteer Organizations

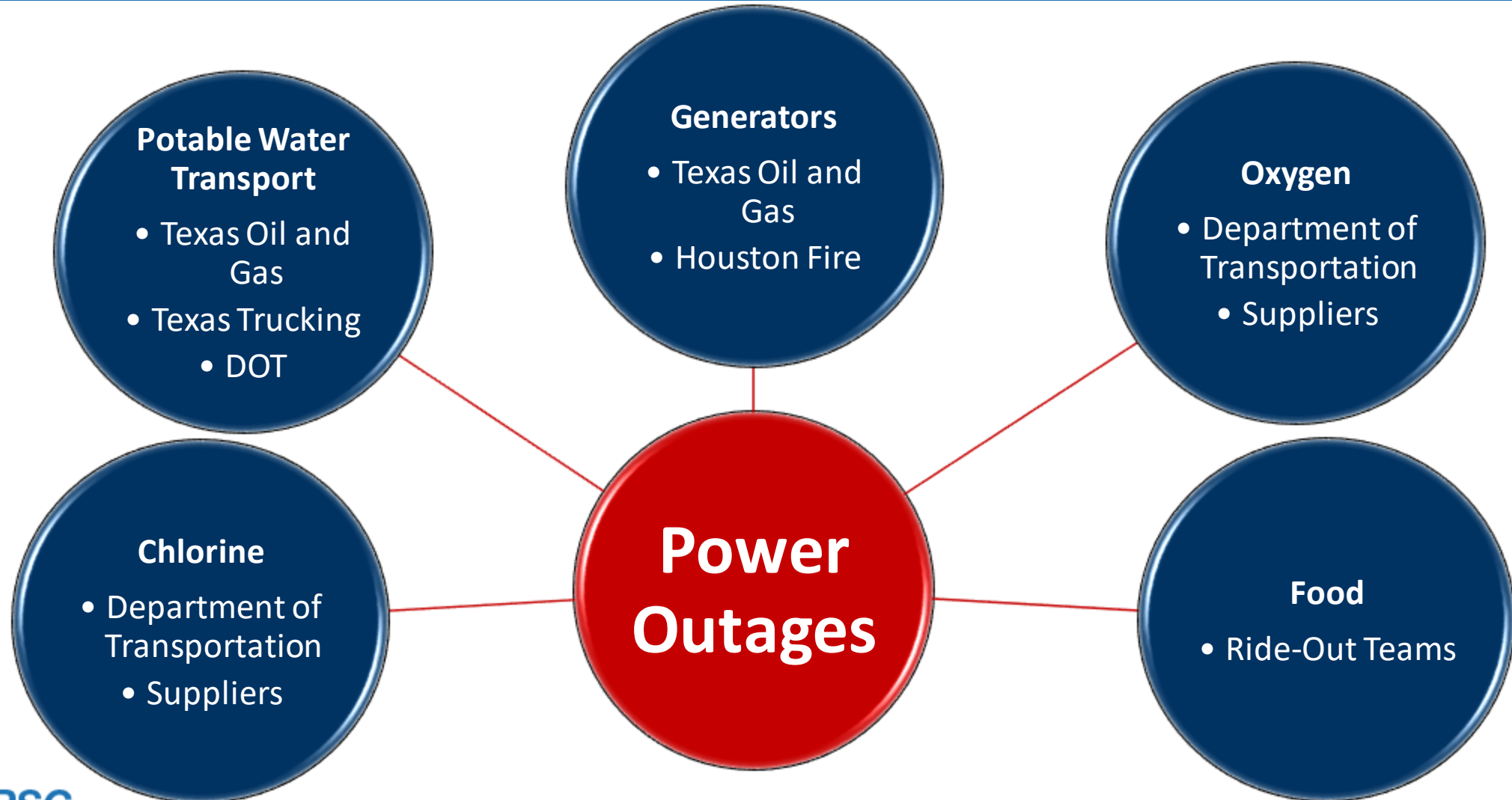


Ice Storm February 2021

- Initiated Supply Chain Group in Preparation
 - Industry Partner and Jurisdictional Updates
 - Pre-Staging
 - Critical Infrastructure Locations
 - Impact Timeline
 - Unmet Needs
 - Regular Update Calls
 - Current Situation
 - Forecast
 - Unmet Needs
 - Critical Sites

