

Lessons Learned through the Switz City Asset Management Plan

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January 27 – 28, 2026
Henry B. Gonzalez Convention Center, San
Antonio, Texas



Context: The Reality Of A Small Utility

Representative Challenge: "Fix it when it breaks" approach, aging infrastructure, and limited resources

Policy Impact: Supporting Indiana **SEA 272(2022)** implementation

Educational Value: Living lab for students and professionals

Shareable Practices: Lessons and tools that other small communities can adapt to their context



Switz City Demographics

Water Serves:
870

Wastewater Serves:
268

Daily Water Demand:
120,000 gallons

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Project Genesis: How This Started

THE VOLUNTEER PHASE: JAN 2023 – JULY 2024 (18 MONTHS)

- Zero Budget
- Volunteer Data Collection
- Interim Plan

**FUNDING
SECURED
(\$650,000)**



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The Volunteer Phase: Building Partnership

Volunteer Effort (Jan 2023 - Jul 2024)

- Zero Budget Start
- Data Foundation
- Preliminary Fieldwork
- Purdue Students Course Project: 5 teams developed complete AMPs



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The Volunteer Phase: Building Partnership

Volunteer Contributors

Industry Partners:

- Ziptility, Inc. • InfoSense • Utility Inspection Services
- 4M Analytics

Individual Experts:

- George Kurz (I&I Analysis) • Adam Hersberger (GIS & Data)
 - Jeff Farmer (Operations)
- ### Educational Contributors:
- Adam Hersberger • Smith F. Rangel • Gregory Baird • Chris Callahan & Alex Churchill (InfoSense), Ross Waugh (AMP Expert), Joseph Eberly, Jim Harris



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Transition to Full Execution

\$650,000 Total Funding

\$250,000: AMP development

\$400,000: Urgent need

Expanded Team

Technical Institutions

- ADS Environmental Services
- ACE Pipe Cleaning
- Kurt Wright Consulting
- USG Water Solutions

Financial Partners

- Glenn Barnes, Water Finance Assistance (WFA)
- Heather Himmelberger

Data Quality Control

- Smart Views LLC, Independent Review



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Data Acquisition: Building the AMP Foundation

System Inventory

Water System:

- 28 miles of mains • 348 connections
- one water tower

Wastewater System:

- 5 miles of mains • 79 manholes
- 1 Treatment plant • 4 Pump stations

Condition Assessments

Comprehensive Inspections:

- Flow monitoring
- CCTV inspection of wastewater system
- Manhole Inspection
- Smoke testing for infiltration
- Elevated tank interior/exterior assessment

Data Management — Limited Integration

- GIS served as the spatial backbone
- O&M and inspection records existed in separate files
- Quality control relied on external review, not system rules
- Data updates required manual coordination



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Critical Infrastructure Challenges

Water System Issues

78.6% Increase in Water Loss

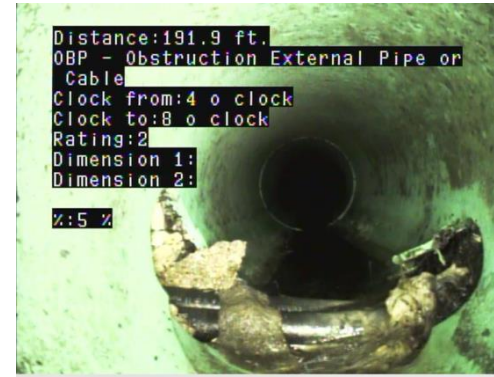
Non-revenue water cost: \$60,428 (2019) → \$107,941 (2023)

