



WATER FORWARD

INTEGRATED WATER RESOURCE PLAN

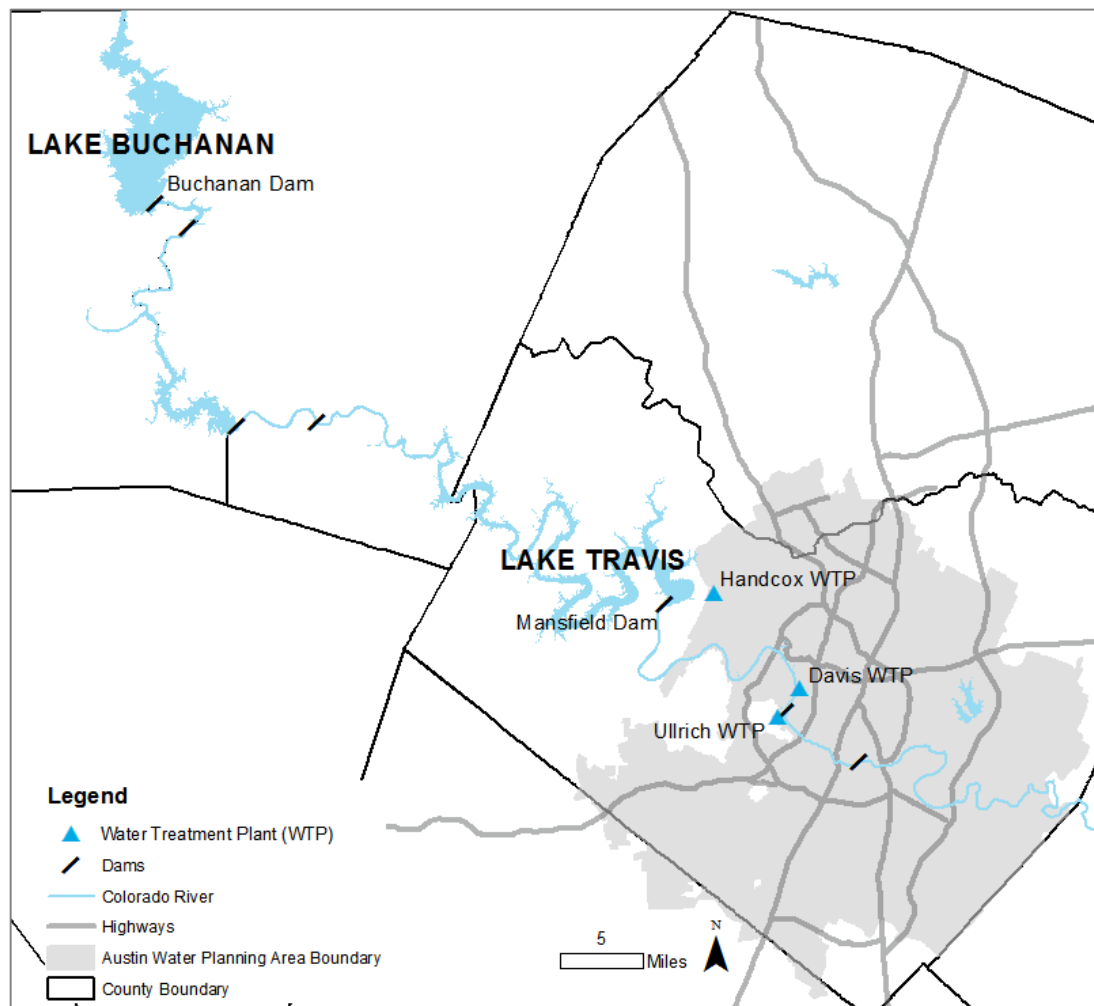
Council Work Session Briefing

November 13, 2018



Austin's Water Supply

- Colorado River and Highland Lakes
- Combination of state-granted water rights & long-term firm contract with Lower Colorado River Authority (325,000 acre-feet per year)

