

2022 | APPROVED BUDGET

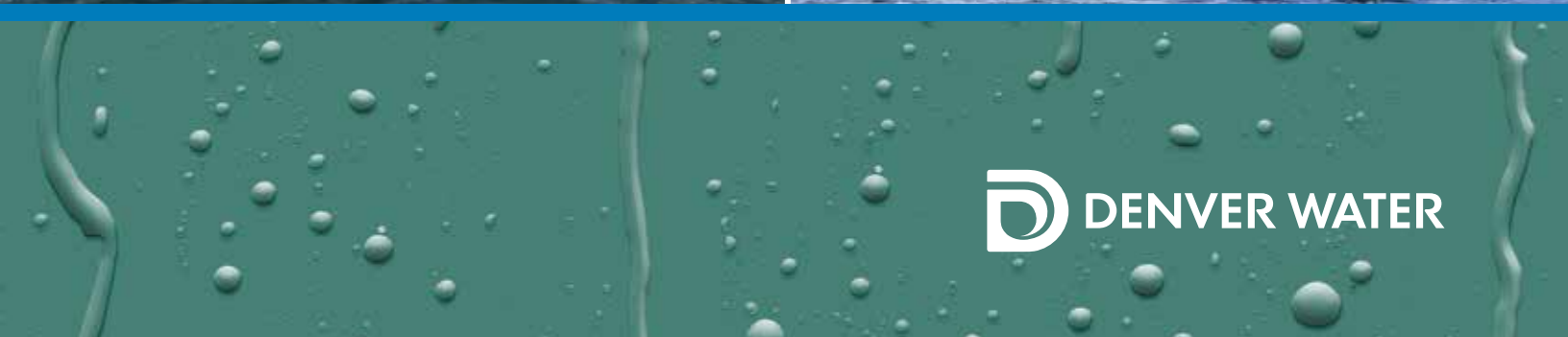


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DENVER WATER OVERVIEW

CEO LETTER

To the Board of Water Commissioners and Our Customers:

We are pleased to present the Annual Budget Book for Denver Water for the fiscal year beginning Jan. 1, 2022 and ending Dec. 31, 2022.

The Report

This report is presented in six sections as follows:

- I. **Denver Water Overview**, which includes this letter of transmittal plus an overview of Denver Water and the City and County of Denver.
- II. **Organizational Structure**, which includes the organization chart, as well as information on the Board of Water Commissioners and Executive Leadership.
- III. **Strategy and Process**, which includes an overview of the Denver Water Strategic Plan, and details around our annual planning/budgeting process.
- IV. **Financial Section**, which contains the financial schedules (sources and uses, division budgets, FTE, fund structure, debt), and information on relevant financial policies.
- V. **Projects**, which includes an overview of the project prioritization process, the ten-year project plan, a project summary with budget, and updates on select capital projects.
- VI. **Water Rates and Usage**, which contains information on our current water rates, usage, and drought plan.

Annual Budget and Planning Process

Although Denver Water is not legally required to adopt budgetary accounting and reporting, the annual budget serves as the foundation for Denver Water's financial planning and control. The budget process involves:

Annual Business Plan and Strategic Plan Alignment

Annually, Denver Water analyzes progress toward its Strategic Plan goals and objectives and identifies key strategic priorities to help achieve these objectives. This exercise culminates in the creation of the Annual Business Plan. The Annual Business Plan is a high-level summary of the work the organization is committed to accomplish in the upcoming year. It describes the connection of each activity to a Strategic Plan perspective, goal and objective, the organizational metric the activity is intended to move, and the corresponding annual budget amount and estimated total cost. The Annual Business Plan includes organizational priorities, organizational

programs, and continuous improvement activities. Progress towards objectives of the Annual Business Plan is reviewed with the Board on a quarterly basis. The Annual Business Plan is developed for the following year by the end of the second quarter and forms the basis for the annual budget.

Capital and Financial Planning

Denver Water maintains multi-year operating, capital and financial plans that are aligned with the Strategic Plan and informed by the Integrated Resource Plan (IRP). The Infrastructure Master Plan takes a multidisciplinary look at Denver Water operations and facilities to identify projects in the Capital Plan. The Capital Plan forecasts additions, improvements, and replacements to system facilities based on projected demands for water, federal and state laws and regulations, and ongoing system requirements. The Operations and Maintenance Plan includes the ongoing costs of operating and maintaining the system and the impact of the Capital Plan on operations. The Financial Plan combines the Capital and Operations and Maintenance plans and determines the level of revenue adjustments needed to meet annual revenue requirements and funding sources for capital improvements for the next several years. The annual revenue requirements include operating expenses, debt service on existing and proposed bonds, and capital expenditures. These expenditures are offset through miscellaneous revenues such as hydropower, customer-related fees, system development charges, bond proceeds, participation and interest income. The net requirement is the amount recovered through the user rates. The multi-year Financial Plan helps keep year-over-year volatility in annual water rates to a minimum. Alternative financial plans that address potential revenue shortfalls are also analyzed as a part of the long-range planning effort. These long-range plans are used as the starting point for the annual budget.

Annual Budget Preparation

The budget development process is the formal method through which Denver Water aligns fiscal resources and organizational priorities for the upcoming year. It results in an Approved Budget, which is the defined plan of revenue and expense activities for the year. The Approved Budget is the main internal control document used to monitor and manage revenues and expenditures for Denver Water. The budget is presented to the Board in November at the annual Budget Workshop. Official approval by the Board occurs in December.

Long-Term Financial Planning — Major Initiatives

Lead Reduction Program

- Denver Water is continuing work on the Lead Reduction Program. This was initiated because of sampling results in 2012 that showed lead levels at 2 parts per billion over the lead action level under the Safe Drinking Water Act (SDWA), which triggered a study of

Denver Water's corrosion control treatment. As a result, in March 2018, the Colorado Department of Public Health and Environment designated orthophosphate as the optimal corrosion control treatment for Denver Water's system. Because of concerns with the impact of orthophosphate treatment on its system and the impact of increased phosphorus loading on the South Platte watershed and regional wastewater treatment plants, Denver Water applied for a variance from the SDWA to implement its Lead Reduction Program, which overall is more protective of public health than orthophosphate. In December 2019, this variance was approved by state and federal agencies. This program involves: adjusting the pH level in the water to reduce the risk of lead getting into the drinking water; replacing lead service lines that bring water from the mains to customer houses at no direct charge to the customer; and providing water filters that are certified to remove lead to all customers with known or suspected lead service lines until six months after their line is replaced. The program was implemented in 2020 with replacement of all lead service lines to be completed within 15 years. In 2021, Denver Water met or exceeded all regulatory targets by replacing roughly 4,700 lead service lines, over 200 more than regulations require. The estimated cost of the program is approximately \$681 million.

The North System Renewal

Denver Water intends to invest more than \$1.3 billion in renewing and expanding the North System to address supply vulnerability.

- The Gross Reservoir Expansion project will raise the existing Gross Dam by 131 feet, creating an additional 77,000 acre-feet of storage in Gross Reservoir and providing an estimated 18,000 acre-feet of annual water to the North System. The city of Arvada is a key financial stakeholder in the project and will provide funding for one-sixth of the project costs and receive one-sixth of the project's expected annual water supply. All federal and state approvals have been obtained, and Denver Water is proceeding with the construction of the dam per the Federal Energy Regulatory Commission's (FERC) order to start construction by July 16, 2022, and finish by July 16, 2027. A lawsuit filed at the end of 2018 by environmental groups against the U.S. Army Corps of Engineers (Corps) and the U.S. Fish and Wildlife Service (USFWS), regarding the Corps' National Environmental Protection Act (NEPA) process and the Fish and Wildlife Service's Endangered Species Act (ESA) process, was dismissed by the U.S. District Court. Petitioners have appealed to the 10th Circuit Court of Appeals and that litigation is ongoing; however, petitioners have not sought to enjoin construction. In 2021, Denver Water and Boulder County entered into an agreement that marks the final step in a nearly 20-year federal, state and local review to permit the project. The agreement commits Denver Water to project mitigation measures in Boulder County, and in exchange,

Boulder County agrees that the project may proceed, with construction expected to begin in April 2022.

- The Northwater Treatment Plant (NTP) will replace the existing Moffat Water Treatment Plant (WTP) with a state-of-the-art facility designed to improve reliability and operational flexibility. The NTP will be capable of treating 75 million gallons per day (MGD) with room to expand. A portion of the existing Moffat WTP also will remain in service through 2040, and the project includes improvements at the Moffat site to convey treated water from both Northwater and Moffat to the distribution system. The project is currently under construction and will be operational by 2024.
- The Conduit 16 replacement project replaced over 8.5 miles of large diameter water pipe connecting the new NTP to Denver Water’s distribution system at the Moffat WTP. The Conduit 16 replacement project was substantially completed in 2021.

Awards, Recognition and Acknowledgements — 2021

Annual Comprehensive Financial Report

The Government Finance Officer’s Association (GFOA) awarded a Certificate of Achievement for Excellence in Financial Reporting to Denver Water for its Annual Comprehensive Financial Report for the fiscal year ended Dec. 31, 2020. This was the 33rd consecutive year that Denver Water has achieved this prestigious award. In order to be awarded a Certificate of Achievement, a government must publish an easily readable and efficiently organized report. This report must satisfy both generally accepted accounting principles and applicable legal requirements. A Certificate of Achievement is valid for a period of one year only.

Annual Budget

Denver Water received the GFOA’s Distinguished Budget Presentation Award for its annual budget document for the fiscal year beginning Jan. 1, 2021. This is the 30th consecutive year Denver Water has received this prestigious award. To qualify for this award, Denver Water’s budget document must be judged proficient as a policy document, a financial plan, an operations guide and a communications device.

CDPHE Water Quality Control Division Commitment Award

Denver Water was recognized for its commitment to the culture of health, for the work in distributing face masks to water and wastewater employees during the pandemic.

Greenway Foundation Hero of the River Award

Denver Water was recognized for the development and execution of the Lead Reduction Program.

Mayor's Design Award

Denver Water was recognized by the City of Denver as one of the best examples in the city of architecture, exterior design and place-making for its new Administration Building.

PRSA Gold Pick Awards

The Public Affairs team received three awards at the Public Relations Society of America (PRSA) Colorado Chapter Gold Picks Awards Ceremony for the team's work on the Lead Reduction Program, including PRSA's top-ranking awards for community outreach, multicultural communications and best overall entry.

Sustainable Water Utility Management Award

Denver Water was recognized by the Association of Municipal Water Agencies for innovative and successful efforts in economic, social and environmental endeavors.

Urban Land Institute Impact Chair's Award

Denver Water was honored by the Urban Land Institute for best practices in land use and real estate for the Operations Complex Redevelopment project.

USGBC Leadership Award — Mountain Region

Denver Water received this award for its new Administration Building. This award is given to exemplary leaders around the world who are creating the next generation of sustainable, healthy, equitable and resilient buildings, cities and communities.

WateReuse Awards for Excellence — The Advocacy Achievement Award

This award is for significant achievements in advancing policy, legislation or regulations that facilitate greater adoption of recycled water. Denver Water was recognized for successful efforts to expand Colorado's Regulation 84 to allow dual plumbing in public buildings and localized reclaimed water system requirements.

2021 Forest Service Chief's Honor Award

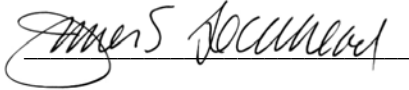
Denver Water was recognized by the chief of the United States Forest Service for the collaboration efforts in Summit County for forest health and wildfire risk reduction, of which Denver Water's From Forest to Faucets initiative is a part.

Acknowledgments

We wish to express our appreciation to all members of Denver Water who assisted and contributed to the preparation of this report. Credit must also be given to the Board of Water

Commissioners for unfailing support in maintaining the highest standards of professionalism in the management of Denver Water's finances.

Sincerely,



James S. Lochhead
CEO/Manager



Angela C. Bricmont
Chief Finance Officer

ABOUT DENVER WATER

In 1918, Denver residents voted to create a five-member Board of Water Commissioners and to purchase the Denver Union Water Company's water system for approximately \$14 million, creating Denver Water. The structure of the five-member Board of Water Commissioners is still in existence, governed under the Charter of the City and County of Denver Article X.



Denver Water is a public entity funded by water rates, hydropower revenues and new tap fees, not taxes. Today, Denver Water is Colorado's oldest and largest water utility. Its service area covers more than 335 square miles, including Denver and several suburban distributors. The majority of Denver's water comes from rivers and streams fed by mountain snowmelt. The South Platte River, Blue River, Williams Fork River and Fraser River watersheds are Denver Water's primary water sources, but it also uses water from the South Boulder Creek, Ralston Creek, and Bear Creek watersheds. A system of reservoirs networked by tunnels and canals provides water to approximately 1.5 million people. Three major treatment plants — Marston, Moffat and Foothills — maintain water quality under the watchful eye of the Denver Water Quality Control Laboratory.

- Denver Water ensures a continuous supply of water to the City and County of Denver and nearly 50 percent of Denver Water customers who live in the surrounding suburbs (water service contracts).
- It is responsible for the collection, storage, quality control and distribution of drinking water to nearly one-fourth of all Coloradans.
- Denver Water is a separate entity from the city of Denver.

Local Economy

In 1858, Denver was founded during the peak of the Gold Rush. Now, Denver is a central hub of economic activity in the state of Colorado. With a population of approximately 720,000, it is also the most populous city within a 500-mile radius. Major industries include aerospace, broadcast and telecommunications,




healthcare and wellness, financial services, bioscience, energy, and technology. The statewide economy also includes agriculture and tourism. With a growing population, Denver Water proudly serves approximately 1.5 million people in Denver and the surrounding suburbs. Water is essential in making Colorado beautiful and ensuring the quality of life we enjoy.

Economic Vitality

- Colorado ranked in the top 10 for its population growth rate from 2006 to 2019, but the state's 0.9 percent growth rate from 2019 to 2020 put it at No. 12. This was the slowest growth rate in the state since 1989. Colorado's population growth was still nearly double the national rate of 0.5 percent, which was the slowest pace of growth in the nation since 1929. Colorado's Western neighbors were among the fastest growing states in 2020, with Arizona, Utah, Texas and Washington among the top 10.
- Every state reported a decline in employment in 2020 and national employment fell by 6.1 percent, following nine consecutive years of national employment growth. Business closures associated with the COVID-19 pandemic were a major factor in the employment decline. Colorado employment fell by 4.9 percent, or by almost 134,000 jobs. Colorado's rank for employment growth among the states fell from No. 6 in 2019 to No. 17 in 2020.
- Colorado attracts a well-educated and productive workforce, ranking No. 9 in 2020 for high per capita personal income and No. 13 for state Gross Domestic Product per employee.
- Cutting-edge technology characterizes Colorado's economic base, with one of the nation's highest concentrations of high-tech employees. In 2020, Colorado ranked No. 3 for high-tech employment concentration and has ranked in the top four since 2000.
- Colorado's entrepreneurial environment fosters job creation and a high-level of new business establishments. In 2020, Colorado ranked 11th among the states with 9.88 new business establishments per 1,000 workers.
- Colorado's innovators at the state's universities, businesses, and institutions earned the state a No. 10 ranking in 2020 for patents granted per capita.

(Source: Metro Denver Economic Development Corporation, for more information see: <https://www.metrodenver.org/>)



EMPLOYMENT PROJECTIONS BY INDUSTRY

Metro Denver, Northern Colorado, and Colorado

Industry Sector	Denver-Aurora-Lakewood MSA			Boulder-Longmont MSA			Colorado		
	2020	2030*	Percent Change	2020	2030*	Percent Change	2020	2030*	Percent Change
	Agriculture, Forestry, Fishing and Hunting	4,467	6,816	52.6%	610	826	35.4%	20,047	26,862
Mining	8,892	10,644	19.7%	171	160	-6.4%	21,595	26,388	22.2%
Utilities	3,862	4,034	4.5%	232	205	-11.6%	8,306	8,047	-3.1%
Construction	99,271	125,872	26.8%	5,411	7,088	31.0%	174,710	219,916	25.9%
Manufacturing	68,995	74,134	7.4%	20,057	21,563	7.5%	146,465	156,973	7.2%
Wholesale Trade	72,907	78,267	7.4%	6,486	7,635	17.7%	107,797	117,957	9.4%
Retail Trade	132,270	148,238	12.1%	16,568	17,997	8.6%	262,585	290,938	10.8%
Transportation and Warehousing	65,407	92,858	42.0%	1,699	2,402	41.4%	89,919	128,010	42.4%
Information	50,989	53,931	5.8%	8,505	9,529	12.0%	74,855	79,234	5.8%
Finance and Insurance	80,790	88,794	9.9%	4,237	4,437	4.7%	117,988	127,516	8.1%
Real Estate and Rental and Leasing	30,984	35,140	13.4%	2,967	3,205	8.0%	54,462	61,593	13.1%
Professional, Scientific, and Technical Services	148,344	214,455	44.6%	30,185	42,750	41.6%	239,231	337,172	40.9%
Management of Companies and Enterprises	33,883	41,461	22.4%	1,617	1,905	17.8%	41,982	51,495	22.7%
Administrative and Support and Waste Management and Remediation	91,052	114,477	25.7%	6,196	6,797	9.7%	149,396	178,443	19.4%
Educational Services	111,983	136,669	22.0%	22,607	27,679	22.4%	223,642	266,991	19.4%
Health Care and Social Assistance	175,584	231,192	31.7%	21,562	26,154	21.3%	334,109	433,313	29.7%
Arts, Entertainment, and Recreation	20,452	29,976	46.6%	2,588	3,354	29.6%	44,404	62,806	41.4%
Accommodation and Food Services	111,822	155,441	39.0%	13,434	19,289	43.6%	227,796	306,683	34.6%
Other Services	57,452	69,422	20.8%	6,254	7,433	18.9%	112,139	131,780	17.5%
Total Federal Government	28,979	26,010	-10.2%	2,156	1,896	-12.1%	54,957	52,889	-3.8%
Total State Government	18,852	20,487	8.7%	818	879	7.5%	35,482	37,812	6.6%
Total Local Government	51,627	60,756	17.7%	7,054	8,126	15.2%	112,674	128,624	14.2%
TOTAL	1,569,013	1,933,324	23.2%	192,956	234,066	21.3%	2,834,583	3,434,016	21.1%

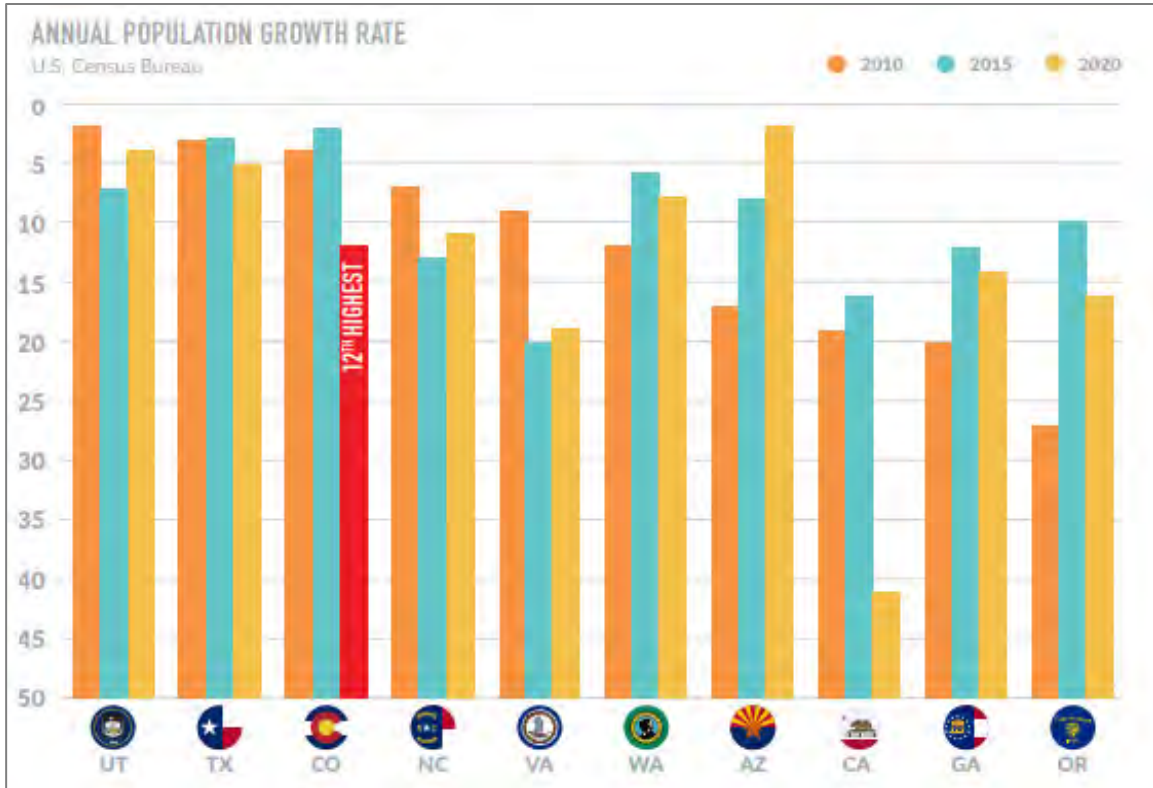
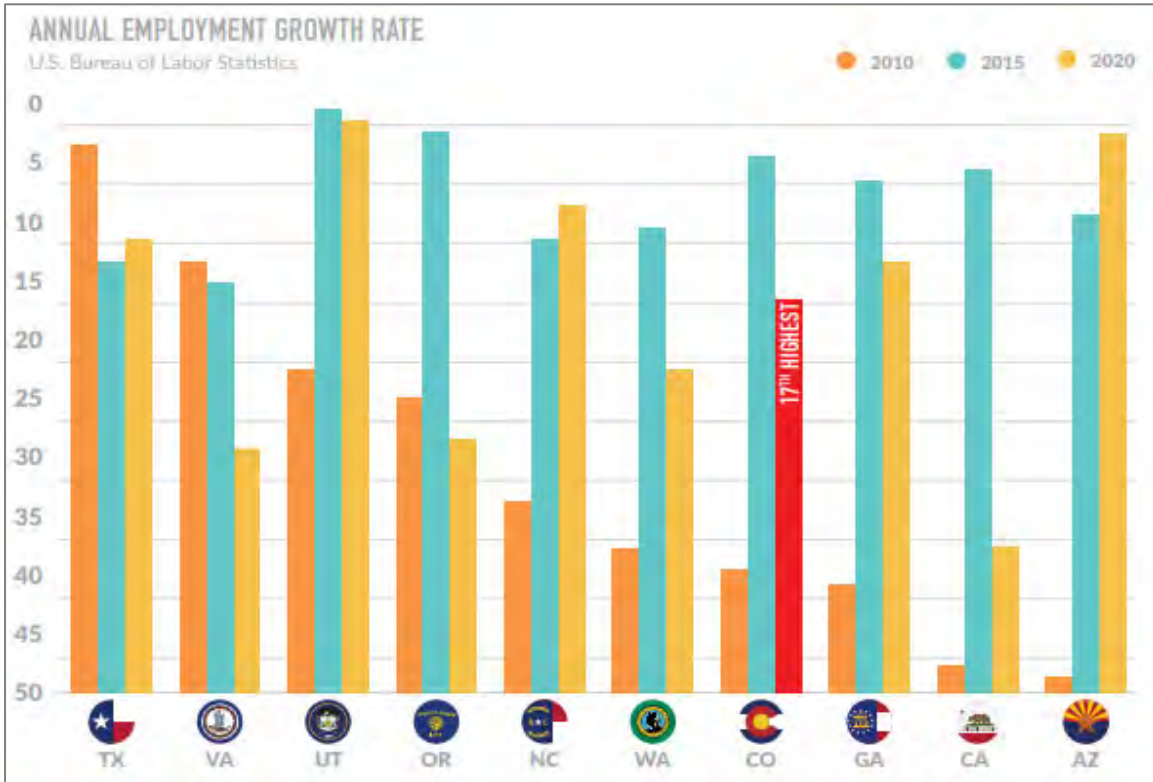
Note: Industry sectors do not add to totals as totals include unclassified employment.
**Projected.*
***Data are suppressed to protect confidentiality.*
Source: Colorado Department of Labor and Employment.
Website: www.colmigateway.com

Revised September 2021

Key Demographics

	Metro Denver	Northern Colorado
Square Miles	4,532	6,651
Population 2020	3,262,239	692,483
Population 2025*	3,421,741	753,485
Population 2030*	3,629,869	840,074
Labor Force	1,826,525	370,350
Non-farm Employment	1,610,710	264,870
Average Wage	\$74,481	\$57,514
Median Age	37.2	35.9

(Source: Metro Denver Economic Development Corporation, for more information see: <https://www.metrodenver.org/>)



(Source: Metro Denver Economic Development Corporation, for more information see: <https://www.metrodenver.org/>)

Denver Water a two-time winner of national sustainability award

Peer utilities across the United States highlight utility's work to protect ecosystems, communities, and climate.

Denver Water received the 2021 Association of Metropolitan Water Agencies Sustainable Water Utility Management Award. It was the second time Denver Water's efforts were recognized; the first being in 2018. Denver Water was among four utilities recognized by their peer utilities for innovative and successful efforts in economic, social and environmental endeavors.

AMWA recognized Denver Water for its efforts to improve operations and protect its surrounding ecosystem and communities. Among that work, AMWA noted that Denver Water has set formal goals to reduce carbon emissions, maintain a net-energy neutral operations, expand the use of renewable energy in its day-to-day work, and improve green infrastructure.

The group also highlighted Denver Water's work through the Lead Reduction Program to protect customers from the risk of lead from customer-owned pipes and plumbing getting into their drinking water. The program, launched in 2020, will replace the estimated 64,000 to 84,000 customer-owned lead service lines over the course of 15 years. The group also focused on another aspect of Denver Water's award-winning efforts, it's From Forests to Faucets partnership with other government agencies to support work that reduces the risk of damage in the watershed from wildfires, including the planting of more than 1 million new trees.

Denver Water's sustainability efforts include:

LEED certification for the buildings involved in the overhaul of Denver Water's Operations Campus, a 34.6-acre complex on West 12th Avenue near downtown that has been the site of different Denver Water operations since 1881.

- Creating a sustainability guide that outlined goals for Denver Water from 2018 through 2020 and updating that guide to set down new goals to guide the organization from 2021 through 2025.



Denver Water was honored with the 2021 AMWA Sustainable Water Utility Management Award by the Association of Metropolitan Water Agencies for its multiple efforts around an ethic of sustainability.

- Starting a waste diversion program that, since its beginning in 2018, has diverted nearly 94,000 pounds of waste from the landfill by composting. That’s nearly 47 tons.
- Supporting efforts, such as Resource Central’s Garden In A Box program, that have helped Denver-area customers plant more than 100,000 square feet of low-water gardens — instead of turf — to save water and create beauty around their homes.

Life is better with water

Do you remember when Denver Water asked customers to “Use Only What You Need?”

That 10-year advertising campaign, launched a few years after the 2002 drought that reduced water levels in storage reservoirs statewide, urged customers to reduce the amount of water they used in their everyday lives.

And it worked. By the time the campaign ended in 2015, water use by Denver Water’s customers had dropped 22% compared to usage before the 2002 drought.

Denver Water’s new campaign, launched in 2020, takes a broader look at water and the issues around it, including uncertainty around climate change, population growth, infrastructure investment and the need to remove decades-old lead service lines buried in our community.

