WASTEWATER SYSTEM PARTNERSHIP MODELS

UNIVERSITY OF NORTH CAROLINA, ENVIRONMENTAL FINANCE CENTER

AUGUST 23, 2023

AGENDA

- Housekeeping and introduction
- Sector-wide challenges
- Understanding how your utility is doing
- Understanding different types of partnerships
- Consolidation – benefits, challenges, considerations
- Examples of consolidation

HOUSEKEEPING AND INTRODUCTION

CERTIFICATE OF COMPLETION

- This session has NOT been submitted for pre-approval of Continuing Education Credits, but eligible attendees will receive a certificate of attendance for their personal record.
- To receive a certificate, attendees must:
  - Attend for the entire session
  - Register and attend individually using your real name and unique email address - group viewing credit will not be acceptable
- Certificates will be sent via email within 30 days.
- If you have questions or need assistance, please contact smallsystems@syr.edu.

ENVIRONMENTAL FINANCE CENTER NETWORK (EFCN)

The Environmental Finance Center Network (EFCN) is a university-based organization creating **innovative solutions** to the difficult **how-to-pay issues** of environmental protection and improvement. The EFCN works with the public and private sectors to promote sustainable environmental solutions while bolstering efforts to manage costs.

THE ENVIRONMENTAL FINANCE CENTER NETWORK

- **Environmental Finance Center at The University of North Carolina at Chapel Hill**
- Southwest Environmental Finance Center at the University of New Mexico
- Syracuse University Environmental Finance Center
- Environmental Finance Center at Wichita State University
- EFC West
- Environmental Finance Center at the University of Maryland
- New England Environmental Finance Center at the University of Southern Maine
- Great Lakes Environmental Infrastructure Center
- Government Finance Officers Association (GFOA)
- National Association of Development Organizations (NADO)

EFCN AREAS OF EXPERTISE

- Asset Management
- Managing Drought
- Resiliency Planning
- Rate Setting and Fiscal Planning
- Energy Management Planning
- Water Loss Reduction
- Leadership Through Decision-Making and Communication
- Accessing Infrastructure Financing Programs
- Water Conservation Finance and Management
- Collaborating with Other Systems
- Workforce Development

UNC | SCHOOL OF GOVERNMENT
Environmental Finance Center

Supporting fair, effective, and financially sustainable delivery of environmental programs through:

- Applied Research
- Program Design and Evaluation
- Teaching and Outreach
- Advising
- Policy Analysis

DISCLAIMER

This project has been funded wholly or in part by the United States Environmental Protection Agency under assistance agreement 84035701 to The Regents of the University of New Mexico, with a sub-award to the University of North Carolina at Chapel Hill. The contents of this document do not necessarily reflect the views and policies of the Environmental Protection Agency, nor does the EPA endorse trade names or recommend the use of commercial products mentioned in this document.

PROBLEM STATEMENT

CHALLENGES IN THE SECTOR

- Infrastructure is aging and failing
- Significant funding is needed
- Affordability is a growing concern

Image source: American Society of Civil Engineers

Expenditure on Water and Sewer Relative to Income by Income Bracket[a]

Annual income[a]	Frequency (thousands)	Percentage (%)	Percentile	Average CWSB/ income (%)[b]
Under $15,000	5,923	11.4	11.4	6.8
$15,000–$24,999	4,988	9.6	21.0	3.1
$25,000–$34,999	4,899	9.4	30.5	2.1
$35,000–$44,999	4,620	8.9	39.4	1.6
$45,000–$59,999	6,036	11.6	51.0	1.2
$60,000–$74,999	5,092	9.8	60.8	1.0
$75,000–$99,999	6,361	12.3	73.0	0.8
$100,000–$124,999	4,517	8.7	81.7	0.6
$125,000–$199,999	6,013	11.6	93.3	0.4
$200,000 and over	3,468	6.7	100.0	0.3

Table source: Cardoso, D. S., & Wichman, C. J. (2022). Water affordability in the United States. Water Resources Research, 58, e2022WR032206. doi.org/10.1029/2022WR032206

CHALLENGES IN THE SECTOR

- Diffuse, fragmented
- Complexity and change

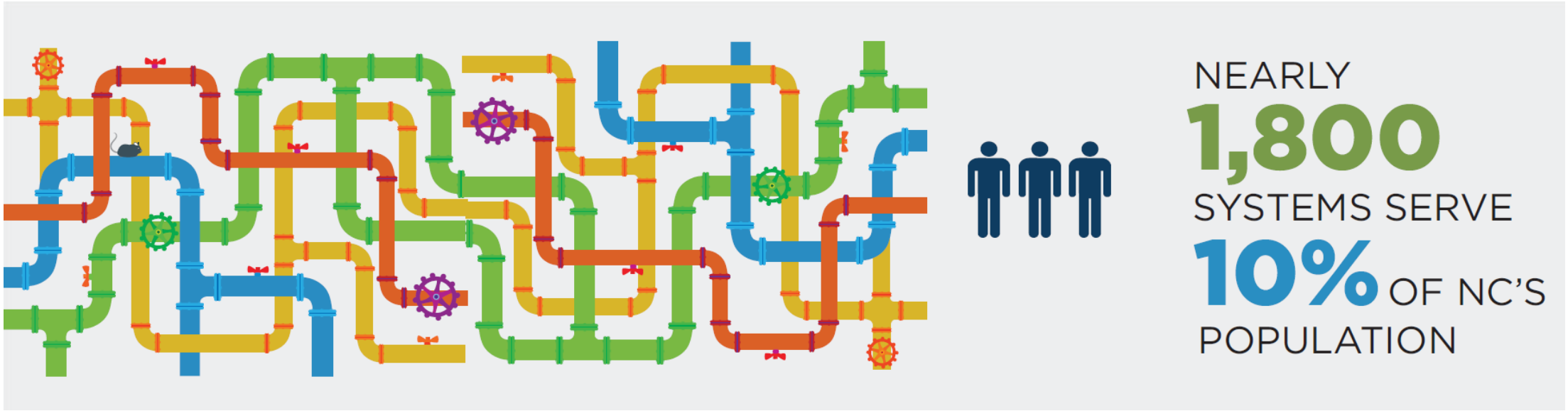


Image source: North Carolina's Statewide Water and Wastewater 2017 Infrastructure Master Plan

CHALLENGES IN THE SECTOR

Town A

- Same size WWTP, same linear feet of pipe, same number of employees
- Large geographic area (rural)
- 80% residential, small commercial customers

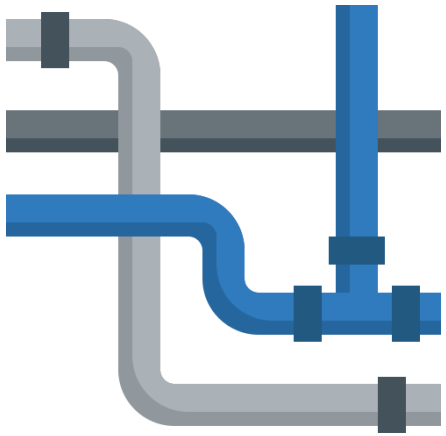


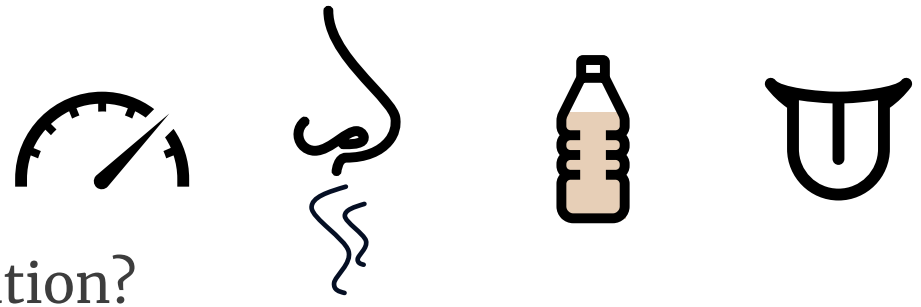
Image credit: surang

Town B

- Same size WWTP, same linear feet of pipe, same number of employees
- Small geographic area (urban)
- 60% residential, large industrial customers

HOW IS YOUR UTILITY DOING? CHECK-IN

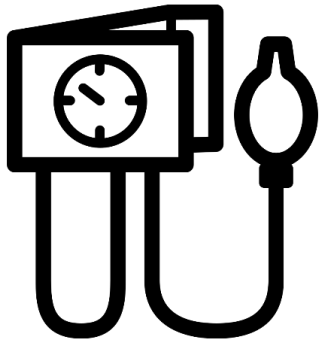
- Overall health of your system
  - Self sufficient?
  - Level of service
  - Proper infrastructure maintenance and operation?
  - Investment in infrastructure?

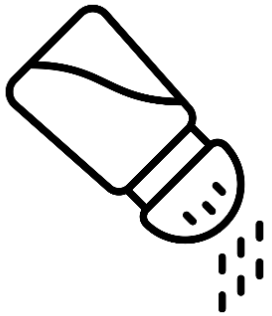


- This determines the ability to provide quality service no and **into the future**

HOLISTIC CHECK-IN – EXAMPLE

- Not just one number
- Similar to a doctor's visit
  - High blood pressure
  - Diet high in sodium
  - Sedentary lifestyle
  - Broken arm





HOLISTIC CHECK-IN – UTILITY

Financial

- Operating Ratio
- Infrastructure Investment
- Expenses

Managerial

- Sufficient staffing
- Plans
- Economies of scale

Service Population

- Size
- Income

Infrastructure

- Age
- Condition

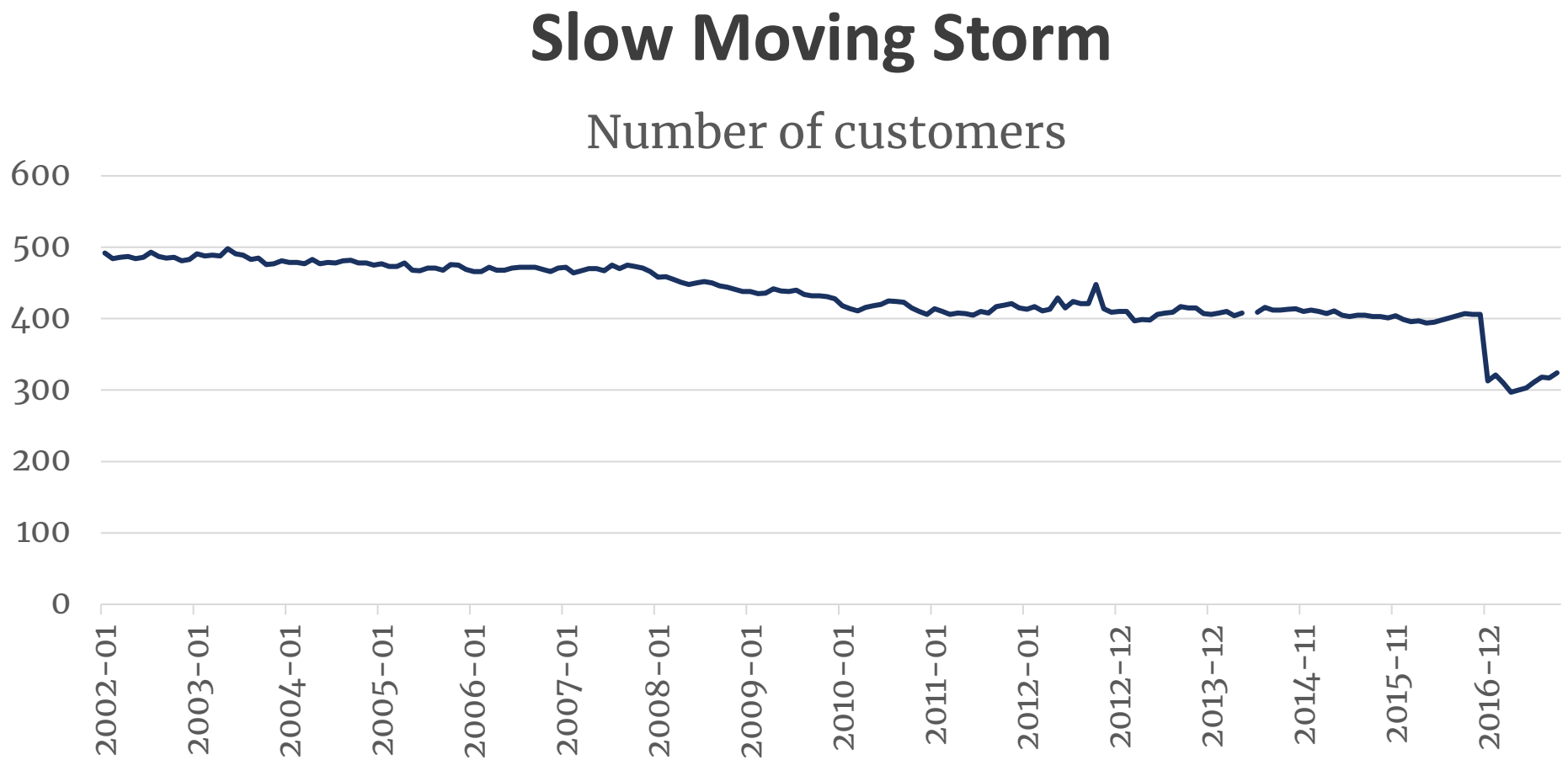
Technical

- Violations
- Water supply (quality & quantity)