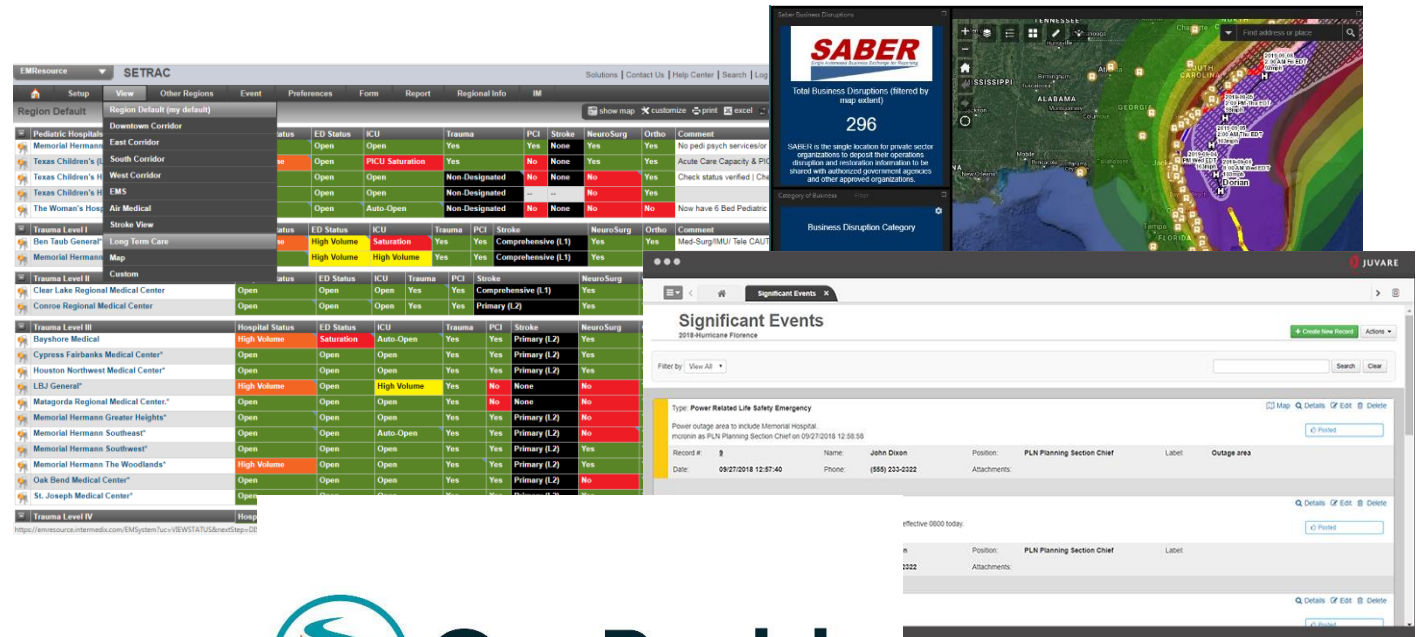


Ice Storm February 2021



Challenges in Community Lifelines Implementation

- Leverage Technology
 - Information Sharing
 - Standardization
 - Protected Information
 - Agreements
 - Merge with Existing Tools
- Socialization of Everything
 - Lifeline Construct
 - Technology
 - How will this help?
- Relationships, Relationships, Relationships