The campaign’s main message is simple: Water is everything.

“Life is better with water” is a year-round campaign, in contrast to the “Use Only What You Need” campaign, which ramped up during the summers.



HISTORY



Long before the city of Denver was established, the South Platte River and Cherry Creek were oases for people who traveled the dry Great Plains. These early travelers could do without many things, but not water. That's why pioneers, and the Native Americans before them, camped along the banks of Cherry Creek and the South Platte River. The first residents of the area drank water directly from the creek

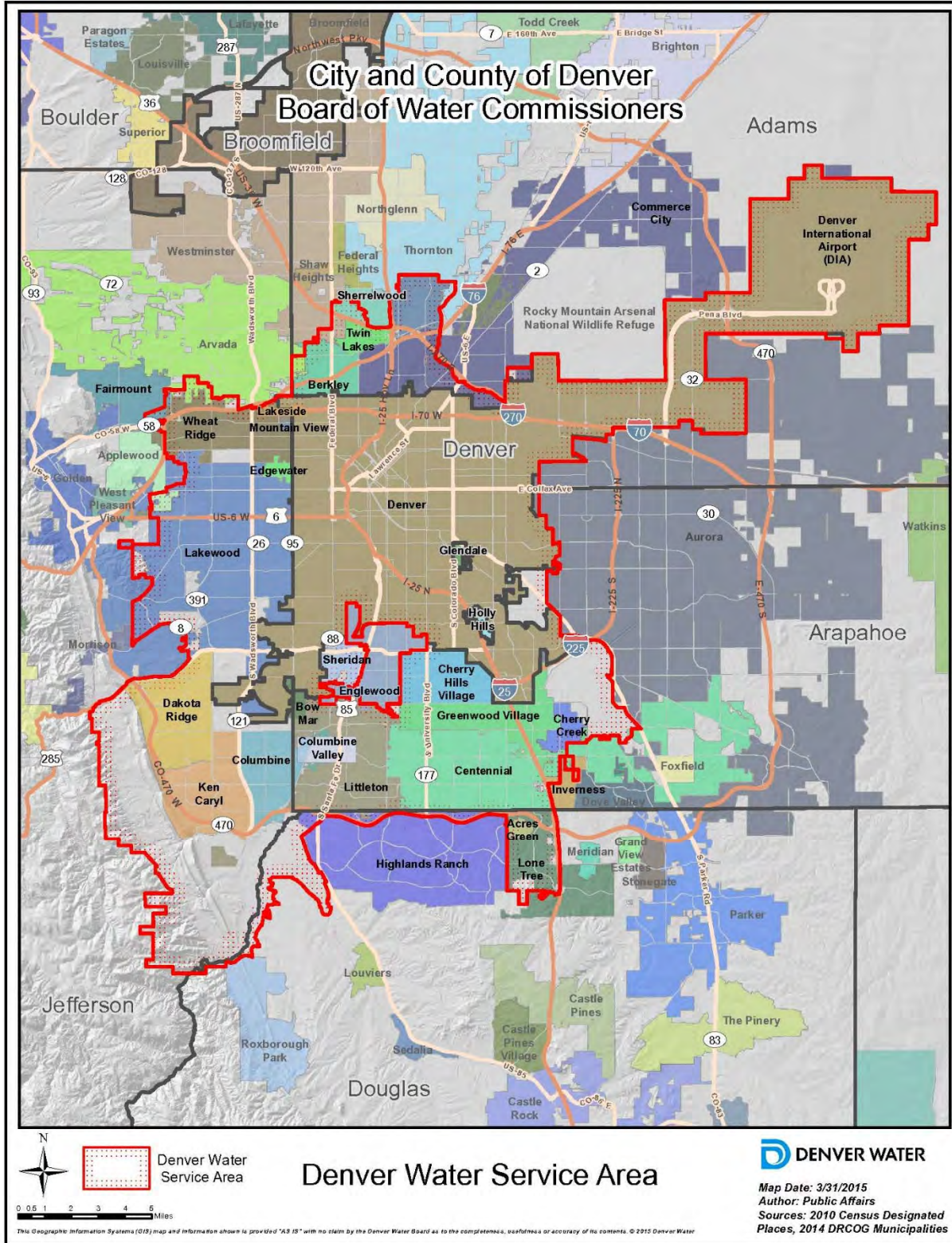
and river. Surface wells and buckets of water sufficed for a while as a delivery system, but they soon proved inadequate. Irrigation ditches were the next step forward.

Soon, water companies began offering service to settlers. By the late 1800s, several water companies had fought, collapsed, or merged. In 1918, Denver residents voted to buy the Denver Union Water Company and form the municipal agency now known as Denver Water. In doing so, voters created an entity that would operate independently from city government, thereby keeping water service separate from local politics.

Today, Denver Water is the largest and oldest water utility in the state. Its service area covers more than 335 square miles, including the City and County of Denver and several suburban distributors. A system of reservoirs networked by tunnels and canals provides water to approximately 1.5 million people. Three major treatment plants — Marston, Moffat, and Foothills — maintain water quality under the watchful eye of the Denver Water Quality Control Laboratory.



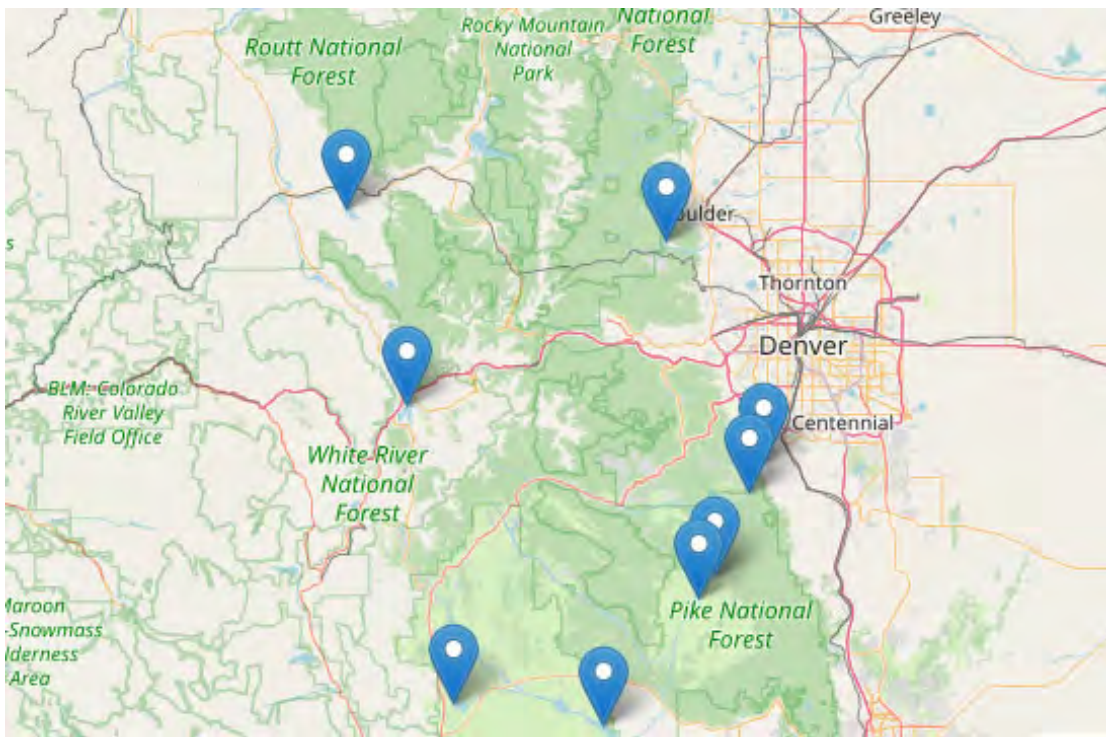
SERVICE AREA MAP



DENVER WATER RECREATION

There's more to water than drinking it.

Denver Water's reservoirs, canals, and canyons offer lots of opportunities to hike, fish and enjoy a peaceful afternoon in the mountains.



Antero Reservoir

Large trout call this place home

Antero is Denver Water's first collection reservoir on the South Platte River. Geologists believe Antero Reservoir occupies the site of a former lakebed. While Green Lake lies submerged within the reservoir, an extinct volcano, Buffalo Peaks, looms above (as seen below).



Cheesman Reservoir

A breathtaking engineering landmark

Named for Denver water pioneer Walter S. Cheesman, the dam was once the world's tallest at 221 feet above the streambed when completed in 1905. Denver Water purchased the reservoir and related facilities in 1918. Cheesman was the first reservoir of Denver's mountain storage facilities and has been designated a National Historic Civil Engineering Landmark.



Dillon Reservoir

Play on and around Denver Water's largest reservoir

Completed in 1963, Dillon Reservoir has an earth-fill dam, 5,888 feet long by 231 feet above the Blue River streambed. The entire town of Dillon and a hydroelectric plant were relocated to build the dam, which diverts water from the Blue River Basin through the Harold D. Roberts Tunnel under the Continental Divide into the South Platte River Basin.



Eleven Mile Canyon Reservoir

Secluded spot with fishing, trails and camping

Completed in 1932 after two years of construction, Eleven Mile stands 135 feet above the South Platte riverbed. The 6-mile-long reservoir is second largest in Denver Water’s system and one of the largest bodies of water east of the Continental Divide.

Gross Reservoir

Treasure tucked away in a quiet canyon

Named after Denver Water former Chief Engineer Dwight D. Gross, the reservoir was completed in 1954. It serves as a combination storage and regulating facility for water that flows under the Continental Divide through the Moffat Tunnel. A major construction effort – the Gross Reservoir Expansion Project – is underway, which will raise the height of the existing dam 131 feet.



South Platte River

Fishing destination and scenic mountain terrain

This stretch of the South Platte River has been a popular fishing spot for decades, earning it Gold Medal Waters status by the Colorado Wildlife Commission. In the 1890s, Stephen Decker built a general store and later a saloon in this area. The South Platte Hotel, located at the confluence of the North Fork of the South Platte, was a popular resort in the early 1900s and was accessible only by train. The confluence is now a popular fishing and kayaking area.



River sections and access:

- Cheesman Canyon to Strontia Springs: From Cheesman Reservoir (elevation 6,800 feet), the South Platte River descends 6 miles through Cheesman Canyon to Deckers, a world-renowned fly-fishing area. The river then bends north for about 17 miles to the confluence with the North Fork of the South Platte (elevation 6,100 feet).
- Buffalo Creek to confluence: The North Fork flows approximately 10 miles east from Buffalo Creek (elevation 6,600 feet) to the confluence. From the confluence, the river flows east to Strontia Springs Reservoir above Waterton Canyon at an elevation of 6,000 feet.

Williams Fork Reservoir

A peaceful, secluded place to recreate

Completed in 1959, Williams Fork Dam and its power plant send water and electricity to the West Slope when Denver diverts water. Standing 217 feet above the Williams Fork River streambed, the dam backs up a reservoir of nearly 97,000 acre-feet of water, and the power plant contains a 3,158-kilowatt generator.



Denver Water released water from Williams Fork Dam in Grand County as part of the Coordinated Reservoir Operations program, June 2019

Waterton Canyon and Strontia Springs Reservoir

From bighorns to bike trails, a great place to play

Strontia Springs Dam is 6.5 miles upstream of the mouth of Waterton Canyon on the South Platte River. Water is diverted from the reservoir into a 3.4-mile tunnel under the mountains to the Foothills Water Treatment Plant. Completed in 1983, this dam rises 243 feet above the South Platte streambed.

Waterton Canyon is home to many different types of wildlife, including the popular Rocky Mountain bighorn sheep herd. There are also mule deer, black bears, mountain lions, elk, lizards, turkeys, and snakes, including the prairie rattlesnake.



Follow Us





ORGANIZATIONAL STRUCTURE

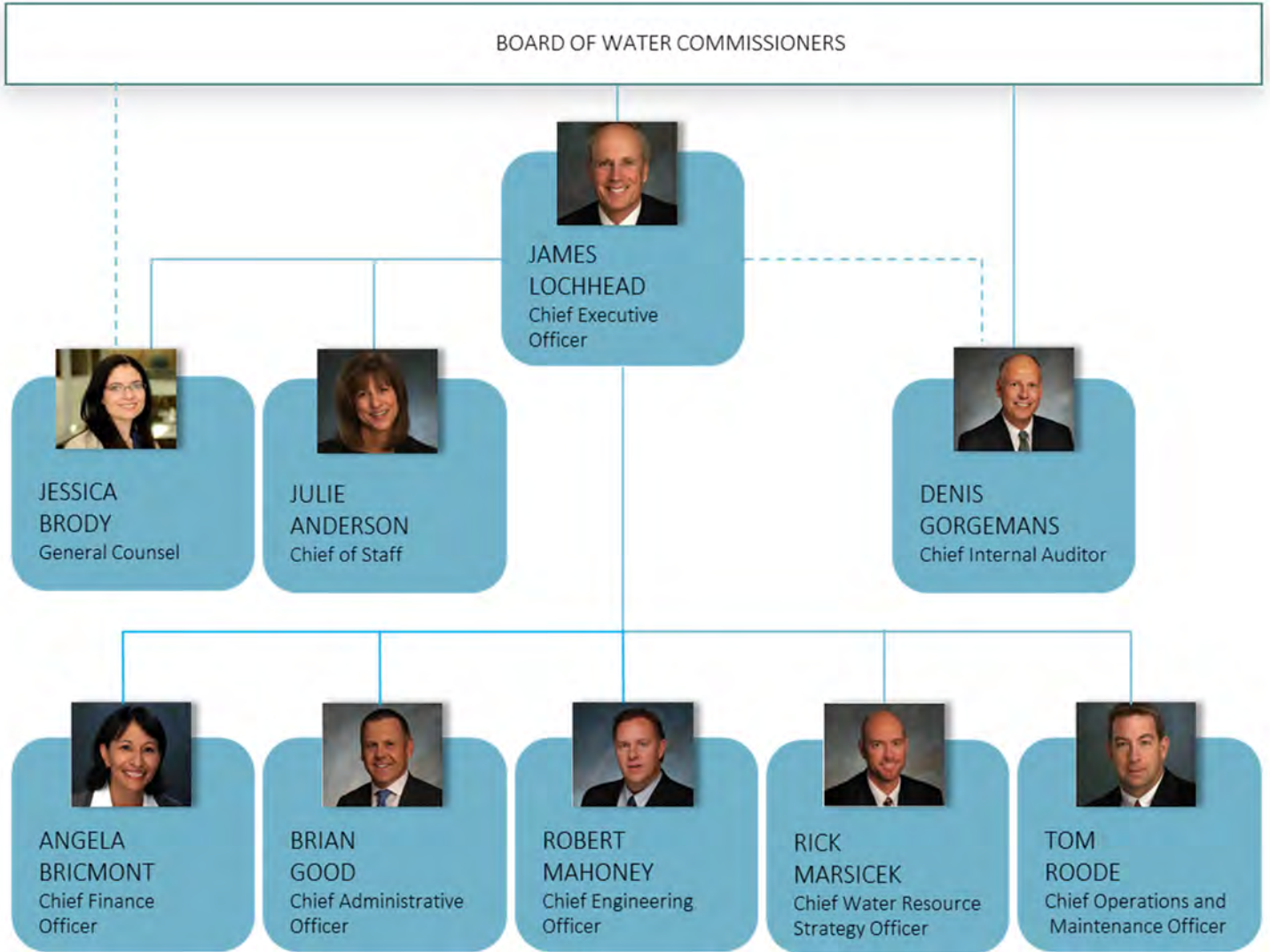
BOARD OF WATER COMMISSIONERS



Top from left: Gary Reiff, Craig Jones **Bottom from left:** Dominique Gómez, Stephanie Donner, Tyrone Gant

Gary Reiff, President Senior advisor, UC Health	Commissioner since September 2017 Term expires 2023
Craig Jones, First Vice President Managing director, The Colony Group’s Rocky Mountain Region and co-president, Colony Sports and Entertainment	Commissioner since October 2017 Term expires 2023
Dominique Gómez, Vice President Deputy director, Colorado Energy Office	Commissioner since July 2021 Term expires 2027
Stephanie Donner, Vice President General counsel and head of government relations, Inspire Clean Energy	Commissioner since July 2021 Term expires 2027
Tyrone Gant, Vice President Director of treasury management and commercial banking fee income manager, Vectra Bank Colorado	Commissioner since August 2021 Term expires 2027

ORGANIZATIONAL CHART AND EXECUTIVE LEADERSHIP



*Additional full-time and limited-term employee information is included in the organizational rollup tables in the subsequent divisional sections and the Regular Employees section.

Manager & Staff



CEO

• Office of CEO

Operations
Budget:
\$3.2M

Employee Count:
FTE – 8.0
LTE – 0.0

The CEO/Manager is the chief executive officer for Denver Water, secretary to the Board of Water Commissioners and custodian of all records. He carries out all other duties and responsibilities as assigned by the Board as it fulfills its charter obligations.

The CEO/Manager executes the policies and decisions of the Board and reviews and recommends to the Board changes in rules and regulations with respect to all matters appropriate for its action.

In addition, the CEO/Manager gives overall direction to employees and oversees the work necessary to provide an adequate supply of water to the residents of the City and County of Denver, and areas economically and socially integrated with the city with whom Denver Water has a water service contract.

The CEO/Manager represents the Board in ongoing relationships with all levels of government, community organizations and the public served, and recommends to the Board a rate structure and other income-producing procedures that will assure adequate revenues to meet operating and maintenance costs, finance of ongoing capital improvement programs, and the principal and interest payments on long-term debts.

Four division chiefs, the General Counsel, the Chief Internal Auditor, and the Chief of Staff report directly to the CEO/Manager.

Jim Lochhead was appointed Denver Water’s CEO/Manager in 2010. Lochhead also currently serves on the boards of the Association of Metropolitan Water Agencies, the Water Utility Climate Alliance and the Water Foundation.

Prior to Denver Water, Mr. Lochhead was in private law practice, dealing with natural resource issues throughout the United States and internationally. He was also executive director of the Colorado Department of Natural Resources. Mr. Lochhead was the Colorado governor’s representative on interstate Colorado River operations, and served on the Colorado Water Conservation Board, Great Outdoors Colorado, The Nature Conservancy and Colorado Conservation Trust.



Manager & Staff

Internal Audit

- Internal Audit

Operations
Budget:
\$0.8M

Employee Count:
FTE – 3.0
LTE – 0.0

The Internal Audit Activity reports directly to the Board of Commissioners and administratively to the CEO/Manager. This structure allows Internal Audit to provide independent and objective assurance and consulting services to Denver Water, as indicated in the Internal Audit Charter. Internal Audit conducts audit engagements that review and evaluate whether appropriate risk management, governance and

internal control procedures are in place and functioning. Owing to its unique position in the organization, Internal Audit provides advice and recommendations to improve internal controls but is not permitted to make operational or policy decisions.

Each year, Internal Audit works closely with the Board of Commissioners and Denver Water’s management to develop an internal audit plan, which follows a structured audit planning process. These engagements are scheduled and executed throughout the year, following the internal audit process.



Manager & Staff

Office of General Counsel

- Office of General Counsel
- Insurance and Legal Claims

Operations
Budget:
\$6.7M

Employee Count:
FTE – 15.0
LTE – 0.0

The Office of General Counsel provides legal counsel and advice and handles all legal representation for Denver Water, acting through its Board, CEO/Manager and employees.

The Office works closely and proactively with employees and managers at all levels of Denver Water and has a direct reporting responsibility to the CEO/Manager and the Board. Several areas of legal practice are involved in providing legal counsel to Denver Water, including water rights, contracts, civil rights, tort claims, real estate, natural resources, and municipal, employment, construction, environmental and regulatory law. The Office represents Denver Water in litigation, administrative and regulatory hearings, and internal appeal hearings.

Manager & Staff



Office of People and Strategy

Human Resources

- Benefits Administration
- Compensation
- Talent
- Wellness

Chief of Staff

- Continuous Improvement
- Learning and Organizational Development

Public Affairs

- Community Outreach
- Government Relations
- Distributor Relations
- External Communications
- Organizational Communications
- Integrated Marketing
- Youth Education
- Sponsorships

Operations
Budget:
\$14.0M

Employee Count:
FTE – 58.6
LTE – 1.0

The chief of staff reports directly to the CEO and has the full authority to lead, direct and resolve day-to-day operational and organizational issues. The chief of staff oversees the successful implementation of key strategic initiatives and is responsible for monitoring and ensuring the attainment of organizational goals.

The chief of staff also oversees the Office of People and Strategy, which aligns work and projects to organizational strategy, provides a standardized support mechanism to efficiently complete work and projects, creates a framework and practice for organizational change management, develops our people to ensure they are equipped to lead us into the future and provides a governing mechanism to ensure sustainment of past and future organizational changes, through our people and processes.

In addition, the chief of staff recommends related policy changes for Board approval, represents Denver Water in water and community associations, and acts as a backup in the

absence of the CEO/Manager when required.

Reporting to the chief of staff are the following sections: Human Resources; Learning and Organizational Development; Continuous Process Improvement; and Public Affairs.



Administrative Services

Administrative Services

- Clinic
- Contract Control
- Emergency Management, Safety, and Security
- Geographic Information System
- Information Security Office
- Print Shop / Mailroom
- Procurement
- Records & Document Administration
- Recreation Management
- Sustainability

Information Technology

- Project Management Office
- Customer Information Systems
- Enterprise Asset Management
- Enterprise Resources Planning
- IT Client Services
- IT Data Services
- Infrastructure and Technology Services
- IT Asset Management
- Network & Industrial Control Systems

Operations
Budget:
\$45.0M

FTE – 168.8
LTE – 3.0

Administrative Services allows Denver Water to efficiently and effectively deliver services internally and to its customers. The division oversees sustainability, environmental compliance, security and recreation. It also oversees organizational functions including purchasing and contracting, records and document administration, safety, emergency management, risk management, and the print shop and mailroom.

The Information Technology section plans, develops, implements and supports all information technology-enabled business systems and operational technology-enabled water process instrumentation and industrial control systems, including enterprise infrastructure and communication systems for Denver Water. This involves providing appropriate resources to deliver secure technology solutions that produce net productivity gains and enhanced information management capabilities, while minimizing the risk of obsolescence and nonsupport.



Engineering

- Hydraulics Engineering
- Technical Support Services
- Asset Recording and Drafting
- Infrastructure Engineering
- Water Treatment Engineering
- Mechanical Engineering
- Electrical Engineering
- Dam Safety
- Design Drafting
- Survey
- Construction Project Management
- Construction Inspection
- Materials Lab
- Distribution and Property Management

Operations
Budget:
\$21.3M

FTE – 173.8
LTE – 5.0

Engineering is responsible for the design, construction and related engineering aspects of physical additions or improvements to the water system. It provides surveying and mapping services, engineering functions, contract administration support, as-built drawings, land acquisition services and GIS database administration for system assets, among other duties. Engineering is composed of seven sections: Survey, Programs and Projects, Construction Management, Distribution and Property Management, Asset Recording, Administration, and Technical Support Services.



Finance

- Accounting
- Financial Planning and Performance
- Rates
- Treasury

Customer Relations

- Contact Center
- Tap Sales
- Plan Review
- Quality Assurance and Reporting

Operations
Budget:
\$13.9M

FTE – 103.3
LTE – 0.0

Finance manages financial resources and acts as the disbursing authority for the CEO/Manager. The division is responsible for creating long-range financial plans, controlling and disbursing funds, and for planning, developing and administering water rates, among other duties.

Finance functions include Accounting, Financial Planning and Performance, Rate Administration, Treasury Operations, Customer Care, and Enterprise Project Management.



Water Resource Strategy

Water Resource Strategy

- Demand Planning and Efficiency
- Environmental Planning
- Raw Water Supply
- Water Rights
- Water Resource Analysis
- Water Resource Planning

Operations
Budget:
\$10.2M

FTE – 42.0
LTE – 0.0

Water Resource Strategy is responsible to ensure a secure water future for the people we serve now and in the future. It does long-range water supply planning, plans for climate change, protects watershed health, undertakes environmental permitting, forecasts for demand planning, examines water efficiency and recycling, supports our water rights, undertakes water hydrology modeling, and directs the collection and management of water in our source of supply system.

The team also is critical in building partnerships with other Front Range utilities, the West Slope, and state and federal

agencies. Water Resource Strategy is composed of six sections: Demand Planning and Efficiency, Environmental Planning, Raw Water Supply, Water Rights, Water Resource Analysis, and Water Resource Planning.



Operations & Maintenance

Source of Supply

- South Boulder
- Winter Park
- Metro
- South Platte
- West Slope

Support Services

- Fleet
- Trades
- Warehouse
- Westside Campus Facilities

Water Distribution

- Construction and Maintenance
- Field Services
- Distribution Assets

Water Quality and Treatment

- North System
- South System
- Project Support

Customer Service Field

- Meter Shop
- Meter Reading and Inspections
- Central Dispatch

Operations and Maintenance is responsible for operating and maintaining the physical and natural assets used to deliver water to Denver Water customers. These assets include rivers, canals, reservoirs, dams, tunnels, pipelines, valves, hydropower, tanks, pump stations and treatment plants. Operations and Maintenance establishes and implements criteria for the proper operation of all assets to the satisfaction of outside regulating agencies and Denver Water customers.

It is composed of six sections: Source of Supply, Water Quality and Treatment, Water Distribution, Support Services, Business Operations, and Customer Service Field. Support Services provides fleet services, warehouse and trade shop functions, including mechanical, electrical, plumbing, welding, carpentry and grounds maintenance to Denver Water.

Operational
Budget:
\$102.0M

FTE – 575.0
LTE – 15.0



STRATEGY AND PROCESS

 DENVER WATER

Strategic Plan

Updated 2022





VISION AND MISSION

Our Vision: To sustain vibrant communities that value water for future generations.

Denver Water is the nation’s premier water resource manager. Through our service, we enrich the lives of the people in the diverse communities of the Denver metropolitan area and surrounding mountains. The water we provide is a priceless resource. Everything we do – serving and engaging our customers, planning, developing and operating our system, interacting with our neighbors and the environment – fosters the value of water for future generations.

Our customers are our top priority. They rely on us to deliver a clean, reliable water supply every day, without fail. In turn, we depend on our customers to use our precious supply with the utmost efficiency. This partnership requires that we continually earn our customers’ trust by listening to them and acting in their best interest. We exist to serve them.

Our vast and complex system includes the watersheds, rivers and streams that sustain our water supply. As a result, we develop and operate our system, facilities and properties to sustain a healthy environment and produce clean energy.

We face challenges – known and unknown – such as a warming climate, pandemics, population growth, periodic drought, competition for water resources, security threats, and changing regulatory and political environments. We are prepared for any possible event. To meet these challenges, we build the trust and support of local, regional and national interests by engaging and doing the right thing. In an ever-changing world, we continuously improve, we step up, and we lead.

Financial strength is a cornerstone to our success. We employ accountable governance and control mechanisms to maintain a financial

plan that supports long-term capital investments and ensures effective and efficient operations. We prudently manage rates and ensure they are equitable across customer classes. We are fiscally responsible; we will not sacrifice long-term interests for short-term expediency.

Our people, our families and our friends live in and are part of the diverse cultures and neighborhoods throughout our water system. This sense of community, family and friendship drives our passion for service. We care about each other and the community we serve. We collaborate, we engage, and we partner.

Our Mission
To serve our customers by being a national leader in delivering clean water, operating and maintaining a reliable and resilient system, and protecting the water resources of the West.



