

# **Norman Utilities Authority**

## **2060 Strategic Water Supply Plan**



**Ad Hoc Committee Meeting**  
**August 6, 2012**

# Agenda

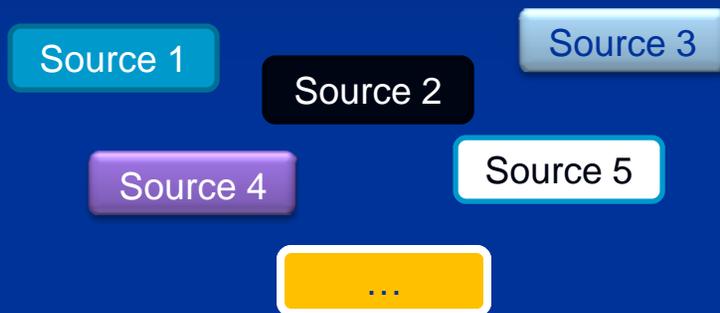
- Introductions and Goals for Workshop
- Project Progress Update
- Alternative Portfolios Evaluation
- Objective Weighting
- Action Items and Next Steps

# Evaluation Process Overview

- Objective Development
  - Drafted and revised based on SWSP Kickoff Workshop and Public Meeting
- Project Screening
- Portfolio Development
- Objectives Weighting
  - Will be completed today
- Portfolio Ranking

# Water Supply Planning Terminology & Process

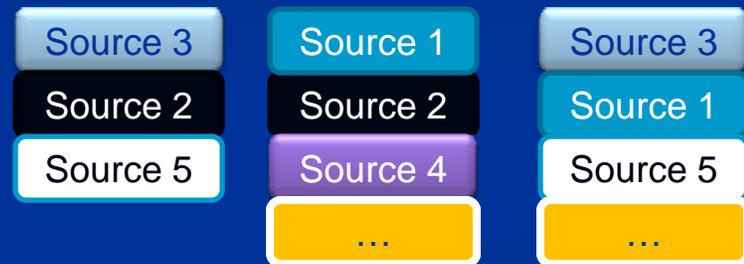
## Source Options (Phase 1)



Screening Criteria

Short-List of Viable Source Options

## Supply Portfolios (Phase 2)



Detailed Evaluation Process

2-3 Preferred Supply Portfolios

# Evaluation Criteria Overview

Objective	Sub-objective	Performance Measure
Affordability <i>“What will it cost to reliably provide treated water?”</i>	✓ Minimize capital cost	✓ Unit capital cost including diversion, transmission, and treatment
	✓ Minimize life-cycle cost	✓ Unit life-cycle cost

# Evaluation Criteria Overview (cont.)

Objective	Sub-objective	Performance Measure
Long-Term Supply Reliability  <i>“Will we be able to reliably meet our demand?”</i>	✓ Reduce drought vulnerability	✓ Ratio of supply portfolio’s firm yield to median yield
	✓ Minimize Supply shortages	✓ Weighted average of 2060 shortages in basins of origin
		✓ Supply diversity in terms of number of sources and types of sources
		✓ Percent of supply portfolio from Garber-Wellington aquifer
	✓ Infrastructure reliability	✓ Raw water transmission distance (mi)
		✓ Transmission complexity
		✓ Treatment complexity

# Evaluation Criteria Overview (cont.)

Objective	Sub-objective	Performance Measure
Phasing Potential  <i>“Can we defer capital and increase the supply over time?”</i>	✓Defer capital costs	✓ Ability to phase implementation and construction
	✓Provide for future needs	✓ Ability to access additional supplies beyond projected 2060 demands

# Evaluation Criteria Overview (cont.)

Objective	Sub-objective	Performance Measure
<p>Timely Implementation and Certainty</p> <p><i>“Are we certain we can bring the supply online by the time it is needed?”</i></p>	<p>✓ Reduce institutional complexity and increase local control</p>	<p>✓ Number of agency/utility partners</p>
		<p>✓ Percent of supply sourced in Norman</p>
		<p>✓ Public/political acceptability</p>
		<p>✓ Vulnerability to potential future changes in water rights allocations and water quality standards</p>
	<p>✓ Timely implementation</p>	<p>✓ Project development status in 2012 for new supplies in portfolio</p>
<p>✓ Amount and ease of environmental permitting, water rights acquisition, and land acquisition</p>		

