Development of an Example Scenario: Analytical Approach and Decision Support

Integrated Resources Plan Special Committee
Item 6b
August 17, 2020

Overview

- Provide a Mock Scenario for discussion purposes only
  - Discuss the type of input/output data and analytics staff will provide to support decision making
  - Provide examples of the type of policy discussions supported by the analytics
- Moving forward with actual 2020 IRP scenarios

Mock Scenario - Landscape

Imported Supply

Storage Programs

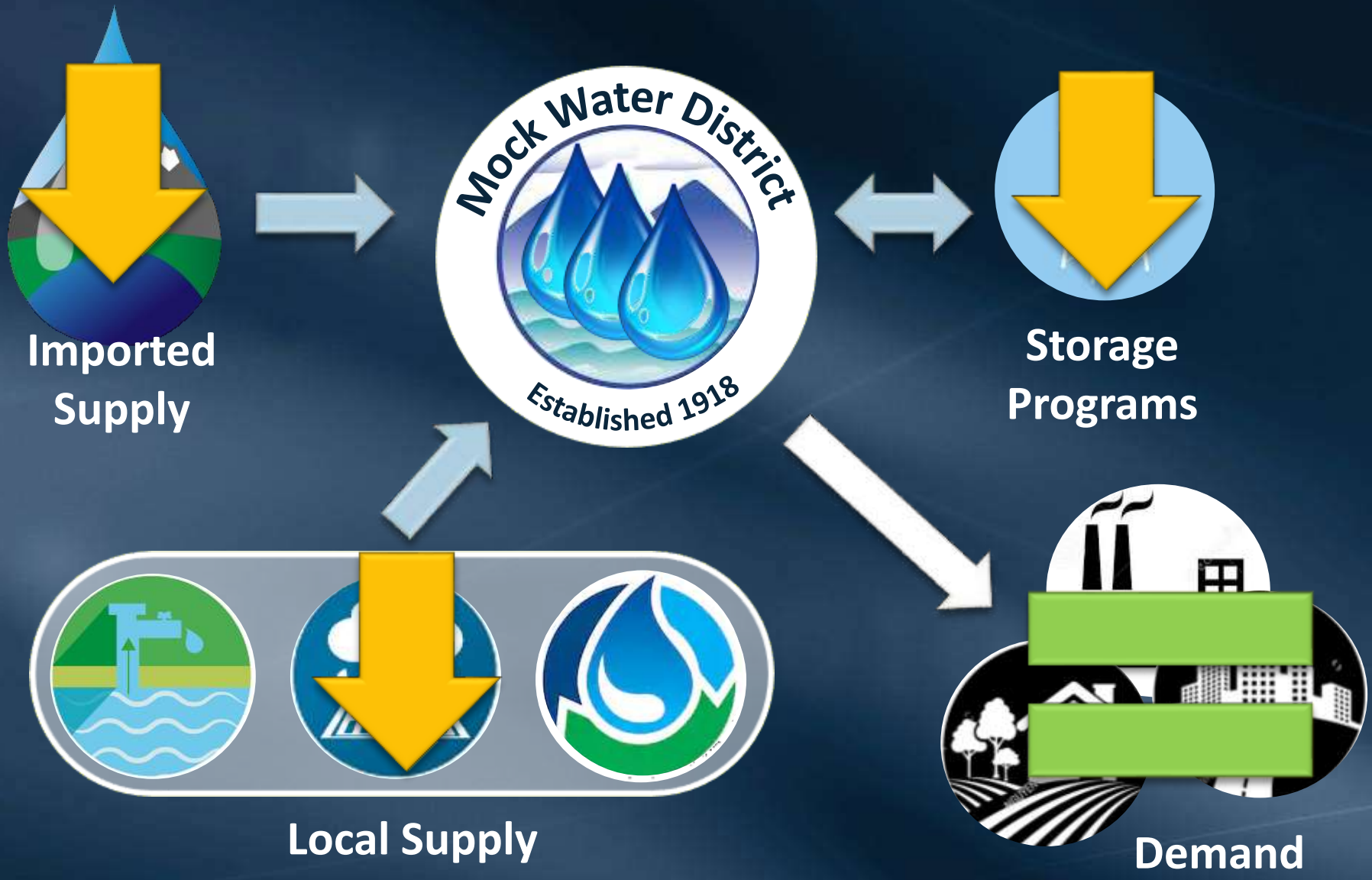
Local Supply

Demand

Lets imagine plausible futures where…

Driver	Mock Scenario #1	Mock Scenario #2
Climate Change	Gradual rise in temperatures and erratic precipitation	
Legislative and Regulatory	Modest constraints	
Demographics	Sluggish economy, moderate population growth and strong water use ethic	