Location

- Vulnerability to natural disasters

HOLISTIC CHECK-IN – UTILITY EXAMPLE



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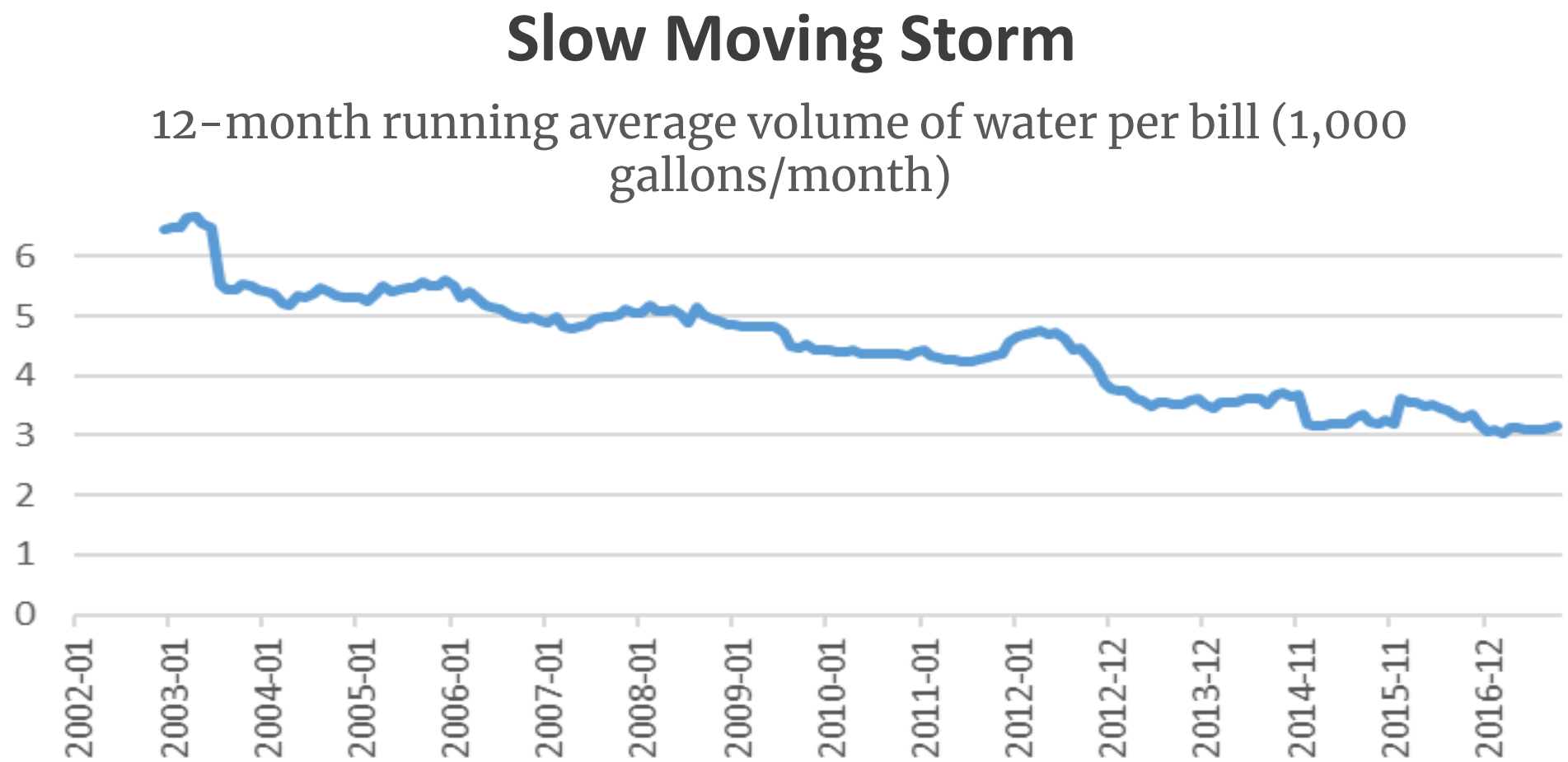

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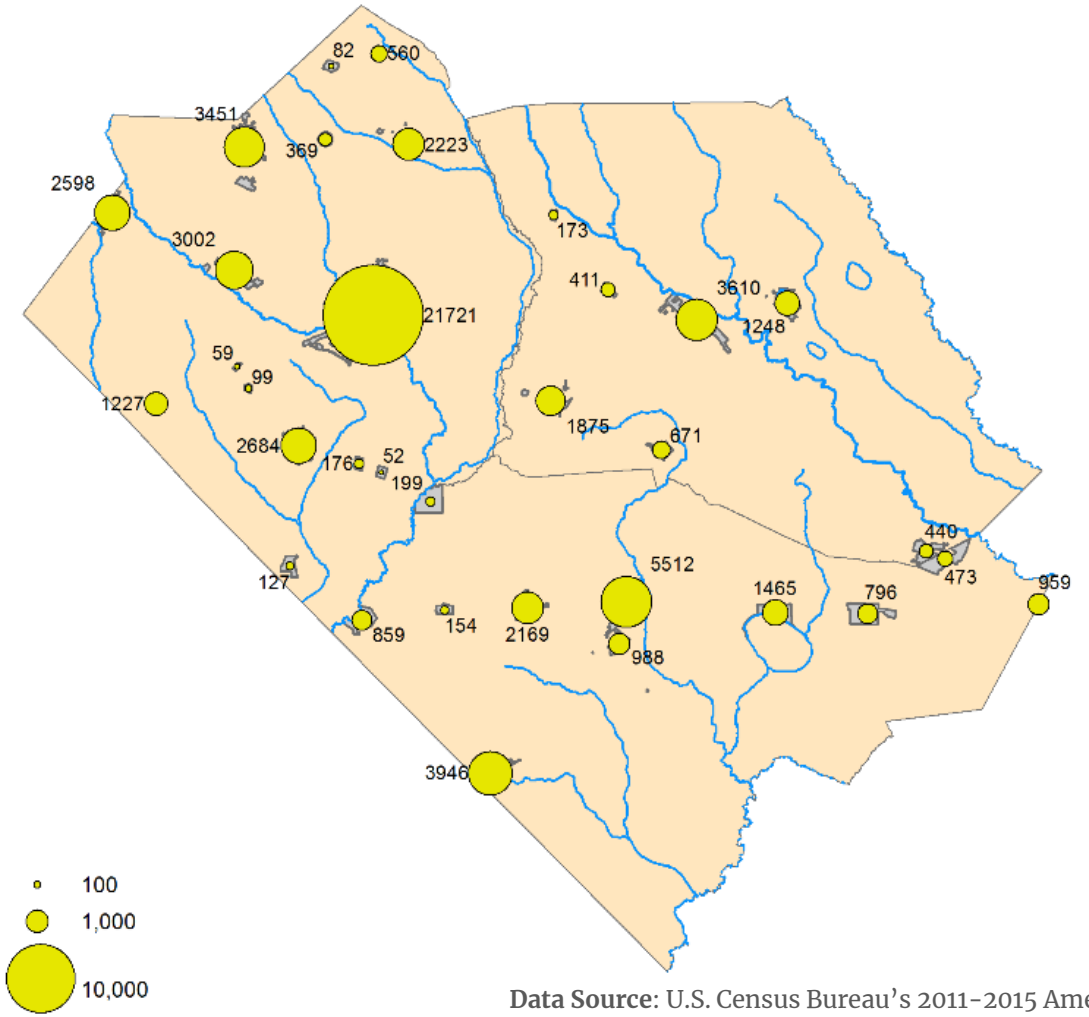
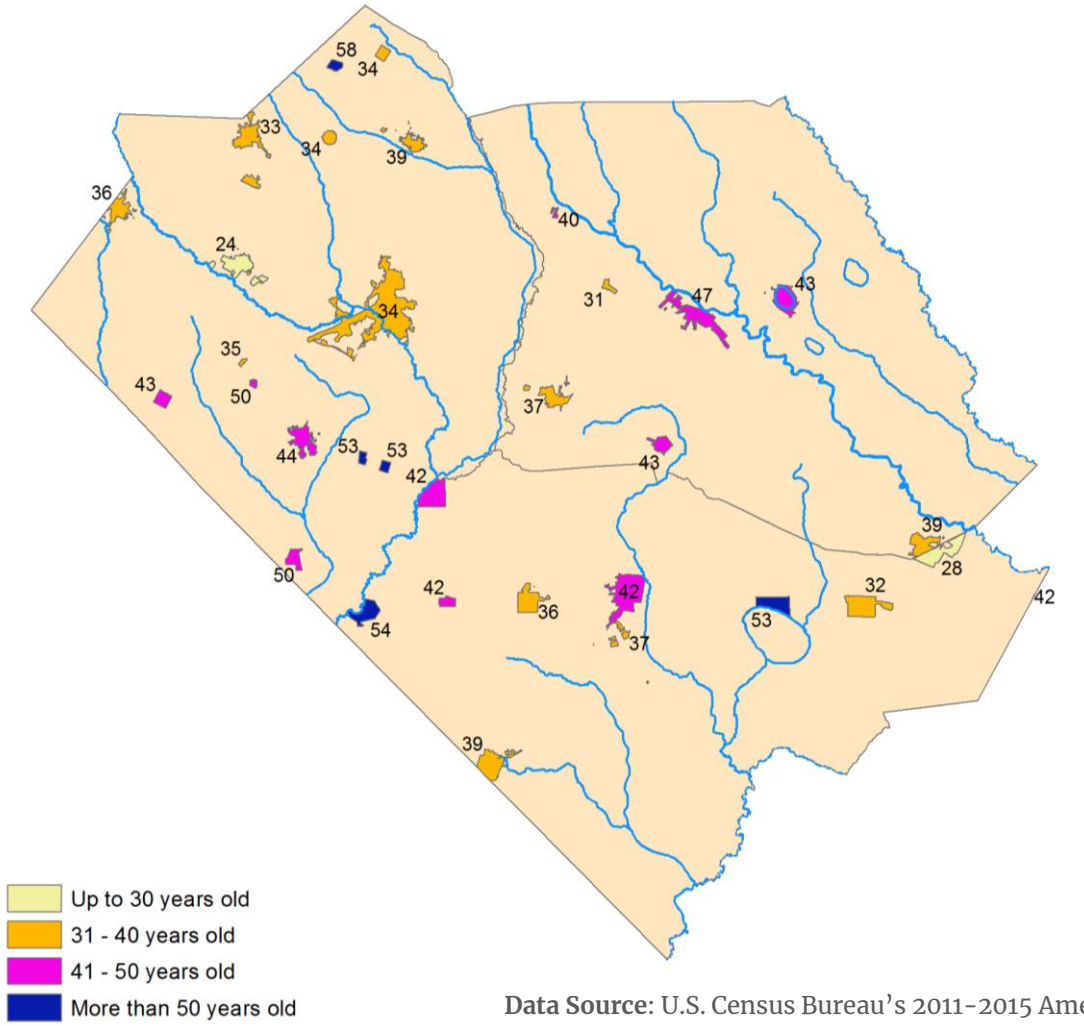


Slow Moving Storm

Population Estimate (2015)

Data Source: U.S. Census Bureau's 2011-2015 American Community Surveys

HOLISTIC CHECK-IN – UTILITY EXAMPLE

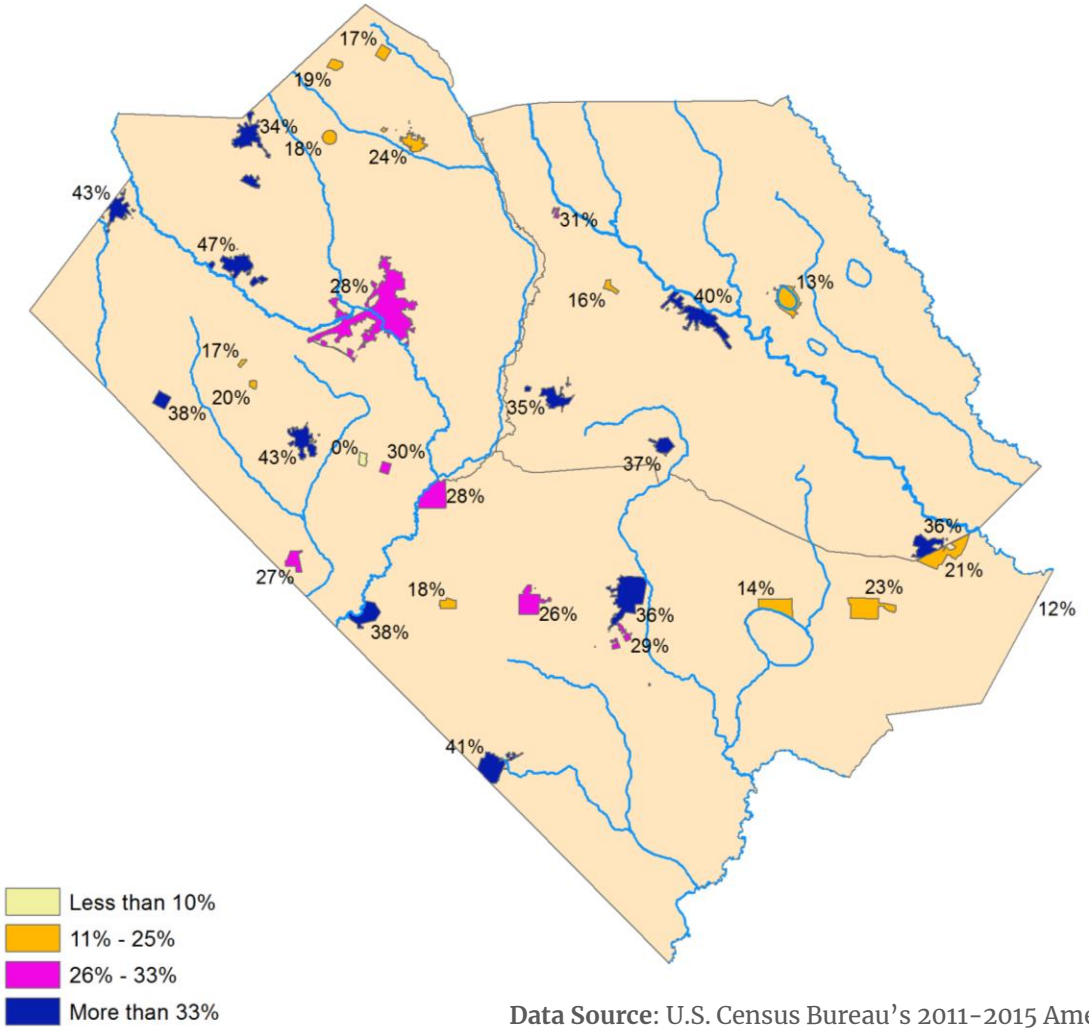


Slow Moving Storm

Median Age of the Population (2015)