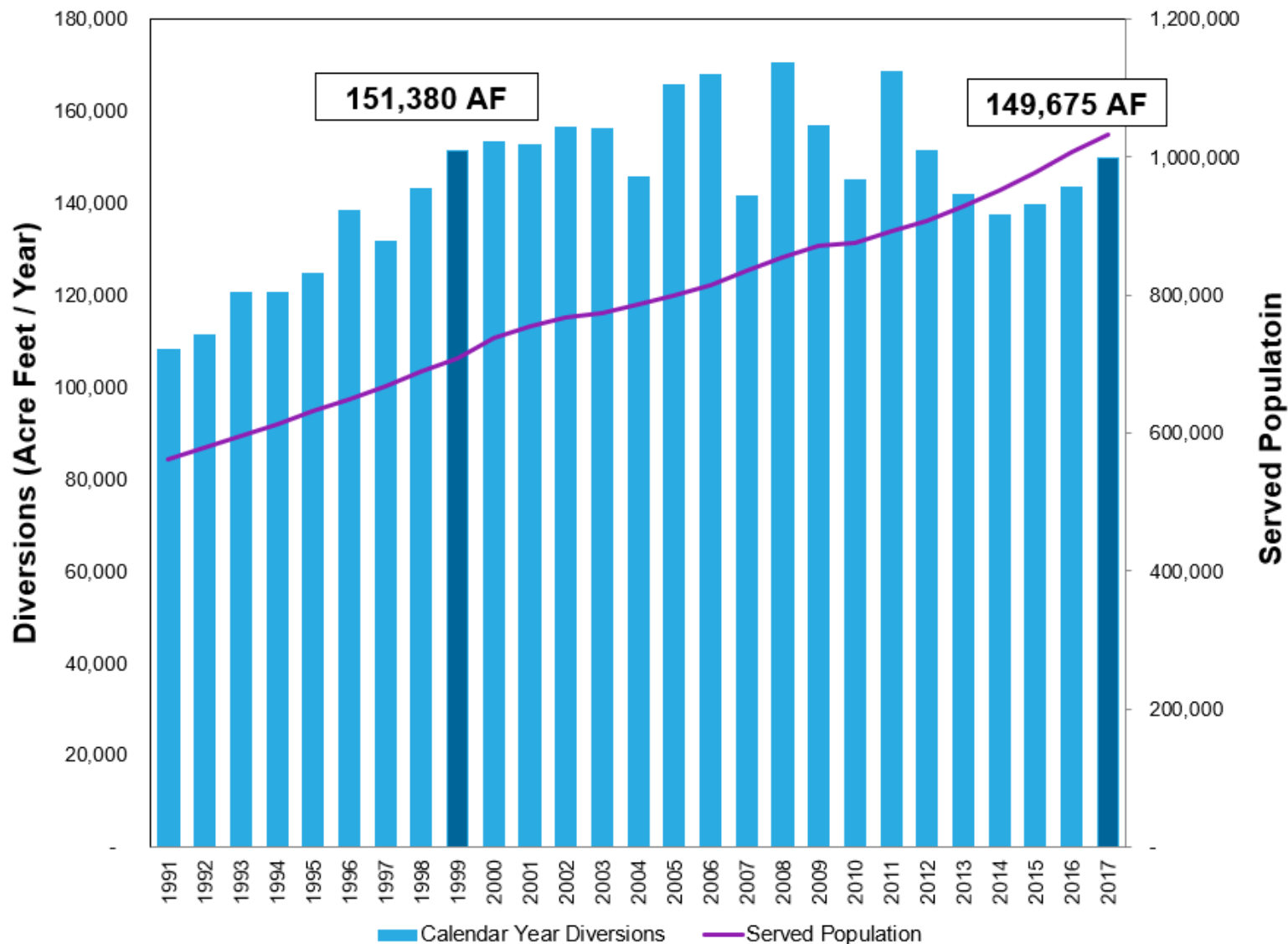


Historic 2008-2016 Drought

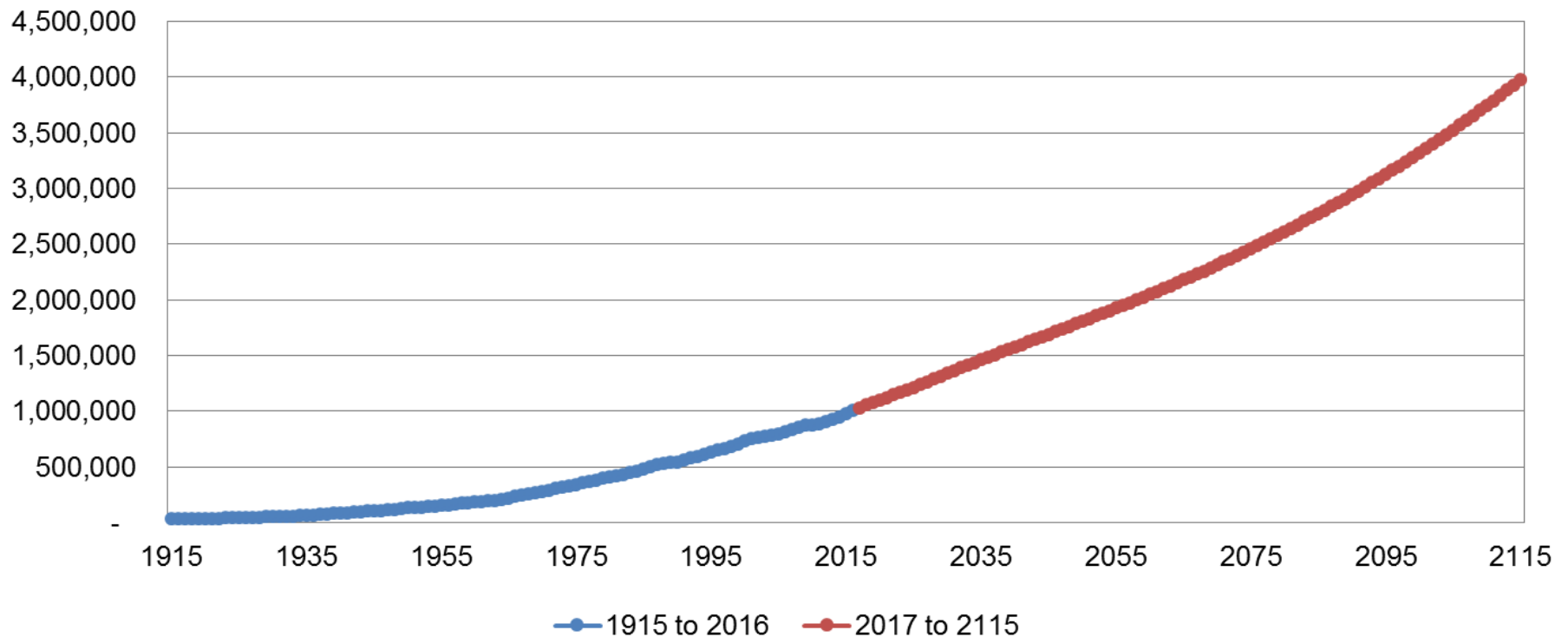


Lake Travis, July 2011 and June 2016

Austin Municipal River Diversions



Austin Water Served Population



12 Lowest Annual Inflows on Record

Rank	Year	Annual Total in Acre-Feet
1	2011	127,802
2	2014	207,642
3	2013	215,138
4	2008	284,462
5	2006	285,229
6	1963	392,589
7	2012	393,163
8	2017	429,959
9	1983	433,312
10	1999	448,162
11	2009	499,732
12	1950	501,926

Top 5 all-time lowest reservoir inflows have occurred since 2006

9 of the 12 lowest inflow years have all occurred since 1999

Water Forward Development

- Recommendation from 2014 Task Force
- Council Appointed Task Force convened in May 2015
- Austin Water began work to develop scope and begin preliminary analysis
- By July 2016, consultant team procured included CDM Smith, Dr. Katherine Hayhoe (climate scientist), and Dr. Richard Hoffpauir (hydrologist)