GUIDING PRINCIPLES

We use the following guiding principles to evaluate all of our decisions and purposefully move us toward our vision to sustain vibrant communities that value water as a legacy for future generations.

We are customer-centric.

We strive to earn the support and trust of our customers – everyone who pays for our service or uses our water. They are our top priority, and we are motivated to serve them.

We are industry leaders.

We understand, help develop, implement and share best industry practices. We are forward-thinking – we anticipate future trends and look for and responsibly implement progressive solutions. We are adaptable, resilient and experts in our work.

We take the long-term view.

We weigh the consequences of our decisions and actions against multiple scenarios to preserve future options and the sustainability of our community and the environment. We provide the best possible outcome for our customers and future generations.

We are inclusive.

We embrace and promote an inclusive and diverse culture where all employees play a role in speaking openly, listening to understand and suspending judgement. Because we are better together through our unique backgrounds and perspectives, we intentionally seek multiple points of view to ensure the best possible outcomes.



EXCELLENT OPERATIONS

Advance resilient infrastructure and efficient processes to deliver clean water, reliably.

Goal	Objectives
<p>Plan, build, operate and sustain our infrastructure to meet customers' current and long-term water needs, given a warming climate and uncertain future.</p>	<p>Apply scalability to capital and long-range planning to preserve options and maintain flexibility under multiple future scenarios.</p> <hr/> <p>Anticipate and proactively address infrastructure needs to ensure safety, reliability and resiliency.</p>
<p>Apply new insight and best business practices to drive customer value and continuous improvement in our day-to-day operations.</p>	<p>Use and evolve standard work plans, asset and risk management practices, metrics and operational reporting to drive efficiency.</p> <hr/> <p>Listen to and incorporate insight from customers, employees and peers to anticipate future needs and drive continuous improvement.</p> <hr/> <p>Invite new ideas and appropriate technologies for adapting to changing business needs.</p>
<p>Plan and operate our system and facilities to strengthen our resiliency.</p>	<p>Advance environmental stewardship within system operations and capital and long-range planning.</p> <hr/> <p>Optimize operating efficiency and increase sustainability of all new and existing facilities.</p> <hr/> <p>Expand our clean energy and green infrastructure portfolio.</p>



Foster a passionate and purpose-driven culture rooted in inclusion, adaptation and excellence.

Goal

Objectives

Encourage all staff to pursue meaningful opportunities to deliver on our mission.

Foster a people-first, safety-always environment, where employees discuss hazards and concerns with candor and make sound, risk-based decisions to accomplish work safely.

Ensure a comprehensive approach to training and skill development that enables employee growth.

Build employee leadership competencies at all levels to drive a culture of servant leadership in both spirit and execution.

Model inclusion and willingness to try new approaches in our pursuit of excellence.

Develop and grow practices that value and draw strength from the diversity of our people.

Promote diversity in leadership by addressing systemic, cultural and organizational barriers to hiring and career advancement at all levels of the organization.

Facilitate a culture of continuous improvement with an emphasis on creating efficiencies, removing barriers and taking calculated risks.



STRONG FINANCIALS

Balance near-term investment with sound long-range planning to ensure good value for our customers.

Goal	Objectives
<p>Manage our financial plan in a manner that supports our strategic objectives.</p>	<p>Manage debt and cash reserves to ensure successful execution of our long-range plans, meet short-term needs and prepare us for an uncertain future.</p> <hr/> <p>Proactively manage rates and fees to optimize revenue stability from year to year, ensure good value, equity and affordability across customer classes, and promote water-use efficiency.</p>
<p>Make financial decisions keeping in mind the best long-term interests of our customers.</p>	<p>Maintain a strong control environment by effectively tracking, managing and transparently reporting our financial resources, transactions and performance.</p> <hr/> <p>Develop and execute our budget to ensure alignment with our strategic priorities.</p>



TRUSTED LEADER

Lead the water industry in serving our communities and protecting the water resources of the West.

Goal	Objectives
Advance local, statewide and Western region efforts to protect Colorado's water.	<p>Align and activate key government, business, nonprofit and academic influencers to advance our strategic positions.</p> <hr/> <p>Leverage our successes and influence as a force for change toward a sustainable future.</p>
Collaborate and partner to sustain vibrant, healthy and water-smart communities.	<p>Develop and share best practices across the water industry and in the communities we serve.</p> <hr/> <p>Partner with customers and community leaders to advance public health and water conservation.</p> <hr/> <p>Build strategic partnerships to inform and influence water-smart growth.</p>
Build trust within our communities by engaging customers and doing the right thing.	<p>Act with integrity, transparency and accountability, always.</p> <hr/> <p>Build and nurture relationships with the diverse communities we serve.</p> <hr/> <p>Engage our customers, employees and partners in sharing our stories.</p>

ANNUAL PROCESS

Each year, Denver Water undergoes a detailed process to develop the annual business plan and corresponding annual budget — including the ongoing governance cycle.

The Business Plan's foundation is Denver Water's Strategic Plan, which is evaluated and refreshed every three to five years, with the most recent refresh occurring in 2022. The Strategic Plan is the overarching document that defines the vision, perspectives, goals and objectives of the organization. All of Denver Water's work is connected back to this plan to ensure we are taking meaningful steps toward our aspiration to be the best water utility in the nation.

To help identify progress, the Executive Team developed the Organizational Dashboard, which contains metrics that correlate to each objective in the Strategic Plan. The Executive Team reviews these metrics during the monthly organizational performance review and discusses opportunities and implements countermeasures. The dashboard is reviewed with the Board quarterly to share successes and discuss opportunities and the countermeasures that we are taking to improve.

The Annual Business Plan is a high-level summary of the work the organization has committed to accomplish in the upcoming year. It describes the connection of each activity to a Strategic Plan perspective, goal and objective, the organizational metric the activity is intended to move, and the corresponding annual budget amount and estimated total cost. The Annual Business Plan is composed of organizational priorities, organizational programs, and continuous improvement activities (elements are described below). The plan is developed in conjunction with a review of key organizational risks and potential risk-mitigation strategies which are tracked in the organization's risk matrix. Progress toward plan implementation is reviewed with the Board quarterly. The plan is developed annually by the end of the second quarter. A draft of the plan is shared with the Board in July and forms the basis for the annual budget that is presented to the Board at the budget workshop in November.

- **Organizational Priorities:** During April, within each division, the Executive Team sources strategic ideas and builds business cases for organizational priorities for the upcoming year. Team members share these ideas during a series of meetings in May to vet the business cases and prioritize highly strategic goals that will move us closer to our vision. The organizational priorities are finalized by the end of May.
- **Divisional Programs and Continuous Improvement:** In June, divisions develop strategies, continuous improvement activities and corresponding budgets around ongoing programs for budget consideration.

- **Capital and Operating Projects:** Projects are selected annually based on Denver Water’s Strategic Plan, Integrated Resource Plan, long-term capital plan, capital budgeting philosophy, and a business-driven process directed by the Enterprise Project Management Office (EPMO). The long-term project plan is updated quarterly. Potential projects are requested using a business case form, which includes details about the evaluation process for a business need or problem, comparison of alternative solutions, risk and asset management data, and strategic alignment. Projects are categorized and prioritized by the end of August.

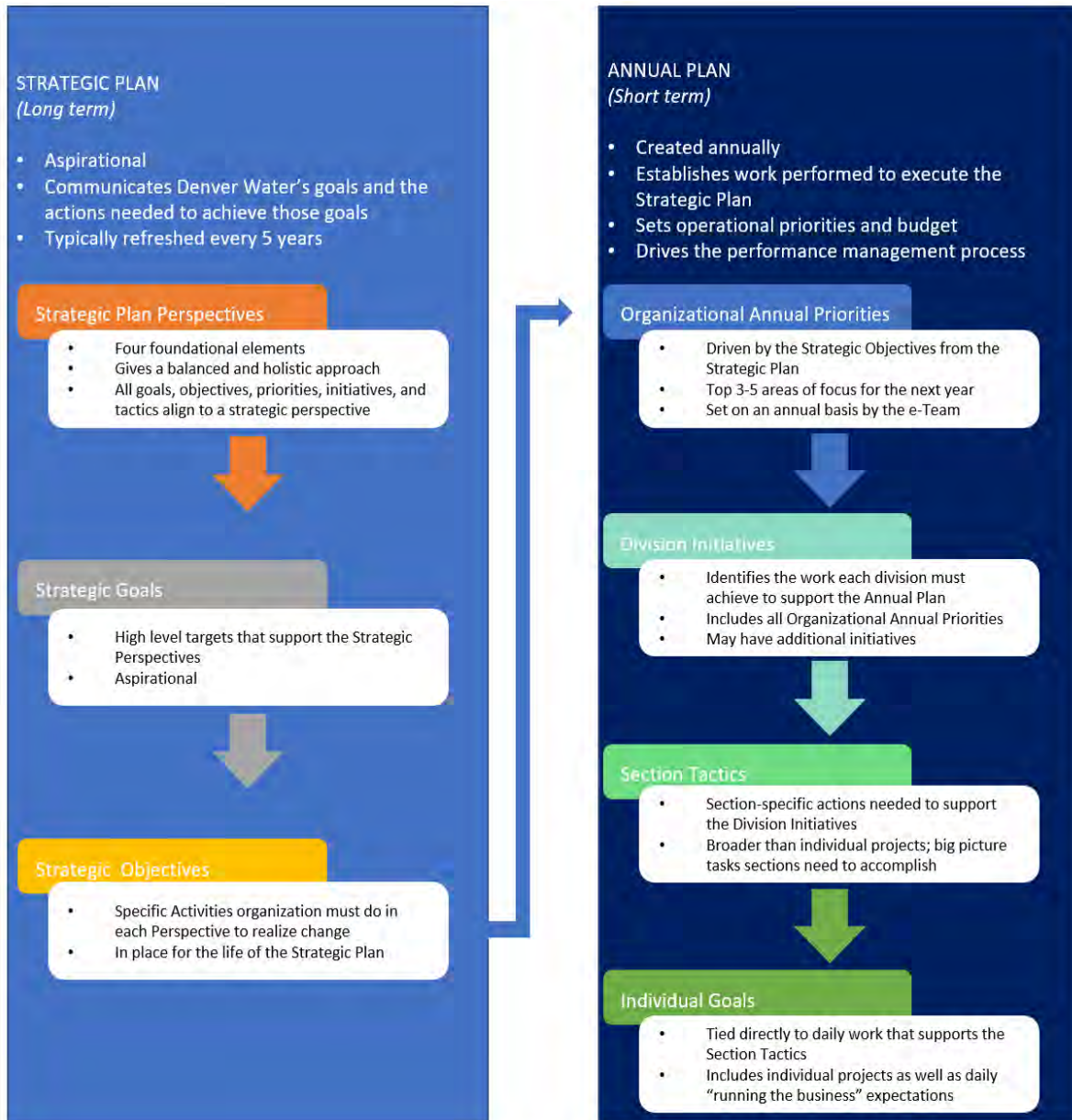
After the Annual Business Plan is developed, the organization begins the Annual Budget Development process. This process is the formal method through which Denver Water ensures alignment between fiscal resources and organizational priorities for the upcoming year. It results in an Approved Budget, which is the defined plan of revenue and expense activities for the upcoming year. Updates to the multi-year financial plan determine the level of revenue adjustments needed to meet annual revenue requirements and financial performance measures. From this, operating and capital budget targets are developed. Based on the Annual Business Plan, the organization uses these targets to plan the budget for the upcoming year. The budget is presented to the Board in November at the Annual Budget Workshop; approval by the Board occurs in December.

The Approved Budget is the main internal control document used to monitor and manage revenues and expenditures for Denver Water. The organization takes an active role in regular management of the budget to ensure proper fiscal governance and controls. This is done through the Monthly Budget Management process, Comprehensive Quarterly Performance Reviews, and the Annual Comprehensive Financial Report, described below.

- **Monthly Budget Management:** Each division reviews its budget for accuracy and potential variances, and forecasts future expenditures every month. The Financial Planning and Performance section works with the divisions to review forecasts, identify exceptions to the forecast, and provide reporting on the forecast. Once this review is complete, the forecast is reviewed with the Executive Team. Variances are discussed and addressed in the context of the organizational strategy. After Executive Team review, a monthly reporting package is provided to the Board.
- **Comprehensive Quarterly Performance Reviews:** The Financial Planning and Performance section, with assistance from the Executive Team, creates a comprehensive report of the organization’s performance every quarter. The report includes a detailed review of our financial performance, as well as a detailed review of our organizational dashboard and progress towards our annual business plan. The report also includes information on procurement and contracting, including performance toward supplier diversity goals and targets. The Quarterly Performance Report is the primary document used to communicate progress toward our metrics (both financial and organizational) to the Board.
- **Annual Comprehensive Financial Report:** The accounting section, with assistance from various areas of the business, compiles the Annual Comprehensive Financial Report. The report is a set of government financial statements that complies with accounting requirements of the Governmental Accounting Standards Board (GASB). External auditors audit the financial

information and review supporting data in March through April. Management reviews the annual financial report and management letter from the external auditors in April through May. The external auditor presents the report to the Board at the second Board meeting in May, for acceptance.

Workflow for Strategic Plan and Annual Plan



Organizational Business Plan

DENVER WATER 2022 BUSINESS PLAN							
TYPE	STRATEGIC PERSPECTIVE	DURATION	ANNUAL PRIORITY	CONTINUOUS IMPROVEMENT	ORGANIZATIONAL METRIC	TOTAL BUDGET	EST. TOTAL COST
TOP PRIORITY	Trusted Reputation	1918 – Present	Providing High-Quality Water and Outstanding Service to Our Customers	<ul style="list-style-type: none"> Safety Value Streams Customer Experience Value Streams Procurement & Contracting Value Streams Business Acumen Workshops 	Balanced Scorecard Performance	\$213.6M (2022)	
ORGANIZATIONAL PRIORITIES	Trusted Reputation	2017-2034	Lead Reduction Program		Lead Program Performance	\$680.8M	\$676.7M
	Excellent Operations	2017-2026	North System Renewal <ul style="list-style-type: none"> Gross Reservoir Expansion Northwater Treatment Plant Conduit 16 		Operating Cost per Account	\$1.1B (prelim.)	\$1.1B
	Excellent Operations	2017-2022	Water Resources Center <ul style="list-style-type: none"> Water Quality Lab Four Pillars 		Operating Cost per Account, Water Quality Index	\$27.5M	\$27.1M
	Excellent Operations	2020-2022	Enterprise Project Management Office	<ul style="list-style-type: none"> Enterprise Project Management Office Value Stream 	Operating Cost per Account	\$1.4M (original) \$1.1M (revised)	\$0.9M
	Excellent Operations	2022-2025	One Water Strategy	<ul style="list-style-type: none"> One Water Value Stream 	Operating Cost per Account, Water Quality Index	TBD after planning activities	TBD after planning activities
	Excellent Operations	2021-2022	South System Planning		Operating Cost per Account, Water Quality Index	\$0.7M	\$0.7M

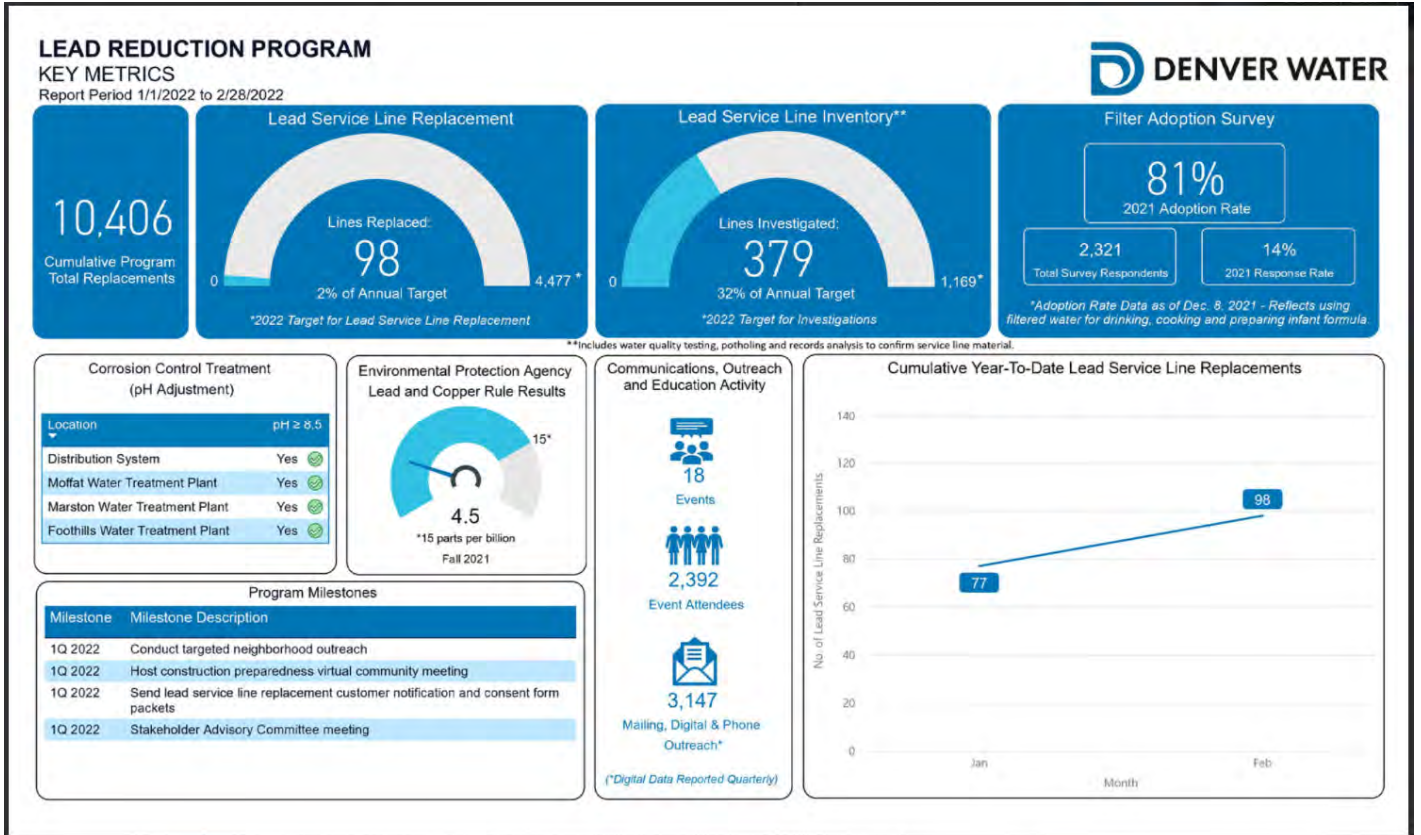
Organizational Performance Measures

Denver Water Balanced Scorecard — 2022		MEASUREMENT
	EXCELLENT OPERATIONS An organization that is effective, efficient and strategically driven	Customer Outage Hours Operating Costs per Account in Dollars (does not include operating projects)
		STRONG FINANCIALS An organization that is financially strong and stable
		INSPIRED PEOPLE An organization that is passionate about our customers and our community
		TRUSTED REPUTATION An organization with satisfied and supportive customers and strategically effective relationships

Denver Water measures performance at an organizational level; individual divisional performance measures are not utilized. The organizational dashboard is used to assess performance against our Strategic Plan. This dashboard employs metrics that align to each objective, goal and perspective under the plan. The Executive Team reviews this dashboard monthly to find opportunities for improvement and to take corrective action.

The team also has chosen two metrics under each Strategic Plan perspective that best represent achievement toward the perspective’s goals. These metrics make up the balanced scorecard and represent Denver Water’s performance at the highest level. It is important to note that although the organizational dashboard is intended to remain static over the life of the Strategic Plan, at times the metrics are adjusted to reflect a better measurement or assessment.

Additionally, Denver Water tracks our Lead Reduction Program’s key metrics. As the Lead Reduction Program moves forward, the dashboard will be used to provide customers with updates on program progress and milestones. Updated dashboards are posted monthly on the Denver Water website.



The dashboard provides updates on the five main components of the Lead Reduction Program:

pH adjustment: Increase the pH level of the water to reduce the risk of lead and other metals getting into drinking water from lead service lines or household plumbing.

Inventory: Develop and maintain a publicly accessible inventory of all customer-owned lead service lines in Denver Water’s service area. The service line is the pipe that brings water into the home from the main in the street.

Lead Service Line Replacement: Replace all lead service lines with copper lines at no direct charge to the customer.

Filter Program: Provide a free water pitcher, filter and replacement filters, certified to remove lead, to all customers suspected of having lead services lines until six months after their line is replaced.

Ongoing: Administer communication, outreach and education programs.



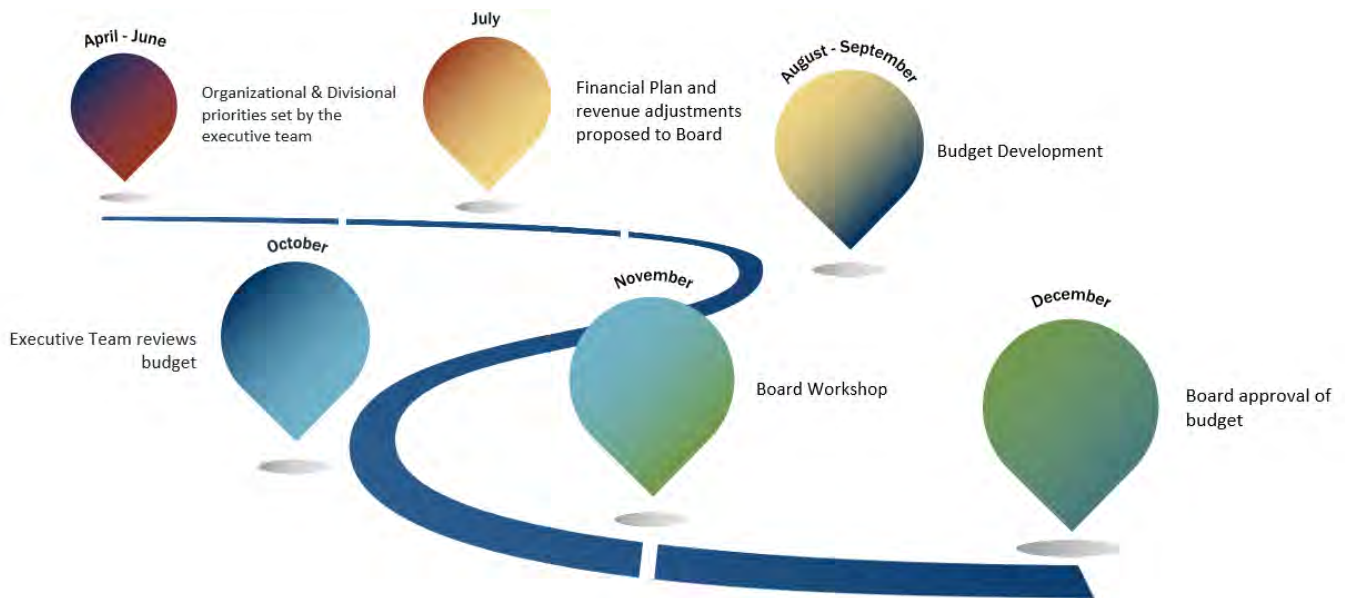
FINANCIAL

BUDGET SUMMARY

Budget Development

The budget development process is the formal method through which Denver Water ensures alignment between fiscal resources and organizational priorities for the upcoming year. It results in an Approved Budget, which is the defined plan of revenue and expense activities for the year. It is not legally required for Denver Water to formally adopt a budget; therefore, the Approved Budget serves as the final budgetary document for the organization.

The general timeline for budget development is as follows:



When the division and project budgets are completed, the Financial Planning and Performance Team compiles the budgets into a draft and analyzes all revenue and expenditure projections to ensure that they meet organizational goals and objectives, adhere to budget guidelines, and that no expense category is overlooked. The Financial Planning and Performance Team then presents the completed draft budget, called the Proposed Budget, to the Executive Team, along with a list of new projects, programs and/or expenditures. If there are any items removed from the budget, this information is also provided to the Executive Team. During the Executive Team’s review, each division is given the opportunity to discuss its proposed budget and provide justifications for new expenditures. The Executive Team review is used to ensure that the Proposed Budget aligns with the organizational strategies and priorities for the next year. After the Proposed Budget is approved by the Executive Team, any adjustments or changes are shared with the division leaders and the budget coordinators for their information and acknowledgement.

Each November, the Financial Planning and Performance Team, along with the Executive Team, present the Proposed Budget to the Board in the annual Budget Workshop. The workshop is used to gather feedback and input from the Board on the Proposed Budget. Based on the Board's comments, the Financial Planning and Performance Team may subsequently revise the Proposed Budget. The final version of the Proposed Budget is formally presented to the Board in December. At this Board meeting, the Board formally approves the budget. After it is approved, the budget becomes the official plan for the next fiscal year.

Multi-year Financial Plan

Denver Water utilizes a multiyear financial plan to determine the level of revenue adjustments needed to meet annual revenue requirements for each year of the plan.

Operating expense budgets capture the day-to-day, ongoing expenses incurred to run the business. Budget targets for operating expenses are developed annually by reviewing prior year expenditures, determining which expenditures are no longer needed and adding new expenditures for the upcoming year. For this review, expenditures are classified into expense categories and are evaluated to ensure alignment with the organizational goals.

Project budgets, which are generally capital expenditures but can also include operating costs, are funded by debt, system development charges or reserves. They are incurred with the intent of improving future operations. Budget targets for capital projects are based on the prioritized list of projects found within the long-term capital forecast.

Approach to 2022 Budget Development

Each year, before annual budget development, the operating and capital costs are updated in the long-range financial plan. Multiple financing scenarios are run to determine how to fund the plan with a combination of revenues, debt and cash. Three financial planning scenarios were presented to the Board in fall 2021 to show the impacts of annual revenue increases on the financial targets over the long-range plan.

The need for revenue increases in the long-range plan is currently driven by the largest capital plan in Denver Water history. The Annual Business Plan that was approved by the Board in July 2021 for the 2022 budget year includes large strategic projects: Gross Reservoir Expansion, Northwater Treatment Plant and the Lead Replacement Program. In addition to these strategic projects, the project plan includes planned maintenance projects such as treatment plant improvements at Marston and Foothills and ongoing programs, such as main replacements, conduit improvements and vault improvements.

More than 80% of the projects included in the 2022 budget are approved and underway. Although this provides some certainty regarding the timing of funding needs in the long-range plan, there are significant risks and unknowns. In addition to the ongoing uncertainty of the COVID-19 pandemic on current and projected costs, such as supply-chain disruptions and inflation on labor, materials and supplies, wildfires and drought may also strain resources. As a result, Denver Water recommended a 4% revenue increase in 2022 to avoid deferring maintenance, to undertake important resiliency projects and ultimately maintain a safe and reliable water supply for our customers.

Organizational Priorities

Below are Denver Water’s organization-wide priorities for 2022. Priority dashboards track each priority’s performance (milestones and financials) and are updated and provided to the Board quarterly for oversight.

Lead Reduction Program

Denver Water is entering the third year of the massive Lead Reduction Program in 2022, with a goal of replacing 4,477 lead service lines at a lower price than in previous years. Contractors are getting comfortable with the work and are becoming more efficient each year. Using data gathered from the filter adoption survey, we will continue to improve filter adoption and usage through multiple community outreach, communications and engagement efforts.

