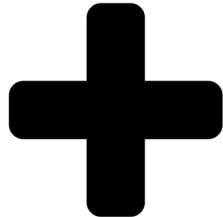


# FEMA Lifelines

Casey Bruns  
Adrian Campos  
Jacqueline Walker  
DSI-US-8 -ATX  
8.02.2019

# A Collaborative Problem-Solving Approach



# FEMA Community Lifelines

## 1) What are they?

Categories of a city's resources  
and their location and status

## 2) Why does FEMA use them?

Building efficiency in the workflow  
towards stabilization



FEMA / Andrea Booher



**FEMA**

# The Challenge

- 1) Estimate and categorize businesses and infrastructures in a city by lifeline**
  
- 2) Understand the distribution of lifelines**



# The Process

Research

Collect  
Data

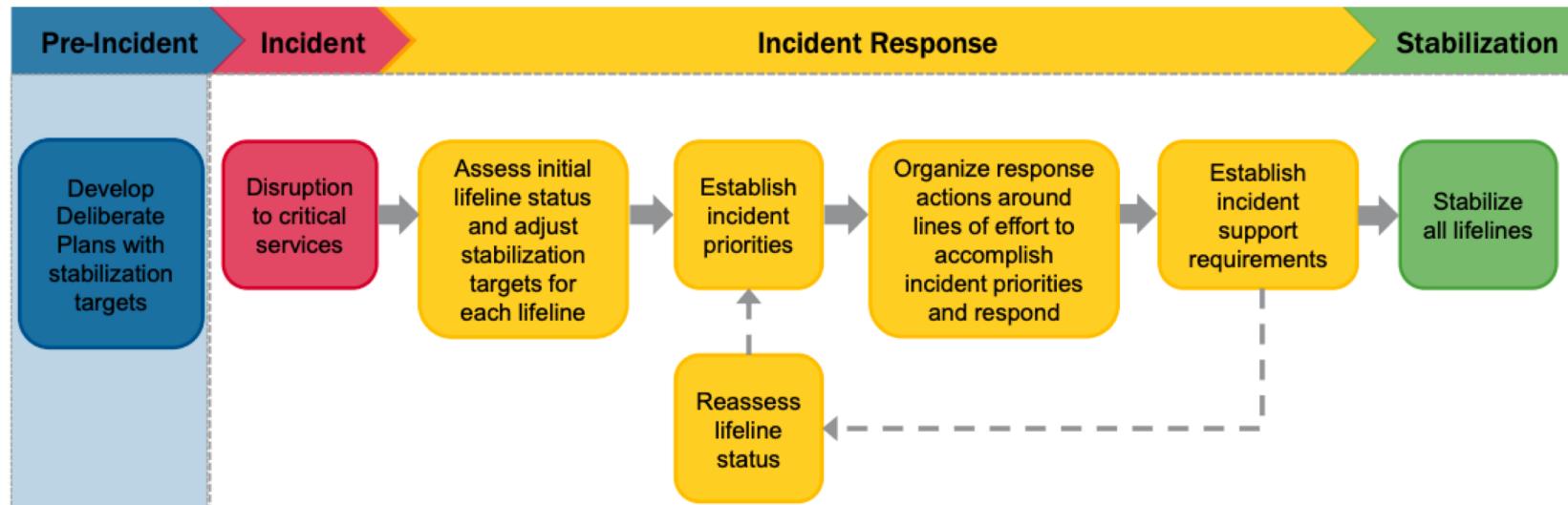
Map



FEMA



# FEMA Incident Workflow



FEMA

# Lifelines

1. Safety and Security
2. Food, Water, Sheltering
3. Health and Medical
4. Energy
5. Communications
6. Transportation
7. Hazardous Material



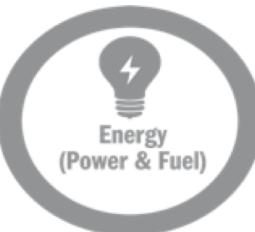
Safety and  
Security



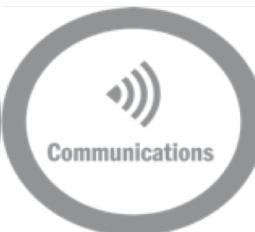
Food, Water,  
Sheltering



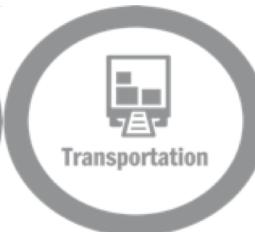
Health and  
Medical



Energy  
(Power & Fuel)



