Colorado Springs Utilities
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JOINT UTILITIES BOARD AND UPAC MEETING
Blue River Board Room
Plaza of the Rockies

AGENDA
Tuesday, January 16, 2024
1:00 p.m. – 4:00 p.m.
Click here to join the meeting
+1 719-733-3651,,674074953#

1:00 p.m.	**1.**	**Introductions and Purpose** • The purpose of this joint meeting is to share additional materials in support of the Cost Recovery Assignment. • The results of the discussion will be to provide information to for the Utilities Board to consider.	Chair Dave Donelson
1:15 p.m.	**2.**	**Assignment Overview**	Chair Larry Barrett
1:30 p.m.	**3.**	**Industry Workshop Feedback**	Leslie Smith, Customer Insights Supervisor
2:00 p.m.	**4.**	**Residential Customer Survey Results**	Leslie Smith, Customer Insights Supervisor
2:30 p.m.	**5.**	**Group Discussion**	Chair Dave Donelson and Chair Larry Barrett
3:30 p.m.	**6.**	**Next Steps**	Chair Dave Donelson
4:00 p.m.	**7.**	**Closing Remarks and Adjournment**	Chair Dave Donelson

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Utilities Policy Advisory Committee (UPAC) Cost Recovery Assignment

Purpose of this meeting:

The purpose of this joint meeting is to share additional materials in support of the cost recovery assignment.

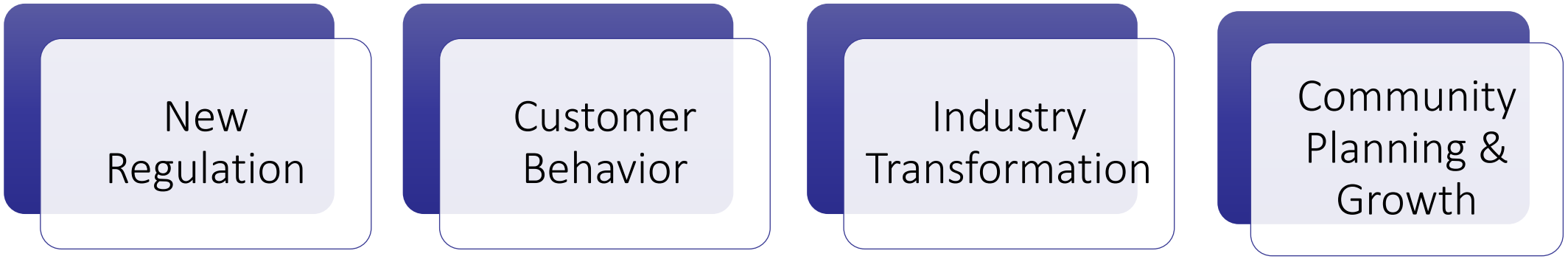
The results of the discussion will be to provide information for the Utilities Board to consider.

Assignment Overview

Assignment Purpose and Need

- Continued changes within and outside City limits will require investment in new Utilities resources and infrastructure.
- During the assignment, UPAC:
  - Reviewed current situation, cost recovery mechanisms and benchmarked other utilities' resource and infrastructure cost recovery methodologies.
  - Reviewed Utilities' Integrated Resource Plans and new considerations related to changes in our community
  - Evaluated potential cost recovery mechanisms to accommodate these changes
  - Requested input from the City of Colorado Springs and other stakeholders
  - Oversaw public outreach related to the assignment

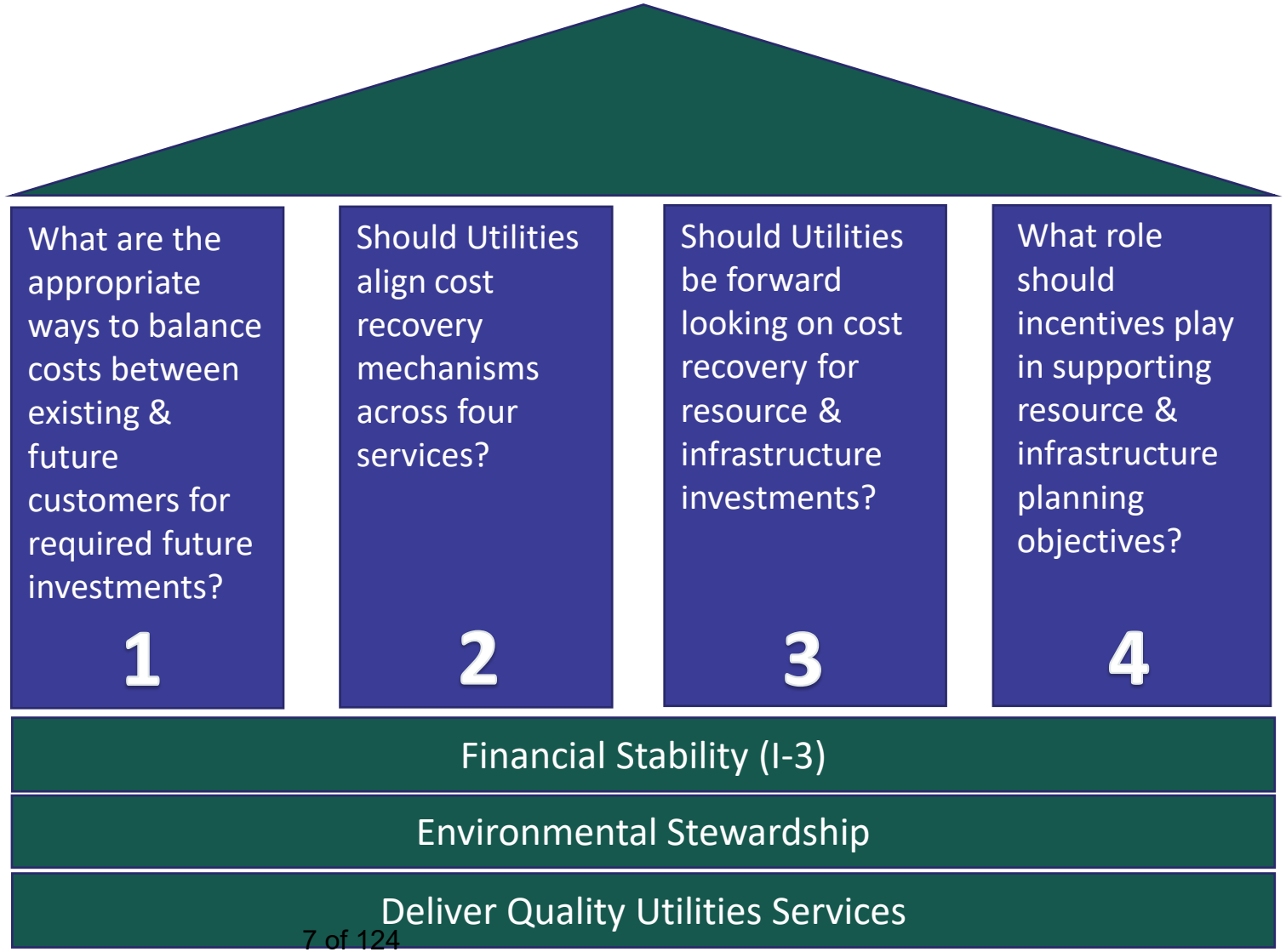
Cost Recovery Assignment - Background



- Increasing pressure on utility rates
  - Complying with new regulations, adapting service delivery to a changing customer, aging infrastructure and investing in industry transformations
- Growth and system expansion place additional pressure on rates under existing development policies

Cost Recovery Assignment Pillars

- Provide a recommendation to Utilities Board on whether Colorado Springs Utilities (Utilities) should revise and/or establish new cost recovery policies.



Current Cost Recovery

Cost Recovery Mechanism	Electric	Natural Gas	Water	Wastewater
System Extensions Fees	Partial Recovery	Partial Recovery	100% Recovery	100% Recovery
Capacity Fee – Existing System	No Fee	No Fee	Yes Fee	Yes Fee
Capacity Fee – Planned Additions	No Fee	No Fee	Yes Fee*	No Fee

Current Impact of Growth on Rates

Impact	Electric	Natural Gas	Water	Wastewater	Total
Rate Impact	**1-2%**	**0-1%**	**0-1%**	**2-3%**	**1-2%**
Sample Bill Impact- Year 10	$7.09-$14.75	$0.0-$2.25	$0.0-$7.51	$6.68-$10.43	**$13.77-$34.94**

* Current fee limited to water resources

UPAC Recommendation

Cost Recovery Mechanism	Electric	Natural Gas	Water	Wastewater
System Extensions Fees	**100% Recovery**	**100% Recovery**	100% Recovery	100% Recovery
Capacity Fee – Existing System	No Fee	**Yes Fee**	Yes Fee	Yes Fee
Capacity Fee – Planned Additions	**Yes Fee**	**Yes Fee**	**Yes Fee***	**Yes Fee**

* Recommendation adds facilities to fee currently limited to water resources

Impact of Growth on Rates if Implemented

Impact	Electric	Natural Gas	Water	Wastewater	Total
Rate Impact	**0-1%**	**0-1%**	**0-1%**	**0-1%**	**0-1%**
Sample Bill Impact - Year 10	$0.0-$7.09	$0.0-$2.25	$0.0-$7.51	$0.0-$3.21	**$0.0-$20.06**

Average Annual Increase to Revenue Requirement Above the Cost of No Growth

Industry Workshop Feedback

Industry Workshop

- November 1, Springs Utilities conducted a workshop with industry members to collect feedback on the four pillar questions of the Cost Recovery Assignment:
  - Colorado Springs Housing and Building Association
  - Colorado Springs Chamber and EDC
  - Pikes Peak Association of Realtors
  - The Apartment Association of Southern Colorado

Industry Workshop Takeaways

- Capacity and resource concerns
- Understanding what benefits the community
- Building to peak vs. building to load
- Assets considered in growth
- Incentives for efficiency and conservation
- Decreasing marginal revenue

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Cost Recovery Research Residential Customer

October 2023

Agenda

1. Survey Overview
2. Growth
3. Housing
4. Rates

2023 Cost Recovery Survey

- Responses collected Sep/Oct 2023 from our customer panel
- 492 complete surveys
- 2,200+ customer comments
- Quota sampling to match local demographics
- Margin of error 4.4%

Primary Questions:

- Opinion on community growth/expansion
- Agreement with housing need:
  - Additional attainable housing
  - Additional new housing of all types
  - More master planned communities
- Utility focus: low utility rates or support growth/housing
  - (multiple choice)
- Are you concerned about availability of attainable single or multi family housing?
  - Why/why not?
- What expenses are covered in your residential utility rates?
  - (multiple choice)
- If the reliability and quality of the entire utilities system is improved by community growth, would you be in support of Colorado Springs Utilities including costs associated with that growth in our rates?
  - Please explain
- If access to attainable housing is increased by community growth, would you be in support of Colorado Springs Utilities including costs associated with that growth in our rates?
  - Please explain
- How would you recommend Colorado Springs Utilities recover infrastructure costs for community growth?
  - (multiple choice)
- Demographics

Key takeaways

Most customers support community growth

- Opposing themes appear in results as limited growth and a significant no-growth group

Growth is more accepted when viewed as “smart” or “planned”

- Customers have strong opinions and ideas about how our community should grow
- Community infrastructure and safety concerns (traffic, police, fire) were common themes

Attainable housing has strong support among customers

- Support for additional attainable housing is higher than new housing in general
- Single-family housing is a greater focus than multi-family

Customers are not supportive of increasing rates to support community growth or attainable housing

- Customers desire to keep rates low
- When introducing the idea, there is less resistance to supporting attainable housing
- There is some potential for customers to support growth for reliability, but customers need to know more

Customers believe the obligation to recover costs belongs to developers or as a shared expense

- Customers focused on limiting growth believe developers should bear the expense
- Customers focused on growing the community are more willing to share the expense

Customer segmentation shows differing motivations and beliefs on community growth

- Older, long-term residents who own their home have opposing views to younger, new to the community who rent their residence

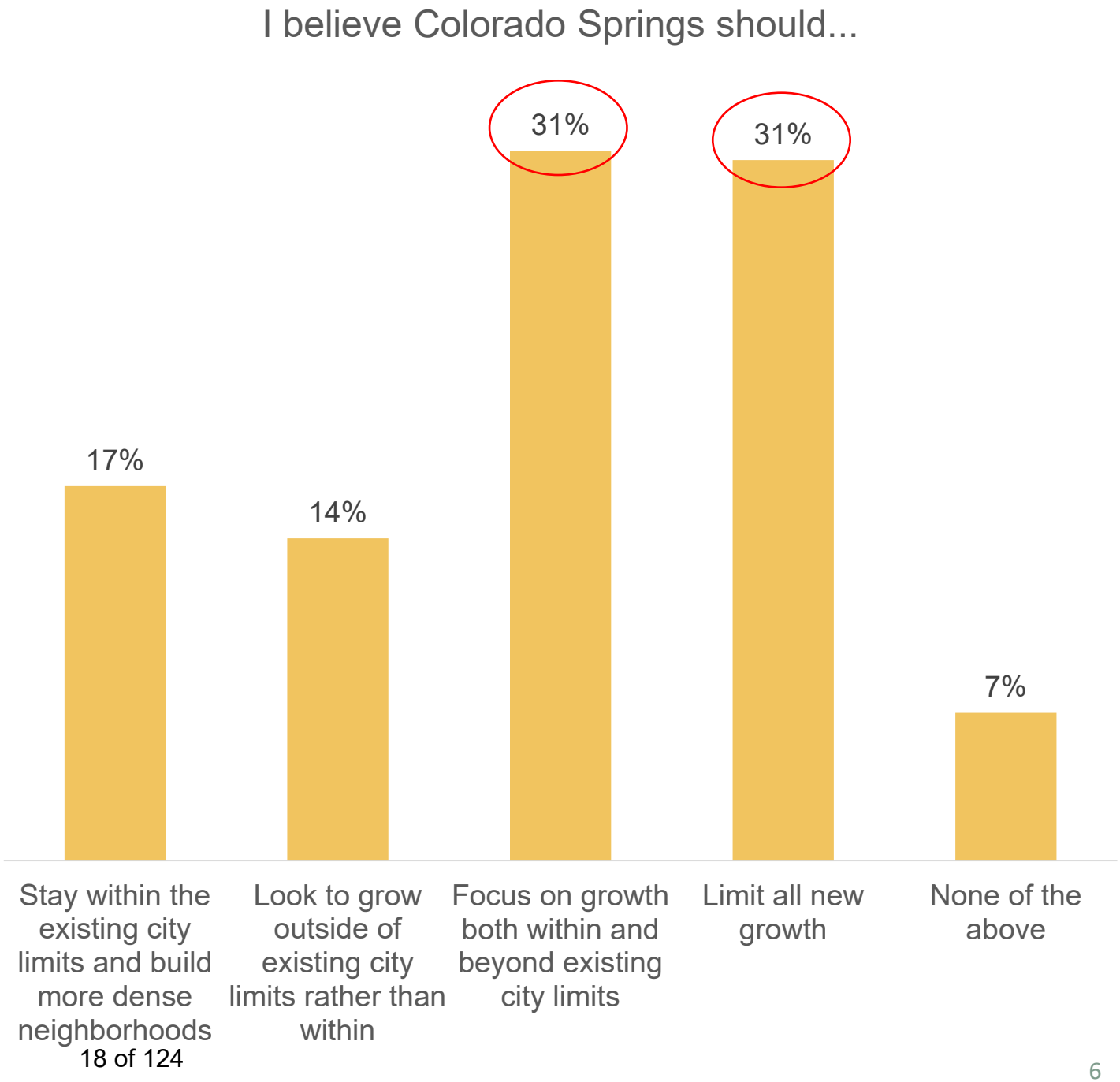
Growth

Community Growth/Expansion Opinion

Question :Which of the following best describes your opinion on community growth/expansion?

Two opposing themes:

- Limit growth
- Growth both within and outside city limits

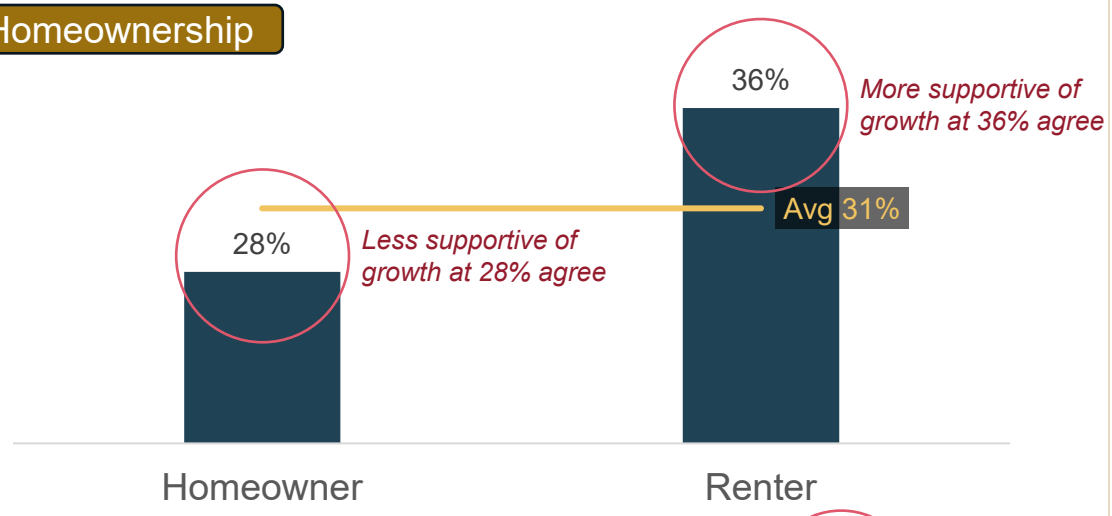


2023 Cost Recovery Survey
Sep/Oct 2023 n = 492

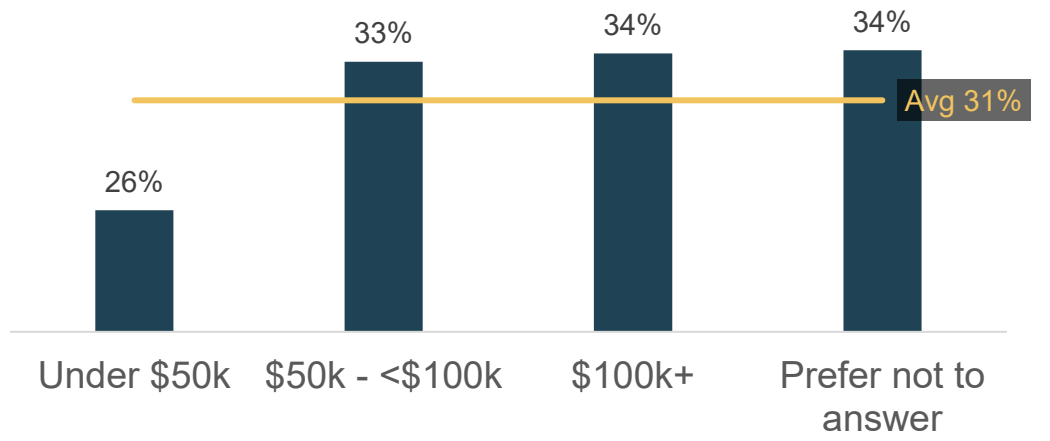
Demographic Highlights:

I believe Colorado Springs should focus on growth both within and beyond existing city limits

Homeownership



Household income



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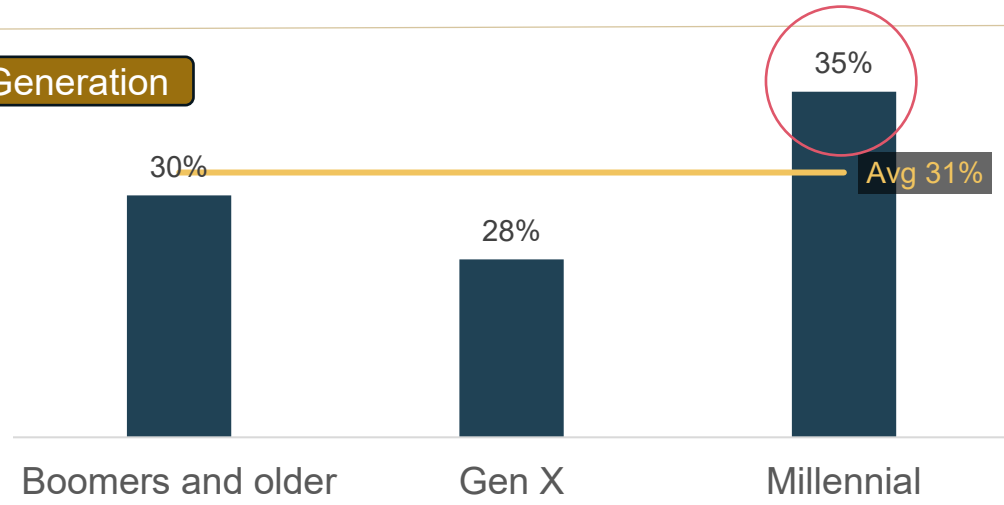

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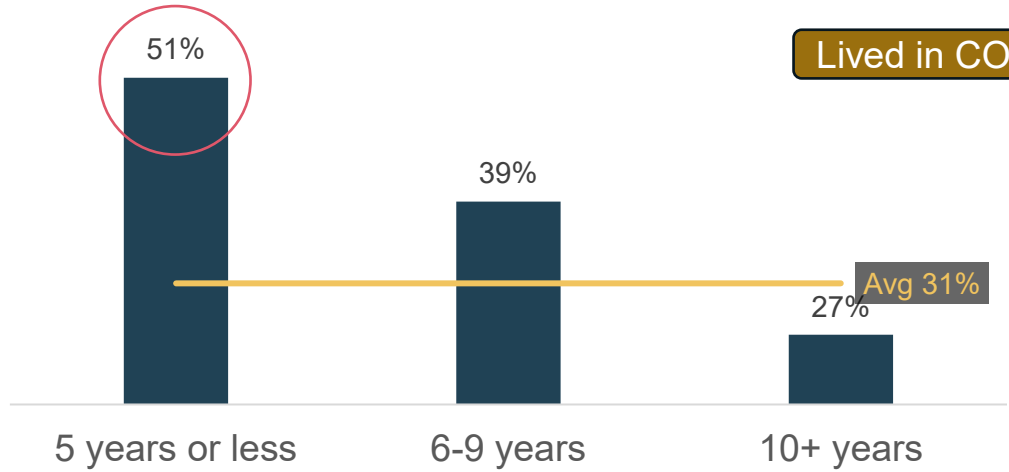


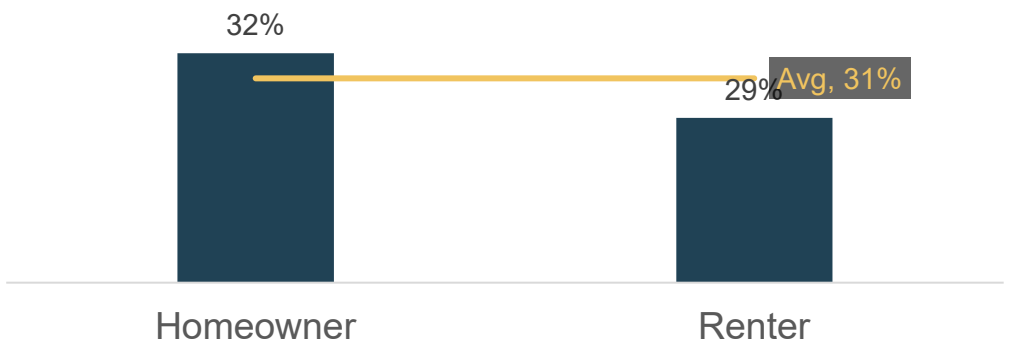
2023 Cost Recovery Survey
Sep/Oct 2023 n = 492 (425 tenure) * Responses "prefer not to answer" and "other" not shown

Demographic Highlights:

I believe Colorado Springs should limit all new growth

Older, long-term homeowners are more resistant to supporting community growth

Homeownership



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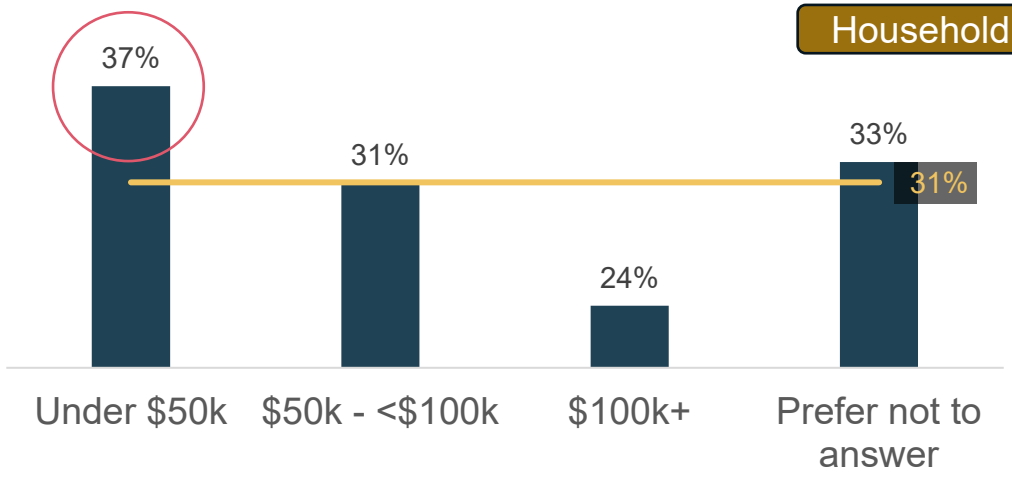

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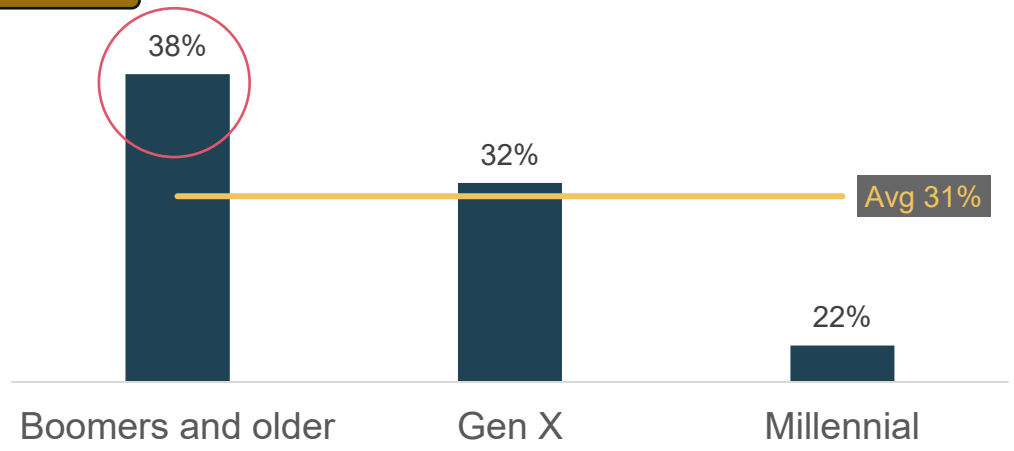

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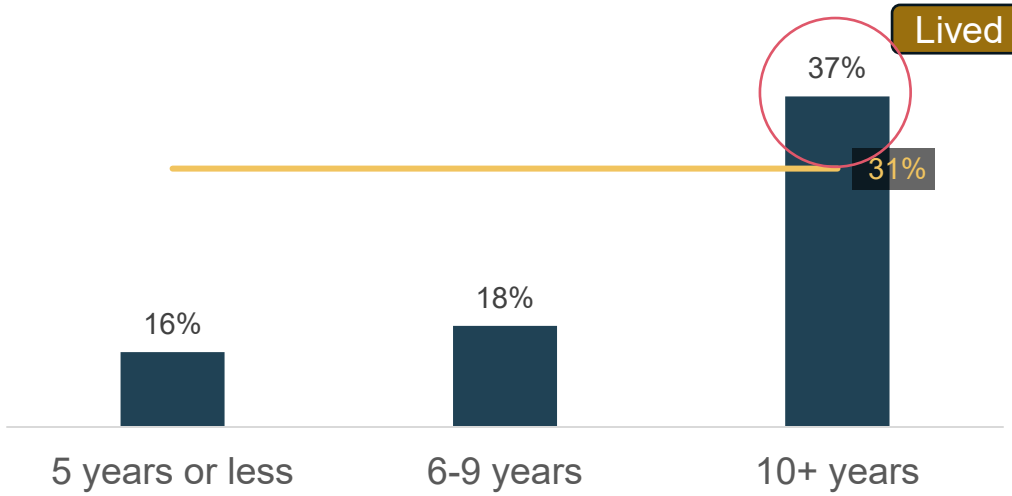


2023 Cost Recovery Survey
Sep/Oct 2023 n = 492 (425 tenure) * Responses "prefer not to answer" and "other" not shown

Customer comment themes –

Community growth

Top Seven

Planned growth	Anti-growth	City infrastructure	Attainable housing	Water concerns	Pro-density	Pro-growth
• Specifically mention supporting growth through planning • 147 responses	• Expressed desire for slower/no growth and/or complaints about growth • 111 responses	• Expressed concerns about police, fire, roads, or services • 109 responses	• Not enough/need more attainable housing and/or housing too expensive • 68 responses	• Mention water supply and/or future supply • 58 responses	• Support infill and/or redevelopment as a priority • 39 responses	• Growth is good and/or necessary • 38 responses

Please describe your thoughts about community growth…

Growth is inevitable, so extra care must be taken to manage it in a sustainable way.

Depending on location and resources, traffic etc - all needs should be considered. Quick growth is not sustainable

I hate it. We are over populated. All the new people are making life miserable for those of us who have been here since we were born. Colorado Springs is a disaster.

Slow the growth

I think the infrastructure of the city is already over taxed and will need to be improved before there's any expansion thoughts.

Need to focus on the terrible roads first

Community growth needs include housing that is affordable to all income groups

Definitely needs more affordable housing. I really cannot afford to live here anymore

Access to water is a major issue. Sprawl is not appropriate.

All growth should be based on the availability of water.