Lessons Learned and Next Steps

- Lessons Learned

- Information Sharing

- Small Distribution FOUO
 - Public Facing vs Secure

- Relationships

- Leverage Associations

- Next Steps

- Technology is the Key

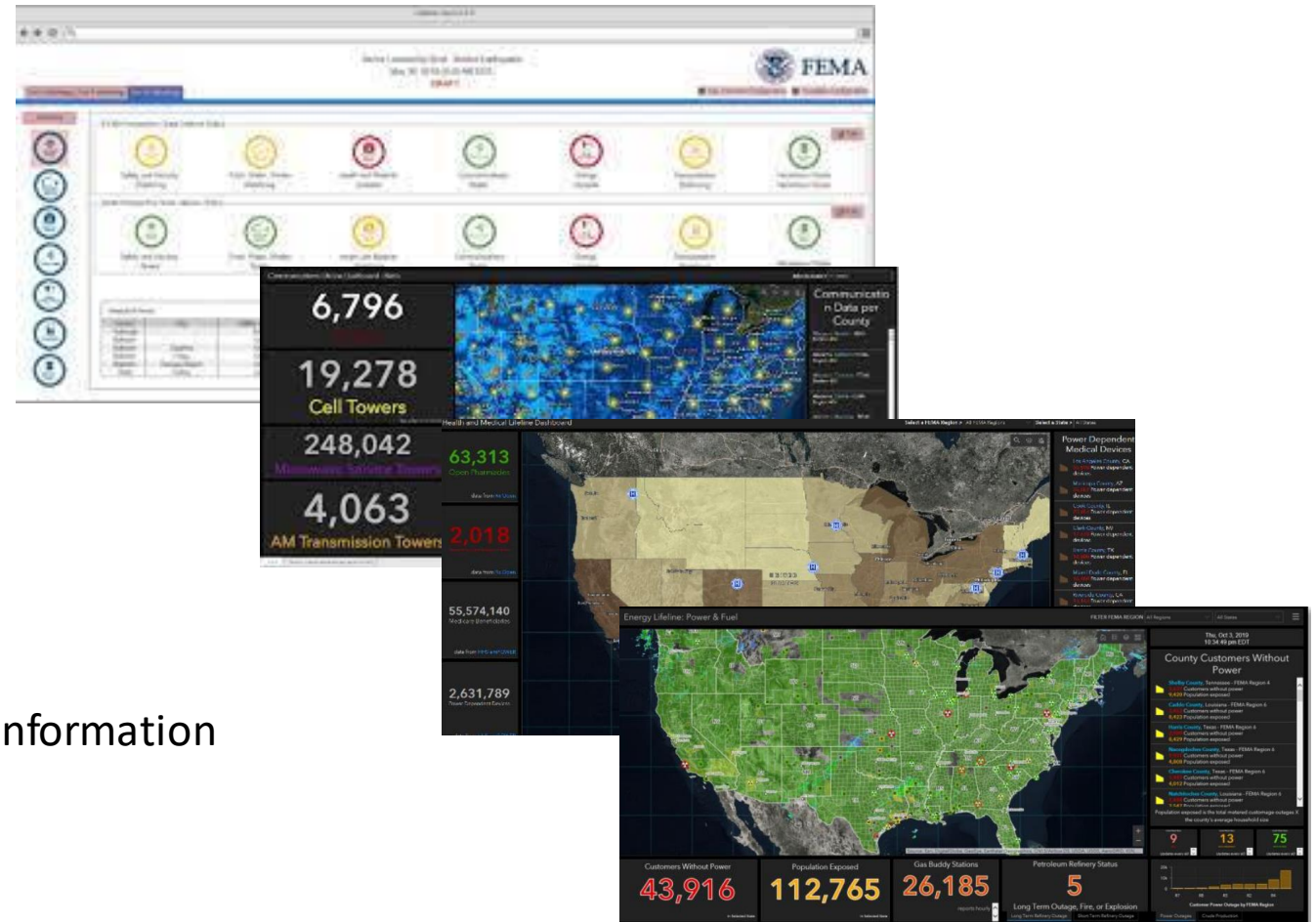
- Identify Types of Information

- Static
 - Real-Time

- How to Leverage Technology to Pull the Information

- Analytics of the Information

- Real-Time
 - Actionable



Thank you!

Austen McMillin

City of Houston Office of Public Safety and Homeland Security

Email: austen.mcmillin@houstontx.gov



[/in/austen-mcmillin](https://www.linkedin.com/in/austen-mcmillin)

Data-Powered Community Lifelines

Zach Stanford, Oklahoma Department of Emergency Management and Homeland Security

The Shift to Lifelines

- When/why/how/should the state go yellow? When can we go green again?
- Are all yellows the same? Reds?
- What does this mean for ESF structure?
- What does this mean to FEMA? Will this simple color trigger an unmeasured regional response?
- If the public saw red or yellow, what would they think or do?



Setting the Expectation Example

- All State EOC Activation Notices and Updates now include a Lifeline Status Statement and banner graphic.
- Most briefing products now include a lifelines connection/impact statement.
- Many processes we used already employed the concepts surrounding lifelines, without the name.
- Lifelines and sub-components provided a roadmap for matching available or needed data to inform decisions.

