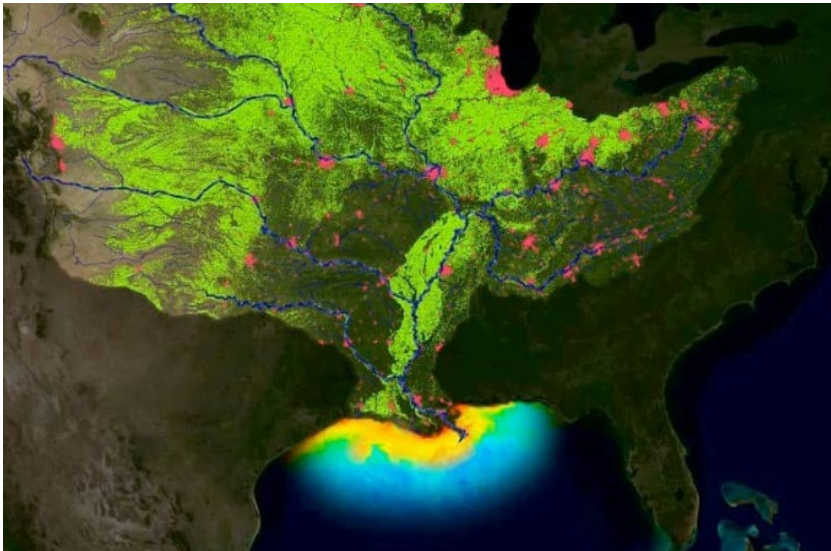


Eating Change for Breakfast

Best Practices in Change Management for Utility Managers and Operators



Jason Tincu
OWEA



Jessica Bishop
Brown and Caldwell

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Change Management Overview

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- When it's needed and when it's not
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- Potential impacts for public agencies and private industries

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Change Recipients

- Your voice is critical
- Constructive resistance
- Advocating among your peers

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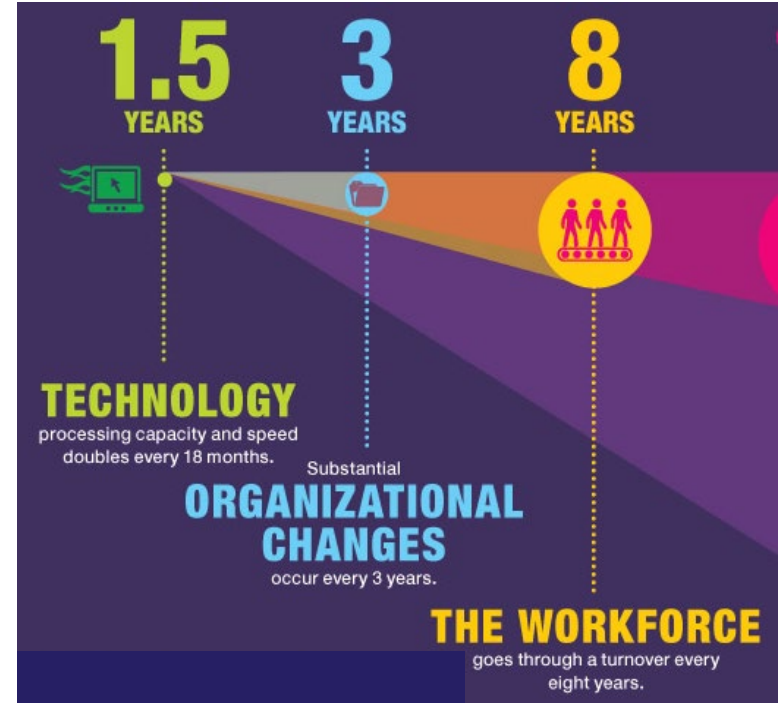
Q & A

The rate of change is accelerating

Faster than ever before

Accelerating Growth in Technology

(condensed)

