

Water Supply Master Plan Update

September 27, 2016



Recommendations

- ▶ Receive an update on the 2012 Water Master Plan
- ▶ Provide input on staff's approach to updating the Water Master Plan
 - ▶ General Approach
 - ▶ Level of Service goal
 - ▶ Water Supply Options
 - ▶ Stakeholder Engagement
- ▶ Confirm the draft planning objectives are consistent with Board policy

Long history of investments in reliability

SANTA CLARA COUNTY GROUNDWATER AT-A-GLANCE

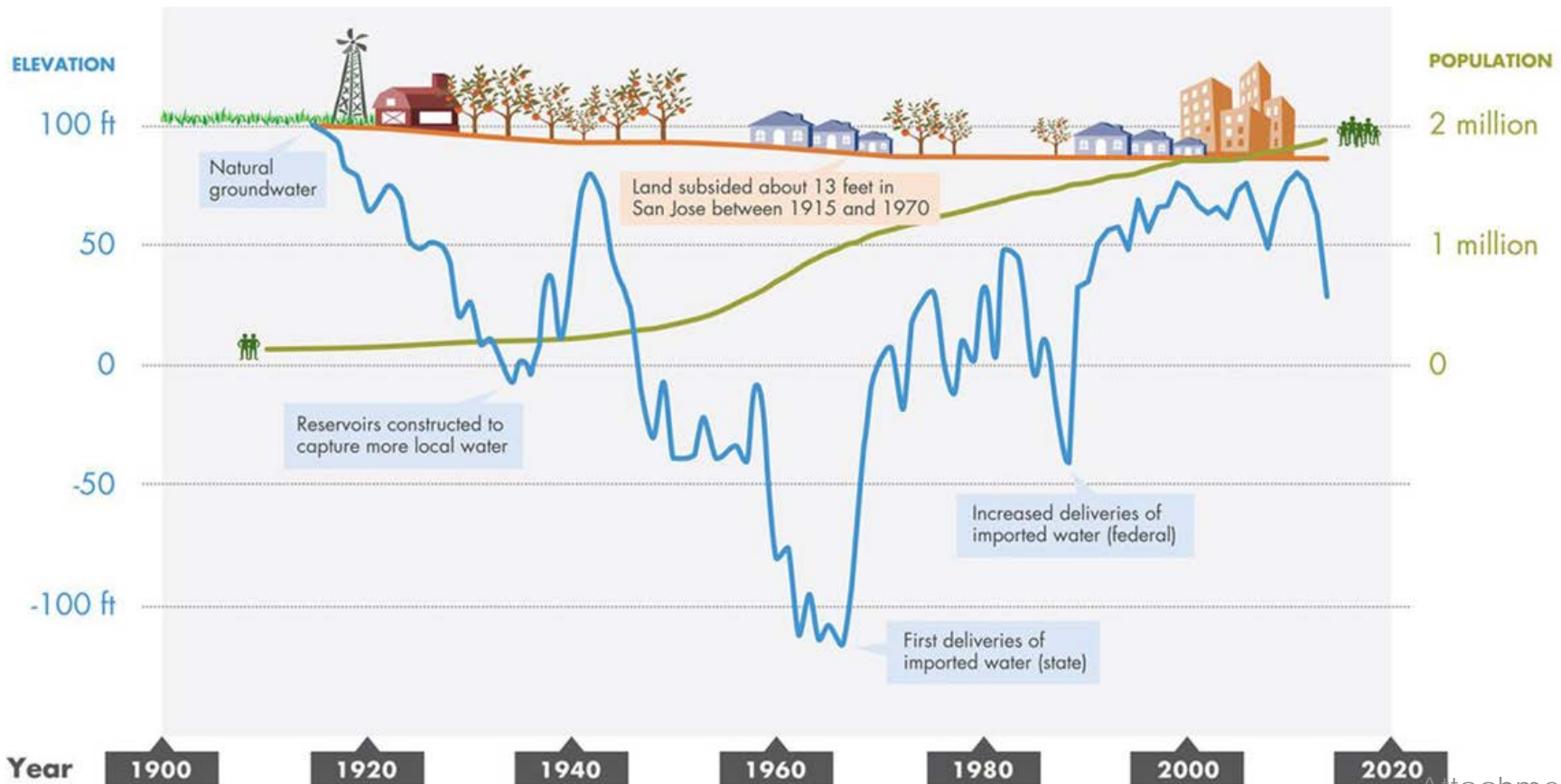
a graphic representation not intended as a technical exhibit