Data Source: U.S. Census Bureau's 2011-2015 American Community Surveys

HOLISTIC CHECK-IN – UTILITY EXAMPLE



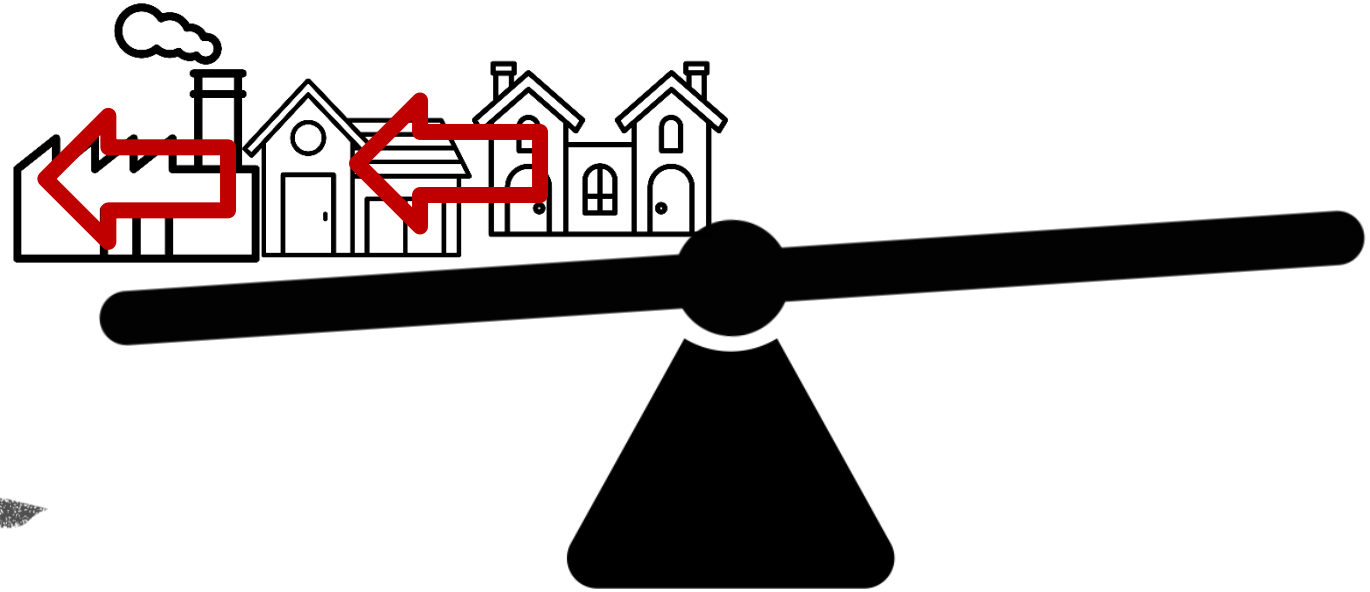
Slow Moving Storm

Percent of Households with Income Less than $15,000 (2015)

Data Source: U.S. Census Bureau's 2011-2015 American Community Surveys

HOLISTIC CHECK-IN – UTILITY EXAMPLE

Slow Moving Storm



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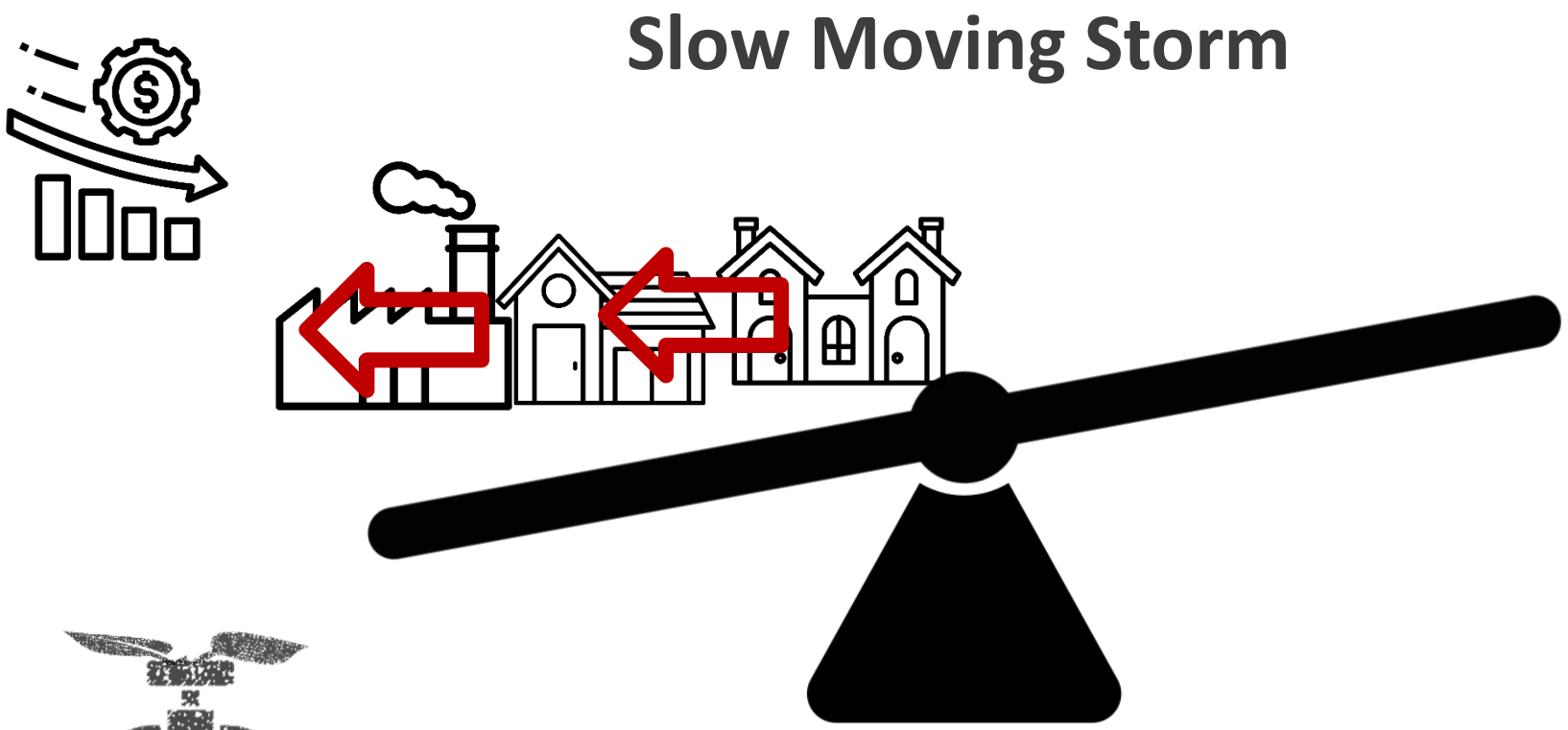

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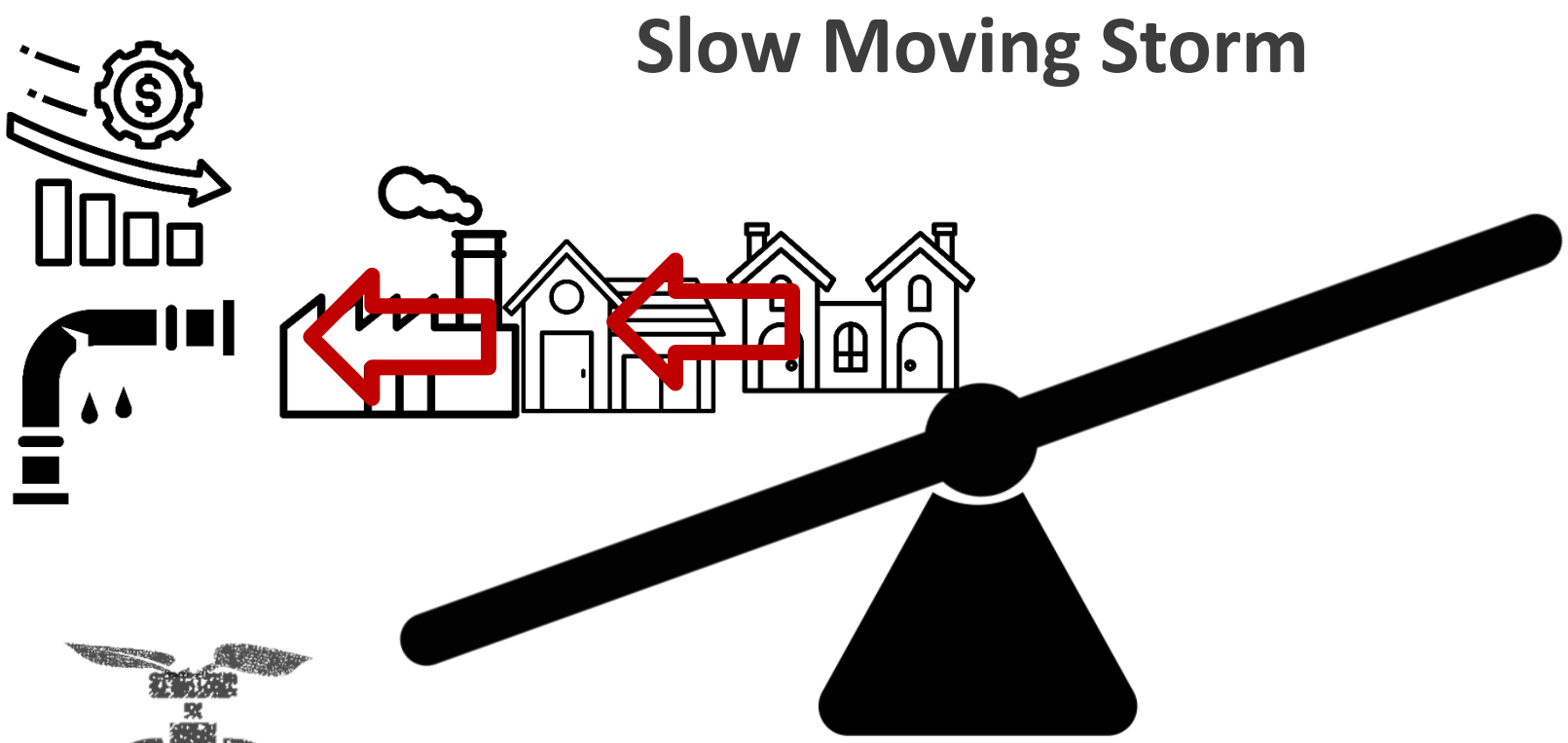