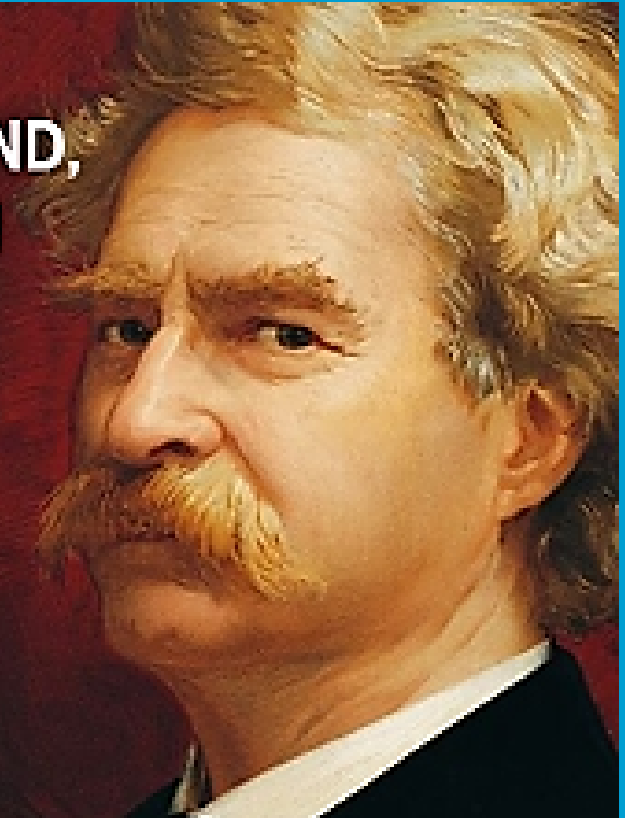


Welcome to SLOW-hio...

*CINCINNATI (or
SW Ohio as a
region):*

**IF THE WORLD
COMES TO AN END,
I WANT TO BE IN
CINCINNATI.
EVERYTHING
COMES THERE
TEN YEARS
LATER.**

Mark Twain



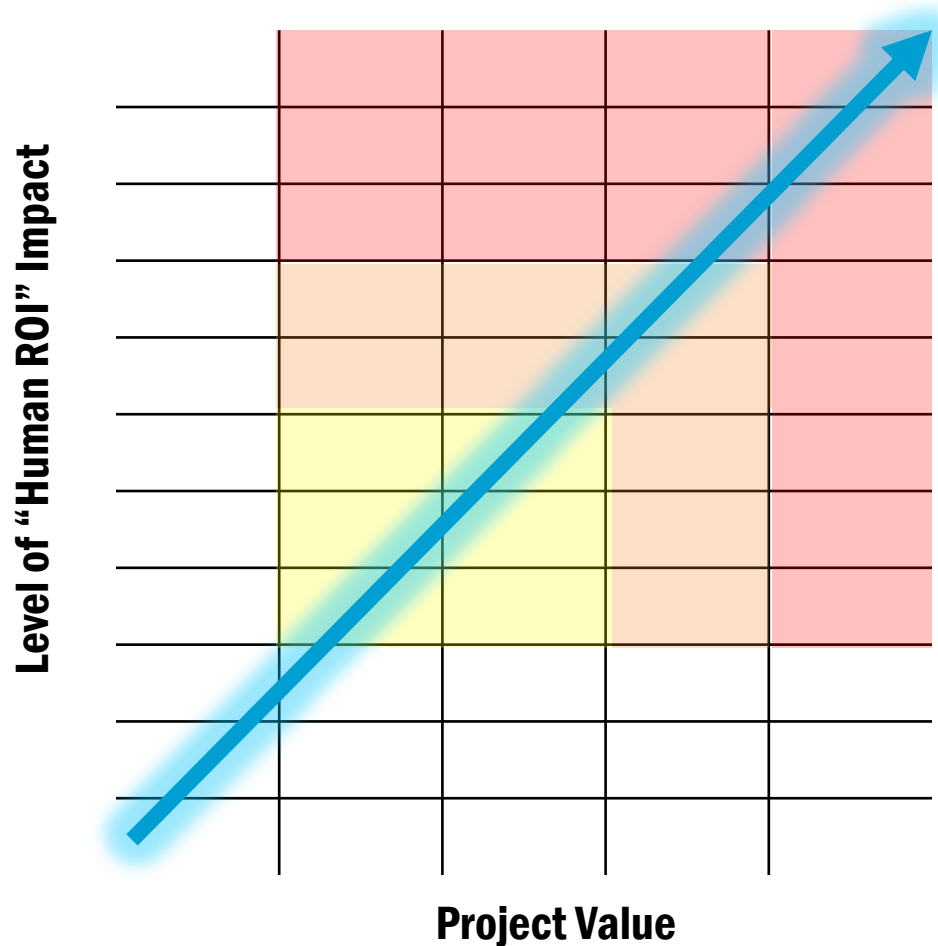
Definition and Benefits

A management approach to transitioning individuals, teams, or organizations from a current state to a desired state