**State EOC
Activation Update**

STATE OF OKLAHOMA
EMERGENCY
OPERATIONS
CENTER

Having trouble viewing this email? [View it as a Web page.](#)

Safety and Security, Food, Water, Shelter, Health and Medical, Energy (Power & Fuel), Communications, Transportation, Hazardous Materials

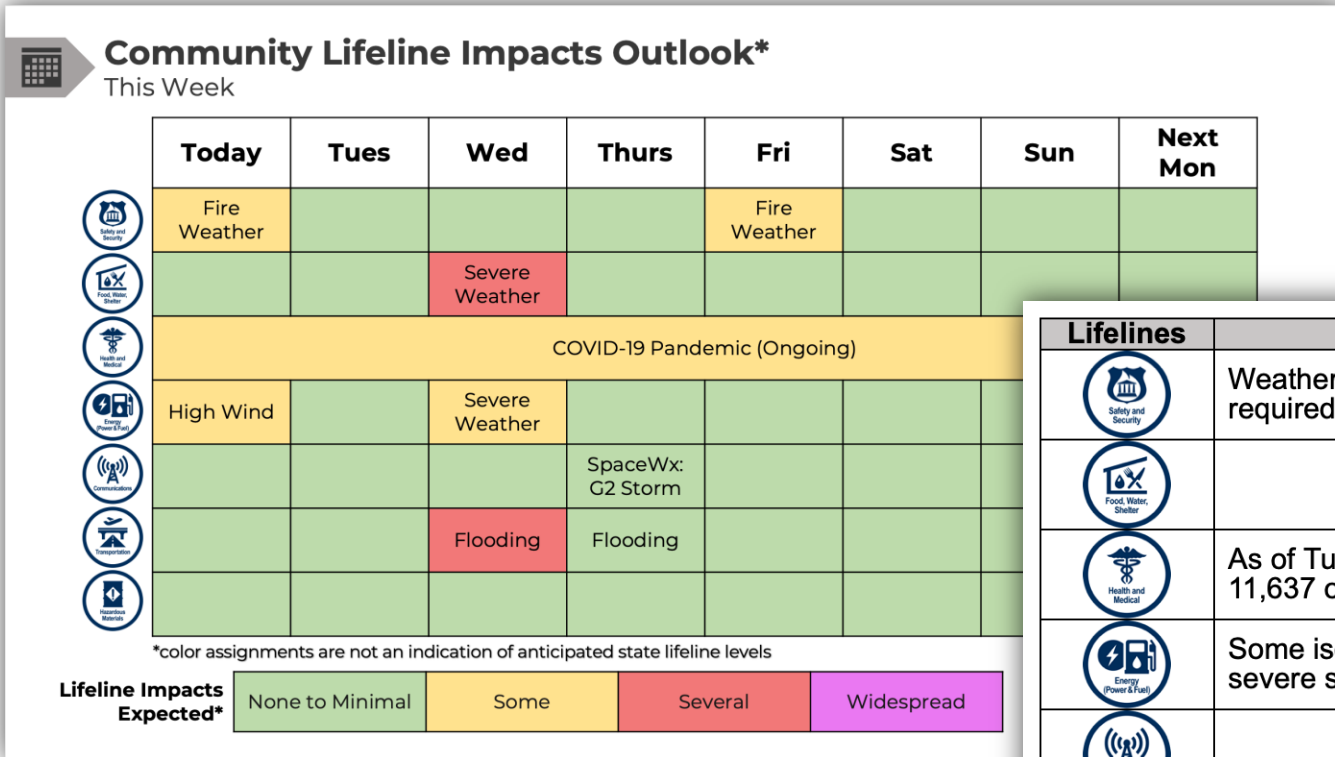
The Oklahoma State Emergency Operations Center remains activated to Level 3 virtually in support of the State's COVID-19 Response (Day 385).








All state level community lifelines remain GREEN at this time.

Situation Report #108 Published

State EOC Situation Reports are public and are [available in WebEOC](#). After the Situation Report (Public...

Briefings Built by Lifelines



Lifelines	Potential Impacts
	Weather and fuel conditions through Wednesday may result in more effort and resources required to achieve safe fire containment. Fires that develop will spread quickly.
	