Having dense, walkable planned communities would improve the city and encourage sustainable growth

I think we should focus on increasing urbanization

I am excited for growth in the area bringing more diversity to the area

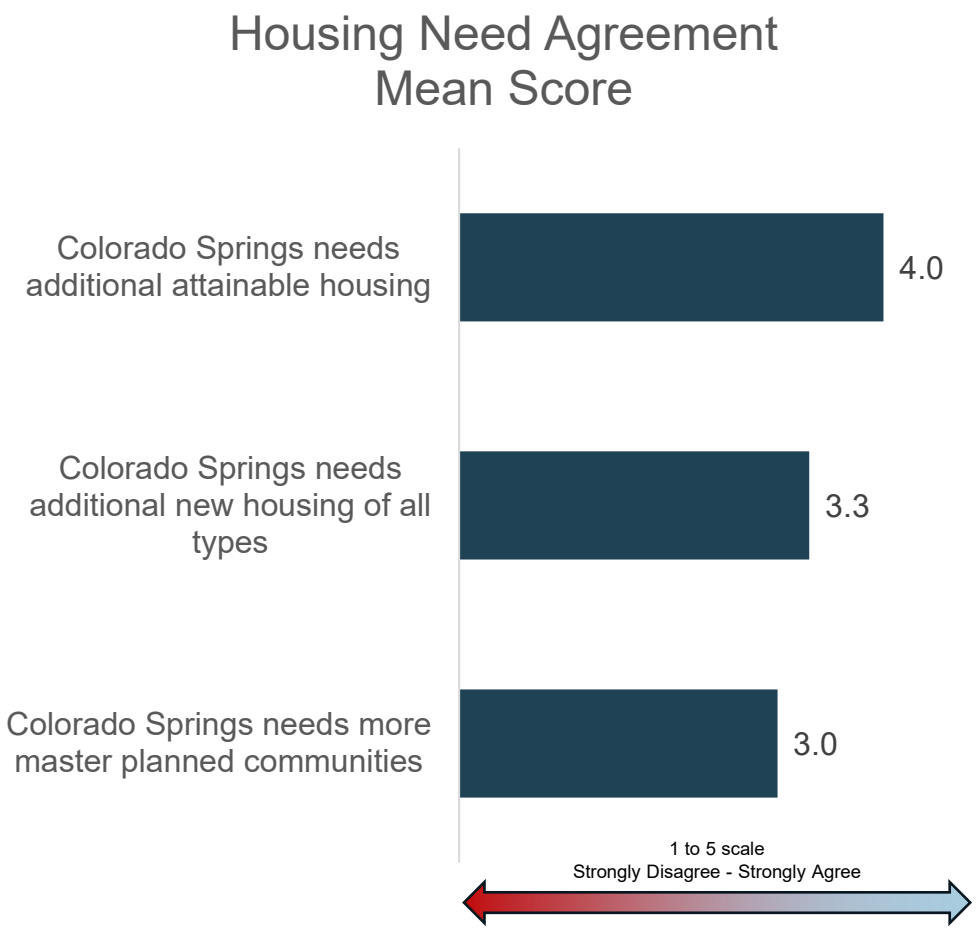
Need more supply, demand is too high

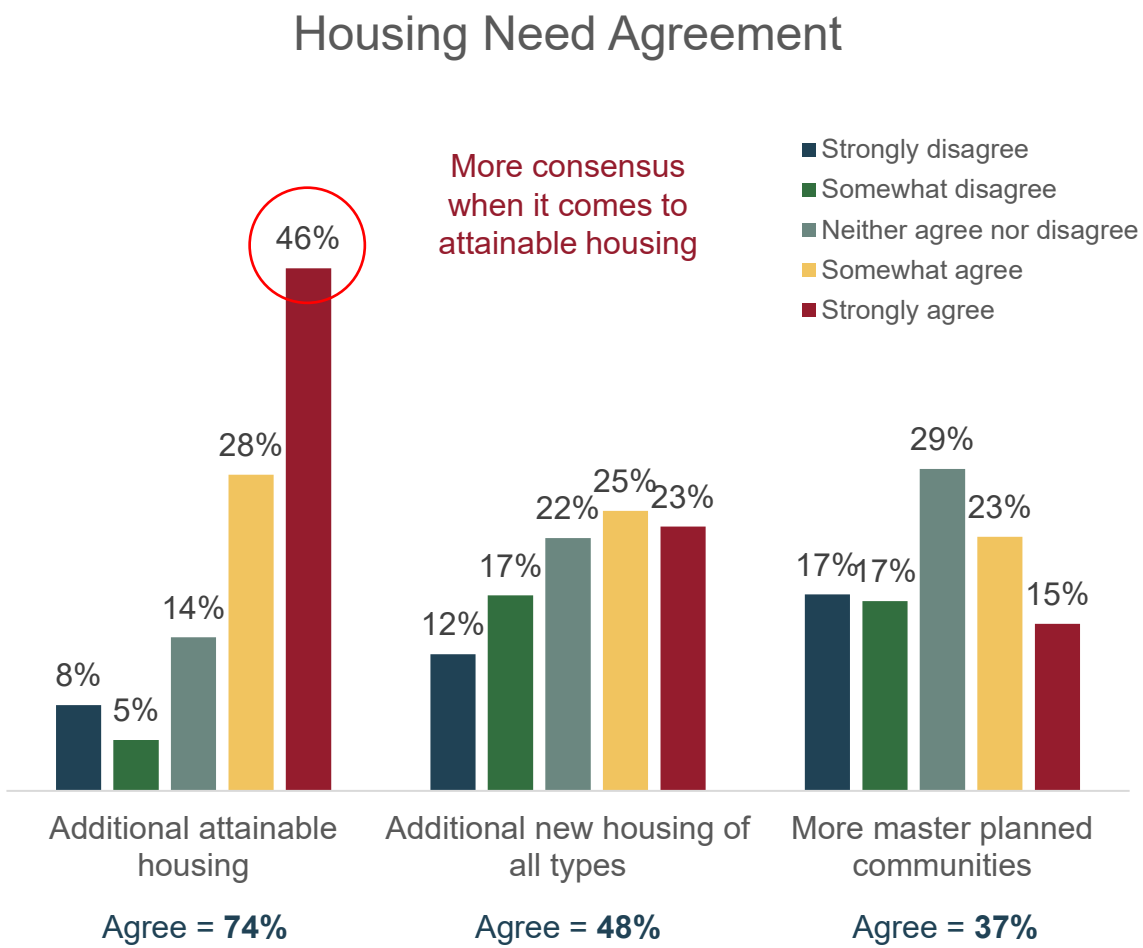
2023 Cost Recovery Survey
Sep/Oct 2023 n = 492 (Each comment can have up to four themes assigned)

Housing

Level of agreement - local housing needs

Please indicate your level of agreement with the following statements:



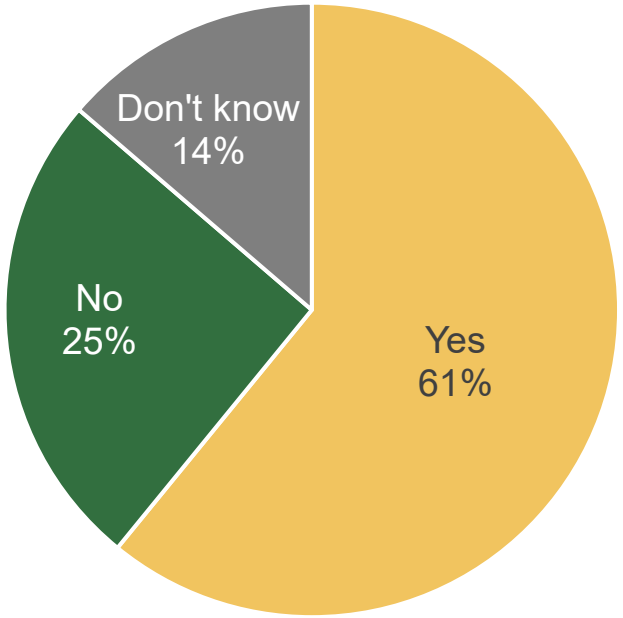


Concern for availability of attainable housing

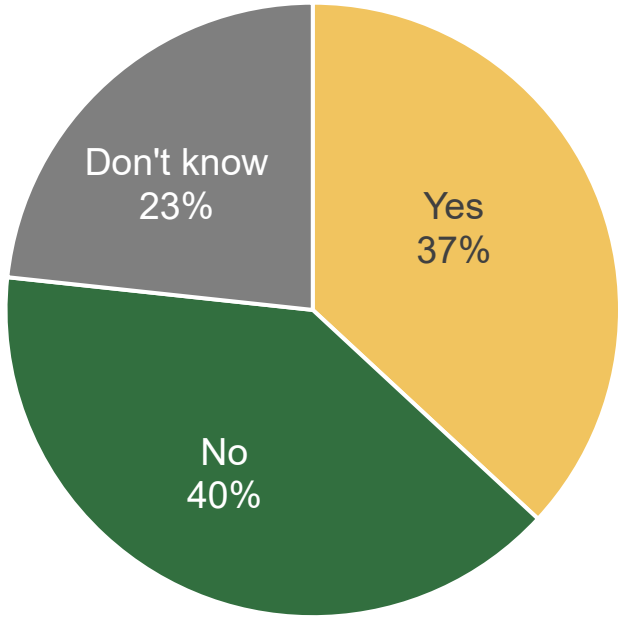
Are you concerned about the availability of attainable…

Customers are more concerned about the availability of single family than multi-family housing

Single-Family Housing



Multi-Family Housing



2023 Cost Recovery Survey
Sep/Oct 2023 n = 492

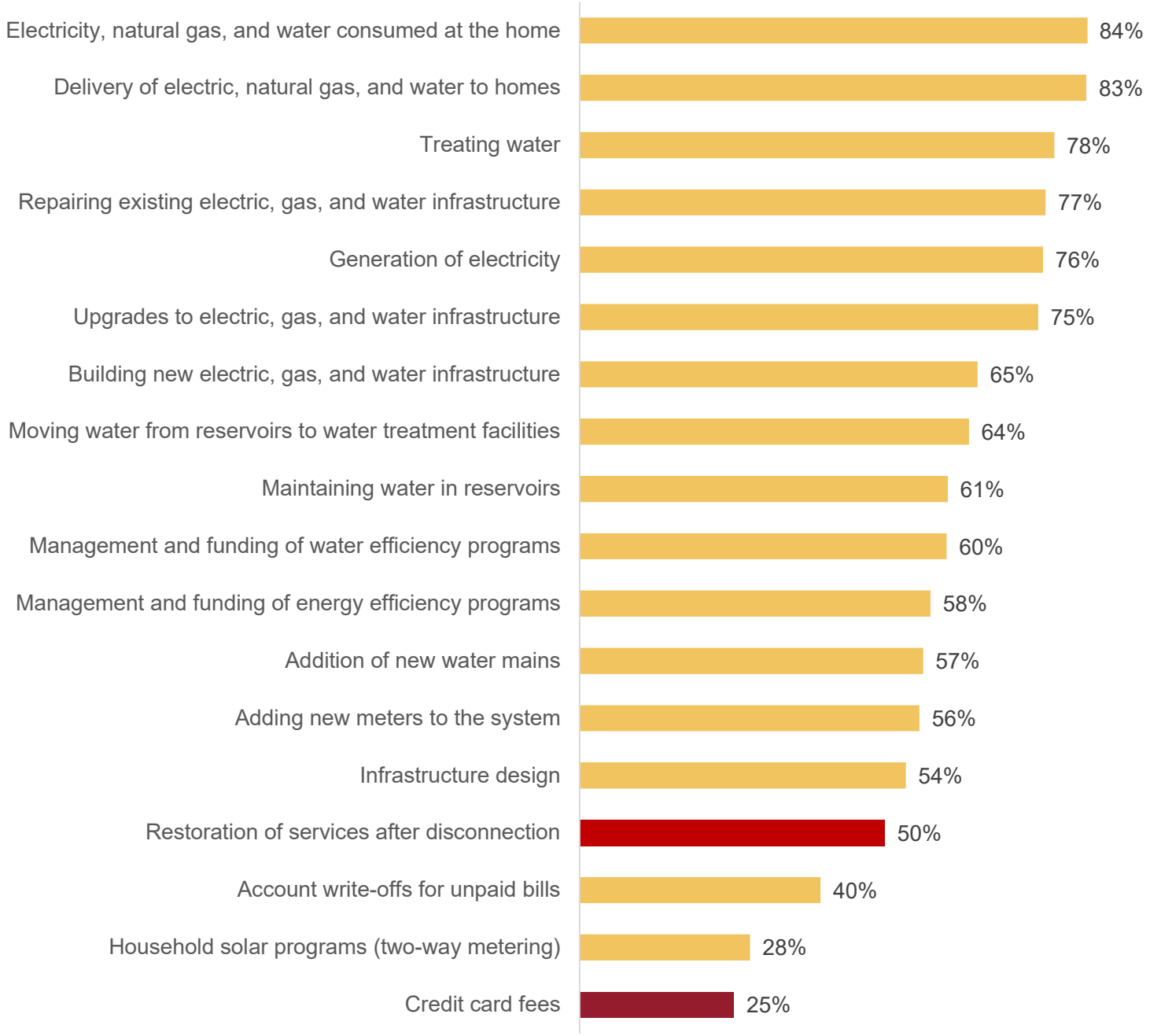
Rates

What do customers believe is included in utility rates?

To the best of your knowledge, what expenses are covered in your residential utility rates?

(select all that apply)

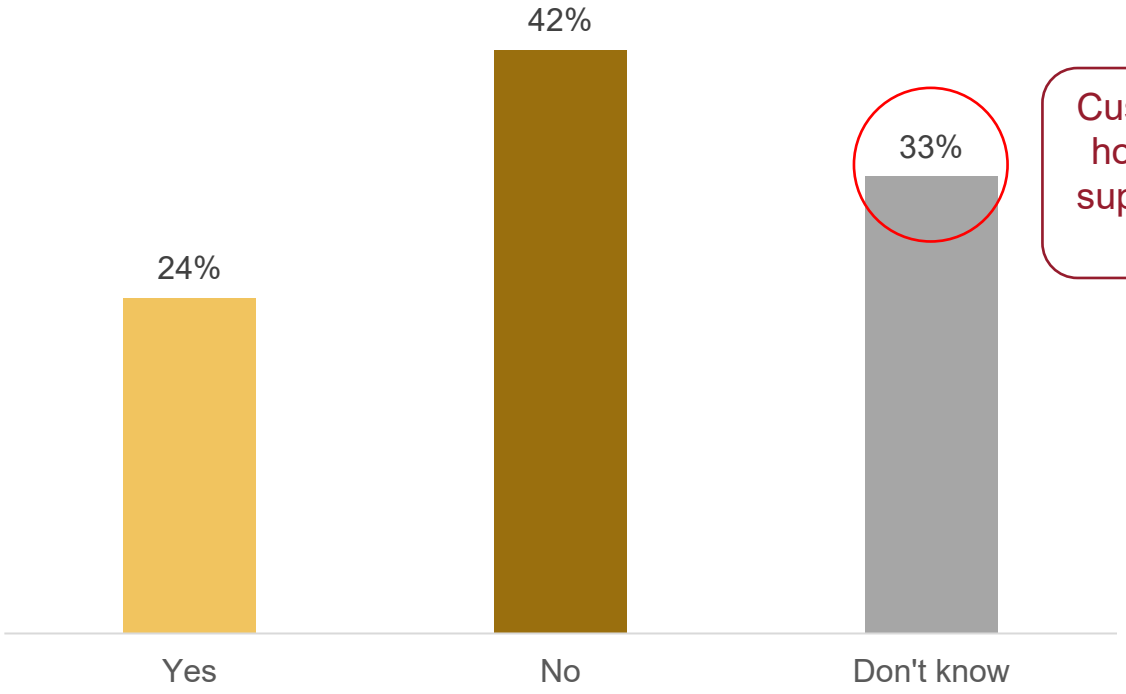
Customer do not have a good understanding of what expenses are included in rates



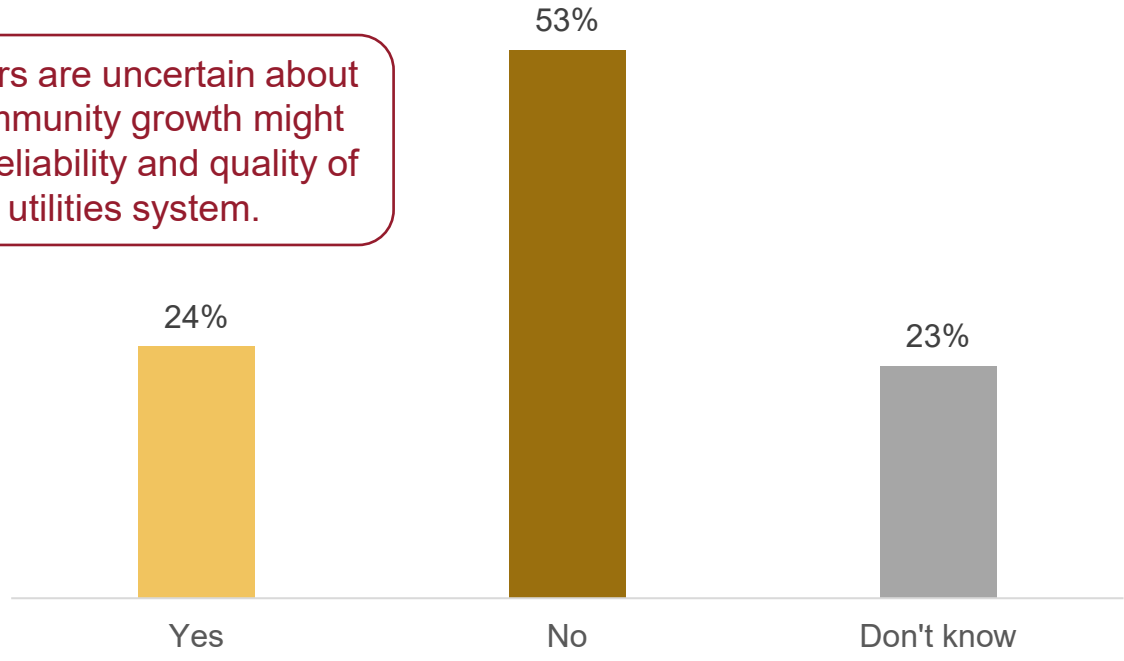
2023 Cost Recovery Survey
Sep/Oct 2023 n = 492

What would customers support in rates?

*If the **reliability and quality** of the entire utilities system is improved by community growth, would you be in support of Colorado Springs Utilities including costs associated with that growth in our rates?*



*If access to **attainable housing** is increased by community growth, would you be in support of Colorado Springs Utilities including costs associated with that growth in our rates?*



Customers are uncertain about how community growth might support reliability and quality of the utilities system.

2023 Cost Recovery Survey
Sep/Oct 2023 n = 492

Customer comment themes –

Rate support for growth to improve quality/reliability of utility infrastructure

Depends on details	Rates	Anti-growth	Developer	Reliability	Don't want to share cost	Growth should pay for itself
• Need more details or a plan to make a decision • 92 responses	• Don't want rate increases for this and/or rates are already too high • 80 responses	• Expressed desire for slower/no growth and/or complaints about growth • 42 responses	• Mention developers and home builders • 34 responses	• Primarily comments in support of improving infrastructure • 25 responses	• Customers who don't want growth costs included in their rates • 24 responses	• New customers or growth should pay for itself • 24 responses

Please explain the answer you chose…

If it means a better electric grid and more affordable housing then yes I'm in support of it. If it's so we can build multi million dollar homes where infrastructure is lacking I am not in support of it.

It depends on cost

I feel like the current quality has worked for us and I don't want to see another increased bill

I don't want higher rates to pay for new developments from which I get no benefit

Not supporting growth to support an unproved assumption.

I feel the utilities are already reliable. I don't want to just see more and more big houses take the place of all our open space.

I am not sure how the infrastructure would become more reliable and of higher quality with growth. Growth puts strain on the existing system. Developers should bear all costs of growth.

Developers need to cover these costs.

Reliability and quality are important, so focus on that even if it increases rates.

It is not clear that supporting community growth will lead to better quality and reliability.

I dont think our family should have to pay for someone to have new-build home where there isn't currently infrastructure. If they want it there, they can pay for it.

Doesn't seem fair to existing customers

Those profiting from the new growth should bear the cost.

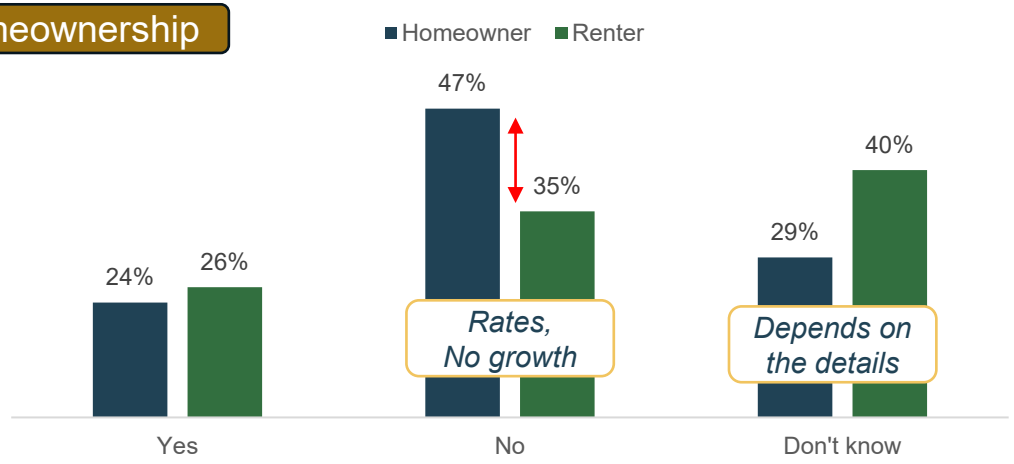
We already pay more than we can afford to pay. If other people come in, they can pay for the cost of growth rather than existing customers.

2023 Cost Recovery Survey
Sep/Oct 2023 n = 492 (Each comment can have up to two themes assigned)

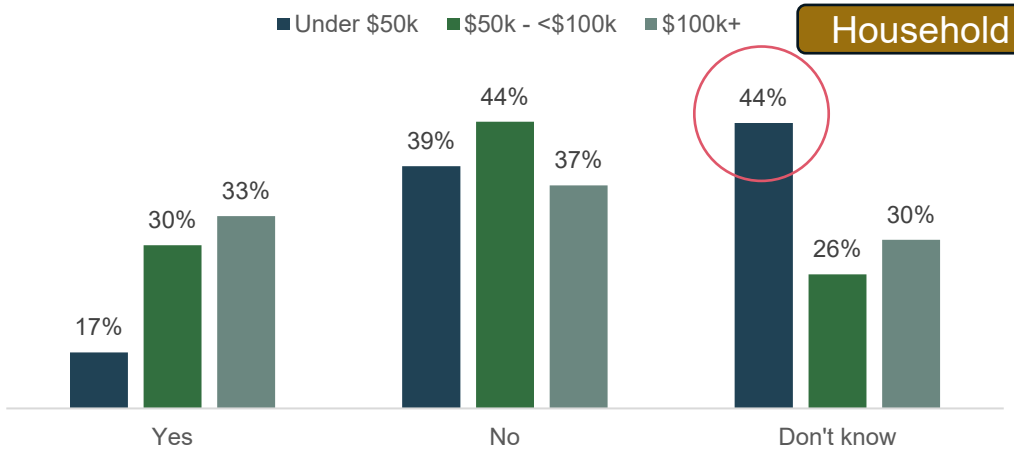
Demographic Highlights:

*If the **reliability and quality** of the entire utilities system is improved by community growth, would you be in support of Colorado Springs Utilities including costs associated with that growth in our rates?*

Homeownership



Household income



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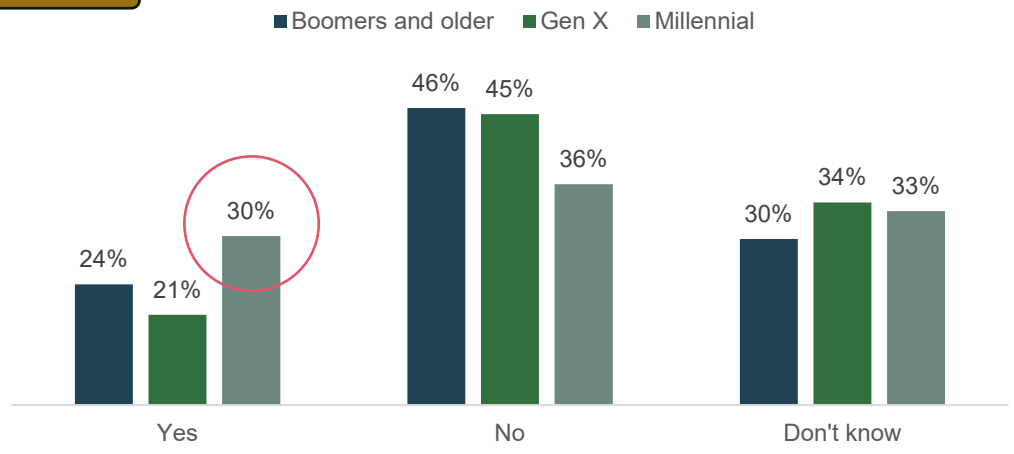

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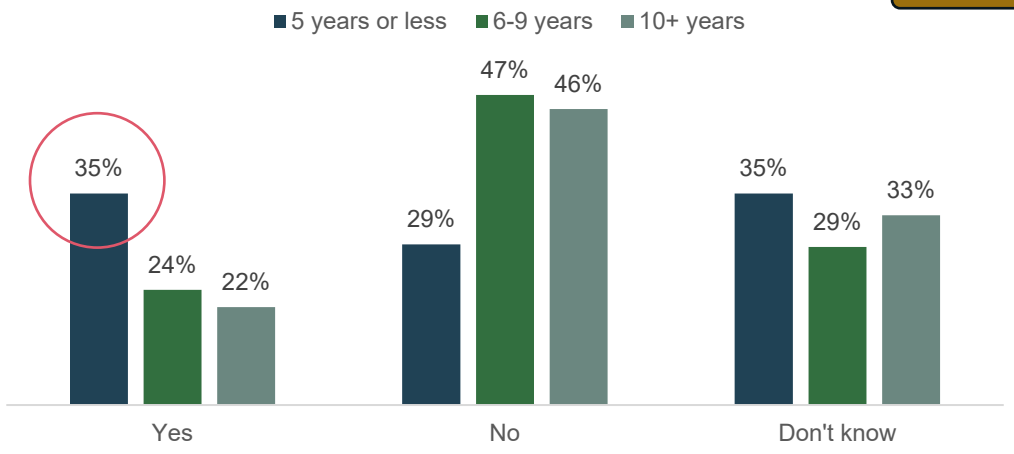


2023 Cost Recovery Survey
Sep/Oct 2023 n = 492 (425 tenure) * Responses "prefer not to answer" and "other" not shown

Customer comment themes –
Rate support for growth to improve attainable housing

Rates	Depends on details	Anti-growth	Developer	Not a utility concern	Growth should pay for itself	Not my responsibility
• Don't want rate increases for this and/or rates are already too high • 90 responses	• Need more details or a plan to make a decision • 62 responses	• Expressed desire for slower/no growth and/or complaints about growth • 32 responses	• Mention developers and home builders • 32 responses	• This proposal is outside of the utility's responsibility • 30 responses	• Growth and/or new people should cover costs • 26 responses	• Support is not my/customer responsibility • 22 responses

Please explain the answer you chose…

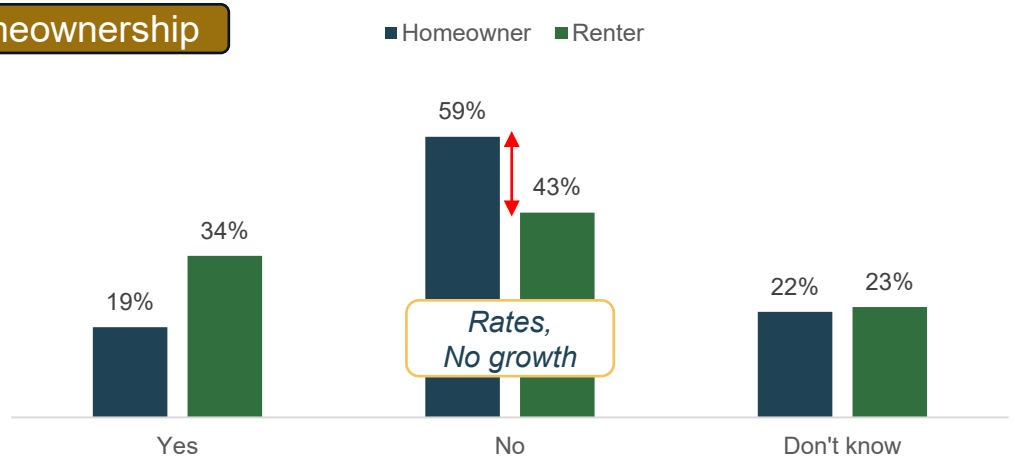
- *Struggling with surviving with what we have now. Can't afford higher rates*
- *I don't want to deal with you guys raising prices for this cause*
- *It would depend on the quality and intentions of the growth, as well as how much it would cost.*
- *As long as the increases are reasonable, increased access to attainable housing is worth a cost increase*
- *No growth, no rate increase. I cant afford it*
- *I want attainable housing but not increased growth*
- *We all need to support attainable housing as it's a community wide issue. However, developers shouldn't benefit if it causes rates to increase*
- *Developers should pay for all utility infrastructure associated with growth.*
- *CSU should focus on generating and delivering energy.*
- *CSU needs to stay out of political decisions which is what this is. New growth, if it is approved needs to pay for its self.*
- *I believe any new growth should pay for the cost of the new homes.*
- *Why should existing customers be required to absorb the cost community expansion? New developments should be solely funded by those who benefit.*
- *I should not have to pay for someone else obtaining utilities*
- *I don't feel it's my part to pay for attainable housing in my utility rates*

2023 Cost Recovery Survey
Sep/Oct 2023 n = 492 (Each comment can have up to two themes assigned)

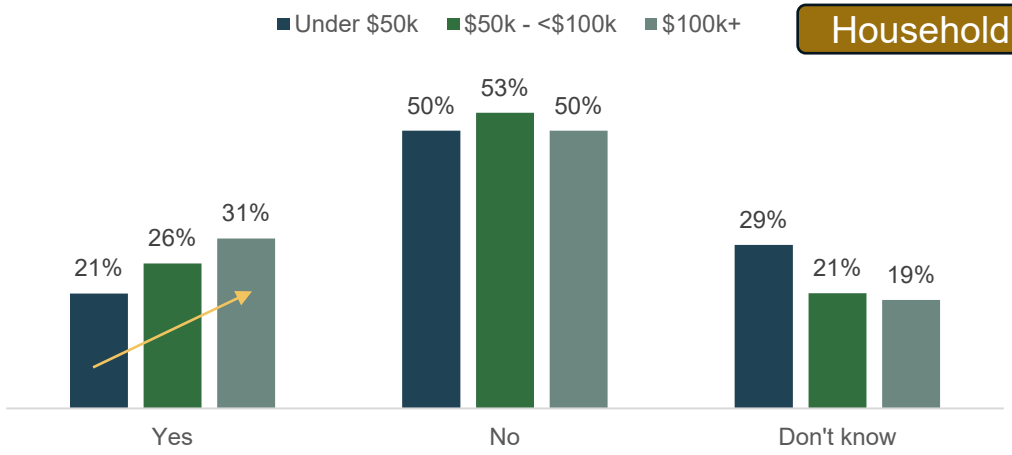
Demographic Highlights:

*If access to **attainable housing** is increased by community growth, would you be in support of Colorado Springs Utilities including costs associated with that growth in our rates?*

Homeownership



Household income



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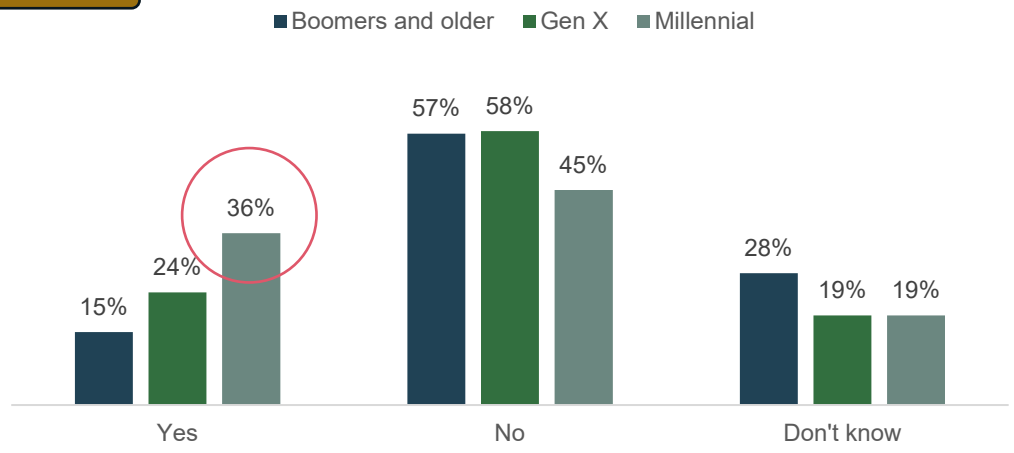

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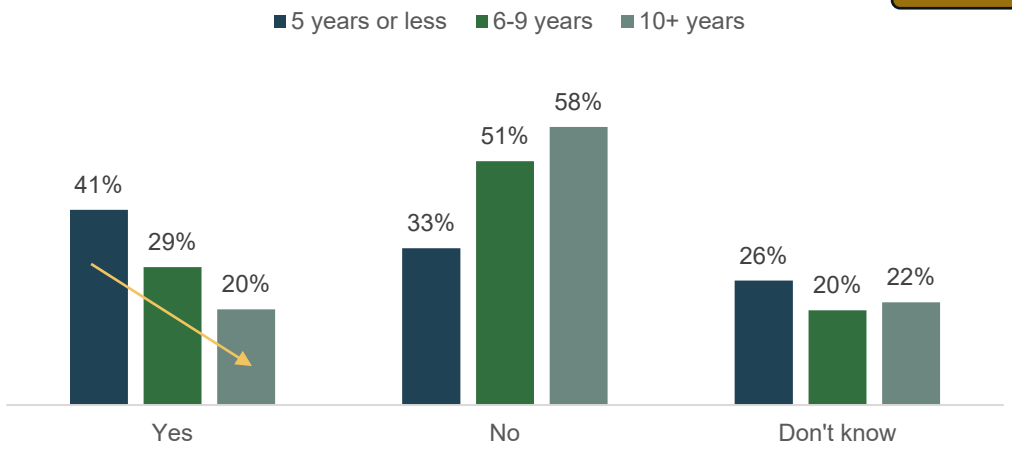


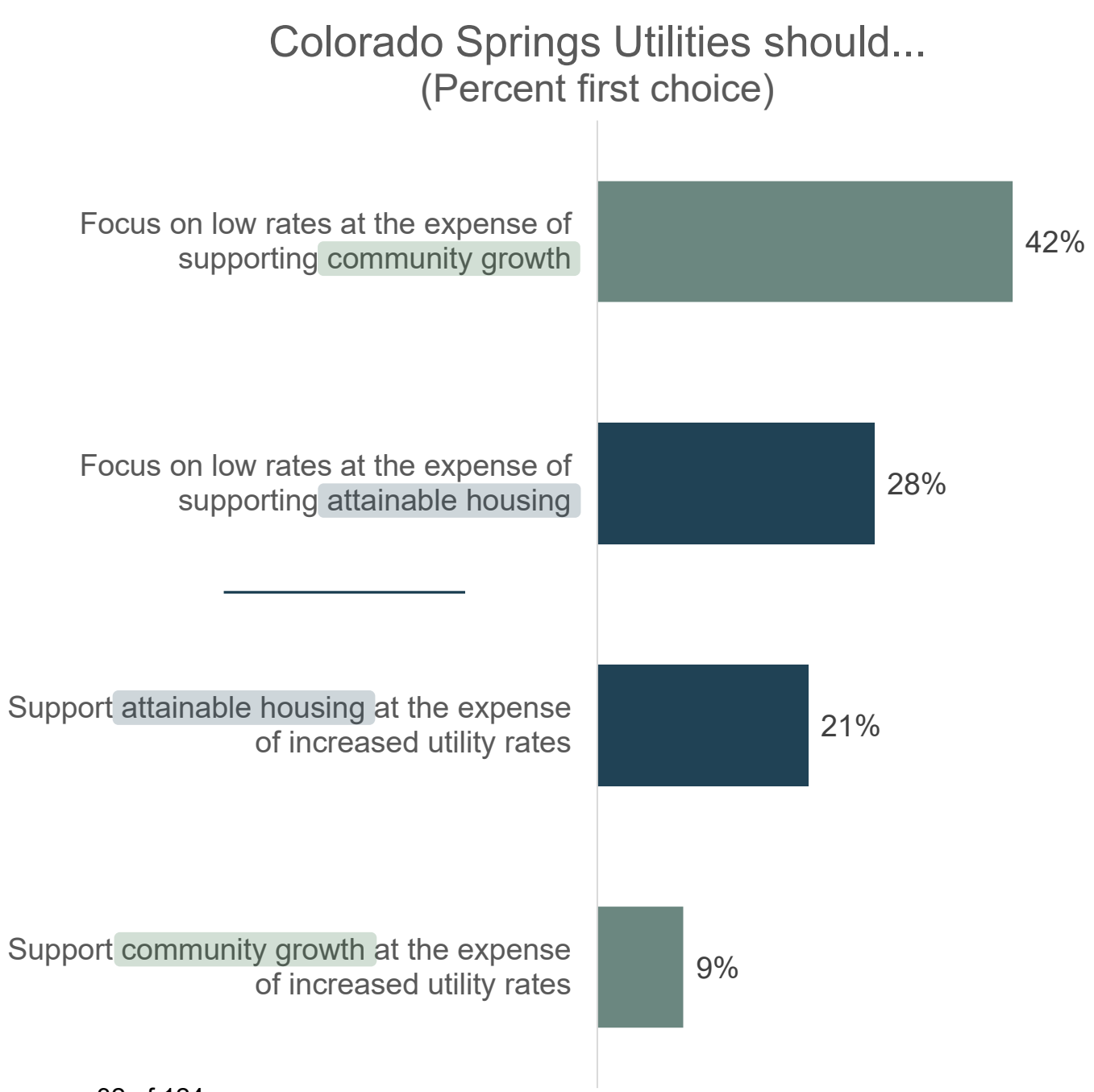
2023 Cost Recovery Survey
Sep/Oct 2023 n = 492 (425 tenure) * Responses "prefer not to answer" and "other" not shown

Community Growth/Housing and Rates

Customers primarily want us to focus on low rates rather than supporting growth or attainable housing through rates.

Between the two there is more interest in using rates to support attainable housing than community growth.

Please order the following statements from 1 to 4 with 1 being most important and 4 least important

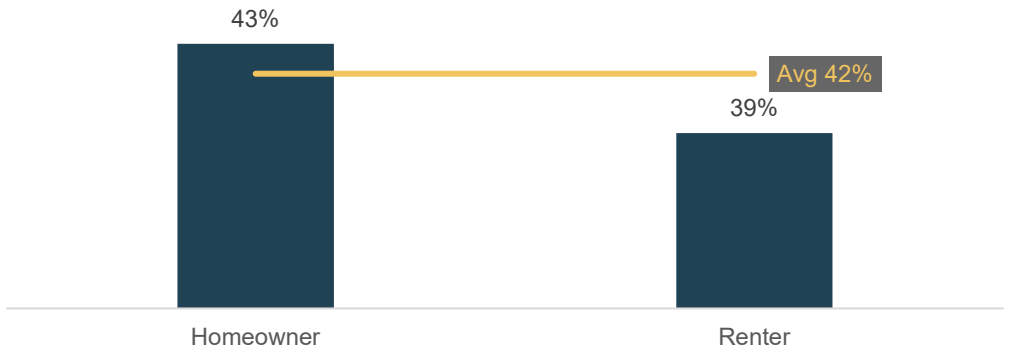


2023 Cost Recovery Survey
Sep/Oct 2023 n = 472

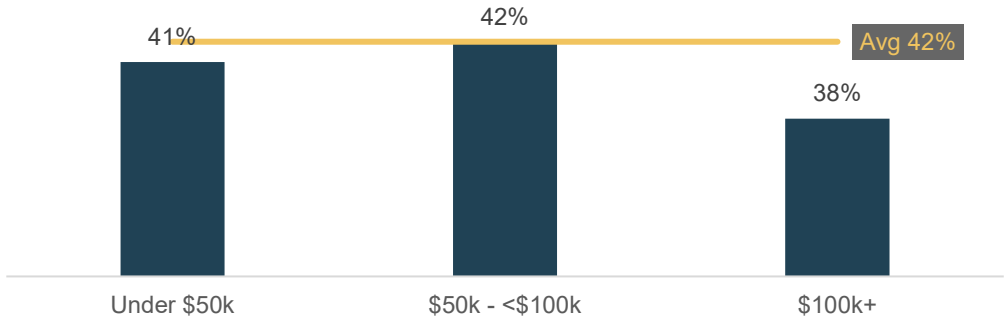
Demographic Highlights:

Top Choice: Colorado Springs Utilities should focus on low rates at the expense of supporting community growth

Homeownership



Household income



Supporting low rates over community growth is strong for older homeowners living in the community for more than six years.

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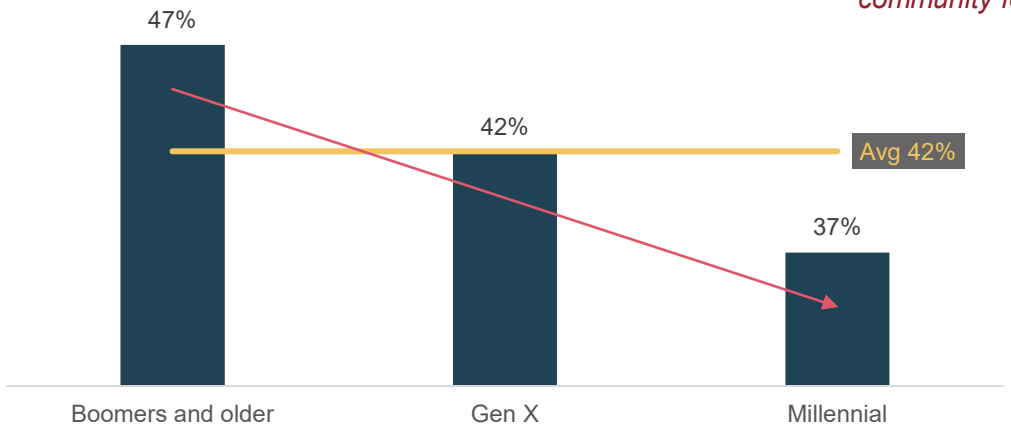

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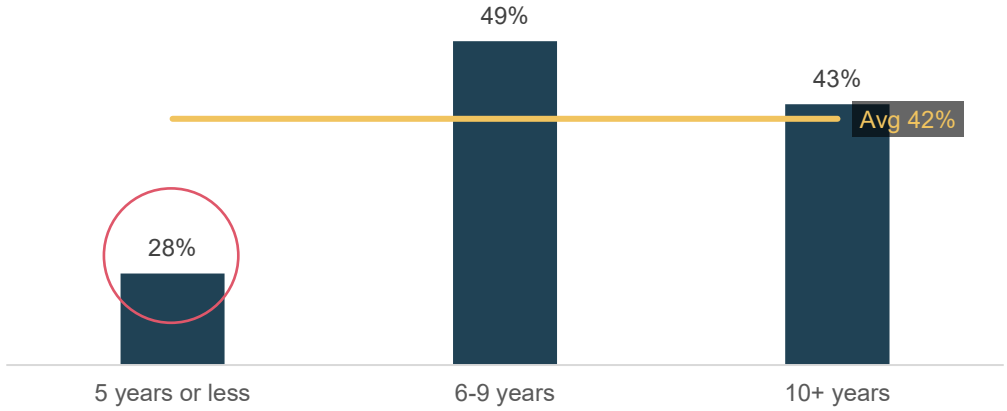
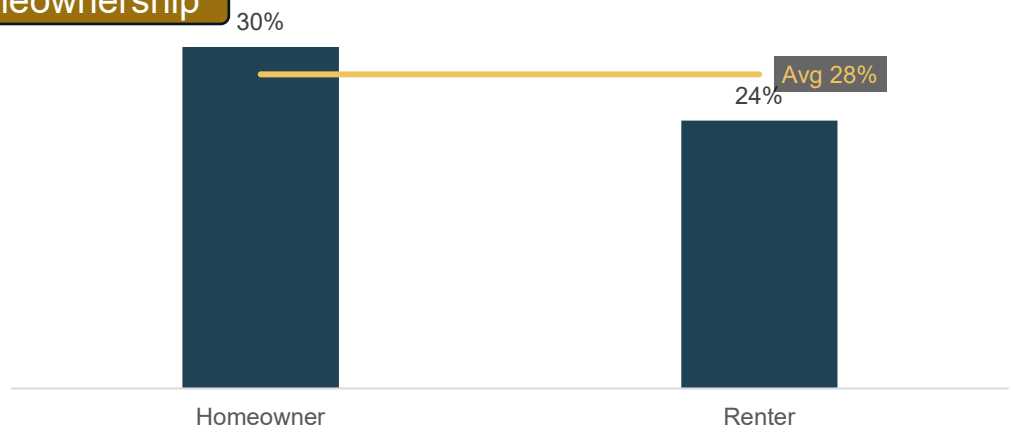


2023 Cost Recovery Survey
Sep/Oct 2023 n = 492 (408 tenure) * Responses “prefer not to answer” and “other” not shown

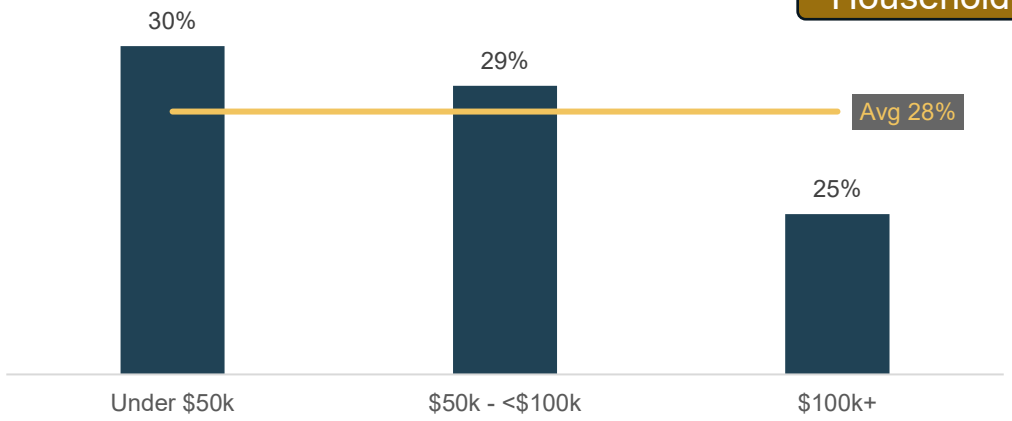
Demographic Highlights:

Top Choice: Colorado Springs Utilities should focus on low rates at the expense of supporting attainable housing

Homeownership

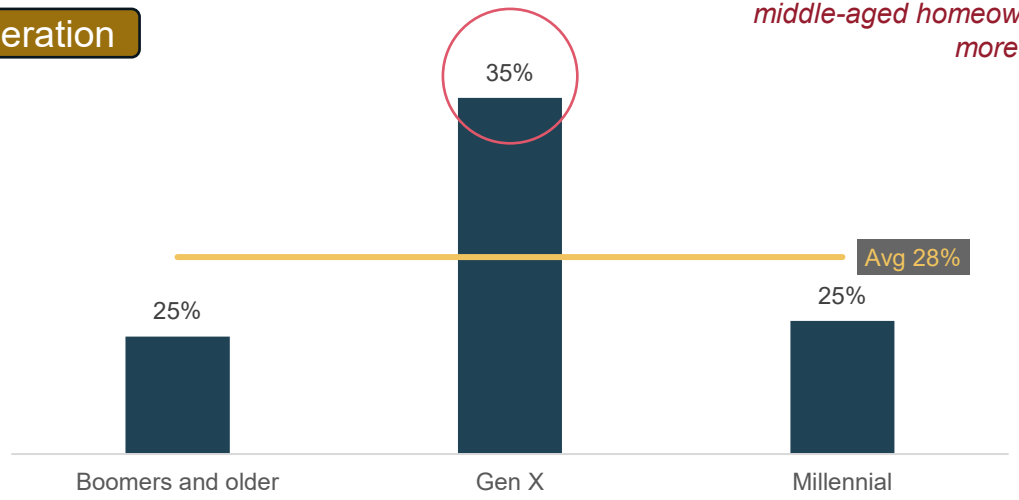


Household income



Supporting low rates over attainable housing is strong for middle-aged homeowners living in the community for more than six years.

Generation



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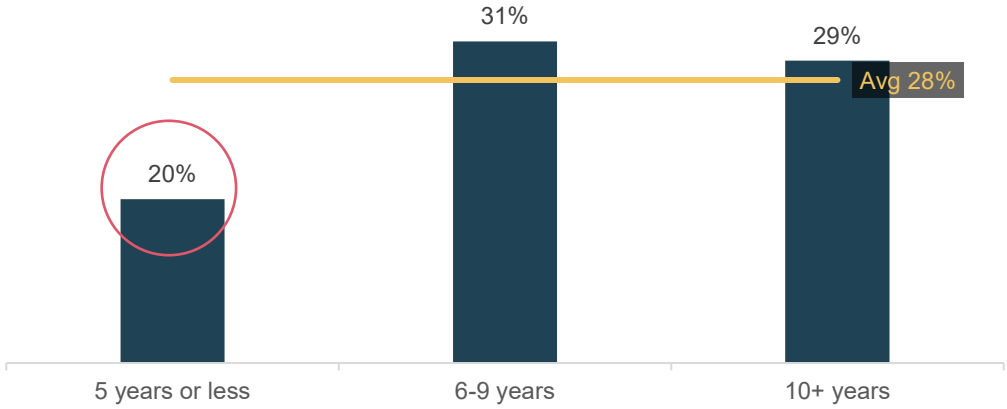


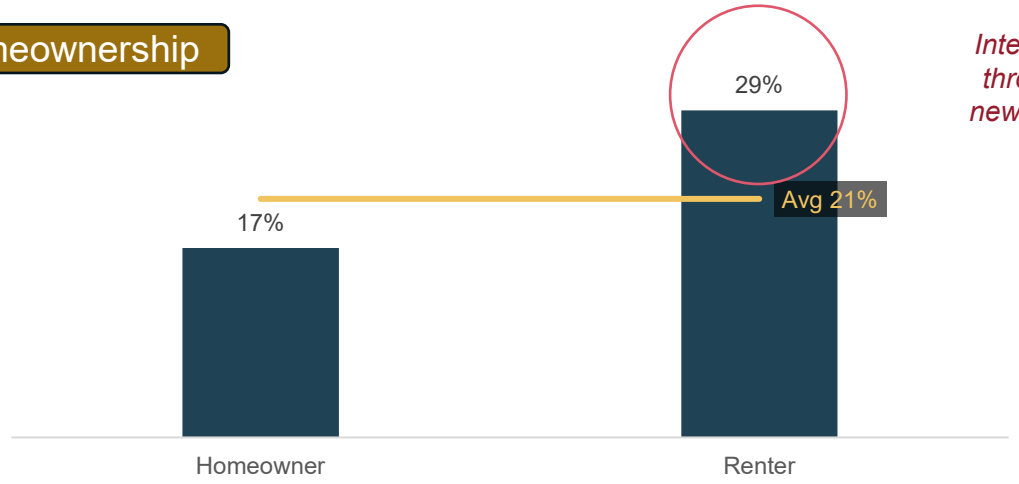
2023 Cost Recovery Survey
Sep/Oct 2023 n = 492 (408 tenure) * Responses “prefer not to answer” and “other” not shown

Demographic Highlights-

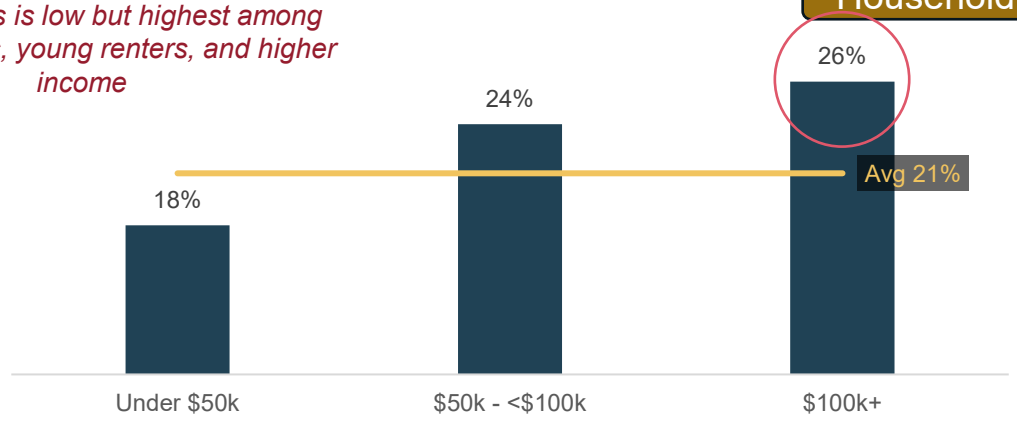
Top Choice: Colorado Springs Utilities should support attainable housing at the expense of increased utility rates

Interest in supporting attainable housing through rates is low but highest among new residents, young renters, and higher income

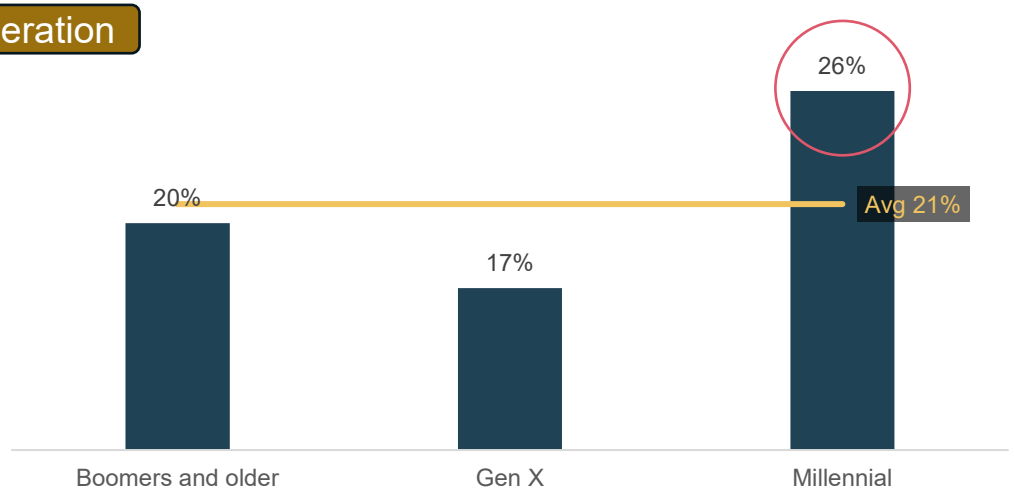
Homeownership



Household income



Generation



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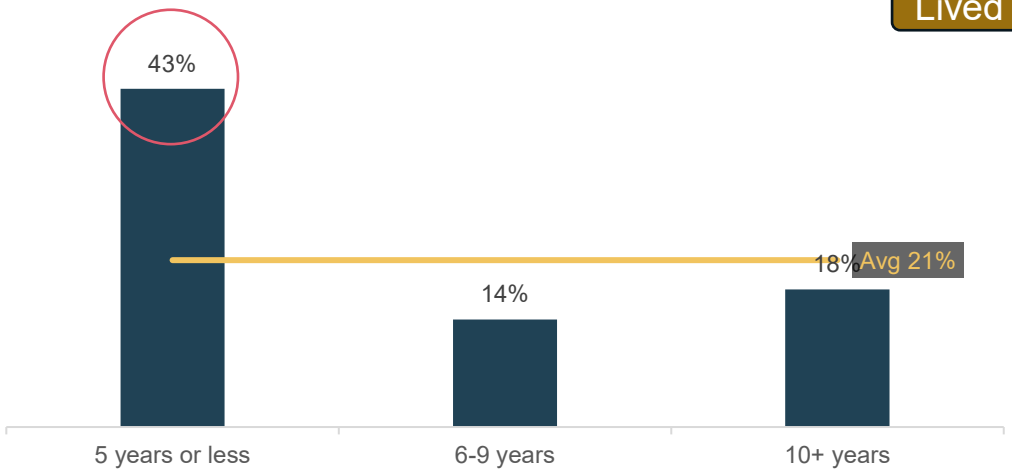


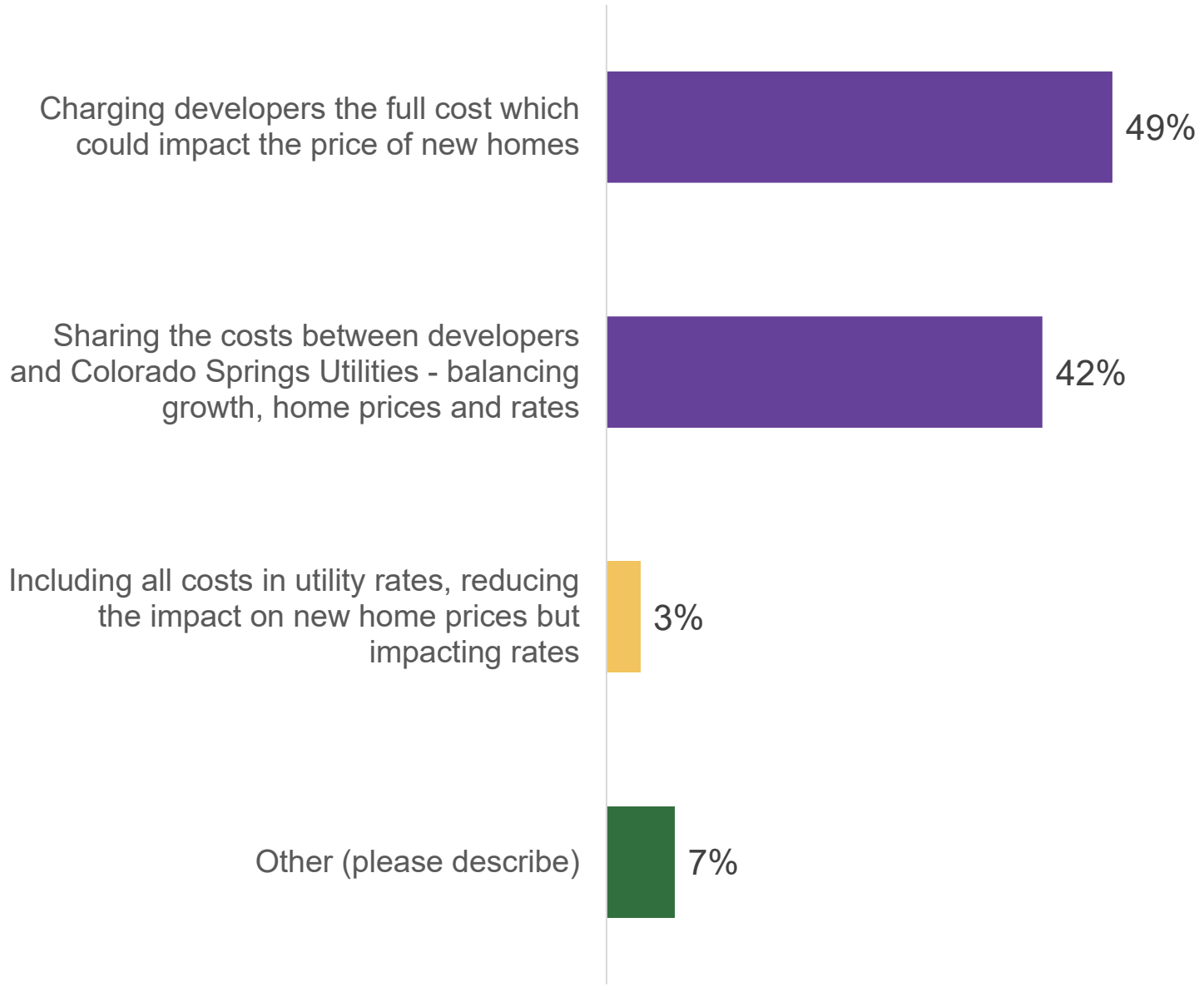
2023 Cost Recovery Survey
Sep/Oct 2023 n = 492 (408 tenure) * Responses “prefer not to answer” and “other” not shown

Infrastructure Cost Recovery

Our customers' top choice for cost recovery would be fully paid by developers (49%), followed by sharing the cost (42%).

How would you recommend Colorado Springs Utilities recover infrastructure costs for community growth?

(please choose one)



2023 Cost Recovery Survey
Sep/Oct 2023 n = 492

Infrastructure Cost Recovery – What does "Other" mean?

Themes:

- Strong anti-growth sentiment
- Emphasis to have developers pay for infrastructure costs.
- Ideas on how to offer incentives and share the expense

"The more expensive & exclusive communities, which are NOT affordable to the average citizen should have to pay for their own infrastructure with **incentives** given to developers who provide **affordable housing options** which would be incorporated into everyone having a slight rate increase."