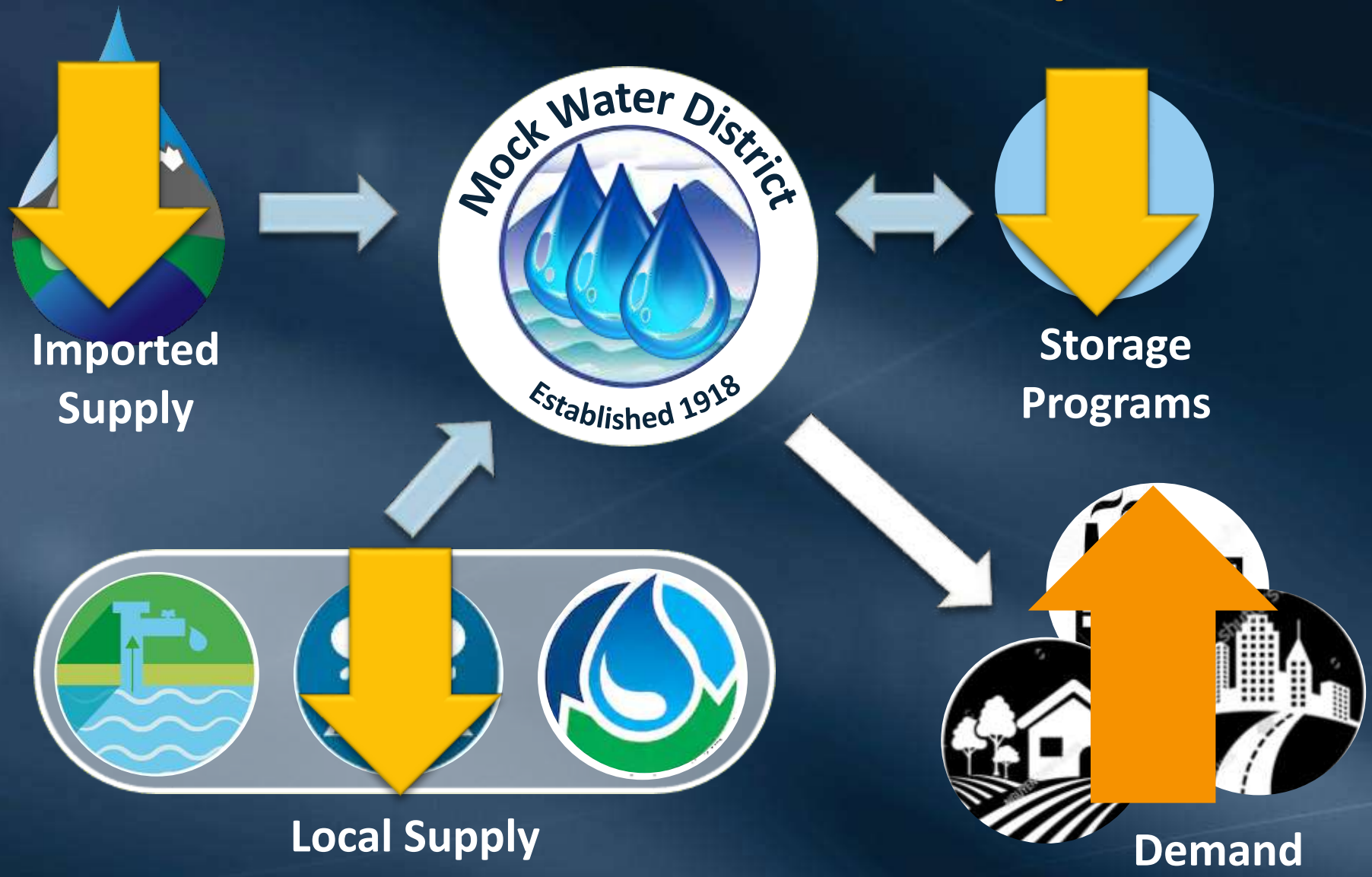
Mock Scenario #1 – General Impacts



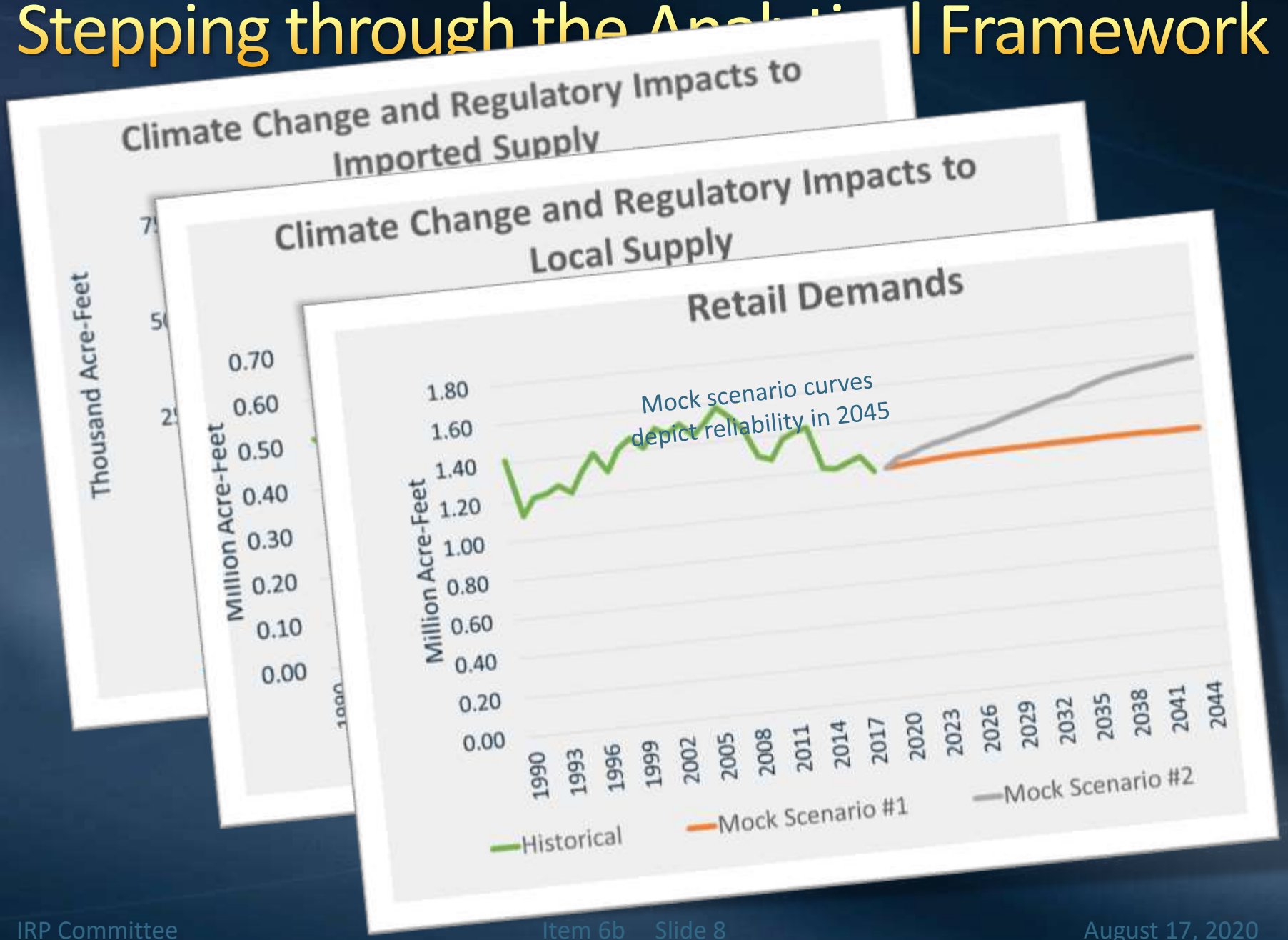
Lets imagine plausible futures where…

Driver	Mock Scenario #1	Mock Scenario #2
Climate Change	Gradual rise in temperatures and erratic precipitation	Rapidly rising temperatures and erratic precipitation
Legislative and Regulatory	Modest constraints	Severe constraint
Demographics	Sluggish economy, moderate population growth and strong water use ethic	Economy and population soar and water use ethic falters

