Prioritization of Pipeline Projects
Three “P”s to Progress

Christina Bowers - Manager Underground Asset Management
Ryan Taylor, PE - Supervisor Water Distribution Design

September 15, 2016

Agenda

• Citizens Energy Group Overview
• Tools for Asset Management
• Level of Service Goals
• Main Replacement Prioritization
  – Criteria
  – Results
• Cost Sharing Matrix
Who We Are

- Natural Gas Utility
- Chilled Water
- Steam District
  - 2nd Largest in Nation
- Waste Water & Water
  - Largest in Indiana
- Other For-Profit Businesses

Citizens Water

- Citizens provides water service to more than 309,000 customers
- Citizens also serves the majority of Marion County and portions of seven (7) surrounding Counties
- 41+ billion gallons per year
- 9 treatment plants with total 250+ MGD capacity
- 4,334 miles of main
Tools for Asset Management

• Geographical Information System (GIS)
  – Asset Inventory
  – Customer Communication
• Work Order Management Systems
  – Maintenance Tracking
  – Life Cycle Costing
• Hydraulic Models
  – Level of Service
  – Critical Assets

Level of Service Goals

• Fire Flow
  – Residential: 1,000 gpm
  – Non-Residential: 1,500 gpm
• Pressures
  – Minimum Static: 35 psi
  – Minimum Fire Flow: 20 psi
• Velocity
  – Optimal Range: 2 – 5 fps
• Water Quality
  – Optimal Water Age: <3 days
Main Replacement Prioritization Criteria

- Water Quality
  - Water Age
- Hydraulic Performance
  - Static Pressure
  - Residual Pressure
  - Pipe Velocity
- Community Relations
  - Potential Customers
- Reliability / Criticality
  - Pipe Age
  - Main Breaks
  - Critical Customers
  - Existing Customers
  - Existing Demand
  - Road Classification
  - Redundancy

Main Replacement Prioritization

- Program Demonstration
Cost Sharing Matrix

- What is it and What is it Good for
  - Main Improvements Required Prior to New Service
- Historical Approach
  - Hydrant Flow Test
- Urban Development
  - Old Infrastructure
  - Increase from Historical Demand

Cost Sharing Matrix

- Evaluation Process
  - Existing Infrastructure Condition
  - Non-Residential Demand
    - 1,500 GPM at 20 psi
      - Max Day Demand
    - Section 10.3 of Terms & Conditions
  - Developer Impact
  - Prioritization Score

- Cost Sharing Percentage
Cost Sharing Matrix
• Program Demonstration

Summary
• Why Asset Management
  – Knowledge of asset location and criticality
  – Ability to plan and pay for future repairs, replacements, and extensions
  – Better customer experience
  – Capital improvement projects meeting true needs