Ohio | Public Utilities Commission

“What’s the delay with the needed replacement of old pipe?”

Pete Chace
Public Utilities Commission of Ohio
Gas Pipeline Safety Program Manager

Infrastructure Replacement

- Cast Iron / Wrought Iron
- Bare Steel / Ineffectively Coated Steel
- Copper
- Vintage Plastics

History of Cast Iron

- Cast iron piping was first used in the late 19th century to transport manufactured gas, becoming more popular in the early 1900's.
- By 1983: 65,907 miles nationwide (by 2013: 30,904 miles)
- Cast iron piping can last a long time under the right conditions.

Oldest known cast iron main:

Palace of Versailles (France) - 1664

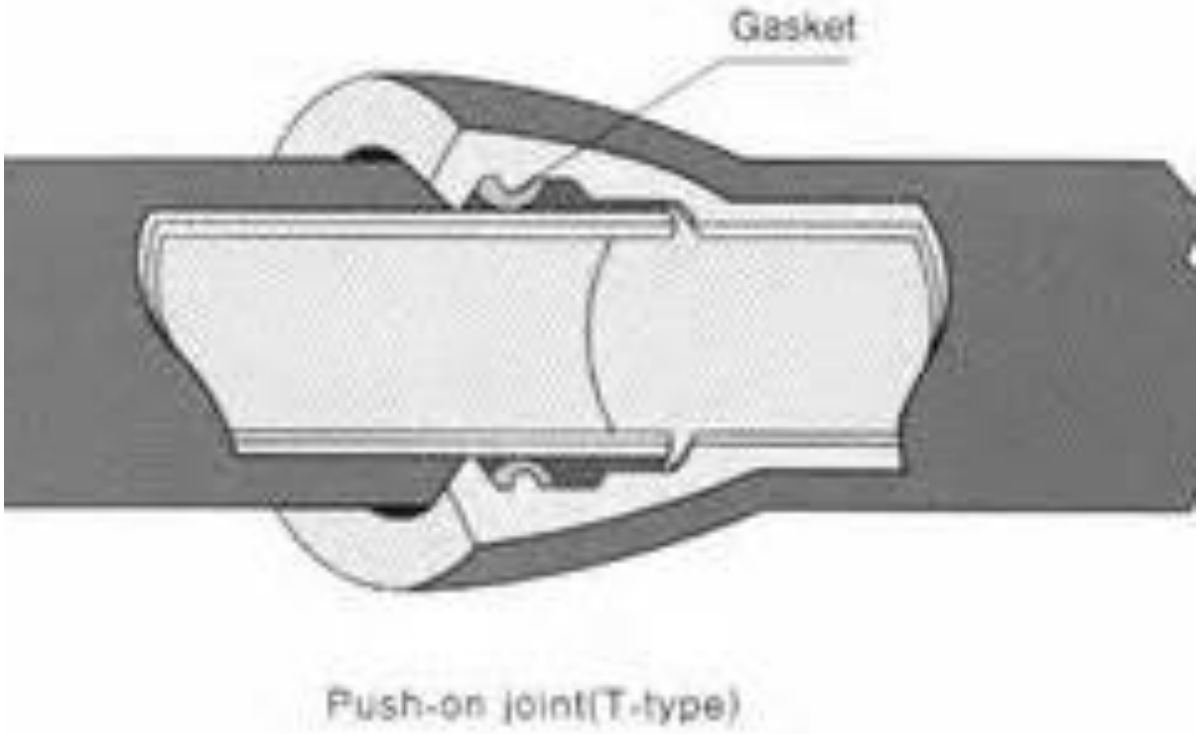
Facts about Cast Iron

- Only 2.5% of distribution mains are cast iron but 10.5% of Incidents involving distribution mains have cast iron mains.
- 38% of cast iron main Incidents involve a death and/or injury, 20% for other types of mains.