A big part of 2022 will be developing and executing our request to the Environmental Protection Agency and the Colorado Department of Public Health and Environment to extend the Lead Reduction Program variance for the full 15 years. This will include identifying topics in the variance order and the Lead Reduction Program Plan that should be modified to reduce administrative burden and enhance public health protection, as well as engaging third parties to provide input to appropriate parties on the variance renewal. We will work with new and returning community partners for localized community outreach and engagement to ensure we are reaching harder-to-reach Denver Water users enrolled in the program. We also will continue our broad and targeted communications strategies, government outreach and the successful virtual community meetings to foster ongoing awareness of the program, filter use and construction.



Denver Water’s Lead Reduction Program will replace between 64,000 and 84,000 lead service lines from our water systems.

North System Renewal

Gross Reservoir Expansion

In 2022, Denver Water will start construction of the Gross Reservoir Expansion Project. The contractor will begin mobilizing staff, planning and completing pre-work submittals in the first quarter, followed by mobilizing the worksite in the second quarter. By the end of 2022, the staging areas, roadways and office complexes will be complete, the dam surface roughened, and half of the dam foundation will be excavated and treated. Once complete, the Gross Reservoir Expansion Project will raise the dam by 131 feet to create 77,000 acre-feet of new storage volume, of which 5,000 acre-feet is dedicated as an environmental pool to enhance flows in South Boulder Creek. The project not only provides an additional 18,000 acre-feet of water per year to the North Collection System, but also signifies a new collaborative approach to water resource management between Denver Water and stakeholders throughout Colorado.

Northwater Treatment Plant

In 2022, construction will continue for the Northwater Treatment Plant. Our goal is to complete the project with zero safety incidents while making socially and environmentally responsible decisions that enhance best practices moving forward on Denver Water's large capital plan. Project goals also include delivering the project on schedule and under budget. Fifteen major structures are under construction; walls and roofs are complete, and work is beginning on interior finishes and equipment installation. Crews are installing pipe, two clearwells have been built, and construction continues at the existing Moffat Treatment Plant.

CSU Colorado Water Center (Water Resource Center)

Denver Water's current water quality lab is reaching the end of its useful life. Because of that, we are building a new water quality lab in partnership with Colorado State University at the National Western Center. The project will capitalize on opportunities to create a unique research, innovation, education and policy center focused on water, agriculture and energy issues. Priority for 2022 will be to support construction of the building within the scope, schedule and budget, and to move lab equipment and staff to the new building while maintaining water quality operations.



Hydro building at CSU Spur campus at National Western Center will house new state-of-the-art water quality lab.

With construction completed in 2022, programming in the areas of research, education, innovation and policy will begin to take shape on campus. In 2022, CSU will hire its first policy program executive director and will launch the program by the end of the year.

Enterprise Project Management Office (EPMO)

The Enterprise Project Management Office will continue implementing standard project management framework, reporting, and metrics across the organization in 2022. The team will perform an EPMO Value Stream refresh in January, and a Rapid Improvement Event focused on enterprise capacity planning will be conducted in February. The Enterprise Reporting Tool project, which will provide standardized reporting and metrics to monitor progress and performance of projects, is scheduled to be complete in the second quarter of 2022. In the second half of the year, the team will begin working on the value verification process, organizational training and analysis around project performance.

Throughout 2022, the EPMO will continue to partner with Continuous Improvement, Learning and Organizational Development, and the divisional PMOs (Engineering, IT, Water Resource Strategy) to ensure a successful implementation using the organizational change management strategy developed in 2021.

One Water Strategy

Water Resource Strategy is planning a One Water value stream assessment for 2022. The goal is to define and prioritize One Water activities for Denver Water and the role it will have with other metro-area water agencies. Land use planning, urban water quality and landscapes are a few of the focus points for the work. Customer needs are constantly evolving in the face of climate change, growth and development patterns. Denver Water's ability to meet these needs and continue to provide a safe, adequate and reliable supply will be driven by multiple factors. A One Water strategy will incorporate the entire urban water cycle and recognize the effect that land use policies have on water use. A truly sustainable water future must include ecosystem integrity, efficient water use, economic viability, justice and equity, multilevel management, mitigation, and adaptability.



South System Planning

The South System Planning Program, which began in 2021, is a collaborative effort between Water Resource Strategy, Engineering, and Operations and Maintenance to identify projects and triggers to ensure raw water storage, treatment and distribution system in the southern end of our system are prepared for future conditions. This includes evaluating the optimal way to use Denver Water's supplies in Bear Creek and Chatfield Reservoir, which, at times, have been underused because of water quality issues. The program will develop a 20-year capital plan for treatment plants and conveyance systems to address degrading water quality and increased need to use these water supplies.

Divisional Priorities

Denver Water is the nation’s premier, forward-thinking water resource manager. Each year, we lead the way in putting customers first, delivering high-quality water and planning for an uncertain future, and 2022 will be no different.

As part of our annual business plan, we assess our Strategic Plan to refine organizational priorities, programs and divisional initiatives. Below, each division within Denver Water summarizes its contributions to the Strategic Plan in 2022, moving us another year closer to being the best water utility in the nation.

Administrative Services

Administrative Services will begin several important divisional initiatives in 2022. Working with Operations and Maintenance, we will create a facility management plan for the operations complex, striving for better service levels while allowing Denver Water maintenance teams to focus on water-moving infrastructure. We will refresh our supplier diversity program with strategic input from the Board. The sustainability team will continue to identify specific actions Denver Water can take to reach net-zero carbon emissions, focusing on improving energy efficiency, adjusting operations, advancing renewable energy at each site, and working with fleet services to replace gas-powered vehicles with electric.



Operations Complex and Three Stones Building – October 2020

Work on several Information Technology programs will continue in 2022. IT is refining its technology strategy, identifying the next major system upgrade, as well as other possibilities for migrating to cloud-based solutions. IT also will continue to support the Enterprise Project Management Office (EPMO) by contributing to the ongoing value stream, and we are on schedule to deploy new project reporting tools. We also made significant improvements to project delivery metrics in 2021, a focus that will continue in 2022. The newly implemented EPMO processes have led to more accurate business cases, better capacity planning and improved project estimates.

Additionally, IT will implement an annual review of each vendor’s enterprise software package that Denver Water uses. This process will evaluate how well the products are meeting Denver Water’s needs, and it will issue resolution response times, cost, staff support requirements, and user reaccreditation. Finally, we will develop a business plan to govern information, including processes and systems to better manage, use, and protect Denver Water information throughout its lifecycle, particularly electronic information and data.

Safety will continue to roll out and promote the I AM Safety philosophy launched in 2021. The program’s goal is to educate and empower employees to make safe and smart decisions while working. We will work with field staff to address job-specific concerns, which involves enhanced job hazard analyses, additional

training, and occupational safety and health risk assessments. We also will continue work with the safety value stream.

Procurement will continue work in the procurement and contracting value stream by streamlining and communicating appropriate methods to obtain goods and services, as well as creating effective contractual agreements. This value stream focuses on Denver Water employees, balancing simplicity of purchasing goods and services with internal controls, risk mitigation and the best value to Denver Water. This effort will include updated procurement policies and procedures, including a centralized resource page with easy-to-use guides.

Engineering

Engineering will continue to focus on delivering Denver Water’s largest capital plan in history, a \$1.7 billion, five-year effort to secure our water storage, delivery and treatment system. Design and construction of the Northwater Treatment Plant and Gross Reservoir Expansion Project will continue. At Northwater, crews will install water treatment equipment and continue building related infrastructure. At Gross Reservoir, construction will begin in April 2022, with initial work focused on site preparation and road improvements. Ongoing maintenance programs include upgrades to corrosion control systems, rehabilitation of distribution system vaults, and modifications to existing pipelines, in addition to projects at both Roberts and Moffat tunnels.



Denver Water’s new, state-of-the-art Northwater Treatment Plant being built between Ralston Reservoir and Highway 93 (seen on the right).

Of note, two major projects will be completed in 2022. Replacement of Conduit No. 16, which began in 2012, involved 8.5 miles of 84-inch and 66-inch pipelines to transport potable water from the new Northwater Treatment Plant to the distribution system in Lakewood. Conduit No. 16 was completed in four separate contracts, including three pipeline contracts and a tunnels contract. The Hillcrest project, which began in 2015, replaced potable water storage and a pump station with 45 million gallons of storage and a new pump station to serve a major portion of Denver Water’s distribution system.

In addition to capital plan delivery, we will work on important business drivers in 2022, including numerous continuous improvement efforts, with timely updates to the Capital Projects Procedures Manual that details standard work for cradle-to-grave capital project delivery. The updated Capital Project Construction Standards will be implemented on 2022 capital projects, and the updated Infrastructure Master Plan will drive which capital projects get completed in the next 10 years. We will continue to work with the EP MO to develop standard reporting tools related to project delivery.

Finance

Finance is leading two organization-level priorities in 2022: The Enterprise Project Management Office, which will develop a project management framework across the organization and deliver a model for enterprise project prioritization, and the customer experience value stream, which will use our comprehensive biennial customer survey to improve customer satisfaction, using continuous improvement. The contact center will implement a new call center service platform that will support customer communication with voice calls, email, web chat and text. When implemented, the contact center, business support team, dispatch and water sales will use the same system with better reporting and insight to customer contacts.



Jennifer Aryan has been a contact center rep since 2020. The Contact Center helps customer ranging from bill inquiries to water quality concerns.

Finance will continue to support the organization with tracking and reporting on large strategic projects. We have additional flexibility built into the 2022 financing plan to cover unexpected changes in capital spending through a combination of issuing additional debt, using our line of credit, and drawing down cash reserves. We will add an expanded financial plan workshop in the fall to look at financing options for the longer term.

Divisional initiatives we're working on, in alignment with the Strategic Plan, include closing federal funding compliance gaps, researching alternative sources of revenue, and assessing rate structure effectiveness.

Office of People and Strategy

The Office of People and Strategy will focus on strengthening Denver Water's relationship with employees and the community through partnerships with Human Resources, Learning and Organizational Development, Continuous Improvement and Public Affairs. The work of these four teams spans across our organization and our community. Bringing them together in the Office of People and Strategy helps us plan and create systems and processes to help Denver Water achieve its business strategy.



Denver Water's Strategic Plan will be five years old in 2022, and we will lead the effort to update the plan. We will work with the Board and key leaders of the organization to create a plan that identifies Denver Water's strengths, challenges, opportunities and goals. We plan to update Denver Water's vision statement, mission, goals and objectives, as well as identify metrics to guide our progress.

Leadership development will continue to remain a focus for building organizational strength and resilience. We will continue to host the H2O Leadership Academy, which is designed to build highly

competent, empowered leaders who embody Denver Water’s values and are deeply committed to achieving our vision.

For leaders who are new to Denver Water or newly promoted to managerial positions, a supervisory onboarding program will ensure they receive the support they need to excel as leaders. The program incorporates a formal training course, coaching sessions, peer support, and on-the-job learning experiences that link to Denver Water’s values and leadership competencies.



Veronica Hernandez, talent senior specialist, and her Denver Water co-workers provide resume writing workshops, mock interviews, networking opportunities, and other support services with various community groups, particularly those serving minority and at-risk populations.

The quarterly Leadership Connection program will continue to provide an opportunity for Denver Water leaders from diverse areas of the organization to discuss ways to strengthen the leadership culture and share best practices. We’ll focus on one of those leadership competencies — performance management — by redesigning the annual performance review system. The new system, combined with organization-wide performance management training, will help ensure equity and provide a systematic way to recognize and reward employees for their accomplishments.

We will continue our work in Diversity, Equity and Inclusion by including guiding principles in the update of Denver Water’s Strategic Plan. This effort will ensure that DE&I is not a stand-alone objective but is embedded throughout the plan to drive deep cultural change. We will continue creating individual and systemic awareness of bias through education, and we’ll work to identify and mitigate systemic bias through evaluation of our processes, systems and structure.

Another focus is to ensure candidate pools and our employee population represent the diversity of our community by developing relations with diverse communities (schools, professional networks, associations and others) and assessing our recruitment policies and processes for potential bias. We will remove barriers and promote diversity, equity and inclusion at Denver Water. In addition, we will expand our internship program and create partnerships to introduce a formal apprenticeship program for high school students.

The Continuous Improvement team will continue to support Safety, Procurement, Customer Care and One Water by finding operational efficiencies, creating a safer workplace and providing more value to Denver Water’s customers.

Public Affairs will continue leading the communications, outreach and education efforts for nearly all organizational priorities, including the Lead Reduction Program, Gross Reservoir Expansion Project, Northwater Treatment Plant, as well as all other construction work, pipe replacement and emergency breaks. We also will lead a comprehensive stakeholder engagement strategy and support the

communications strategy for other divisional initiatives, including providing tools and skills for cascading organizational messages from leadership to deeper into the organization, and promoting diversity, equity and inclusion. We will expand and refine our strategies to communicate with distributors and raw water and contract water providers. We will conduct an attitude, awareness and usage study of our customers to inform Denver Water’s Strategic Plan and our integrated communications and marketing approach for the next three years. We will continue our proactive content-first strategy, leading with our own stories about Denver Water projects, issues and initiatives, using our news site, TAP. Those stories are then shared through traditional and social media channels, email marketing, direct mail and more. These topics focus on stories about climate change, drought and wildfires; our commitment to sustainability and resiliency; fiscal responsibility and proactive investment in our water system; conservation and efficiency and much more.

Office of General Counsel

The Office of General Counsel will support our top organizational priority of providing high-quality water and outstanding service to our customers by continuing to help lead the procurement and contracting value stream — aimed at making these processes more efficient and easier to navigate — as well as our regular work of contracting, real estate, human resources, water resources, regulatory compliance and day-to-day business support. In addition, we will support the Lead Reduction Program in seeking renewal of the EPA variance and by advising on compliance, financing, contracting and other strategic issues.

Operations & Maintenance

Source of Supply staff will continue to improve the asset management program for our collection assets. This includes avoiding reactive and costly repairs by employing preventive maintenance activities. We also plan to increase hydropower run time to produce more renewable energy and reduce power costs.

The Water Quality and Treatment team will move from the Marston facility to our Quivas property and the Hydro building at CSU Spur campus at the National Western Center in 2022. This will require a great deal of planning and adapting to ensure sampling and testing operations continue uninterrupted. We also will continue to develop efficiencies through better coordination among the four treatment plants. Plans for commissioning and startup of the Northwater Treatment Plant will continue, along with training for new operations staff.



Marston Treatment Plant is one of three drinking water treatment plants that serve 1.5 million people in the Denver-metro area. The plant can treat up to 250 million gallons per day.

Water Distribution will continue its goal of replacing 1% of pipe each year, improving the reliability of Denver Water’s distribution system. The customer service field group recently moved to this section to

help coordinate efforts and focus on the customer. Additionally, leadership will focus on identifying opportunities to improve customer service and efficiency.

Support services will continue to help the organization with asset management, trades, fleet and warehouse. The trades group will focus on improving the way we manage facilities, particularly administrative functioning facilities such as the 35-acre operations complex. These facilities typically have more technology and related maintenance, and employees need different training to maintain these buildings.

Water Resource Strategy

Water Resource Strategy will continue to operate, maintain and develop water resources and options that ensure a sufficient and dependable water supply to meet the needs of our customers.

Water Resource Planning will lead the continuous planning work that was developed under the Integrated Resource Plan 2065. Efforts in 2022 include completing the South System Planning Program, continuing to investigate Aquifer Storage and Recovery, and exploring and pursuing long-term water supply options that are resilient to potential Colorado River curtailment. We will continue to collaborate with the Colorado Water Conservation Board and the Front Range Water Council on Colorado River issues. The climate adaptation team will continue to implement outcomes of the 2020 climate tabletop exercise, which includes developing three new tools to evaluate the impacts of warming on drying watersheds, algal blooms in reservoirs and changes to precipitation. We are also leading an effort to create a statewide airborne snow observatory program. Stakeholders from all major river basins and across all water sectors, including tribes, have engaged in the development processes.

The Water Rights, Supply, and Analysis team is developing a new raw water operations model for the Blue River Collection System to improve runoff forecast accuracy. We are implementing improvements to our long-range planning tool, Platte and Colorado Simulation Model, in anticipation of the next Integrated Resource Plan, and continue to support the implementation of terms of the Colorado River Cooperative Agreement.

Watershed Planning will continue to mitigate catastrophic wildfire risk through the third iteration of the From Forests to Faucets Partnership. In 2022, Denver Water will sign the next five-year memorandum of understanding with U.S. Forest Service, Colorado State Forest Service, National Resource Conservation Service, and Colorado Forest Restoration Institute. In addition, 2022 will kick off implementation of the Strontia Springs Watershed Sediment Management Program, which aims to stabilize or capture sediment upstream of Strontia Springs Reservoir. Expansion of the holistic watershed planning framework to the North System also begins in 2022.



Strontia Spring's semi-annual ERDS flush, a 50-foot-long tunnel that is critical to dam safety.

Environmental Planning will continue permitting and regulatory compliance efforts associated with the Gross Reservoir Expansion Project. That includes stream restoration projects to benefit the river and stream systems through Grand County, as well as collaborative work with the highly successful Learning By Doing initiative in coordination with our partners, including Grand County and other local entities, environmental and recreation groups, water providers and state agencies.

Water Demand and Efficiency has three main areas of work in 2022, beginning with adapting a long-term demand model to prepare expert reports for legal cases regarding water rights. The group also is investigating nonstructural tools, such as emergency demand reduction and peak-shaving programs that may help avoid building additional treatment plant capacity while maintaining reliable service. Secondly, we'll set a direction for One Water work at Denver Water, a strategy that will incorporate the entire urban water cycle and recognize the effect that land use policies have on water use. Finally, we're developing the next Water Efficiency Plan, set to launch in 2023 following recommendations from One Water work.

2022 BUDGET

Financial Plan

With the completion of the Proposed Budget, the financial plan was updated for revenues, spending, and the projected ending cash for 2021. Finance is proposing a 2022 bond issuance of \$120M to help fund large capital projects.

The financial plan revenues assume five-year average consumption, which has proven to be close over the long-term, but will vary depending on the weather each year. This is particularly true as we enter 2022 with concerns about a potential drought. Finance will check in with the Board periodically to review and receive feedback on the financing strategy as we look towards a bond issuance in fall 2022.

Budget Highlights

During 2021, especially in the second half of the year, Denver Water experienced increases to operating costs as well as staffing challenges in high-demand jobs. These impacts are reflected in the 2022 Approved Budget. Purchased Services, Construction and Field Services, and Materials, Supplies and Chemicals are seeing the largest year-over-year increases. Additionally, our strategy in how we hire and staff positions in a competitive hiring market was revised. For example, to increase retention and reduce lost time due to turnover, several positions that were hired as agency temporaries in the past have been converted to FTE in 2022.

Sources of Funds - \$534.1M (decrease of \$175.7M, -24.8% from 2021)

The lower bond issuance planned for 2022 represents much of the decrease from 2021 (-\$230M). The budget also reflects the 4% rate-revenue increase that was approved by the Board. Other notable changes to the revenue budget include an increase of \$13M to the System Development Charge (SDC) budget and

a \$27M increase to Contributions. The budget for regular SDCs increased by \$8M to reflect the continued growth expected along the Front Range in 2022, and \$5M was added for the Arvada raw water SDC (related to Gross Reservoir Expansion). The increase to Contributions is due to additional participation from Arvada for Gross Reservoir Expansion (equal to 16.7% of construction costs).

Operating Expense without projects - \$213.6M (increase of \$17.8M, +9.1% from 2021)

Salaries and Benefits – \$137.6M (increase of \$8.8M, +6.8% from 2021)

Because of the uncertainty of the COVID-19 pandemic, we did not budget for merit increase in 2021, so the 2022 year-over-year budget reflects two years of change. As conditions improved in 2021, the Board approved across-the-board (ATB) pay increases in July 2021. The change in salaries for ATB plus other salary adjustments from 2021 is \$2.2M. The budget also includes \$3.2M for 3.5% merit increases in 2022.

Other notable changes include: an increase to the budgeted vacancy rate to 5%, which is consistent with the 2021 forecast (-\$1.7M), the addition of 22.2 FTE/LTE (\$1.5M), and an increase to the medical claims budget because of expected inflation (\$1.3M).

FTE – 1,147.36 FTE and 24.0 LTE (increase of 22.2 FTE/LTE from 2021)

As in prior years, we performed a thorough review of the number of employees required for each division. As a result of this effort, 11.8 FTE/LTE were removed from the budget. Sixteen positions were converted from agency temporaries and professional services into FTE/LTE because of difficulty in hiring and retaining temporary positions. Although we are adding FTE/LTE for these positions, these are not new resources, and the dollar impact of these conversions is minimal.

Eight LTE were added to support organizational priorities (Gross Reservoir Expansion, Water Resource Center, and cybersecurity/technology projects). And 10 new FTE positions were created to support operational needs. All new FTE/LTE requests had to be approved by either the CEO or Chief of Staff. More details can be found in the Significant Changes section.

Professional and Purchased Services – \$50.6M (increase of \$5.6M, +12.5% from 2021)

During budget development, divisions spent a significant amount of time reviewing their Professional and Purchased Services contracts and expenditures, resulting in several changes to the budget for 2022 (detailed in the Significant Variances section). Many of the changes are due to inflation, scheduled contract cost increases, and maintenance items that were deferred in 2020 and 2021 because of COVID-19.

Materials, Supplies, and Chemicals – \$23.2M (increase of \$2.7M, +13.4% from 2021)

Increases in this expenditure category are primarily because of inflation and maintenance items that were deferred in 2020 and 2021 because of COVID-19. More details can be found in the Significant Variances section.

Travel, Training, and Conferences – \$1.2M (increase of \$677K, +135.0% from 2021)

In 2022, we expect to return to typical levels of travel, training and conferences for professional development, licensures and certifications.

Other Expense – \$1.1M (decrease of \$46K, -4.1% from 2021)

There are no major changes to budget in this expenditure category.

Capital and Operating Projects/Programs

All projects and programs on the long-term forecast were vetted using the updated project submission, prioritization, and selection process put in place by the EPMO for the 2022 Annual Planning Cycle. The process includes an analysis of alternatives, evaluation of capacity needs and dependencies, completion of a risk assessment, review of the proposed timeline, and an estimation of the expected costs.

Operating Projects and Programs - \$16.2M (increase of \$3.4M, +26.7% from 2021)

The most significant change to operating projects is an increase in IT projects to support organizational needs and the cybersecurity roadmap. Costs also were added for the High Line Canal fund and Strontia Sedimentation effort.

Capital Projects and Programs - \$432.8M (increase of \$76.1M, +21.3% from 2021)

We are underway with our largest capital plan in history. The largest projects in the capital budget are the Northwater Treatment Plant, Lead Replacement Program and Gross Reservoir Expansion.



Panoramic view of Northwater Treatment Plant taken by Water Treatment Engineer Peter J. McCormack

SOURCES AND USES

COMPARISON OF SOURCES AND USES OF FUNDS							
	2019		2020		2021		2022
	Budget	Actuals	Budget	Actuals	Budget	Unaudited Actuals	Budget
BEGINNING CASH & INVESTMENTS	\$ 364,170	\$ 364,170	\$ 276,326	\$ 276,326	\$ 258,734	\$ 258,734	\$ 403,589
SOURCES OF FUNDS							
Water sales	296,208	303,157	306,147	342,903	311,270	323,079	326,191
Hydropower	4,196	3,892	3,872	3,874	3,801	3,835	3,787
Special assessments and fees	6,980	7,555	6,940	6,959	7,057	7,066	7,137
Interest income	6,447	5,875	4,169	2,677	1,480	1,112	1,169
Other revenue	8,692	11,873	9,284	21,346	8,766	8,436	8,606
System Development Charges	40,058	38,668	29,985	22,553	22,000	37,897	34,988
Contributions	10,616	7,137	8,032	3,655	5,485	4,142	32,239
TOTAL REVENUE	\$ 373,197	\$ 378,157	\$ 368,429	\$ 403,967	\$ 359,860	\$ 385,567	\$ 414,116
Proceeds from debt	60,000	-	155,000	158,629	350,000	351,185	120,000
TOTAL SOURCES OF FUNDS	\$ 433,197	\$ 378,157	\$ 523,429	\$ 562,596	\$ 709,860	\$ 736,752	\$ 534,116
USES OF FUNDS							
Regular Wages and Other Pay	89,642	88,489	95,261	95,736	95,275	95,104	101,517
Applied Labor ¹	(9,129)	(8,987)	(10,710)	(8,586)	(11,094)	(8,104)	(10,746)
Benefits	42,994	41,579	44,789	44,444	44,568	44,755	46,782
Salaries and Benefits	123,507	121,081	129,340	131,595	128,748	131,756	137,553
Materials and supplies	17,754	21,108	19,461	23,027	20,445	22,260	23,185
Utilities	7,928	9,381	8,237	7,888	8,339	9,451	8,911
Professional and Other Services	34,623	33,427	35,440	35,054	36,672	38,165	41,467
Other Expense	2,875	2,715	2,533	1,123	1,637	1,928	4,821
Subtotal Operating w/o Projects	\$ 186,687	\$ 187,712	\$ 195,011	\$ 198,686	\$ 195,842	\$ 203,560	\$ 215,936
Collection	1,125	837	888	924	898	1,108	2,112
Distribution	4,903	7,381	6,570	578	985	1,459	802
Expansion	5,255	5,750	10,701	3,192	5,095	5,692	4,335
Operations Support/Other	8,049	10,663	6,902	4,004	5,444	5,660	8,338
Treatment	1,598	494	1,043	833	325	386	566
Operating Projects	20,930	25,125	26,104	9,532	12,748	14,304	16,153
TOTAL OPERATING COSTS	\$ 207,617	\$ 212,837	\$ 221,115	\$ 208,218	\$ 208,590	\$ 217,864	\$ 232,090
Collection	30,054	21,299	36,371	33,111	41,840	38,152	185,992
Distribution	89,537	72,218	77,854	102,396	72,535	67,883	50,068
Expansion	7,385	6,232	16,866	11,956	29,362	20,691	4,542
Operations Support/Other	62,539	51,332	89,471	88,858	84,689	70,787	84,454
Treatment	64,054	66,986	75,842	106,306	128,287	125,404	107,757
Applied Labor	-	-	-	-	-	-	-
TOTAL CAPITAL (incl. applied labor)	\$ 253,567	\$ 218,068	\$ 296,405	\$ 342,627	\$ 356,713	\$ 322,916	\$ 432,813
Debt Service	47,649	47,286	46,169	46,372	50,351	50,519	55,786
TOTAL USES OF FUNDS	\$ 508,833	\$ 478,190	\$ 563,688	\$ 597,217	\$ 615,654	\$ 591,299	\$ 720,688
Cash balance adjustment		12,189		17,029		(597)	
ENDING CASH & INVESTMENTS	\$ 288,534	\$ 276,326	\$ 236,066	\$ 258,734	\$ 352,940	\$ 403,589	\$ 217,017