	As of Tuesday, March 9, 2021, Oklahoma has confirmed 429,432 cases of COVID-19. 11,637 of these are active COVID-19 cases, with cases reported in all 77 counties.
	Some isolated power outages will be possible where damaging wind gusts occur with severe storms later this week.
	
	Late-week heavy rainfall may result in riverine and flash flooding, especially across northeastern Oklahoma. This may result in hazardous travel conditions.
	

What's Worked So Far (Not Exhaustive)

Lifeline	Supportive Static Data	Supportive Dynamic Data
Safety and Security	Police stations, Fire stations, government buildings, correctional facilities, community centers, libraries, schools, churches, casinos, flood risk data, dams, casinos, jurisdictional boundaries (especially TRIBAL!)	Fire Services: NWS Hotspot Detections Partnership, VIIRS/MODIS detections, IRWIN data for fire perimeters and incident locations. Community Safety: Weather advisories and other weather data, flood gauges, dam/reservoir levels
Food, Water and Sheltering	Grocery store locations, public water system boundaries, shelter locations (pre-identified)	Food: Mass feeding operations, warehouse information, SABER or other business status datasets Water: water system status, # affected Shelter: Shelter status, location and occupancy
Energy	Energy balancing sectors, utility provider territories, power plant locations/types, high-voltage transmission infrastructure	Power: Power outage data (we use data from poweroutage.us) Fuel: GasBuddy (especially coastal states)
Transportation	Road networks, primary snow routes, pipelines, railways, airports	Roads: Road temperatures, traffic/speed information, traffic cameras, Waze partnership** , ingress and egress data

Waze Partnership (Connected Citizens/Waze for Cities)

**Learn more at
waze.com/ccp**

- Receive crowdsourced transportation data including traffic jams and hazards.
- Share critical transportation information quickly to Waze users (closures, hazards).
- Route users to the nearest shelter.
- Backed by a network of volunteers.

Some Ideas We Have

- **Communications, Infrastructure:** Use pre-established propagation and site location data for communications towers (including NOAA Weather radio, weather radar, radio stations, TV stations, public safety communications, etc.) integrated to connect real-time status information, to quickly see areas impacted by tower outages, etc.
- **Communications, 9-1-1:** Static PSAP boundaries integrated to dynamic database (WebEOC) to allow status and EEI updates, dashboards.
- **Transportation, Aviation:** Flight data to better understand impacts and delays.
- **HazMat, Facilities:** Integrate static data with status and reporting information to quicker know “where” during an emergency.

Thank you!

Zach Stanford
Oklahoma Department of Emergency Management
and Homeland Security



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Avoiding the Re-Route

How Data Innovation in Emergency Management is Helping Restore Power Faster Across Multiple Lifelines by Knowing What's Damaged Faster

Tom Moran, All Hazards Consortium

Stacie Neal, Virginia Department of Emergency Management

Introduction - All Hazards Consortium

- A national 501c3 non-profit started by states on East Coast
- Formed in 2005 with 50,000+ stakeholders nationwide
- Focuses on public/private issues in:
 - Critical Infrastructure Resilience
 - Cybersecurity
 - Disaster Management and Response
 - Transportation
 - Sensitive Information Sharing
 - Research & Development
 - Research Commercialization
- Integrates private sector into government initiatives and visa-versa
- Leverages work groups and partnerships to create new solutions
 - Datasets, apps, tools, websites, agreements, etc....

Lifelines Supported

- AHC provide cross sector info sharing during disasters with industry and states, feds, trades
- FEMA Lifelines Supported:
 - Energy
 - Communications
 - Transportation
 - Healthcare
 - Food, Water Shelter

The Sensitive Information Sharing Environment (SISE) Working Group

VISION

- A new environment for sharing sensitive information that enables data-driven decision making amongst public and private stakeholders to effectively manage disruptions