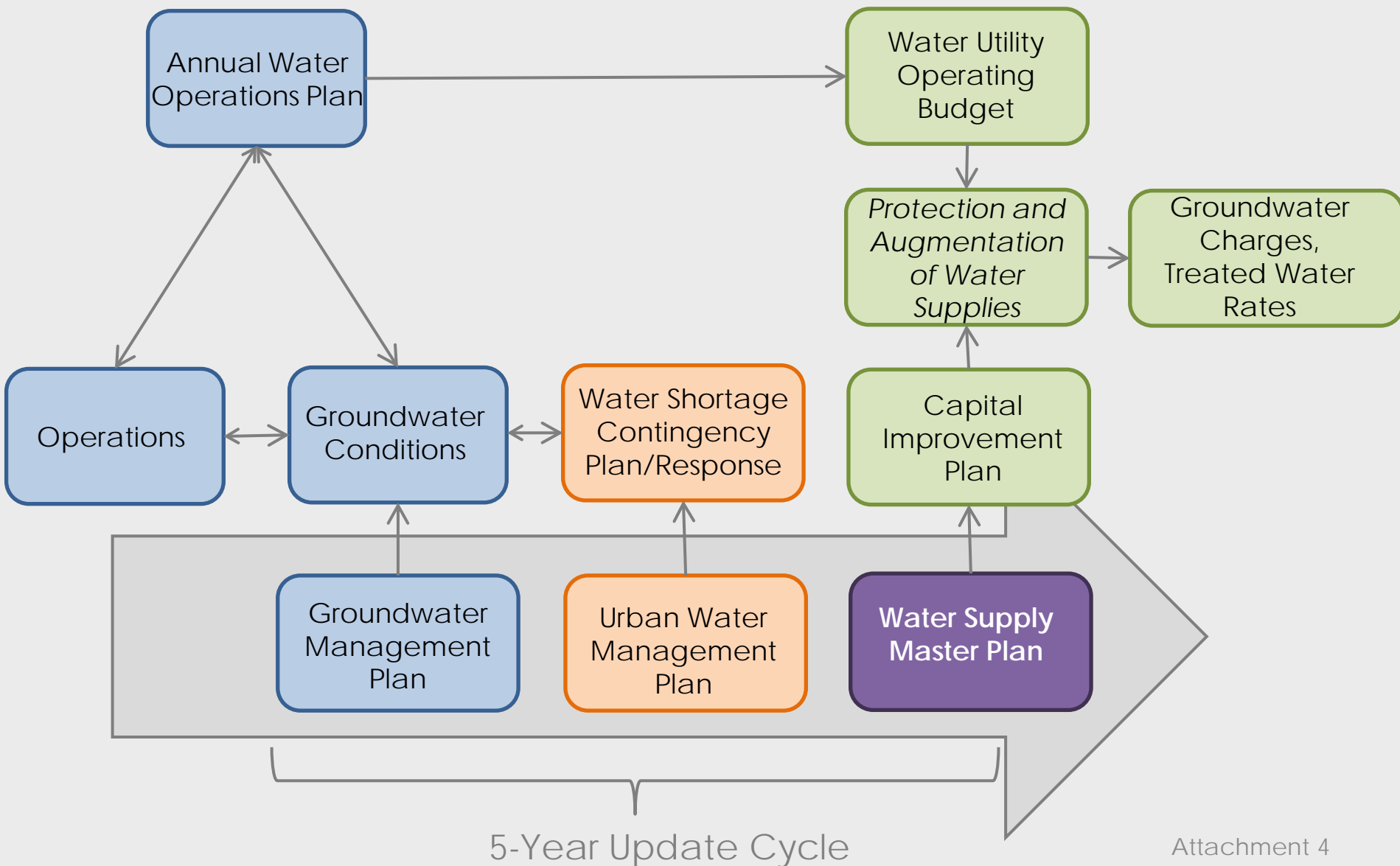
Land Surface Elevation

Groundwater Elevation

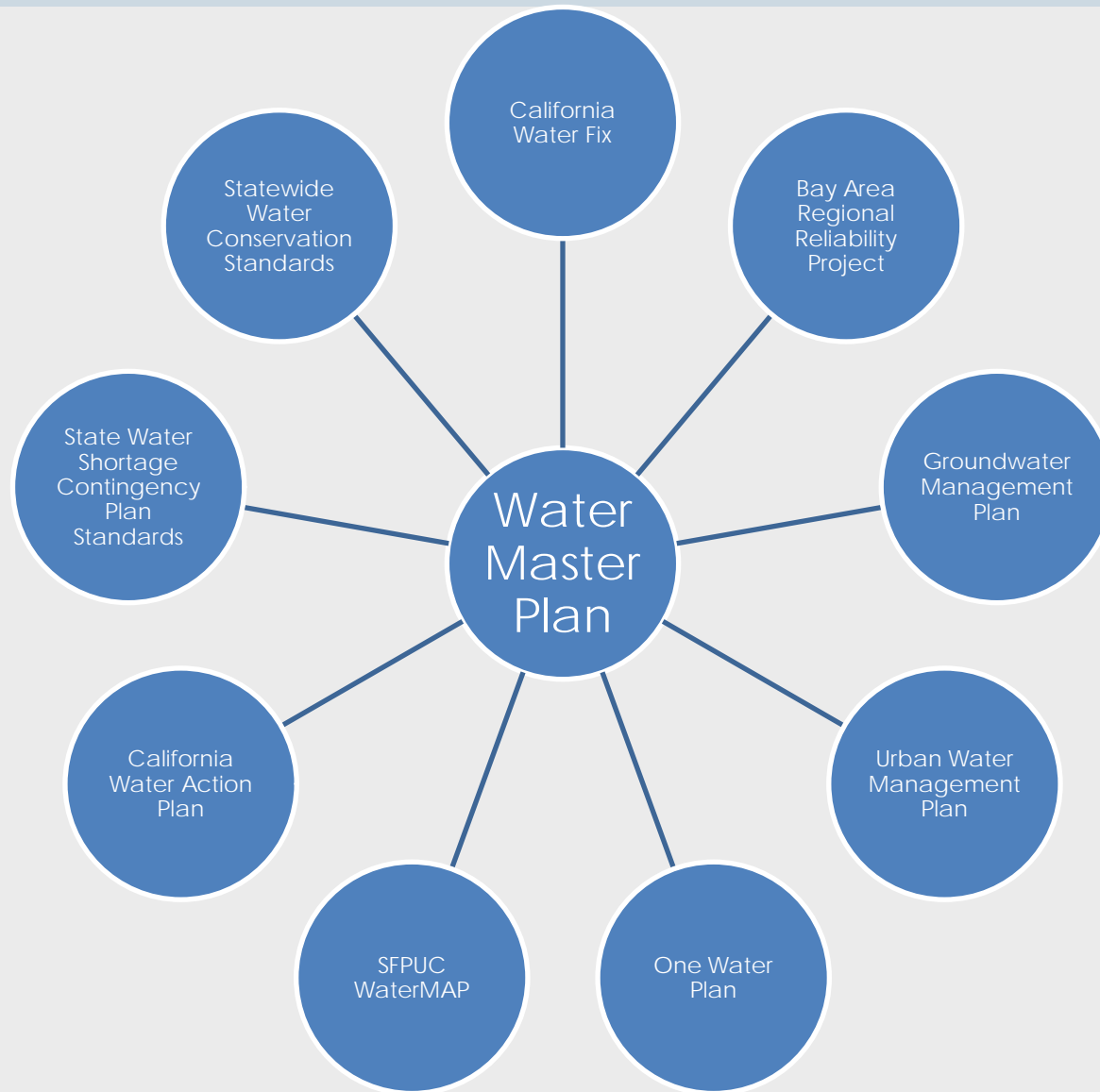
Population



Water Master Plan drives long-term investments

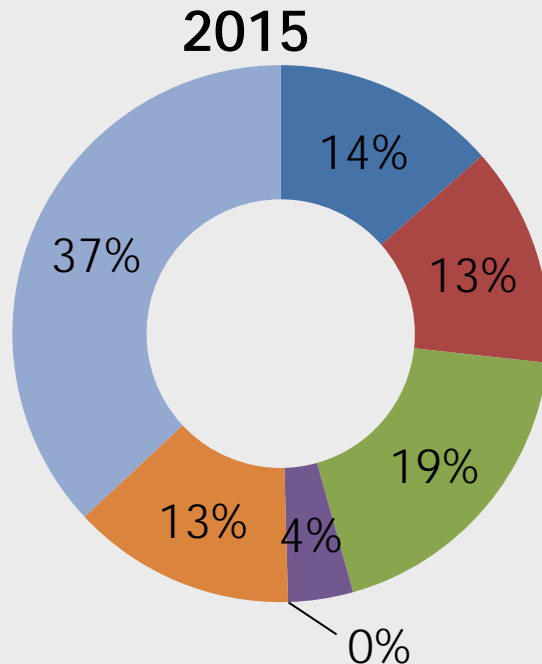


Many projects and programs inform the Water Master Plan

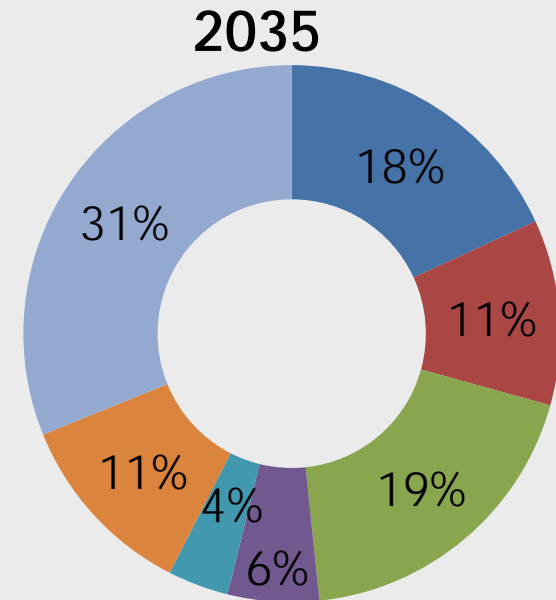


2012 Water Master Plan Strategy

Increase water conservation and water reuse, reduce reliance on Delta



- Long-Term Water Conservation
- Natural Groundwater Recharge
- Local Surface Water
- Recycled Water
- Potable Reuse
- SFPUC
- Delta-Conveyed Imported Water



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2017 Water Master Plan Approach

Activity	Scheduled Completion Date
Conduct Stakeholder Engagement	Ongoing
Establish Expert Panel	September 2016
Develop Planning Objectives	October 2016
Evaluate Risk Scenarios	October 2016
Update Model	October 2016
Define Projects and Programs	September 2016
Prepare Baseline System Evaluation	November 2016
Evaluate Portfolios	January 2017
Identify Recommended Portfolio	March 2017
Develop Implementation Program	June 2017
Prepare Water Master Plan	August 2017

- Board workshop on storage and other options – January 2017 (tentative)
- Board discussion on level of service – March 2017
- Board discussion/decisions on WaterFix, Expedited Purified Water Program, storage, and other projects – dates to be determined in Calendar Year 2017

Board input on Level of Service Goal

Current Level of Service Goal

E-2 – “There is reliable, clean water supply for current and future generations”

S-2.1- “Develop supplies to meet at least 100 percent of demands in the Urban Water Management Plan in non-drought years and 90 percent of demands in drought years”