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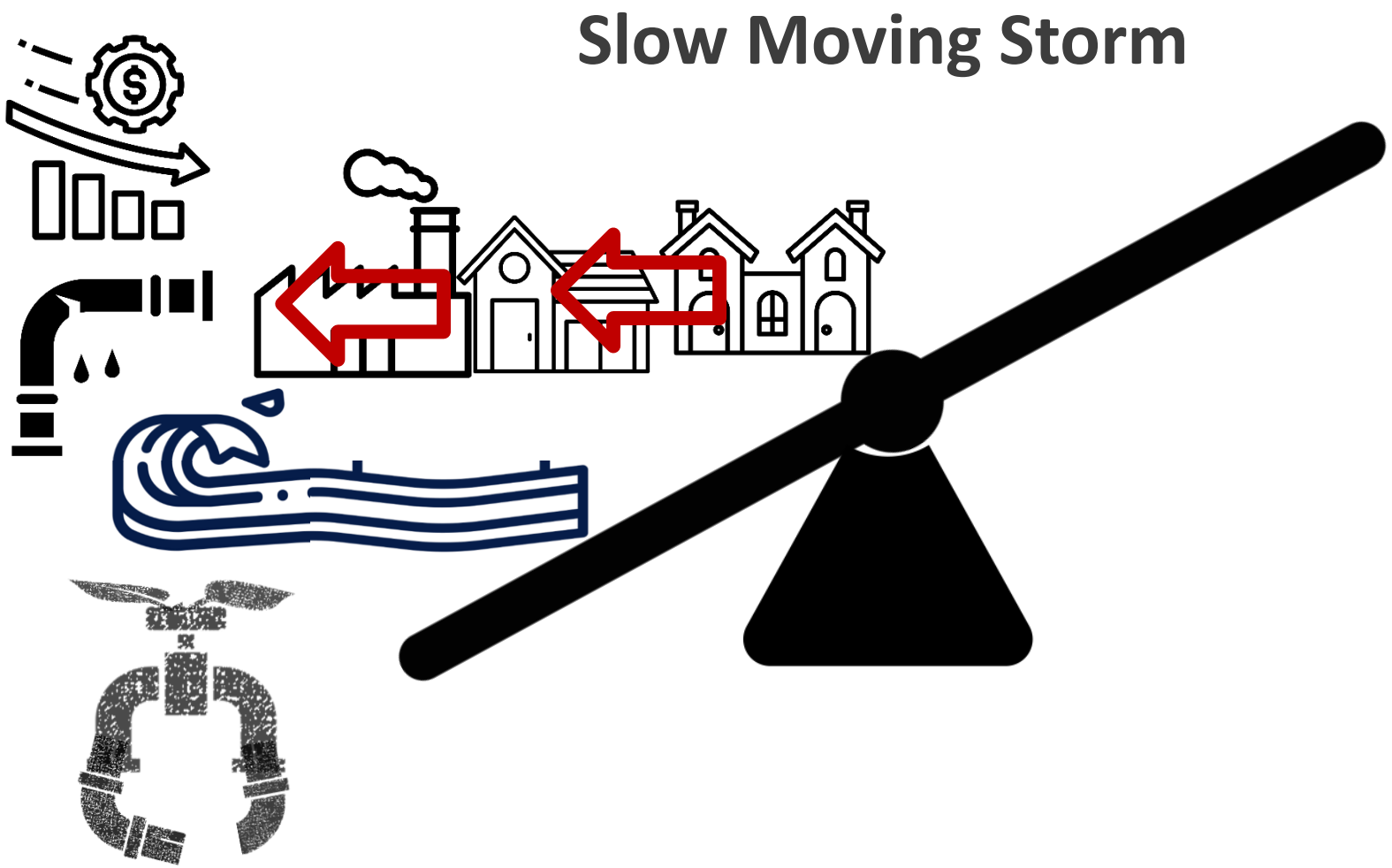
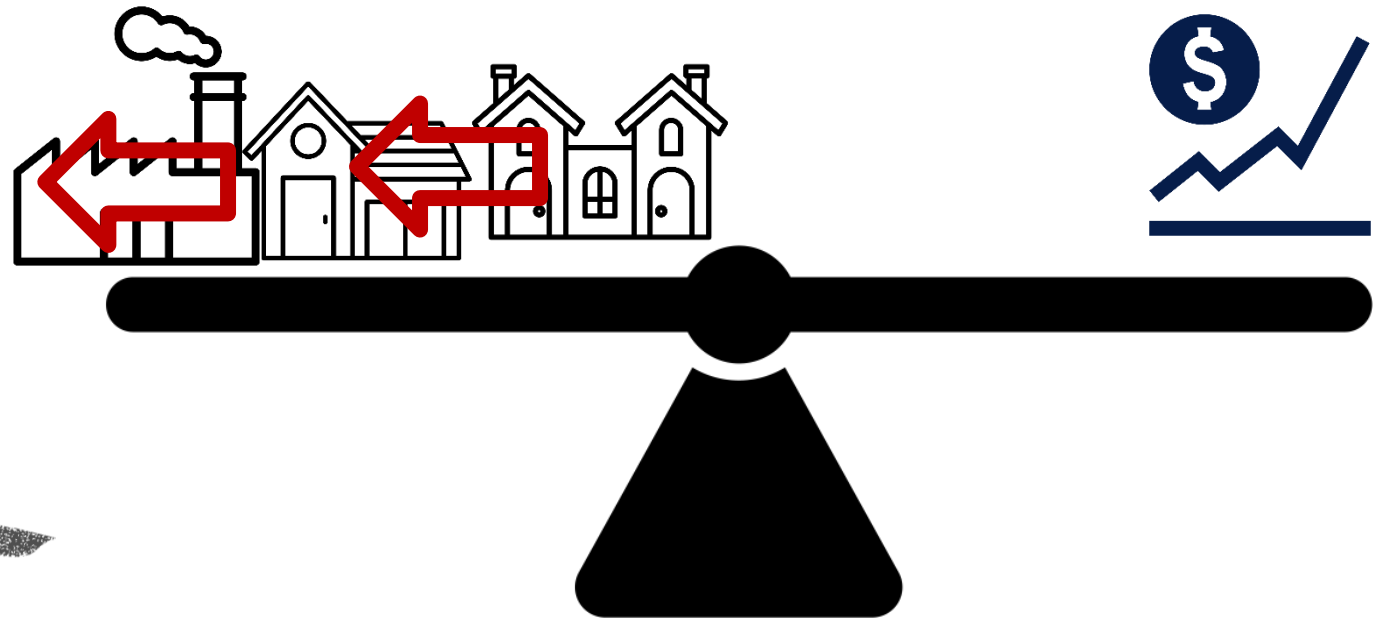


HOLISTIC CHECK-IN – UTILITY EXAMPLE

Slow Moving Storm



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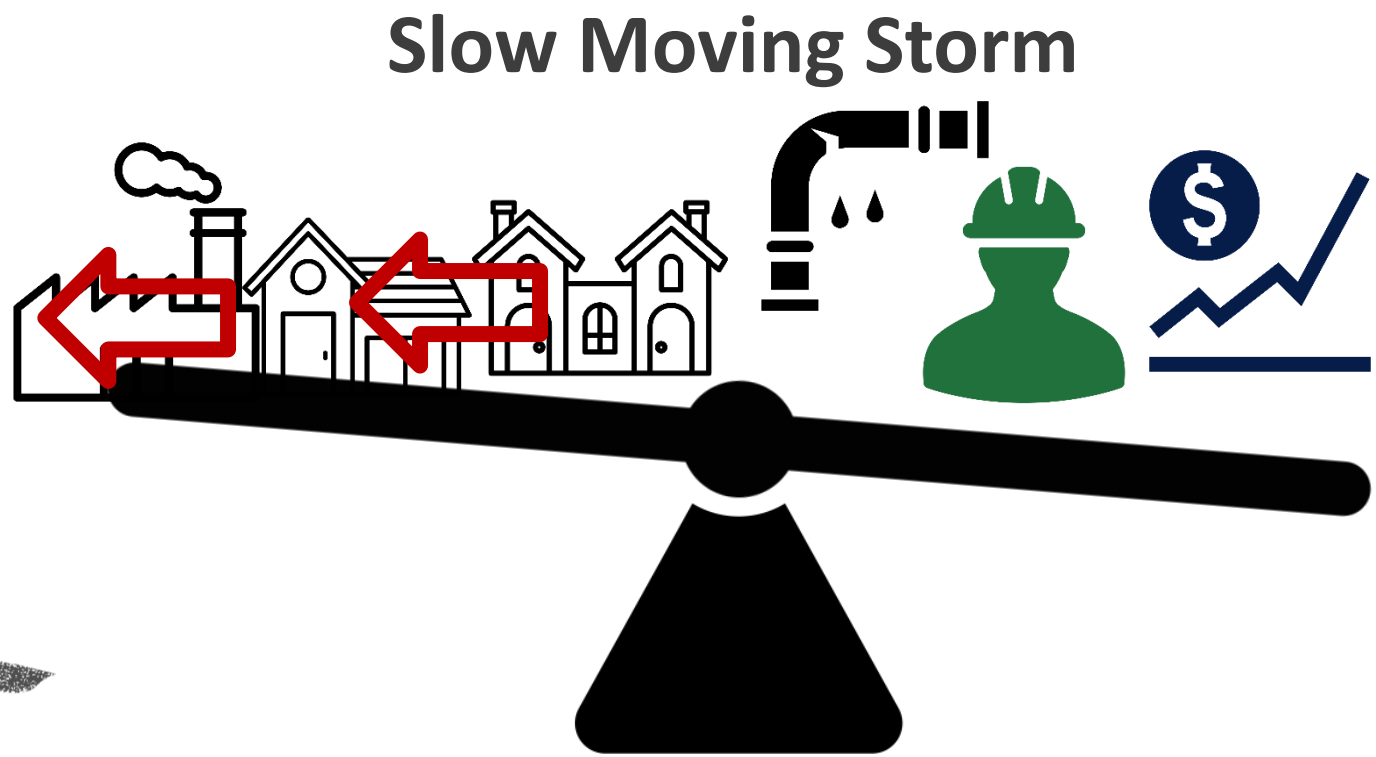
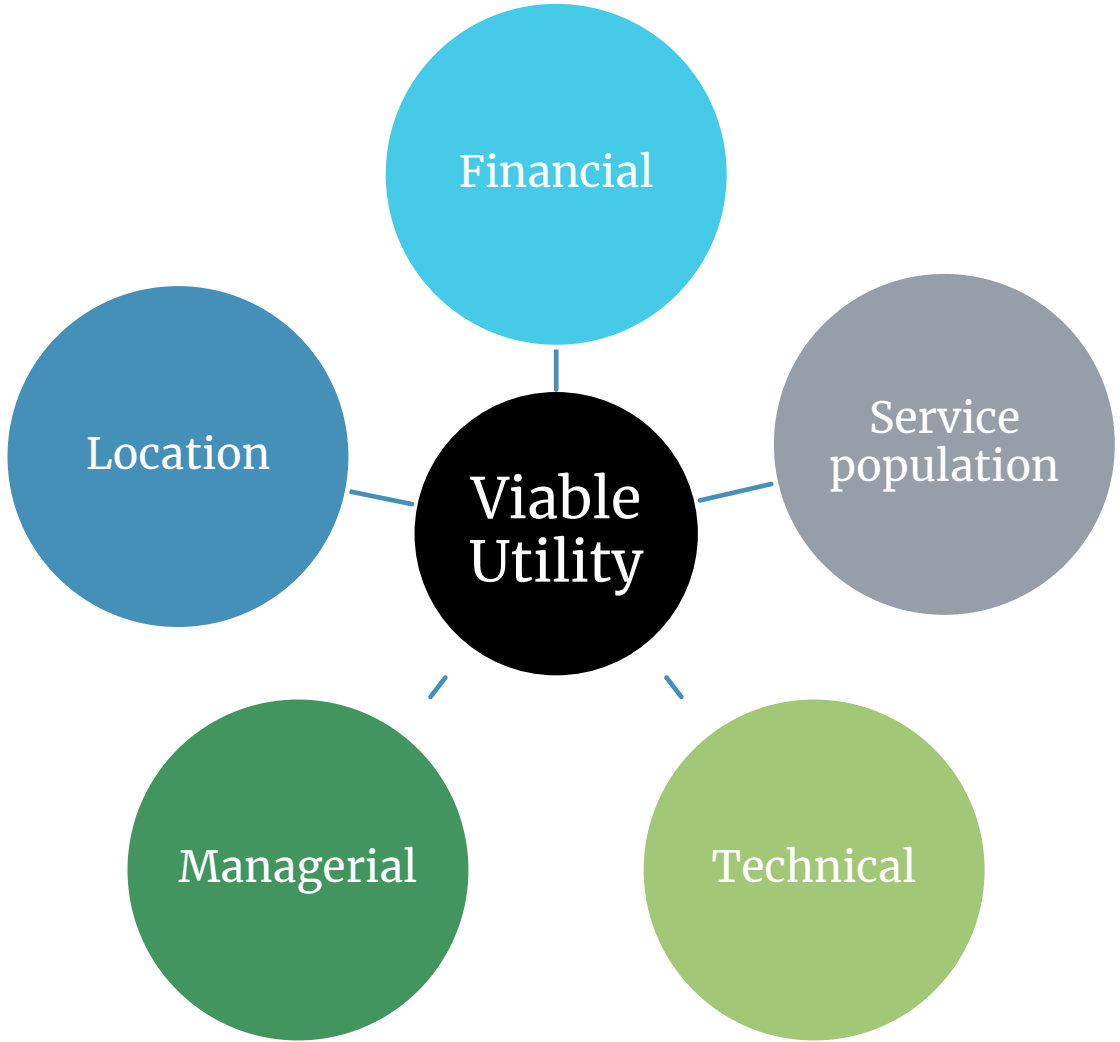


HOLISTIC CHECK-IN → HOLISTIC SOLUTIONS

- What is needed?
  - Financial
  - Service population
  - Technical
  - Managerial
  - Location
- What is available?



