



PIPELINE SAFETY AND GIS

HOW WE LEVERAGE GIS TO MAKE PIPELINES SAFER

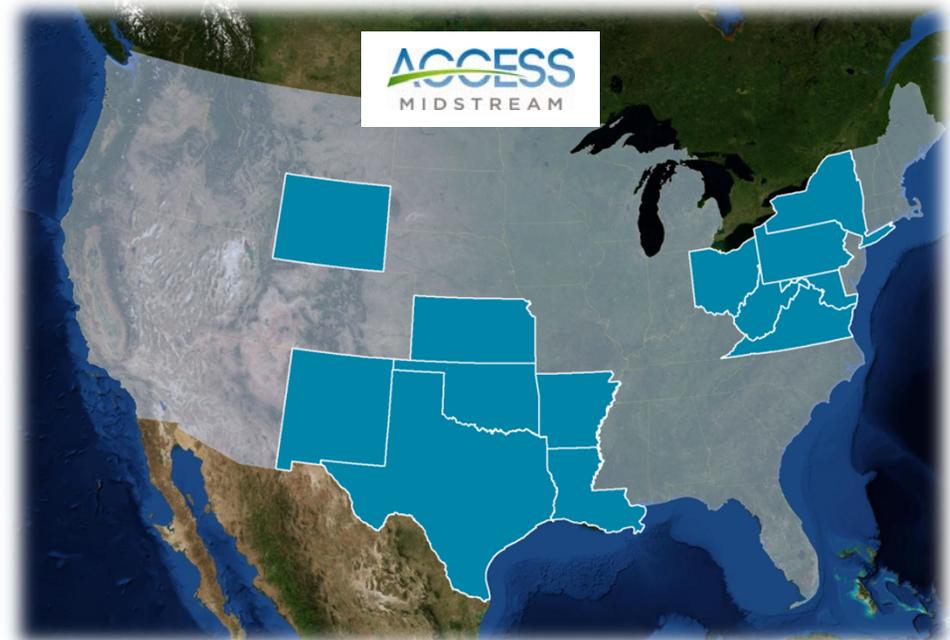




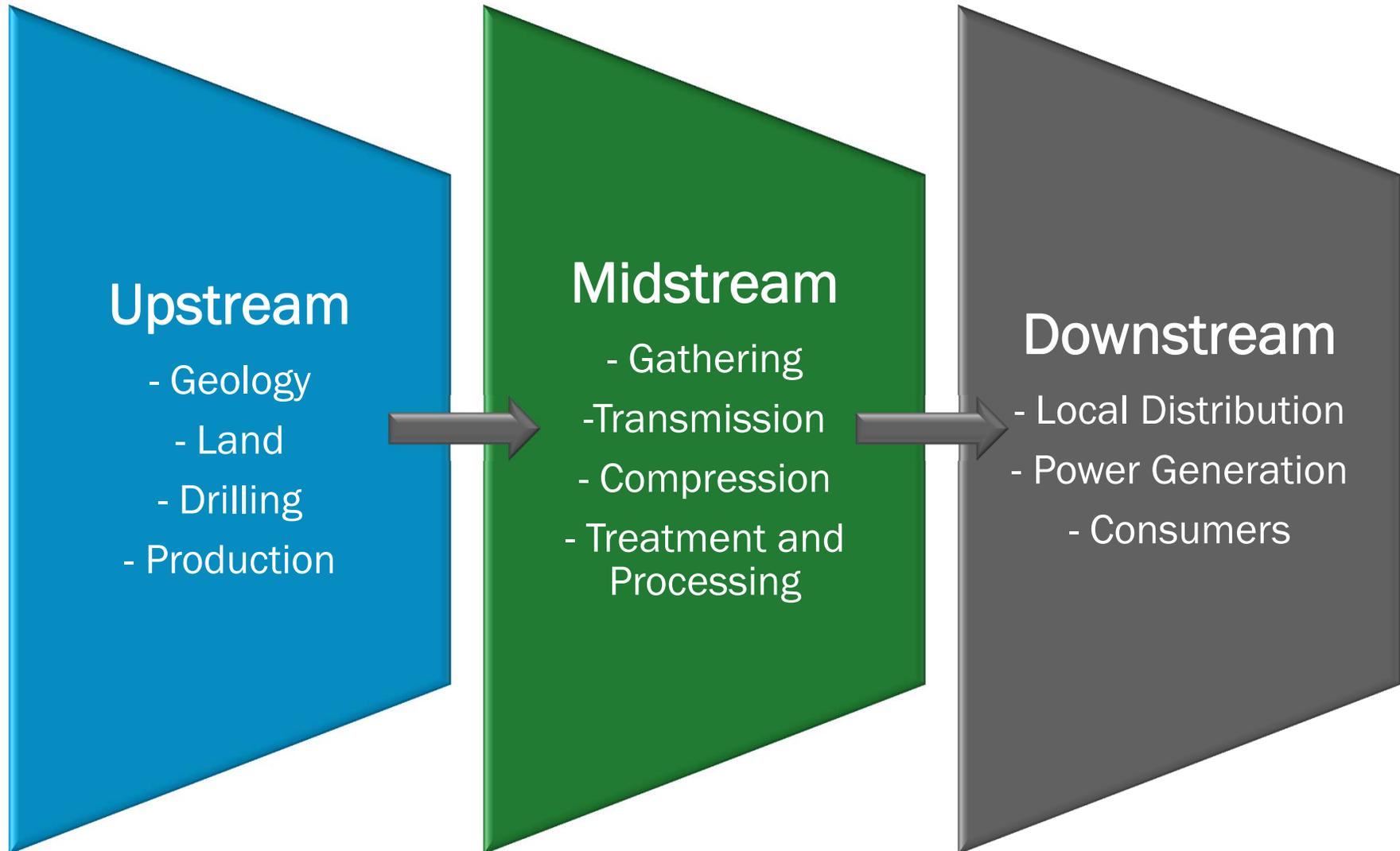
OVERVIEW:
ACCESS MIDSTREAM AND
OUR INDUSTRY