Hazards associated with Cast Iron Piping

- Largest threat is earth movement (excavation, frost heave, etc.)
- Corrosion / Graphitization
- Leaks from piping joints

Ohio | Public Utilities Commission



Bell-and-spigot joint

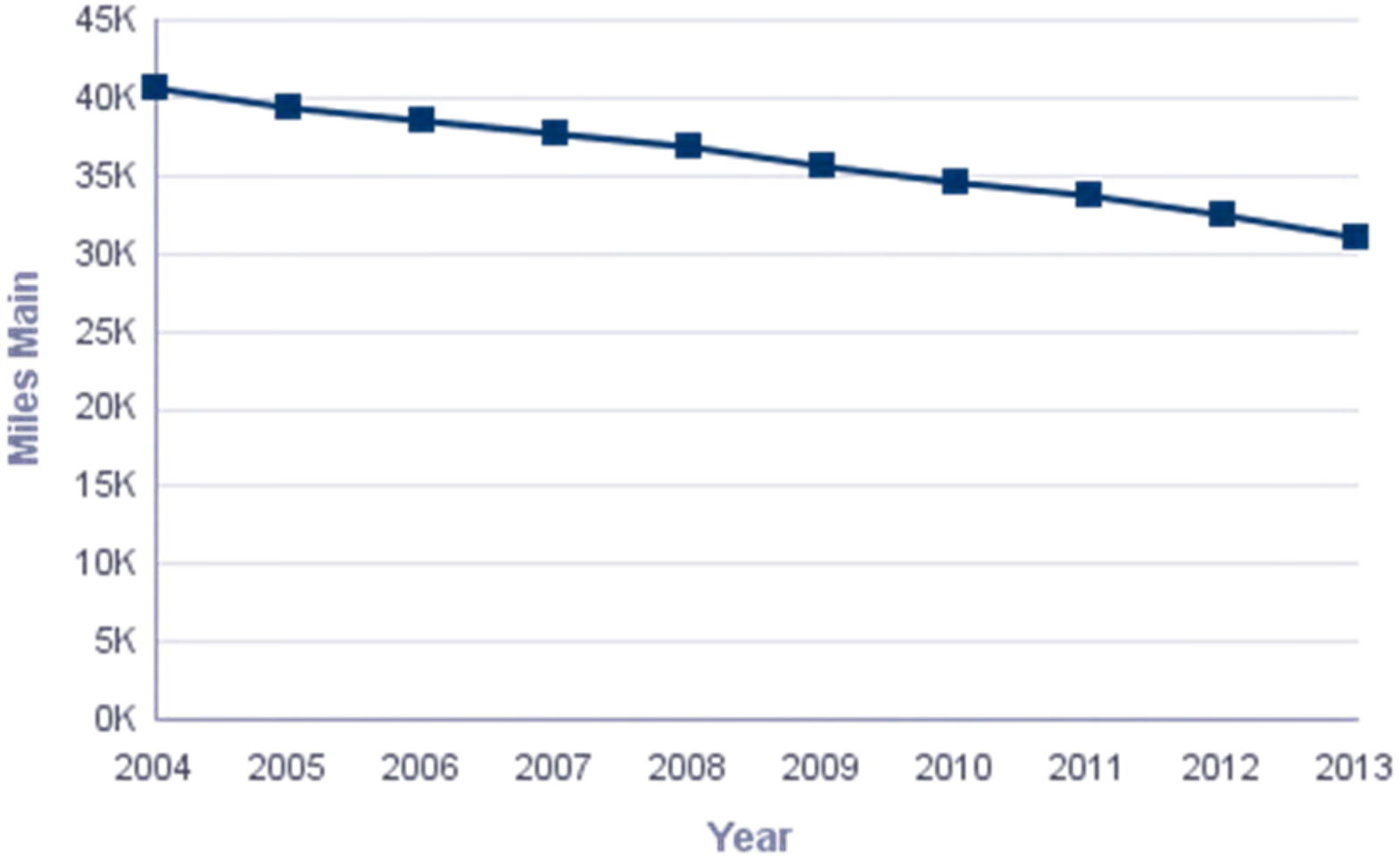
Ohio | Public Utilities Commission

Damaged cast iron piping

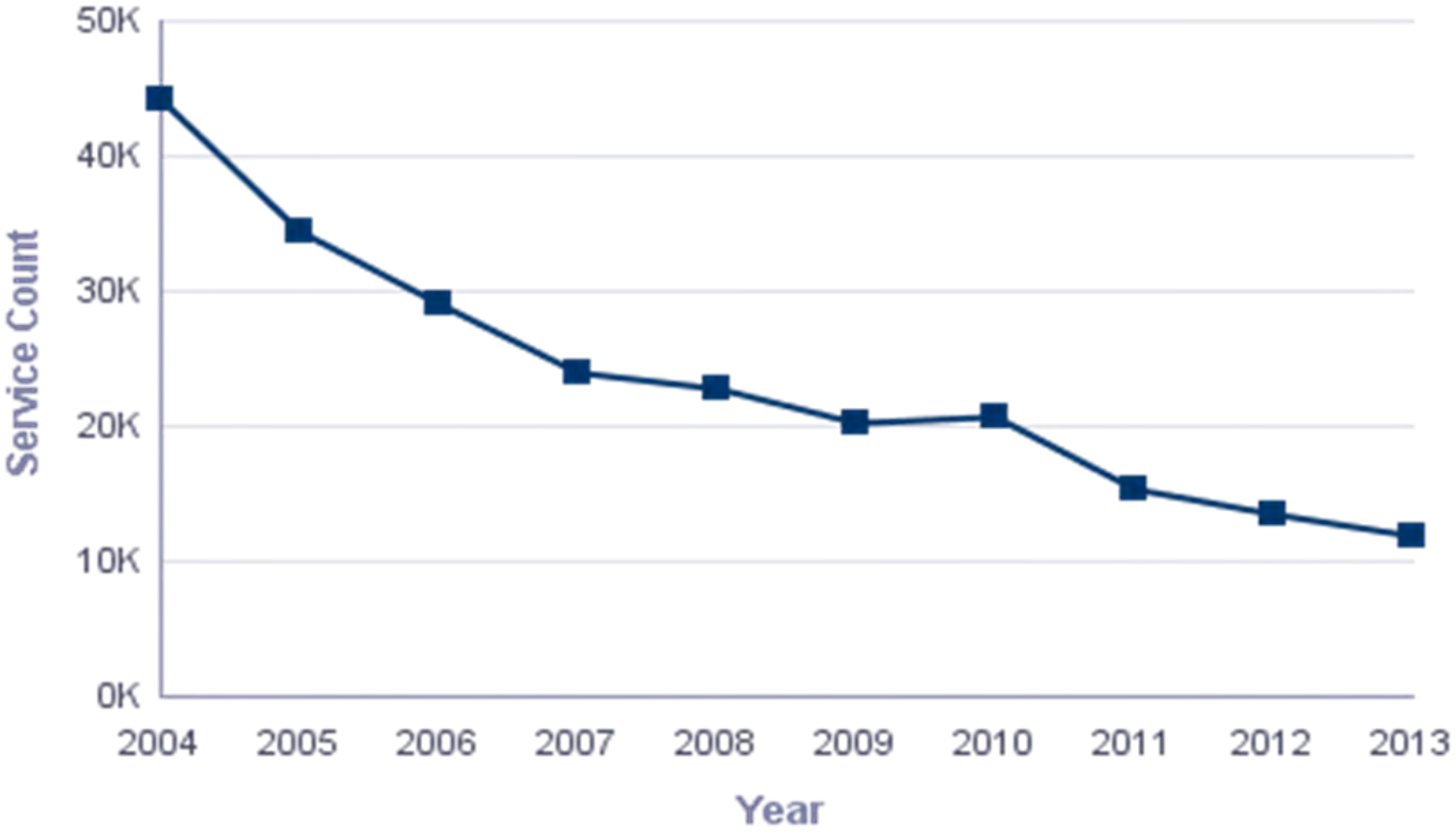




Cast Iron Inventory Reduction