Infrastructure Leakage Index: 16.86

Far exceeds the industry benchmark of <3.0

Aging Infrastructure

Multiple hydrants and valves inoperable, aging cast iron mains



Wastewater System Issues

46% I/I Rate

Excessive infiltration and inflow causing hydraulic overload

Treatment Capacity Exceeded

Daily flows exceeded capacity on 102 of 110 study days

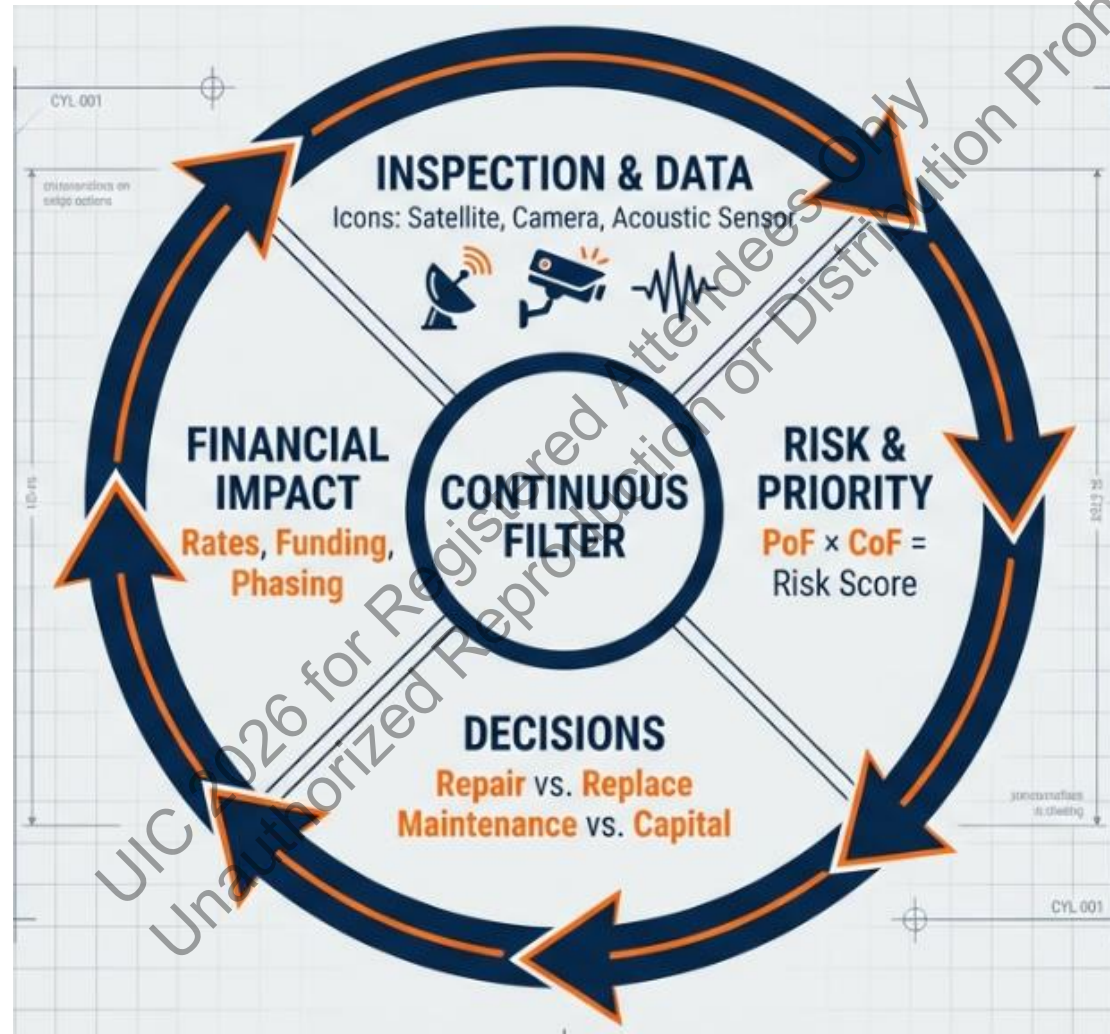
Critical Asset Deterioration

Effluent outfall, valves, and critical pipe segment replacement require immediate replacement

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From Data To Decisions: The Continuous Loop



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From A Project List To A 20-year Investment Strategy

Total Strategy: \$3.72M

Phase 1: IMMEDIATE (Year 0-1)

Urgent Repairs & Upgrades
(\$400k)
Focus on critical failure points and
compliance

Phase 2: SHORT-TERM (Year 2-5)

I&I Reduction & Manhole Rehab
Systematic lining and spot repairs to
reduce flow

Phase 3: LONG-TERM (Year 5-20)