Current modeling shows shortages up to 30%

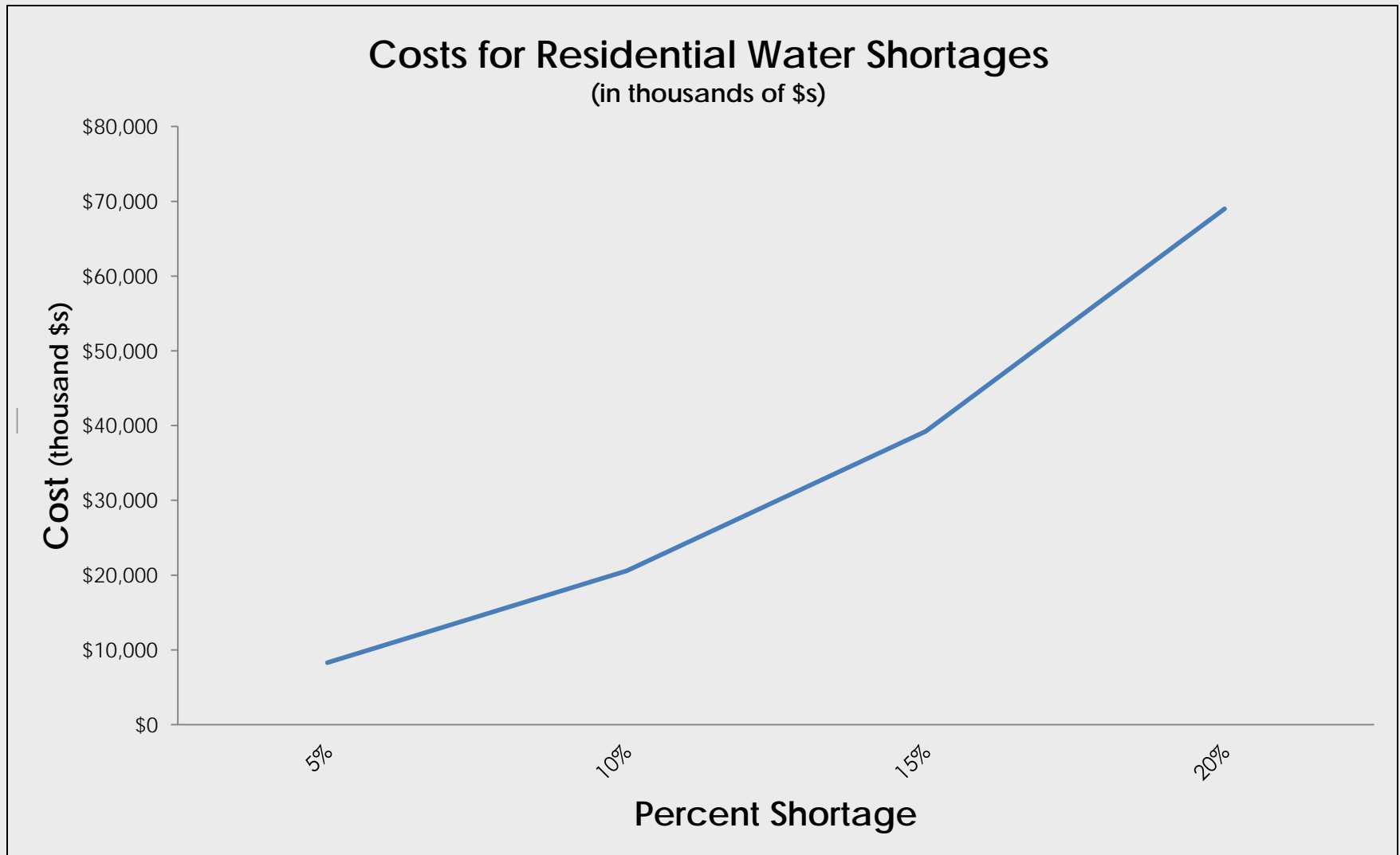
Demand Year	2020	2025	2030	2035	2040
Maximum Shortage (2012 Water Master Plan)	10%	10%	10%	10%	10%
Maximum Shortage (Current Analysis)	30%	10%	15%	30%	30%

The current analysis shows greater shortages than estimated in the 2012 Water Master Plan because of:


- 1) Lower natural groundwater recharge estimate
- 2) Additional FAHCE releases incorporated into the model
- 3) Lower SFPUC demands by retailers
- 4) Lower dry year Delta-conveyed imported water deliveries