Guiding Principles for Plan Development

Protect

- Core Colorado River Supplies
- Public Health
- Environment

Focus On

- Reliability
- Conservation
- Local Resources
- Feasibility

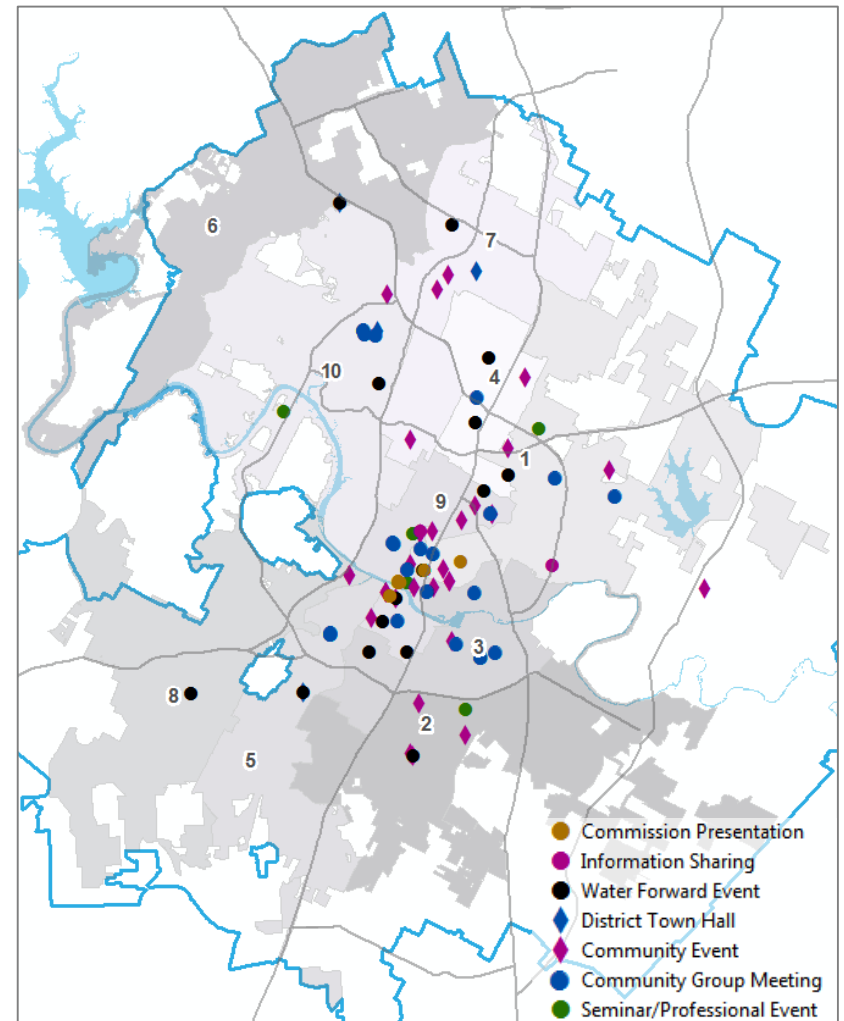
Align With

- Community Values
- Imagine Austin
- Regional Coordination

Public Outreach Goals

- Identify community values to reflect in plan
- Seek input from stakeholders which reflect the diversity of Austin's population
- Inform and educate the community throughout the process