"I think there is a balance that could be achieved using multiple solutions. Developers in certain areas should pay more for secondary and high end home ownership. Developers who are working to build **affordable housing for first time homebuyers and starter homes** should be given some sort of an incentive to go that direction."

"For new growth within city limits that is focused on **attainable housing (dense neighborhoods and multi-family housing),** CSU should include the full cost in utility rates. For any other housing, developers should cover the full cost."

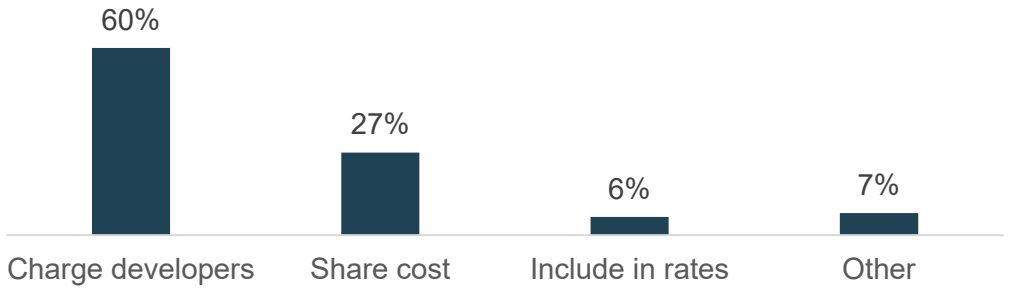
"For master planned communities charge developers. For **affordable housing** share the costs."

How does opinion on growth influence preference for cost recovery?

How would you recommend Colorado Springs Utilities recover infrastructure costs for community growth?

For respondents who said:

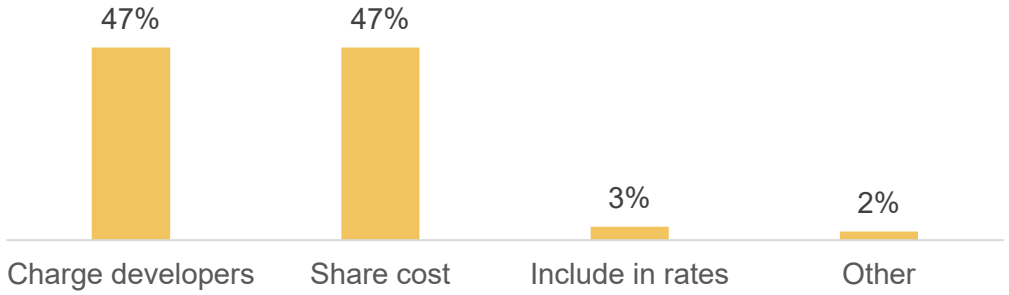
I believe Colorado Springs should stay within the existing city limits and build more dense neighborhoods (17% of responses)



N=82

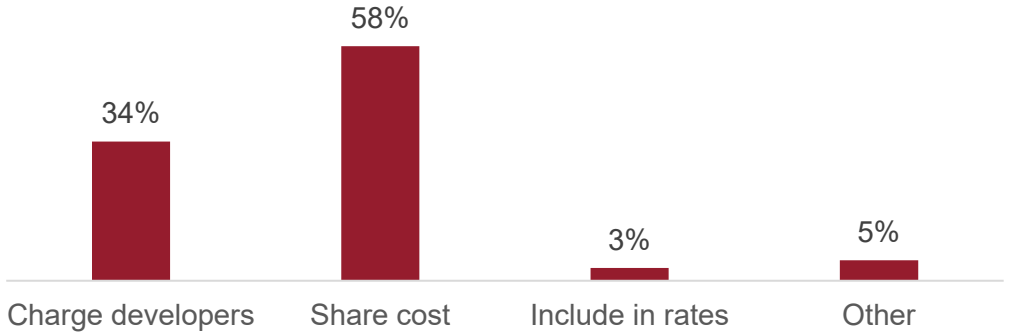
For respondents who said:

I believe Colorado Springs should look to grow outside of existing city limits rather than within (14% of responses)



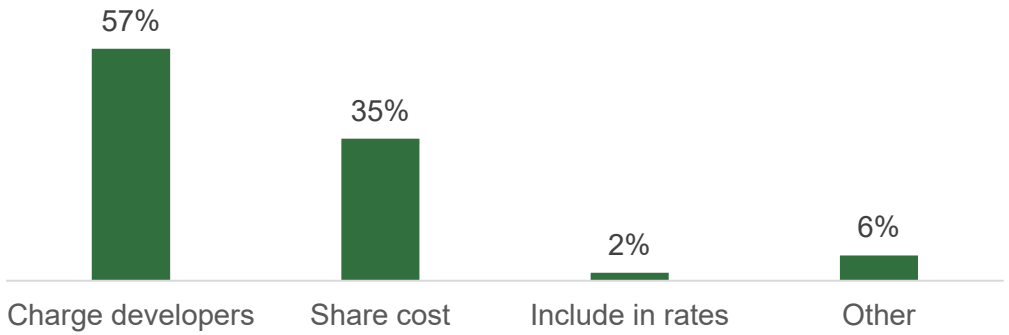
N=70

I believe Colorado Springs should focus on growth both within and beyond existing city limits (31% of responses)



N=155

I believe Colorado Springs should limit all new growth (31% of responses)



N=153

2023 Cost Recovery Survey
Sep/Oct 2023 n = 492 * Response “none of the above” not shown (n=32)

Group Discussion

Next Steps

Adjournment

Colorado Springs Utilities

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Board Memo Agenda Item

Staff Report

Date: Jan. 16, 2024

To: Utilities Board

From: Travas Deal, Chief Executive Officer

Subject: Industry Materials

NARRATIVE:

Desired Action: Information

Executive Summary: The Utilities Board requested Springs Utilities staff collect additional information for them to review before they make a decision on the Cost Recovery Assignment. Part of that request included gathering more feedback from industry representatives (Housing and Building Association of Colorado Springs, Pikes Peak Relators Association, Colorado Springs Chamber and EDC and other affected parties).

Attached in this packet includes the correspondence between the industry and Colorado Springs Utilities from May-November 2023.

Attachment 1 page 44: May 2, 2023, Memo: The Housing and Building Association submitted a series of questions about the assignment and this memo includes their questions and Colorado Springs Utilities staff responses.

Attachment 2 page 48: October 18, 2023, Memo: The Housing and Building Association of Colorado Springs sent a memo expressing concerns about the assignment and asking for additional information.

Attachment 3 page 53: November 1, 2023, Colorado Springs Utilities hosted an industry workshop with stakeholders to collect their feedback and address concerns from their October memo. This attachment includes all materials that were sent in advance of this meeting.

Attachment 4 page 75: November 1, 2023, Workshop Summary. This summary includes notes from the industry workshop and a link to the video of the full meeting.

Attachment 5 page 81: November 30, 2023. This attachment includes follow-up information that was sent to industry members answering remaining requests from the November 1, 2023 meeting.

Submitter: Bethany Schoemer

Email address: bschoemer@csu.org

Division/ Department: Strategic Planning and Governance

Phone number: 719-668-8311

Date submitted: Jan. 3, 2024

SPG Staff Use Only:	Consent Calendar		Yes		No	**ITEM NO.**

ITEMS SUBMITTED AFTER THE DEADLINE WILL BE POSTPONED UNTIL THE NEXT UTILITIES BOARD MEETING.

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Re: UPAC Cost Recovery Assignment – Response to the CSHBA letter dated 5/2/2023

Springs Utilities' responses to the questions posed in the CSHBA letter to Christian Nelson dated 5/2/2023 follow each question or comment made by the CSHBA.

CSHBA: The UPAC Cost Recovery process is a very important exercise, and the Housing & Building Association of Colorado Springs is very concerned about increased costs and rates. We look forward to engaging in the discussion and working through the details of this process.

Springs Utilities: At the September 28, 2022 Utilities Board meeting, the Utilities Board unanimously approved a Utilities Policy Advisory Committee (UPAC) assignment focused on community growth and cost recovery. Springs Utilities' role related to the assignment is to provide relevant and requested information, for the purpose of supporting the committee in developing their eventual policy recommendations to Utilities Board.

For this assignment, high-level estimates of fees were presented to UPAC to support the committee's formulation of general policy recommendations. Estimates were illustrative and were not intended to represent a current or future proposal from Springs Utilities. If Utilities Board directs staff to propose new fees, Springs Utilities' future rate filing would substantiate the details including calculation schedules.

CSHBA- 1. The industry is a very significantly impacted stakeholder. Work session meetings were held to educate and provide input to better understand the assumptions, alternatives, and details behind the fees in the recently increased water fees process. This current process has been structured to limit discussion to UPAC meetings. The HBA would appreciate the opportunity to hold a detailed work session to address the details.

Springs Utilities: The UPAC process is quite different from past water fee processes. UPAC assignments from the Utilities Board are by nature public processes that usually go on for several months. It is important that those proceedings remain as transparent as possible and include all members of the committee. We recognize that the development and building industries are key stakeholders in this assignment, which is why the CSHBA was contacted at the outset, invited to present to UPAC, and encouraged to remain involved and engage with public comments throughout the assignment. As the assignment is for a policy recommendation around whether or not to change development fees, a detailed workshop likely will be more appropriate after the policy recommendation and at the Board direction. Specific details are developed through potential future rate filing processes between August and November. If UPAC recommends and Utilities Board directs a rate filing to update tariffs and Utilities Rules and Regulations, Utilities would anticipate a process similar to the Water Resource Fee and the industry will be invited to review a detailed analysis.

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CSHBA- 2. The 2016 TichshlerBise Economic and Fiscal Impact Analysis completed for the BLR annexation agreement update indicated that development did pay its way. The report specifically noted that the modification of the Annexation Agreement would bring in $434 million in additional net revenue to CSU. Can CSU address what has changed since then to consider a fee increase?

Springs Utilities: The 2017 economic and fiscal impact analysis completed for the BLR revised annexation agreement was based on the best assumptions available at that point in time. Since that time, Springs Utilities has experienced numerous changes in its planning and operational landscape, including but not limited to:

- Changes in capacity availability for various utility resources and facilities
- Revision and update of capital program assumptions
- Compliance with evolving regulatory environment
- Inflationary pressures on labor and materials
- Higher interest rate environment for new financing
- Revenue projections are less than previously assumed
- New generation requirements

CSHBA- 3. We understand that the cost recovery model is the "Equity Buy-in Method." Can you provide a succinct description of the model and then show the math behind the results? What alternatives have seriously been considered?

Springs Utilities: Springs Utilities' current Water and Wastewater Development Charges are based on the replacement cost buy-In method of valuing the equity of existing system capacity. Specifically, the value of each system's assets are based on original book cost, trended to current-day dollars, less accumulated depreciation and outstanding debt. In general, Development Charge fees are expressed as:

$$\frac{\text{System Value}}{\text{System Capacity}} \text{ X New Customer Capacity Demand = Water or Waster Water Development Charge}$$

For the purposes of the current UPAC assignment, Springs Utilities has used the replacement cost buy-in method for estimating potential existing system capacity fees for the Electric and Natural Gas service. This method was utilized for consistency with methodologies of similar fees approved by City Council for Water and Wastewater. For this assignment, high-level estimates of fees were presented to UPAC to support the committee's formulation of general policy recommendations. Estimates were not intended to represent a current or future proposal from Springs Utilities. If Utilities Board directs staff to propose related fees for the Electric and Natural Gas services, Utilities' future rate filing would substantiate the details and rationale for any proposed methodology.

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CSHBA- 4. The premise behind the exercise is that there is pressure on rates. There is also significant pressure on housing costs. How is CSU actually considering what could be a significant cost increase to new homes?

Springs Utilities: At the September 28, 2022 Utilities Board meeting, the Board unanimously approved a UPAC assignment focused on community growth and cost recovery. Springs Utilities' role related to the assignment is to provide relevant and requested information, for the purpose of supporting the committee in developing their eventual policy recommendations to Utilities Board.

CSHBA- 5. The initial costs are completed on a very broad SFE basis. The final fees on higher-density residential and commercial development may significantly impact economic development and enhance or hamper certain product types. Those results are also important to the evaluation.

Springs Utilities: For this assignment, high-level estimates of fees were presented to UPAC to support the committee's formulation of general policy recommendations. Estimates were not intended to represent a current or future proposal from Springs Utilities. If Utilities Board directs staff to propose new fees, Springs Utilities' future rate filing would substantiate the details and rationale for any proposed fees, including fee designs for multifamily and commercial development. The Utilities Board would make the ultimate decision to require development fees and approve the fee amounts.

Although multifamily and commercial capacity fees such as the existing Water and Wastewater Development charges can be significant in terms of dollars, they are generally lower on a cost per unit basis compared to single family housing. Specifically, capacity fees utilize the general formula described in response #3 above, and since the capacity requirement on a per dwelling unit basis is generally lower for multi-family properties, the fee cost per dwelling unit is generally lower compared to single family dwellings.

CSHBA- 6. To have a meaningful response, we need transparency to understand the specific details of the financial model, the inputs, assumptions, and outputs. Sensitivity analysis is an essential part of an evaluation.

Springs Utilities: For this assignment, high-level estimates of fees were presented to UPAC to support the committee's formulation of general policy recommendations. Estimates were not intended to represent a current or future proposal from Springs Utilities. If Utilities Board directs staff to propose new fees, Springs Utilities' future rate filing would substantiate the details including calculation schedules and address public/ stakeholders' input.

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CSHBA- 7. There is a perception that new residents will be "double dipped". Paying for a share of utility capital costs up front and then again through the rate base. Can you address how this is or is not the case?

Springs Utilities: Springs Utilities' rates are established to recover the annual Revenue Requirement. The Revenue Requirement is based on cash-needs method using a forecasted test year, utilizing the general formula described in question and response #8 below. Revenues forecasted from development fees and Contribution in Aid of Construction are credited against the revenue requirement. As a result, any portion of capital funded by fees is not included in rates, which eliminates the potential of a customer double paying for the same infrastructure.

CSHBA- 8. Can you delineate the detail behind the potential rate expectation in each utility? Using the RR=F+O+C-M (Revenue Requirements = Finance Costs + Operating Costs + Cash Funding for capital projects less Miscellaneous revenue including development fees and charge) formula, can you show for each utility and for each of the components, on a gross and an average ratepayer basis.

Springs Utilities: The approved non-fuel revenue requirements from the last approved cost of service studies for each service are summarized in thousands below:

- Electric: $333,238 (RR) = $75,318 (F) + $146,713 (O) + $117,544 (C) - $6,337 (M)
- Natural Gas: $81,160 (RR) = $12,161 (F) + $46,533 (O) + $23,684 (C) - $1,218 (M)
- Water: $219,885 (RR) = $85,621 (F) + $132,071 (O) + $41,553 (C) - $39,360 (M)
- Wastewater: $73,616 (RR) = $23,804 (F) + $45,800 (O) + $10,424 (C) - $6,412 (M)

Following generally accepted practices, Springs Utilities performs the following analytic ratemaking procedures:

- Determine the total annual Revenue Requirement for the time period when the rates are to be in effect (as detailed above in response #8 above
- Perform a Cost of Service Study that is used to:
  - Functionalize, at the account level, the relevant expenditure items to the basic functional categories
  - Classify each functionalized cost into commodity, demand, customer, and other relevant categories utilizing cost causation principles
  - Allocate cost to customer classes based on the service characteristic of each individual class
- Utilize the results from the Revenue Requirement and the Cost-of-Service analysis to establish cost-based rates that meet the overall rate design goals and objectives of the utility

HOUSING & BUILDING ASSOCIATION OF COLORADO SPRINGS

4585 Hilton Parkway Suite 100, Colorado Springs, CO 80907
Phone: 719-592-1800 · CSHBA.com

MEMO

To: David Donalson – Chair, Colorado Springs Utilities
Travas Deal – CEO, Colorado Springs Utilities
Larry Barrett – Chair UPAC
From: Mark Reyner, 2023 HBA President
Date: October 18, 2023
Subject: CSHBA Stakeholder Response- UPAC Cost Recovery Exercise

The Housing and Building Association of Colorado Springs appreciates the opportunity to participate in the CSU cost recovery exercise to examine the current fee structure for new connections to Water, Wastewater, Electric, and Natural Gas services. We are concerned that the proposed changes to the capital recovery methodology are primarily driven by the desire to maximize potential income sources to minimize rate increases. The current fee methodology is well-established and has worked well over the years. We are unclear as to why the increase in scope to include more future estimates is necessary, and we are concerned that the tradeoff is imbalanced.

In anticipation of the upcoming November 1, 2023, stakeholder meeting with the HBA, please consider the following:

<u>The Current Cost Recovery Exercise assignment scope:</u>

- Should Colorado Springs Utilities be forward-looking on cost recovery for resource and infrastructure investments?
- Should Utilities align cost recovery mechanisms across four services?
- What role should incentives play in supporting resource and infrastructure planning objectives?

- What are the appropriate ways to balance costs between existing and future customers for required future investments?

We propose adding to the scope:

- Should CSU depart from the traditional method of funding investment future resource development as a broad-based ratepayer source and shift future additional costs to new customers?

- What is the forecasted tradeoff, and what is a reasonable tradeoff between the potential forecasted rates and new fees?

- What are the important broader policy economic impacts on the local housing market, the potential to shift more local development into the County, and implications on housing affordability?

Questions for discussion:

1. The equity buy-in method essentially allocates costs based on the current value of the system. It is also known as the "country club method." Adding future potential expected costs significantly changes the methodology of the calculations, shifting what has been traditionally a broad-based funding structure to a system increasingly more dependent on new connections.

2. We appreciate more clarity on the math behind the exercise. The current exercise indicates an incremental monthly cost to the sample ratepayer ranging between $13 to $34 ($165 to $420 per year) after ten years. Assuming 155,000 customers, $165 generates $25.6 million, while $420 generates $65.1 million annually. Connection fees at $10,000 per new home in the City would raise $20 million at 2,000 new homes or $30 million at 3,000 new homes. Is there an equivalency that would help clarify the tradeoff?

3. The investments in Resource development assets need to be clear-cut. This allocation between new and existing customers is more subjective than the other investments. Delineating between investments in utilities assets ranges from system resiliency costs for ongoing repairs and maintenance and system upgrades for regulatory compliance, increased customer demands, and

expectations that differ somewhat from resource assets. Resource additions serve new connections, add redundancy, and improve the system's overall resiliency. What are the assumptions behind Including future resource assets in the fee update?

4. How far into the future should CSU include estimated investments in new fees? Is ten years an appropriate estimate? What is the sensitivity to shortening the time horizon? The future costs include significant contingency costs that will be built into the fee updates. The longer the timeframe for the projections, the more significant the contingency factor becomes. It has been proposed that certain multi-year projects may extend beyond the 10-year horizon. How does the denominator get adjusted for this assumption? Are estimated future connections or the added capacity included in the denominator?

5. We challenge the assumption that CSU should implement aligned fees across all four utilities. The provision of the very different utilities is very different. Each utility has a unique set of funding approaches that have evolved over the years and have served the customer base well. The existing fees appropriately have new users pay the direct costs of connecting to the system. Water and wastewater service provision is much different than gas and more so with electric, where CSU buys and sells power continuously.

6. The timing for proposing increasing utility hookup costs comes at a bad time for consumers due to higher interest rates and supply chain issues. Fewer residents can qualify for home mortgages and are faced with fewer housing options. What options for phasing any approved increased costs could be given consideration?

7. The 2021 State Legislature-mandated Energy Code just took effect on July 1, 2023, adding an estimated $10,000 to $12,000 per home. This significant legislation and cost increase should be considered in this exercise as new homes won't be demanding the same amount of energy as current homes. The energy savings should be addressed in the proposed fee increases. Can CSU agree to reconsider and adjust the recovery fees in the future, as the actual savings will be documented?

8. The use of natural gas in new homes continues to come under attack at the federal and state levels. Many individuals believe that the use of natural gas will be illegal in as little as five years. Implementing the new fees will likely lead to

stranded assets for new and existing ratepayers. Can CSU guarantee at least ten years of natural gas deliveries to impacted new ratepayers (homebuyers) that would assure a modicum of cost recovery?

9. One of the reasons stated at a recent UPAC meeting for the increased cost recoveries is that new ratepayers are less valuable than they used to be and that the new customer payback period for those capital costs is significantly longer. Please show the historical and current economic value of a new customer. How is the payback period computed?

10. Another reason for the increased cost is that CSU has exhausted the existing capacities that have long been in the system and that significant new infrastructure is now necessary to serve additional new ratepayers. Please provide a historical analysis of system capacities and what is projected to be needed for the future.

11. From our previous inquiry, the 2016 TischlerBice Economic and Fiscal Impact Analysis completed for the BLR annexation agreement update indicated that development did pay its way. The report specifically noted that the modification of the Annexation Agreement would bring in $434 million in additional net revenue to CSU. Can CSU address what has changed since then to consider a fee increase?

The CSU response was: The 2017 economic and fiscal impact analysis completed for the BLR revised annexation agreement was based on the best assumptions available at that point in time. Since that time, Springs Utilities has experienced numerous changes in its planning and operational landscape, including but not limited to:

- Changes in capacity availability for various utility resources and facilities
- Revision and update of capital program assumptions
- Compliance with evolving regulatory environment
- Inflationary pressures on labor and materials
- Higher interest rate environment for new financing
- Revenue projections are less than previously assumed
- New generation requirements

In addition, the newly implemented water resource fee was also not included in the study. It would be helpful to update the study to determine if the above response is objectively accurate.

12. HBA strongly supports using incentives that would conserve utilities by reducing the fees paid by new customers. Several communities along the front range have implemented incentives that reduce water use for demonstrated actions that also reduce the water fees.

13. HBA also supports using incentives or policies that support other City objectives, such as infill and reuse, that current policies may otherwise defeat.

14. The review and design costs should be periodically examined to ensure the fees are appropriately set to reflect a 70/30 split industry/CSU. Doing so helps ensure that time spent on review by CSU staff remains efficient and reflects the fact that current ratepayers are beneficiaries of the standards imposed on new customers.

One last request: we understand a customer survey has been shared with a select focus group of CSU residential ratepayers to gather their perspectives on growth. Can the survey link, a list of the survey questions, and a list of the survey focus group be shared with us? As CSU customers and advocates for the future ratepayer, we'd also like to take the survey.

We look forward to discussing the above questions and any additional questions in more detail during the workshop.

Colorado Springs Utilities
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AGENDA
Wednesday, November 1, 2023
8:00 a.m. – 11:30 a.m.

8:00 a.m.	**1.**	**Introductions and Purpose** • The purpose of this workshop is to collect feedback from developer and business industry stakeholders, answer questions, and openly discuss concerns on potential policy for restructuring cost recovery mechanisms. • The results of the discussion will be shared with the Utilities Policy Advisory Committee and Utilities Board for consideration and incorporation into any policy direction the Utilities Board gives to Colorado Springs Utilities staff.	Leslie Smith, Analyst Supervisor Christian Nelson, Public Affairs Lead
8:15 a.m.	**2.**	**Budgeting Process Overview:** • Financial forecast model • Capacity fees • Budget objectives • Identifying projects • Project prioritization • Results	Tara McGowan, Engineering Manager John Hunter, Financial Planning and Risk Manager Scott Shirola, Pricing and Rates Manager

8:45 a.m.	**3.**	**Guided Group Discussion:**
		• Should Springs Utilities be forward looking on cost recovery for resource & infrastructure investments?
		  ○ How far into the future should Springs Utilities include estimated investments in new fees?
		  ○ Please provide a historical analysis of system capacities and what is projected to be needed for the future.
		  ○ How is the payback period computed?
		  ○ What are the assumptions behind Including future resource assets in the fee update?
		  ○ How does the denominator get adjusted for this assumption?
		  ○ Are estimated future connections or the added capacity included in the denominator?
		• Should Springs Utilities align cost recovery mechanisms across four services?
		  ○ We challenge the assumption that Springs Utilities should implement aligned fees across all four utilities.
		• What role should incentives play in supporting resource & infrastructure planning objectives?
		  ○ HBA strongly supports using incentives that would conserve utilities by reducing the fees paid by new customers.
		  ○ HBA also supports using incentives or policies that support other City objectives.
			Leslie Smith, Analyst Supervisor

		• What are appropriate ways to balance costs between existing & future customers for required future investments?
		  ○ Equity Buy-In Method
		  ○ Is there an equivalency that would help clarify the tradeoff?
		  ○ What options for phasing any approved increased costs could be given consideration?
		  ○ Can Springs Utilities agree to reconsider and adjust the recovery fees in the future, as the actual savings will be documented?
		  ○ Can Springs Utilities guarantee at least ten years of natural gas deliveries to impacted new ratepayers (homebuyers) that would assure a modicum of cost recovery?
		  ○ The review and design costs should be periodically examined.
		  ○ Can Springs Utilities address what has changed since 2016 to consider a fee increase?	

10: 45 a.m.	**4.**	**Open Dialogue**	
11:15 a.m.	**5.**	**Next Steps**	
11: 30 a.m.	**6.**	**Closing Remarks and Adjournment**	

Colorado Springs Utilities

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Budgeting Process Overview

Tara McGowan, Scott Shirola, John Hunter

Agenda

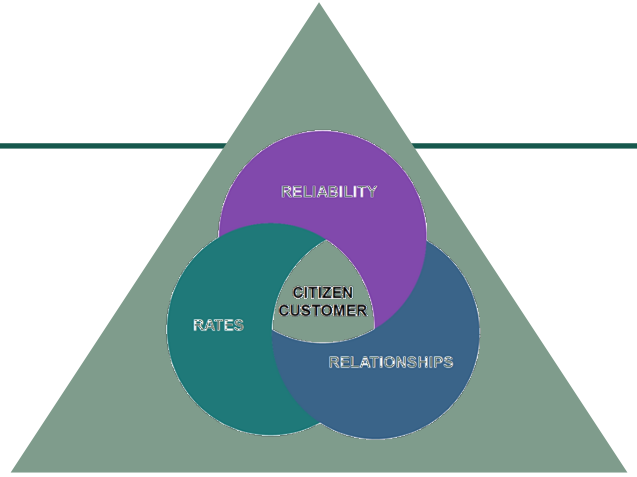
- Financial Forecast Model
- Capacity Fees
- Budget Objectives
- Identifying Projects
- Project Prioritization
- Results

Financial Forecast Model

Strategic Plan

Balance

Uses of Funds:
- Reliability
- Alignment with Integrated Resource Plans

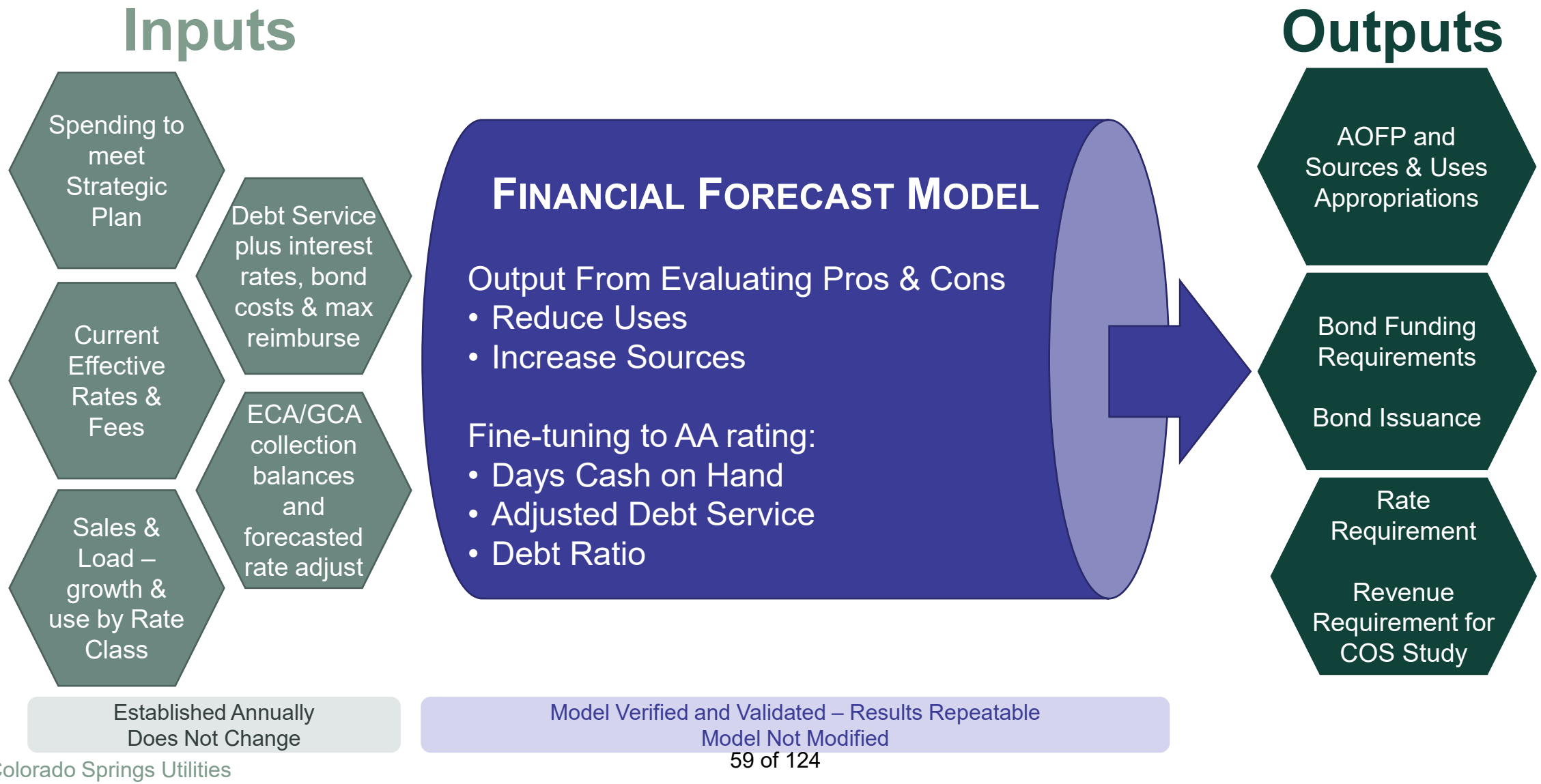


Sources of Funds:
- Revenue from Rates and Fees
- Debt

Financial Accountability

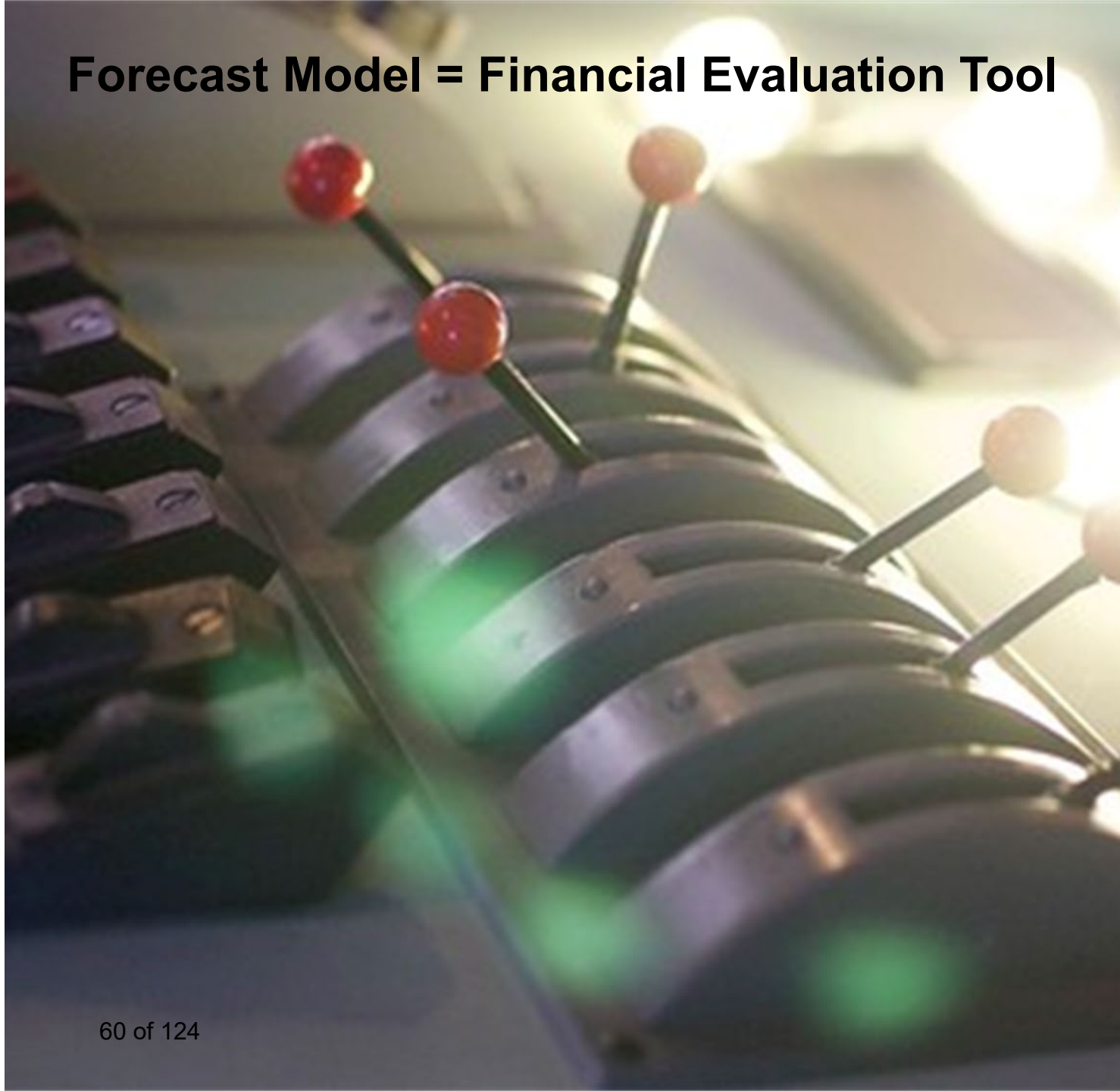
Maintain competitive rates while funding essential utility needs