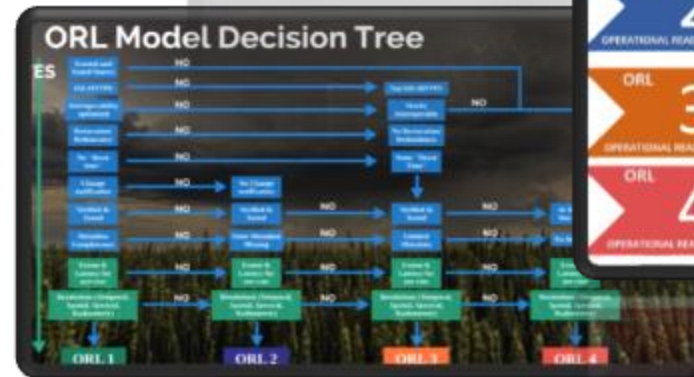
MISSION

- To provide an environment that leverages trusted personal relationships and invested organizations to distribute synchronized situational awareness information for expediting disaster response and recovery for the whole of community stakeholders



Challenges

- Operations / GIS Culture Gaps
- Lack of trust in operational decision-making data
- No Data Reliability / Confidence Standards
 - What data do I trust?



ORL	Operational Readiness Level	Characteristics
1	Operational Readiness Level	<ul style="list-style-type: none">• Data available NOW• Immediate Situational Awareness (SA) & Decision Making (DM)• Person available to contact
2	Operational Readiness Level	<ul style="list-style-type: none">• Data available sporadically• Event driven, may be delayed due to acquisition and processing time required• Could be very useful for SA & DM• Person available to contact
3	Operational Readiness Level	<ul style="list-style-type: none">• Data nearly operational, testing phase• Not guaranteed• Could improve SA and DM• Target operations in 6-12 months
4	Operational Readiness Level	<ul style="list-style-type: none">• Data in collection, processing and/or testing phase• Being evaluated for accuracy, validated• Target for operations 12+ months• Not likely to be immediately useful for operations

Successes

- Operational Data Confidence Standard (ORL)
 - 11 Utilities & 9 state GIS dept's
- A standardized measurement of data confidence in an operational setting
- Helps improve the transparency of data confidence and data quality over time
- Enables rapid data driven decision making during incidents.
- Federated agreement
 - Create data confidence standard
 - Increase data trust and interoperability
 - Leverage NASA's ORL standard
 - Rank and curate datasets in SISE
 - Create online tools and education

The screenshot displays the website for the Operational Readiness Level (ORL) standard. At the top, there is a navigation menu with links for HOME, STORM CENTRAL, REPORTS, EVENTS, INITIATIVES, and JOIN US. The main content area features a large banner titled "Increasing Decision Maker Confidence in Data" with a sub-header "Disasters Require Faster Decisions". Below this, there is a section titled "The ORL Model" which includes a diagram of the ORL ranking process (1-4) and a text box explaining the standard. A secondary banner asks "Are Your Operational Decisions Based on the Right Data?" and introduces the "ORL Ranking Tool (v1.2)". The tool interface shows an "Overall ORL Ranking: 1" and a form for "Data Source URL*" and "Intended Use*" with a dropdown menu. A "Help Information - Intended Use" link is visible. At the bottom, there is a "Data Source Keywords:" field and an "Entered Date" field.

MORE INFO: <https://www.ahcusa.org/orl-data-standard.html>

Use Case – Damage Assessment

- Assessing damage is the primary step to power restoration process
- States and Utilities both gather data for multiple reasons
- Data typically not shared due to many factors (trust, legal, history, technology, etc...)
- SISE-net initiative makes this possible
- GIS data shared, real-time
- Enhances situational awareness
- Expedites power restoration & public/private operational coordination



Use Case Damage Assessment

Dominion Energy

- Preliminary Assessment
- Final Assessment

Dominion - Isaias IDA Reports

112

Dominion - Current IDA input

3

Virginia EOC (VDEM)