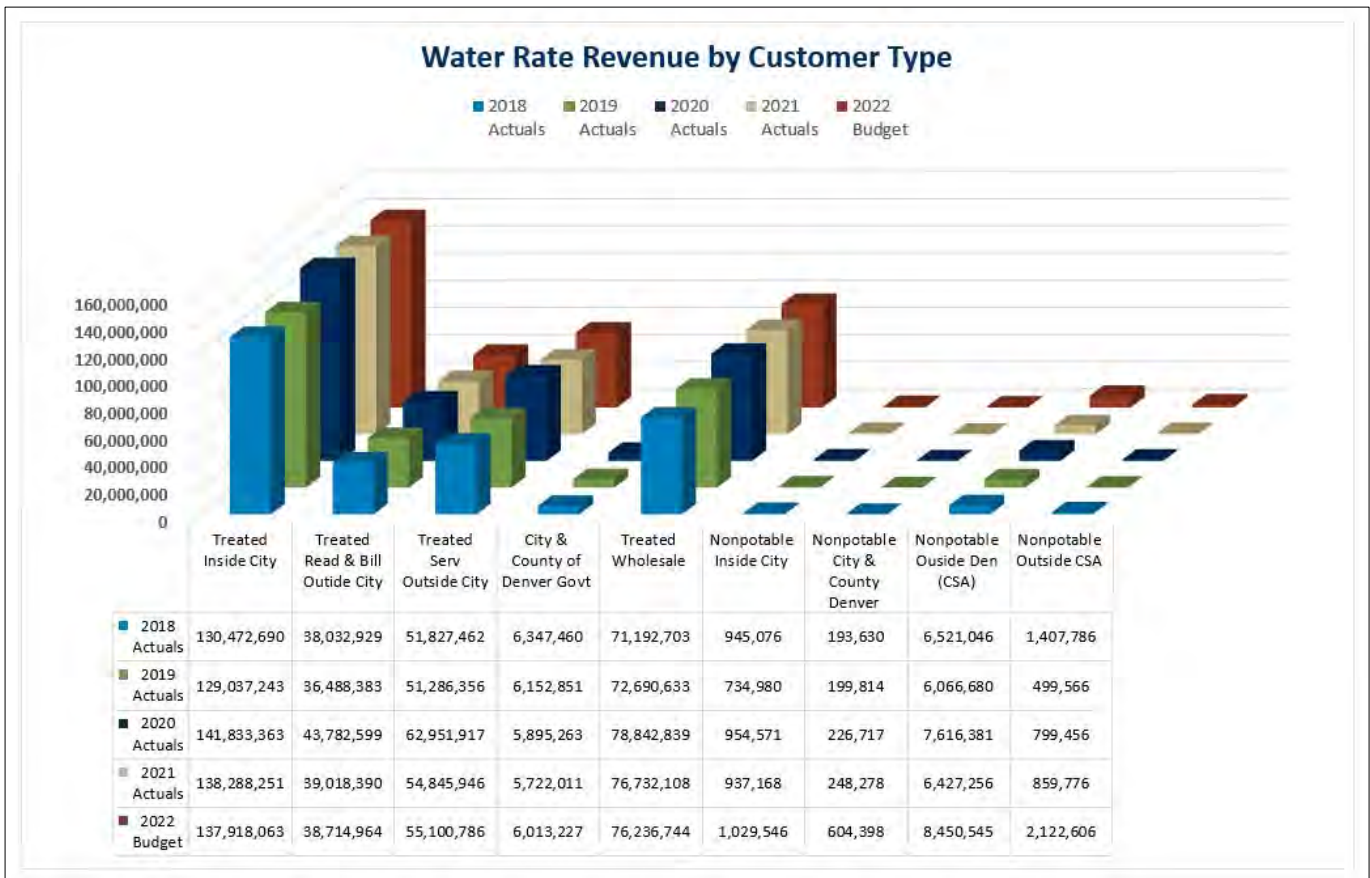
Notes:

1) Actuals in the above chart are being reported on a budgetary basis

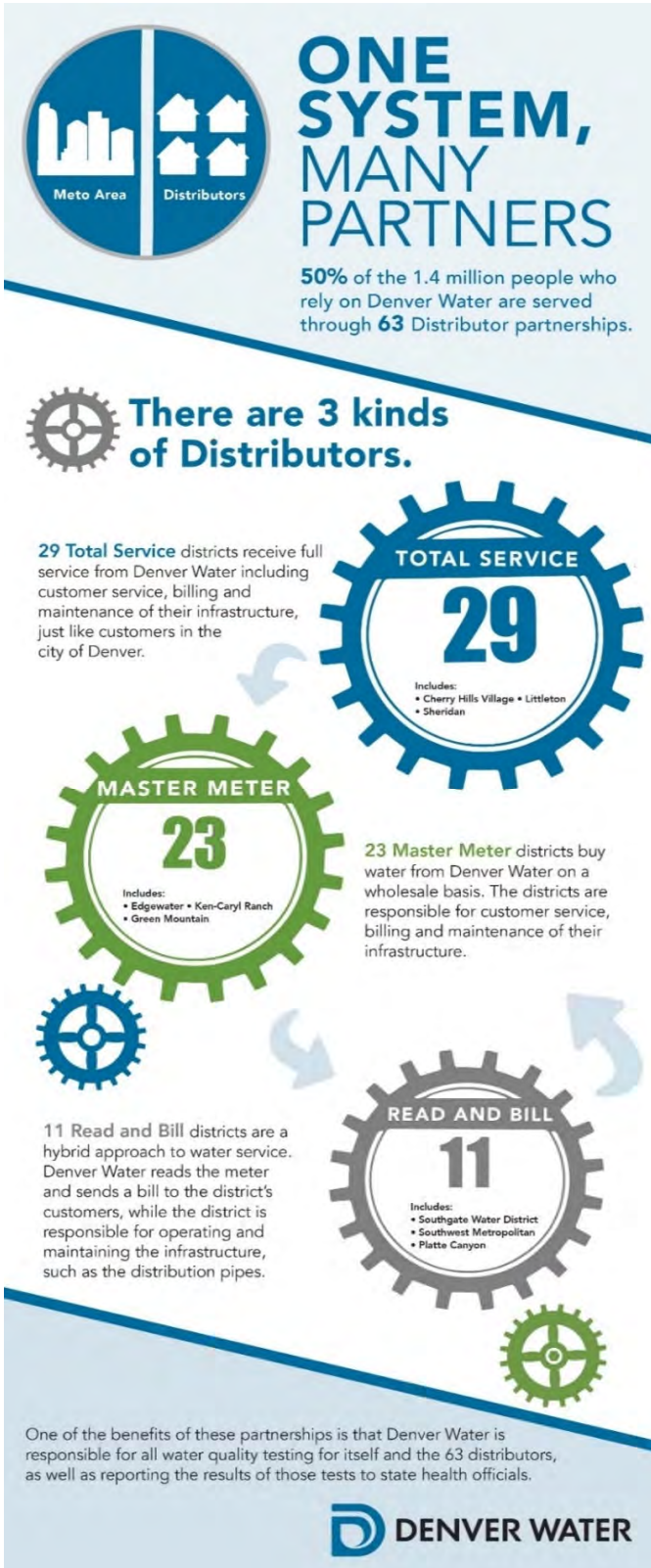
2) The cash balance adjustment represents timing differences between the receipt of revenues and payment of expenditures at year-end (these items are included in the year-end accruals, but the cash is not impacted until the following year).

REVENUE

Revenue adjustments identified in the 2022 Financial Plan are set at levels to meet annual revenue requirements, debt service coverage, and target reserves. Revenue requirements include annual operation and maintenance expenses, payments on existing and proposed debt service, the Lead Reduction Program, and rate-funded capital projects. Denver Water uses a combination of debt and cash reserves to maintain leveled annual revenue adjustments to meet these requirements. The use of debt to fund specific capital projects distributes the cost of facilities over time rather than requiring the full amount in any one year. The adopted revenue adjustment for 2022 is effective beginning January 1, 2022. This adjustment is expected to produce 4% of additional revenue over a 12-month period, assuming normal weather and consumption. The Financial Plan is updated annually.



Outside the City and County of Denver, Denver Water provides residential water service through contractual relationships with distributors.



ONE SYSTEM, MANY PARTNERS

50% of the 1.4 million people who rely on Denver Water are served through **63** Distributor partnerships.

There are 3 kinds of Distributors.

29 Total Service districts receive full service from Denver Water including customer service, billing and maintenance of their infrastructure, just like customers in the city of Denver.

Includes:
• Cherry Hills Village • Littleton • Sheridan

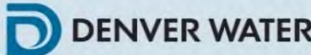
23 Master Meter districts buy water from Denver Water on a wholesale basis. The districts are responsible for customer service, billing and maintenance of their infrastructure.

Includes:
• Edgewater • Ken-Caryl Ranch • Green Mountain

11 Read and Bill districts are a hybrid approach to water service. Denver Water reads the meter and sends a bill to the district's customers, while the district is responsible for operating and maintaining the infrastructure, such as the distribution pipes.

Includes:
• Southgate Water District • Southwest Metropolitan • Platte Canyon

One of the benefits of these partnerships is that Denver Water is responsible for all water quality testing for itself and the 63 distributors, as well as reporting the results of those tests to state health officials.



There are three main kinds of contracts for residential water service outside the City and County of Denver:

Total Service

Under Total Service contracts, Denver Water owns the water system and is responsible for its operation, maintenance and replacement. Denver Water reads each customer's meter and bills each customer at the established Total Service rate.

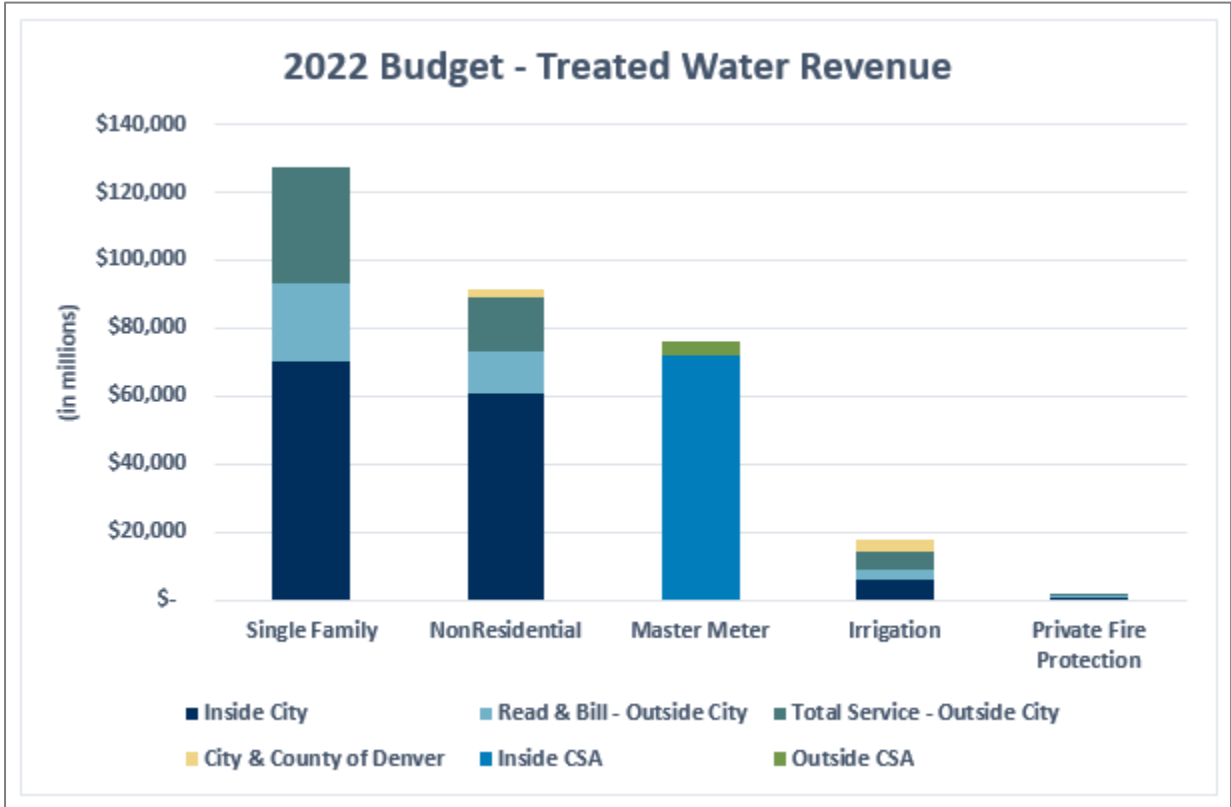
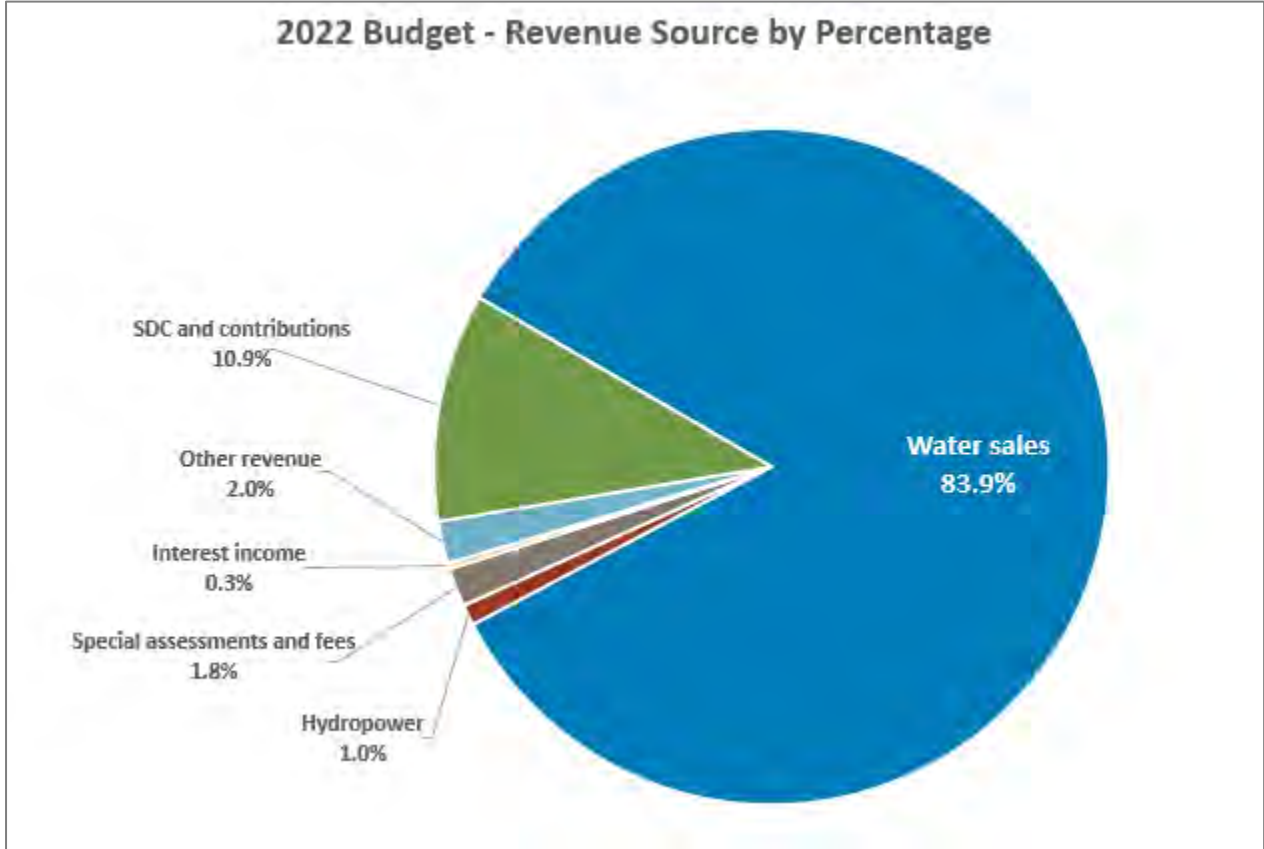
In Total Service areas, water service is provided to customers in the same manner as it's provided to customers inside Denver.

Master Meter

A Master Meter distributor owns and is responsible for construction, operation, maintenance, and replacement of its water system. Denver Water delivers water to the distributor through one or more master meters and bills the distributor at the established Wholesale (Master Meter) rate. The distributor, not Denver Water, is responsible for reading the meters of its individual customers and for billing its individual customers according to rate schedules established by the distributor.

Read and Bill

Under Read and Bill contracts, the distributor owns and is responsible for construction, operation, maintenance, and replacement of its water system into which Denver Water delivers water. Denver Water reads the meter of each customer and bills each customer at the established Read and Bill rate.



DIVISION BUDGETS

DENVER WATER BY DIVISION - OPERATING EXPENSE SUMMARY							
Division Name	SALARIES AND BENEFITS		OTHER OPERATING COSTS		TOTAL OPERATING COSTS		
	2021 Budget	2022 Budget	2021 Budget	2022 Budget	2021 Budget	2022 Budget	% Budget Change
Administrative Services	21,682	24,142	17,563	20,873	39,245	45,015	14.7%
Engineering	17,786	20,129	1,054	1,197	18,840	21,326	13.2%
Finance	8,798	10,223	3,849	3,649	12,647	13,873	9.7%
Manager & Staff	15,303	16,935	4,656	7,764	19,959	24,699	23.7%
O&M	56,600	62,630	34,485	39,327	91,085	101,958	11.9%
Non-Divisional	2,297	(2,814)	2,094	1,645	4,392	(1,169)	-126.6%
Water Resource Strategy	6,282	6,307	3,368	3,927	9,649	10,234	6.1%
TOTAL DIVISION OPERATING	\$ 128,748	\$ 137,553	\$ 67,069	\$ 78,384	\$ 195,817	\$ 215,936	10.3%

**Please note: Turnover savings moved from divisional budgetes to Non-Divisional in 2022*

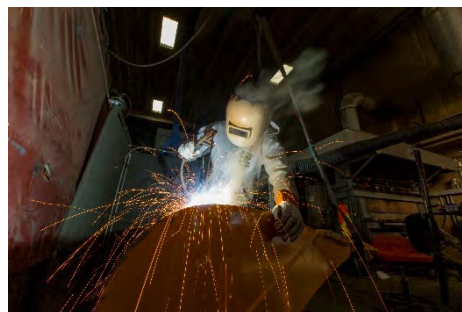


REGULAR EMPLOYEES

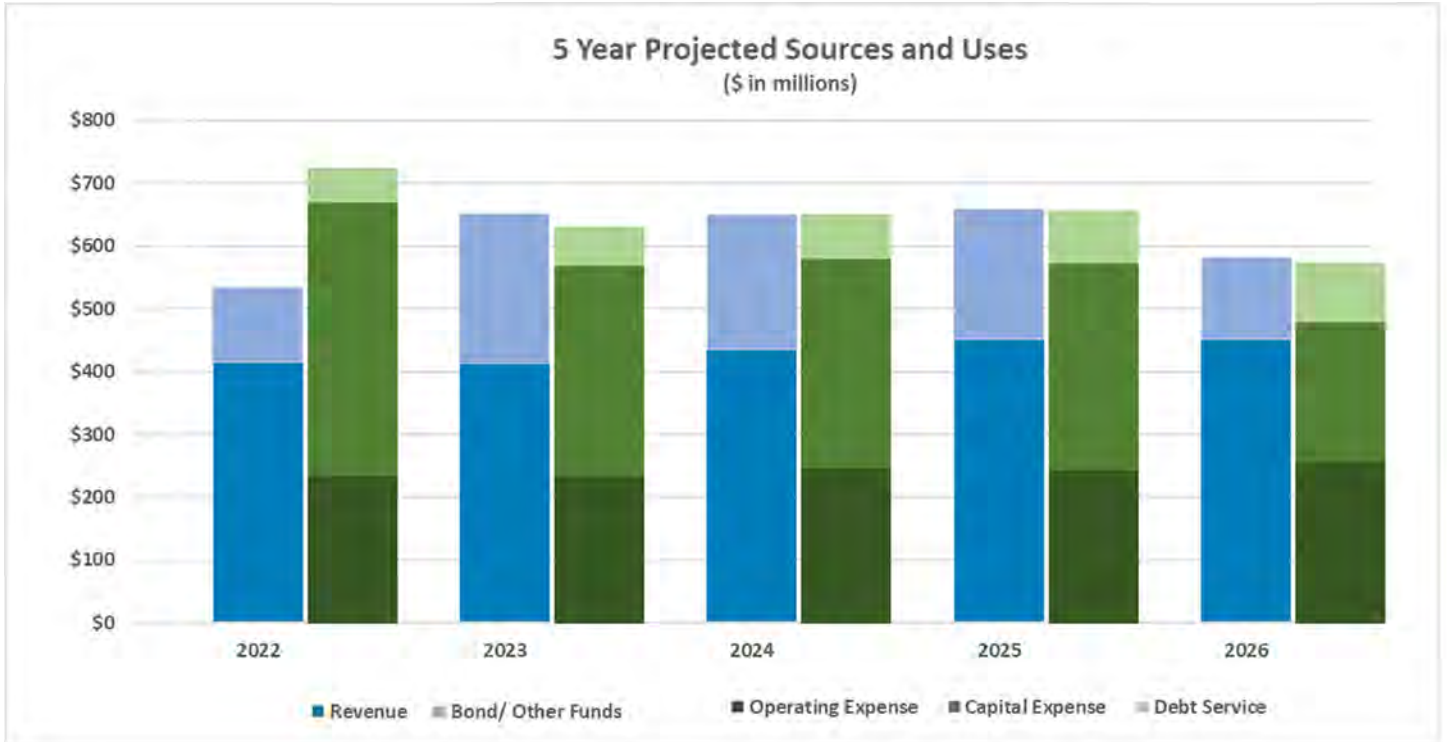
DENVER WATER - REGULAR EMPLOYEE COUNT									
Division	2018	2019		2020		2021		2022	
	Budget	Budget		Budget		Budget		Budget	
	FTE	FTE	LTE	FTE	LTE	FTE	LTE	FTE	LTE
Administrative Services	60.00	59.50	1.00	165.25	1.00	166.75	2.00	168.75	3.00
Engineering	171.75	172.75	1.00	173.75	2.00	173.75	2.00	173.75	5.00
External Affairs	184.55	184.65	-	187.99	5.00	-	-	-	-
Finance	37.00	37.00	-	36.00	1.00	93.26	-	103.26	-
Human Resources	29.00	27.00	-	-	-	-	-	-	-
Information Technology	103.75	104.25	-	-	-	-	-	-	-
Manager & Staff	36.35	37.80	-	58.80	-	84.40	-	84.60	1.00
Operations & Maintenance	466.00	479.00	5.00	481.00	12.00	565.00	17.00	575.00	15.00
Water Resource Strategy	-	-	-	-	-	45.00	-	42.00	-
Total	1,088.40	1,101.95		1,102.79	21.00	1,128.16	21.00	1,147.36	24.00

Notes:

- 1) Added LTE (Limited Term Employees) in 2019.
- 2) Information Technology merged with Administrative Services in 2020.
- 3) Human Resources merged with Manager & Staff in 2020.
- 4) External Affairs was reorganized in 2021. The sections underneath External Affairs were moved to Finance, Manager & Staff, Operations & Maintenance, and Water Resource Strategy (new division).



WATER WORKS FUND



Denver Water is an enterprise of the City of Denver within the meaning of Article X, Section 20 of the Colorado Constitution. The Board maintains a **single fund** as mandated by the City Charter, which states:

“There is hereby created a Water Works Fund into which shall be placed all revenues received from the operation of the Water Works system and plant together with all monies received by the Board from other sources.”

The general city government has no access to the Water Works Fund and Denver Water has no access to the city’s general fund. Both funds, however, are accounted for by the city’s auditor. Although the Board approves the rates and the annual budget, no funds are appropriated. Denver Water defines fund balance for the Water Works Fund (an Enterprise Fund) as the balance at the beginning of the period, plus the total sources of funds, less total uses of funds for the period.

Within the Water Works Fund there are legally restricted funds and Board-designated funds. As outlined, the Board targets reserves to pay for operating, capital, self-insurance and debt service in an emergency, in addition to the restricted and designated funds. Any excess funds above these target amounts are considered available for future operating and capital projects.

DEBT INFORMATION

Denver Water issues debt to fund capital improvements and to refund existing debt. Denver Water has the discretion to issue debt for purposes other than capital improvements if deemed necessary by the Board. Operating expenses and capital improvements of a normal recurring nature are included in the calculation of the revenue requirement from rates and are financed on a pay-as-you-go basis.

The Treasury section of the Finance division monitors the marketplace and evaluates the appropriateness of various financing sources for specific capital projects. The evaluation considers the expected life of the asset, the nature of any covenant requirements, the impact on Denver Water's financial flexibility and the organization's capacity to support the projected level of debt.

Denver Water uses the following guidelines in its financial planning activities:

- Debt Ratio should not exceed 45%, calculated as: total debt divided by the sum of net fixed assets plus net working capital.
- Water rates are established to provide Net Revenues sufficient to produce annual coverage of 1.8 times that of the current Annual Debt Service.

Debt Principal and Interest Obligations (in millions of dollars)			
Year	Principal	Interest	Total
2022	\$ 18.1	\$ 35.0	\$ 53.1
2023	19.0	34.2	53.2
2024	19.5	33.3	52.8
2025	20.4	32.4	52.8
2026	21.4	31.5	52.9
2027	22.4	30.5	52.9
2028	23.3	29.6	52.9
2029	24.3	28.6	52.9
2030	25.4	27.6	53.0
2031	26.6	26.4	53.0
2032	27.8	25.1	52.9
2033	29.0	23.9	52.9
2034	30.1	22.6	52.7
2035	31.3	21.4	52.7
2036	32.3	20.2	52.5
2037	33.4	19.0	52.4
2038	34.6	18.0	52.6
2039	35.8	17.0	52.8
2040	37.1	15.9	53.0
2041	38.5	14.8	53.3
2042	40.0	13.5	53.5
2043	41.6	12.1	53.7
2044	43.0	10.7	53.7
2045	44.5	9.2	53.7
2046	46.3	7.4	53.7
2047	48.2	5.5	53.7
2048	49.8	3.9	53.7
2049	51.2	2.5	53.7
2050	52.6	1.1	53.7
Total	\$ 967.5	\$ 572.9	\$ 1,540.4

The currently outstanding series of bonds were assigned Aaa/AAA ratings by Moody's Investors Service, Inc. and S&P Global Ratings, respectively, in April 2021. The ratings are subject to revision or withdrawal at any time by the respective rating agency, and there is no assurance that the ratings will continue or that they will not be revised or withdrawn.

FINANCIAL POLICIES

The Board has established financial policies that constitute the basic framework for the financial management of Denver Water. These policies are intended to assist members of the Board and Denver Water’s staff in evaluating current activities and proposals for future programs. They are reviewed on an annual basis and modified to accommodate changing circumstances or conditions. A summary of these policies is presented below:

Accounting Standards

The Board’s financial statements are prepared in accordance with principles generally accepted in the United States of America (Generally Accepted Accounting Principles). Additionally, the Board applies all applicable pronouncements of the Governmental Accounting Standards Board (GASB).

Balanced Budget

The Denver Board of Water Commissioners has not adopted an official policy on a balanced budget. Our practice is to balance the budget by the planned use or contribution to investment balances.

Capital Assets

Purchased and constructed capital assets are recorded at cost. Donated capital assets are recorded at their estimated acquisition value on the date received. Assets are capitalized if they have a cost of \$50,000 or more and have a useful life of more than one year. Costs not meeting these criteria are expensed. Land and water rights are recorded at cost. Land is not depreciated, and water rights are granted in perpetuity and not amortized. Depreciation and amortization are computed using the straight-line method over the estimated useful lives of the respective asset classes.