Risk-Based Asset Renewal &
Capital Smoothing

Year 0

Year 1

Year 2

Year 5

Year 10

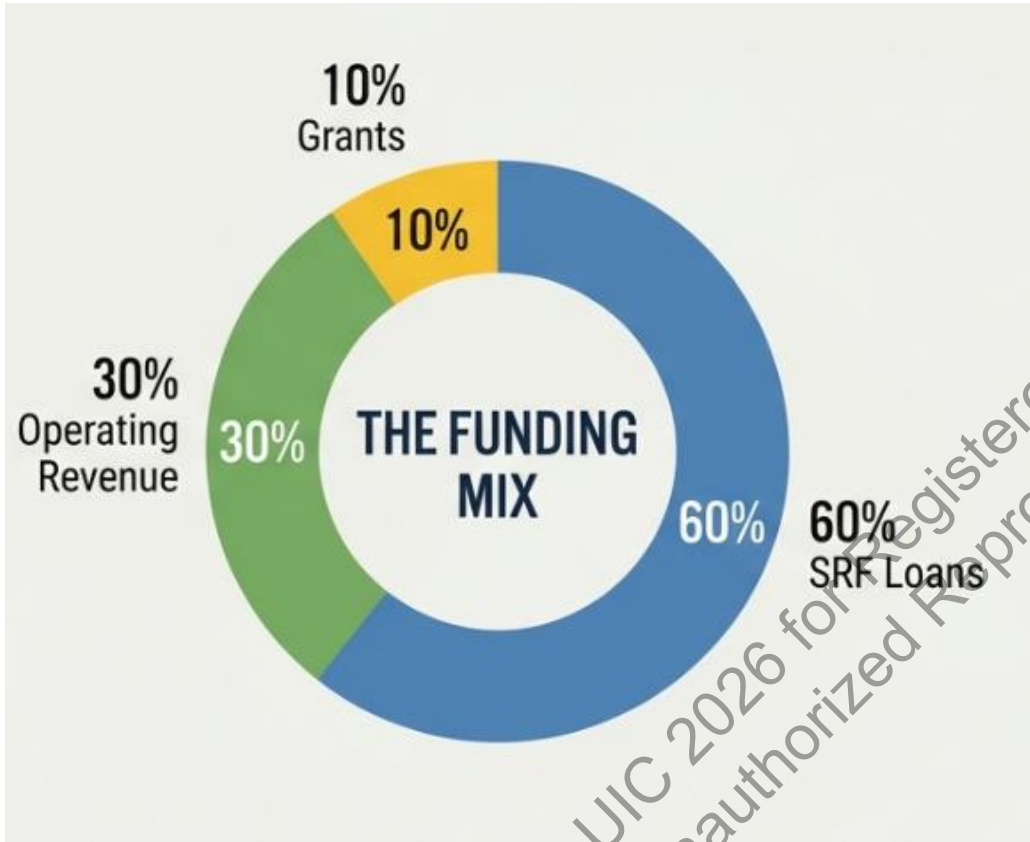
Year 15

Year 20

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Affordability Is A Financial Decision



Affordability Strategy

- Phased rate implementation reduces shock
- Grant funding minimizes customer burden
- Energy efficiency reduces operational costs
- Proactive maintenance prevents emergency costs

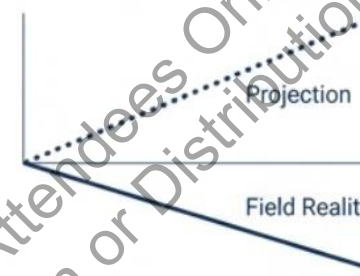


Lessons Learned: Data Reality

What actually broke — and why it mattered



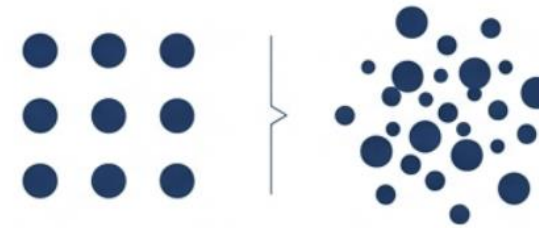
Data accuracy is the foundation, not a detail.



'Best Available Data' is a necessary start, but often a mirage.



Changing naming conventions mid-project ensures structural failure.