Increasing costs of shortage

Based on 2012 Water Master Plan analysis

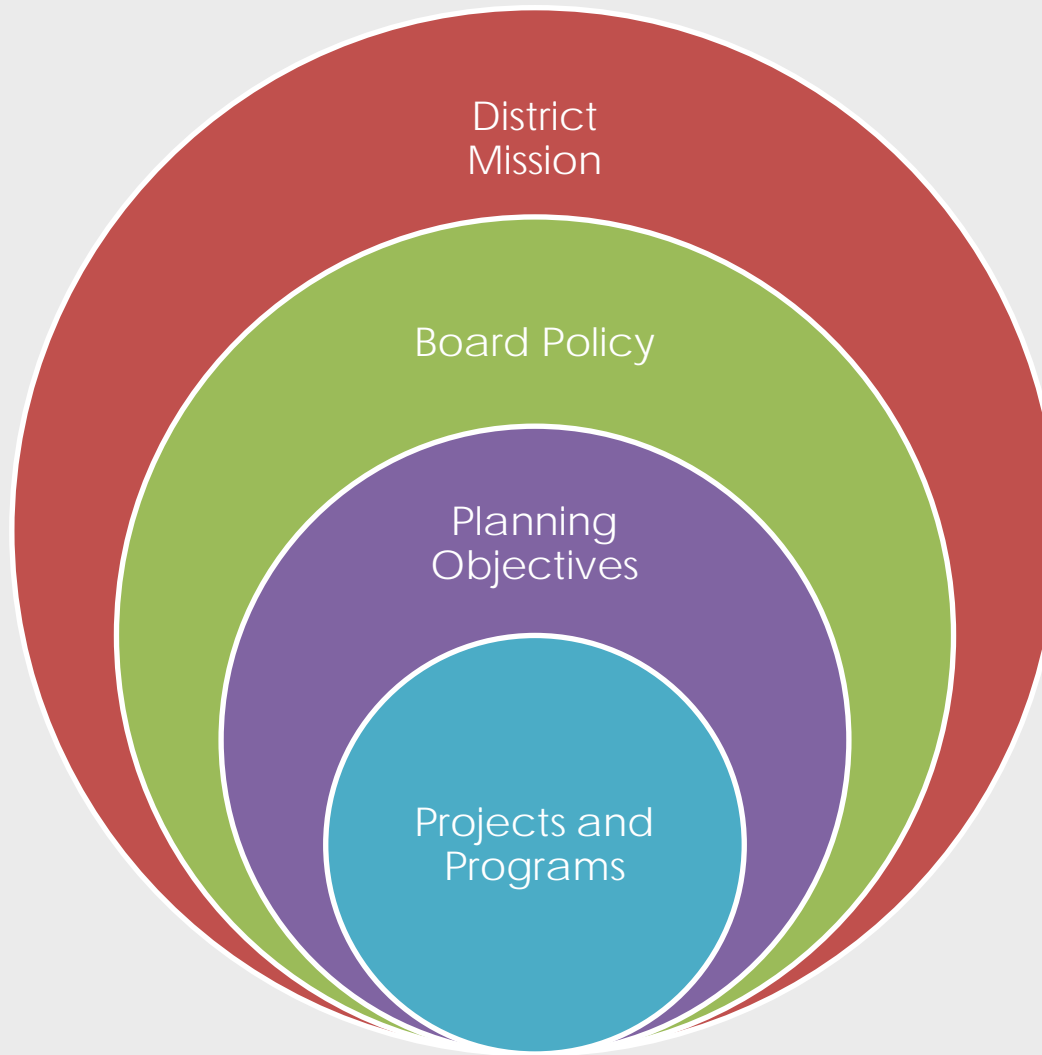


Level of Service Goal Considerations

Current Level of Service Goal		Level of Service Goal for Planning	Considerations
		Meet 100% of Demands during Droughts	Substantial additional investments; likelihood of stranded or underutilized investment
		Meet 90% of Demands during Droughts	Significant additional investments; some community cost
		Meet 85% of Demands during Droughts	Less significant additional investments; increased community cost
		Meet 80% of Demands during Droughts	Least additional investments; relatively high community cost

Board input on Objectives

Planning objectives are based on Board policy



Objectives used to assess different strategies

Objective	Sub-Objectives
1. Provide a Reliable Supply of Water for Municipalities, Industries, Agriculture, and the Environment	<ul style="list-style-type: none">•Meet demands•Maintain groundwater storage•Secure existing supplies•Reduce reliance on Delta•Maximize water conservation/water use efficiency
2. Ensure Drinking Water Quality	<ul style="list-style-type: none">•Protect groundwater quality•Meet drinking water regulations
3. Minimize Costs	<ul style="list-style-type: none">•Minimize life-cycle costs
4. Maximize Water System Flexibility	<ul style="list-style-type: none">•Maximize District influence•Minimize implementation issues•Allow for phased implementation•Adapt to climate change
5. Protect the Natural Environment	<ul style="list-style-type: none">•Protect and restore aquatic ecosystems•Reduce greenhouse gas emissions
6. Ensure Community Benefits	<ul style="list-style-type: none">•Fulfill customer expectations•Provide access for recreation•Provide flood protection