Map of over 90 public outreach events attended by Water Forward project team



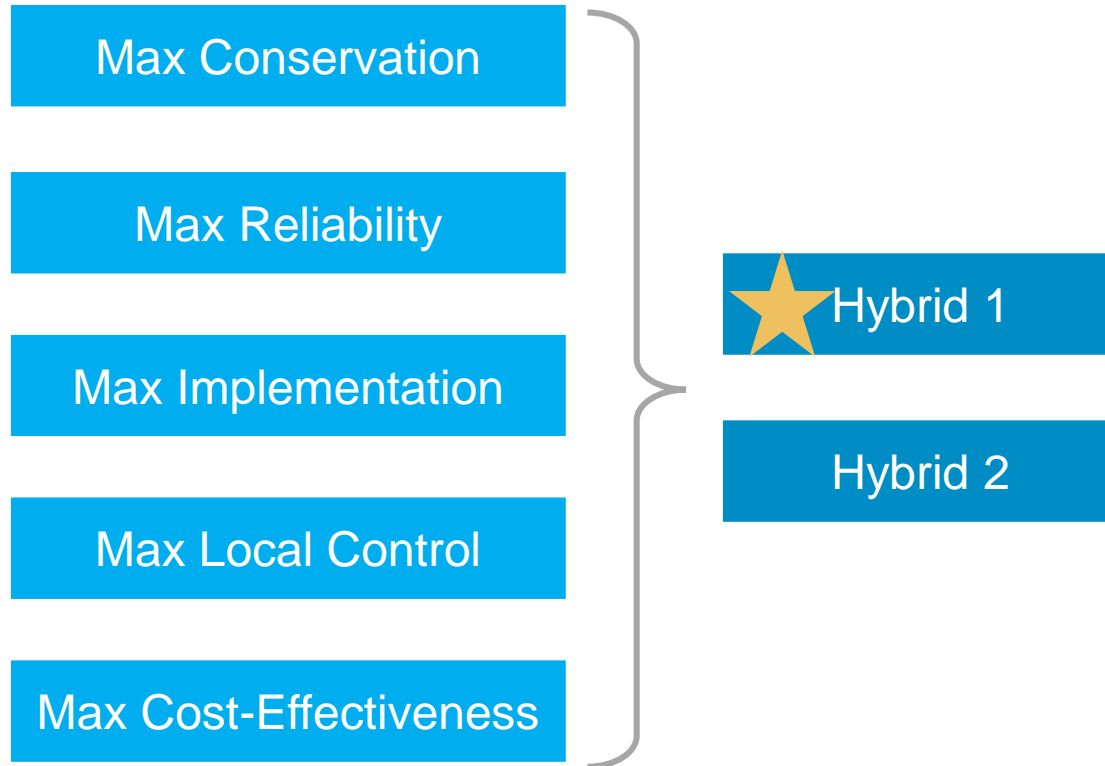
Alignment with Community Values



Water Forward Portfolio Evaluation Criteria

Primary Objective	Objective Weight	Sub-Objective
Water Supply Benefits	35%	Minimize Vulnerability
		Maximize Reliability
Economic Benefits	20%	Maximize Cost-Effectiveness
		Maximize Advantageous External Funding
Environmental Benefits	20%	Minimize Ecosystem Impacts
		Minimize Net Energy Use
		Maximize Water Use Efficiency
Social Benefits	13%	Maximize Multi-Benefit Infrastructure/Programs
		Maximize Net Benefits to Local Economy
		Maximize Social Equity and Environmental Justice
Implementation Benefits	12%	Minimize Risk
		Maximize Local Control / Local Resource

Water Forward Portfolio Evaluation



Hybrid 1 Benefits

- Strong conservation and reuse
- Climate and drought resilience through storage strategies
- Emphasis on local sources
- Complements existing investments

Water Forward Plan Recommendations

Demand Management

Water Supply

2040

- Advanced Metering Infrastructure (AMI)
- Utility Side Water Loss Control
- Alternative Water Ordinance
- Dual Plumbing Ordinance
- Alternative Water Incentive
- Landscape Transformation Incentives
- Irrigation Efficiency Incentives
- Landscape Transformation Ordinance
- Water Use Benchmarks and Water Budgets