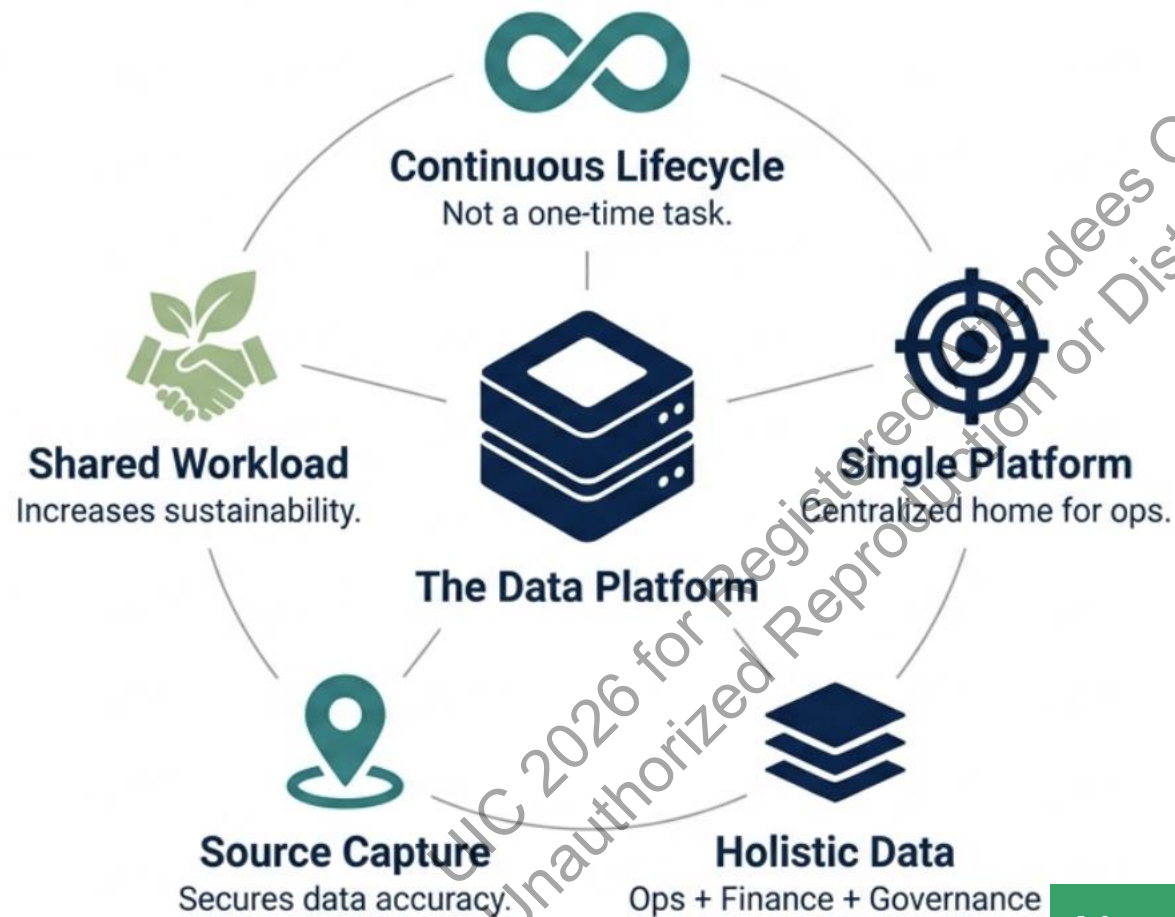


Volume does not equal clarity.

Need for Standardized and Structured Data



Lessons Learned: Data Platform Reality



Need for a Simple, Easy-to-Use Platform



Lessons Learned: Technology is a Management Multiplier

Why new technology matters in asset management

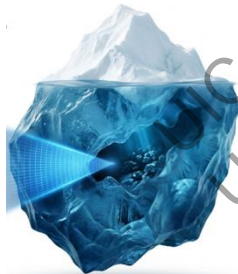
Not About Automation



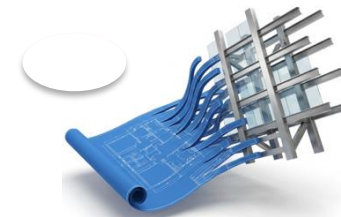
Timely Decisions



Visible Actions



AMP Execution



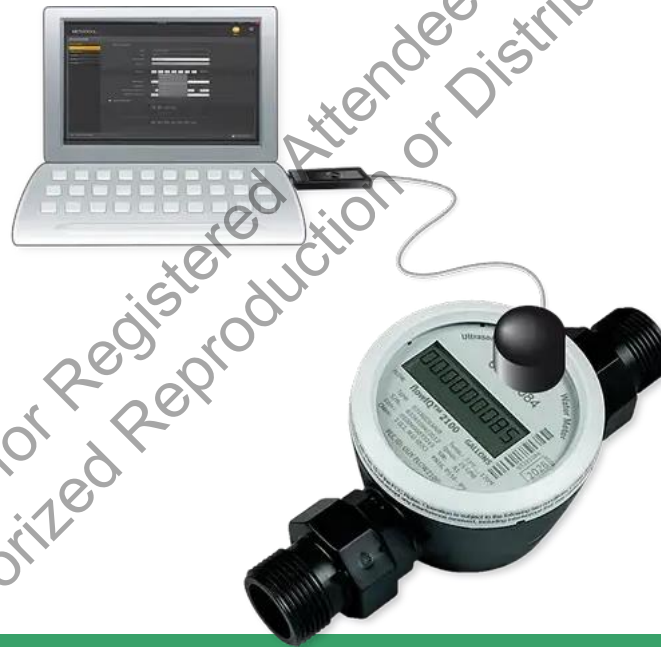
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Case Examples: From Data to Action