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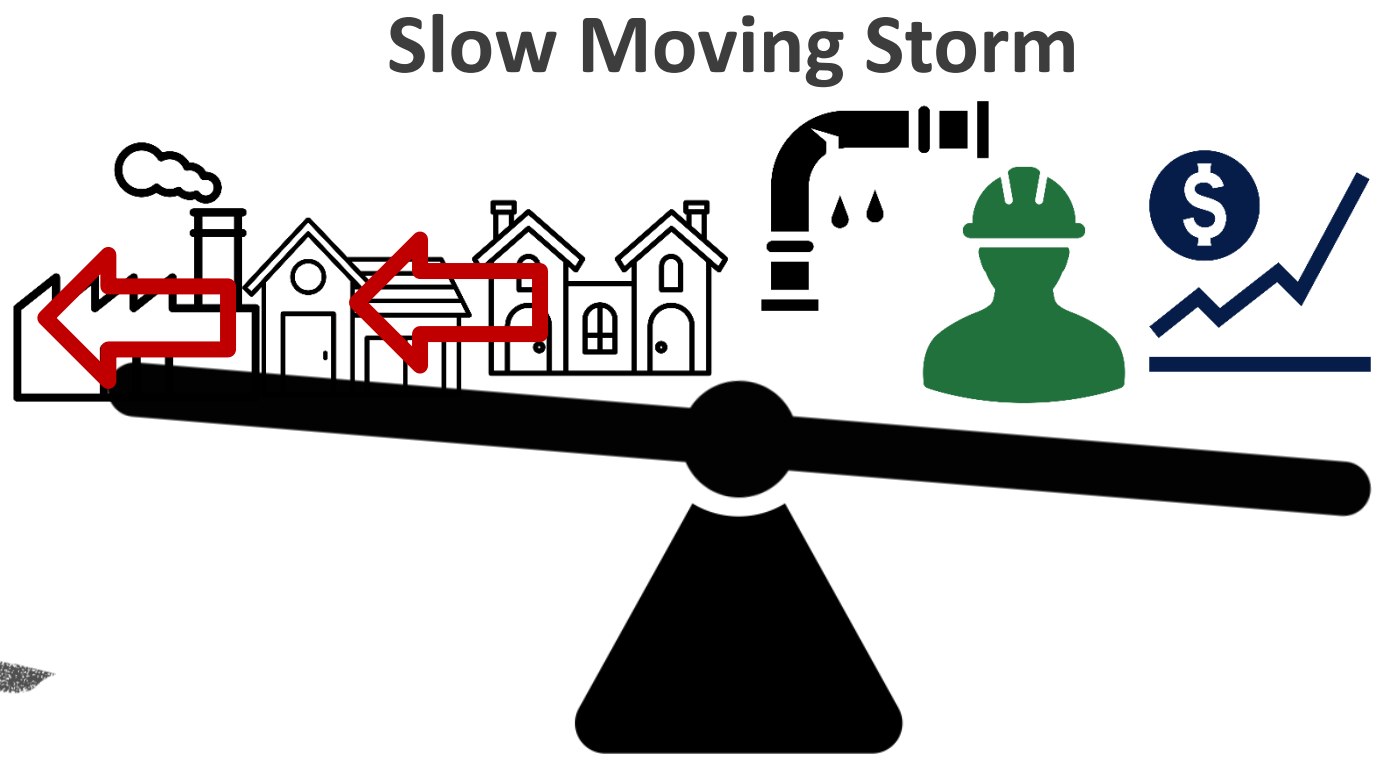

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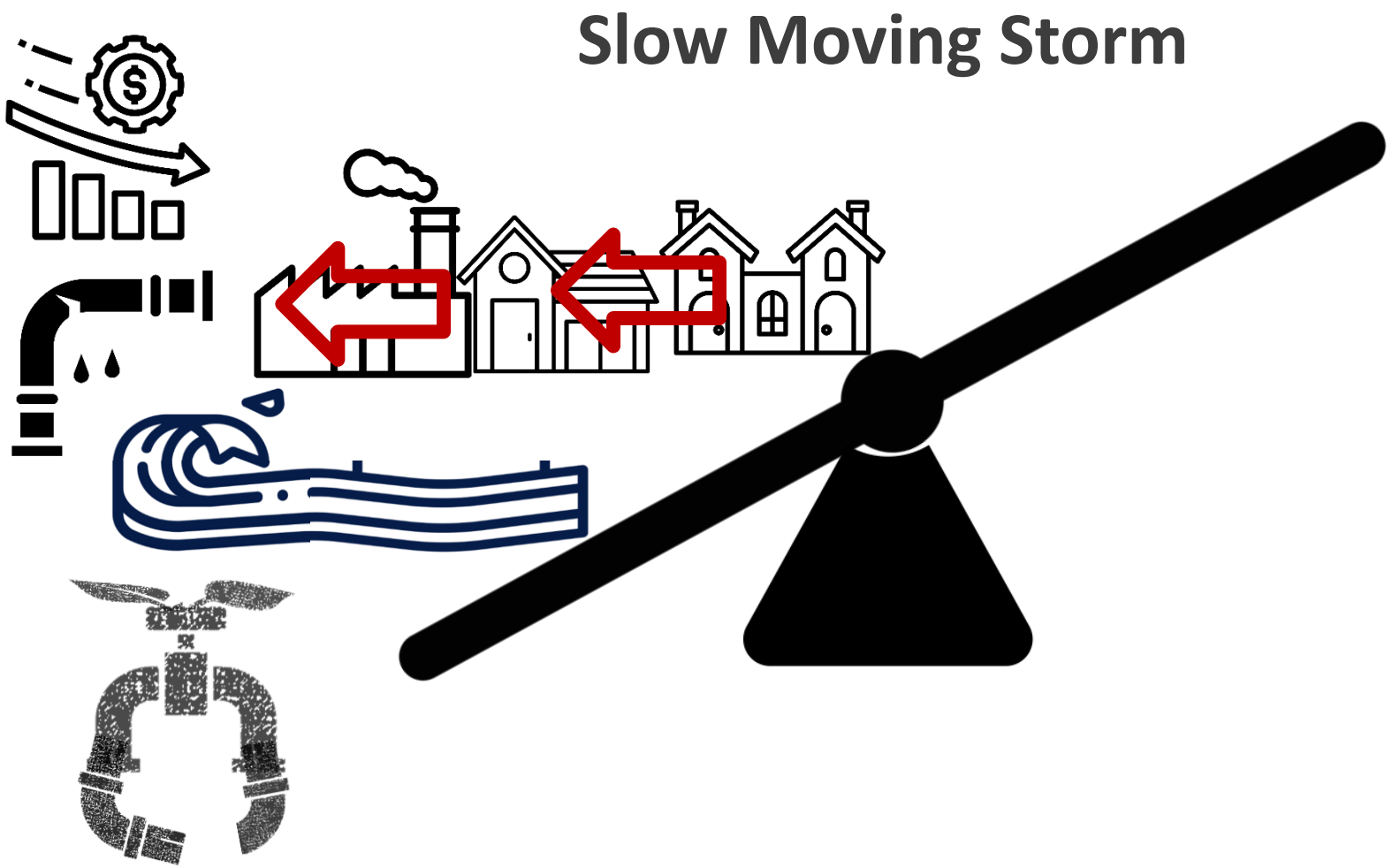
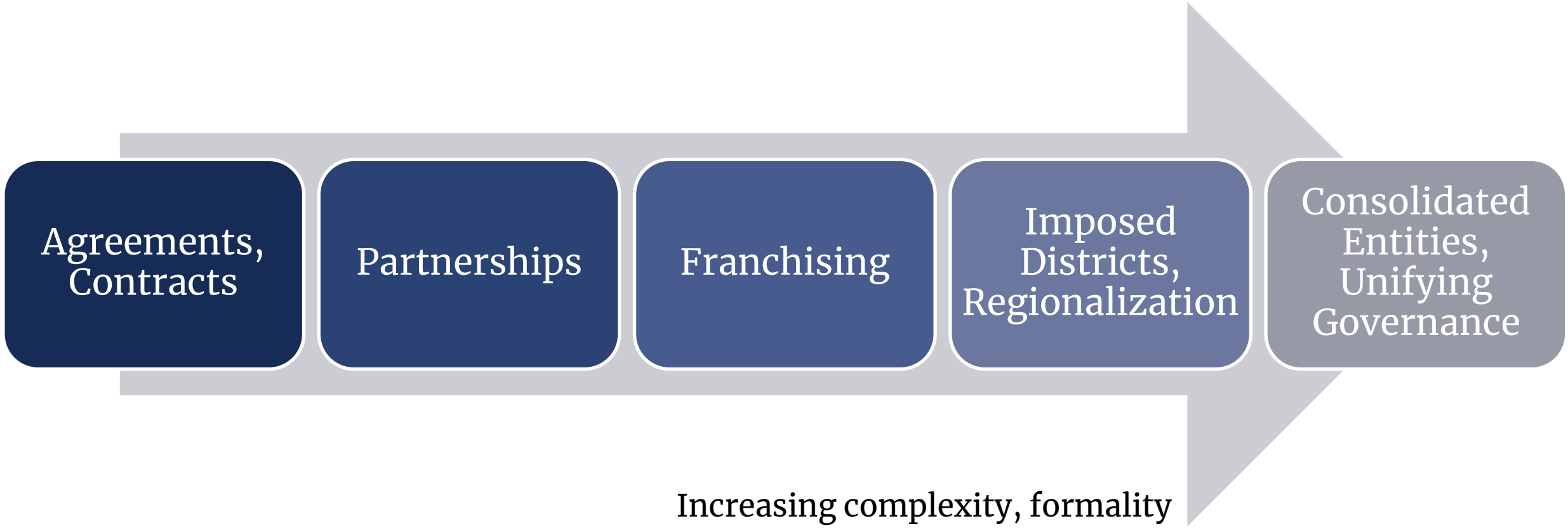


ONE POSSIBLE SOLUTION – PARTNERSHIPS

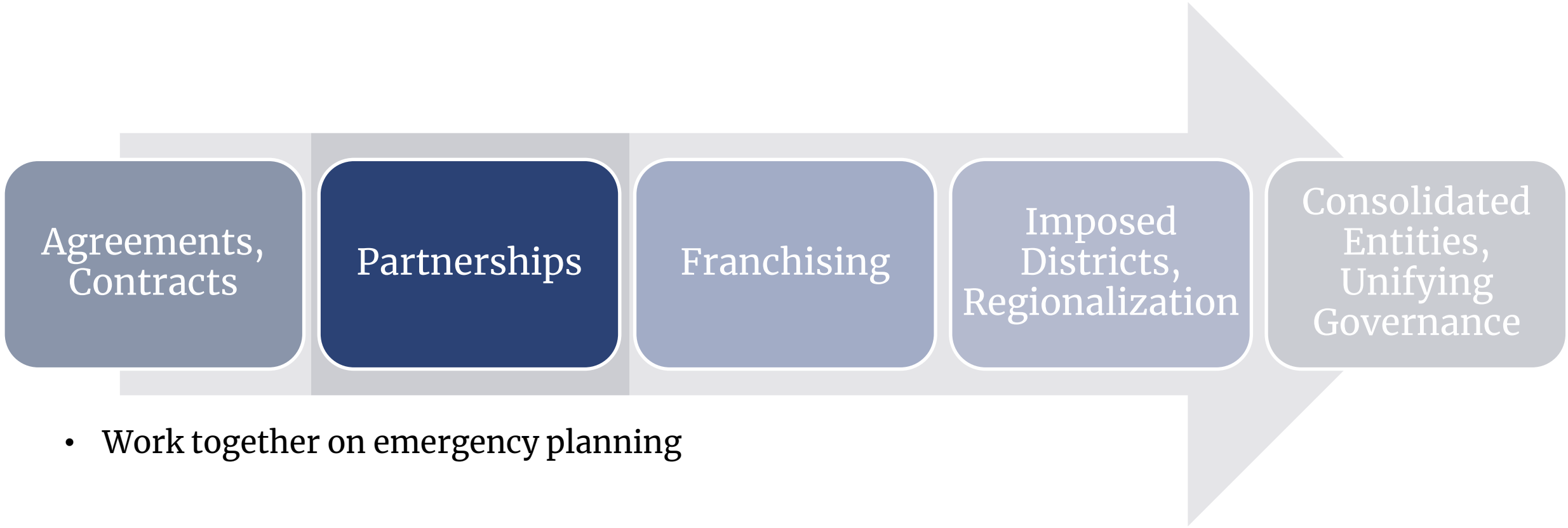
TYPES OF PARTNERSHIPS



TYPES OF PARTNERSHIPS

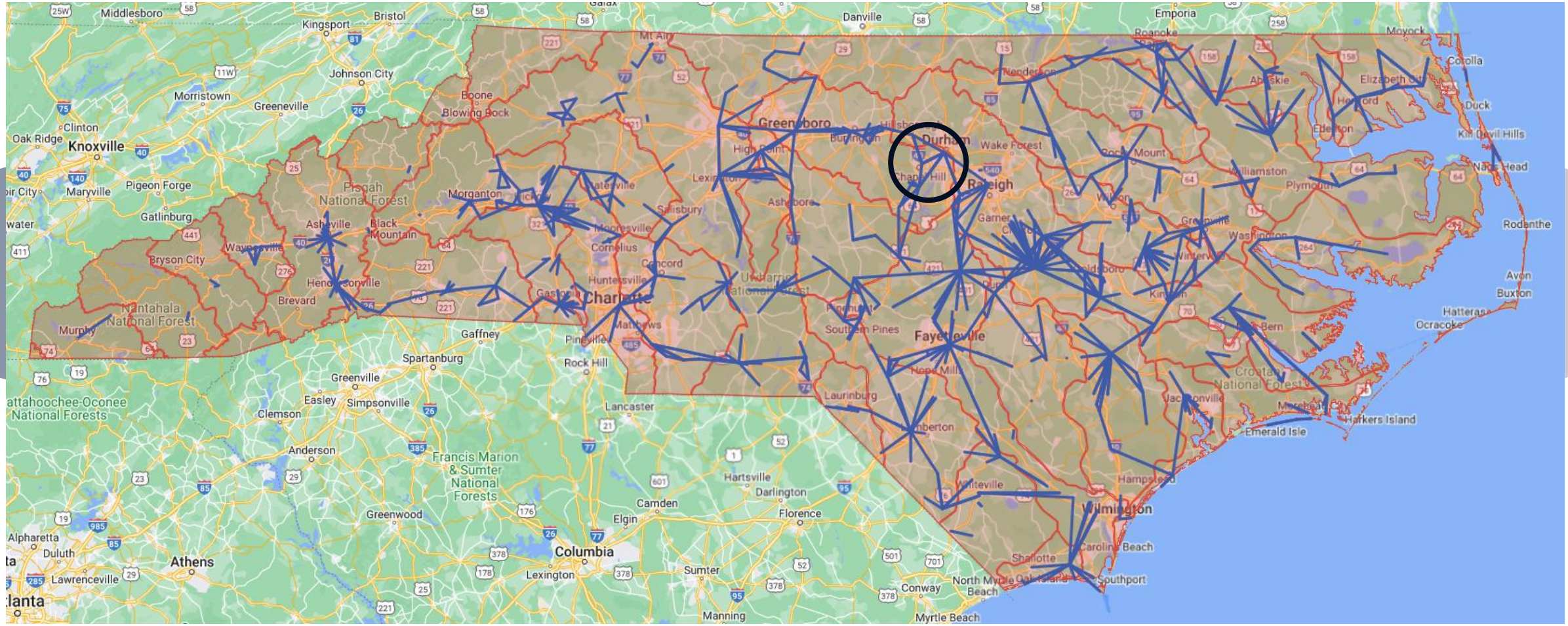
- Joint contracting for services can lower prices
- Equipment sharing
- Systems share information regarding regulations, planning, infrastructure