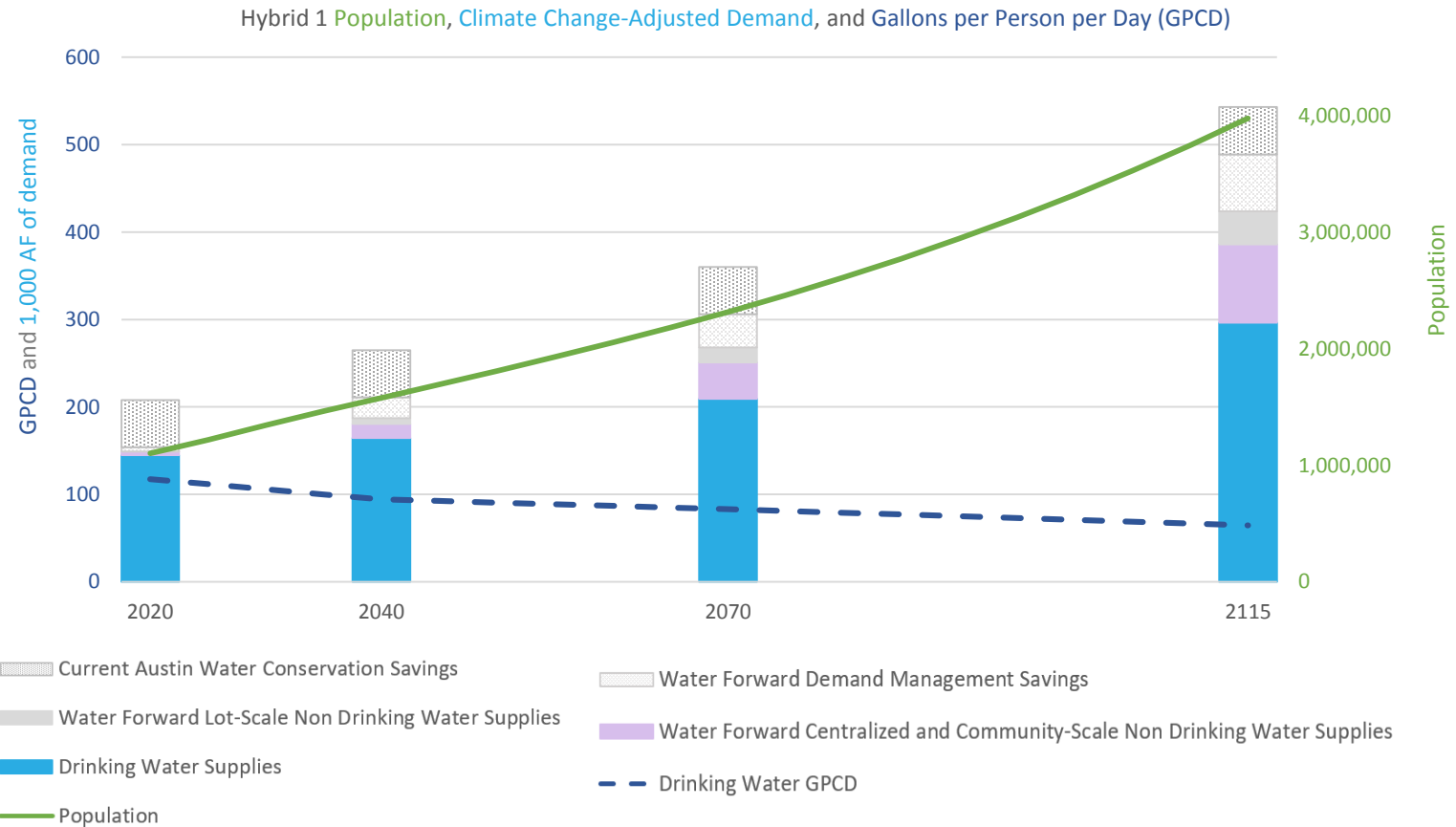
- Aquifer Storage and Recovery Pilot and Full Scale Facility
- Centralized Reclaimed Water System Expansion
- Decentralized Wastewater Reuse
- Capture local inflows to Lady Bird Lake
- Indirect Potable Reuse

2070

- Brackish Groundwater Desalination
- New Off Channel Reservoir

Note: These strategies are in addition to current Colorado River supplies, reuse, and conservation.