# Evaluation Criteria Overview (cont.)

Objective	Sub-objective	Performance Measure
Efficient Use of Water Resources  <i>“Are we making the best use of the available resources?”</i>	✓ Maximize water use efficiency	✓ Percent of total demand met by direct non-potable reuse in 2060
		✓ Percent of total demand met by indirect reuse (supply augmentation) in 2060
	✓ Increase conservation	✓ Percent reduction from baseline demand due to additional conservation measures and programs

# Evaluation Criteria Overview (cont.)

Objective	Sub-objective	Performance Measure
Environmental Stewardship  <i>“Are we preserving our environmental resources?”</i>	✓ Minimize energy consumption	✓ Pumping head per unit supply
	✓ Minimize temporary construction impacts and environmental mitigation needs	✓ Amount of land disturbed during construction
	✓ Minimize permanent ecosystem impacts	✓ Environmental impacts (qualitative score)
	✓ Increase use of renewable resources	✓ Renewable supply score for portfolio (qualitative score)

# Evaluation Criteria Overview (cont.)

Objective	Sub-objective	Performance Measure
Treated Water Quality Aesthetics	✓ Achieve secondary MCLs	✓ Percent of supply originating from surface water sources
<i>“Will our customers be satisfied with the quality of the water we deliver?”</i>	✓ Minimize taste and odor potential	✓ Percent of supply originating from surface water sources
Community Recreation and Aesthetic Benefits	✓ Impact on non-water supply benefits	✓ Perceived impacts to recreation and aesthetics (qualitative score)
<i>“Will our customers gain non-water supply value from this alternative?”</i>		✓ Enhanced quality of life (qualitative score)

# About the Objectives Weighting Process...

- It is:
  - A way of measuring the community's relative priorities as we compare Norman's future supply portfolios
  - An opportunity to find supply solutions that robustly meet a wide range of the most important criteria, using sensitivity analyses
- It is NOT:
  - A “voting” exercise – we are seeking consensus
  - A numeric “machine” that will trap us into accepting results we don't agree with – common sense and facilitated dialogue still govern our decisions

# Paired Comparison Methodology and Instructions

- Used to determine values and preferences of a wide range of community interests
- Participants are asked to compare one objective against each other objective, one by one
- Comparison of objectives are made in pairs
- Results are aggregated to determine the overall importance of each objective

