



 Thornton, CO

# **BENCHMARKS FOR DATA- INFORMED WATER EFFICIENCY MEASURES**

City of  
**THORNTON**



# OUR APPROACH

WaterNow Alliance partnered with the City of Thornton to develop water use benchmarks for the City's commercial, industrial, and institutional (CII) customers. First, WaterNow researched existing CII benchmark programs in Western communities to understand effective methodologies for determining how much water different customer classes in a community use. Then, the project team analyzed Thornton's water use data to quantify water consumption by business type, leading to draft metrics and benchmarks meant to reduce overall CII water use. WaterNow facilitated stakeholder meetings with CII customers to present initial findings, gather feedback, and refine water use categories to better reflect water use data. Finally, the team developed guidance, such as steps to create equitable tap fees using these benchmarks and how to update benchmarks in the future, to support Thornton's implementation efforts.



# IMPACT

The CII water use benchmarks allow Thornton to better understand customers’ overall water use by customer type, and predict low, average, and high water use across 14 different CII categories.

Establishing benchmarks across these categories will allow Thornton to better manage its water supplies for the 165,000 people who call Thornton home. Thornton can use these benchmarks to improve water conservation efforts with efficiency measures that are appropriate for each CII classification, which further support the goals in Thornton’s Water Efficiency Plan.

Thornton’s 14 CII Categories

Animal Clinic	Mixed Use
Auto Services	Multifamily Residential
Bank	Office
Car Wash	Pre-K/Daycare
City Building	Public Recreation
Eating/Drinking Place	Public Safety
Gas Station	Religious Institution
Healthcare Facility	Retail Outlet
Hotel/Motel	School/College
Light Industrial	Senior Living
Mini Storage	Service-oriented Shopping



## KEY DRIVERS

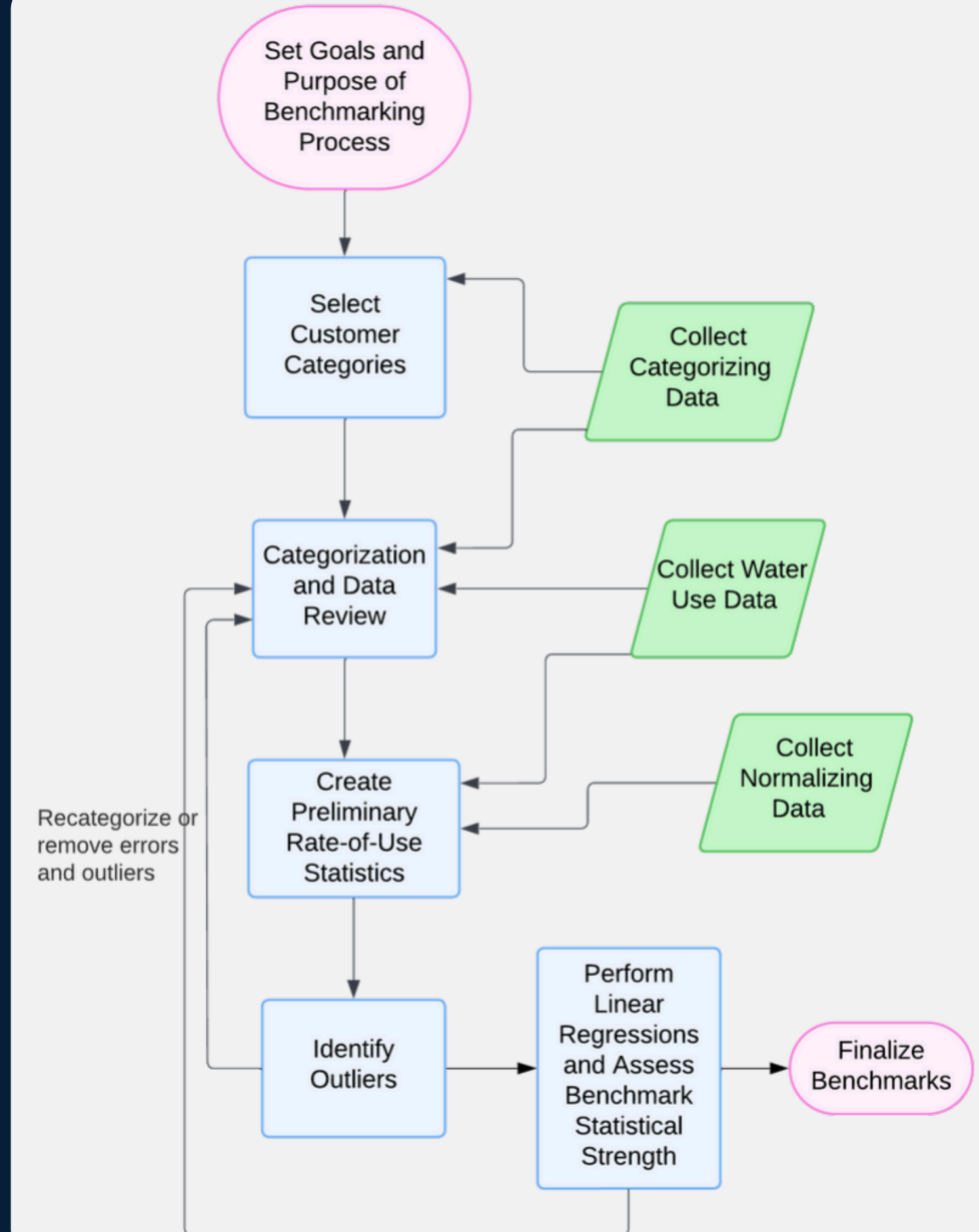
Thornton's utility billing database does not distinguish between business types within the commercial customer class, making it challenging to determine water use trends for different business categories and to project future water demand in the face of threats to water supply, such as drought.