Financial Forecast Model – Annual



Monitoring & Managing to Approved Budget

- Manage to Approved Budget and Total Uses & Sources of Funds appropriations
- Monitoring
  - Revenue
  - Expenditure
- No modifications are made to annual inputs or the Financial Forecast Model
- Levers - Balance variance between actuals and Approved Budget
  - Spending prioritization
  - Rate adjustments
  - Financing

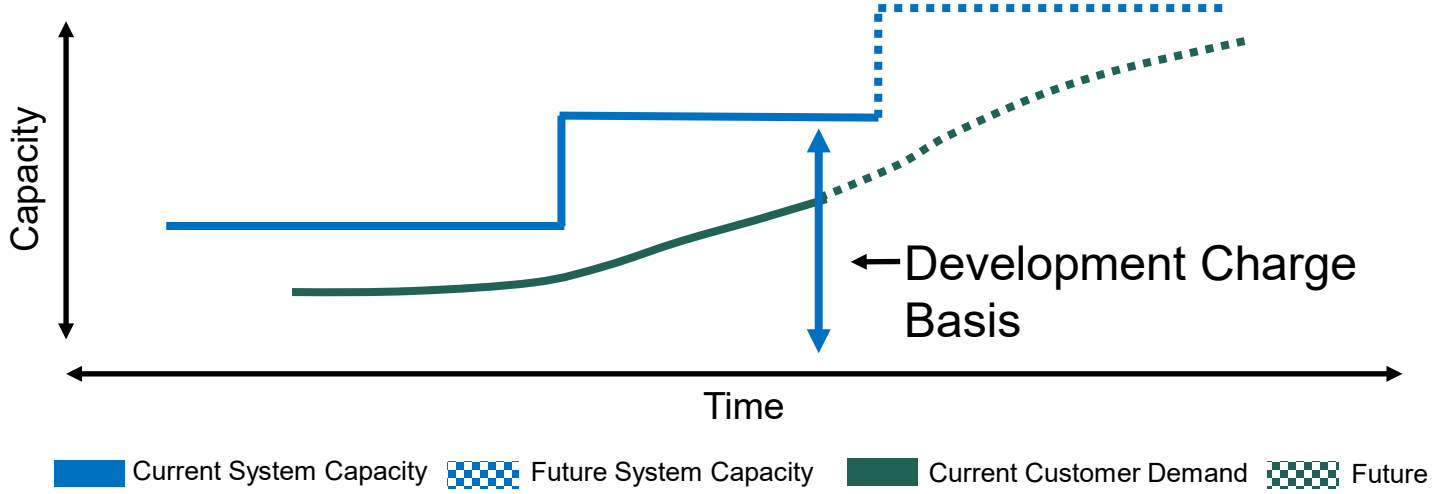


Capacity Fees

Capacity Fee – Existing System Capacity

Water and Wastewater Development Charges

- One-time charge paid at time of connection
- Offset cost associated with investments in system capacity
- Charges based on the replacement value of **existing** system capacity and the customer's capacity requirement

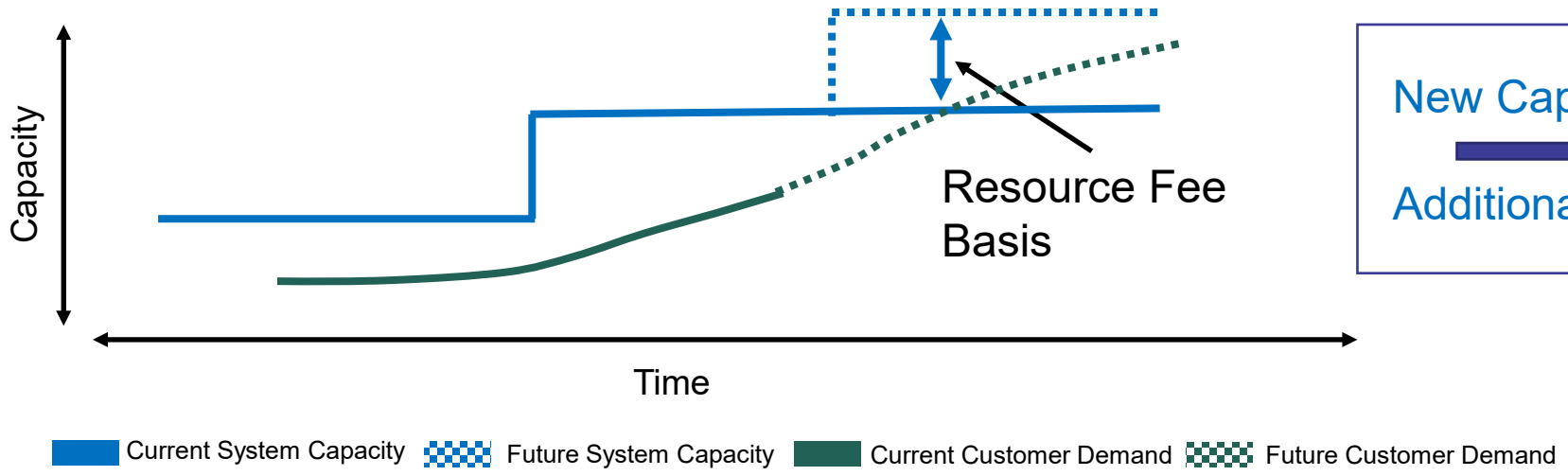


$$\frac{\text{System Value}}{\text{Existing Capacity}} \times \text{Customer's Capacity Requirement}$$

Capacity Fee – Planned Additions

Water Resource Fees (forward looking fee)

- One-time charge paid at time of connection
- Offset cost associated with adding additional capacity to support growth
- Charges based on the **forecasted** cost of **new** system capacity and the customer's capacity requirement



$$\frac{\text{New Capacity Cost}}{\text{Additional Capacity}} \times \text{Customer's Capacity Requirement}$$

Budget Objectives

Objectives

- Identify and Prioritize Projects
- Manage Budget to PFD Targets
- Manage Human Resources
- Document and Communicate

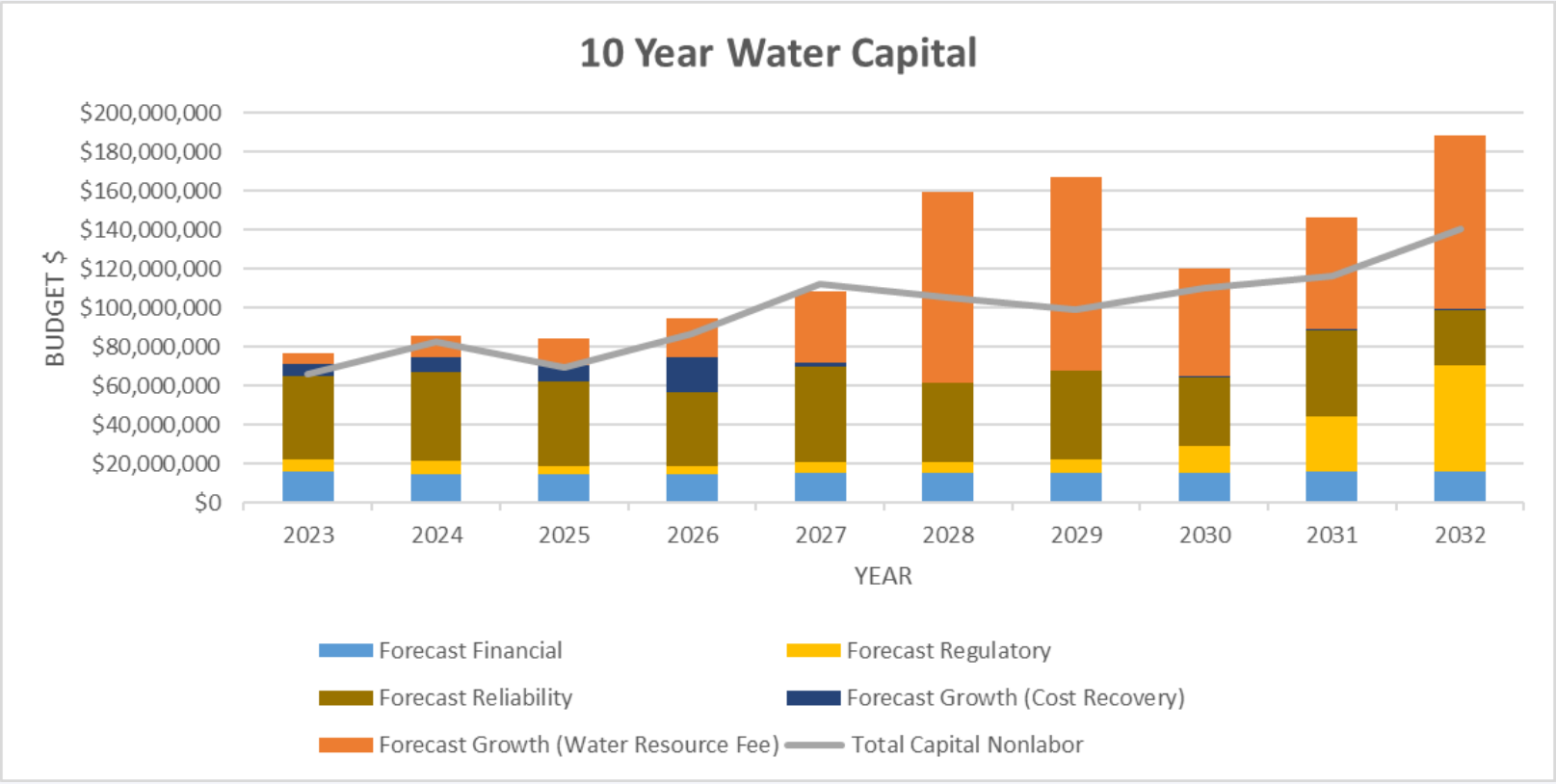
Project Identification

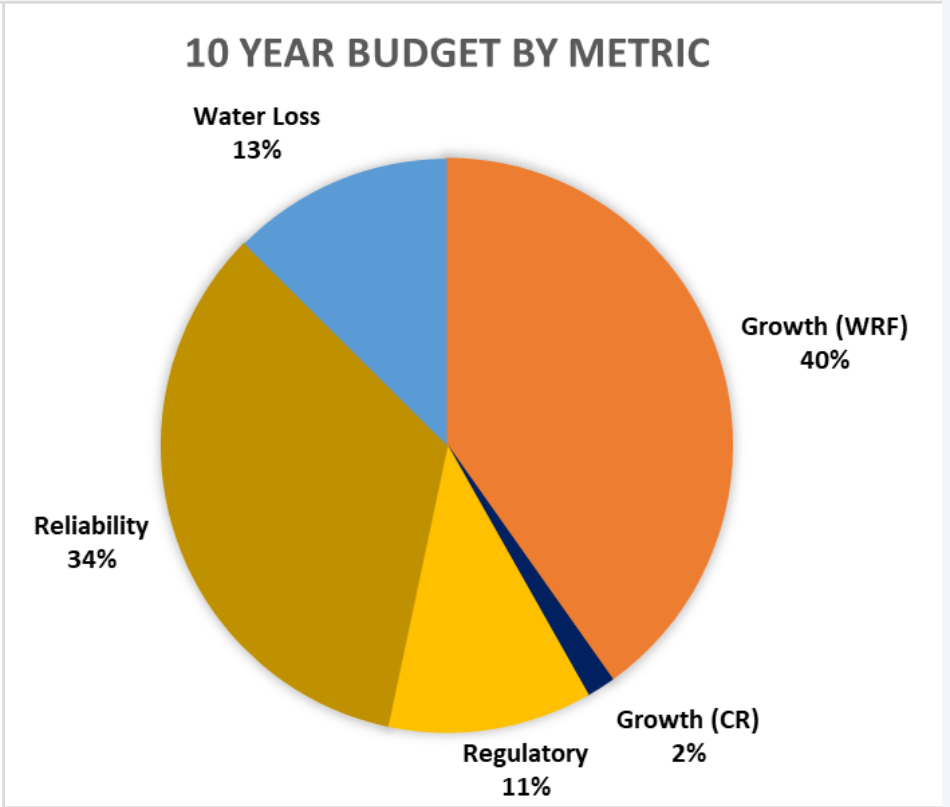
- Facility and System Plans
  - Condition assessment
  - Growth
  - Regulatory drivers
- Operational Needs
  - System enhancements for better operation as identified
  - Emergency repairs and replacements
- Programmatic Efforts for Routine Capital Replacements and Rehabilitations
  - Large quantity assessment (valves, fire hydrants)
  - Risk modeling

Project Prioritization

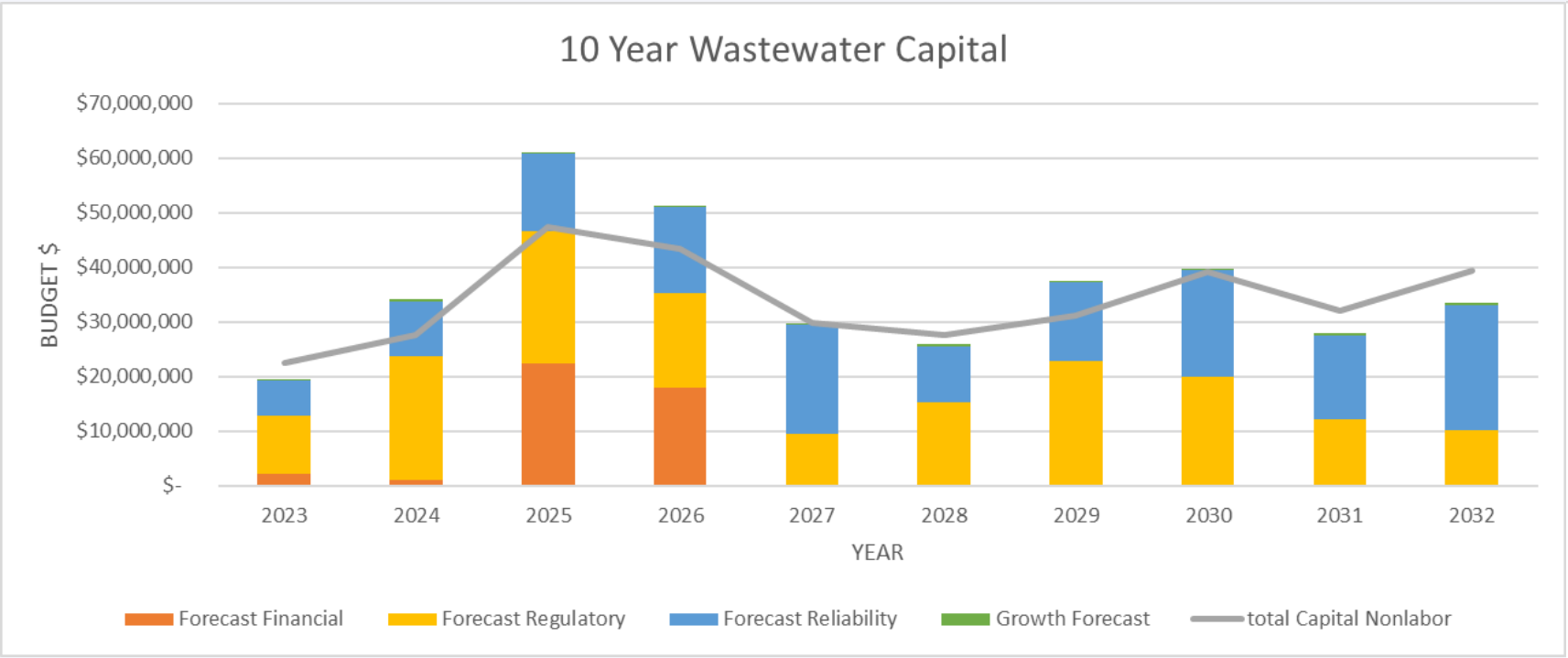
METRIC	DEFINITION	1	3	5
Reliability/Resiliency	System or equipment required to operate the existing system reliability and resiliently.	No Impact System Reliability; <5% customer impact.	Improves or Maintains System Reliability; 5%-10% Customer Impact.	Resolves Existing Reliability Issue; >10% Customer Impact.
Safety, Regulatory or Obligatory Compliance	Regulatory requirement or contractual. Federal, State Local. IGA, MOU or legal agreements.	No Regulatory Impact.	Improves or Maintains Regulatory Compliance.	Resolves existing or pending compliance issue.
Capacity/Growth	Projects that increase capacity for population, system growth.	No capacity/growth impact	Improves or maintains capacity but not required in the foreseeable future	Addresses an impending capacity/growth issue considering planning, design, permitting, and material acquisition
Financial Benefit	A project that a positive return on investment or reduction of future operation and maintenance.	No financial benefit.	Improves financial position of Utilities thru reduction of future operation and maintenance and/or capital costs.	Has a positive rate or return or provides revenue to Colorado Springs Utilities.

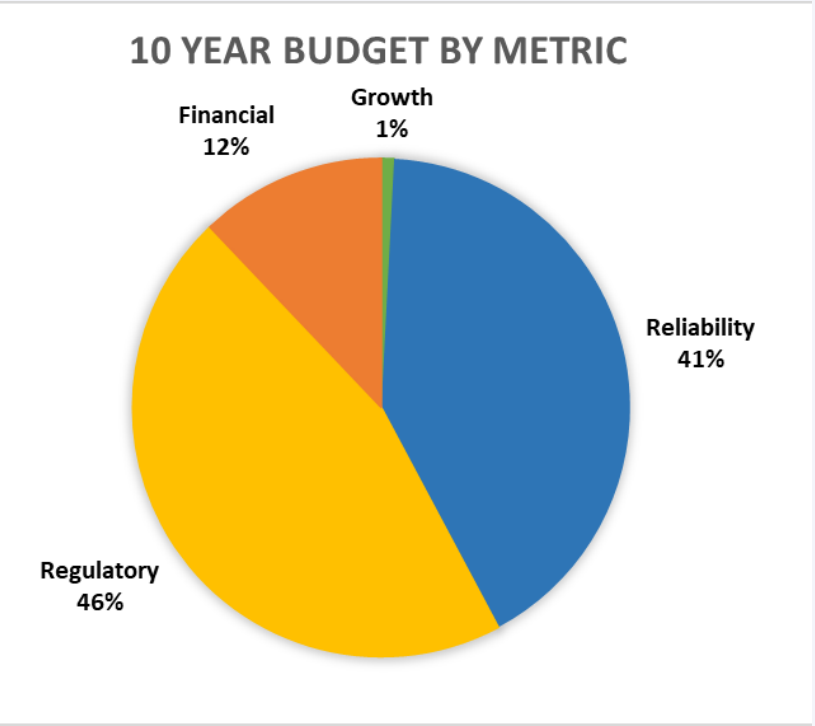
Budget Results-Water





Budget Results-Wastewater



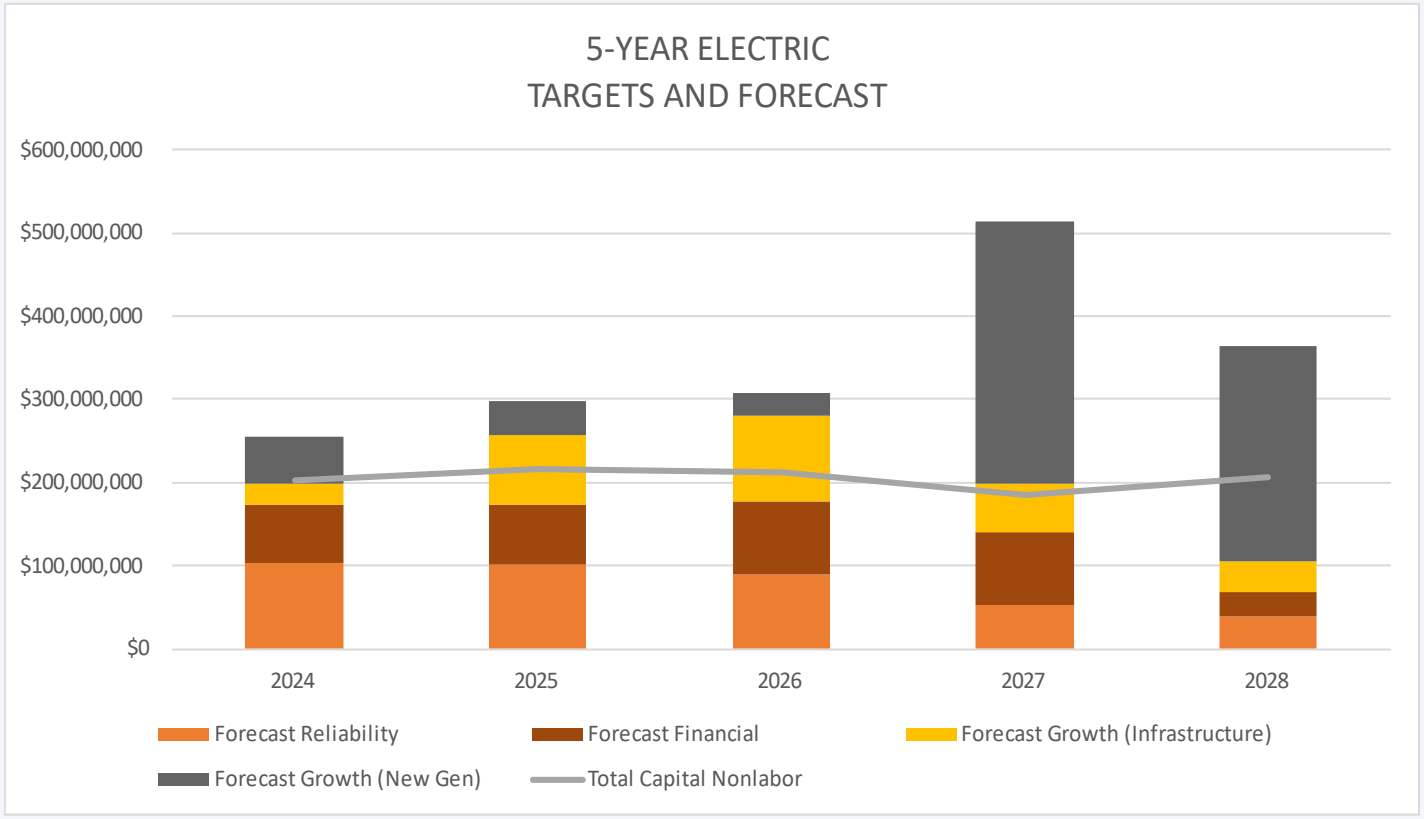


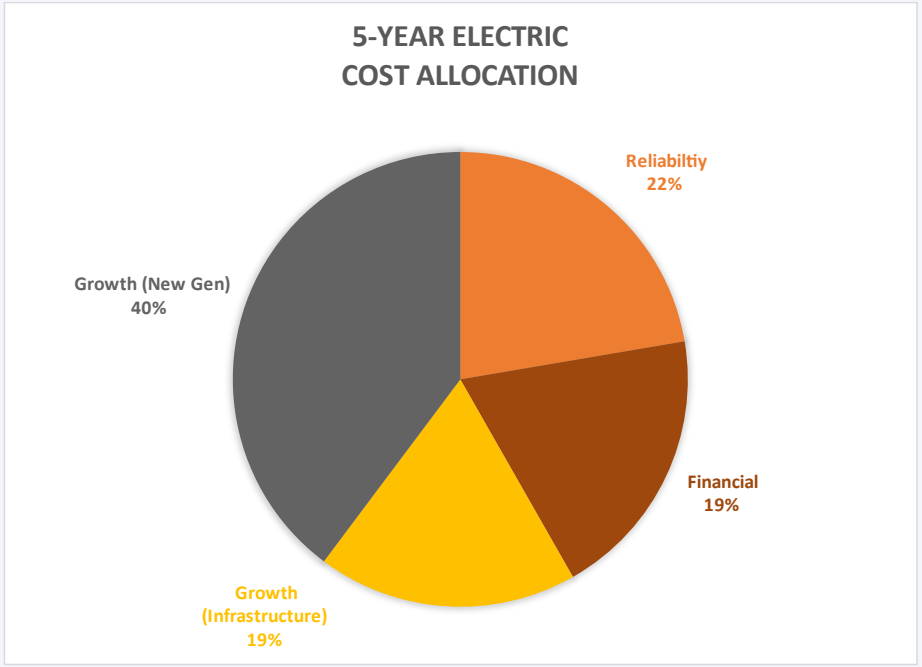
- LVSWRRF Capacity Upgrades $386M 2033-2039

Eastern Area Wastewater Planning

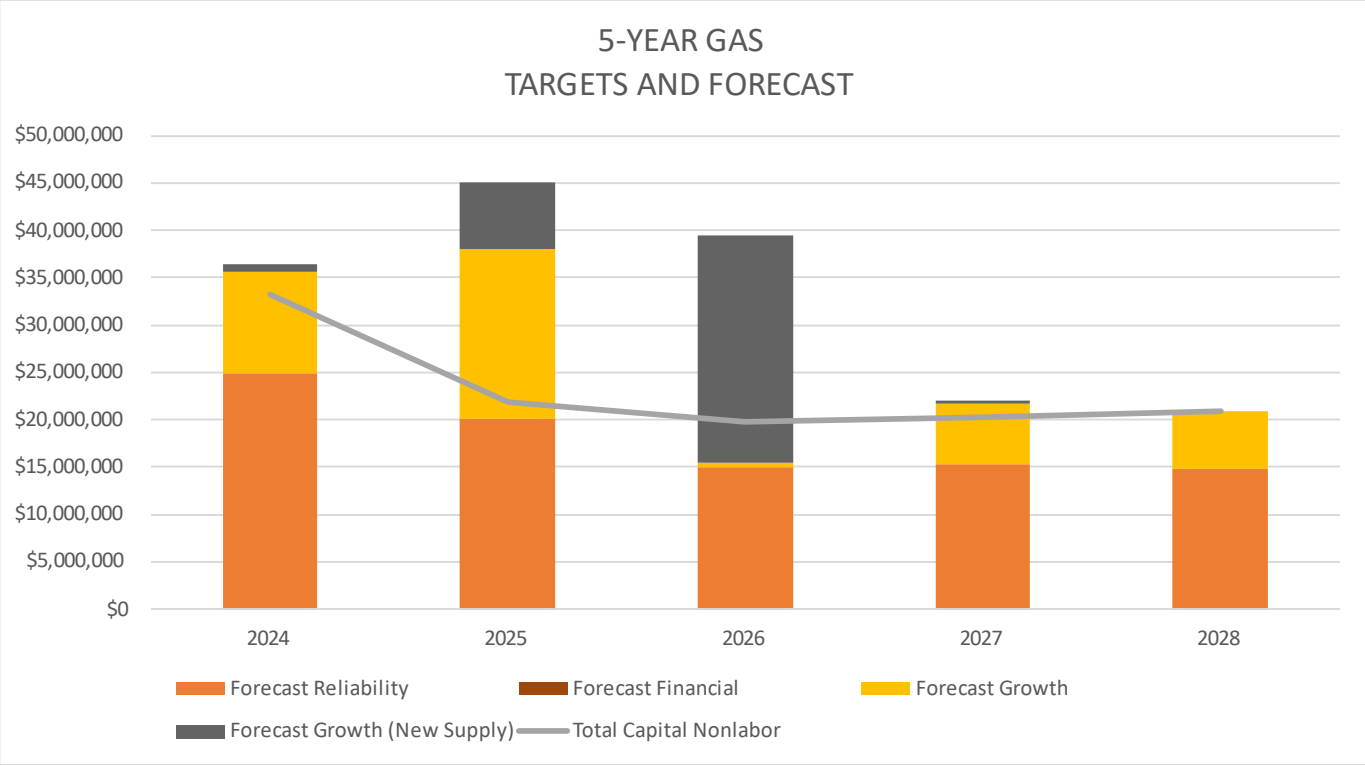
- $346 million from 2024-2032
- Current policy shows cost recovery by development for new infrastructure.
- Reviewing future options for cost recovery under current policies.