- Increases the speed of adopting new processes, tools, or structures
- Mitigates resistance by managing stakeholder information needs and expectations
- Supplements traditional project management delivery success (on time, on budget, on schedule)

When Change Management is

Critical for Overall Project Delivery Success

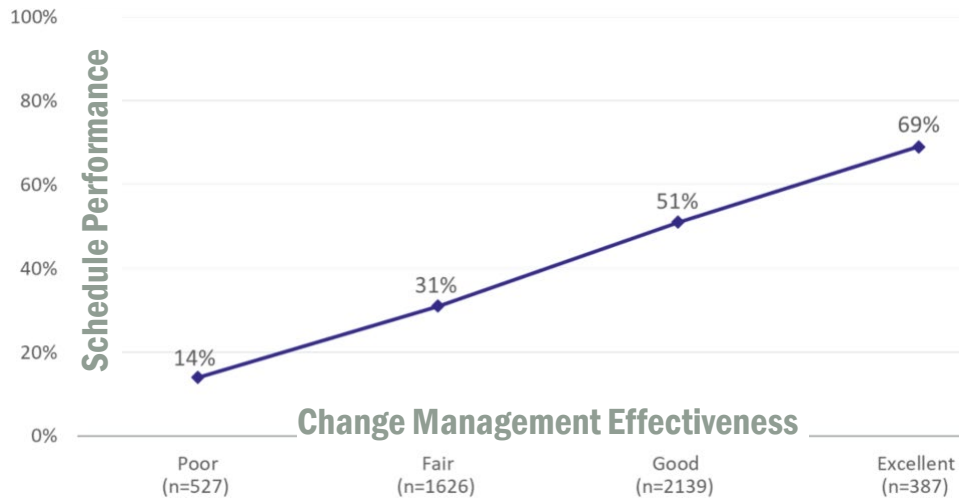
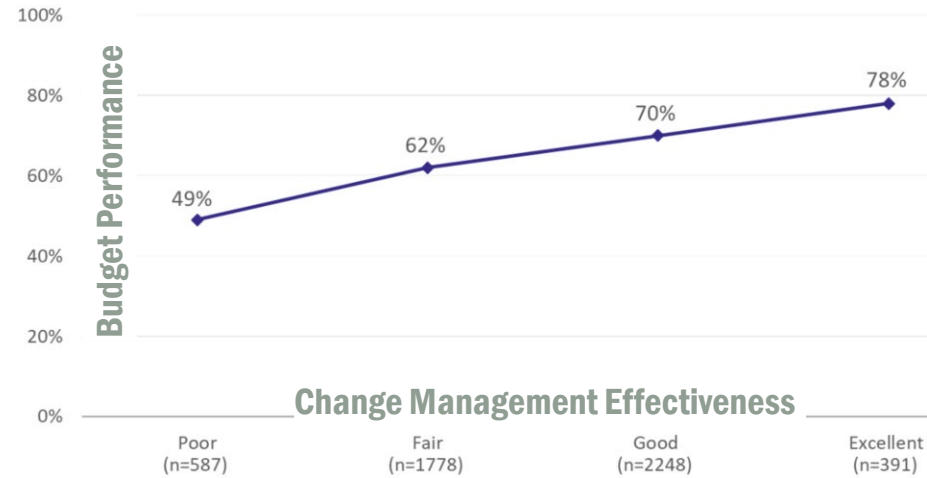


What percentage of your project's success is tied to "human ROI factors" including

- System/tool usage
- Process compliance
- New skill mastery
- Behavior or attitude changes

Change Management's

Impact on Project Performance



Over 4,000 project managers reported that change management significantly impacted scope, schedule, and budget performance.