Communications



Transportation



Hazardous  
Material

# Components

- ❖ Safety and Security
  - Law Enforcement / Security
  - Search and Rescue
  - Fire Services
  - Government Service
  - Responder Safety
  - Imminent Hazard Mitigation
- ❖ Food, Water, Sheltering
  - Evacuations
  - Food/Potable Water
  - Shelter
  - Durable Goods
  - Water Infrastructure
  - Agriculture
- ❖ Health and Medical
  - Medical Care
  - Patient Movement
  - Public Health
  - Fatality Management
  - Health Care Supply Chain
- ❖ Communications
  - Infrastructure
  - Alerts, Warnings, Messages
  - 911 and Dispatch
  - Responder Communications
  - Financial Services
- ❖ Transportation
  - Highway/Roadway
  - Mass Transit
  - Railway
  - Aviation
  - Maritime
  - Pipeline
- ❖ Hazardous Material
  - Facilities
  - Hazardous Debris, Pollutants, Contaminants
- ❖ Energy
  - Power (Grid)
  - Temporary Power
  - Fuel

# The Process

Research

Collect  
Data

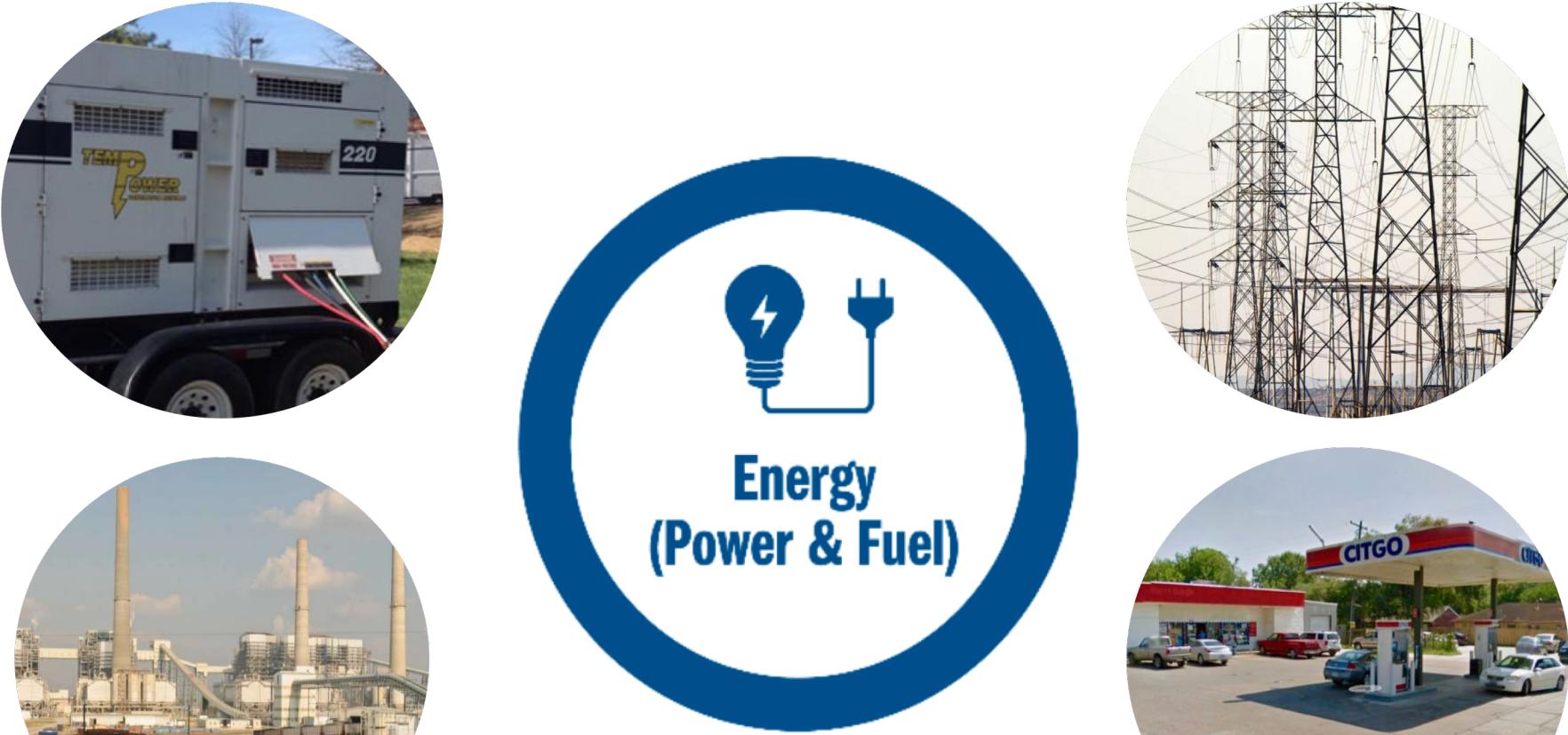
Map





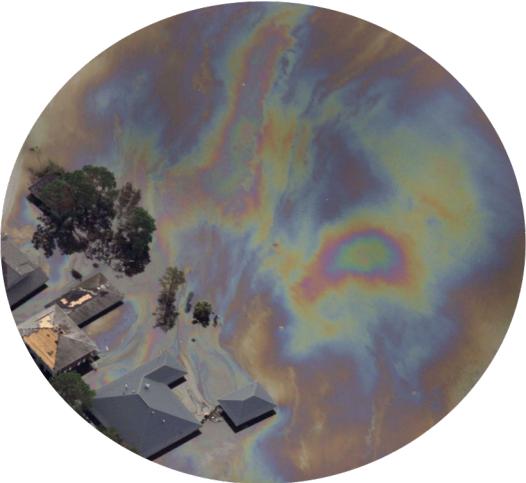












# The Process

Research

Collect  
Data

Map



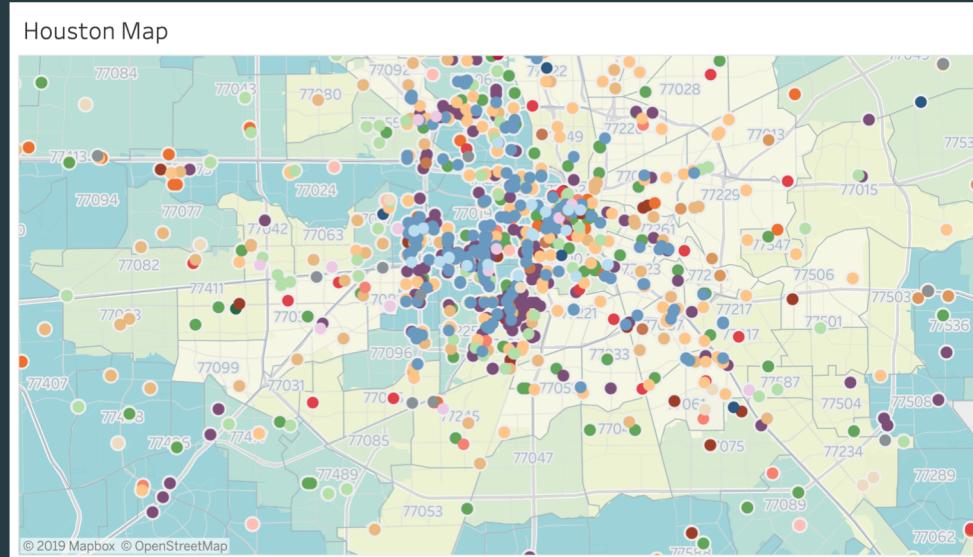
# Demonstration

Actionable Data Needed  
(audience participation)

```
find_lifelines('YOUR CITY HERE')
```

# Visualizing the Data

Click on the map to engage in our interactive visuals!