Mock Scenario #2 – General Impacts



Stepping through the Analytical Framework

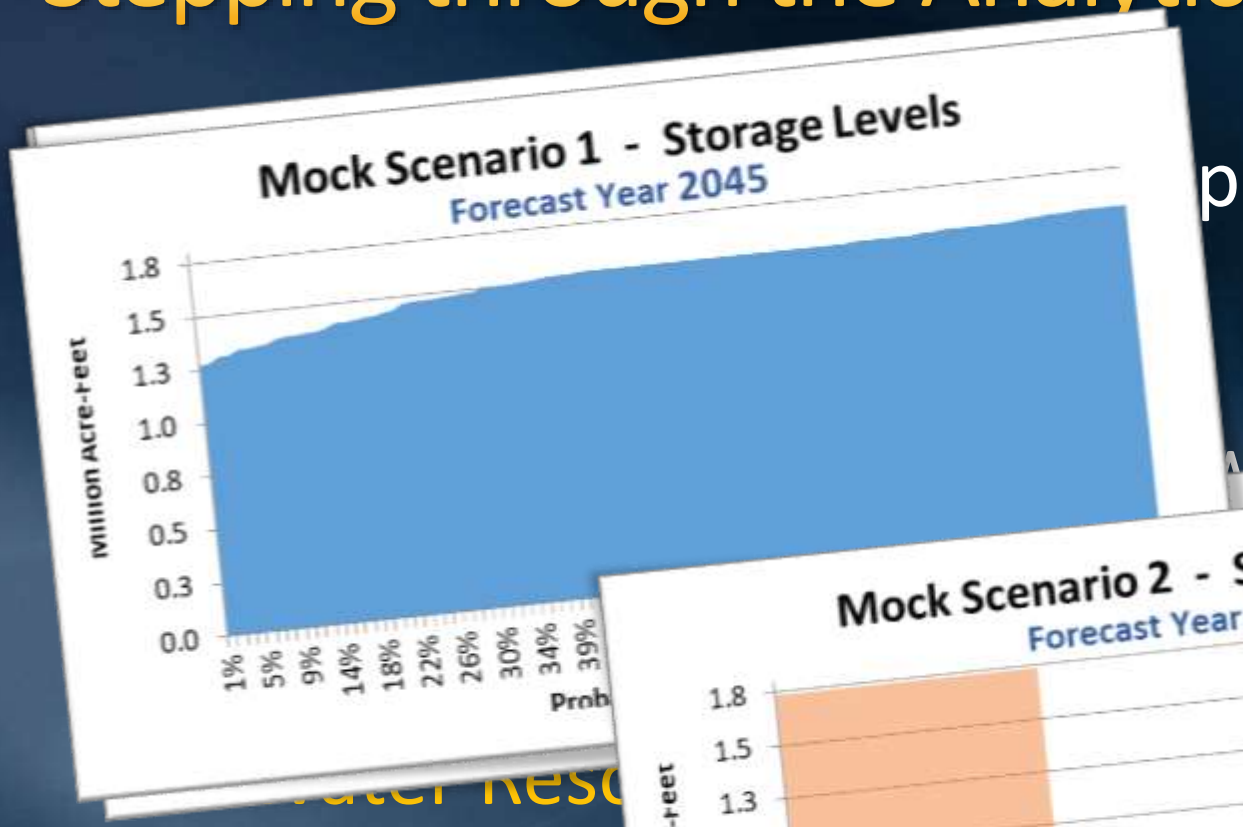


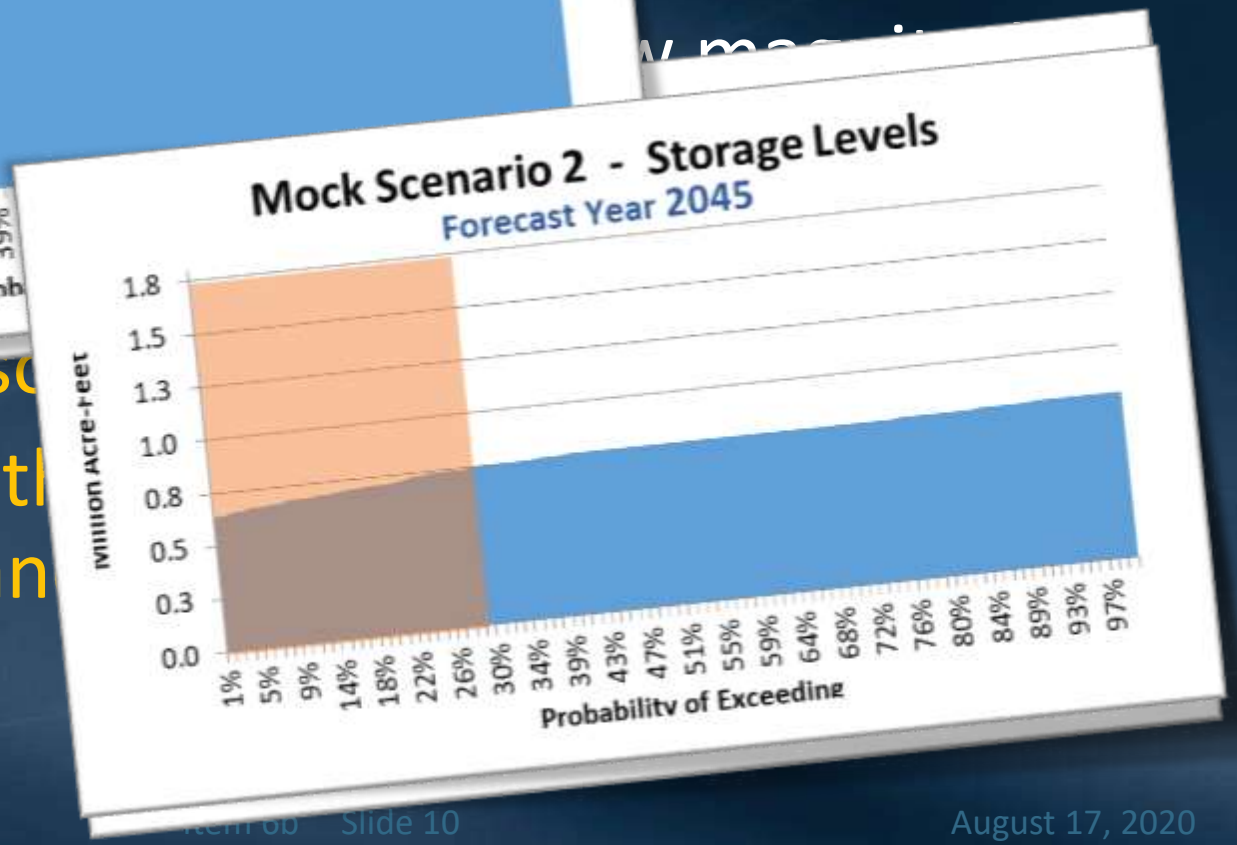
Stepping through the Analytical Framework

1. Quantify driver impacts on supply and demand for each scenario

2. Conduct "gap analysis" to show magnitude and frequency of shortages through 2045 for each scenario
   - Water Resource simulation model
   - Identifies the balance between supply and demand and storage impacts