Three Phases in the

Change Management Process

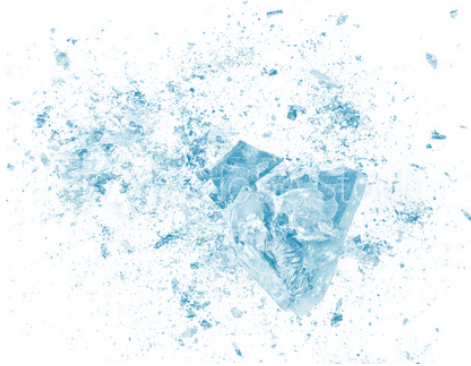
Preparing for Change

Unfreezing



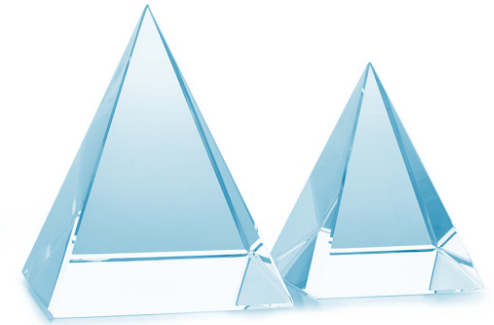
Managing Change

Changing



Reinforcing Change

Refreezing



Steps of Phase 1

Preparing for Change

**Evaluate readiness,
evaluate stakeholders,
define the vision, and gain
consensus**

**Assess sponsorship and
develop a plan to
strengthen it**

COMMUNICATE the need
for change to build
Awareness, and **Desire** to
engage

Steps of Phase 2

Managing Change

Develop the formal change management and **COMMUNICATE** the plan with all stakeholders

COMMUNICATE milestones and how resistance is being resolved

Implement the plan and build **Knowledge** and **Ability** through training

Steps of Phase 3

Reinforcing Change

**Collect and analyze
feedback,**



**Plan for continuous
improvement that will
Reinforce the change**



COMMUNICATE results and
benefits of implementation

Big Changes Ahead for OH

Ohio's Industry Trends

Nutrient management:

Due to ongoing nutrient impairment issues, Ohio is facing increasing scrutiny for nutrient discharges at POTWs and other sources. Plan for stricter discharge limits, water quality trading programs, innovative regulatory approaches, etc.

Asset management and

knowledge transfer: To combat delayed inventory, assessment and investment, Ohio is looking at full scale W/WW asset management requirements (GIS, CMMS, inventory/assessment, CIP, etc.)

Utility of the Future

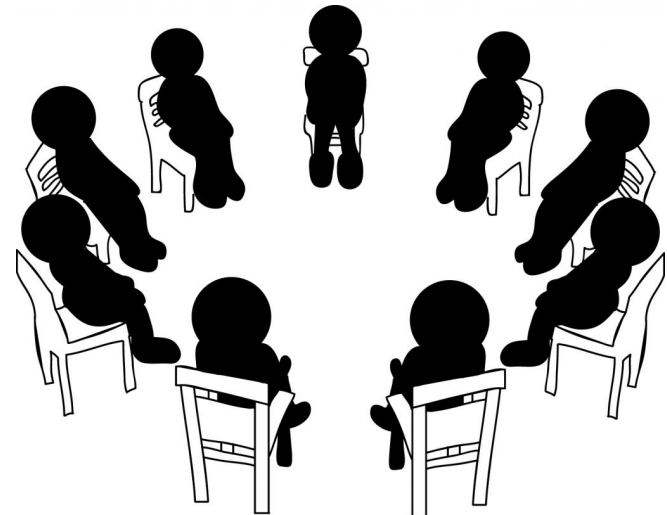
approach: Sensing the long term benefits, utilities are looking to incorporate a more sustainable approach to WW that focuses on recovery and reuse instead of waste disposal (water, heat/gas, biosolids, nutrients, co-digestion, etc.)

Change Characteristics Assessment

BREAKOUT SESSION

Select an upcoming change to evaluate the following characteristics.

- Scope of change
- Number of impacted people
- Variation in impacted groups
- Type of change
- Degree of process change
- Degree of technology and system change
- Degree of organizational restructuring
- Amount of overall change
- Timeframe for change



Example Change Scenario

-Construction of *new biosolids processing facility* and development *beneficial reuse program*

-*Major plant hydraulic and process upgrade* including new pumping, biological process, clarification and disinfection

-Adoption of *full scale nutrient management solution* according Ohio EPA TMDL requirements including industrial pretreatment controls, BNR conversion with chemical back up, water quality trading program, and new lab and compliance schedules