WHO IS ACCESS MIDSTREAM?

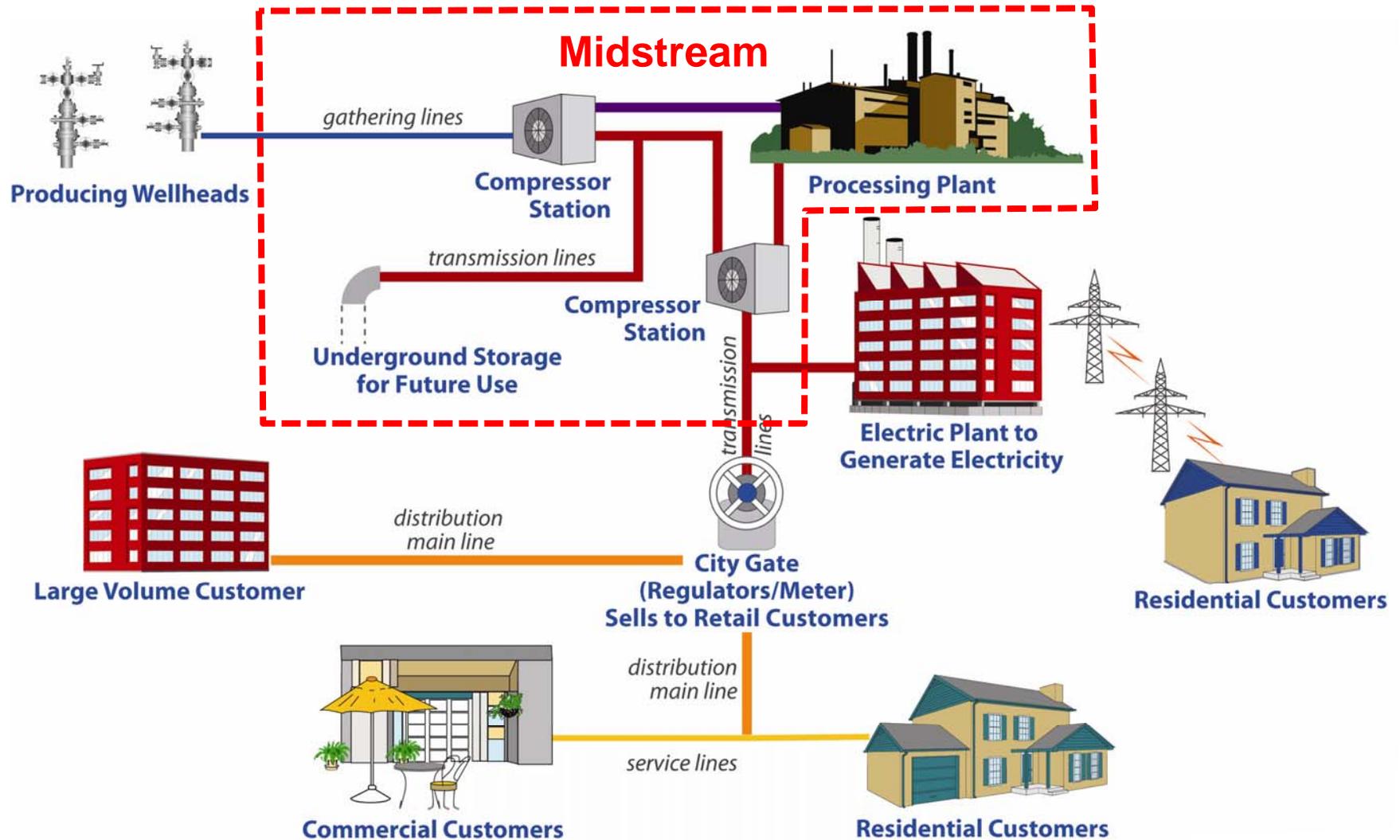
- Headquartered in **Oklahoma City** with operations across the United States.
- Industry's largest independent gathering and processing master limited partnership as measured by throughput volume. Operations in **13 states** with over **6500 miles** of pipeline.
- Access owns, operates, develops and acquires natural gas and liquids gathering systems and other **midstream energy assets** across the United States for the largest energy companies in the country.
- Access is committed to safe and environmentally sound operations across all of its operating areas and in 2011 celebrated a **third consecutive year with no lost-time injuries, zero agency reportable spills and no air permit violations.**
- Founded as Chesapeake Midstream, a wholly owned subsidiary of Chesapeake Energy. Now an **independent midstream company.**



WHERE DOES MIDSTREAM FIT?



WHAT DOES MIDSTREAM MEAN?





PIPELINE SAFETY:
REGULATORY COMPLIANCE AND
PIPELINE INTEGRITY WITH GIS

WHAT DOES IT MEAN TO BE REGULATED?

- **Government inspections and audits**
 - Agencies inspect and monitor operator activity for regulated lines
- **“Unregulated” does not mean “Unsafe”**
- **Examples of Required Tasks:**
 - **General compliance requirements:**
 - Pipeline patrols
 - Stringent construction requirements
 - Operator qualification training and certification
 - Operations and maintenance inspections
 - Data retention requirements
 - Corrosion control documentation
 - Class location and HCA studies
 - Integrity management
 - Annual Reporting
 - Quality control and inspections
 - Inspections by state and/or federal auditors
 - **Public Awareness:**
 - Safety communication and outreach efforts
 - Required messaging
 - Defined stakeholders
 - Effective measurement
 - **Damage Prevention:**
 - One call ticket audits
 - Positive response audits
 - Bottom Line Results

