

Strategic Water Planning

Analyses, Planning and Decision-Making

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Outline of this Presentation

The opportunity and how CSU arrived at it



Who am I to be suggesting this opportunity?



Strategic Planning: the concept and the process



What is the problem?



Where are we now?



The Example



What's next?

The Opportunity

The obvious: we're entering a new era of very demanding water management

- Increasing demand, decreasing supply
- Increasing infrastructure maintenance expenses
- The load is placed on the state and local governments
- Decision-making must be based on critical data, analysis and planning

Doing otherwise risks significant budget and economic impacts

The management challenge: find and fund the most beneficial, cost-effective work for improving both supply and demand, in the right sequence

The Opportunity: use rigorous strategic management and planning to do it

CSU's Conclusions

- The [Recommended State Water Strategy](#) is in the right direction
 - But the context and implementation are not apparent
- Strategic planning provides it
- Our technical issues are based in strategic planning issues
- The EWFB (or GOMB) may be the best sponsor:
 - Our local leaders may be about as supportive as they can be at this point
 - We don't know how to approach the DWRe
 - The legislature doesn't seem appropriate
- We'd much rather focus on the solution than complain about the problem

Who am I to be suggesting this opportunity?

My background is technical and in the planning and management of technical work

- Bachelors in electrical engineering, computer science
- Masters in systems engineering, MBA focused on finance and management
- Senior technical and management positions at Boeing
 - Boeing Technical Fellow, executive MBA
 - Systems architecture-integration manager on 777 and 787 airplane developments; patents
 - Deeply involved in program and project management of the technical work
 - Consultant with major corporations

Lots of experience with complex data, analysis, strategic planning and management

Utah's water is deep with data, analysis, management and planning challenges

My background is relevant

What is “rigorous strategic planning”?

Planning that is driven by strategies, with verified internal consistency

Two levels:

Program Planning/Management: figuring out what work should be done

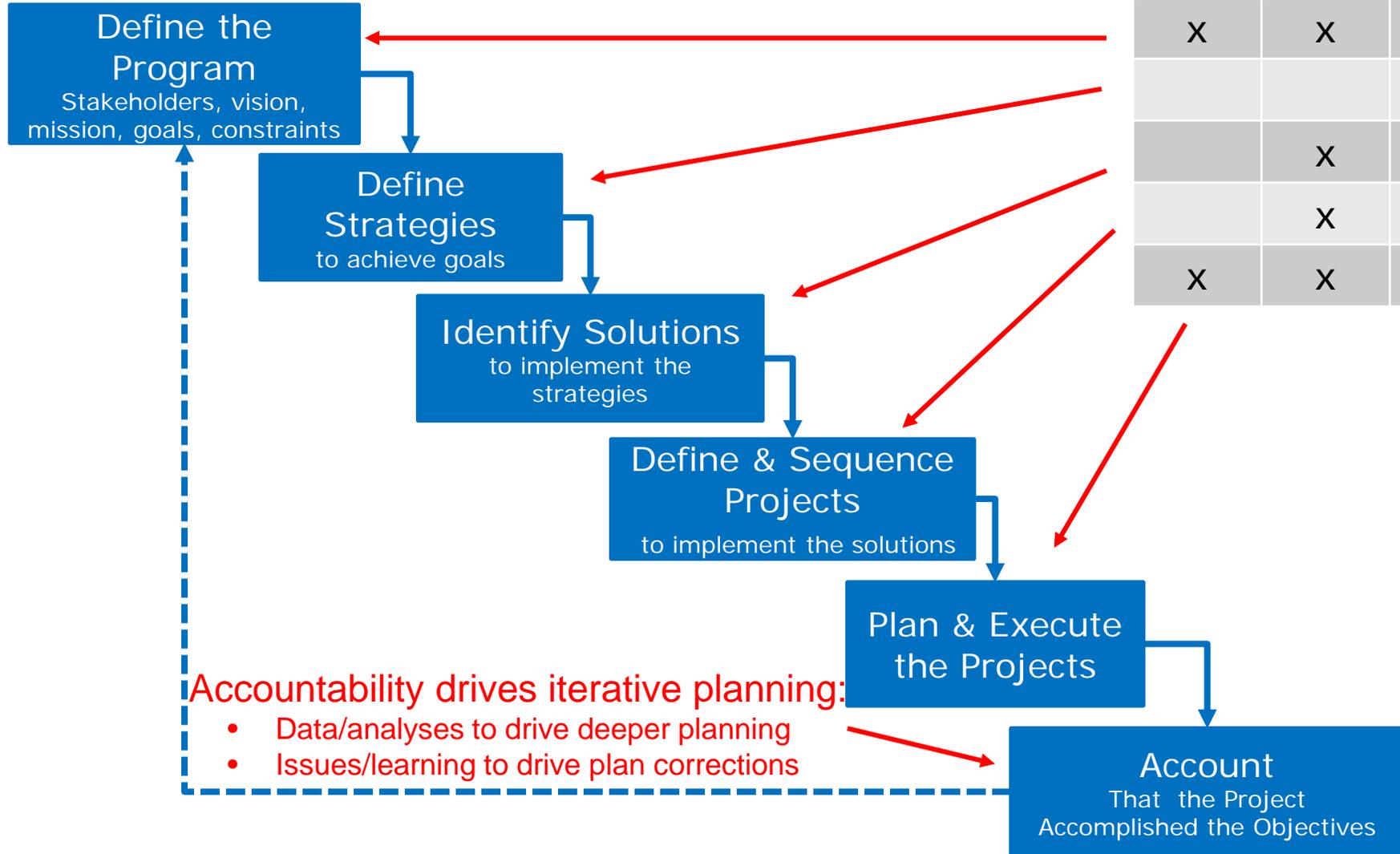
- Openly engages stakeholders, unifying them in shared vision, mission, goals, strategies
- Openly evaluates solutions and defines projects to implement them
- Focuses resources on the most strategic work....step-by-step