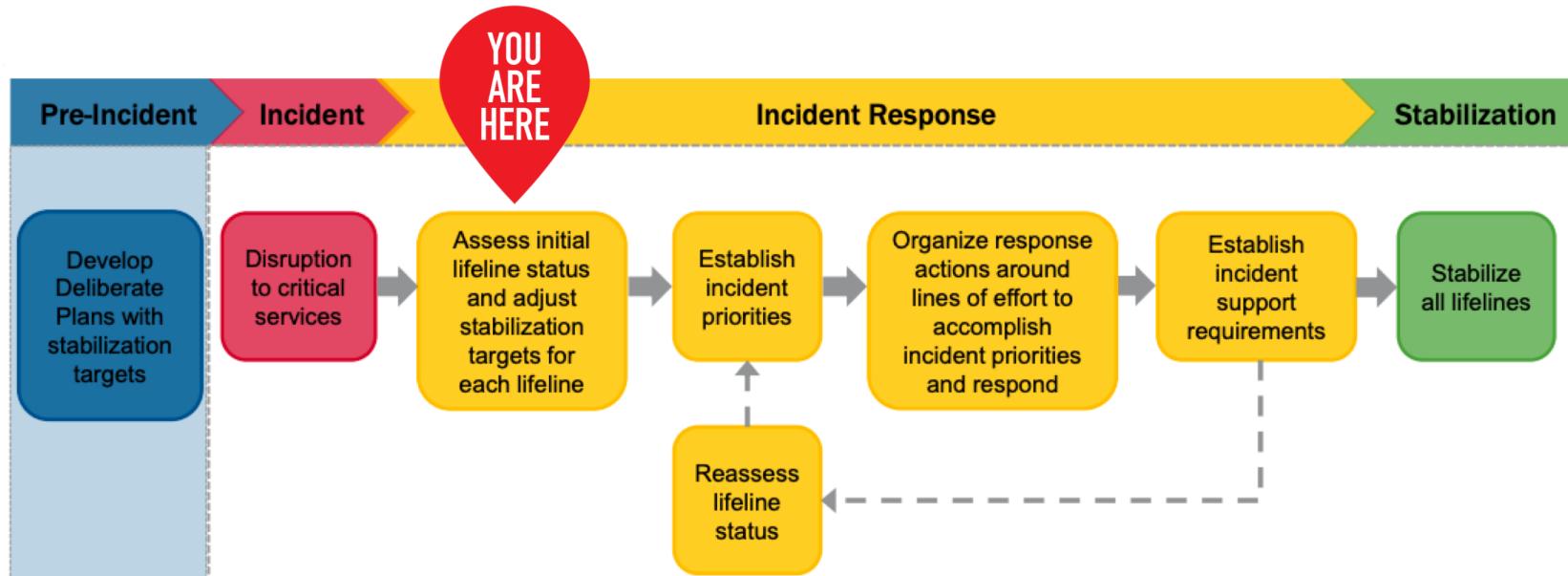
[\\*Link, just in case.](#)

# Summary and Wrap Up

- 1) **Estimate and categorize businesses and infrastructures in a city by lifeline**
  
- 2) **Understand the distribution of lifelines**



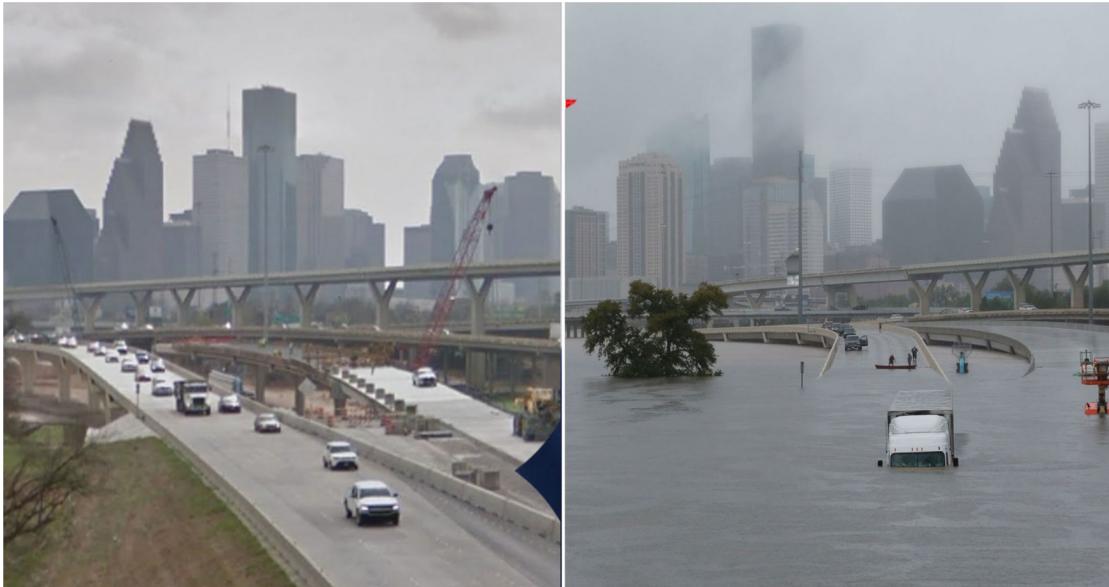
# Next Steps



FEMA

# Next Steps cont'd

Projection of **actual effects** on a city's lifeline during and after a storm. Case Study: Hurricane Harvey





# Thank you!

Questions?