Cash Reserves

The charter of the City and County of Denver specifically allows the accumulation of reserves “sufficient to pay for operation, maintenance, reserves, debt service, additions, extensions, and betterments, including those reasonably required for anticipated growth of the Denver Metropolitan area and to provide for Denver’s general welfare.” The Board’s practice is to maintain reserves that are sufficient to provide:

- 25% of the next year’s operating costs.
- The greater of average annual depreciation cost and 2% of current total capital assets (before depreciation) for replacement capital and equipment purchases.
- 50% of expected annual debt service for next year.
- \$10 million in exposure reserve.

Consumption and Service Charges

In October 2021, the Board approved a 4% water rate increase, effective Jan. 1, 2022. The rate increase is designed to increase overall total system water rate revenue, assuming normal weather and consumption.

Debt Management Policy

The Board adopted a debt policy in 2021 updating the philosophy, objectives and practices to issue debt. Debt will primarily be used to fund Capital Improvements and to refund existing debt as defined in the Master Bond Resolution. Only costs that may be capitalized under generally accepted accounting principles are eligible for debt financing.

- When appropriate, Denver Water will use debt to achieve an equitable allocation of capital costs/charges between current and future system users.
- The Board has discretion to issue debt for purposes other than Capital improvements.

Denver Water is not subject to legal debt limits.

Expenditures

In planning expenditures, Denver Water follows the city charter’s mandate to keep rates as low as good service will permit. This means Denver Water will properly maintain its facilities and continue to seek ways to operate more efficiently.

Investments

The Board established an investment policy for funds not needed for current operations and delegated its authority to invest these funds to the chief finance officer. The Investment Policy establishes investment objectives, standards of care, broker and dealer requirements, custody and safekeeping requirements, permitted investments, and investment parameters. The primary objectives, in order of priority, are safety of principal, liquidity and yield.

Measurement Focus and Basis of Accounting

The Board, as a business-type activity, is accounted for in an Enterprise Fund, which is used to report any activity for which a fee is charged to external users for goods or services. The Board’s basic financial



Bond issued in November 1918 between City and County of Denver and Denver Union Water Company for the purpose of acquiring a water works system.

statements are accounted for on the flow of economic resources measurement focus, using the accrual basis of accounting. Under this method, all assets and liabilities associated with operations are included on the statements of net position, revenues are recorded when earned, and expenses are recorded at the time liabilities are incurred. This is different from the basis of budgeting.

Denver Water's budget is prepared using the budget basis in which revenues are recorded when they become available, and expenditures are recorded at the time liabilities are incurred. Under the terms of grant agreements, the Board funds certain programs using a combination of cost-reimbursement grants and general revenues. It is the Board's policy to first apply cost-reimbursement grant resources to such programs, followed by general revenues.

Operating Revenues and Expenses

Operating revenues consist primarily of charges to customers directly or indirectly related to the sale of water. Operating expenses consist of the cost of providing water and power, including administrative expenses and depreciation on capital assets. All other revenues and expenses are classified as nonoperating.

The Board accrues for estimated unbilled revenues for water provided through the end of each year from the last reading of the meters, based on the billing cycle.

Rates and Fees

Under Article X, Section 10.1.9 of the Denver City Charter, the Board is empowered to set rates for all customers. These rates "...may be sufficient to pay for operation, maintenance, reserves, debt service, additions, extensions, betterments, including those reasonably required for the anticipated growth of the Denver metropolitan area, and to provide for Denver's general welfare...."

Revenues

Denver Water is completely funded through rates, fees, and charges for services provided by Denver Water. There are no transfers to or from the City's General Fund. Water rates pay for operation and maintenance expenses, repair, capital replacements and modifications to existing facilities, debt service, a portion of the costs of new facilities, and water supply.

Risk Management

Denver Water is exposed to various risks of loss including torts, general liability, property damage (all limited under the Colorado Governmental Immunity Act to \$387K per person and \$1.093M per occurrence), and employee life, medical, dental and accident benefits. Beginning in 2019, these limits are adjusted every four years for inflation.

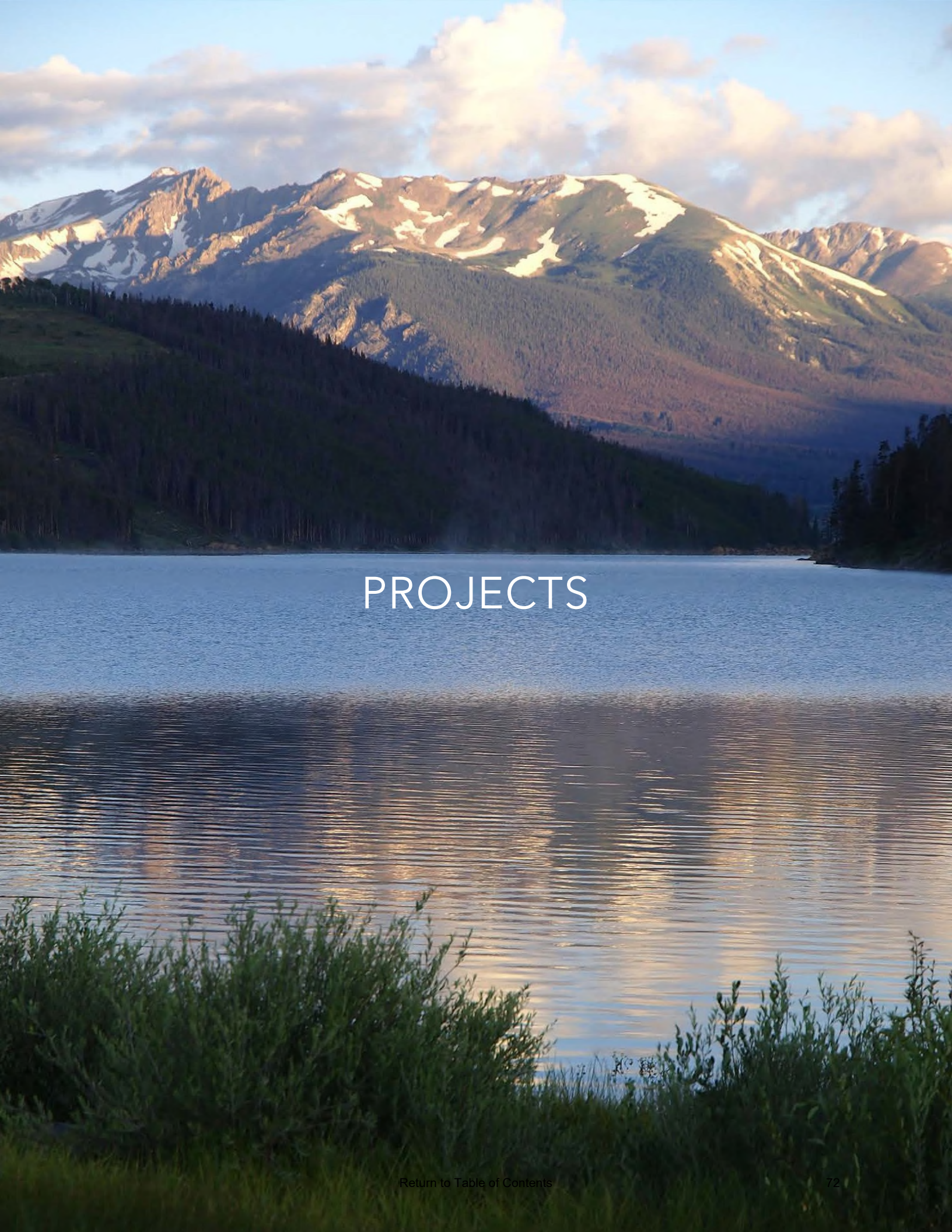
Denver Water has a risk-management program that includes self-insurance for liability, employee medical (including stop-loss coverage), dental, vision and auto. Denver Water carries commercial property insurance for catastrophic losses, including floods, fires and earthquakes for scheduled major facilities. It

carries limited insurance for other nonscheduled miscellaneous locations. Denver Water also carries commercial insurance for life, accident, short-term and long-term disability, employee dishonesty, cyber-attacks, terrorism, malicious attacks, excess general liability and fiduciary exposure.

Denver Water is self-insured for workers' compensation and carries an excess liability (stop-loss) policy for individual claims exceeding \$500K. Denver Water is at times party to pending or threatened lawsuits under which it may be required to pay certain amounts upon their final disposition.



Shown are two different motorists who drove through Denver Water barricades.



PROJECTS

ENTERPRISE PROJECT MANAGEMENT

In 2020, Denver Water’s executive leadership and the Board of Water Commissioners committed to pursuing enterprise-wide project management and approved a new team called Enterprise Project Management Office (EPMO). This office works in collaboration with teams across the organization to provide governance to all projects at Denver Water while capitalizing on the current project management structures. This will be a transition year as we establish consistent governance across all projects, develop a project reporting tool, establish value verification standards, refresh the prioritization process and update key project metrics.

EPMO Value Proposition

Value realization is provided through transparent planning, selection and governance for the Board, consistent enterprise reporting and performance metrics for the Executive Team, improved stakeholder engagement for our partners, and consistent processes for our project managers and people engaging in the process. When brought together, Denver Water should have full line of sight to the demand for capacity planning, and assurance that the right projects are selected at the right time and cost.



Strategic Planning

- Strategic alignment and value are verified throughout planning and execution
- All Strategic Programs will have a roadmap
- Continuous planning cycle
- Informs the Eteam Strategic Planning

Framework

- Grounded in best practices
 - Phases
 - Gates
 - Monitoring & Controlling Activities
- Expands or contracts based on effort complexity
- Unifies process where appropriate
- Allows for specialization where needed

Governance

- Governance activities are defined at each stage and gate
- Key Performance Indicators (KPIs)
 - Process
 - Program
 - Portfolio
 - Project
- Value Verification
- Variance Management
- Lessons Learned
- Continuous Improvement
- Long Term Planning

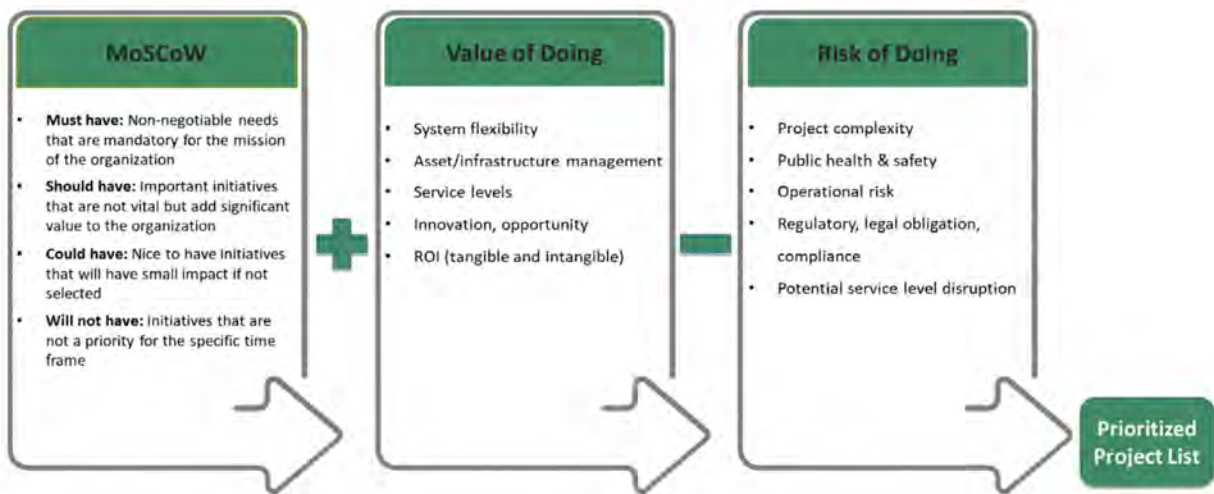
PROJECT PRIORITIZATION

Project Evaluation, Selection, and Prioritization Process

Project budgets, which consist of both capital and operating expenditures, follow the standard work of the Enterprise Project Management Office (EPMO) for evaluation, selection, and prioritization of projects.

To begin the process, project managers first develop a detailed business case for all potential projects. Each business case includes detailed information on the associated scope, schedule, budget, risks, dependencies, and alternatives for the requested project. Once submitted, business cases are reviewed and approved by the appropriate portfolio manager.

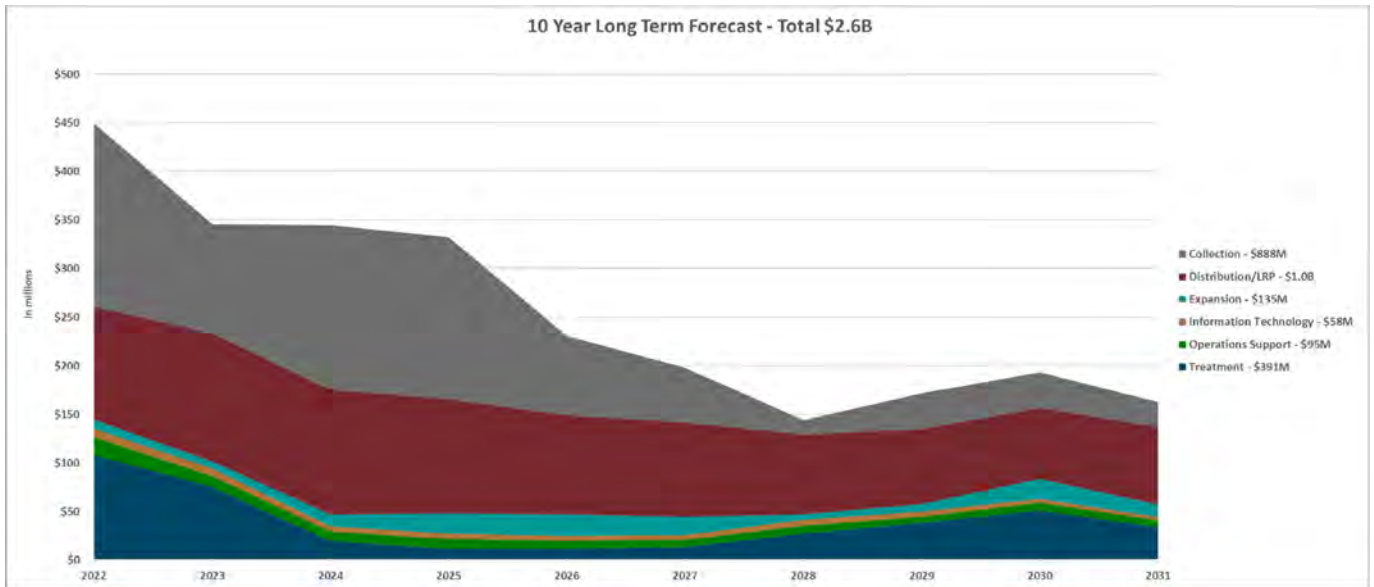
Projects approved by the portfolio managers are compiled into a preliminary long-term forecast. Portfolio managers, with guidance from the EPMO team, then conducts a series of meetings to categorize and prioritize the approved projects based on the goals of the organization for that year.



The outcome of these activities is a prioritized project plan aligned with the strategic goals of the organization, the long-term financial plan, and the recommended revenue adjustments.

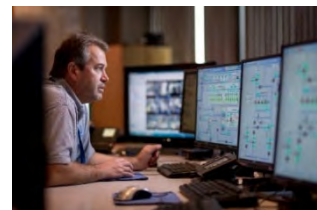
10-YEAR PROJECT PLAN

The chart below illustrates the 10-year project plan for Denver Water (including both capital and operating projects). Over the next 10 years, we expect to spend \$2.6 billion improving and maintaining our system, our largest capital plan in history.



Major projects in the 10-year forecast include:

- Lead Reduction Program
- Northwater Treatment Plant
- Gross Reservoir Expansion
- South System Planning
- Main Replacements and Improvements
- Water Resources Center



PROJECT DETAIL

PROJECT & PROGRAM DETAIL							
2022 BUDGET							
(in thousands of dollars)							
Project Name	System	Project Type	Prior Year(s) Actuals	2022 Budget	2023 Projected	Future Year(s) Projected	Projected Total
Gross Reservoir Expansion	Collection	Capital	83,293	180,806			
Accelerated Lead Reduction Program Plan	Other	Capital	127,880	65,103	62,900	321,600	577,483
Northwater Treatment Plant	Treatment	Capital	324,018	102,000	69,517	16,943	512,478
Lead Line Svcs Program	Distribution	Capital	22,180	9,878	9,240	57,894	99,192
Main Replacements/Improvements	Distribution	Capital	41,699	17,552	21,620	-	80,870
Replace Hillcrest Tanks	Distribution	Capital	76,548	203	-	-	76,751
Conduit No. 16 Replacement	Distribution	Capital	76,458	10	-	-	76,468
N Complex Hazeltine Pump Station / Electrical, Instrumentation and Controls	Expansion	Capital	-	450	950	35,700	37,100
Hillcrest Pump Station Modifications	Distribution	Capital	33,633	599	-	-	34,231
Water Resources Center	Operations Support	Capital	12,068	11,306	-	-	23,374
WISE DIA Connection	Distribution	Capital	12	600	8,900	8,500	18,012
Highlands Pump Station Rehab	Distribution	Capital	-	160	4,470	10,280	14,910
Marston Pump Station Elec.& Mech. Upgrds	Distribution	Capital	13,093	11	-	-	13,104
Conduit 26 Steel Liner Rehab	Collection	Capital	-	200	-	10,300	10,500
Ralston Dam Modifications	Collection	Capital	6,608	2,950	-	-	9,558
Lupton Lakes Inlet/Outlet Fac	Expansion	Capital	6,830	1,632	-	-	8,462
Strontia-Elec & Cntrl Upgrade	Collection	Capital	499	210	2,266	5,236	8,211
Elevenmile Outlet Works Valve	Collection	Capital	120	525	415	5,400	6,460
Foothills Treatment Plant Filter Media&Underdrn Rpl	Treatment	Capital	4,018	1,036	250	-	5,304
Foothills Reservoir 1&2 Waterproofing	Treatment	Capital	-	1,800	3,310	-	5,110
Highline Canal Forever Fund	Collection	Operating	-	1,000	1,000	3,000	5,000
Clarkson Pump Station Renovations	Distribution	Capital	1,157	3,200	340	-	4,697
C-306 Ext to Fairmount Cemeter	Distribution	Capital	150	183	4,000	-	4,333

PROJECT & PROGRAM DETAIL 2022 BUDGET

(in thousands of dollars)

Project Name	System	Project Type	Prior Year(s) Actuals	2022 Budget	2023 Projected	Future Year(s) Projected	Projected Total
SCADA Network Design & Config	Operations Support	Operating	2,317	1,660	130	129	4,235
Hazel & RR GP- Remove Material	Expansion	Capital	3,050	100	-	-	3,150
Aquifer Store and Recovy Pilot	Expansion	Operating	2,781	241	-	-	3,022
C17 Clean & Bypass Gates	Distribution	Capital	173	75	1,250	1,250	2,748
Sensus Master Meter Replacemen	Expansion	Operating	1,187	750	550	-	2,487
Water Efficiency Plan-Rebates	Expansion	Operating	1,889	400	-	-	2,289
Marston Yard Piping & Pot Dist	Distribution	Capital	-	1,150	1,050	-	2,200
Hazeltine Reservoir Spillway	Expansion	Capital	-	300	1,700	-	2,000
Chatfield Reallocation	Expansion	Capital	-	1,900	-	-	1,900
Strontia Watershed Sedimentation Management Program USFS Lands	Collection	Operating	-	250	250	1,000	1,500
Strontia Watershed Sedimentation Management Program DW Lands & ROW	Collection	Operating	-	250	250	1,000	1,500
Last Chance Diversion Replacem	Collection	Capital	121	598	586	-	1,305
Castlewood Pump Station	Distribution	Capital	-	110	660	490	1,260
CC&B Upgrade to 2.8	Operations Support	Capital	187	1,023	-	-	1,210
Montclair Pump Station	Distribution	Capital	-	1,000	-	-	1,000
Dillon Control House HPU	Collection	Capital	41	47	604	253	945
South System Facility Plan	Treatment	Capital	370	569	-	-	939
Meadow Creek System Improvemen	Collection	Operating	817	50	50	-	917
Recycling Upgrade CL2 Scrubber	Treatment	Capital	72	681	163	-	916
S Platte Sys Res Developmen	Expansion	Operating	500	300	-	-	800
Call Center as a Service	Operations Support	Operating	256	509	-	-	764
Marston Diversion Dam Sluice Gate Refurbishment	Collection	Capital	-	95	595	-	690
IT Hardware/Software AM System	Operations Support	Operating	-	619	-	-	619
Conduit No. 20 Expansion Joint	Collection	Capital	-	45	550	-	595
Enterprise Telecomm System	Operations Support	Operating	-	567	-	-	567
Strontia Boat Ramp Bridge/Acce	Collection	Capital	-	60	450	-	510
Integrated Comms/Data Platform	Operations Support	Operating	-	325	137	-	462

PROJECT & PROGRAM DETAIL 2022 BUDGET

(in thousands of dollars)

Project Name	System	Project Type	Prior Year(s) Actuals	2022 Budget	2023 Projected	Future Year(s) Projected	Projected Total
Moffat Chem Systems Upgrades	Treatment	Capital	166	281	-	-	446
Weathertrac Irrigation Control	Operations Support	Capital	20	115	148	148	431
Foothills Filter Surf Wash Isolat Vlv	Treatment	Capital	-	-	129	301	430
Foothills Replace Filter Panel	Treatment	Capital	179	161	54	-	394
Foothills Drainage Improvement	Treatment	Capital	123	271	-	-	394
Hillcrest Hydro CP	Distribution	Capital	-	42	350	-	392
Secure Configuration Network	Operations Support	Operating	-	375	12	-	387
Lakeridge Pump Station	Distribution	Capital	-	75	300	-	375
Admin Bldg Roof Runoff Treatmt	Treatment	Capital	-	53	311	-	363
Mounding Drains	Treatment	Operating	-	342	-	-	342
Enterprise Reporting Tool	Operations Support	Operating	236	100	-	-	336
North Complex Hazeltine Water	Expansion	Capital	23	60	80	170	333
Govt to Comm Tenant Conversion	Operations Support	Operating	-	284	32	-	316
eDiscovery Phase II	Operations Support	Operating	-	186	92	-	279
City Ditch Improvements	Collection	Capital	20	240	-	-	260
Specialized Equipment- Potable	Treatment	Capital	-	250	-	-	250
Marston Raw Water Valve Batter	Treatment	Capital	43	200	-	-	243
Foothills Finished H2O Chlorine Imprv	Treatment	Capital	-	60	45	134	239
South Boulder Canal - Hwy 72	Collection	Capital	122	116	-	-	238
Physical Records Mgt Syst Rep	Operations Support	Operating	-	208	-	-	208
Upgrade DA, VPN, and MFA Proje	Operations Support	Operating	18	188	-	-	206
Water Efficiency Plan-SFR Outdoor Lndscp chng	Expansion	Operating	128	70	-	-	198
Inf Governance Roadmap & Strgy	Operations Support	Operating	15	180	-	-	195
Business Analytics Platform	Operations Support	Operating	-	189	2	-	191
Water Efficiency Plan-SFR Audit	Expansion	Operating	143	40	-	-	183
Recycling Treatment Plant- TSRM upgrades	Treatment	Capital	-	144	38	-	182
Nighthawk	Treatment	Operating	-	41	139	-	180
New Clinic Software	Operations Support	Operating	17	157	-	-	175

PROJECT & PROGRAM DETAIL 2022 BUDGET

(in thousands of dollars)

Project Name	System	Project Type	Prior Year(s) Actuals	2022 Budget	2023 Projected	Future Year(s) Projected	Projected Total
Customer Self Service Platform	Operations Support	Operating	129	26	-	-	155
WF Spillway Gate Coatings	Collection	Operating	-	150	-	-	150
SCADA Standards Development	Operations Support	Operating	68	81	-	-	149
Secure Configuration Managemen	Operations Support	Operating	4	142	2	-	148
McQueary Diversion Dam Concret	Collection	Operating	98	50	-	-	148
BizView Insight Software	Operations Support	Operating	96	44	-	-	141
Meter Shop Test Bench Inst Cnt	Operations Support	Operating	-	101	32	-	133
Moffat Chemical Containment	Treatment	Operating	120	5	-	-	125
Trumbull	Treatment	Operating	-	119	-	-	119
Smith Road Pump Station Analysis	Distribution	Operating	50	53	-	-	103
WF East Boat Ramp Extension	Collection	Capital	-	100	-	-	100
Joint Chatfield Pump Station (TBD)	Expansion	Capital	-	100	-	-	100
WF Spillway Gate Stress Test	Collection	Operating	-	81	-	-	81
Water Efficiency Plan-Communicate Efficiency	Expansion	Operating	53	24	-	-	77
Moffat Apple Tree Valve Replac	Treatment	Capital	71	1	-	-	72
Intuitive Tap/Water Sales Pmt	Operations Support	Operating	-	23	43	-	66
Intune	Operations Support	Operating	48	17	-	-	65
Application Whitelisting	Operations Support	Operating	49	15	-	-	64
Rcycl Treatment Plant- BAF Aeration Imprvmt	Treatment	Capital	5	50	-	-	55
Water Efficiency Plan-SDC Efficiency Credits	Expansion	Operating	42	10	-	-	52
Online Plan Review Portal	Operations Support	Operating	-	51	-	-	51
Software Defined Access	Operations Support	Operating	-	47	-	-	47
Moffat Water Treatment Plant Hydro Feasibility S	Collection	Operating	40	5	-	-	45
Welby Pump Station H2S Corrosion Study	Collection	Operating	30	11	-	-	40
Capitol Hill C18 Filling Valve	Collection	Operating	34	5	-	-	39
Patch & Vulnerability Mgmt	Operations Support	Operating	27	9	-	-	36
Ralston Dry Bed Clean Closure	Treatment	Operating	-	30	-	-	30
Conduit 20 Divers Dam Ret Wall	Collection	Operating	-	10	20	-	30

PROJECT & PROGRAM DETAIL 2022 BUDGET

(in thousands of dollars)

Project Name	System	Project Type	Prior Year(s) Actuals	2022 Budget	2023 Projected	Future Year(s) Projected	Projected Total
Moffat Treatment Plant Generator 1 & 2 GCP/Switch	Treatment	Operating	-	30	-	-	30
Active Directory Restore Tool	Operations Support	Operating	-	26	-	-	26
TOTAL PROJECTS			\$ 846,244	\$ 420,933	\$ 199,981	\$ 479,728	\$ 1,682,785

Program Name	System	Project Type	Prior Year(s) Actuals	2022 Budget	2023 Projected	Future Year(s) Projected	Projected Total
Vehicle Replacements	Operations Support	Capital	5,202	5,212	8,000	-	18,414
From Forest to Faucets	Expansion	Operating	4,325	2,500	2,500	-	9,325
Main Relocations	Distribution	Capital	5	2,727	2,727	-	5,460
2022/23 Vault Modifications	Distribution	Capital	45	2,391	1,000	-	3,436
2021/22 Vault Modifications	Distribution	Capital	562	2,864	-	-	3,426
Specialized Main Improvements	Distribution	Capital	110	1,035	1,700	-	2,845
DIA Vault Program	Distribution	Capital	540	1,000	1,000	-	2,540
2023/24 Vault Modifications	Distribution	Capital	-	90	1,990	-	2,080
Unplanned Expense Work	Other	Operating	500	750	750	-	2,000
Fire Hydrant Replacement	Distribution	Capital	700	700	500	-	1,900
Conduit Inspections	Distribution	Operating	720	500	500	-	1,720
2022-23 HVAC Improvements	Operations Support	Capital	-	117	1,491	-	1,609
Conduit Valve Repl 2022 / 2023	Distribution	Capital	-	1,500	-	-	1,500
Marston Cathodic Protect Imprv	Treatment	Capital	-	200	1,200	-	1,400
C12 Loretto Heights Valve Repl	Distribution	Capital	-	1,350	-	-	1,350
Roof Maint. Repair & Replaceme	Operations Support	Operating	391	250	500	-	1,141

PROJECT & PROGRAM DETAIL 2022 BUDGET

(in thousands of dollars)

Project Name	System	Project Type	Prior Year(s) Actuals	2022 Budget	2023 Projected	Future Year(s) Projected	Projected Total
No-Fault Main Break Program	Operations Support	Operating	627	250	250	-	1,127
DIA Electrically Shorted Pipin	Distribution	Operating	627	250	250	-	1,127
Aerial Crossing Replacements	Distribution	Capital	864	10	-	-	874
C-13,40,53,89,107,& 141 Corros	Distribution	Capital	151	703	-	-	854
2022/23 Cathodic Protect Imprv	Distribution	Capital	-	250	600	-	850
HVAC Replacement Program	Operations Support	Capital	144	667	-	-	810
Misc Small Pmpg & Storage Proj	Distribution	Capital	100	150	400	-	650
Backup Storage Refresh Project	Operations Support	Capital	-	636	-	-	636
Broomfield and Montclair Pump Station Ca	Distribution	Capital	300	335	-	-	635
Emerg Capital Unplanned Proj	Other	Capital	100	250	250	-	600
Strontia Sedimentation Study	Collection	Operating	25	250	250	-	525
C94 Assessment and Repairs	Distribution	Capital	115	115	150	-	380
Replace End of Life Network Devices	Operations Support	Operating	-	263	18	-	280
Hyper-V Upgrade Project	Operations Support	Operating	-	171	14	-	185
PLC Replacement: Moffat Analyz	Operations Support	Operating	-	59	-	-	59
Domain Functional Upgrade	Operations Support	Operating	5	52	-	-	57
PLC Replacement: 45th & Wolff	Operations Support	Operating	-	49	-	-	49
PLC Replacement: 10th & Monaco	Operations Support	Operating	-	48	-	-	48
PLC Replacement: 20th & Monaco	Operations Support	Operating	-	48	-	-	48
PLC Replacement: COLO ROW	Operations Support	Operating	-	48	-	-	48

PROJECT & PROGRAM DETAIL 2022 BUDGET

(in thousands of dollars)

Project Name	System	Project Type	Prior Year(s) Actuals	2022 Budget	2023 Projected	Future Year(s) Projected	Projected Total
PLC Replacement: Hogback	Operations Support	Operating	-	44	-	-	44
PLC Replacement: 48th & Tower	Operations Support	Operating	-	43	-	-	43
PLC Replacement: 72nd & Tower	Operations Support	Operating	-	43	-	-	43
PLC Replacement: Foothill SLUD	Operations Support	Operating	-	37	-	-	37
Kofax Upgrade to KTA	Operations Support	Operating	-	30	-	-	30
PLC Replacement: Moffat Alum	Operations Support	Operating	-	10	-	-	10
PLC Replacement: Moffat Poly	Operations Support	Operating	-	10	-	-	10
TOTAL PROGRAMS			\$ 16,157	\$ 28,009	\$ 26,041	\$ -	\$ 70,206
TOTAL PROJECTS & PROGRAMS			\$ 862,400	\$ 448,941	\$ 226,021	\$ 479,728	\$ 1,752,991

The above list contains projects that are in process or scheduled to start in 2022. Future projects are not included. All projections are based on the current long-term forecast. Projects are at various levels of design and/or construction and are subject to change.