Cast Iron Service Line Reduction



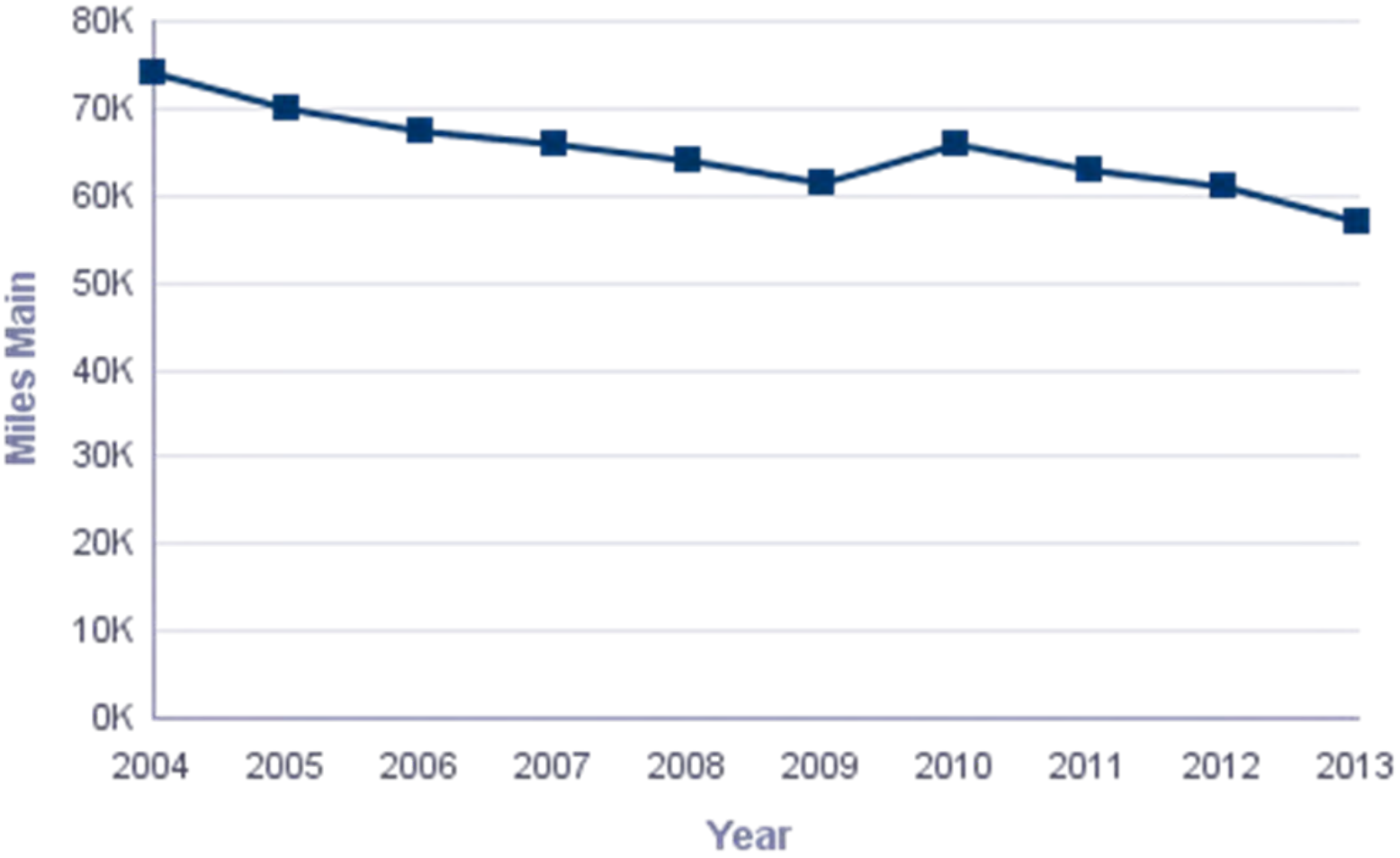
Bare Steel

- Includes bare and ineffectively coated steel lines.
- Threat is susceptibility to corrosion.