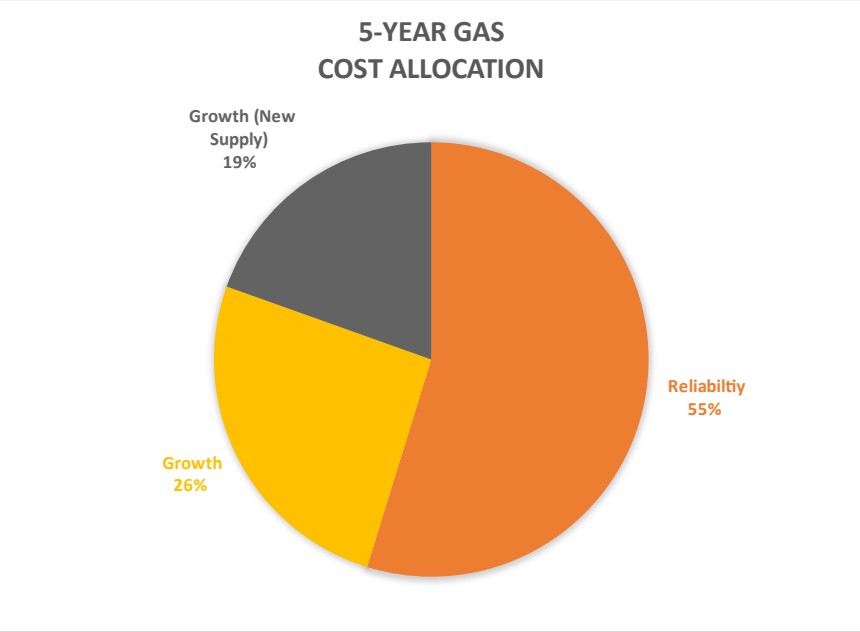
Budget Results-Electric





Budget Results-Gas





Resource and Facilities Growth Capital Project Types[1]

Project Name	Service Line	Type
Substations	Electric	Substation
SEP Substations	Electric	Substation
New Gas System Peak Shaving Plant	Gas	Plant
Marksheffel Connector GPAP expansion	Gas	Plant
LVSWRRF Capacity Upgrades for Southeast Area	Wastewater	Treatment
Continental-Hoosier System Project	Water	Water Resource Growth[2]
ROY Storage	Water	Water Resource Growth[2]
Water Acquisition - Temporary Use Waters	Water	Water Resource Growth[2]
LAWMA Shares Acquisition	Water	Water Resource Growth[2]
Bostrom Reservoir	Water	Water Resource Growth[2]
Adobe Reservoir Expansion	Water	Water Resource Growth[2]
LAWMA Exchange Decree	Water	Water Resource Growth[2]
Arkansas Basin Storage	Water	Water Resource Growth[2]

Notes:

[1] Examples only. Types of projects UPAC is considering in draft recommendation. Subject to change.

[2] Water Resource Fee recovers costs associated with Water Resource Growth projects.

Colorado Springs Utilities

It's how we're all connected

Questions

Wednesday, November 1, 2023
Colorado Springs Utilities Industry Workshop

Industry attendees:
Greg Barbuto – Norwood, Devon Camacho – Chamber & EDC, Randy Case – Pikes Peak Association of Realtors, Jill Gaebler – Pikes Peak Housing Network, Chris Jorgensen – HR Green Laura Nelson – Apartment Association, Marla Novak – Colorado Springs Housing and Building Association (CSHBA), Steve Russell – La Plata, Scott Smith – self-employed developer, and Clarissa Thomas – Pikes Peak Association of Realtors

Colorado Springs Utilities staff:
Lisa Barbato, Tristan Gearhart, John Hunter, Sarah LaBarre, David Longrie, Tara McGowan Christian Nelson, Abby Ortega, Bethany Schoemer, Scott Shirola, Leslie Smith and Todd Sturtevant

Attendees received the attached presentation which covered:

- Financial forecast model
- Capacity fees
- Budget objectives
- Identifying projects
- Project prioritization
- Results

Video Link to the full meeting.

Question 1: Should Springs Utilities be forward-looking on cost recovery for resource & infrastructure investments?

- *How far into the future should Springs Utilities include estimated investments in new fees?*

  Colorado Springs Utilities staff explained water resources uses 10 years to develop a project because there is greater cost certainty in this range. They go longer than 10 years if there is a large project. It would be ideal for revenues and expenditures to match. This assignment is focused on new capital projects related to growth. For energy, they are paid for through rates (CIAC (Contributions in Aid of Construction) for electric and gas line extensions) offset by development charge revenue. Developers pay for infrastructure expansion required for development related to water and wastewater.
  Workshop attendees asked the following questions:
  - *How big of an impact on rates would there be if we looked at a five-year rather than a 10-year window? What is the best practice?*
    Colorado Springs Utilities staff explained there is not a "one size fits all" approach. The normal process is to look 10 years out and in some cases 20 years. In order to understand the scope and size of the fees vs rates this is a useful question. Is a "normal process" a documented industry standard, best practice or a CSU assumption?

- *Do you have a reserve study where you track your assets and have an analysis of their longevity?*
  System and facility plans evaluate aging infrastructure for the probability of failure and consequence of failure and prioritize projects based upon this. Regulatory is another large part of the budget.

- *How are the costs of regulatory compliance paid for?*
  Generally, In rates. This assignment is focused on new capital projects needed for growth. It assumes everything for regulatory projects for the existing system is funded in rates. However, regulatory compliance is also paid in the capital recovery fees since they add to the cost of system expansion.

- *Please provide a historical analysis of system capacities and what is projected to be needed for the future. We have been told that the reason for the significant increase in fees is due to the fact that we have been carrying a large excess capacity in all four services. Can you simply show us what that excess capacity has historically looked like?*
  Workshop attendees made the following statements/asked the following questions:
  - *Would like to get a better understanding of historical capacity charges.*
    Some industry members expressed they would like to be ambassadors for rate changes going to City Council if we can clearly understand the nature and scope of the underlying premises.
  - *Should we be using what a new home's capacity requirement is versus a system average? Staff confirmed that they were using a global CSU average consumption and not the consumption that is based on the energy and water savings measures that are part of new home construction. This should be considered in setting new charges as new homes don't demand the same level of infrastructure.*
  - *Development fees are collected and applied to new development before the time of connection at building permit. Why aren't existing utilities customers paying? Are fees flat across home prices?*
  - *Since UPAC is a policy-oriented board, shouldn't the local community societal costs be a factor in the consideration of increased costs to local housing?*
    Utilities staff responded utility cost and benefits are what were considered, not social benefits.
  - *Where did the desire for changing the traditional methodology for cost recovery and the consideration of implementing the proposed 100% recovery figure originate? The CSU Board, CSU Staff, UPAC? Are there any statements, direction or directives to consider the change other than the UPAC assignment?*
    Multi-family dwellings are more efficient but need a larger tap because of building size and are charged a commercial rate.
  - *For energy, what does it look like if the 100% recovery figure is funded only by growth?*
    Colorado Springs Utilities is asking the Utilities Board to make the choice between 100% cost recovery for future ratepayers or increase rates for existing and future ratepayers. 100% recovery is only for identified growth-related System Extension costs.
- *How is the payback period computed?*
  - *What is the current economic value of a customer and how has that changed over the past 10 to 20 years?*

Colorado Springs Utilities staff explained the revenue stream (base load) from each home has dropped. There was a discussion around increased efficiency leading to lower revenue (per unit) but higher actual usage overall and related challenges. Colorado Springs Utilities still has to build capacity to cover peak demand.

- *How is smart metering progressing?*
  By 2025 gas and electric meters updated: still working through water meters. Needed for Time of Use (TOU) application.
- *Is there any update on Time of Use?*
  - Updates Utilities Board regularly on this topic. Further studies are being done internally.

- *What are the specific assumptions behind including future resource assets in the fee update? How are system expansion, system redundancy, regulatory and technological upgrades and repairs and system maintenance allocated? Some system improvements may, in fact, cover all the bases. Is there a clear set of assumptions being used that can guide what is a subjective allocation?*
  - *For example, Substations may be growth related, but also add redundancy and serve the entire system. The cost allocation buckets aren't perfectly clear.*
    Colorado Springs Utilities staff explained they have to evaluate assets to determine how much they benefit new versus existing customers (on a case-by-case basis). The definition used for growth bucket was "would we need this asset if we stopped growing?" There wasn't consideration whether there was benefit to existing customers and what percentage should be attributed. The question of how we pay for it is still to be determined.
  - *The philosophy of determining cost recovery could admittedly result in a much different fee structure once the actual math and detailed assumptions are employed. As mentioned before, the use of replacement costs versus book value and the assumptions of what exactly is growth-related can have a material impact on the fees charged.*
  - *Assuming a look forward of 10 years, how does the denominator get adjusted to match the costs and the benefitted parties for this assumption?*
    Stakeholders are philosophically trying to match denominator with assets. Staff indicated fee needs to be revisited on a regular basis to adjust for changes over time.
- *Are estimated future connections or the added capacity included in the denominator?*

Question 2: Should Springs Utilities align cost recovery mechanisms across four services?

- *We challenge the assumption that Springs Utilities should implement aligned fees across all four utilities.*
  Stakeholders clarified that the connection between consumption and infrastructure for wastewater is the most straightforward. That connection for Electric is conversely the most complex – A portion of the costs Review Cost Recovery summary purchase power off the grid is capital recovery and electricity can be re-routed to other consumers fairly easily. Does it make sense to align fees across all four utilities? For water and wastewater, yes. Less so for gas and even less so for electric. The industry doesn't have an issue allocating costs to new consumers for all services, but the assumptions by nature are more subjective, and thus, the "gray area" gets thicker for electric and natural gas capital costs.

Colorado Springs Utilities staff explained that at distribution level, developers cover the cost of water and wastewater. Should CIAC be better aligned with water and wastewater? Currently 70/30 split for who pays for electric and gas infrastructure. Timing of capital Utilities does not control makes budgeting for CIAC difficult. Must balance if too much or too little has been put aside.

Question 3: What role should incentives play in supporting resource & infrastructure planning objectives?

- *CSHBA strongly supports using incentives that would conserve utilities by reducing the fees paid by new customers. Several Colorado communities use reductions in the up-front fees as an incentive to construct water-efficient landscaping that should be evaluated.*
- *CSHBA also supports using incentives or policies that support other City objectives.* There was a discussion about whether there should be reduced tap fees for newer homes that have water-saving features. It should be for both residential and commercial customers. Could it be implemented across all utilities? Other interesting incentives are a more sophisticated approach than the larger the lot, the higher the tap fee, that essentially incentivizes increased future water use. A suggestion was to develop a credit back for tap fees where there is no landscaping.
    - *Does Utilities have a different rate structure for "affordable" housing?* Utilities staff responded they have put funds toward the City's Affordable Housing Program.
        - Stakeholders suggested there should be a scale-based approach to what we project water usage will be – the possibility of a resource fee design based on what the customer's water requirements are.
        - Colorado Springs Utilities will be launching a Water Budget Rate pilot to estimate water budget for customers to incentivize them to change behavior with usage. They can look at development charges based on lot size.
        - Utilities staff posed the question, *What incentives should there be for electric and natural gas usage?*
        - Stakeholders indicated there would be the greatest return on investment to incentivize existing customers to change appliances to more energy-efficient ones.
        - More efficient redevelopment was also discussed. The real estate business is changing drastically.
        - The cost of redeveloping, repairing, upgrading, and expanding utilities can be a significant disincentive to in-fill projects. Old connections may not have capacity and may be cost-prohibitive for developers to update. Can a developer recover costs beyond their project-specific requirements from benefitting parties on upgrading infrastructure in redevelopment similar to a current wastewater recovery agreement?
    - *Is Colorado Springs Utilities involved in discussions with the EDC when major employers move their operations?* Yes.

Question 4: What are appropriate ways to balance costs between existing & future customers for required future investments?

- *Equity Buy-In Method*
    - Equity buy-in has been the historical approach and has been modified since its inception. The current computations use modified replacement costs as a key assumption, including marking water rights to market value. This approach. if used by private industry would give rise to a significant capital gain or profit. Is it fair to include marking the recoveries to market value to increase the fees? This aggressive assumption essentially adds future costs to the fees. In the event that a more forward approach is approved, the assumptions for the equity buy-in method should revert to using the net book value of assets as a recovery basis. Need to ensure appropriate adjustments to the base water development fees and wastewater fees are made for the future water resource fee.
- *The tradeoff between potential fee increases and the implementation of the increased fees is unclear. The preliminary fees are static, yet the estimated increases to average customer bills are presented in a range. Is there an equivalency that would help clarify the tradeoff? What is the trade-off/average utility bill with and without growth? Incremental growth versus tap fee.*
  Staff explained rates were presented as a range while fees were presented as a dollar amount. If fees were presented as a range, the equation would look more equivalent. The crux of the assignment is how much of future system expansion should be put on current customers versus future customers and where is the equitable point?
- *What options for phasing any approved increased costs could be given consideration?*
  Colorado Springs Utilities staff explained an appropriate phase-in time (typically three to five years but occasionally two years) will continue to be reviewed.
- *Can Springs Utilities agree to reconsider and adjust the recovery fees in the future, as the actual savings will be documented?*
  Colorado Springs Utilities staff shared regular review periods are important.
- *Can Springs Utilities guarantee at least ten years of natural gas deliveries to impacted new ratepayers (homebuyers and tenants) that would assure a modicum of cost recovery?*
  Utilities staff answered, it depends where the regulations go. Colorado Springs Utilities does not believe they are going to stop gas service in next 10 years. Plans are in place to continue to grow the gas system. Legislation in place by 2030 will impact gas sales and is unknown. There are cost caps in the Clean Heat Plan. One attendee shared if Colorado Springs Utilities invests money in putting in natural gas facilities, it is important it does not become a stranded asset. Colorado Springs Utilities agreed communication with the building community is important. It is a struggle to lay out gas lines out East because of the risk of stranded assets.
- *The review and design costs should be periodically examined. What is the internal cost to Colorado Springs Utilities for the design and review process? How much should be paid for by the applicant and how much should be paid by ratepayers?* Ratepayers benefit by assuring that expansions and additions meet CSU specifications and recognizing that the applicant pays 100% of the engineering costs and reports required by CSU implementation of a 70% customer/30% utility cost split for review (most fees paid by applicant in engineering). A philosophical cost share keeps all parties honest by assuring that excessive or unnecessary reviews are disincentivized.

- *Can Springs Utilities address what has changed since 2016 to consider a fee increase?* Colorado Springs Utilities staff responded changes in the industry are driving decarbonization. Springs Utilities is reaching end-of-capacity on the existing system and is sitting on the next large investment in infrastructure. There have been significant changes, especially to the electric system, to where the same analysis performed in 2016 would not look nearly the same.
  Attendees shared the following:
  - Perception is Colorado Springs Utilities significantly financially benefitted from the Banning Lewis Ranch annexation
  - Revenue still needs focus – what is the true delta?
  - Although the reasons provided are most likely true to a large degree, the actual scope of the changes is not clear. An update to a financial study would certainly determine the answer to the question and could help in justifying changes.

Items still left to discuss/other comments from industry members:

- *A historical analysis of system capacities and what is projected to be needed for the future.*
- *What are the equitable impacts of existing ratepayers having the benefit of the water resources received through general rates versus shifting those anticipated costs to new ratepayers now entering the system?*
- Needs more discussion on estimated future connections for the added capacity included in the denominator.
- *CSHBA strongly supports using incentives that would conserve utilities by reducing the fees paid by new customers.*
- Difference in what we do in tariffs versus what we do today. Utilities staff needs policy direction prior to deciding on incentive programs. Stakeholders will be involved in the tariff-making process.
- Colorado Springs Utilities has programs to incentivize existing customers to make changes to minimize peak demand, which saves future investments. Utilities does not want to take a position one way or the other; they need to make sure they can continue growth from a utility's infrastructure standpoint.
- *Colorado Springs Utilities is spending money to incentivize customers to use less utilities*. Stakeholders felt they need to understand what would incentivize existing customers to use less utilities that newer homes are paying for on their own.
- *What is the tipping point for charging new customers these fees? Does it add $10,000 to the price of a home? This will put many out of contention to own their own home.*
- CSHBA *stated* national data shows for every $1000 added to the price of a home, nearly 300 Colorado Springs residents will no longer qualify for the home. Rising costs go into rentals as well. *C*urrent home inventory is low and not as efficient, so it seems fair all customers need to pay, not just new development.

Transmittal

To:	Marla Novak, HBA	**From:**	Tara McGowen
Phone:	Phone Number	**Date**	November 30, 2023
Re:	Follow up to UPAC Industry Workshop	**cc:**	Christian Nelson

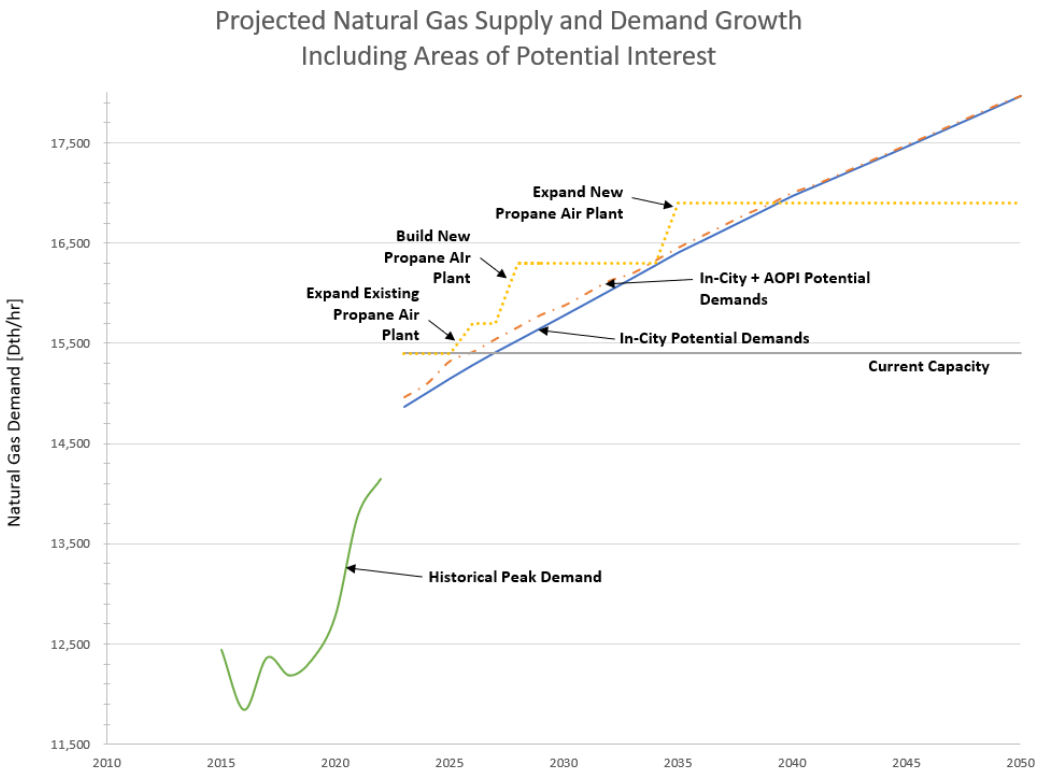
Attached please find the documentation related to our Capacity Constraints as requested at the Industry Workshop. You will find charts and documentation for our Gas and Electric Supply our Wastewater Treatment and our Water Supply as well as back up documentation. Please don't hesitate to contact me with any questions.

Gas and Electric Supply

Charts

See attached spreadsheet for additional documentation

Natural Gas Supply and Demand



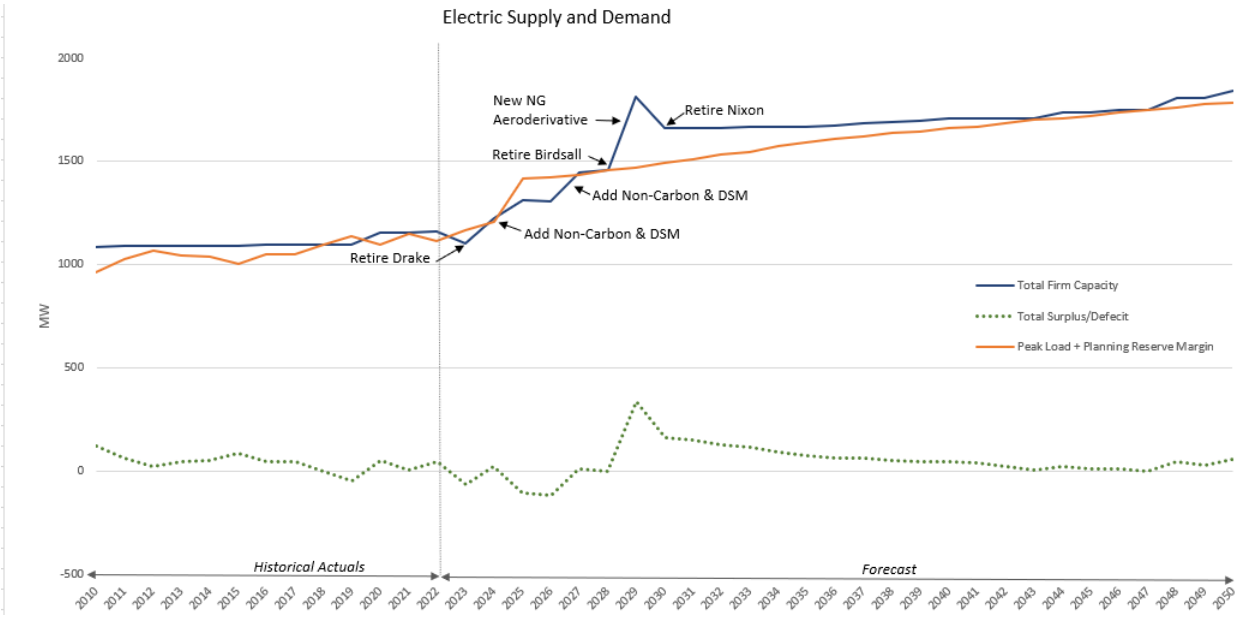
Colorado Springs Utilities' Gas Integrated Resource Plan (GIRP) was completed in 2020 and was updated in the beginning of 2023. The model forecasted the peak hourly demand of the natural gas system annually through calendar year 2050.

The following data was used to create the model:

- Forecasted population growth from Logan Simpson model;
- Predicted annexation growth;
- Historical weather data; and,
- Historical peak demand.

The peak demand is based on a one-in-twenty-five-year weather forecast of a -13°F day. While this approach does generally result in a forecasted demand higher than the actual demand, we must plan for the worst-case scenario. Loss of gas to our customers in freezing temperatures could create unsafe situations. It should be noted that the existing model does not currently consider the gas requirements of the new natural gas generation installed in downtown Colorado Springs. These natural gas generation units are currently on an interruptible rate that would likely curtail during cold weather events. This interruptible agreement may change as the need for additional electric resources increases.

Electric Supply and Demand



Colorado Springs Utilities' electric model was updated at the beginning of 2023 with ABB modeling software. It forecasted the peak hourly demand of the electric system annually through calendar year 2050. The following data was used to create the model:

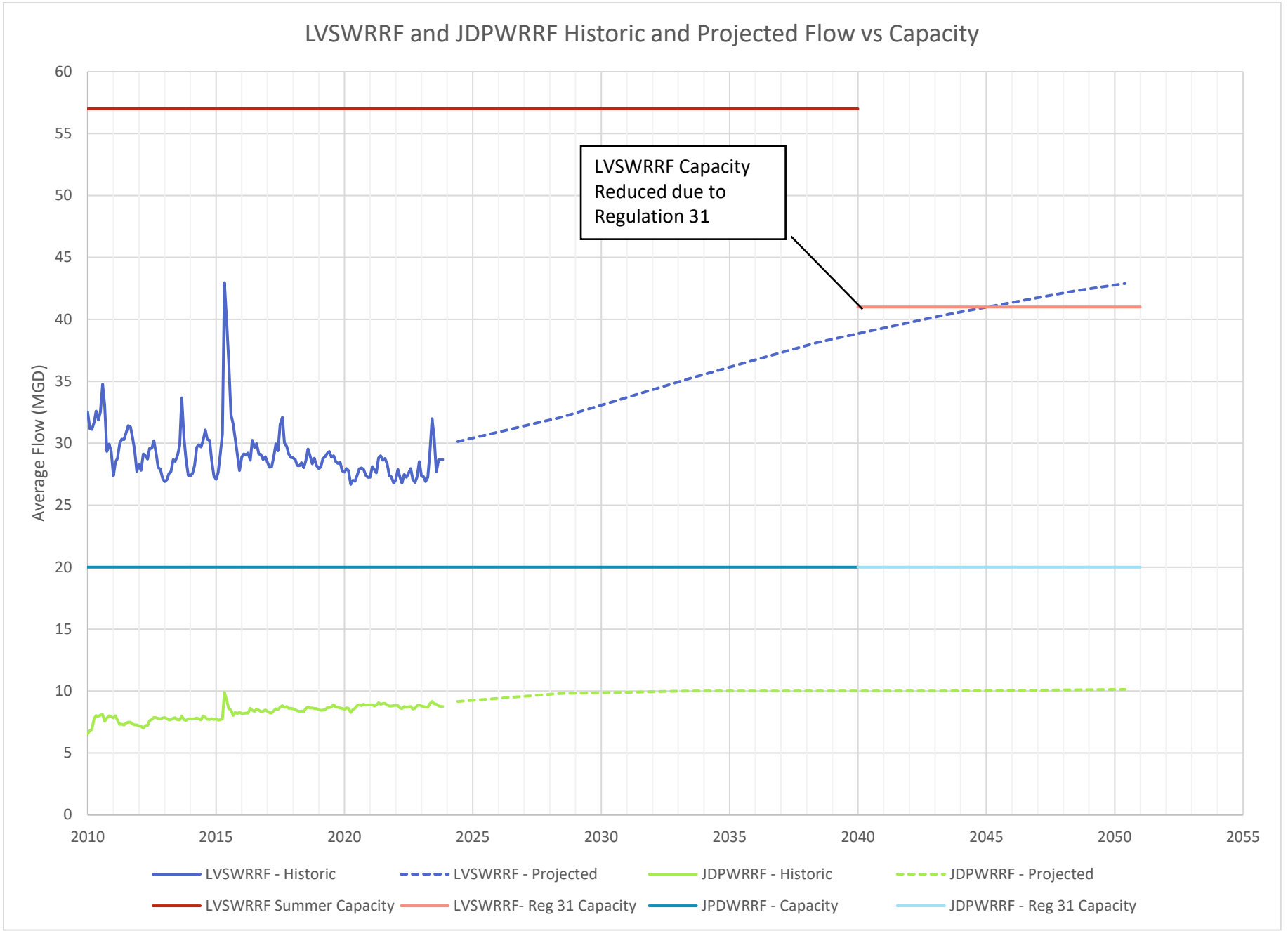
- Forecasted population growth from Logan Simpson model;
- Predicted annexation growth;
- Historical weather data;
- Historical peak demand;
- Electric vehicle adoption and charging projections;
- 80% by 2030 emission reduction requirements; and,
- 200MW commercial load addition in 2025.

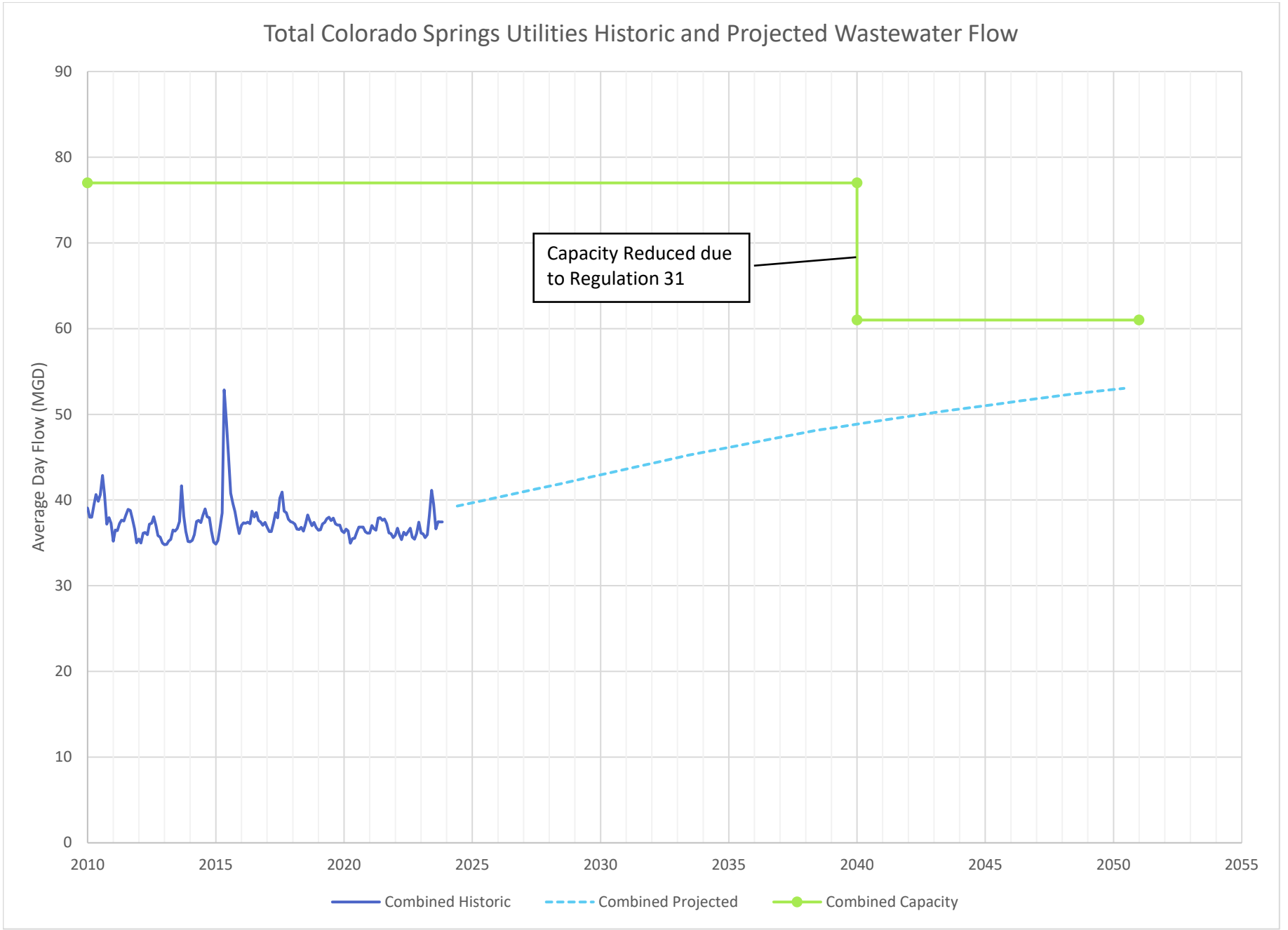
The Birdsall units are being retired due to low efficiency and high upkeep costs while the coal-burning Nixon unit is required to be retired prior to 2030. The capacity overbuild seen with the new natural gas aeroderivative units in calendar year 2029 are a result of increasing restrictions on natural gas generation resources. These new natural gas generation units support the trend of increasing peak demand starting in calendar year 2030.