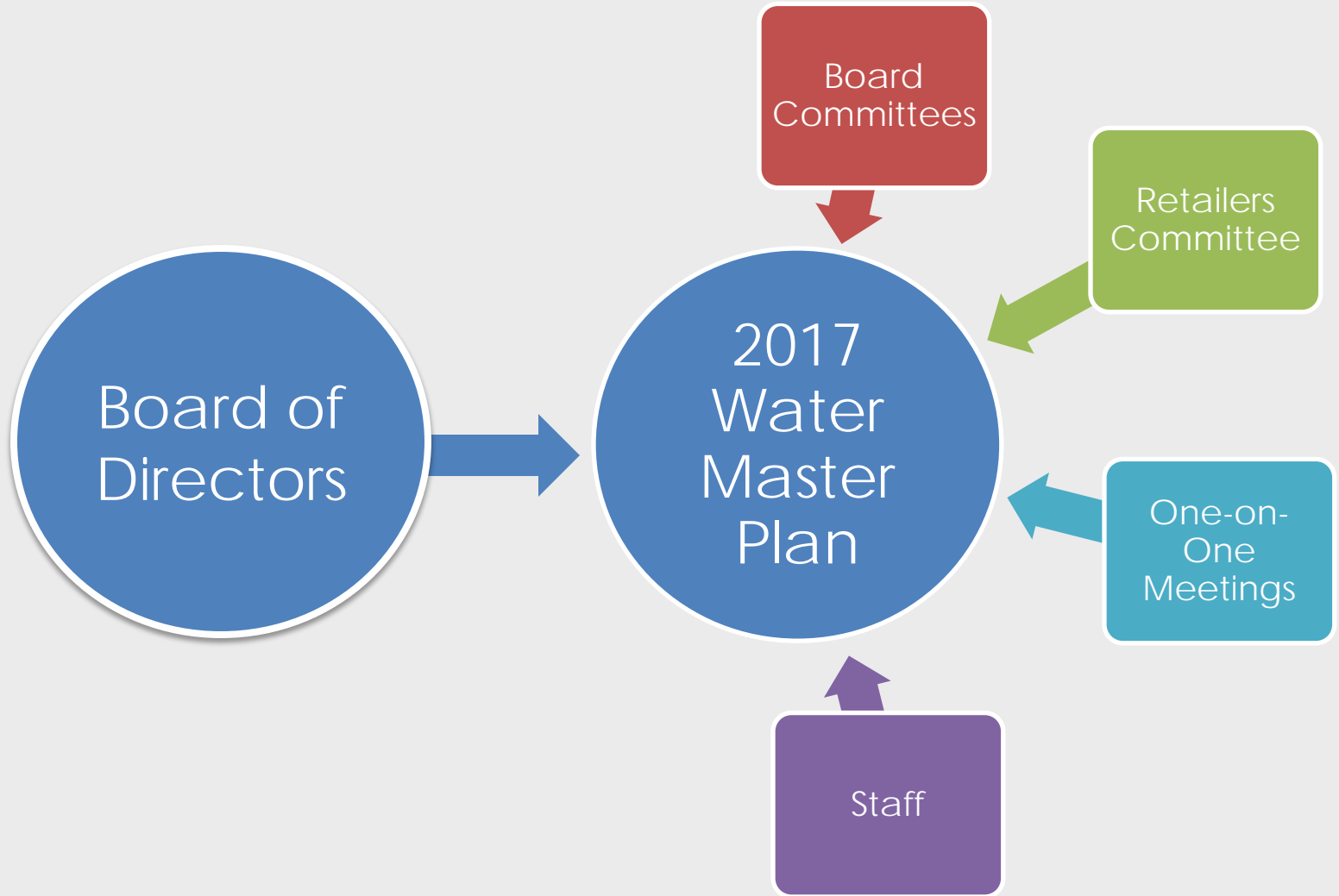
Board input on Water Supply Alternatives

Water Supply Alternatives

- ▶ Storage, inside and outside county, surface and groundwater
- ▶ Groundwater recharge ponds
- ▶ Potable reuse
- ▶ Recycled water
- ▶ Conservation and demand management
- ▶ Graywater reuse
- ▶ Ag land fallowing
- ▶ Ag land flooding
- ▶ Stormwater reuse
- ▶ Desalination
- ▶ Transfers/dry year options
- ▶ Additional water rights
- ▶ SFPUC deliveries
- ▶ California WaterFix
- ▶ Shallow groundwater reuse
- ▶ Pipelines