Ohio | Public Utilities Commission

Ohio | Public Utilities Commission

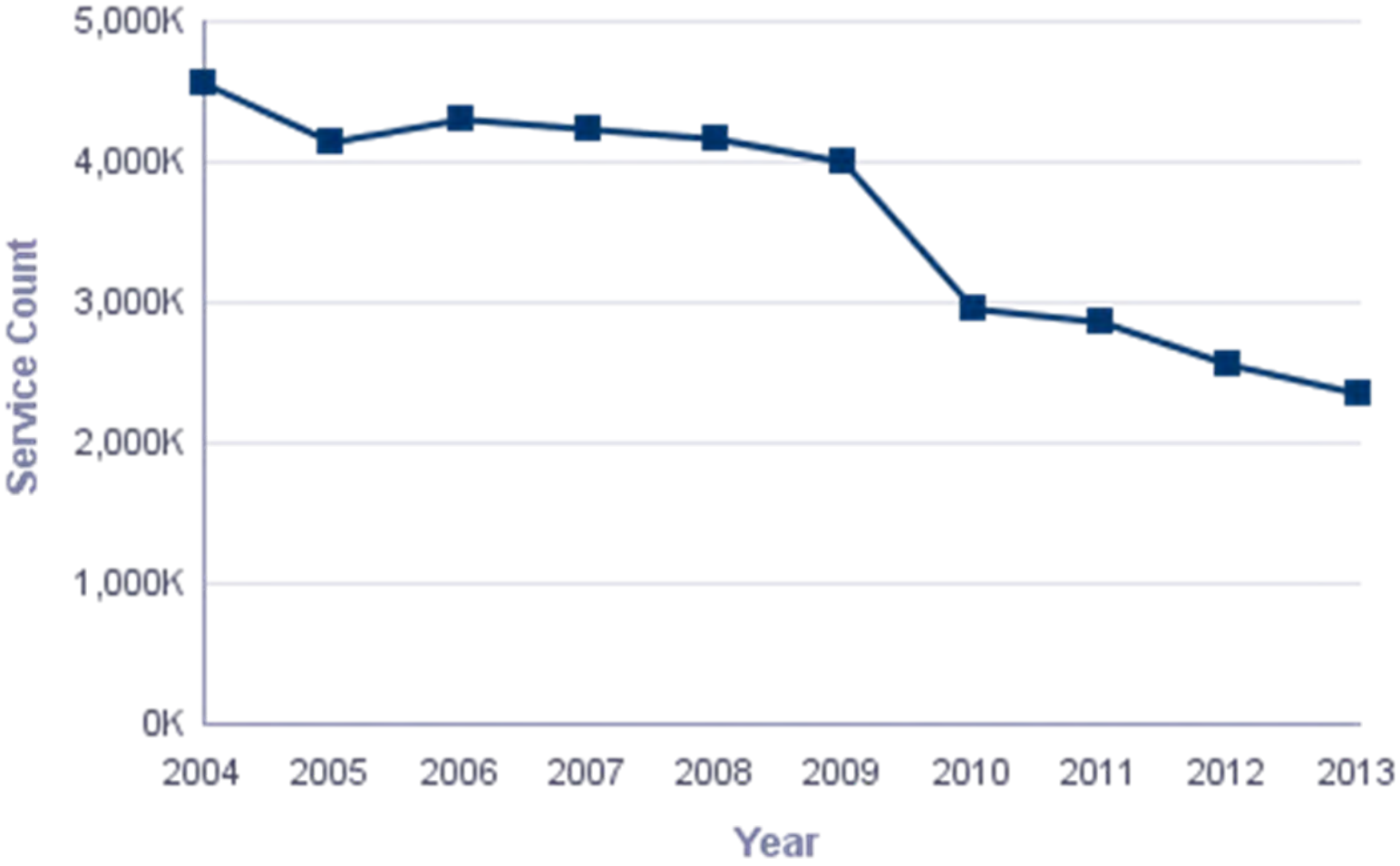
Bare Steel Inventory Reduction








Bare Steel Service Line Reduction

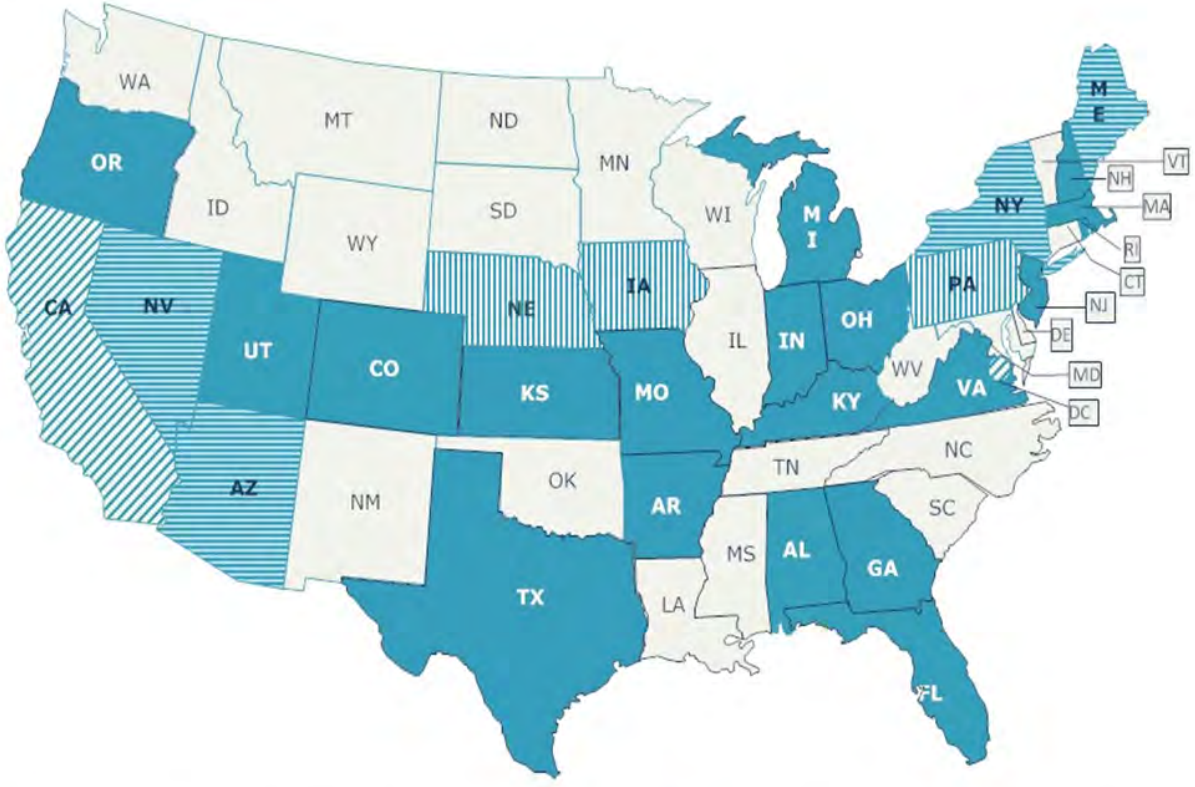


Vintage Plastics

- Some plastic piping from the 1970s and 80s can be susceptible to cracking when stressed.
- PHMSA does not inventory this type of piping like cast iron or steel (we don’t in Ohio either)

Aldyl-A Piping

States with Cost Recovery Mechanisms (as of 9/12)



States with Full Infrastructure Cost Recovery Mechanisms (19)

States with Limited Infrastructure Cost Recovery Mechanisms (4)

States with Pending Infrastructure Cost Recovery Mechanisms (1 + DC)