Project Planning/Management: doing the work

- Objectives, tasks, schedules, budget, responsibilities, deliverables
- Accountability

For Utah’s water, plans should be integrated and optimized across the state, region/county and city levels

The Strategic Program Planning Process



Who	What	When	Why	How	How Much
X	X		X		X
				X	
	X	X		X	
	X	X		X	X
X	X	X		X	X

What's the problem?

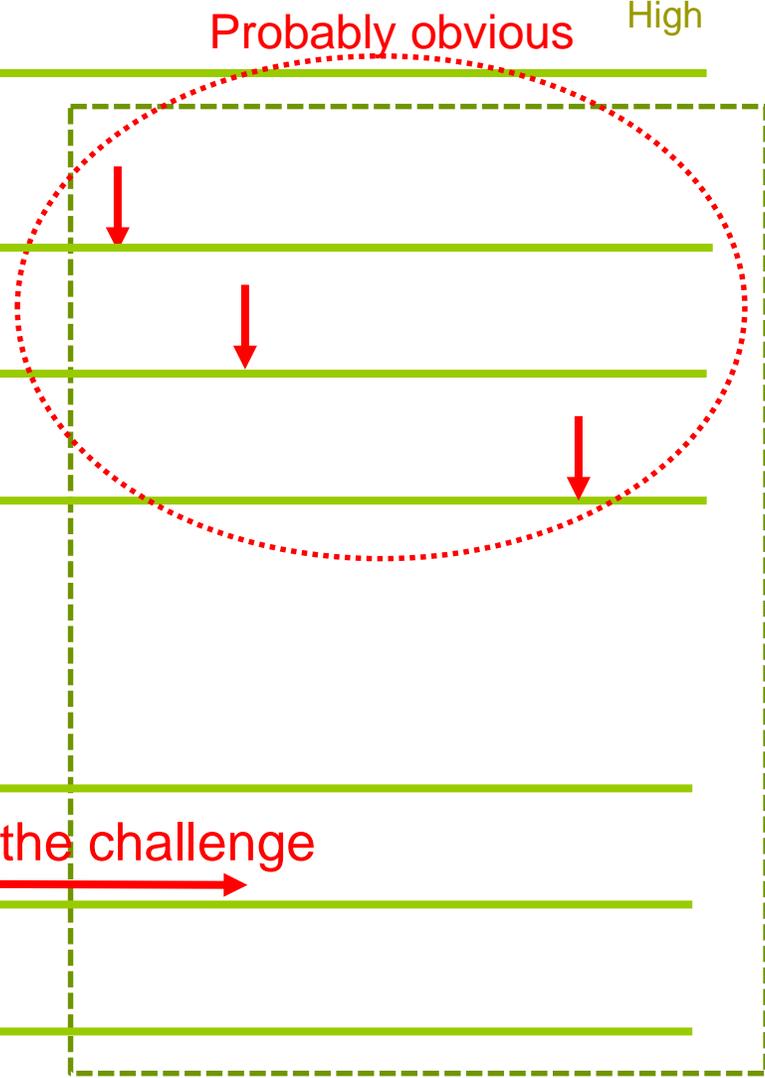
Low High

Utah's "Water System"

Complexity

Cost

Potential Impact



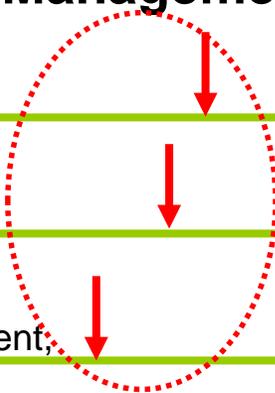
Probably obvious

Utah's "Water Management System"

Data/Analysis Maturity

Management/Planning
Process Maturity

Transparency, Engagement,
Accountability



Move to meet the challenge

Not so obvious? I'll explain.