PROJECT UPDATES

Gross Reservoir Expansion Project

Securing our future ability to provide safe, reliable water

The Gross Reservoir Expansion Project is a major component of Denver Water’s long-term, multi-pronged approach to deliver safe, reliable water to the more than 1.5 million residents in our service area today and many of the projected millions who will call Colorado home in the decades to come. That approach includes increased water efficiency, recycling water and responsibly sourcing new storage.



The project will raise the height of the existing dam by 131 feet, which will allow the capacity of the reservoir to increase. Once permits are secured, we expect construction to take place in phases. The project website, www.grossreservoir.org details expansion plans, permit details, construction and timing.

Gross Dam was built in the 1950s and named after Dwight D. Gross, a former chief engineer at Denver Water. It was built to store water from the West Slope that travels through the Moffat Tunnel, as well as water from South Boulder Creek. The original engineers designed the dam so that it could be raised twice, if needed. Denver Water began the permitting process to raise the dam in 2003 and received approvals from the Colorado Department of Public Health and Environment in 2016 and the U.S. Army Corps of Engineers in 2017.

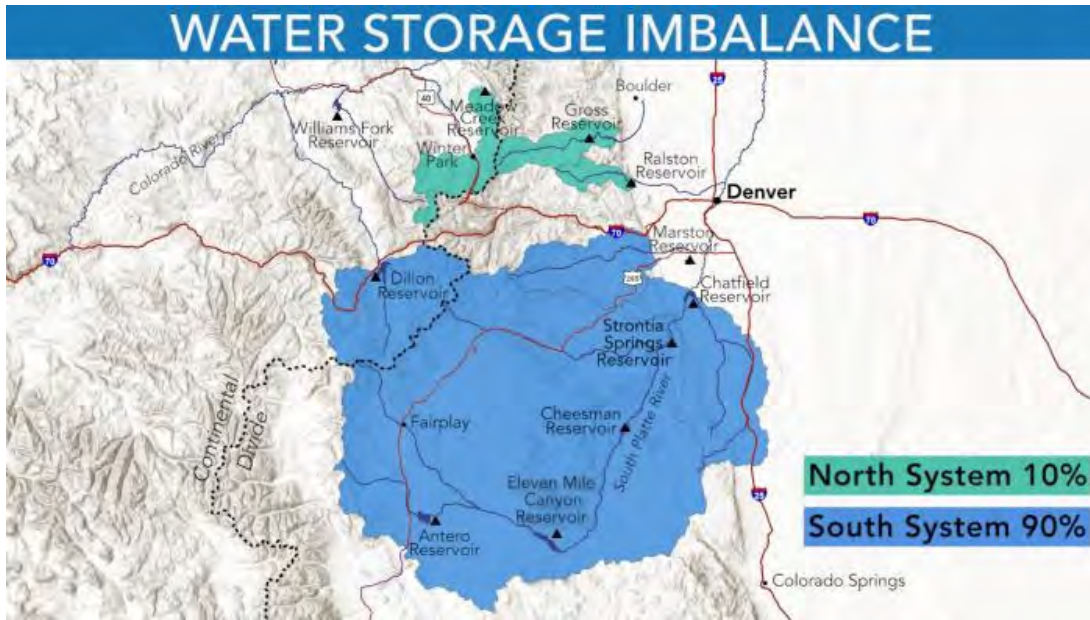


The plan cleared its final federal hurdle on July 16, 2020, when the Federal Energy Regulatory Commission gave its approval for the project and ordered Denver Water to proceed with design and construction.

The project has earned support from major environmental groups, business interests, water users on both sides of the Continental Divide and elected officials on both sides of the aisle, including the state’s last five governors.

Raising the dam will increase the reservoir's storage capacity by 77,000 acre-feet of water and make Gross Reservoir the second largest in Denver Water's system. When complete, Gross Reservoir will be able to hold 119,000 acre-feet of water, second only to Dillon Reservoir in Summit County, which can hold about 257,000 acre-feet.

Building the Gross Reservoir Dam in the 1950s.



Denver Water has a water storage imbalance between its two collection systems with 90% of its reservoir storage located in the utility's South System compared to 10% in its North System. This storage imbalance creates vulnerability if there is a drought, mechanical issue or emergency that affects the South System. The storage imbalance is one of the reasons Denver Water is expanding Gross Reservoir.

The additional reservoir capacity will enable increased water capture in wet years to help avoid shortages during droughts. It also will help offset a current imbalance in Denver Water's collection system that is a significant risk. Once filled, the expansion at Gross will provide an additional 72,000 acre-feet of water storage, which is roughly the amount 288,000 residential households would use for one year. In addition, 5,000 acre-feet of storage space in the expanded reservoir — known as the environmental pool — is reserved to support environmental needs as part of an agreement with the cities of Boulder and Lafayette. Water from the environmental pool will be used to provide beneficial stream flows along a 17-mile stretch of South Boulder Creek below the dam during dry periods to protect fish and aquatic insects.

North System Renewal

Improving the safety and reliability of our aging system

Denver Water’s North System brings snowmelt from the mountains through reservoirs, pipelines and a treatment plant to produce clean, great-tasting drinking water. Denver Water is upgrading and modernizing the northern portion of our water system. We are building a new water

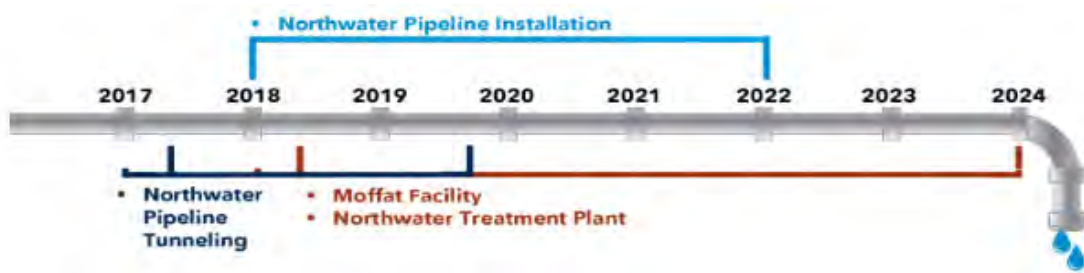


treatment plant, installing a new pipeline and redeveloping our Moffat Treatment Plant. When finished, the system will be more resilient and adaptable to changing demands for water now and into the future.

Denver Water’s North System was constructed in the 1930s, when the surrounding area was mostly farmland. Now, 80 years later, the North System is reaching the end of its lifespan. The North System’s pipelines and valves need to be replaced. The new treatment plant will feature updated technology, and the existing Moffat Treatment Plant will be repurposed into a distribution site.

Project components:

- **Northwater Treatment Plant (NTP)** — A new, state-of-the-art water treatment plant is being built next to Ralston Reservoir, north of Golden in Jefferson County. NTP will be capable of treating up to 75 million gallons of water a day and will be equipped with disinfection technology that will provide more flexibility to react to changes in water quality.
- **Northwater Pipeline** — A 66-inch diameter pipeline is being installed, replacing one of the two existing pipelines, running 8.5 miles between Ralston Reservoir and the Moffat Treatment Plant. The new pipeline will transport treated water from NTP to the Moffat Facility for distribution.
- **Moffat Treatment Plant** — The Moffat Treatment Plant will continue to treat water, but at a reduced capacity. Water treated at NTP will be sent to the Moffat facility, via the Northwater Pipeline, where it will be stored and distributed to customers.



**Construction began October 2017. As with any project, the schedule depends on several factors and will be updated as construction progresses.*

Clarkson Street Pump Station Renovation

Out of sight but not out of mind

Denver Water’s contractor, Moltz Construction, will upgrade pumps within an underground vault in Greenwood Village starting October 2022. Denver Water continually monitors its aging infrastructure and identifies specific equipment in the street that needs replacement to ensure customers receive a continuous supply of high-quality water.

Hillcrest Storage Tank Replacement

Durable design, less susceptibility to leaks

To maintain safety at the Hillcrest water storage facility and improve its reliability, Denver Water is making major upgrades through work originally estimated to run through 2021. However, due to labor and material shortages, completion of the pump station has been delayed. Demolition of the old pump station is expected to occur in late spring 2022. The current phase should be complete in summer 2022.



Denver Water developed the Hillcrest water storage facility in the early 1960s to replace several small, temporary pumping stations and improve the ability to reliably serve the burgeoning population of southeast Denver. Since then, the area’s population has continued to grow, placing increasing demand on the storage and pumping facilities on top of the wear and tear expected to come with age.



The major upgrades this project brings to the Hillcrest facility are an important part of Denver Water’s plan for continued reliable water service to the southeast Denver area.

Pipe Replacement and Lead Reduction Program Work Areas

Proactive pipe work keeps the water flowing

Denver Water replaces water mains for various reasons, including repairing or avoiding main breaks, replacing corroded pipe, alleviating water quality problems, increasing available hydrant flow and improving area delivery. Denver Water cares about public health and will replace any customer-owned

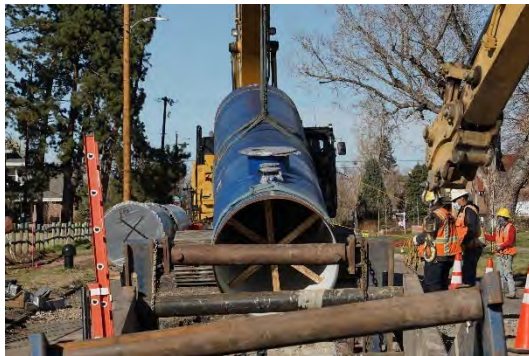
lead service line with a copper water line, at no direct charge to the customer, when discovered during a project. Customers who have lead service lines that are not encountered during pipe replacement work are enrolled in the Lead Reduction Program.

The water distribution system contains more than 3,000 miles of water mains, and Denver Water crews install or replace an average of 106,000 feet of pipe a year with a goal of replacing 140,000 feet of pipe a year by 2024.

Replacements are done for various reasons, including repairing or avoiding main breaks, replacing corroded pipe, alleviating water quality problems, increasing available hydrant flow and improving area delivery. All of these are important to maintaining the system that delivers your water.



There are typically three pipe sizes used to deliver water to customers. Conduits carry large amounts of water over long distances. Water mains branch off the conduits and run into neighborhoods. Service lines are owned by customers and connect homes and businesses to the water mains.



Construction crews install a 50-foot section of steel pipe next to Willis Case Golf Course in northwest Denver. Large pipes are 66 inches in diameter and weigh 11,500 pounds.



WATER RATES AND USAGE

WATER RATES



In October 2021, the Denver Board of Water Commissioners adopted rate changes to help pay for critical upgrades and projects to keep the water system operating efficiently.

The rate changes took effect Jan. 1, 2022 and will increase bills for most single-family customers by a range of about 50 cents to \$1.30 per month, depending on where they live and if they use water at similar volumes to 2021.

Customers' rates will help pay for an estimated \$2.6 billion in needed investment forecast over the next 10 years. This work will increase the resiliency, reliability and sustainability of the system that delivers clean, safe water to 1.5 million people.

From more frequent droughts and wildfires to additional regulations we expect we will be asked to meet — we will be prepared.

All our costs are paid for by rates, fees and other sources, such as bond and hydropower sales, not taxes.

To keep water affordable and to encourage efficiency, Denver Water's rate structure includes three tiers based on how much water you use. Indoor water use — for bathing, cooking and flushing toilets — is essential for human life and is charged at the lowest rate. Efficient outdoor water use is charged in the second tier (middle rate), followed by additional outdoor water use in the third tier (highest rate). In addition to variable charges based on water use, the rate structure also includes a monthly fixed charge based on the size of your water meter.

Denver Water employees continue their around-the-clock work running a large, intricate system that spans 13 counties across Colorado. With major investments forecast over the next 10 years, we're staying on top of upgrades and new projects needed to keep this system operating efficiently.

We are continuing our proactive and strategic work maintaining and replacing water mains in the street, building a new, state-of-the-art treatment plant and water quality laboratory, expanding Gross Reservoir, and replacing old, customer-owned lead service lines to protect our customers from the risk of lead in drinking





water — while also planning for a future that includes more extreme weather patterns.

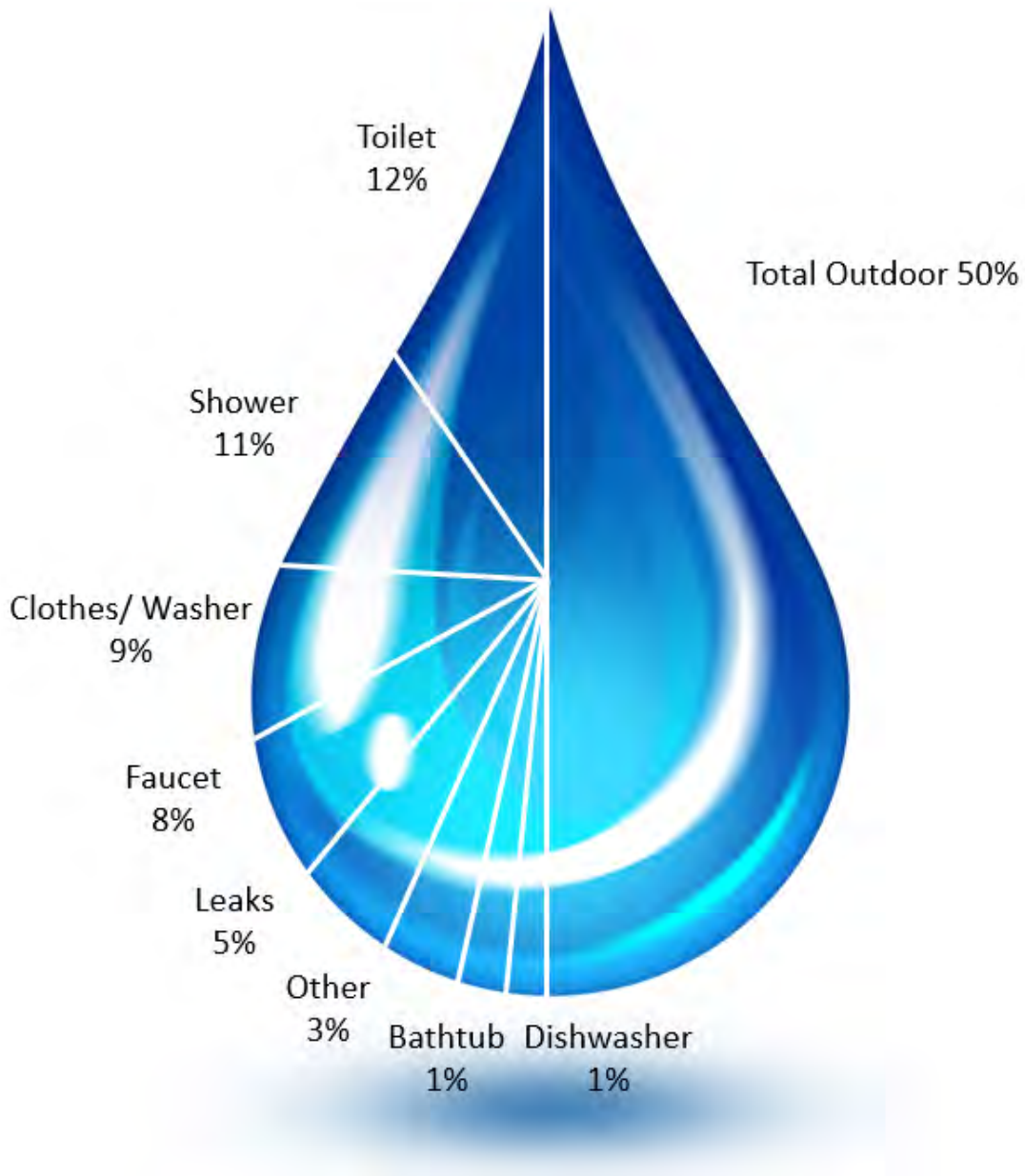
We always encourage our customers to be efficient with their water use. Using less water means more water can be kept in the mountain reservoirs, rivers and streams that fish live in and Coloradans enjoy. Denver Water’s commitment to sustainable practices, protecting our ecosystem and our communities was recognized in September 2021 by the national association representing the largest publicly owned drinking water suppliers in the United States — our peers.

We are honored to have received the 2021 Sustainable Water Utility Management Award from the Association of Metropolitan Water Agencies and we are proud to receive this award for the second time in four years.

WATER USAGE

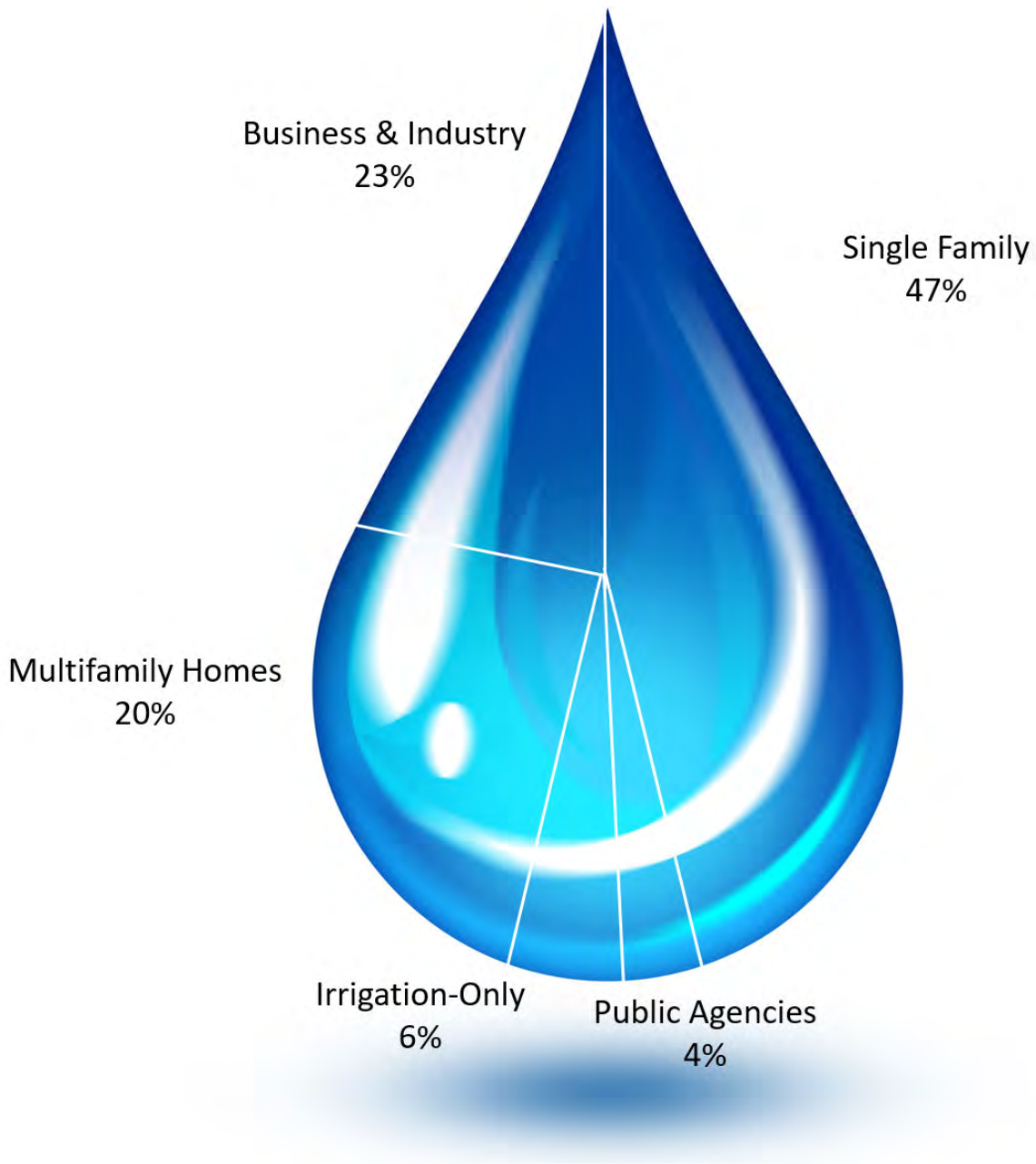
Residential Usage

Denver Water analyzes how customers use water now and how that use may change in the future. By researching customer water-use patterns, Denver Water can better plan for an adequate supply of clean, reliable water well into the future.

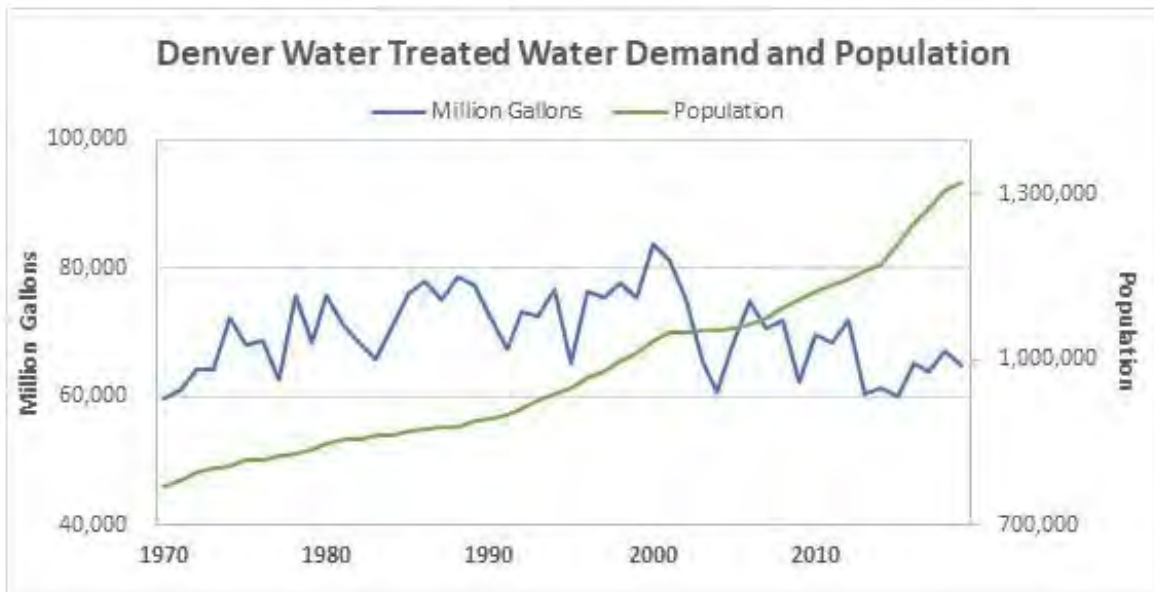
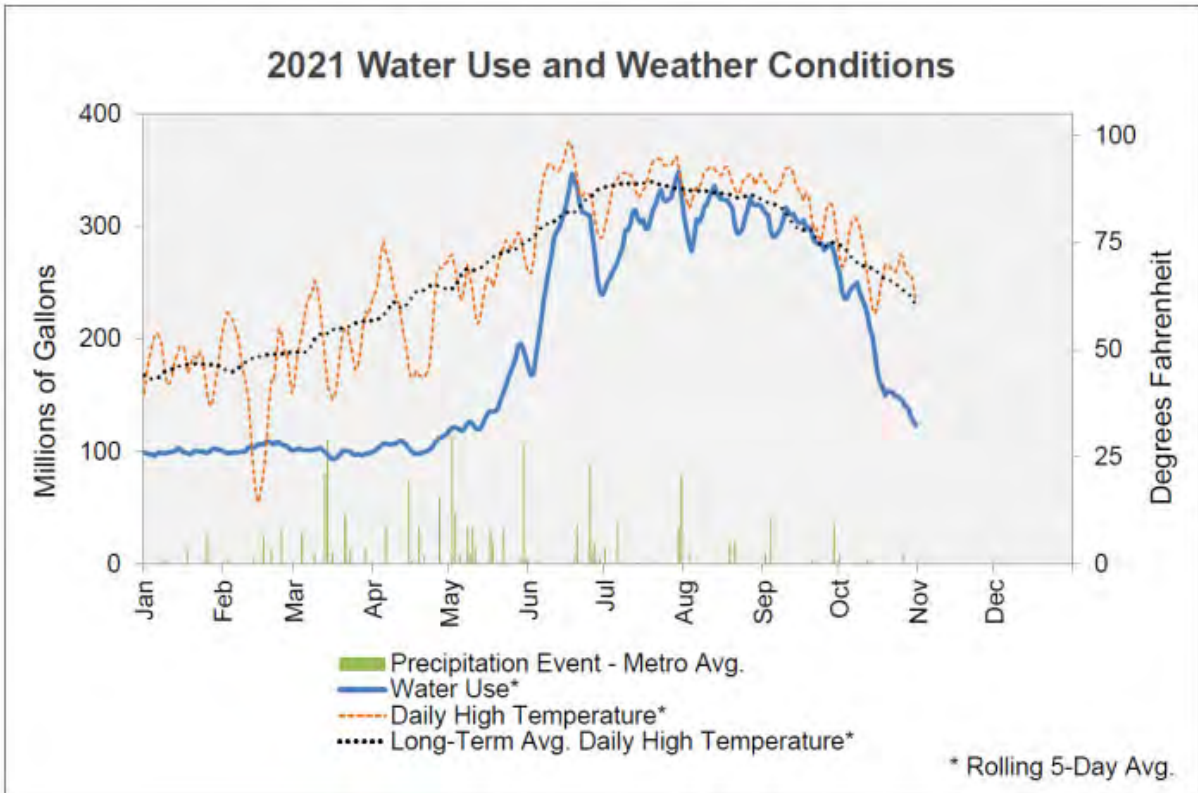


Usage by Category

Predicting the future needs for Denver Water’s service area depends on growth in population and employment, improvements in water fixture technology, and changes to land use, among other variables.