GOVERNMENT REGULATIONS

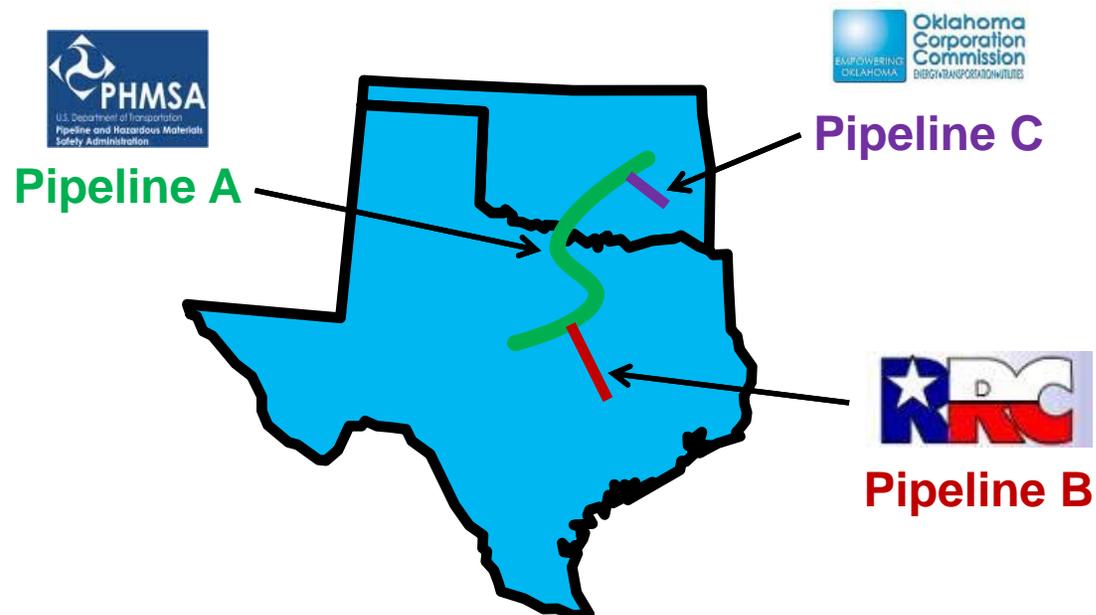
- Not all pipelines are regulated...
 - Natural gas pipelines are subject to Class Location Determinations based upon population density and operating characteristics (operating pressure, line size, material grade, usage type, etc)
 - Liquid product pipelines are regulated based primarily upon potential environmental impacts, or High Consequence Areas



REGULATORY JURISDICTION

■ Interstate vs Intrastate

- Determines the government entity with oversight/jurisdiction
 - Pipeline A is *interstate* and regulated by PHMSA
 - Pipeline B is *intrastate* and regulated by Texas Railroad Commission
 - Pipeline C is *intrastate* and regulated by Oklahoma Corporation Commission