How technology directly improved outcomes

Example 1: Smart Metering (Kamstrup)



Gallons per day:
130,000 to 80,000

38% Reduction in Daily Usage

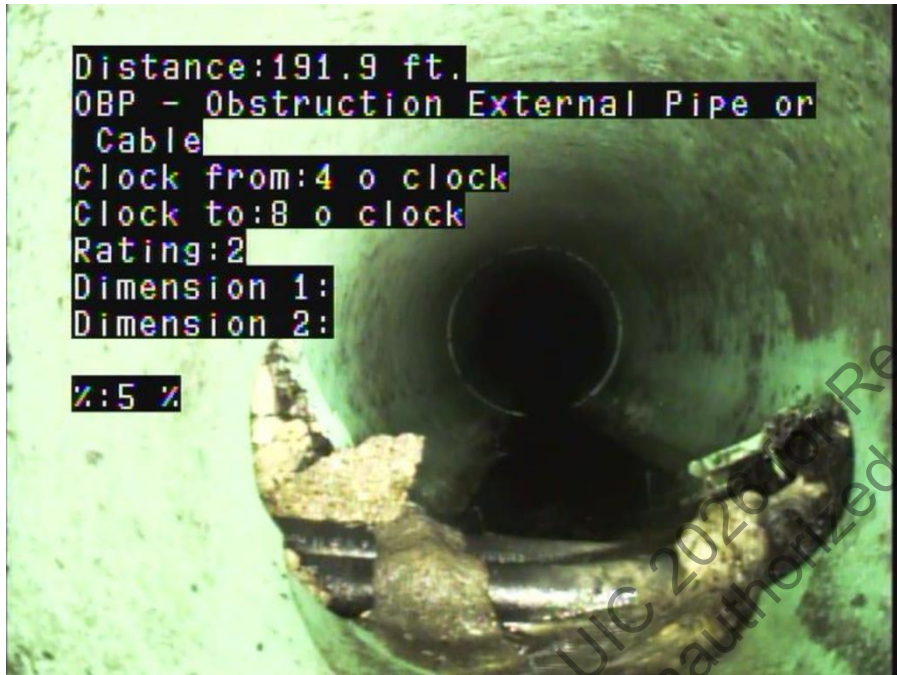
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Case Examples: From Data to Action

How technology directly improved outcomes

Example 2: Asset Mapping (4M Analytics)