		Demand		
		(Megawatts)		
Data Year	Nameplate Capacity (MW)	Summer Peak Demand	Winter Peak Demand	Peak Load
1990	481.4	472.0	532.0	532.0
1991	481.4	499.0	514.0	514.0
1992	481.4	186.4	251.4	251.4
1993	481.4	1346.0	943.0	1346.0
1994	481.4	78.2	75.8	78.2
1995	481.4	385.4	324.4	385.4
1996	481.4	593.0	648.0	648.0
1997	508	178.9	277.1	277.1
1998	508	187.5	288.7	288.7
1999	583.58	669.0	683.0	683.0
2000	583.58	723.0	743.0	743.0
2001	583.58	745	713	745
2002	583.58	784	718	784
2003	1137.88	825.0	751.0	825.0
2004	1137.88	826.0	748.0	826.0
2005	1137.88	826.0	728.0	826.0
2006	1138.48	824.0	755.0	824.0
2007	1138.48	863.0	755.0	863.0
2008	1138.48	855.0	784.0	855.0
2009	1138.48	782.0	795.0	795.0
2010	1139.31	823.0	726.0	823.0
2011	1145.31	878.0	809.0	878.0
2012	1146.25	904.0	777.0	904.0
2013	1146.25	883.0	787.0	883.0
2014	1206.25	879.0	780.0	879.0
2015	1208.75	851.0	770.0	851.0
2016	1218.75	890.0	785.0	890.0
2017	1218.75	890.0	785.0	890.0
2018	1218.75	930.0	766.0	930.0
2019	1253.75	965.0	753.0	965.0
2020	1313.75	943.0	764.0	943.0
2021	1313.75	989.0	796.0	989.0
2022	1106.45	959.0	821.0	959.0
2023	1375.05			

Wastewater Capacity

Charts

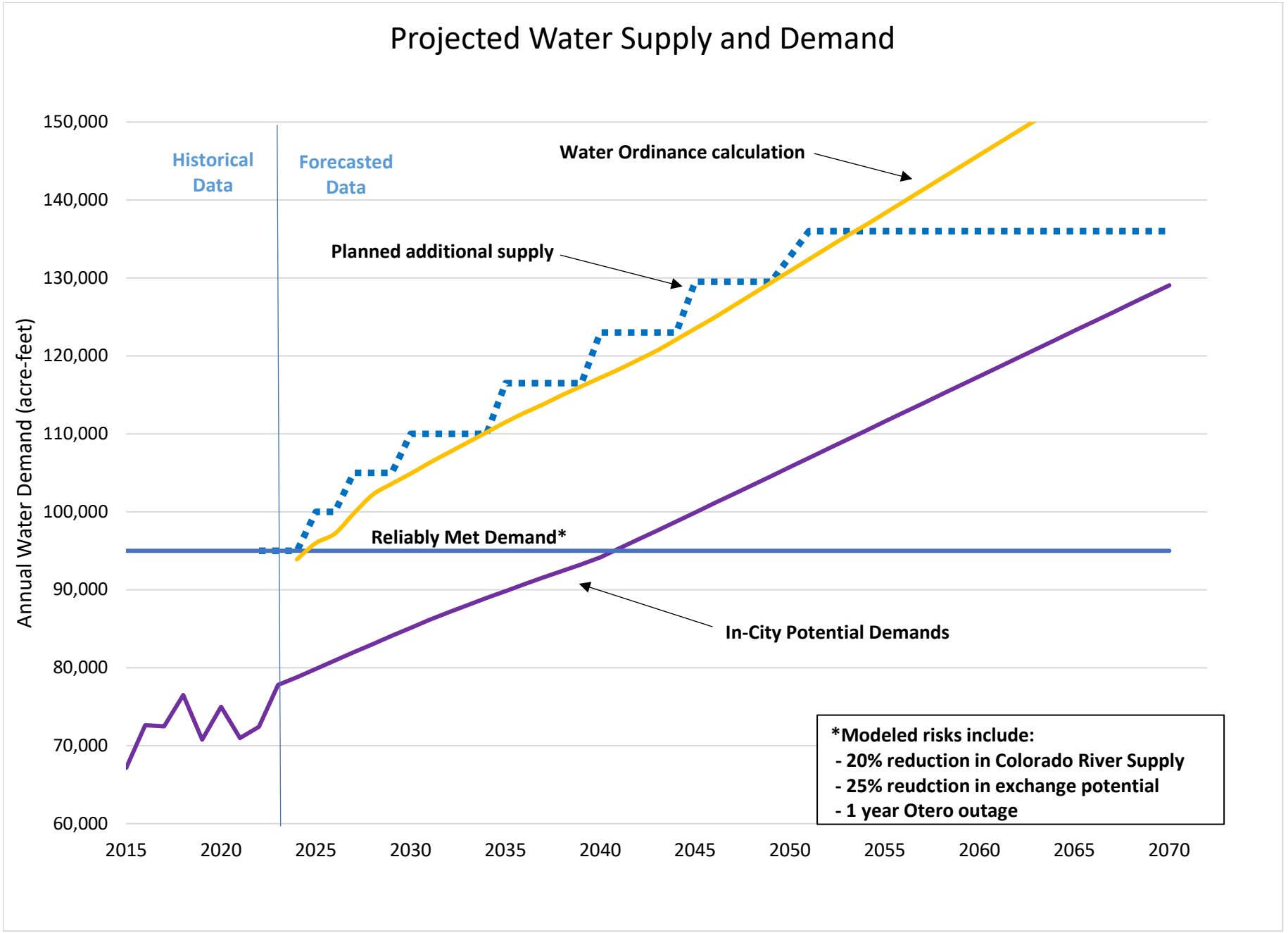

LVSWRRF and JDPWRRF Historic and Projected Flow vs Capacity
Average Flow (MGD)
60
55
50
45
40
35
30
25
20
15
10
5
0
2010
2015
2020
2025
2030
2035
2040
2045
2050
2055
LVSWRRF Capacity Reduced due to Regulation 31
LVSWRRF - Historic
LVSWRRF - Projected
JDPWRRF - Historic
JDPWRRF - Projected
LVSWRRF Summer Capacity
LVSWRRF- Reg 31 Capacity
JPDWRRF - Capacity
JDPWRRF - Reg 31 Capacity


Total Colorado Springs Utilities Historic and Projected Wastewater Flow
Average Day Flow (MGD)
90
80
70
60
50
40
30
20
10
0
2010
2015
2020
2025
2030
2035
2040
2045
2050
2055
Capacity Reduced due to Regulation 31
Combined Historic
Combined Projected
Combined Capacity

Reliably Met Demand Charts

and

Model Documentation


Projected Water Supply and Demand
Annual Water Demand (acre-feet)
150,000
140,000
130,000
120,000
110,000
100,000
90,000
80,000
70,000
60,000
2015
2020
2025
2030
2035
2040
2045
2050
2055
2060
2065
2070
Historical Data
Forecasted Data
Water Ordinance calculation
Planned additional supply
Reliably Met Demand*
In-City Potential Demands
*Modeled risks include:
- 20% reduction in Colorado River Supply
- 25% reudction in exchange potential
- 1 year Otero outage

Colorado Springs Utilities Land Use-based Water Demand Forecast

Introduction

Acknowledging the critical influence of land use patterns and density on water demands, Colorado Springs Utilities (Springs Utilities) developed a Land Use-based Water Demand Model (Model) in 2021 for the 2022 Water Use Efficiency Plan (WEP) update and as part of an enterprise-wide effort to better align demand planning efforts across multiple service lines.

A land use-based modeling approach consists of modeling future changes in water demands based on recent or emerging development patterns and urban planning documents and ordinances. Land use-based models are integrated into geographic information systems and demands are assessed according to land use classification and by a measure of usage rates, such as water demand per acre of developed land. This method is most useful where large areas of undeveloped land exist within a utility's water service boundary and where urban planning documents are available and regularly updated.

The land use-based modeling approach provides a relatively simple platform to examine the effects of changes in growth rates by land use type, overall mix of land uses, service area boundaries, and water use rates by land-use type. This type of model is useful in coordinating with land use planning entities, other utility services, and for targeting and designing conservation efforts.

Published studies have found that land use-based models can account for a substantial majority of the spatial variability in water use. Land use variables also can have greater explanatory power than traditional socioeconomic variables and many water utilities are adopting this approach. Several studies have pointed out that residential water use, for example, is strongly influenced by urban development characteristics, housing density in particular (Rinaudo, 2015) (Shandas, 2009) (Blount, 2021).

A study conducted by the Public Policy Institute of California showed that single-family homes have about twice as much irrigated landscape as multifamily housing units (Hanak, 2006). Residential water usage rates are significantly impacted by development patterns and per capita rates typically have an inverse relationship with population or units per acres. Lower density residential development tends to result in high per capita use and low per acre use, particularly in climates where landscape irrigation is prevalent.

The accuracy of water demand forecasts can be enhanced by considering the type of urban development to be expected in the future (Rinaudo, 2015). To do so, planners can make assumptions about a range of future development patterns, including land use class, dwelling units per acre, population density, and other parcel characteristics. Changes to urban growth boundaries and new land use policies can also be assessed using land use-based demand models.

Profile of Water Demands

Monitoring and understanding potable water demands and the factors impacting them is critical to Springs Utilities' supply and demand management efforts. Changing water demands are a result of substantial conservation, recurring drought, changing values, increasing efficiency standards, economic conditions and other factors.

Customer and Water Use Characteristics of the Service Area

Since peaking at more than 94,000 AF in 2000, as displayed in Figure 1, water demands have declined to levels on par with the mid-1980s. In that time, service area population has grown more than 92%. Current population growth trends have averaged about 1.6% per year since 2015. Springs Utilities current service area population is now over 520,000 with more than 154,000 service connections. Annual water demands for the most recent five years (2017-2021) have averaged 73,100 AF.

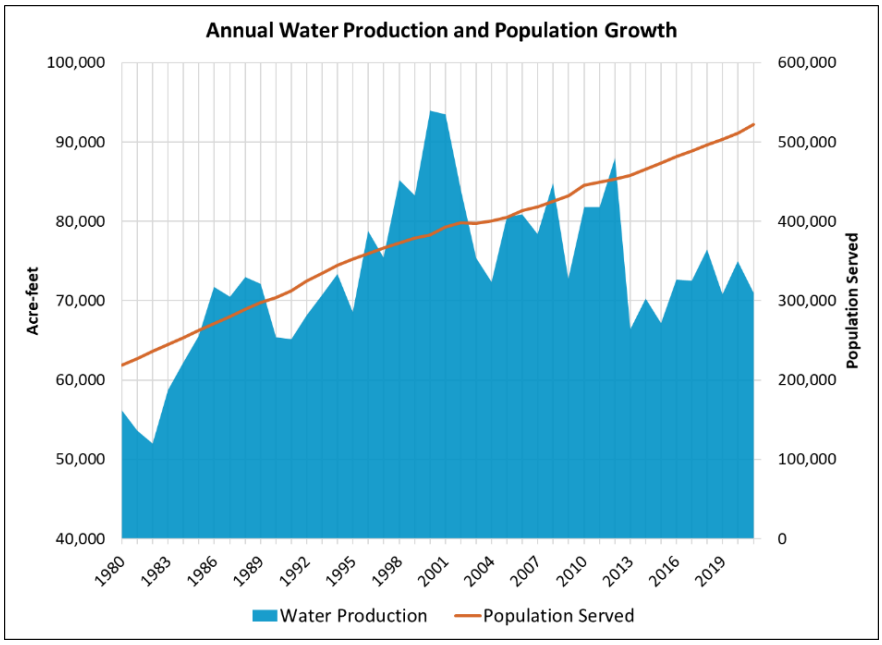


Figure 1: Annual water production and population served

While annual demands are substantially lower than in the early 2000s, demand has generally increased since 2013, primarily driven by a growing population. Per person usage rates have continued to decline since 2001, but the rates of decline have slowed as further efficiency gains become more challenging.

Potable water demand in Colorado Springs is a function of population, culture, land use patterns, landscape choices, climate/weather, demographics, policy, economics and infrastructure. Springs Utilities provides water service to a changing mix of residential, multi-family, commercial, industrial, institutional, military and contract customers.

In 2021, single-family residential customers made up the large majority (90.5%) of potable water service connections, followed by commercial and industrial customers (5.7%) and multi-family residential customers (3.7%). Note that each multi-family residential customer (connection) serves more than one household.

Figure 2 shows that single family residential users comprise nearly 47 percent of annual water sales and multifamily residential customers make up another 15 percent. Commercial and industrial sales comprise more than 30 percent, while the remaining 7 percent goes to military and other potable water customers.

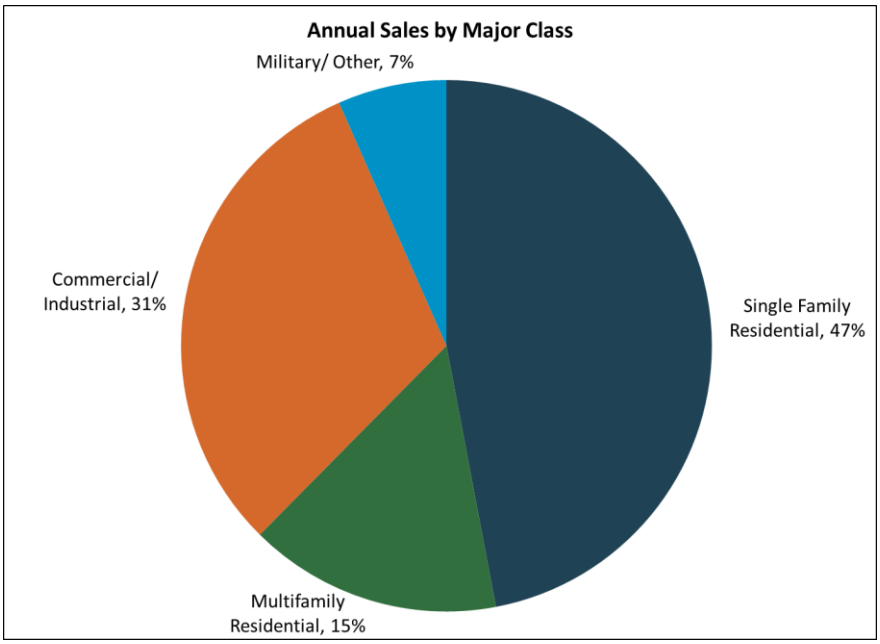


Figure 2: Sales by major class

Demand Patterns and Trends

Variations in annual and seasonal demands are primarily due to the varying water need for landscape irrigation in our semi-arid climate. Landscape irrigation demand comprises approximately 35-40% of total potable water sales each year. Annual irrigation season evapotranspiration ranges from less than 30 to nearly 38 inches. Precipitation ranges from less than eight to more than 25 inches per season. The variation in seasonal landscape irrigation results from variation in annual natural precipitation. Figure 3 on the following page shows net ET by year over the past 20 years. Although the data indicate that the 20-year rolling average for net ET has increased by about 25 percent during the past two decades, the demand projections do not currently include any assumptions regarding future increases in net ET.

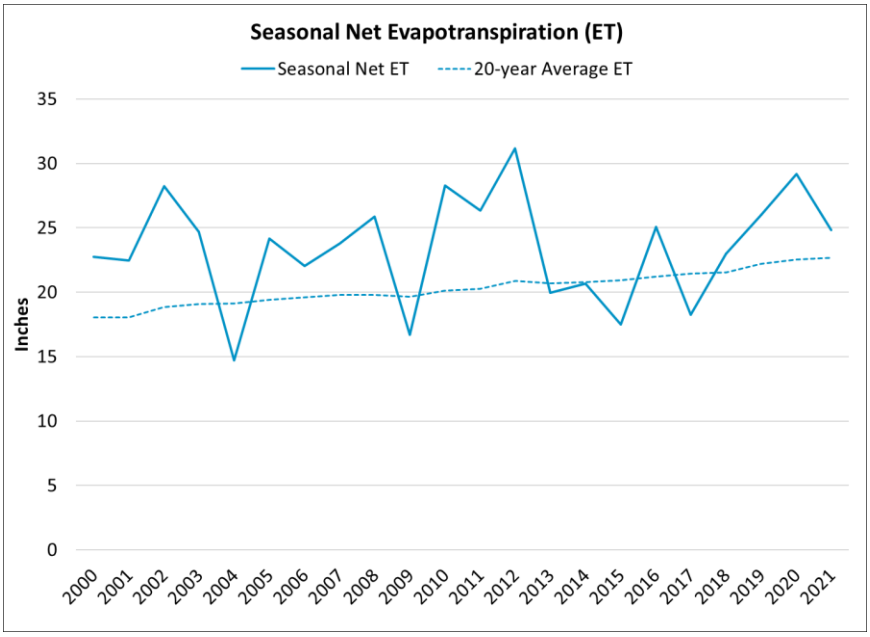


Figure 3: Seasonal Net ET

Monthly demands, including real and apparent distribution system losses (non-revenue water) average between 8,000 and 9,000 AF from June through September and drop below 4,000 AF in the winter months. Figure 4 represents the monthly distribution of demands by major class. Since 2018, non-revenue water is estimated at 9.5% average of total production and 12.5% of potable sales.

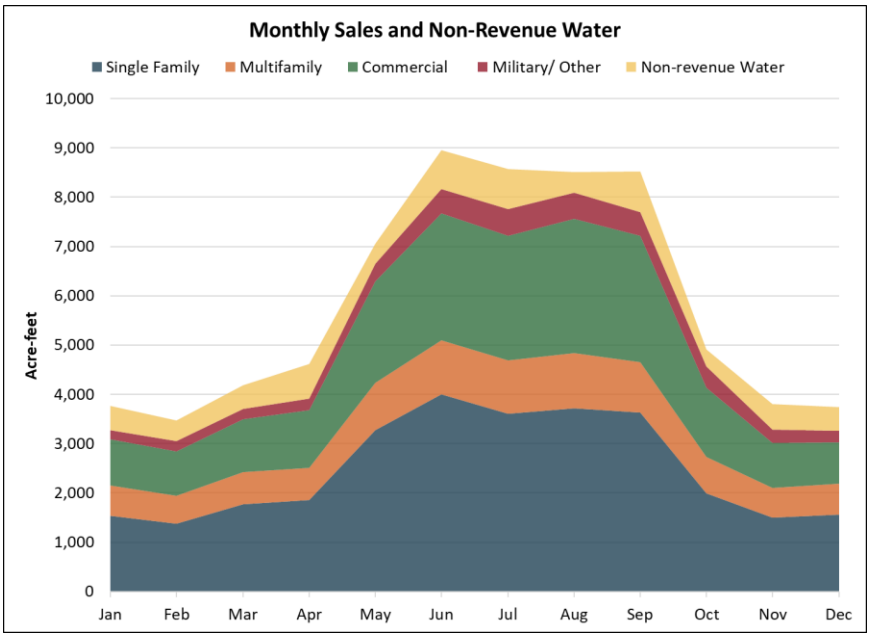


Figure 4: Monthly demand by major class

Systemwide water usage rates, including all potable water entering the finished water distribution system measured in gallons per capita per day (gpcd), have declined by more than 35% since 2000 as shown is Figure 5. Use has remained relatively flat at around 130 gallons per capita per day (gpcd) since 2013.

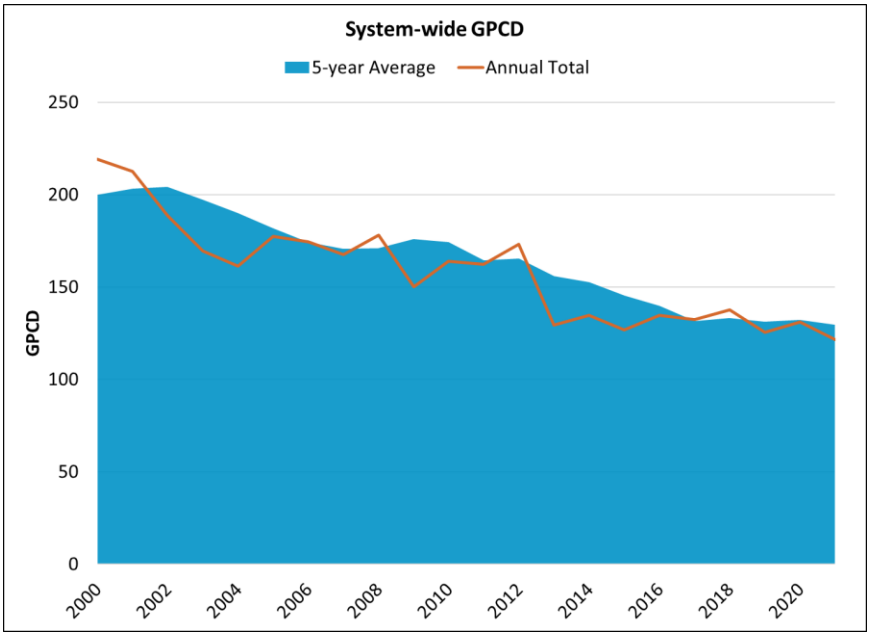


Figure 5: Annual system-wide per capita usage rates

Single family residential gpcd has declined by 43% over the same period with indoor use down by 29% and outdoor use down 56%. Indoor gpcd continues to decline while outdoor gpcd appears to have stabilized (though still varying from year to year due to weather during the irrigation season). Overall single family residential gpcd has varied between 74 and 82 gpcd for nine consecutive years.

Single family residential parcels have generally decreased in size since 1990. The average parcel developed since 2005 is roughly 30% smaller than those developed in the late 1980s. Homes and overall impervious area have not decreased in size, but the pervious landscape area, irrigated and non-irrigated, has decreased by 50% or more.

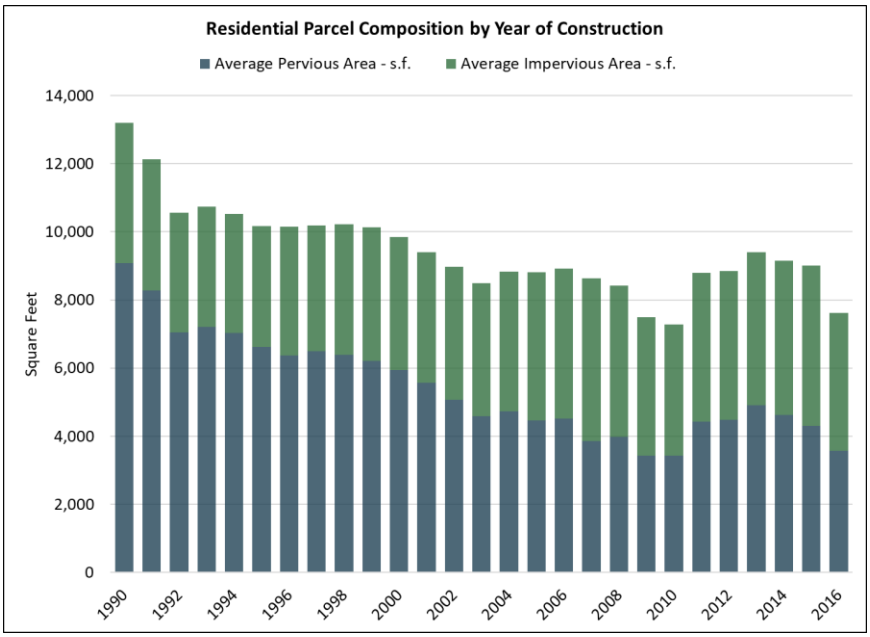


Figure 6: Single family residential parcel composition by year of construction

In theory, this fact, combined with increasing indoor efficiency, should result in far less water use in new homes. However, usage rates in newer residential construction are not lower than older homes, neither in terms of use per customer nor use per acre.

Older homes are more likely to be irrigating less than needed for a healthy landscape (deficit irrigating) and more likely to be used as rentals than newer homes. This is a clear indication that water demand is not only a function of land use classification and population density, but also age of construction.

Figure 7 shows single family residential indoor and outdoor use per parcel-acre. These data represent more than 110 thousand single family residential parcels between 1,000 square feet and 10 acres in size, and more than 11 million billing records from 2012 through 2021, excluding 2013. Due to shrinking parcel sizes and subsequent increases in population density, indoor usage rates per acre are higher since 1990 than in any preceding decade of construction. Likewise, outdoor usage rates are highest in homes built since 1990. Increasing outdoor usage rates are not a function of increasing density. Instead, higher outdoor usage rates appear to be driven by higher incomes, and greater prevalence of automatic irrigation systems.

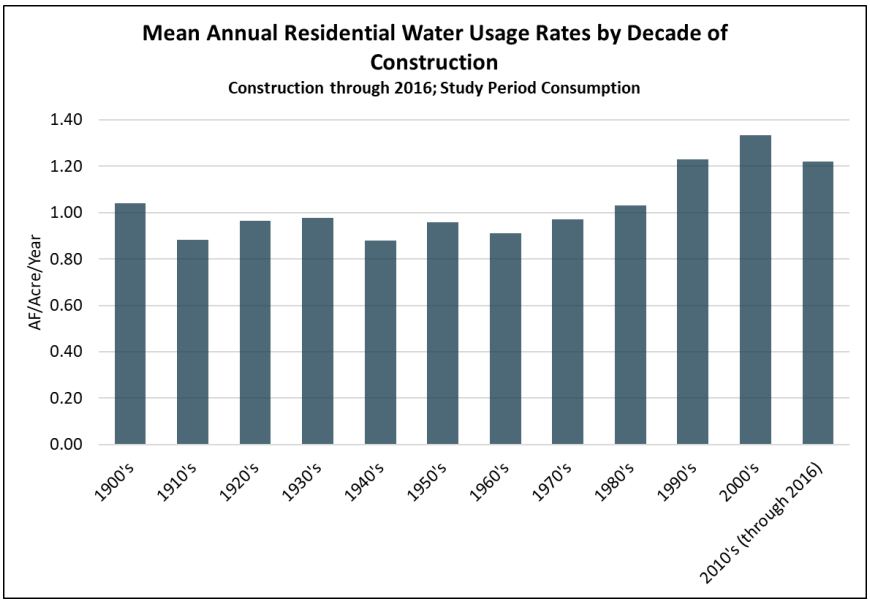


Figure 7: Annual residential water use by decade of construction

Figure 8 demonstrates that residential usage rates in acre-feet per acre are most highly variable for homes built before 1930 and since 1970. The parcel area-weighted standard deviation of usage rates across all parcels since 1990 is less than one per acre-foot per acre per year with the majority variation due to landscape irrigation practices.

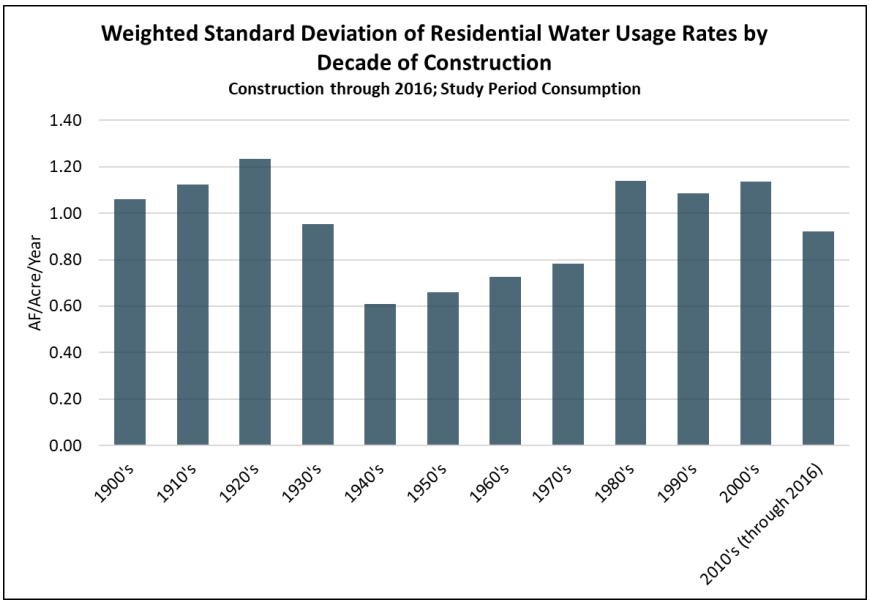


Figure 8: Standard deviation of residential water use by decade of construction

Similar issues are observed among non-residential customers when usage rates are evaluated in terms of water use per acre of development. Usage rates by year of construction are highly variable from year to year and show no clear trend as shown in Figure 9. The nearly 8,500 acres of non-residential parcel development from 1990 through 2018 average about 1.04 acre-feet of water use per acre per year. The annual weighted standard deviation of use generally ranged between 0.3 and 1.0 acre-feet per acre. Developed parcels ranged from about

1,000 square feet to over 700 acres and customer-level use per acre ranged from near zero to almost 8 acre-feet per acre.