# HOW IT WORKS

WaterNow first researched and met with communities that have established CII benchmarks across the West to gauge benchmark development methods and the impacts of these approaches. Thornton's water use billing data was then analyzed to quantify CII water use by business type, forming the basis for draft water use metrics and benchmarks for CII categories meant to reduce overall CII consumption.





# HOW IT WORKS

To validate the benchmarks, WaterNow held stakeholder meetings with Thornton CII water users to introduce and share information on the development process, leading to two case studies outlining the water use and current and recommended water efficiency practices of a school district and Thornton's city buildings. The draft benchmarks were refined based on these conversations, along with a detailed review of water use trends within each CII category. Lastly, WaterNow developed guidance to support Thornton's implementation efforts and ensure the benchmarks can continue to be effectively used moving forward.







**WE ARE VERY EXCITED TO USE THIS DATA TO WORK WITH  
COMMERCIAL CUSTOMERS ON WATER EFFICIENCY. WE WILL  
USE THE INFORMATION FOR ESTIMATING FUTURE COMMERCIAL  
USERS' WATER DEMAND, POSSIBLE TAP FEE POLICIES,  
TARGETING AND WORKING WITH HIGH USERS.**

– Heather Waters, Water Resources Administrator,  
City of Thornton



# THE PATH FORWARD

Establishing these tailored benchmarks will enable Thornton to develop water conservation goals and inform decisions regarding equitable tap fees suitable for each business type connecting with the water system. For example, businesses known to consume more water, as established in these benchmarks, could be charged higher fees to account for the greater demand that they place on Thornton's water supply system. This would ensure that fees reflect both infrastructure needs and actual water consumption of each CII customer.



# THE PATH FORWARD

Furthermore, the benchmarks will support the City in implementing the goals identified in its Water Efficiency Plan and other water conservation measures. For example, by analyzing these benchmarks, Thornton can identify and conduct targeted outreach to customers who stand out as high water users. This data will also help the City showcase strategies from particularly efficient water users within the same category. This approach would help customers understand their water usage in relation to peer organizations, with the potential to offer specific measures they could implement to help them save money and lower their bills.



## KEY TAKEAWAYS

- (1)** Water use benchmarking is an opportunity to update customer account information and combine this with other data, like land use and zoning categories, to inform the development of other water conservation measures, such as water budgets and conservation-oriented tap fees.
- (2)** Determining water use benchmarks for mixed-use parcels can be challenging because they may not fit neatly into one category. For example, some parcels in Thornton have both offices and retail outlets. This can be addressed by classifying a mixed-use parcel as its highest-consumption user, or assessing it with a mixed rate that averages the multiple consumer types.



## KEY TAKEAWAYS

- (3)** Soliciting feedback from CII customers is a great opportunity to communicate the value of water use benchmarks, share resources on how to become more water efficient, and refine CII categories based on factors influencing their water use.
- (4)** Iteration on the benchmarking process is key. Regularly updating CII water use benchmarks to proactively address new CII customer categories, changes in water use, and future rate structures and development tap fees keeps benchmarks relevant and measures improvement over time.

# SOURCES

City of Thornton, *Drought Management Plan* (2023), <https://www.thorntonco.gov/media/file/thornton-drought-management-plan>.

City of Thornton, *Inside Your Water System – Impact Report for 2024* (2025), [https://www.thorntonwater.com/wp-content/uploads/2025/06/2024\\_thornton\\_water\\_impact\\_report-2.pdf](https://www.thorntonwater.com/wp-content/uploads/2025/06/2024_thornton_water_impact_report-2.pdf).

WaterNow Alliance, *Thornton, CO, Commercial Water Use Benchmark Development*, <https://waternow.org/project/thornton-co/>.