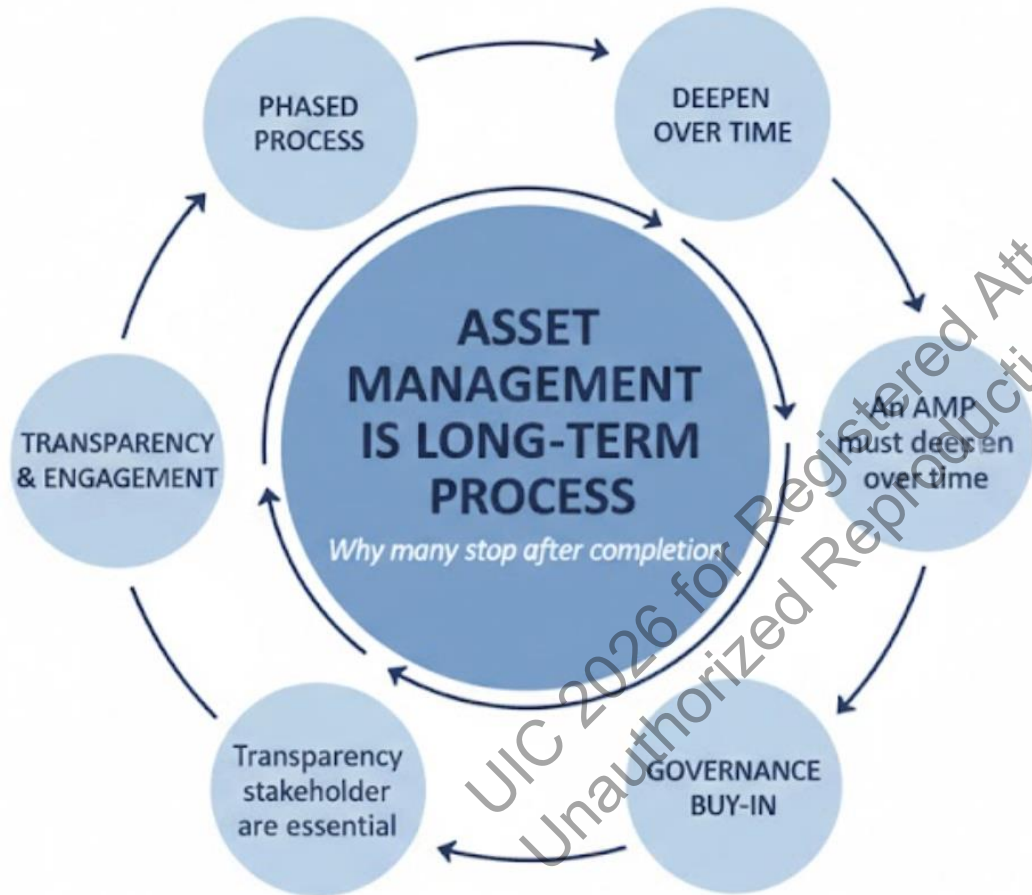
Real-Time Cross-System Visibility

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Lessons Learned: Key To Sustainable Asset Management

Why many AMPs fail after completion



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Lessons Learned: Small Utilities Cannot Do This Alone

The resource reality

Critical Skills Gap

Small utilities fundamentally lack the staff, time, and technical depth required for execution. Personnel and knowledge gaps create immediate bottlenecks.

Cost-Prohibitive Scale

Developing a full Asset Management Plan (AMP) independently exceeds the budgetary constraints of small systems.

Unrealistic Expectations

The current expectation for self-delivery is structurally flawed; without intervention, the model is designed to fail.

Policy mandates without support mechanisms will fail.



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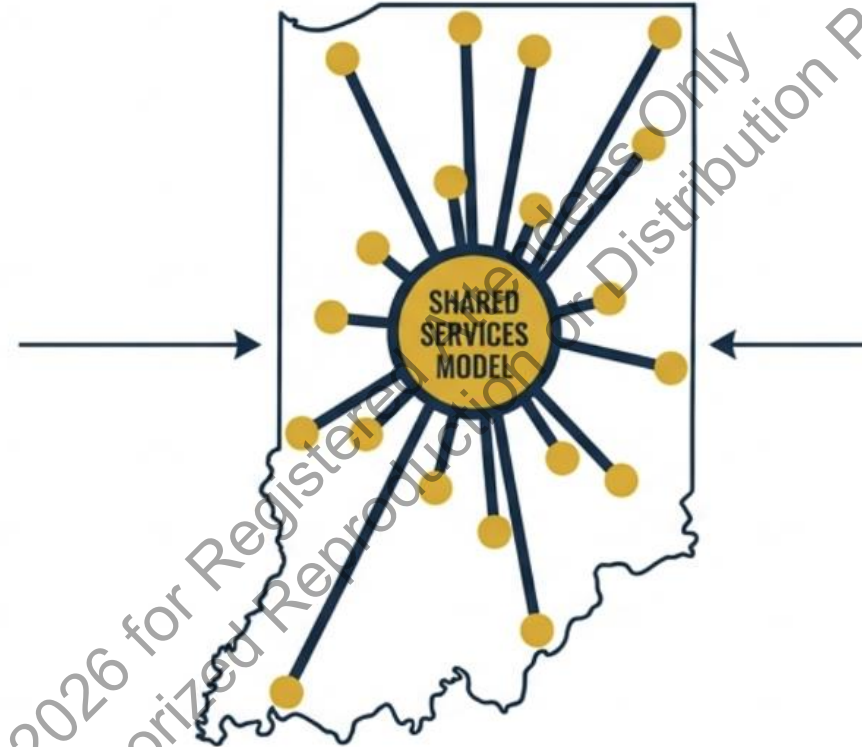
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Lessons Learned: Pooled Support Enables Feasible AMP Delivery

1. POOLED FUNDING.

Coordinate IFA, USDA, OCRA, and FEMA so towns don't navigate five bureaucracies.