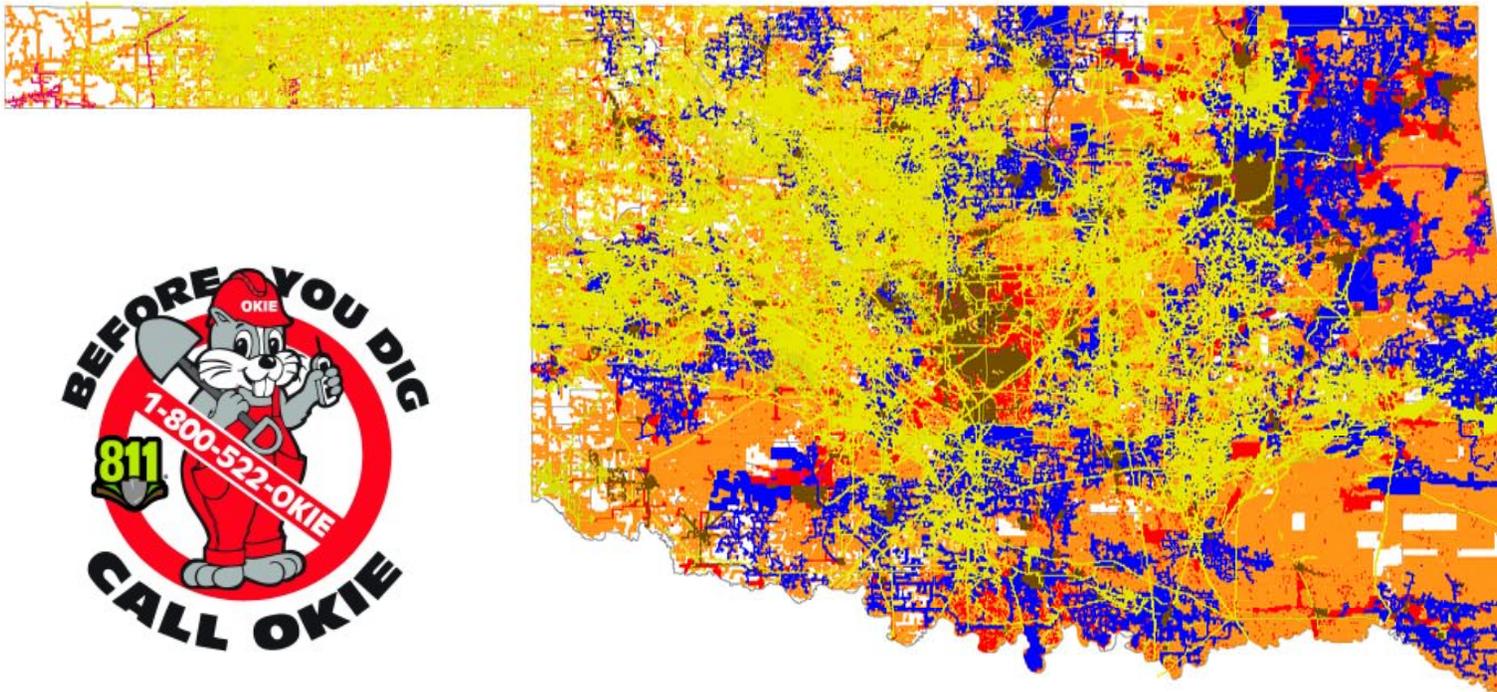


PIPELINE SAFETY AND GIS:

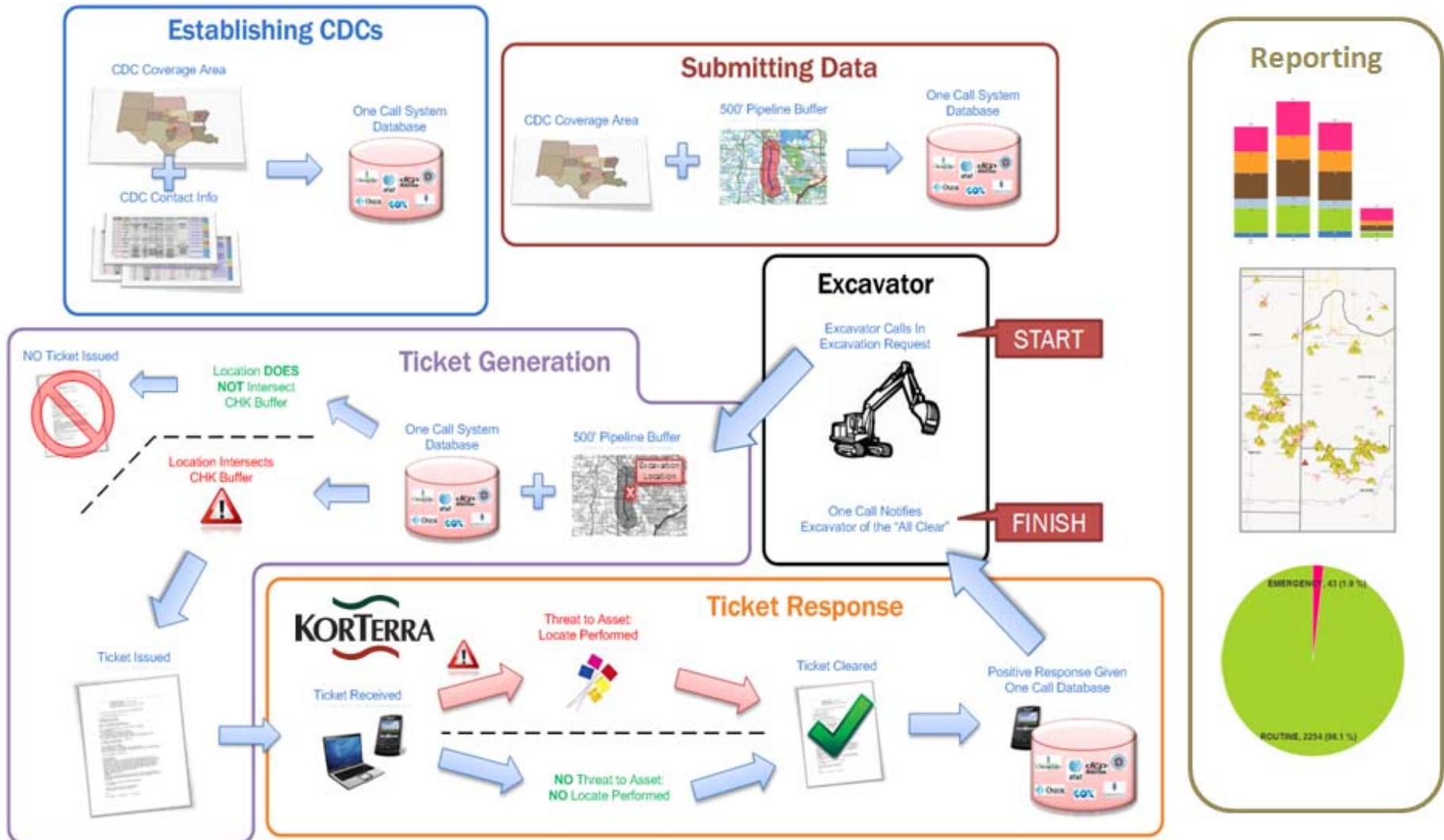
1. DAMAGE PREVENTION & ONE CALL MANAGEMENT
2. INCIDENT TRACKING
3. INTERNAL INSPECTIONS
4. RISK ANALYSIS
5. PUBLIC AWARENESS AND EMERGENCY RESPONSE