Board input on Stakeholder Engagement

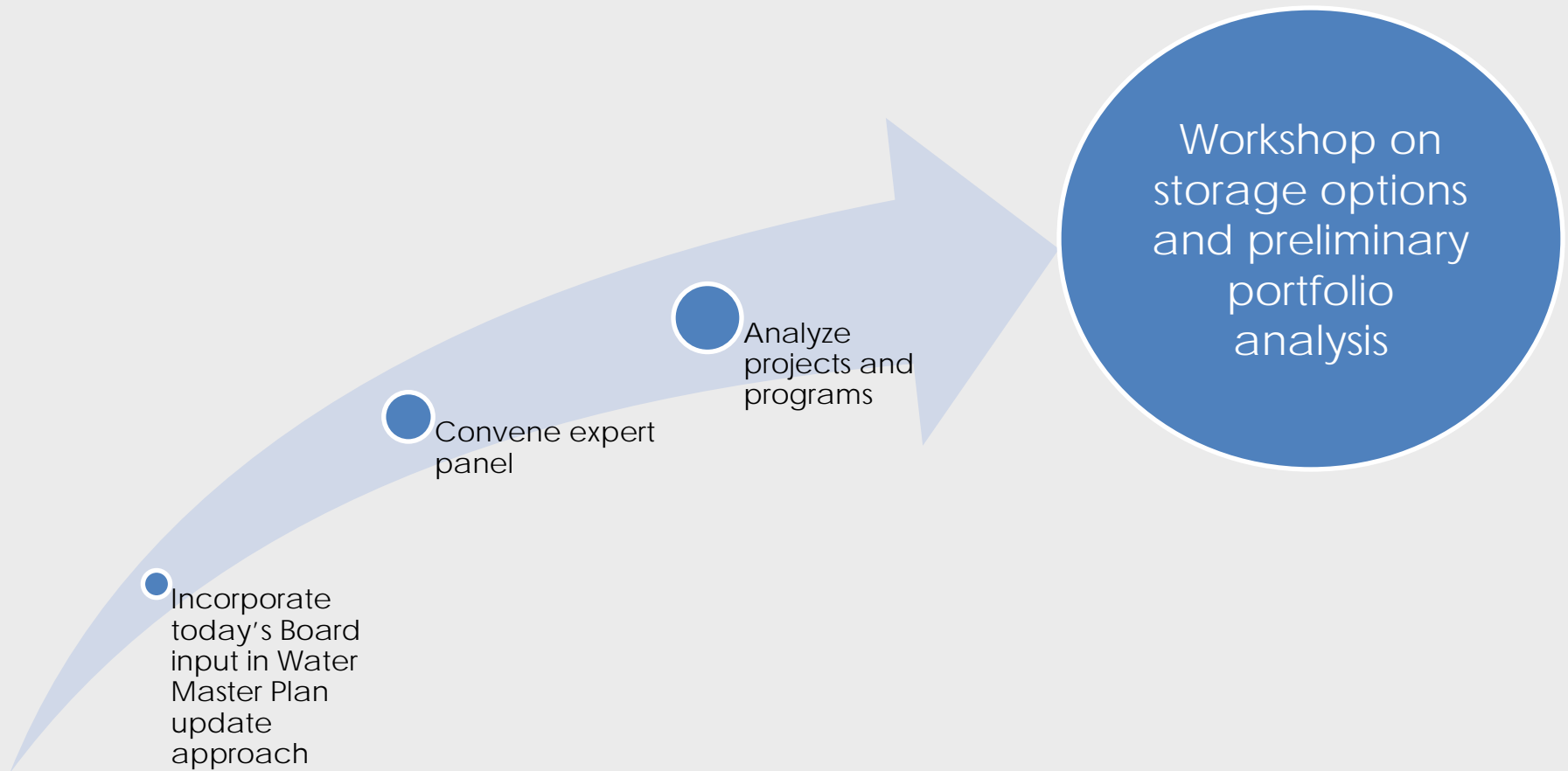
Use existing forums for stakeholder engagement



Next Steps and Review of Recommendations

Review of

Next Steps



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