Stepping through the Analytical Framework





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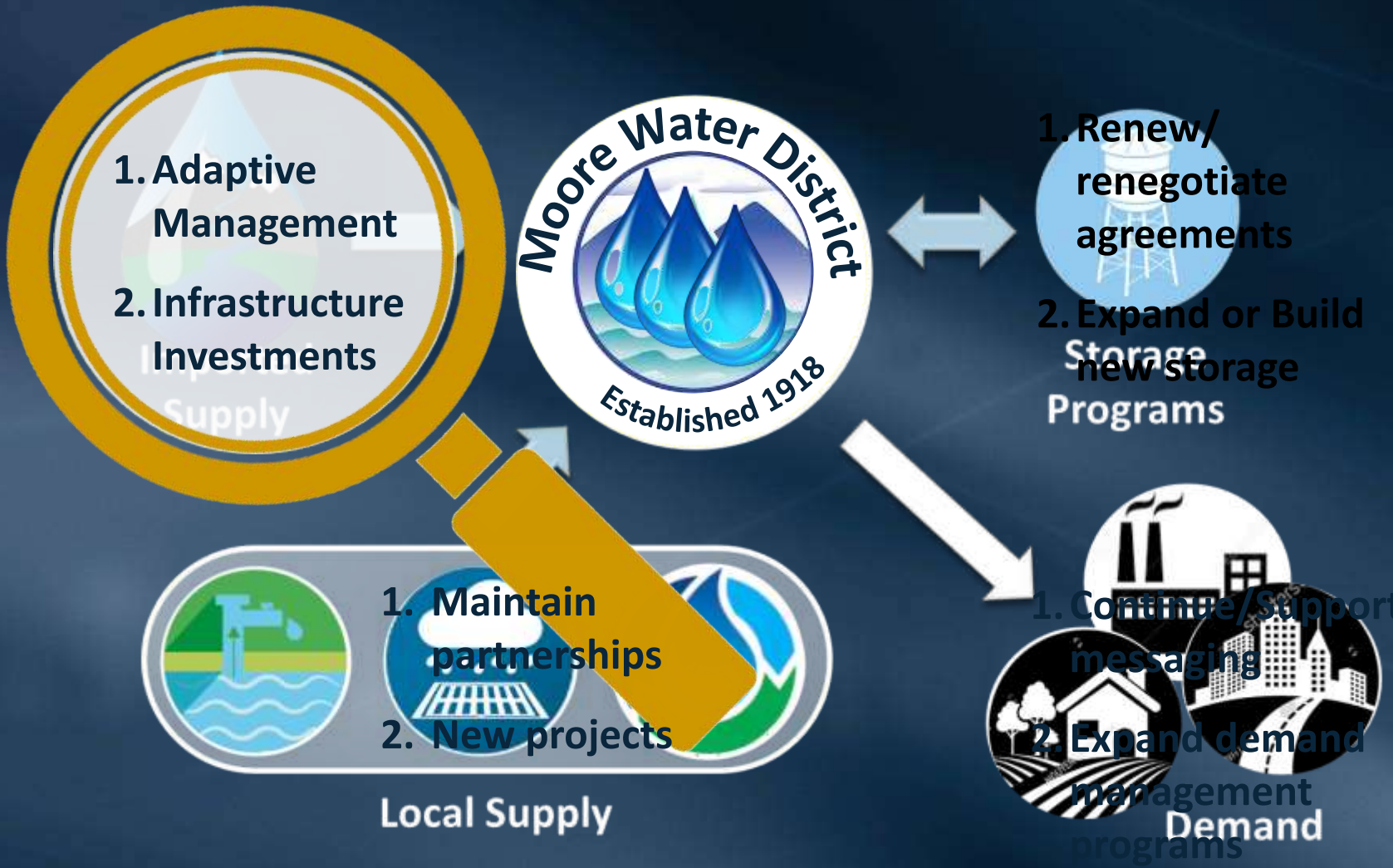
Stepping through the Analytical Framework