WHY DAMAGE PREVENTION?

- Over 2.5 million miles of oil/gas pipeline in the United States
- That doesn't include electric lines, water pipe, sewage, fiber-optic, telephone lines or other types of facilities.



THE ONE CALL PROCESS USING GIS



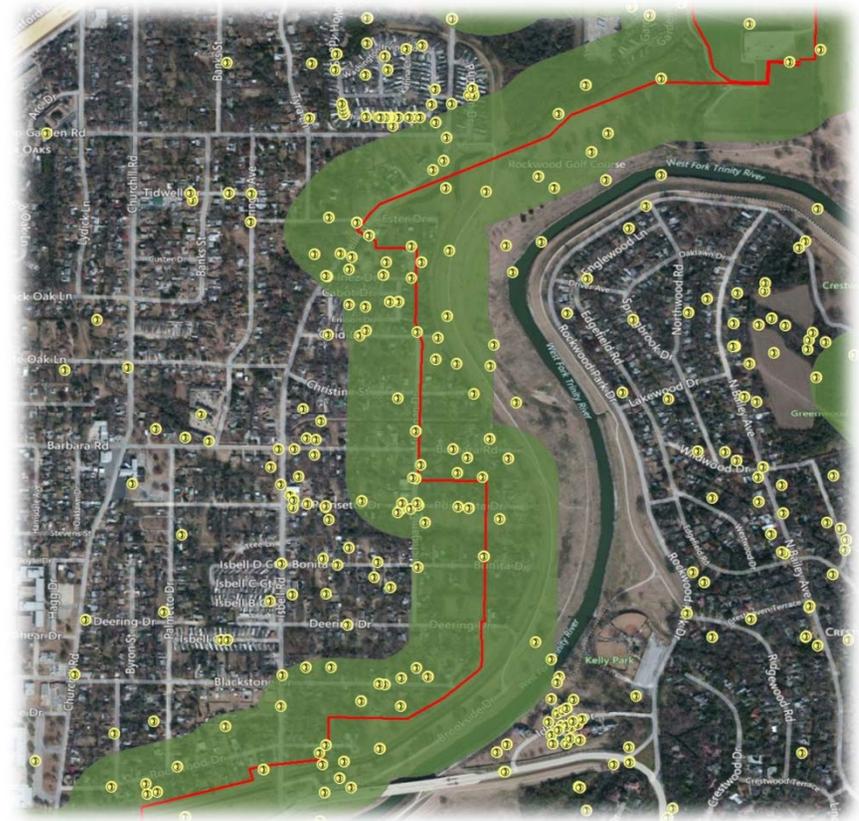
BENEFITS AND GAPS OF GIS FOR ONE CALL MANAGEMENT

■ Benefits

- Efficient – Ticket requests to OCC processed quickly
- Precise – Less “white noise”
- Cheaper – Less tickets means lower costs
- Online request systems

■ Gaps

- Poor geocoding results on tickets
- Incorrect GPS coordinates
- Requires highly accurate asset datasets



PIPELINE INTEGRITY – INTERNAL INSPECTIONS WITH GIS

- Inline inspection (ILI) data is gathered using smart pigs to locate defects along a pipeline.
- The data is collected and reported in GIS format to locate weld locations, as well as defects, dents, gouges, corrosion or other abnormal operating conditions.