## ADDITIONAL RESOURCES

CITY OF THORNTON, WATER EFFICIENCY PLAN (2018)

CREATING INDOOR WATER USE BENCHMARKS FOR COMMERCIAL, INDUSTRIAL, AND INSTITUTIONAL (CII) CUSTOMERS: METHODOLOGY EXPLAINER (2025)

THORNTON BENCHMARKING ANALYSIS, CII WATER USE, CASE STUDY: THORNTON CITY BUILDINGS (2025)

THORNTON BENCHMARKING ANALYSIS, CII INDOOR WATER USE, CASE STUDY: ADAMS 12 FIVE STAR SCHOOLS (2025)



# ADDITIONAL RESOURCES

## CII Customer Classification & Water Use Metrics & Benchmarking Development

BENCHMARKING TASK FORCE COLLABORATION FOR INDUSTRIAL, COMMERCIAL, & INSTITUTIONAL (ICI) WATER CONSERVATION (2007)

A PRACTICAL GUIDE TO CLASSIFYING CII WATER USERS IN CALIFORNIA (2024)

DEVELOPING WATER USE METRICS FOR THE COMMERCIAL AND INSTITUTIONAL SECTORS (2019)

METHODOLOGY FOR EVALUATING WATER USE IN THE COMMERCIAL, INSTITUTIONAL, AND INDUSTRIAL SECTORS (2015)

RECOMMENDATIONS FOR COMMERCIAL, INDUSTRIAL, AND INSTITUTIONAL WATER USE BEST MANAGEMENT PRACTICES PERFORMANCE MEASURE (2022)

WATER USE ANALYSIS GUIDE FOR COMMERCIAL AND INSTITUTIONAL EFFICIENCY (2019)

## Customer Education & Outreach

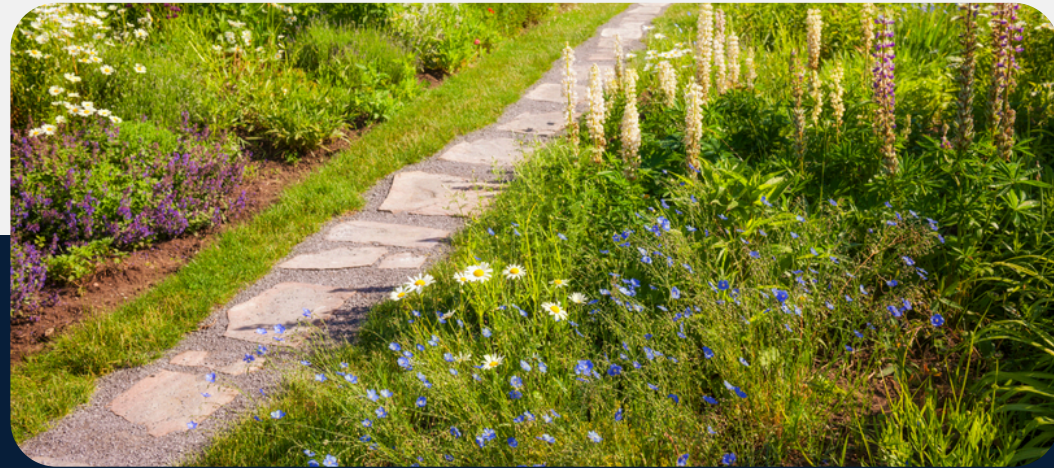
WATERSMART GUIDEBOOK: A WATER USE EFFICIENCY PLAN AND REVIEW GUIDE FOR NEW BUSINESSES (2025)

TOOLS FOR CI FACILITIES (MAR. 20, 2025)

A GUIDE TO DESIGNING CONSERVATION-ORIENTED WATER SYSTEM DEVELOPMENT CHARGES (2019)



# RELATED PROJECTS



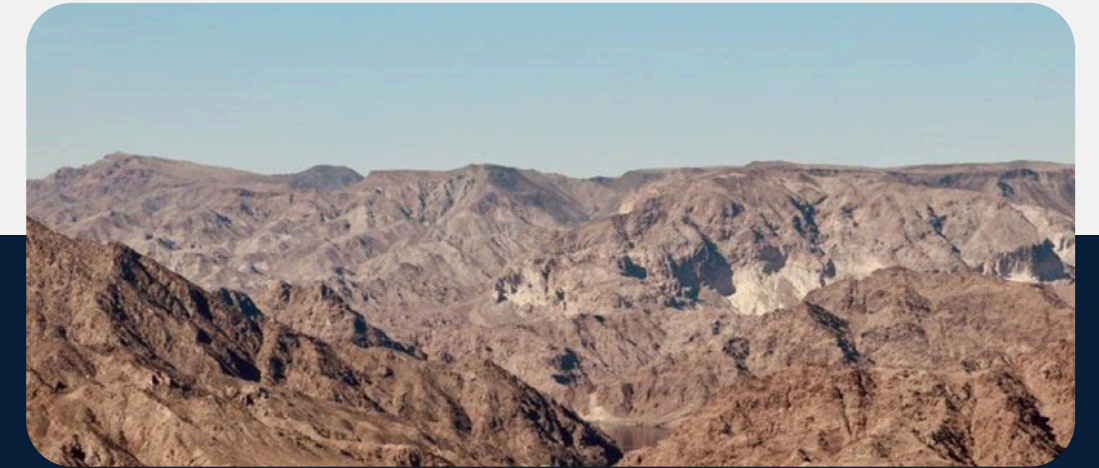
## FOUNTAIN, CO

CII turf conversion incentive program development



## LONG BEACH, CA

Supporting commercial, industrial, and institutional customers in removing non-functional turf



## HENDERSON, NV

Non-residential water utility scorecard



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