1. Quantify driver impacts on supply and demand for each scenario

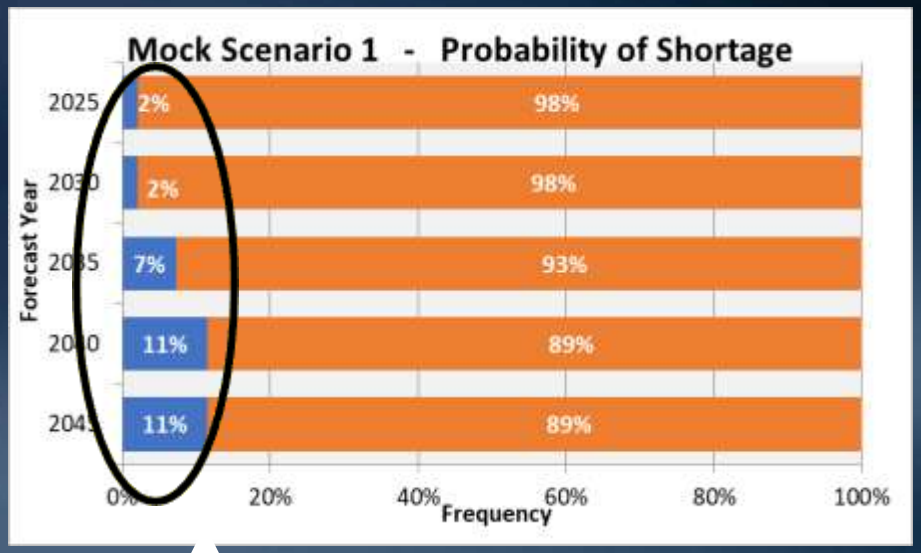
2. Conduct “gap analysis” to show magnitude and frequency of shortages through 2045 for each scenario

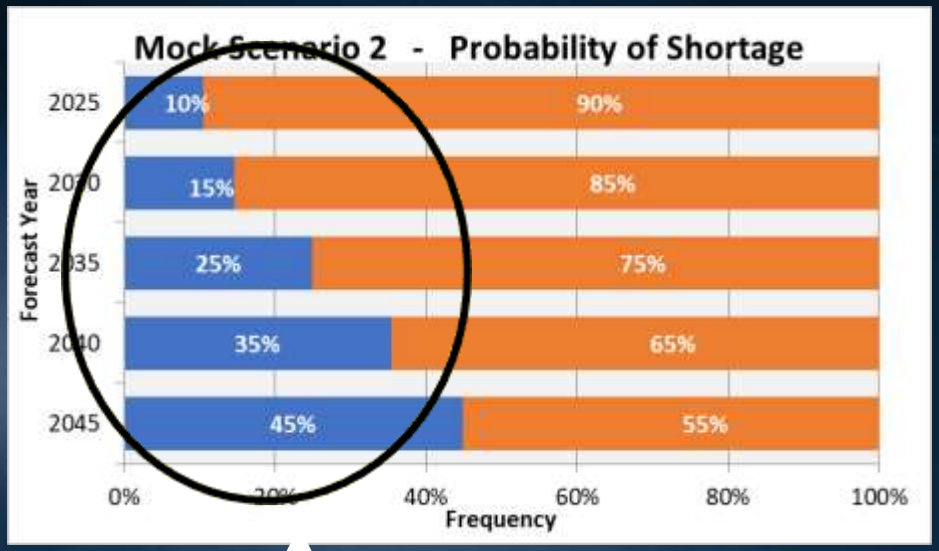
3. Identify actions to minimize supply/demand gap and maintain reliability for each scenario

Identify Actions for each scenario



Actions to Achieve Reliability Goal





Portfolio of actions for each scenario to reduce or eliminate gap and achieve reliability goal

Common Actions = Basis for 2020 IRP Plan

Unique Actions = Basis for Adaptive Management Plan

Mock Water District discussion

- What level of water supply reliability should Mock Water District target for the region?
- What is the cost of achieving a reliability goal for each scenario?
- How should Mock Water District balance new investments between conservation, local supply, and imported supply

What's Next

- September - Start Discussing Potential Scenarios
  - Qualitative and quantitative assessment of drivers ongoing
  - Collaboratively identify scenarios helpful for policy discussions
- October – Refine Scenarios
  - Demand drivers
  - Climate change impacts


THE METROPOLITAN WATER DISTRICT OF
SOUTHERN CALIFORNIA
1928