PIPELINE INTEGRITY – RISK RANKINGS AND ANALYSIS

- GIS is used to identify probability and consequence rankings for each pipe segment in regards to internal or external corrosion, excavation damage and other operating concerns.
- Risk scores impact business decisions.

4Q12 LRMT Meeting
Mayfield Field Office



REGULATORY OVERVIEW FOR PUBLIC AWARENESS

■ State Enforcement:

- We are audited and inspected by state enforcement agencies.

■ API RP 1162:

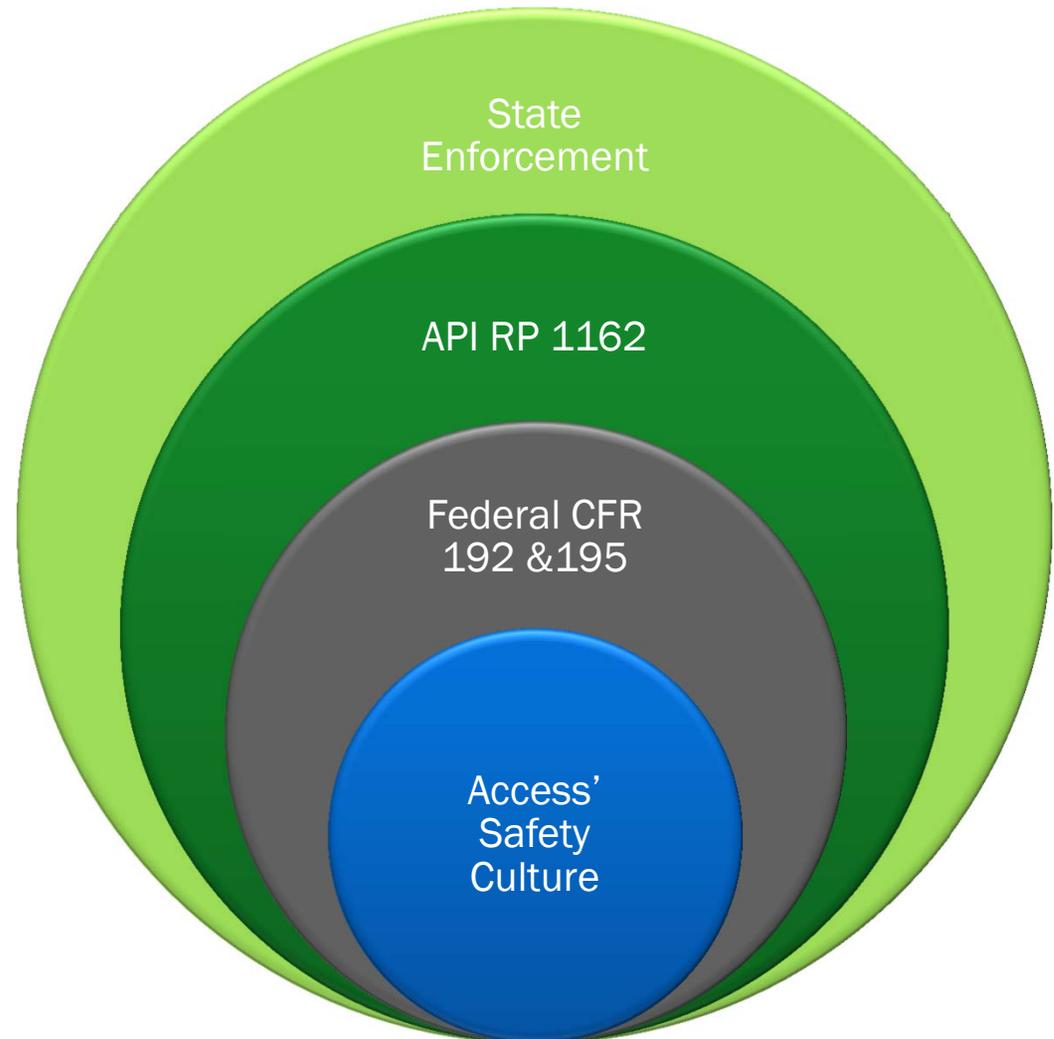
- Provides guidance for pipeline operators to develop and manage public awareness programs. Requires regular (annual/bi-annual) contact with affected stakeholders.