Characterizing the Maturity of Data and Analyses

An Example: those required for LPP and Conservation Decisions



Critical Water Data/Analyses	Status/Maturity			
	Exists	Probability Assessment	Verified	Transparent, Stakeholders Engaged
General				
Supply				
Current Utah	Yes	No	No	No
Current WaCo	Yes	No	No	No
Projected Utah	Partial	No	No	No
Projected WaCo	Partial	No	No	No
Current Utah CR depletion	Partial	No	No	No
Projected Utah allocation (CR, total, water rights)	Partial	No	No	No
Demand				
Current Utah	Partial	No	No	Partial
Current WaCo	Partial	No	No	No
Projected Utah (goal)	Partial	No	No	No
Projected WaCo (goal)	Partial	No	No	No
SW community comparison	No	No	No	No
LPP				
Water right security	No	No	No	No
Conditions of decreased flow	No	No	No	No
Projected LPP cost	Partial	No	No	No
LPP repayment	No	No	No	No
Water Conservation				
Method cost/benefit	Partial	No	No	No
User tolerance	Partial	No	No	No
Current expenses - state	No	No	No	No
Current expenses - WaCo	Partial	No	No	No
Current conservation cost/benefit accountability - state	No	No	No	No
Current conservation cost/benefit accountability - WaCo	No	No	No	No

Characterizing the Maturity of the Planning/Management Processes

Program Management/Planning Element	Status/ Maturity		
	Exists	Verified	Transparent, Stakeholders engaged
Program Definition			
Stakeholders identified, engaged			
Vision, mission, goals established			
Strategies defined			
Solution evaluation criteria defined			
Potential solutions identified & evaluated			
Projects defined and sequenced			
Projects planned			
Projects accounted			

Yes
Partial
No

An example:

Mapping Utah's Template for Water Conservation Planning To Industry Standard Plan Elements

* The template is implemented in most water district and city conservation plans. The issue is not the value of the elements of the template (they do have value) but whether they constitute a "plan".

Yes
Partial
No

Utah Water Conservation Plan Template Elements*	Part of Industry Standard Plan
Water System Description	No
Water Problems, Conservation Measures and Goals	Partial
Current Conservation Practices	No
Current Pricing Structure	No
Additional Conservation Measures	No
Cost Analysis	Partial
Implementing and Updating the Plan	No
Appendices	Partial
Ordinances	Partial
Worksheets	Partial
Water System Profile	Partial
Identify Problems and Goals	Partial
Current Conservation Practices	No
Current Pricing Structure	No
Additional Conservation Measures	Partial
Cost Analysis	Partial
Implementation, Monitoring and Evaluation	Partial

Mapping it the other way:

**Industry Standard Plan Elements
mapped to
State Template for Water Conservation Planning**

Yes
Partial
No

Standard Planning Elements	Contained in Water Conservation Planning Template
Program plan	
Program definition	
Stakeholder Id	
Vision, mission	
Goals	
Context and scope	
Constraints: time, budget, approvals/reviews	
Responsibilities, teaming, participation	
Program management practices	
Strategies	
Potential solutions and alternatives	
Evaluation methods and criteria	
Analysis/selection of potential solutions and alternatives	
Project definition and sequencing	
Objectives, deliverables	
Budget and constraints	
Project phasing/sequencing	
Project plan	
Project responsibilities, teaming, participation	
Task definition and sequencing	
Project Accountability	
Program and project accountability	

Where are we now?

Describe the concept



Create an example



Get local and state support



Get some budget



Form a team (like the strategy team)



Create a prototype



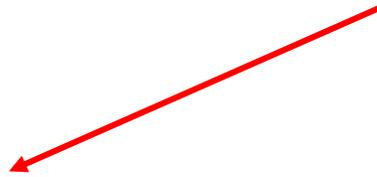
Evaluate and learn

Decide:

- initiate first round of projects?
- Plan statewide implementation?



Here's where we are



Status of this Proposal

- An Example Water Management Plan was produced for/with WCWCD Board members
- Support exists to give it a try, but
They don't have the staff to do it, and even if they did,.....
- State leadership is really needed
 - Much of the analysis is common across the state
 - Management/planning standards are set by the state
 - The state has excellent staff, but not enough of it.

Both state and local agencies need more budget for the job

Example Washington County Water Management Plan

Sections directly align with the process steps reviewed earlier

- Author's Note* 2
- 1 Executive Summary 4
- 2 Introduction 6
- 3 Program Definition 7
 - 3.1 Program Description 7
 - 3.2 Context and Scope 8
 - 3.3 Vision and Mission 9
 - 3.4 Requirements, Goals and Objectives 9
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 - 3.6 Organization and Responsibilities 12
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Closing

- Strategic planning is critical to our water future
 - Without it, money will be wasted and incorrect decisions will be made
 - With it, decisions would be driven by correct data and analyses
 - There are major budget and economic implications of getting it right

- A prototype would reveal benefits and challenges

- Considerable state participation would be needed

- Next steps
 - Do you need more understanding to make judgment?
 - What are the barriers?
 - Is the prototype a good idea?
 - How can the next steps be determined?