TYPES OF PARTNERSHIPS

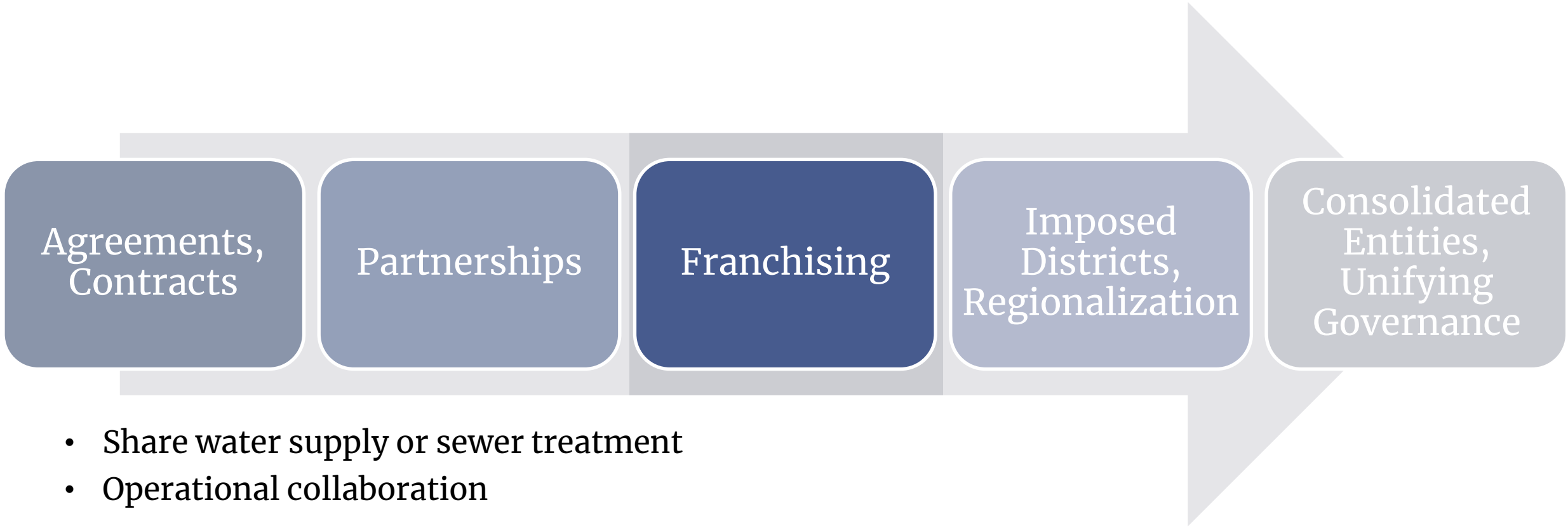


- Work together on emergency planning

TYPES OF PARTNERSHIPS

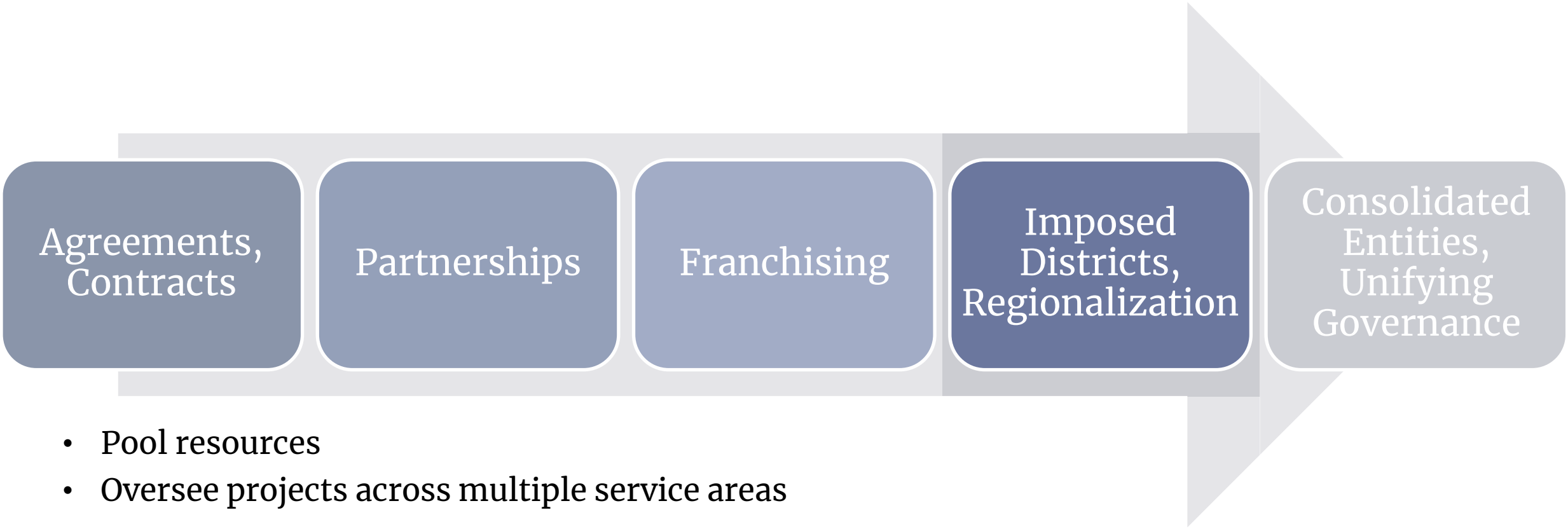


TYPES OF PARTNERSHIPS



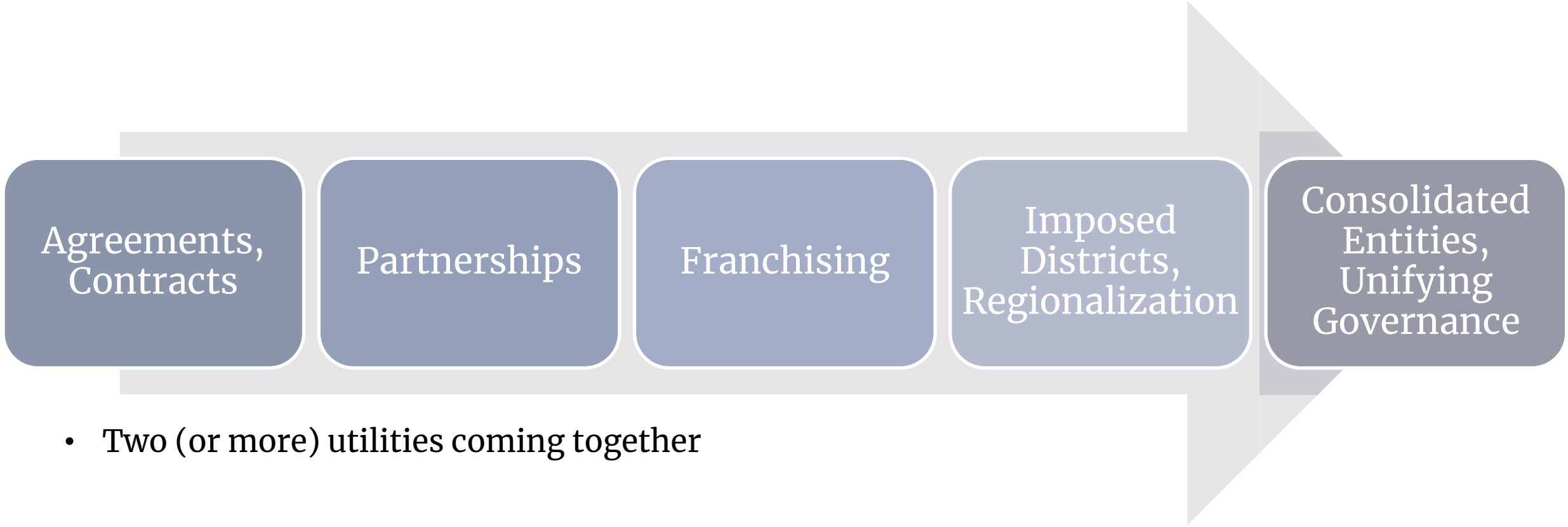
- Share water supply or sewer treatment
- Operational collaboration

TYPES OF PARTNERSHIPS



- Pool resources
- Oversee projects across multiple service areas

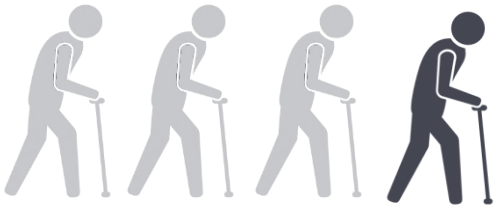
TYPES OF PARTNERSHIPS



- Two (or more) utilities coming together

TOOL FOR NUMEROUS SITUATIONS

Tool for Growing OR Shrinking Population Areas



CONSIDER CONSOLIDATION

DEFINITION OF CONSOLIDATION

- 2+ distinct legal entities become a **single legal entity**
- Operate under the same **governance, management, and finances**
- May or may not include **physically** interconnecting assets
- **Just utility**, not town/jurisdiction

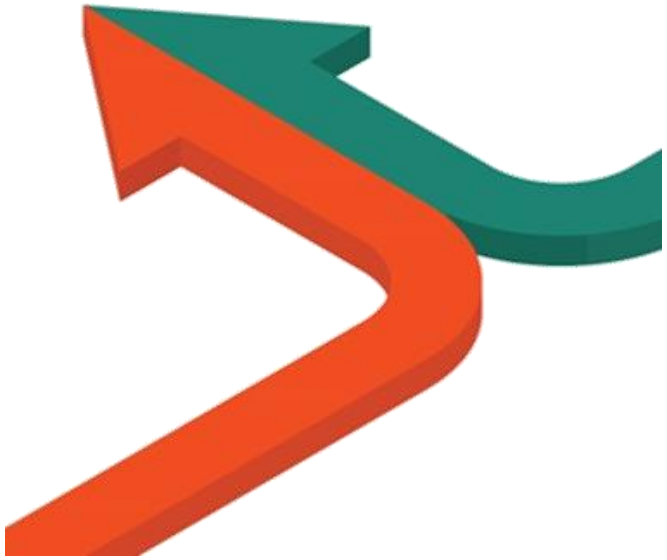


Image credit: ArcherPoint

TYPES OF CONSOLIDATION

Direct Acquisition

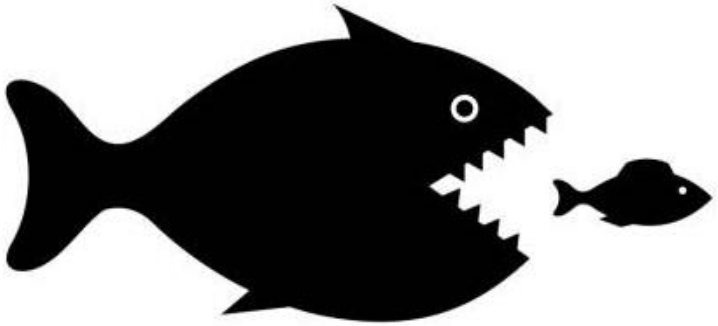
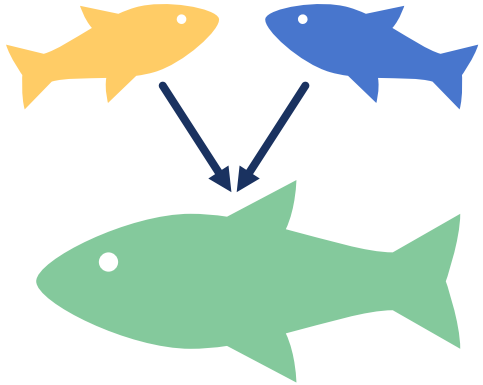


Image credit: Maksym Rudoi

Joint Merger



Balanced Merger

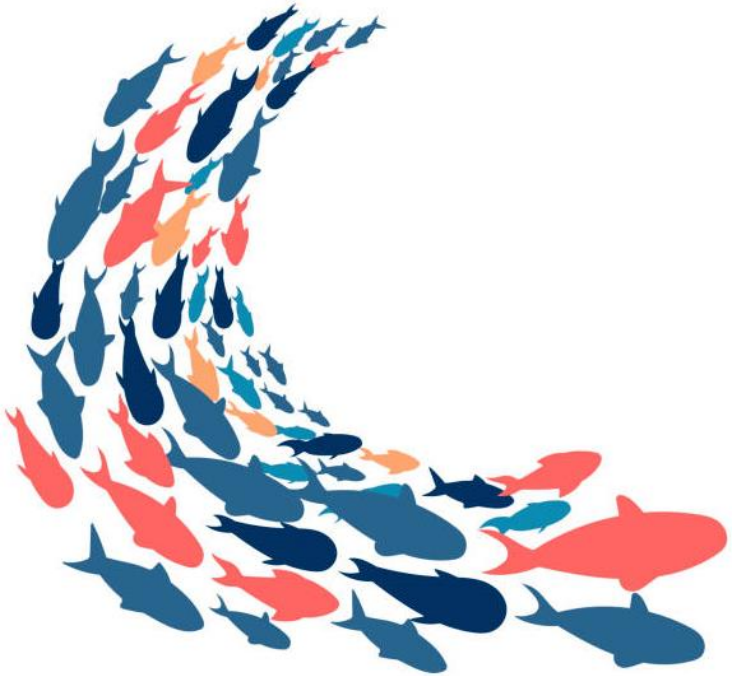


Image credit: Natalia Iashnova

FINANCIAL BENEFITS OF CONSOLIDATION

- **Economies of scale and operating efficiencies**
  - Increased access to capital at a lower cost
  - Lower or equal customer rates for a specified level of service
  - Revenue stability
  - Reduced exposure to regulatory penalties
  - Improved planning and risk management
  - Increased opportunities for economic development