-Addition of new, major *piece of process equipment*

Scope of change

Workgroup	Department	Division	Enterprise	
1	2	3	4	5

Number of impacted employees

Less than 10				Over 1000
1	2	3	4	5

Variation in groups that are impacted

All groups impacted the same			Groups experiencing the change differently	
1	2	3	4	5

Type of change

Single aspect, simple change			Many aspects, complex change	
1	2	3	4	5

Degree of process change

No change				100% change
1	2	3	4	5

Degree of technology and system change

No change				100% change
1	2	3	4	5

Degree of job role changes

No change				100% change
1	2	3	4	5

Degree of organization restructuring

No change				100% change
1	2	3	4	5

Amount of change overall

Incremental change				Radical change
1	2	3	4	5

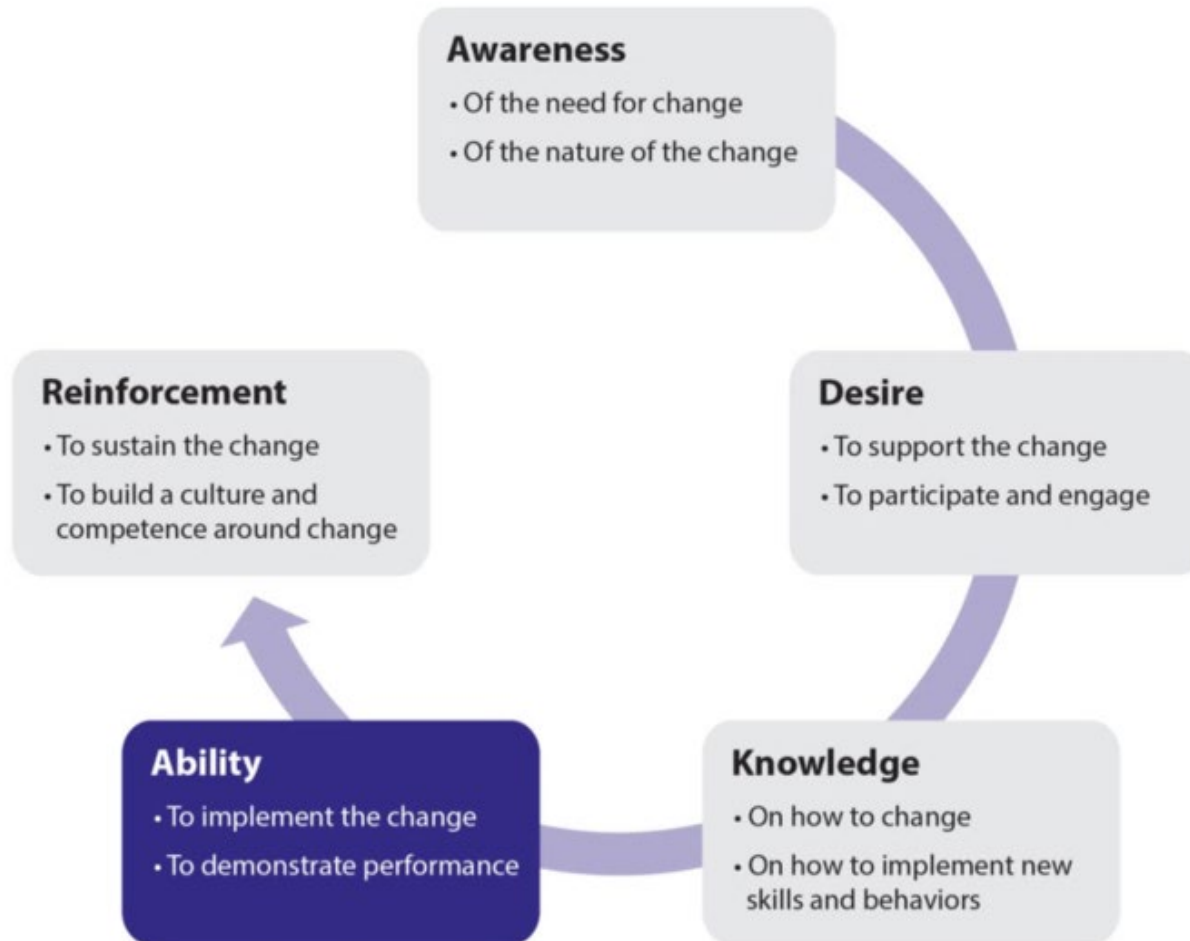
Timeframe for change

Very short (<month) or very long (>year)				3 <u>month</u> to 12 month initiative
1	2	3	4	5

Sum of points for change characteristics assessment (out of 50 total):

Note: A score of 25 or higher is considered a large change that will require more change management resources and activities to be successful.