Future Demands with Implemented Strategies



The Next 5 Years

Major Water Forward Implementation Actions in the Next 5 Years

Ordinances

(new or changes to existing)

- Develop alternative water ordinance for new larger commercial and multifamily development
- Develop dual plumbing ordinance for new larger commercial and multifamily development
- Expand current reclaimed water system connection requirements
- Develop ordinance to require submittal of water use information for new development
- Monitor existing ordinances related to air conditioning condensate reuse and cooling tower and steam boiler efficiency

Incentives

- Expand alternative water incentive program
- Expand landscape incentive program
- Expand irrigation efficiency incentive program

Projects and Programs

- Study and begin design, construction, and testing of an Aquifer Storage and Recovery pilot
- Implement Advanced Metering Infrastructure
- Enhance utility water loss reduction program
- Expand the centralized reclaimed water system
- Explore opportunities for community-scale decentralized reclaimed water systems
- Refinement of Indirect Potable Reuse emergency strategy
- Refinement of Capture Lady Bird Lake Inflows strategy
- Begin preliminary analyses to support five-year Water Forward plan update

Continued public outreach and engagement, including quarterly meetings of the Water Forward Task Force

Estimated Cost Summary

Estimated Planning-Level Cost Summary for Water Forward Recommended Strategies through 2040

	Est. Capital Cost (Million Dollars)	Est. O&M Cost (Million Dollars)	2040 Yield (Acre Feet per Year)
Current Utility Strategic Initiatives in the Capital Plan	\$613.6	\$105.8	25,210
New Utility Strategies	\$429.1	\$102.7	87,670
Developer/Program Participant-Owned Strategies	\$274.1	\$198.9	7,630

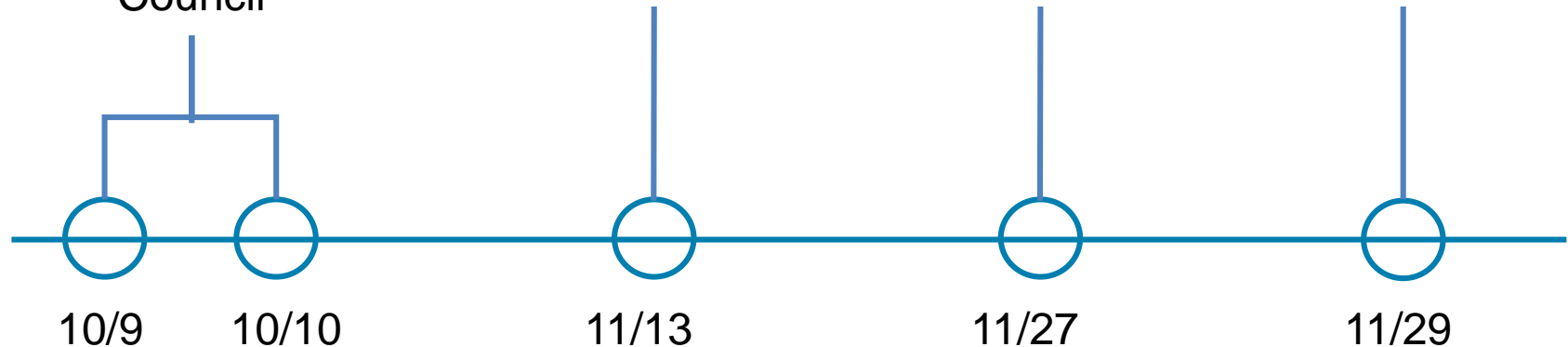
Timeline

Water Forward Task
Force and Water
and Wastewater
Commission voted
unanimously to
recommend the plan
for adoption by
Council

Council briefing
on Water
Forward

Follow up
discussion at
Council work
session

Council vote
for plan
adoption





Questions?