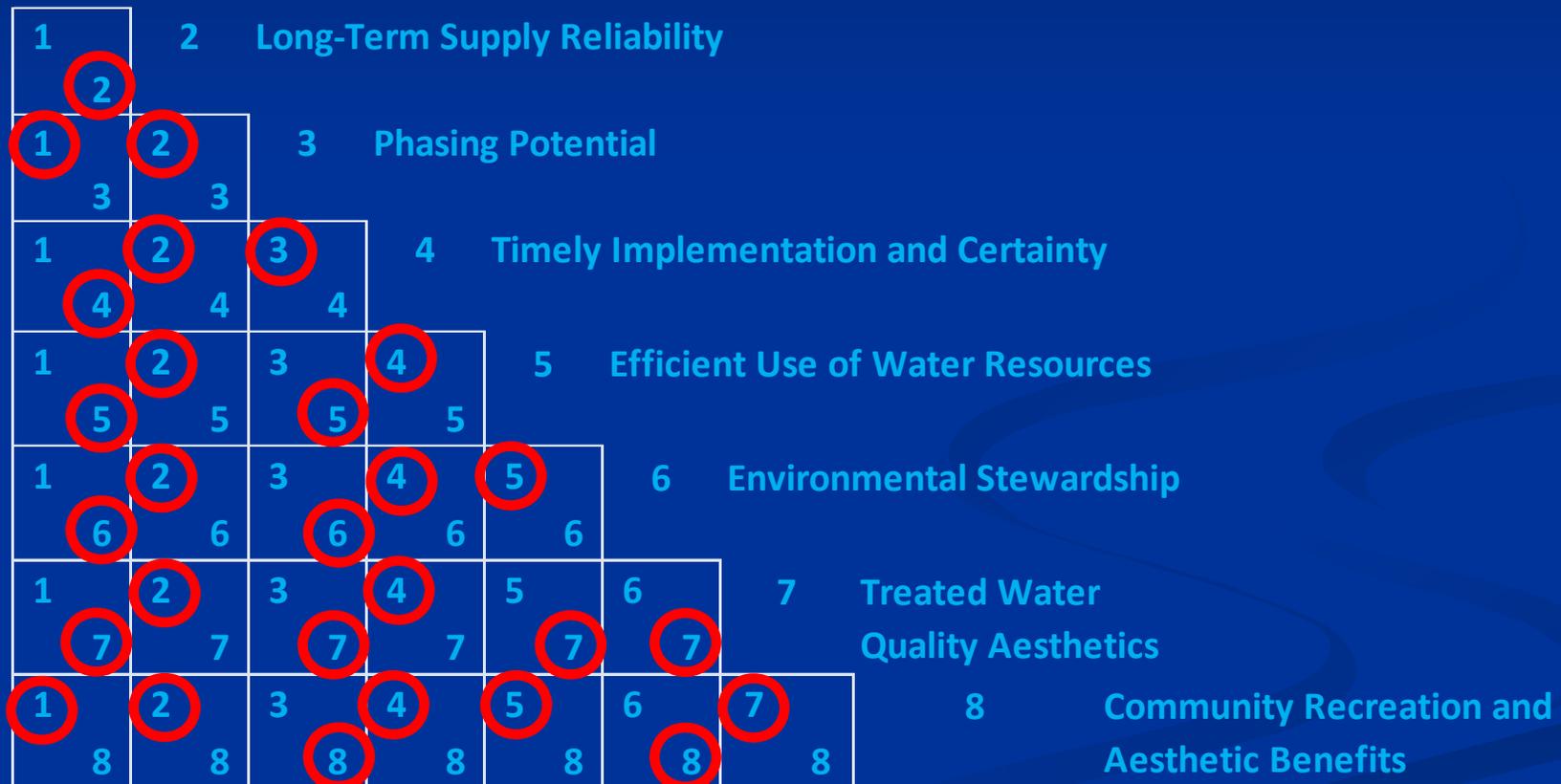
# Paired Comparison Worksheet

## 1 Affordability

1	2	2 Long-Term Supply Reliability					
2							
1	2	3	3 Phasing Potential				
3	3						
1	2	3	4	4 Timely Implementation and Certainty			
4	4	4					
1	2	3	4	5	5 Efficient Use of Water Resources		
5	5	5	5				
1	2	3	4	5	6	6 Environmental Stewardship	
6	6	6	6	6			
1	2	3	4	5	6	7	7 Treated Water Quality Aesthetics
7	7	7	7	7	7		
1	2	3	4	5	6	7	8 Community Recreation and Aesthetic Benefits
8	8	8	8	8	8	8	

# Paired Comparison Worksheet Example

## 1 Affordability



Objective ID	1	2	3	4	5	6	7	8	Total
Number of Times Circled	2	7	1	5	4	2	5	2	28
Percentage of All Matches	7%	25%	4%	18%	14%	7%	18%	7%	100%

# Paired Comparison Exercise

1. *Affordability – What will it cost to reliably provide treated water?*
2. *Long-Term Supply Reliability – Will we be able to reliably meet our demand?*
3. *Phasing Potential – Can we defer capital and increase the supply over time?*
4. *Timely Implementation and Certainty – Are we certain we can bring the supply online by the time it is needed?*
5. *Efficient Use of Water Resources – Are we making the best use of the available resources?*
6. *Environmental Stewardship – Are we preserving our environmental resources?*
7. *Treated Water Quality Aesthetics – Will our customers be satisfied with the quality of water we deliver?*
8. *Community Recreation and Aesthetic Benefits – Will our customers gain non-water supply value from this alternative?*

# Action Items and Next Step

- Next Ad Hoc Committee Meeting

# Public Meetings

- Public meeting 1 – June 2012
  - SWSP background and goals
  - Input on list of supply sources
  - Input on relative importance of evaluation criteria for supply portfolios
- Public meeting 2:  
Results of screening of options
- Public meeting 3:  
Supply portfolios to be evaluated
- Public meeting 4:  
Results of portfolio screening