■ CFR 49 Part 192 & 195:

- Incorporates by reference the API RP1162 as required guidelines by PHMSA

■ Access' Safety Culture:

- Provides the support and empowerment for our pipeline safety and integrity efforts.



PUBLIC AWARENESS GOALS

8 Core Safety Messages

Pipeline Purpose
and Reliability

Damage
Prevention

Right of Way

Potential Hazards

Pipeline Location

Prevention Measures

Encroachments

Leak Recognition and
Response

Emergency Officials

Excavators & Farmers

4 Stakeholder Groups

Local Public Officials

Affected Public & Schools

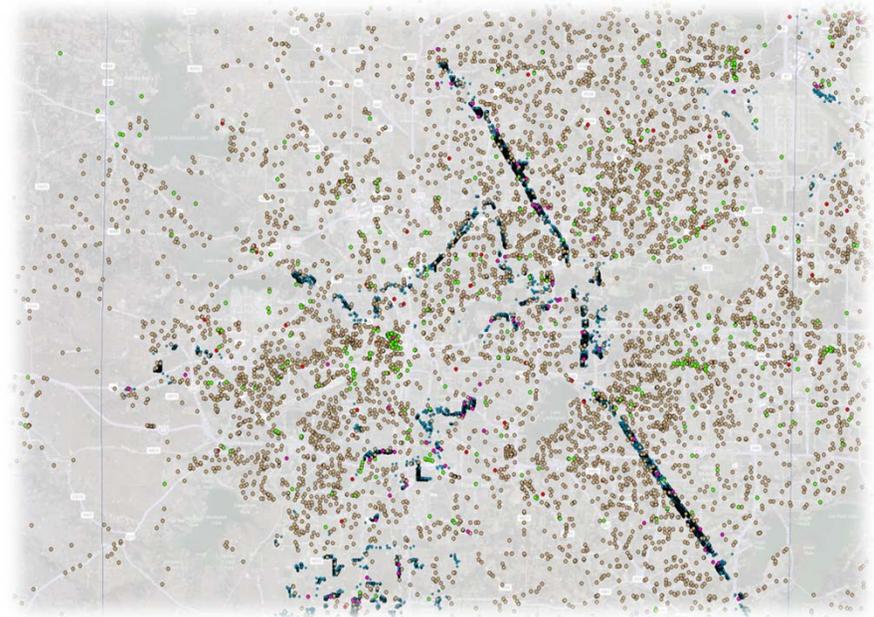
GIS IN PIPELINE EMERGENCY RESPONSE

Current Uses:

- Audience identification
- Shows pipeline location
- NPMS
- Simulations/training

Current Gaps:

- NPMS only contains transmission pipelines
- Emergency responders are without a centralized GIS
- Lack of national effort to advance the technology for pipeline safety



GIS FOR PUBLIC SAFETY IN THE PIPELINE INDUSTRY



■ Our goals as an organization:

- A national public safety GIS initiative that will put important pipeline and other public safety data from all industries in the hands of emergency response personnel and community planners to make our communities safer.
- A pipeline specific GIS can be deployed easily, but if it's not a useful tool for multiple tasks for the target audience it will not be leveraged to full potential.





THANK YOU!

QUESTIONS?

Eric Williams

Coordinator, Damage Prevention and Public Awareness

- Before January 1: eric.williams@chk.com
- After January 1: eric.williams@accessmidstream.com
- Learn more and take our survey: www.AccessMidstream.com/Safety