- Separate business functions that can benefit from being spread over larger groups of customers
- Examples: meter reading, consumable pricing, staffing salaries

FINANCIAL BENEFITS OF CONSOLIDATION

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- Water is capital-intensive and requires high-cost investment
- Better access to capital from investors, possibly at lower cost
- Better terms and interest rates on bonds and loans
- Qualification of subsidized public funding

FINANCIAL BENEFITS OF CONSOLIDATION

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- Initially rates may need to rise to cover the cost of consolidation
- Some customers may see short-term rate reductions
- Rate parity is a more common goal

FINANCIAL BENEFITS OF CONSOLIDATION

- Economies of scale and operating efficiencies
- Increased access to capital at a lower cost
- Lower or equal customer rates for a specified level of service
- **Revenue stability**
- Reduced exposure to regulatory penalties
- Improved planning and risk management
- Increased opportunities for economic development

- Systems less vulnerable to revenue shortfalls
- Diverse customer base

FINANCIAL BENEFITS OF CONSOLIDATION

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- Cost-effective regulatory compliance
- Shift regulatory responsibility, streamline and reduce the cost of regulatory approvals
- Provide immediate regulatory financial relief

FINANCIAL BENEFITS OF CONSOLIDATION

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- Revenue stability
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- **Improved planning and risk management**
- Increased opportunities for economic development

- More comprehensive strategy
- Help mitigate risks like diminishing water supply, strategize with industrial polluters

FINANCIAL BENEFITS OF CONSOLIDATION

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- Improved planning and risk management
- **Increased opportunities for economic development**

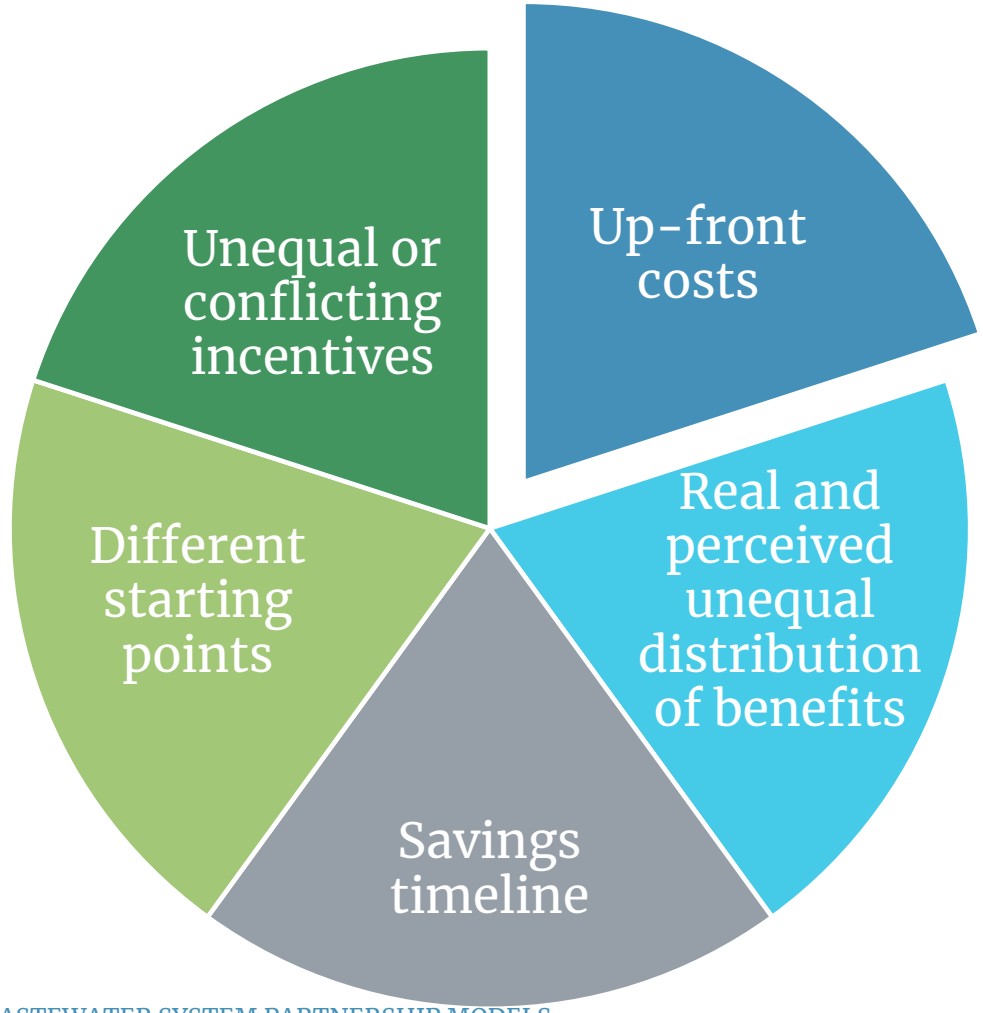
- Off the books in the broader community
- Communities with lack of services can struggle to keep, grow, or develop their local economies

CONSOLIDATION CHALLENGES AND CONSIDERATIONS

CHALLENGES OF CONSOLIDATION

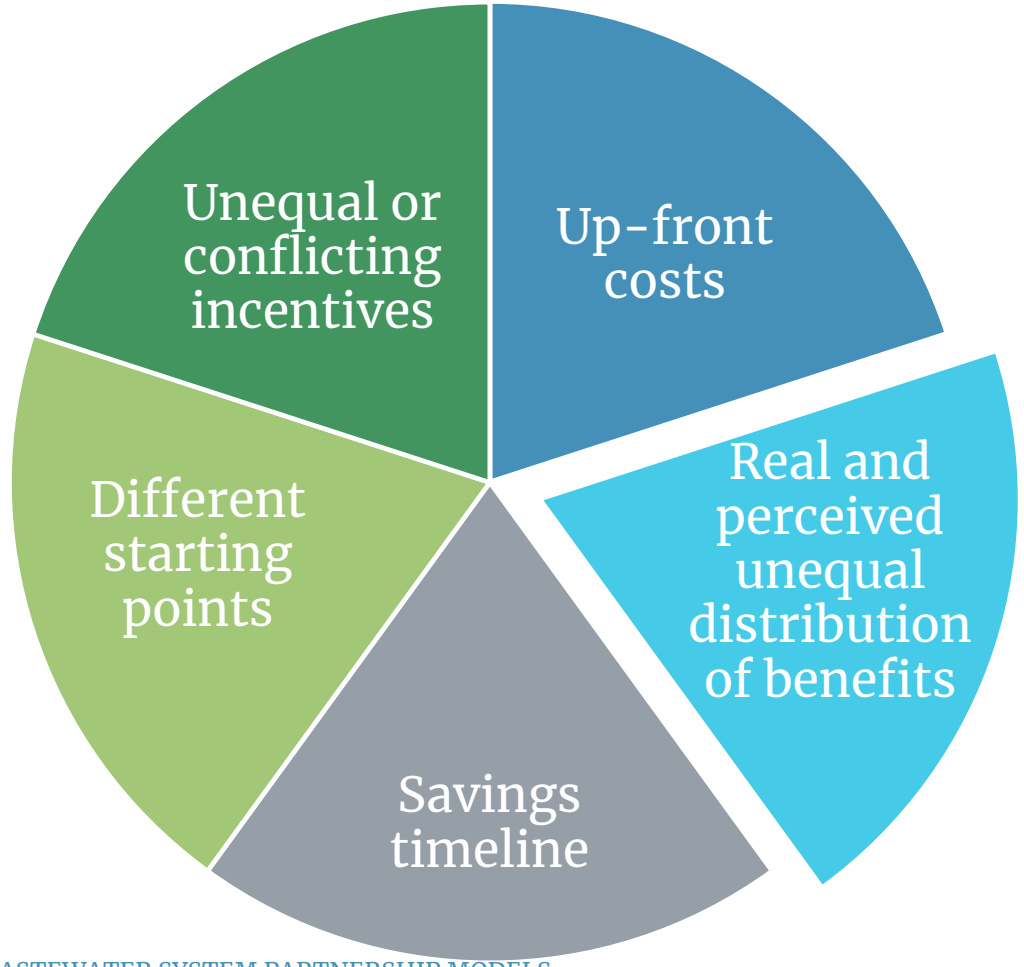
- Not a fail-safe way to protect from risks like overoptimistic projections, large customer losses, or the cost of retrofitting and building resilient systems
- May require up-front increased cost (regulatory requirements, backlog of infrastructure investment)
- Utilities have a desire for autonomy or mistrust of other systems
- Utilities are unaware of other systems or of options for consolidation

KEY CONSIDERATIONS



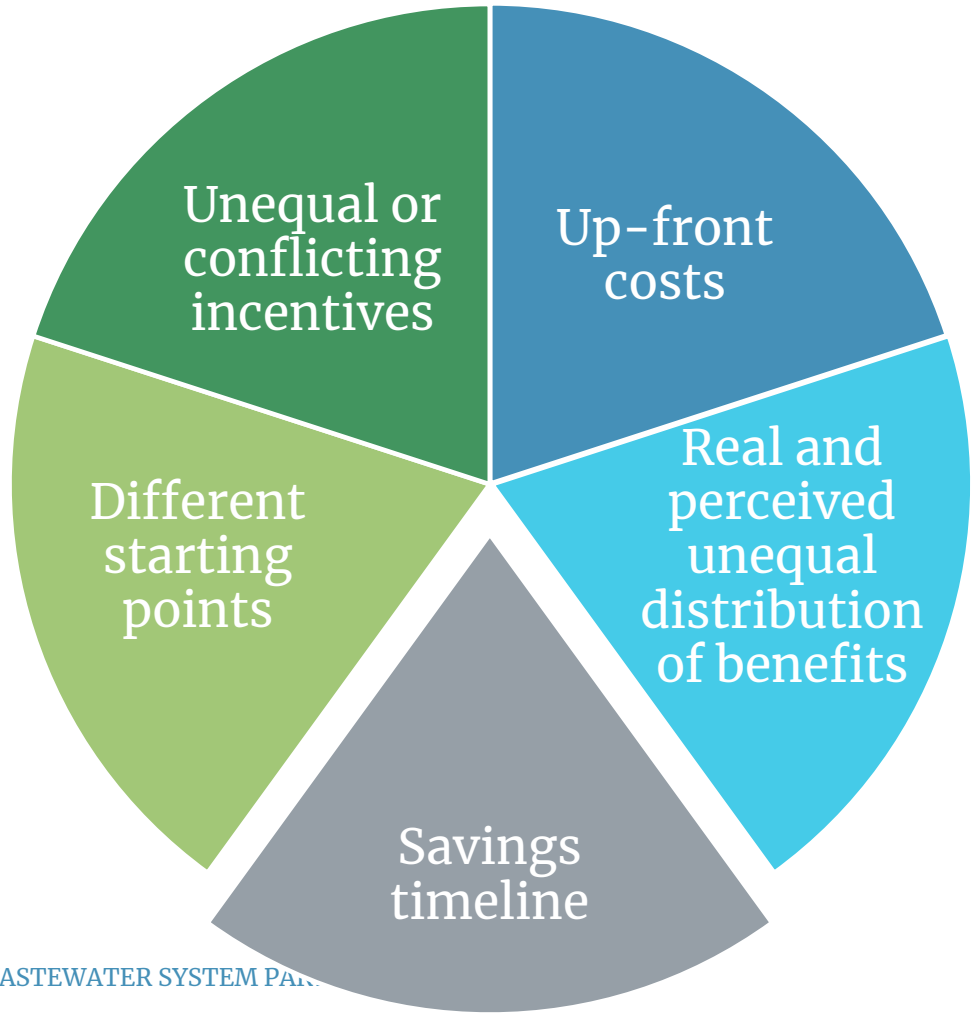
- Planning, studies, and staffing capacity to undertake can be expensive
- Infrastructure improvements, projects, physical connections may be needed

KEY CONSIDERATIONS



- Financial benefits cannot always be distributed equally
- Region may benefit, but individual communities or utilities may not
- May require compromise and commitment to solutions to maintain affordability for all customers