Water use from year to year is heavily influenced by the weather. About half of single-family residential water use is outdoors, and a hot, dry year can mean customers use more water than usual. Denver Water serves about a quarter of the state's population but uses less than 2% of all water, treated and untreated, in Colorado.



WATER SHORTAGE PREPAREDNESS



Cheesman Reservoir - 2002 drought

Denver Water’s proactive efforts take a holistic approach that includes planning for all water shortage events. Water shortages can occur many ways, including drought, curtailment of water supplies or an emergency in our water distribution system. Regardless of the cause, Denver Water has processes in place to respond appropriately to a water shortage event.

All decisions pertaining to water shortage response are made by the Board of Water Commissioners. Board members use Chapter 15 of Denver Water’s Operating Rules to guide their decision. The goal of the Board’s response is to maintain the health, safety and economic vitality of the community to the extent possible in the face of water shortages.

Drought is the most frequent water shortage event for the 1.5 million people Denver Water serves. The weather in Denver Water’s collection system and service area constantly fluctuates, but it’s typically very dry.

Denver receives an average of 15 inches of precipitation each year, which is about a fourth of the precipitation a tropical city such as Miami receives.

We’ve also experienced several severe droughts in the past that have challenged our water system and depleted our supply. Because of that, Denver Water has a detailed drought-response plan in place.

Stages of Drought Response

Denver Water’s Water Shortage Response Implementation Plan details water shortage indicators, response tools and response actions. Denver Water’s primary response to water shortage is to restrict customers’ water use so supplies will last as long as possible and be available for the most essential uses.

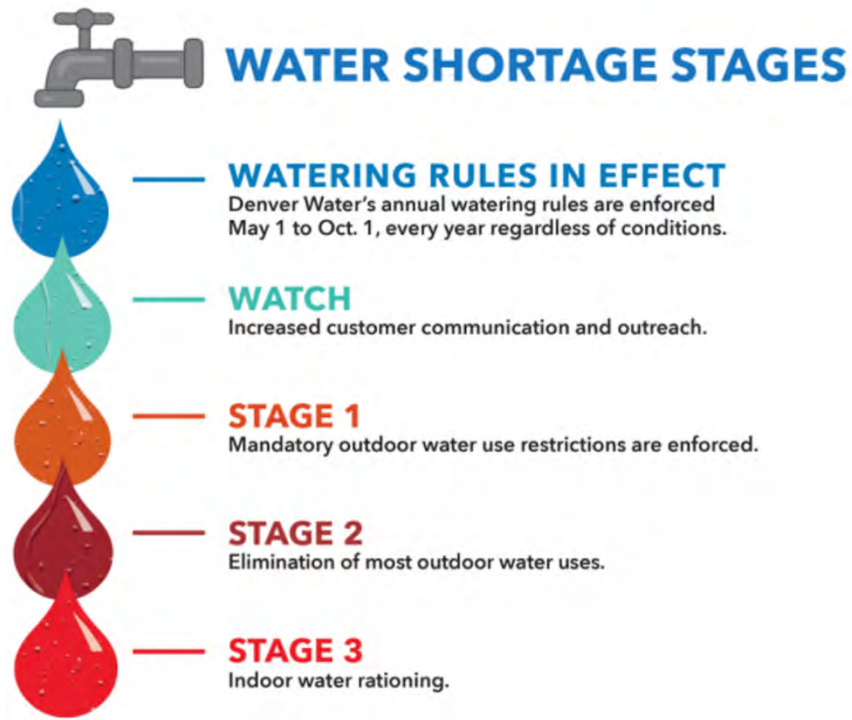


Sun seen through wildfire smoke, 2020

Denver Water’s annual watering rules are enforced May 1 to Oct. 1 every year, regardless of conditions.

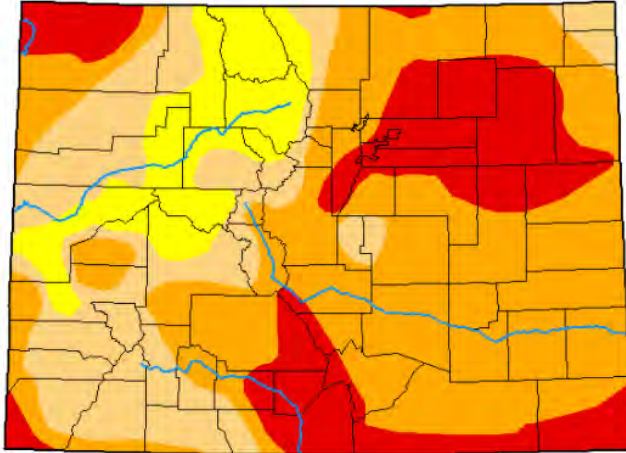
Additionally, four stages of response have been identified based on various water shortage indicators such as:

- Current and projected supply reservoir contents
- Watershed characteristics in the Colorado and South Platte River basins such as temperature, precipitation, snowpack, streamflow, wind, and soil moisture
- Water use, including projected water use
- Weather forecasts
- Actions taken by local, regional and/or state governments or water suppliers regarding water use
- Drought response actions taken by state water officials
- Water availability conditions and/or drought conditions in the Colorado and South Platte River basins
- A failure or emergency in the Denver Water System



The following images show the Colorado drought monitor from January 2022 and 2021 comparatively:

U.S. Drought Monitor Colorado



January 11, 2022
(Released Thursday, Jan. 13, 2022)
Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	0.00	100.00	88.32	65.93	20.59	0.00
Last Week <small>01-04-2022</small>	0.00	100.00	95.49	67.08	22.25	0.00
3 Months Ago <small>10-12-2021</small>	5.26	94.74	65.99	29.29	13.63	1.95
Start of Calendar Year <small>01-04-2022</small>	0.00	100.00	95.49	67.08	22.25	0.00
Start of Water Year <small>09-28-2021</small>	12.72	87.28	46.42	26.30	15.05	3.91
One Year Ago <small>01-12-2021</small>	0.00	100.00	100.00	91.03	73.63	27.59

Intensity:

None	D2 Severe Drought
D0 Abnormally Dry	D3 Extreme Drought
D1 Moderate Drought	D4 Exceptional Drought

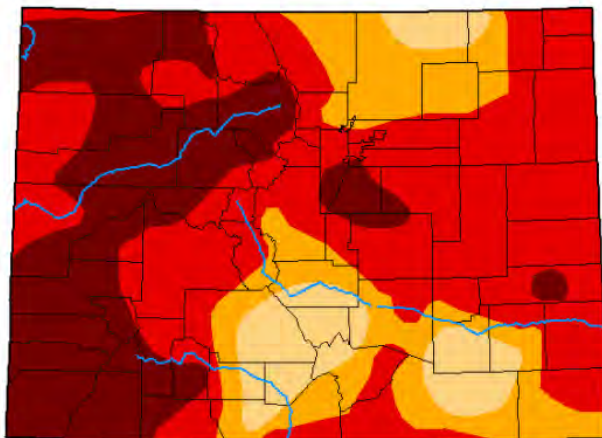
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to <https://droughtmonitor.unl.edu/About.aspx>

Author:
Richard Tinker
CPC/NOAA/NWS/NCEP



droughtmonitor.unl.edu

U.S. Drought Monitor Colorado



January 12, 2021
(Released Thursday, Jan. 14, 2021)
Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	0.00	100.00	100.00	91.03	73.63	27.59
Last Week <small>01-05-2021</small>	0.00	100.00	100.00	93.73	75.17	27.60
3 Months Ago <small>10-12-2020</small>	0.00	100.00	100.00	97.23	59.23	16.72
Start of Calendar Year <small>12-29-2020</small>	0.00	100.00	100.00	93.73	75.17	27.60
Start of Water Year <small>09-29-2020</small>	0.00	100.00	99.29	89.35	52.88	2.64
One Year Ago <small>01-14-2020</small>	31.72	68.28	51.19	13.84	0.00	0.00

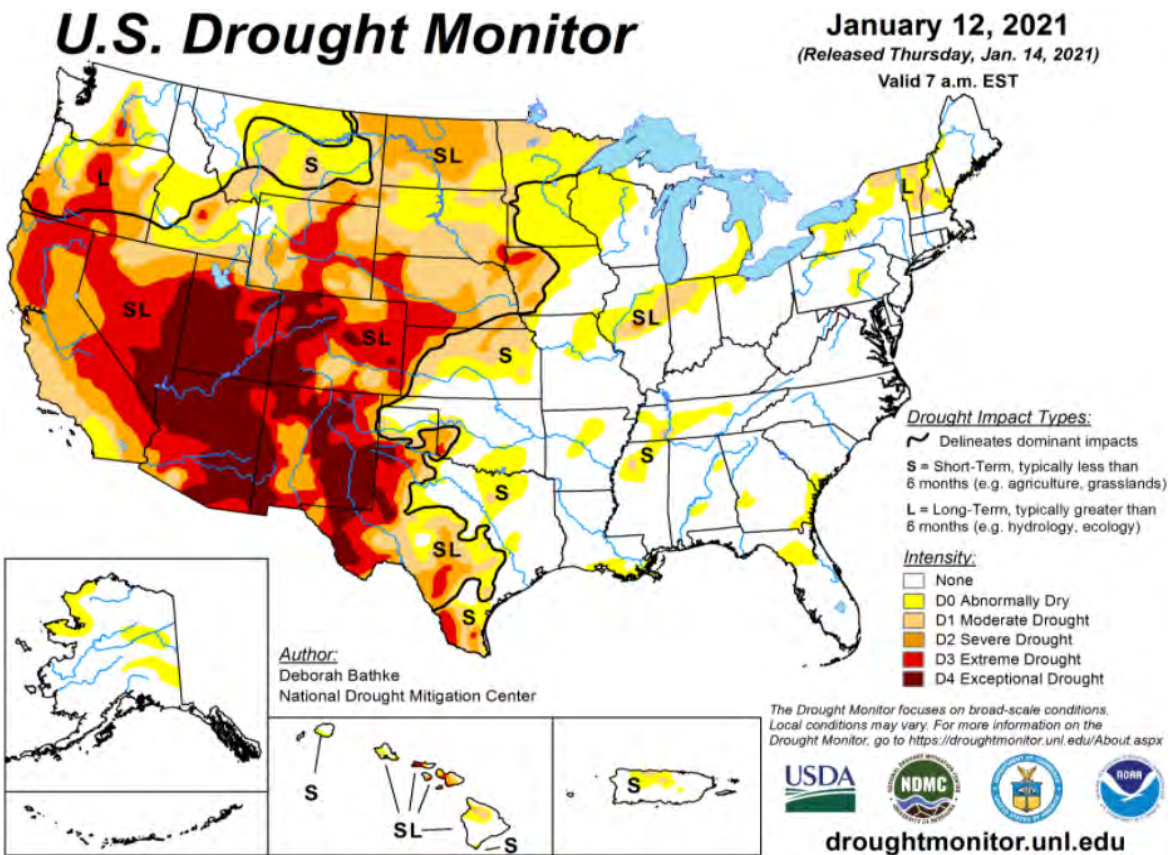
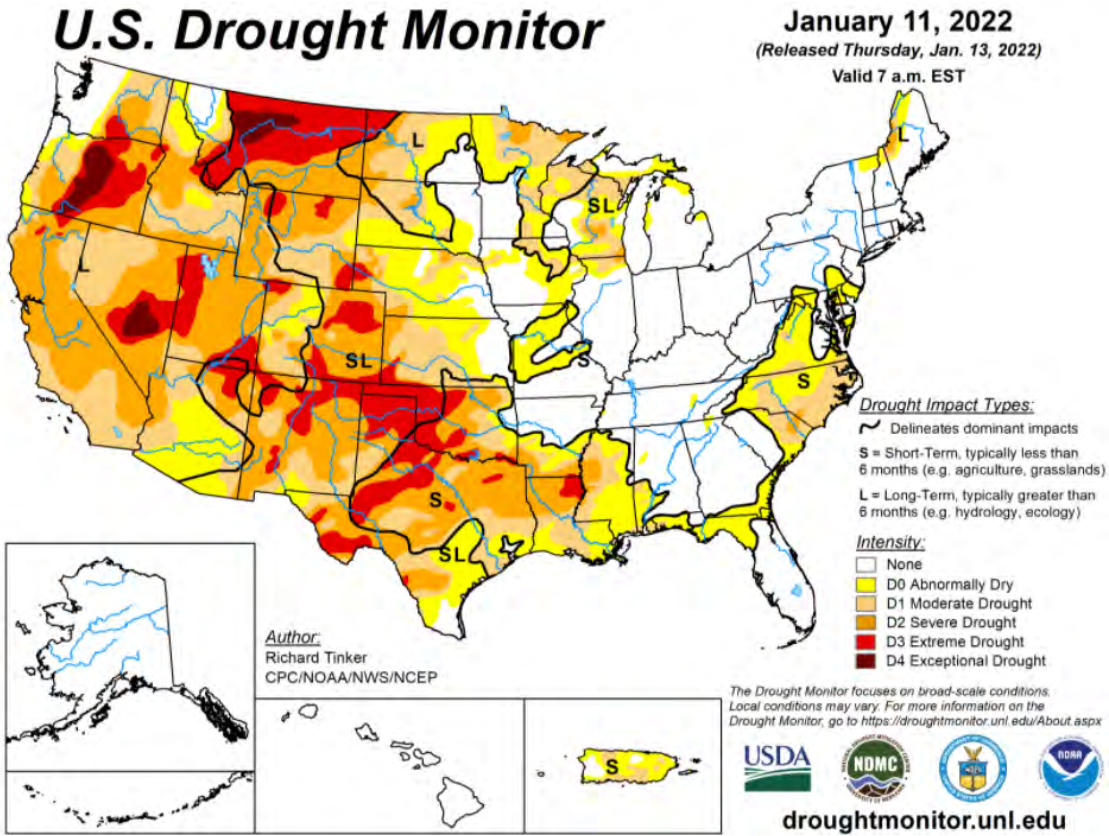
Intensity:

None	D2 Severe Drought
D0 Abnormally Dry	D3 Extreme Drought
D1 Moderate Drought	D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to <https://droughtmonitor.unl.edu/About.aspx>

Author:
Deborah Bathke
National Drought Mitigation Center

The following images show the national drought monitor from January 2022 and 2021 comparatively:

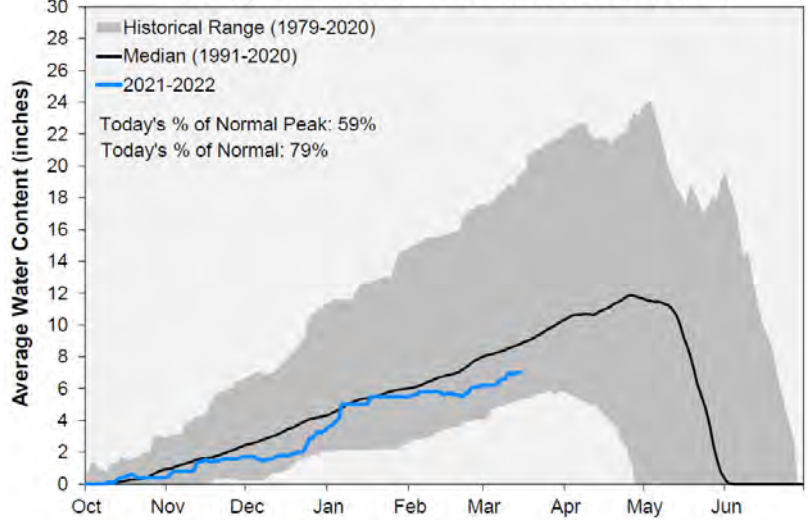


Current Conditions (as of March 15, 2022)

Denver Water collects and analyzes data from throughout our system to help better understand where our water supply and demand stand. All data is preliminary and subject to change.

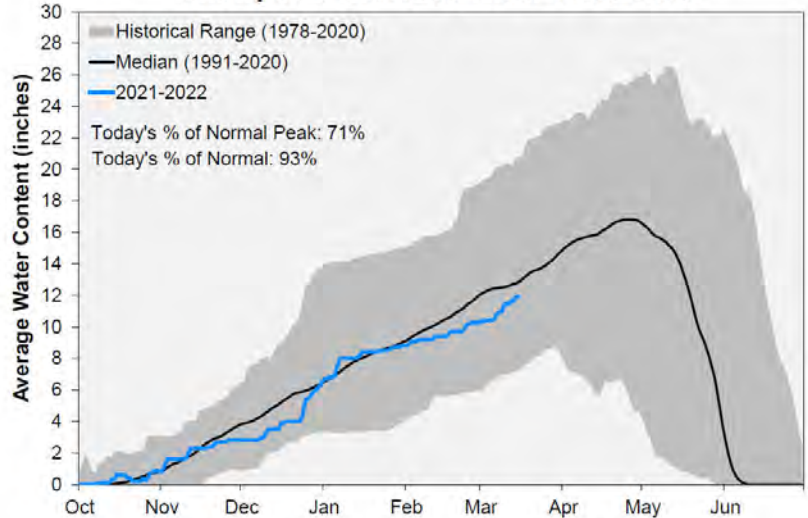
Denver Water’s supply reservoir storage is near average for this time of year at 80% full, with 79% full being typical for this time of year. Following a slow start to the snowpack accumulation season, snowpack increased to normal levels in early January. Current snowpack is 81% of normal in the South Platte River watershed and 93% of normal in the Colorado River watershed. Since the start of the calendar year, Denver Water’s service area and collection system have received above average precipitation.

Snowpack: South Platte River Watershed



3/15/2022 Data are from the 7 Snotel stations above Denver Water's Upper South Platte diversion facilities.

Snowpack: Colorado River Watershed



3/15/2022 Data are from the 7 Snotel stations above Denver Water's Upper Colorado diversion facilities.



GLOSSARY AND DEFINITIONS

GLOSSARY AND DEFINITIONS

accounting standards

The Board's financial statements are prepared in accordance with principles generally accepted in the United States of America (GAAP). Additionally, the Board applies all applicable pronouncements of the Governmental Accounting Standards Board.

balanced budget

The Denver Board of Water Commissioners has not adopted an official policy on a balanced budget. Our practice is to balance the budget by the planned use of contribution to investment balances.

basis of accounting

The Board's financial statements are accounted for on the flow of economic resources measurement focus, using the accrual basis of accounting. Under this method, all assets and liabilities associated with operations are included on the statement of net assets, revenues are recorded when earned, and expenses are recorded at the time liabilities are incurred. This is different from the basis of budgeting. Denver Water's budget is prepared using the budget basis in which revenues are recorded when they become available, and expenditures are recorded at the time liabilities are incurred.

bonds

Debt instruments. According to Denver Water's charter, the Board may issue revenue bonds that are secured solely by their revenue.

budget

A financial plan for a specified period of time (fiscal year) that assigns resources to each activity in sufficient amounts so as to reasonably expect accomplishment of the objectives in the most cost-effective manner.

capital expenditure

Expenditure having a depreciable life of over one year and a cost over \$50,000.

capital policy

Initial acquisition costs of assets are capitalized if they have a service life of more than one year and a cost of \$50,000 or more. Costs not meeting these criteria are expensed. Depreciation and amortization are computed using the straight-line method over the estimated useful lives of the respective asset classes.

cash reserves

The charter of the City and County of Denver specifically allows the accumulation of reserves "sufficient to pay for operation, maintenance, reserves, debt service, additions, extensions and betterments, including those reasonably required for anticipated growth of the Denver Metropolitan area and to provide for Denver's general welfare." The Board's practice is to maintain reserves that are sufficient to

provide: 25% of the next year's operating costs; the greater of average annual amortization cost or 2% of current total capital assets (before depreciation) for replacement capital and equipment purchases; 50% of expected annual debt service for next year; \$10 million in exposure reserve.

conduit

A 24-inch diameter (or larger) pipe carrying raw or potable water from or to treatment facilities, reservoirs and delivery points feeding a distribution system.

customer service area

The region in which customers are provided and delivered professional, helpful, high quality services and assistance before, during, and after the customer's requirements are met.

debt guidelines

Denver Water has no legal debt limits. However, the Board has adopted debt guidelines to guide the timing and use of debt in the future. The guidelines set forth a policy that prevents debt proceeds from being used to pay operating and maintenance expenditures. The guidelines instruct that debt proceeds will be used only for current refunding, advanced refunding and payment for nonrecurring capital projects that expand the system or are otherwise unusual in nature or amount.

debt service

Principal and interest on debt and payments under capital leases.

depreciation

a reduction in the value of an asset with the passage of time.

division

Largest organizational unit reporting to the CEO/Manager.

enterprise fund

A type of propriety fund or a governmental unit that carries on activities in a manner similar to a private business.

fund

An accounting entity with a set of self-balancing accounts that is used to account for financial transactions for specific activities or government functions. By charter, Denver Water is reflected in the city's financial statement in a single fund known as the Water Works Fund.

fund balance

The balance in the Water Works Fund. Fund balance is calculated each year by adding total sources of funds to the balance at the beginning of the year and then subtracting total expenditures.

Governmental Accounting Standards Board (GASB)

A board that establishes the generally accepted accounting principles for state and local governmental units.

hydropower

Hydroelectric power of/or relating to production of electricity by water power.

integrated resource

A method for looking ahead using environmental, engineering, social, financial and economic considerations. Includes using the same criteria to evaluate both supply and demand options while involving customers and other stakeholders in the process.

investment balance

The total sum held in cash and investments net of uncleared warrants.

investments

The Board has protection of principal as its primary investment policy objective. The Board designates its authority to invest money deposited in the Water Works Fund to the CEO/Manager and the chief of finance. According to the current investment policy, U.S. government obligations, government-sponsored federal agency securities, commercial paper, corporate fixed income securities, money market funds and repurchase agreements are permissible investments. The official policy outlines allowable credit risk and maximum maturities for each investment type.

long-term debt

Debt with a maturity of more than one year from date reported.

operating reserves and restricted funds

The amount of cash and invested funds available at any point in time. The balance is the Water Works Fund as defined in this glossary.

operating revenue

Revenue obtained from the sale of water.

principal and interest requirements

As used in the debt guidelines, interest requirements plus the current portion of long-term debt.

program

An organized group of activities and the resources to carry them out, aimed at achieving related goals.

program budget

A method of budgeting in which the focus is on the project and activities that are required to accomplish Denver Water's mission, goals and objectives. It provides consideration of alternative means to accomplish these criteria. It also provides a control device for higher level management and cuts across organizational lines. Resources are allocated along program lines and across organizational lines.

program element

Series of smaller categories of activities contained in the program such as raw water, water treatment, etc.

raw water

Untreated water.

recycled water

Application of appropriately treated effluent to a constructive purpose. In Colorado, the source of recycled water must be another basin. Also, to intercept, either directly or by exchange, water that would otherwise return to the stream system for subsequent beneficial use.

refunds

Includes system development charge refunds and customer refunds.

reservoir

An impoundment to collect and store water. Raw water reservoirs impound water in a watershed; terminal reservoirs collect water where it leaves a watershed to enter the treatment process; and treated-water reservoirs are tanks or cisterns used to store potable water.

revenues

Denver Water's system is completely funded through rates, fees and charges for services provided by Denver Water. There are no transfers to or from the city's general fund. Water rates pay for operation and maintenance expenses, repair, capital replacements and modifications to existing facilities, debt service and a portion of the costs of new facilities and water supply.

risk management

The Board is exposed to various risks of losses, including general liability (limited under the Colorado Governmental Immunity Act to \$150,000 per person and \$600,000 per occurrence); property damage; and employee life, medical, dental and accident benefits. The Board has a risk-management program that includes self-insurance for liability, employee medical, dental and vision. The Board carries commercial property insurance for catastrophic losses including floods, fires, earthquakes and terrorism for scheduled major facilities.

strategic plan

Process that is a practical method used by organizations to identify goals and resources that are important to the long-term wellbeing of its future.

Supplier Diversity Program

Denver Water's Supplier Diversity Program seeks to provide small businesses and businesses owned by minorities and women an opportunity to work for Denver Water as contractors, subcontractors and suppliers. In selecting suppliers, contractors and subcontractors, Denver Water actively works to cultivate an environment that provides opportunities as well as transparency and advocacy for small, minority and women-owned businesses.

system development charges

A one-time connection charge that provides a means for financing a portion of the source of supply, raw water transmission facilities, treatment plants and backbone treated water transmission facilities required to provide service to a new customer. Sometimes called a tap fee.

tap

A physical connection made to a public water distribution system that provides service to an individual customer.

type of expenditure

A classification of resources or commodities that will be budgeted and charged to projects and activities by cost control centers.

vertical value stream

A visual tool that displays all critical steps in a specific process and easily quantifies the time and volume in each stage.

ACRONYM GLOSSARY

ACFR

Annual Comprehensive Financial Report

CDPHE

Colorado Department of Public Health and Environment

CREA

Community, Research, Education and Awareness.

CSA

Customer Service Area

EPMO

Enterprise Project Management Office

FERC

Federal Energy Regulatory Commission

FTE

Full Time Employment

GAAP

Generally Accepted Accounting Principles

GASB

Governmental Accounting Standards Board

GFOA

Government Finance Officers Association

IRP

Integrated Resource Plan

LTE

Limited Term Employment

MGD

Million Gallons per Day

M

Million

K

Thousand

NTP

Northwater Treatment Plant

PLC

Programmable Logic Controller

SDC

System Development Charges

SDWA

Safe Drinking Water Act

VS

Value Stream

WS

Workshop

WTP

Water Treatment Plant