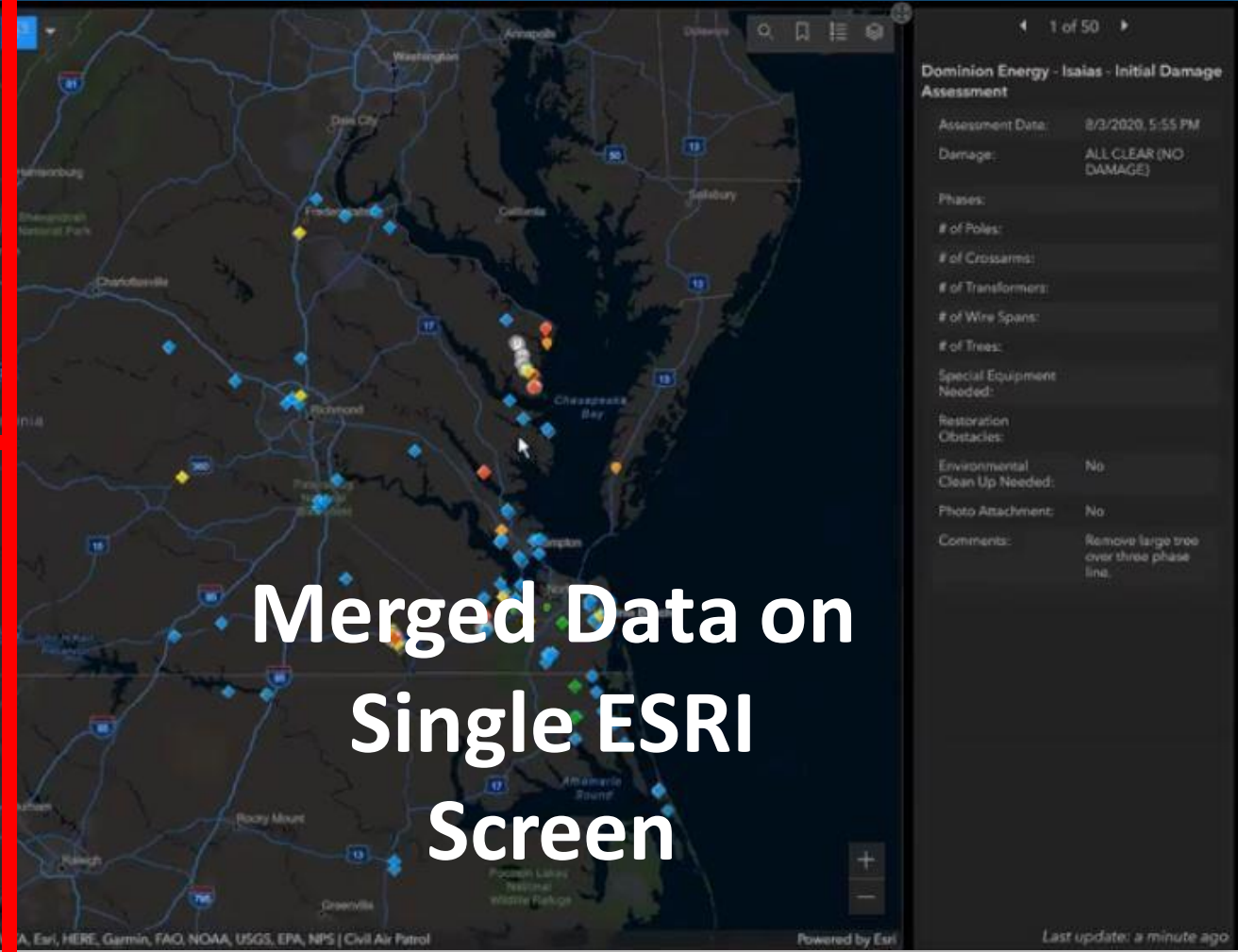
- Crisis Track Damage
- Assistance Requests
- CAP photos

VDEM Crisis Track Damage Reports - Isaias

41

VDEM - Current WebEOC Requests for Assistance

4k



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LinkedIn: <https://www.linkedin.com/in/stacie-neal-cem-nemaa-gis-p-0953089/>

Questions / Discussion

Add your questions and comments to the Q/A feature within Zoom



Contribute to a NAPSG survey on this topic:

<https://arcg.is/0q15bX>

Contribute to a NAPSG
survey on this topic:



Thank you!

<https://arcg.is/0q15bX>

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Coming up next!

Innovative Data Solutions for Preparedness, Response, and Recovery.

3:00pm - 4:30pm EDT

Featured Speakers:

Amanda Marchetti,
Product Manager –
Location Content



Matt Bourassa (Acting)
Director, DHS Geospatial
Management Office
(GMO) and **Julie Sokol** -
Mission Outreach Manager,
DHS (HSIN), GMO



Pratik Desai, Senior
Product Marketing
Manager - Public
Sector



Ryan Lanclos, Director,
Public Safety Solutions &
Disaster Response &
Jeff Baranyi, Emergency
Management & Fire
Technical Lead





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