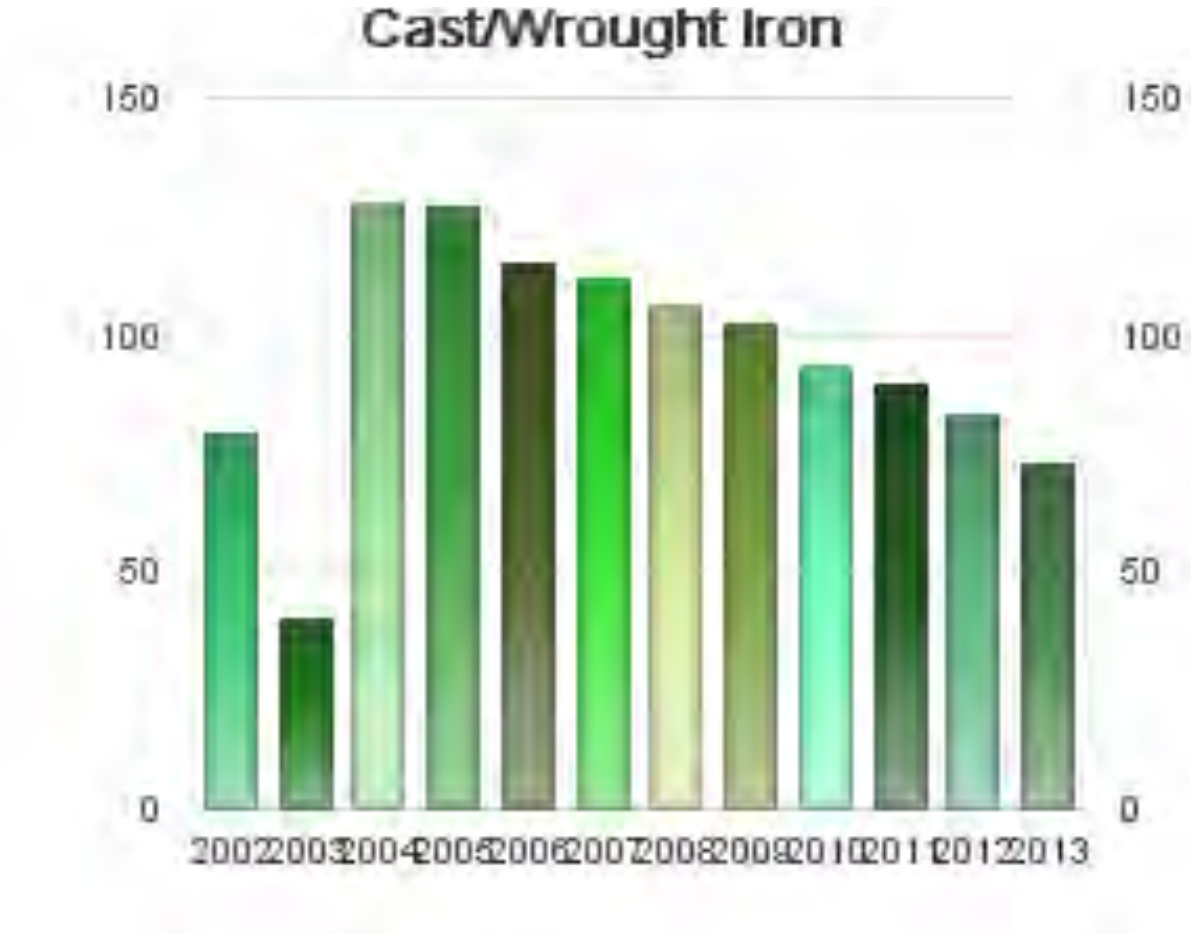
States with Legislation or Generic Rulings (3)

Cast Iron Replacement Challenges

- Risk Based Replacement Programs
- Qualified Workforce
- Schedule Conflicts with Municipalities
- Expansion vs. replacement

Risk Based Replacement Programs

- Cast Iron May not be the highest risk pipe in the system (Bare Steel, Vintage Plastics, etc.)
- Operator has to collect and present data to justify projects for cost recovery.



Data Limitations - example





Qualified Workforce Limitations

- New Construction is not a Covered Task under Operator Qualification (it is on Ohio)
- Contracted labor can install new Pipe but cannot tie in to live gas
- Operator Qualified workforce cannot keep up with Contractor crews

Scheduling Conflicts

- Must work with existing Municipal Infrastructure Replacement Programs
- Cast Iron often ends up being replaced in conjunction with Sewer Replacement or Road Renewal
- Municipal Permitting, Environmental Permitting, etc.
- Traffic Routing Issues

System Expansion vs Replacement

- Population growth in some areas pull resources from replacement projects
- Expansion of Natural Gas availability (new suppliers and new customers)

Interim Customer and Consumer Protection

- Distribution Integrity Management
- Public Awareness programs
- Existing safety requirements

Ohio | Public Utilities Commission

Questions?