Prosci® ADKAR® Model



8-Step Process

Kotter Change Model



Real World Examples

-MSDGC Odor Control Program Development

-City of Dayton Biosolids Processing In-Sourcing



From private

Dayton's journey into the biosolids processing business 

Jason Tincu, Tom Dempsey, and Bryan Taulbee

The cash register, the digital clock, the boat proof feeder, professional football, the pros, and — the insourcing of biosolids processing. What do these have in common? All were developed and innovated in Dayton, Ohio.

In 1988, the city was outsourcing its biosolids processing operations. Prior to this, Dayton used sludge lagoons. A biosolids processing facility was built within Dayton's Water Reclamation Facility (WRF) that was owned and operated by a private contractor for a 20-year term with 5-year review periods. However, with escalating unit costs and annual appropriations for biosolids processing and disposal, in addition to the absence of competition due to private ownership, Dayton staff looked inward. The city conducted a benefit-cost evaluation (BCE) to determine the 15-year life-cycle costs across a series of alternatives and used its best asset — its employees — to save costs.

Biosolids processing facility operation

The City of Dayton's WRF consists of a preliminary, primary, and two-stage biological treatment system with effluent filtration, chlorination, disinfection, and post-aeration (see Figure 1, p. 46).

The Dayton WRF is designed for an average daily flow of 273,000 m³/d (72 mgd) and a maximum design flow of 719,000 m³/d (190 mgd). Waste activated sludge from the second-stage biological treatment system is thickened in a dissolved air flotation thickener before it is sent to anaerobic digesters. Methane gas from the anaerobic digesters is used for cogeneration. After dewatering, the biosolids are land-applied. The facility is staffed by more than 70 employees across the disciplines of administration, laboratory operations, maintenance/electrical, and industrial/pre-treatment.

The biosolids processing facility consists of sludge storage tanks, a polymer system, two gravity belt thickeners, and two centrifuges. Anaerobically treated sludge at 2.5% total solids (TS) is pumped from sludge storage tanks to the gravity belt thickeners to create a slurry ranging from 6.0% to 7.0% TS. This slurry is collected within surge tanks and processed through the centrifuges. Both the surge tank and the centrifuge stations are lit with a catenoid polymer mix. The 28% TS final product meets Ohio's Class B land application requirements.

Biosolids production averages around 10,400 Mg/yr (11,500 dry ton/yr). Dayton's land application program includes more than 8000 ha (21,000 ac) of land in a five-county region. During wet



to public

periods and winter, land application is banned and Dayton uses onsite storage with landfiling as needed.

Operations under this arrangement were convenient to Dayton. There were no stipulations on liquid feed concentrations or sludge transfer intervals. The relationship between owner and operator was amiable. But as costs continued to rise and landfiling began to tighten up (see Figure 2, p. 46), the City of Dayton began to consider other arrangements. Contract provisions allowed for the acquisition of the processing facility through a depreciation schedule at each 5-year review interval. This buyout clause included all permanent structures and assets, including the process building and office area, sludge storage tanks, dewatering equipment, the conveyance system, weight scale, and a 3700-m³ (40,000-ft³) sludge storage tank.

Evaluation yields \$20 million savings

Dayton considered the sludge gain in its evaluation. The existing condition option would keep all agreements, services, and provisions the same (private ownership, turnkey operation of the dewatering facility, and biosolids disposal) with subsequent inflationary rates. The insourcing option would use the contract buyout clause within the existing agreement and insource operation of the dewatering facility while contracting out biosolids disposal services in a competitive bid process.

When evaluating these options, Dayton added conservative

placeholders in the insourcing option for labor, polymer addition, and capital rehabilitation and replacement. The BCE evaluation results were staggering — the city discovered it could save over \$20 million in a 15-year period (see table, p. 47). This option also had the benefit of securing local control of facility operation and securing public sector jobs. The insourcing option also would save the jobs of four lifetime employees that would otherwise be lost through attrition.