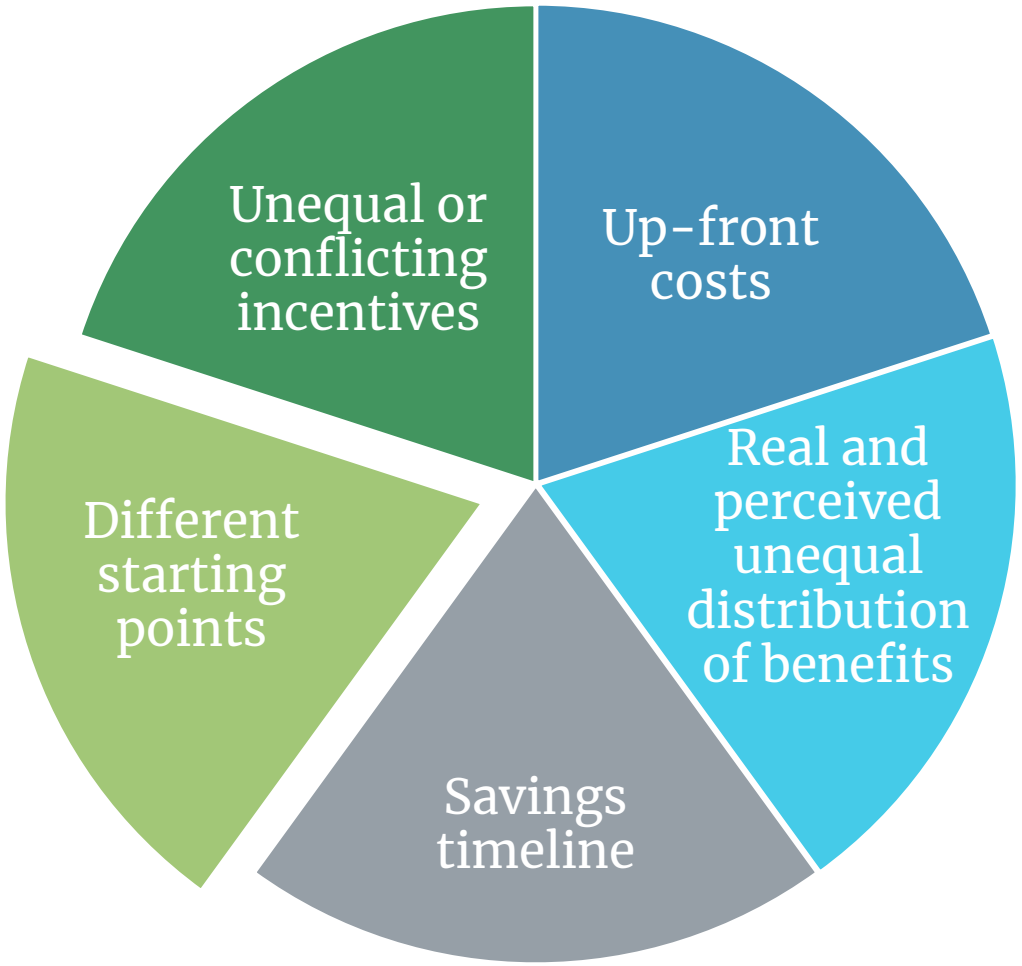
KEY CONSIDERATIONS



- Smoothing costs by spreading payments out over time can reduce burden of individual payments
- Savings are in smaller increments over a longer period of time
- Can be a challenge with short political term limits

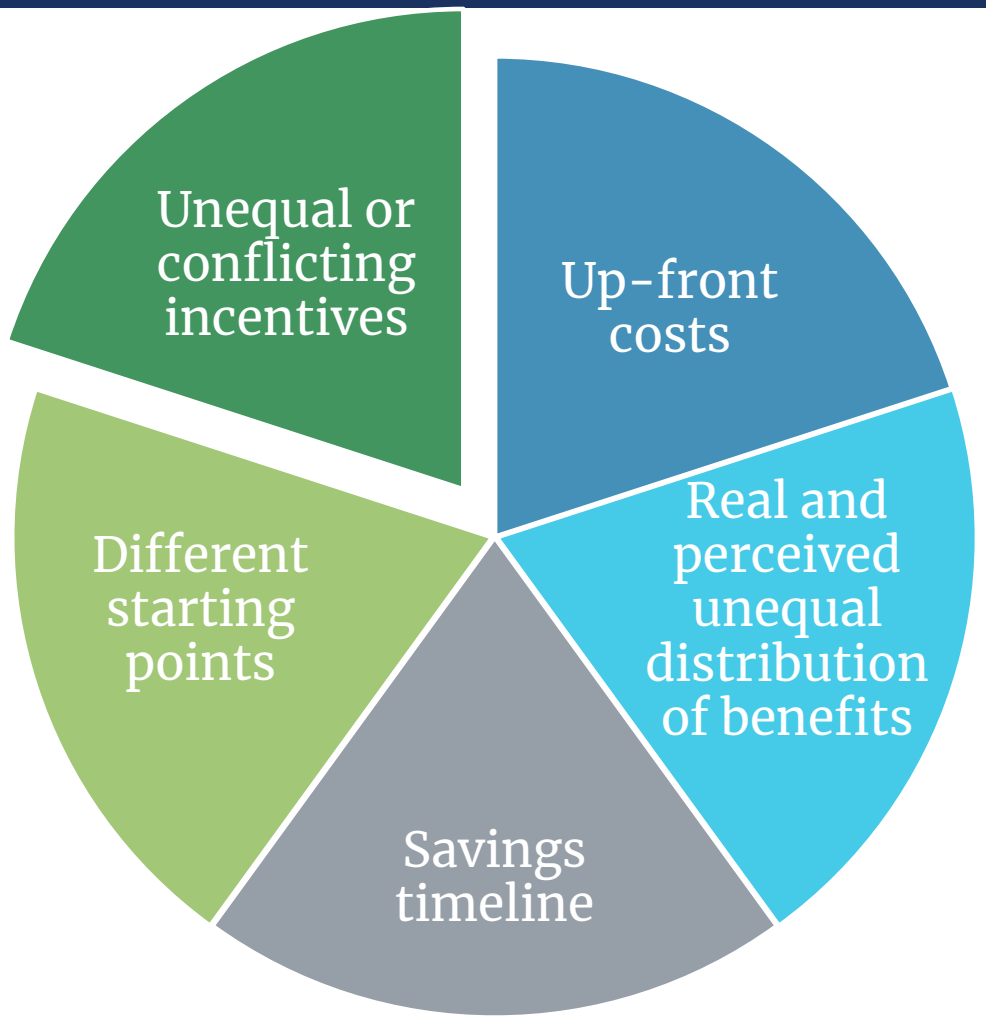
KEY CONSIDERATIONS

- Different utilities and communities likely are coming from different financial points
- Requires efforts to harmonize rate schedules, asset values, savings, and liabilities



KEY CONSIDERATIONS

- Incentives are needed for consolidation
- Higher-capacity utilities may not see the benefits
- Can lead to less robust partnerships



EVALUATING CONSOLIDATION

Not the right option in all cases

- Can have positive financial and economic outcomes
- Must consider and prepare for challenges
- Success factors: understand financial impacts, patience, long-range planning, external incentives, leadership

What we haven't considered

- Social impacts within a community/region
- Environmental impact
- Political drive
- Community response

CONSOLIDATION EXAMPLES

CITY OF RALEIGH, NC

- Economies of scale and operating efficiencies
- Increased access to capital at a lower cost
- Lower or equal customer rates for a specified level of service
- Revenue stability
- Reduced exposure to regulatory penalties
- Improved planning and risk management

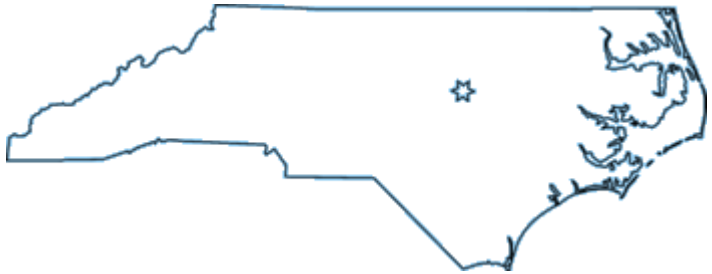


Image credit: XileoDesigns

- 7 local utilities merge into a full-service regional water and wastewater provider
- 1990s – discussion started
- 2006 – last agreement executed

CITY OF RALEIGH, NC

- **Driver** – quick growth and limited water resources
- Communities that consolidated – cost savings, lower rates, and increased water security
- Larger community – support for permitting, reduced competition for water resources
- Leadership provided by County, regulatory body expedited approvals
- Reduced duplication, larger customer base, uniform rates, reduced O&M, lower cost capital

HAMPTON ROADS SANITATION DISTRICT, VA (HRSD)

- Economies of scale and operating efficiencies
- Reduced exposure to regulatory penalties
- Improved planning and risk management

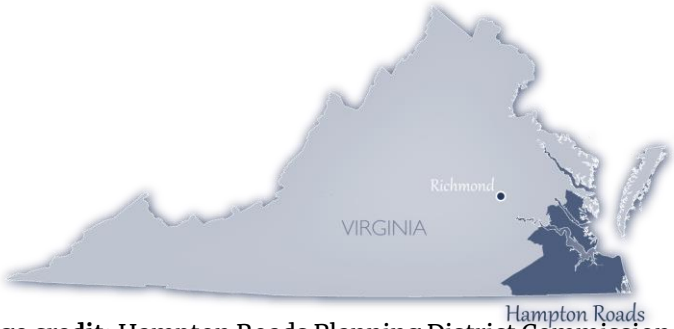


Image credit: Hampton Roads Planning District Commission

- HRSD provides wholesale wastewater treatment to 14 incorporated governments
- 1940 – sanitation district formed
- 2014 – MOU to consolidate Regional Wet Weather Management Program

HAMPTON ROADS SANITATION DISTRICT, VA (HRSD)

- **Driver**– high regulatory compliance costs, improve environmental outcomes (wastewater pollution)
- Incremental consolidation (not a full merger)
  - HRSD made improvements to assets, provides wholesale treatment
  - Local control maintained for collection and customer interaction

LOGAN TODD REGIONAL WATER COMMISSION, KY

Increased access to capital at a lower cost

Image credit: Kentucky Legislature

- 12 systems create water treatment facility
- 1995 – LTRWC formed by Logan County fiscal court
- 2003 – began serving treated water to distribution systems

Increased opportunities for economic development

LOGAN TODD REGIONAL WATER COMMISSION, KY

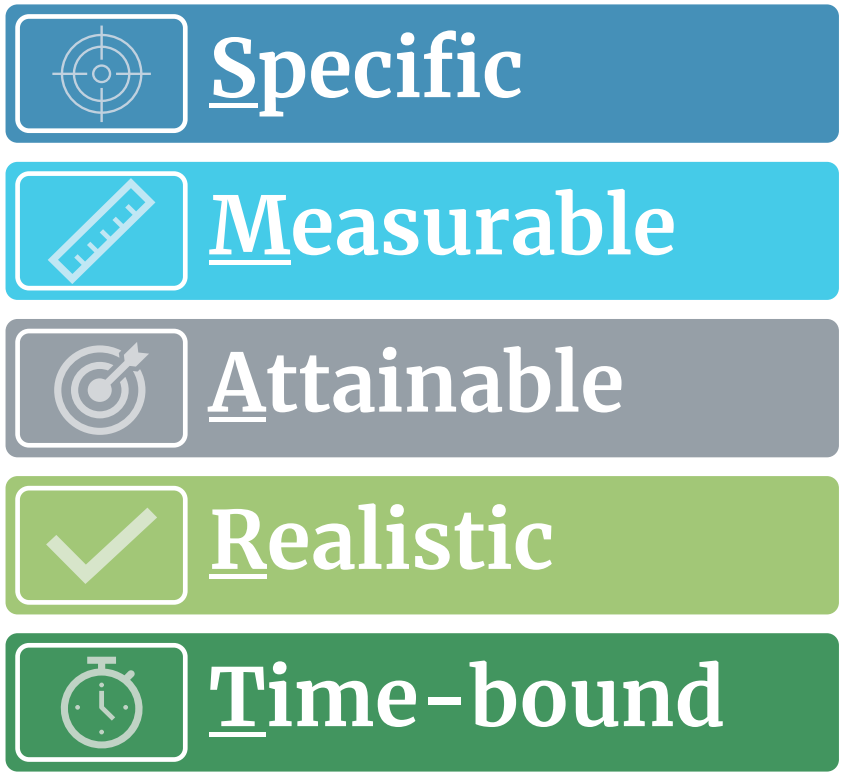
- **Driver** – water quality concerns and water shortages, cost them business
- Joint Powers Authority, 12 systems retained distribution but purchased water wholesale
- Ultimately, attracted new businesses and industry

STEPS FOR PARTNERING

KEY ACTIONS/DECISIONS

1. Assess the **feasibility** of consolidation options
2. Value the physical **assets** of the systems
3. Address outstanding **obligations and responsibilities**
4. Understand impact on **customer rates**
5. Develop **governance structure** for consolidated utility
6. Assign **board representation** for utility
7. Develop a process to **resolve disputes**

DEVELOP SMART GOALS



- Goals are specific and measurable
- Measure goals over time
  - How often depends on goals and availability of data to measure goals
- Does not have to be a complex process

EFC RESOURCES

- https://efc.sog.unc.edu/topic-area/regionalization/

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APPENDIX

MORE DETAILED STEPS FOR CONSOLIDATION

VALUING THE PHYSICAL ASSETS OF THE SYSTEMS

- Book Value
- Cash Flow Value
- Arranging Engineering, Facilitation and Planning Assistance
- Transparent Financial Analysis and Potential Future Scenarios
- Meter maintenance and ownership responsibilities

CLARIFYING LANGUAGE

- Language defining service areas
- Language defining who can serve unserved areas
- Language clarifying the process for changing or expanding service areas in the future
- Language to clarify costs associated with changing service areas and how it will affect water and wastewater rates.

ADDRESSING OUTSTANDING OBLIGATIONS AND RESPONSIBILITIES

- Debt
- Staffing Considerations

Why is this important?
Prevents unwanted surprises

IMPACT ON CUSTOMER RATES

- Lower rates not a guarantee
- Surcharges? Temporary increases?
- How can rates among consolidated utilities ultimately be equalized?

Why is this important?
Often most important customer concern

GOVERNANCE STRUCTURE FOR CONSOLIDATED UTILITY

- Dependent on many factors including: number of utilities, combined service area, anticipated growth or decline, financial health of systems, and future regulatory costs

Why is this important?
Governance will impact every aspect of service provision

BOARD REPRESENTATION FOR UTILITY

- Number of board seats
- Rationale for assigning board seats
- Number of utilities on the board
- Rate setting process
- How should/can the board be modified if there is growth/change

RESOLVING DISPUTES

- Binding Arbitration
- Non-binding Mediation