2. POOLED EXPERTISE.

Create a statewide shared services model for technical assistance.

State-level integration isn't just helpful — it's a sustainable path to prevent infrastructure collapse

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Questions & Discussion

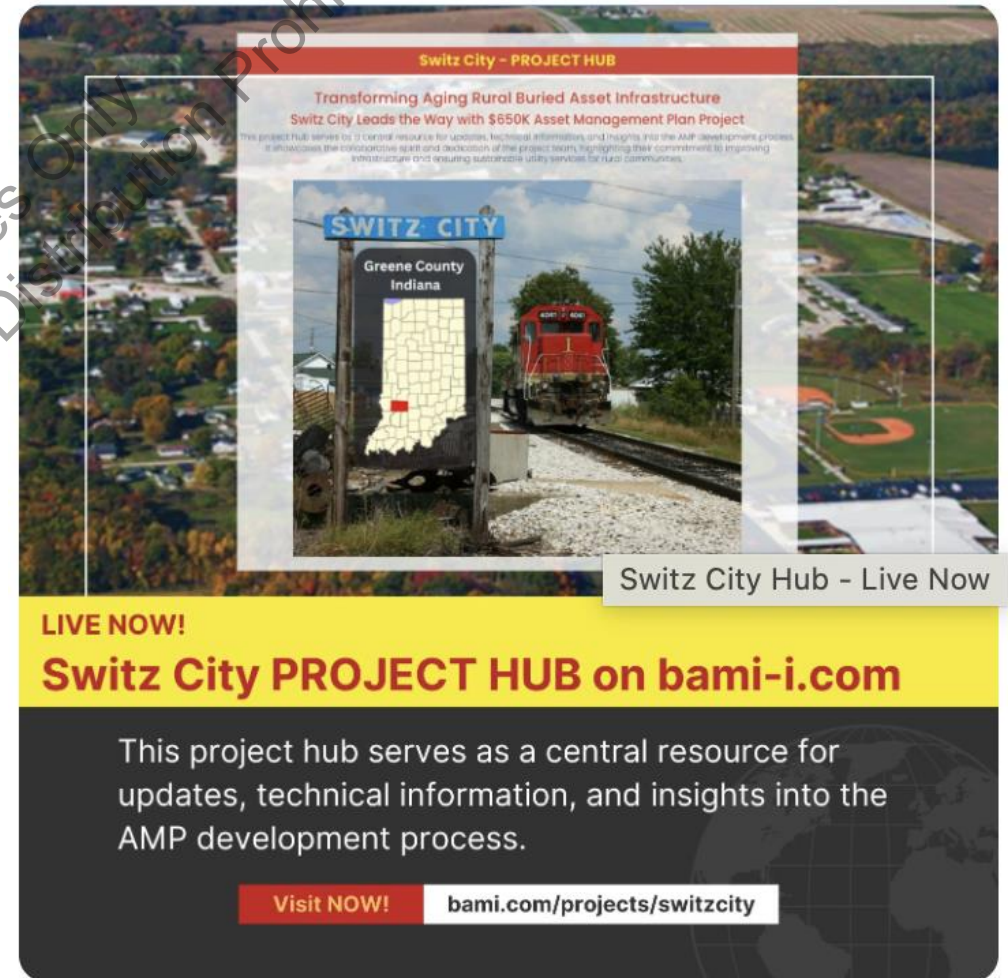
Thank You!

Contact Information:

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*"From crisis to opportunity, from reactive to proactive -
This is the future of utility asset management."*



Switz City - PROJECT HUB

Transforming Aging Rural Buried Asset Infrastructure
Switz City Leads the Way with \$650K Asset Management Plan Project

This project hub serves as a central resource for updates, technical information, and insights into the AMP development process. It showcases the collaborative work and decision-making of the project team, highlighting their commitment to improving infrastructure and ensuring sustainable utility services for rural communities.



SWITZ CITY
Greene County
Indiana

Switz City Hub - Live Now

LIVE NOW!

Switz City PROJECT HUB on bami-i.com

This project hub serves as a central resource for updates, technical information, and insights into the AMP development process.

Visit NOW! bami.com/projects/switzcity

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