Transitioning to inhouse control

At this point, Dayton seized its rights at the insourcing option and moved toward execution of all related tasks within an extremely aggressive period of 5 months:

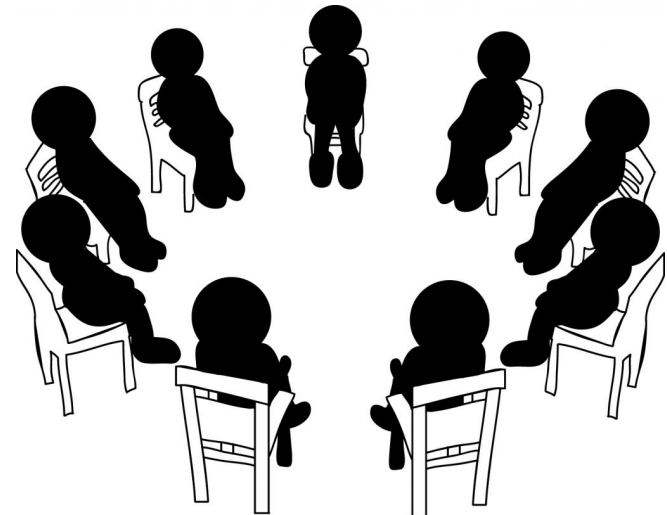
- Escalate buyout appropriation and processing
 - Put out biosolids land application and disposal services for competitive bid.
 - Procure a bulk polymer supply.
 - Develop a training program.
 - Upload and integrate assets within the city's computerized maintenance management system program.
 - Conduct a capital needs assessment.
 - Develop a biosolids sampling and analysis plan.
- Dayton gathered a transition team that would help execute these tasks consisting of operations, maintenance, administration, and laboratory staff.

Stakeholder Analysis

BREAKOUT SESSION

Implementing a successful change requires a genuine understanding stakeholder groups and their needs including

- How many unique stakeholder teams are there
- Who is the best point of contact for each team
- What is their level of impact (High, Medium, Low)
- Define exactly how they'll be impacted



Example Change Scenario

-Compliance, Ohio tackles *Utility of the Future* model (from a conventional set-up) considering sustainability, socioeconomic and regulatory factors including...

Industrial Pretreatment: Nutrient local limits/surcharges, FOG/HSW acceptance

Treatment upgrades: FOG/HSW receiving, BNR process, anaerobic digestion, biogas and heat recovery to CNG, Class A biosolids with composting, nutrient recovery, comprehensive odor control, effluent reuse at local golf course

Economic models: IP surcharges, FOG/HSW, CNG, biosolids and compost, nutrients, effluent reuse

Assessment Results

Stakeholder Analysis

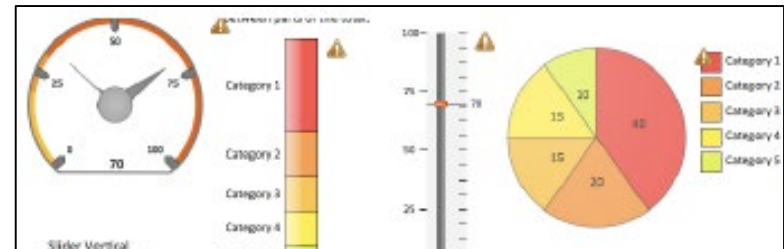
Stakeholder Group	Point of Contact	Level of Impact (H, M, L)	Description of Impact
Admin Services			
Wastewater			
Solid Waste			
Lab			
Engineering			
Maintenance			
Water			

Change Management

Example Projects



South Adams County – Asset Management



Thurston County - CMMS Implementation

Changes succeed or fail based on staff adoption

You are EMPOWERED

- Your voice is critical for making important decisions
- If staff don't "weigh in", they don't "buy in"
- Staff have the power to derail or accelerate change adoption





Why we should value

Constructive Resistor

They clarify problems

They force change leaders to think before they implement

Their tough questions can strengthen and improve the change strategy

They let us know who opposes the change

They slow down the change

They might be right...



What utility managers need during tough transitions is

Staff Change Champions

- No one better understands the impact of changes on your team's performance better than you
- Your advocacy can be more impactful than input from leadership or outside consultants
- During change implementation and training you know what's working and what isn't
- You've got your finger on the pulse of attitudes, behaviors, and assumptions
- Be a visible advocate for positive change and demonstrate an open-minded and flexible approach

Q&A

Thank you for your time