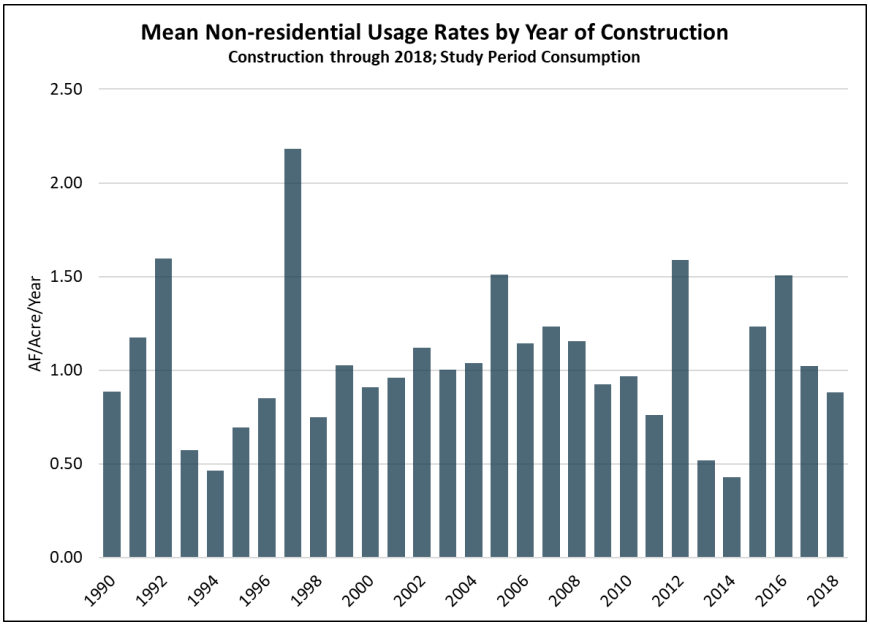


Figure 9: Annual non-residential water use per acre by year of construction

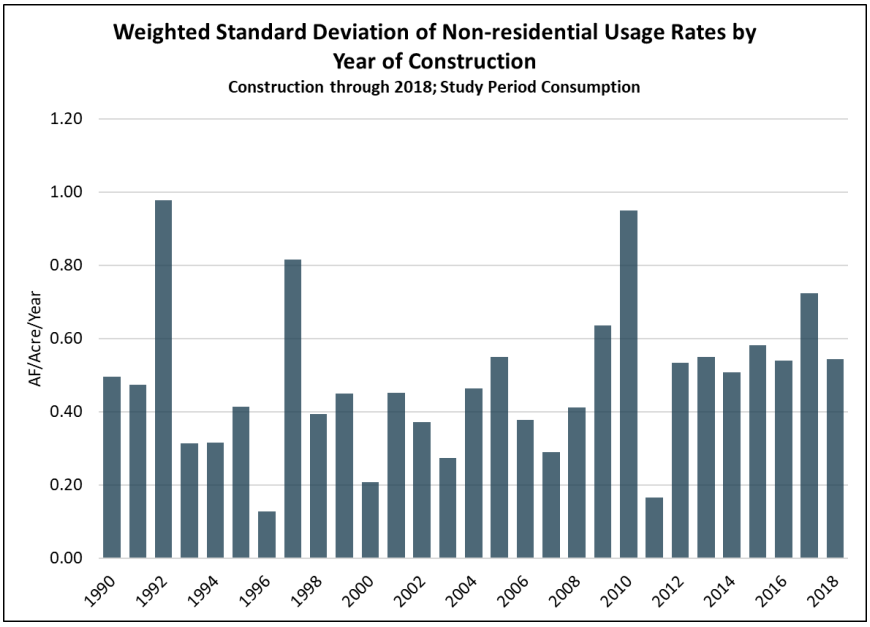


Figure 10: Weighted standard deviation of annual non-residential water use per parcel acre

These conditions along with changing economic conditions, land development patterns, usage rates in new construction, and the mix of commercial and industrial end uses will continue to influence systemwide usage rates, in terms of gpcd and water use per acre.

The Impact of Land Development Patterns and Age of Construction

Colorado Springs is a large city with thousands of acres of vacant land to be developed. The following list provides factors to consider regarding how land will develop and how land uses will impact future demands, such as:

1. What mix of land uses are likely to occupy undeveloped land;
2. At what density, rate and location will land be developed;
3. How much additional land will be added to the service territory; and
4. How and to what extent will currently developed land be redeveloped.

An example of how these issues can impact demands is related to new housing unit density. According to the City of Colorado Springs (City), housing unit density for all existing residential development is 6.5 units per acre. The City's most recent comprehensive plan includes a goal to increase housing density in new development and recent development data suggests the goal is being met. Housing density continues to increase and from 2016 through 2020, new residential housing density averaged 8.6 units per acre, an increase of 32% over the city-wide average (Citywide Net Density of New Residential Development, 2021). The El Paso County Assessor database used in the Model shows a somewhat lower residential density per acre in 2016 as shown in Figure 11. However, the trend of increasing density since 1990 is clear.

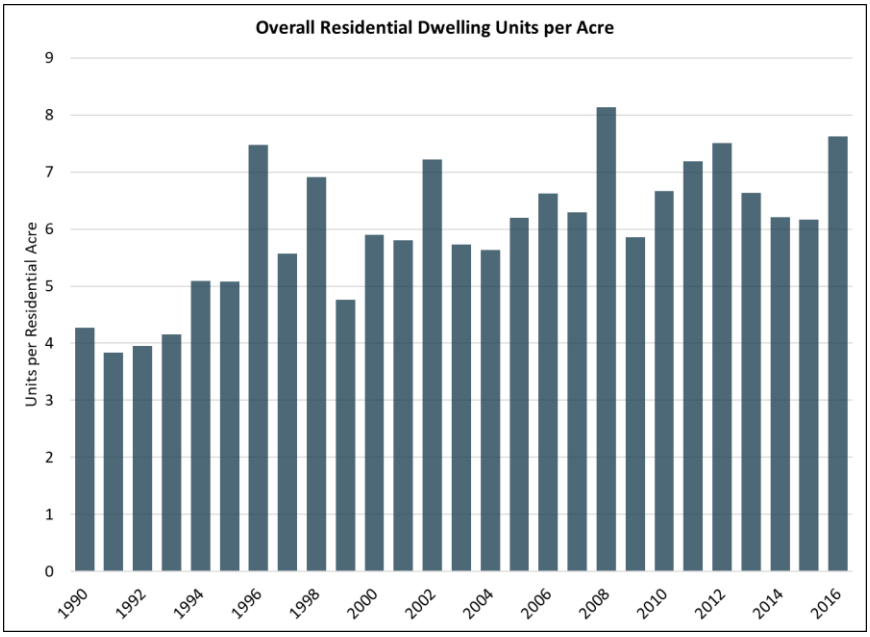


Figure 11: Residential dwelling unit density by year of construction

Increasing housing density is expected to result in lower overall residential gpcd due to decreased irrigation demands per person. Decreased irrigation demands may have the effect of "hardening" demand and reducing conservation potential over time because there will be less discretionary use to save. Increasing density will continue to result in higher indoor usage rates per acre of development and a much larger "build out" population, assuming the same area of land is developed.

Residential land uses are classified according to number of dwelling units per parcel-acre. Figure 12 demonstrates the degree to which water usage rates in acre-feet per acre change as dwelling unit density increases. Dwelling unit per acre ranges are shown in parentheses. This figure represents average consumption from 2012 through 2021 (excluding 2013) for parcels developed between 1990 and 2018. Parcels with more than 25 dwelling units per acre generate about 3 times more demand per acre than medium density parcels city-wide in homes built since 1990. Housing developed since 1990 produces a higher rate of water use per acre than the city-wide average in all residential LUCs.

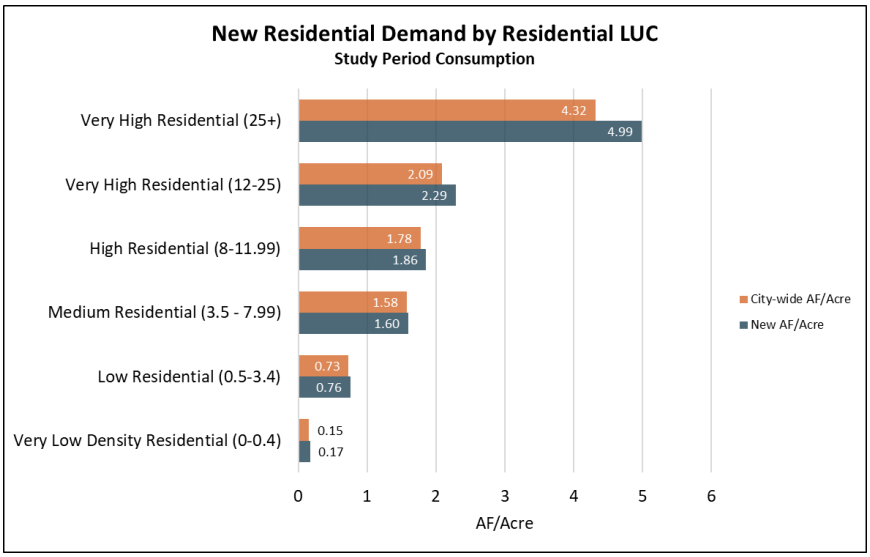


Figure 12: New residential water use per acre by LUC

Figure 13 shows the difference in usage rate in gpcd across these different housing densities for parcels city-wide and for those developed since 1990. Lower gpcd associated with higher density development is generally a function of much lower landscape irrigation demand per person. Similar to usage rates per acre, residential gpcd rates are higher in new construction in all LUCs except for parcels with 25 or more dwelling units per acre.

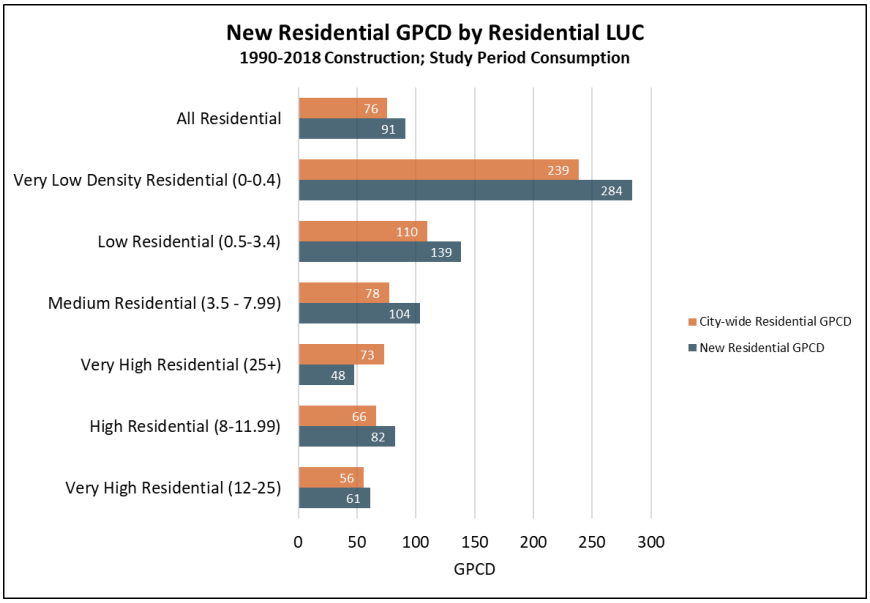


Figure 13: City-wide residential gpcd by LUC

These observed demand patterns demonstrate the importance of understanding and appropriately considering land use, density, and age of construction in forecasting and planning for future water demands.

Land Use-based Water Demand Forecast

Model Inputs

Land Use Data

The Land-use Based Water Demand Model (the Model) utilizes 15 land use classifications derived from City and El Paso County Assessor databases. The primary source for parcel-level land use classification information is a GIS-based land use code database provided by the City of Colorado Springs (City LUC) in January of 2020. The El Paso County Assessor (Assessor) database is also used as is Springs Utilities customer information. Springs Utilities potable water customer service points with four years (2016-2019) of monthly billed consumption data were spatially joined to the City LUC and attributes, including number of dwelling units and year-built data, from the Assessor database.

Land use classifications from the City LUC were converted to the corresponding Springs Utilities land use classifications (Utilities LUC) shown in Table 1. Modifications were made to the Utilities LUC field in instances where customer information or other knowledge was available that contradicted the assigned classification. Additional modifications were made to properly classify residential parcels according to dwelling unit density. To achieve this, Assessor dwelling unit and parcel area data were used to calculate dwelling units per acre. Parcels with densities different from the assigned classification were realigned accordingly. Residential classification names include the range of dwelling units per acre in parentheses.

Utilities LUC
Airport
Commercial - All other than Office
Commercial - Office
High Residential (8-11.99)
Industrial - Manufacturing
Industrial - Warehousing
Institution
Irrigated Open Space
Low Residential (0.5-3.4)
Medium Residential (3.5 - 7.99)
Residential - Common Area
Unirrigated Open Space
Very High Residential (12-25)
Very High Residential (25+)
Very Low Density Residential (0-0.4)

Table 1: Utilities land use classifications

Roughly 98% of the City LUCs align with the Utilities LUCs. In about 2% of parcels, the LUCs were corrected based on additional information, the vast majority of which were residential parcels showing dwelling unit densities that did not correspond with El Paso County Assessor data. Utilities LUC were examined relative to customer data from the billing system to ensure that the land use classifications were in line with the current reality of land use in the service territory. This “ground-truthing” was performed to achieve more accurate baseline acreage, and subsequently water usage rate calculations for each land use classification.

Based on reviews of detailed information from Springs Utilities’ billing system and from a prior parcel-level analysis conducted as part of Springs Utilities’ participation in a Water Research Foundation-sponsored study in

2015, as well as reviews of large acre parcels, Springs Utilities modified the non-residential LUCs for about two percent of the parcels in the model. Examples of residential and non-residential modifications included:

- Approximately 2.5% of more than 141,000 residential parcels were reclassified based on a calculation of dwelling unit density using parcel size and number of dwelling units from the El Paso County Assessor database;
- A 35-acre cemetery classified as "General Industrial" by City Planning was reclassified as "Unirrigated Open Space" by Springs Utilities because it is irrigated with private well water, not potable water; and
- A 74-acre parcel classified as “Medium Density Residential” was reclassified as “Institution” by Springs Utilities because it is actually a Spring Utilities’ site.

Land Development Breakdown

A calculation of the acreage developed within the city through 2019, in total and by land use, was completed by identifying parcels with billed consumption data and documented improvements contained in the Assessor database. Parcels classified in the City LUC as anything other than “Vacant” *and* with an active potable water service point were classified as “Developed Acreage”. The City LUC database classified 37,029 parcel acres as vacant. More than 550 service points serving more than 1,400 acres of land were identified on parcels classified as “Vacant”, leaving 35,620 parcel acres and 15,391 parcels classified as “Undeveloped Acreage” through 2019. This equates to approximately 28% of the total acres of land inside the city limits as shown in Figure 14.

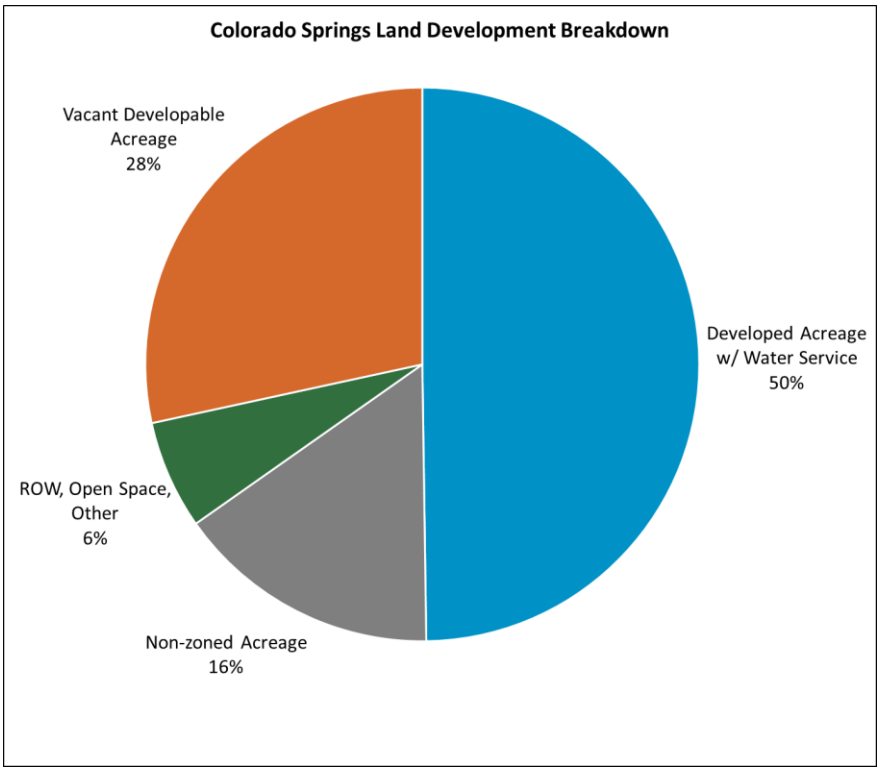


Figure 14: Land development breakdown

The city primarily is growing toward the east and north, but a large number of vacant parcels are ripe for infill development across the city. The vast majority of growth potential lies on the far eastern side of the city as shown in Figure 15.

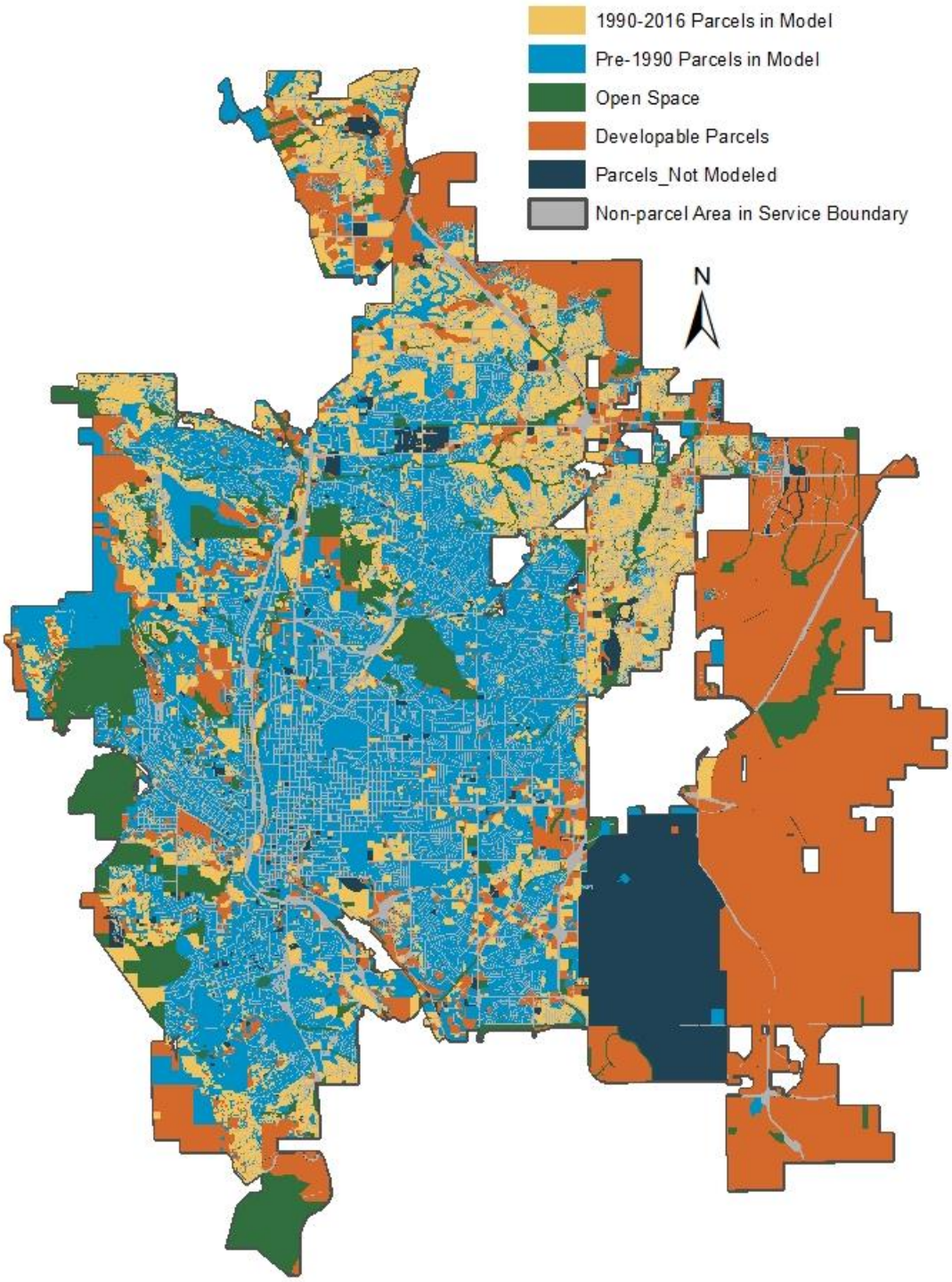


Figure 15: Map of Colorado Springs land development

The developed acreage in the Model contains more than 153,200 parcels, including open space both with and without potable water service. These parcels include more than 143,700 service points and over 70 thousand acres of "developed" land, including open space. Roughly 40% of the developed parcel acreage with potable water service within the city is comprised of medium and low-density residential development.

Utilities LUC	Utilities LUC Acreage
Medium Residential (3.5 - 7.99)	16,173
Low Residential (0.5-3.4)	8,709
ROW, Open Space, etc. without water service	7,967
Institution	5,784
Airport	5,681
Commercial - All other than Office	4,767
Irrigated Open Space	3,780
Residential - Common Area	3,029
Unirrigated Open Space with Potable Water Service	2,874
Industrial - Warehousing	2,379
Very High Residential (12-25)	1,901
Commercial - Office	1,849
High Residential (8-11.99)	1,847
Very Low Density Residential (0-0.4)	1,399
Very High Residential (25+)	1,332
Industrial - Manufacturing	912

Table 2: Detailed Utilities LUC breakdown with acreage

Growth Rates

Annual Model growth rates use the customer growth rates from 2022 Springs Utilities Water Sales Forecast. The Sales Forecast is generally considered a conservative growth forecast because it is used to project revenue. It forecasts growth through the 2050. The Model assumes annual acreage development after 2050 equals the average of the last five years of growth calculated by the customer growth forecast, an average annual growth rate of 0.85% or 810 acres. The customer growth forecast is used to derive annual acreage growth projections in the Model and this equates to average annual acreage development of 796 acres per year from 2022 through 2050. Since 2001, an average of 770 acres of land has been developed in the city each year.

The Sales Forecast does not forecast population growth, but the Model calculates population growth based on the share of development predicted for each residential LUC, observed dwelling unit densities for each LUC, and average household populations for each LUC. The population forecast resulting from this approach closely matches the 2020 State Demographer forecast for Colorado Springs, shown in Figure 16.

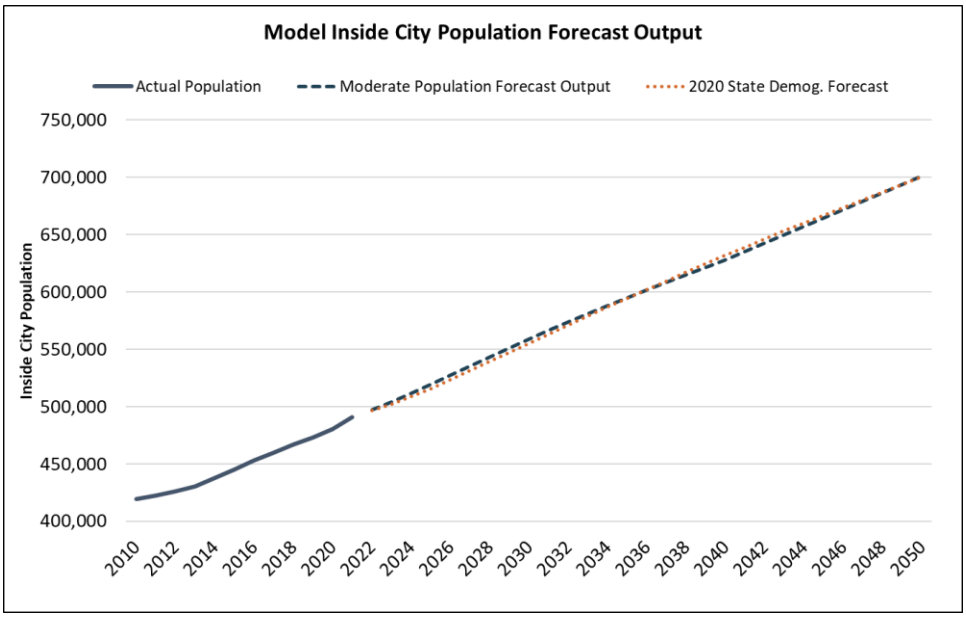


Figure 16: The Model population forecast closely follows the State Demographer forecast

Growth rates for each LUC, or the share of the total acreage growth for each land use, varies as a component of a scenario analyses. Growth share scenarios can have a substantial impact on projected population growth and estimated usage rates for the new land developed. Table 5 shows city-wide acreage share and the total acreage share from 1990 through 2018.

Utilities LUC	City-wide LUC Acreage Share	1990-2018 LUC Acreage Development Share
Airport	9.1%	0.0%
Commercial - All other than Office	7.6%	14.0%
Commercial - Office	3.0%	4.0%
High Residential (8-11.99)	3.0%	4.1%
Industrial - Manufacturing	1.5%	1.6%
Industrial - Warehousing	3.8%	3.1%
Institution	9.3%	9.3%
Irrigated Open Space	6.1%	6.3%
Low Residential (0.5-3.4)	14.0%	17.4%
Medium Residential (3.5 - 7.99)	25.9%	28.4%
Residential - Common Area	4.9%	3.4%
Unirrigated Open Space	4.6%	0.0%
Very High Residential (12-25)	3.0%	4.6%
Very High Residential (25+)	2.1%	1.1%
Very Low Density Residential (0-0.4)	2.2%	2.6%

Table 3: 1990-2018 acreage growth share

Model Usage Rate Calculations

Water usage rates by Springs Utilities LUC are a primary component of the Model's future demand projections. Water use is highly variable across different land uses and while water use per person has declined over time, use per acre has been increasing. This primarily is a result of changing development patterns, including dwelling unit

densification. Among the 70 thousand plus acres of developed land, Colorado Springs has more than 10,800 acres of unirrigated open space and an airport complex of over 5,500 acres. The Moderate forecast assumes the future development will not likely comprise of large expanses of open space like those already designated in the city.

Consumption Period

As previously documented, water demands shifted following drought response measures that were implemented in 2013. The 2013 drought response included one year of mandatory water restrictions, which limited landscape watering to no more than two days per week. Mandatory restrictions were lifted in 2014 but demands remained lower than prior to 2013. This Model is designed to capture the observed change. Water usage rates in the demand forecast, prior to adjustments including future savings from passive and active conservation activities, are based on median water use by LUC from 2012 through 2021, excluding 2013. 2013 was excluded because of the two-day per week water restrictions, which are not a normal operating condition[1]. Overall demands in the Model are derived from more than 15 million billing records for approximately 143,700 potable water customers inside the city limits.

Weather conditions varied significantly throughout the study period with net annual evapotranspiration (ET) rates ranging from more than 31 inches to less than 18 inches as shown in Figure 17. ET rates are a standard proxy for annual irrigation requirement. On average, conditions closely matched those experienced since 2000 as shown in Table 4.

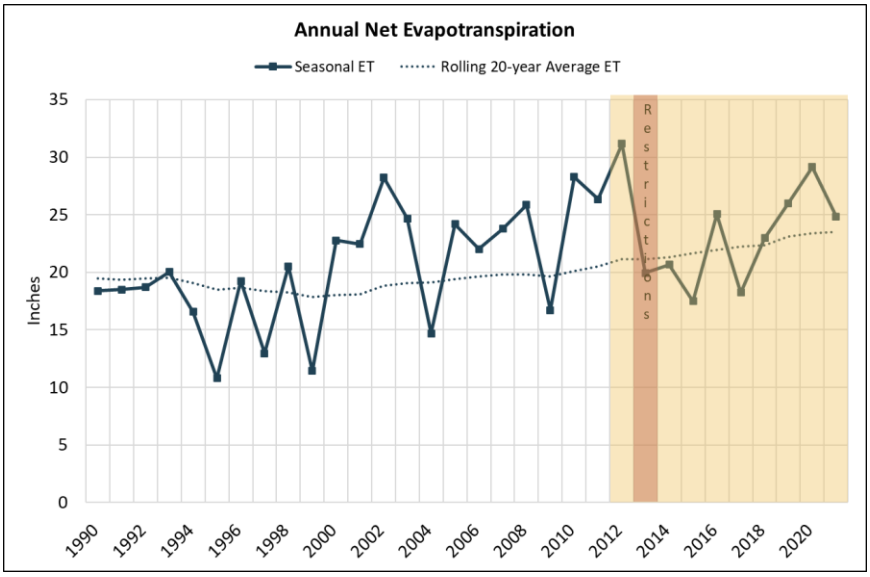


Figure 17: Net annual ET rates

Period	Net ET (Ins.)
20-year average (Net ET Ins.)	23.52
Study Period Average (Net ET Ins.)	23.96

[1] In 2020, Springs Utilities enacted permanent watering rules, including limiting landscape watering to three days per week and avoiding water waste to promote water use efficiency. Drought restrictions, like those limiting landscape watering days, are only imposed when it is essential to temporarily reduce customer water use below normal conditions. The temporary reduction in water use from drought restrictions provides an essential buffer for Springs Utilities to help ensure its ability to meet essential water needs – such as indoor uses for drinking, sanitation and hygene – in the event the drought continues over a prolonged period.

Table 3: Study period and 20-year average evapotranspiration (ET) rates

At the request of reviewers from USEPA, Springs Utilities examined whether or not the water use per acre coefficients among the 15 LUCs in the model were statistically different from one another. Based on ANOVA tests, Springs Utilities determined that the 15 LUCs were statistically different from one another in terms of water use, and that the six residential LUCs were also statistically different from one another – which supports Springs Utilities' decision to not aggregate the LUCs to simplify the model. Maintaining Model disaggregation is also important because Springs Utilities intends to use the Model structure in forecasting future demands for its other services (wastewater, gas and electric).

Development Period

Because development patterns have evolved over time, a period of more recent land development was selected to provide a basis for establishing usage rates for overall land development and by Springs Utilities LUC in the future. Land development in the 1990s marked a noticeable change in development patterns. This period also saw the introduction of the 1992 Federal Energy Policy Act and more irrigation systems leading to increased irrigation rates in new development. Parcels developed from 1990 through 2016 were selected to provide the basis for water usage rate by land use. This period also provides a basis for likely future growth share scenarios.

Acres of Development	20,192
Dwelling Units	71,357
Service Points	58,799
Billing Records in Demand Analysis	>5.9 M
Average Annual Usage Rate (AF/Acre)	1.30
Median Annual Usage Rate (AF/Acre)	1.27
Weighted standard deviation of annual usage rate by year of development from 1990-2016 (AF/Acre)	.13

Table 4: 1990-2018 development statistics

Composite annual usage rates that account for median annual usage rate by LUC and growth share by LUC are used in the Model because this simplifies the scenario analysis process, allowing for easy testing of different development patterns. The use of annual median values helps moderate the variation in use within each LUC. Overall usage rates vary considerably by year of development as shown in Figure 18, as well as for each land use classification.

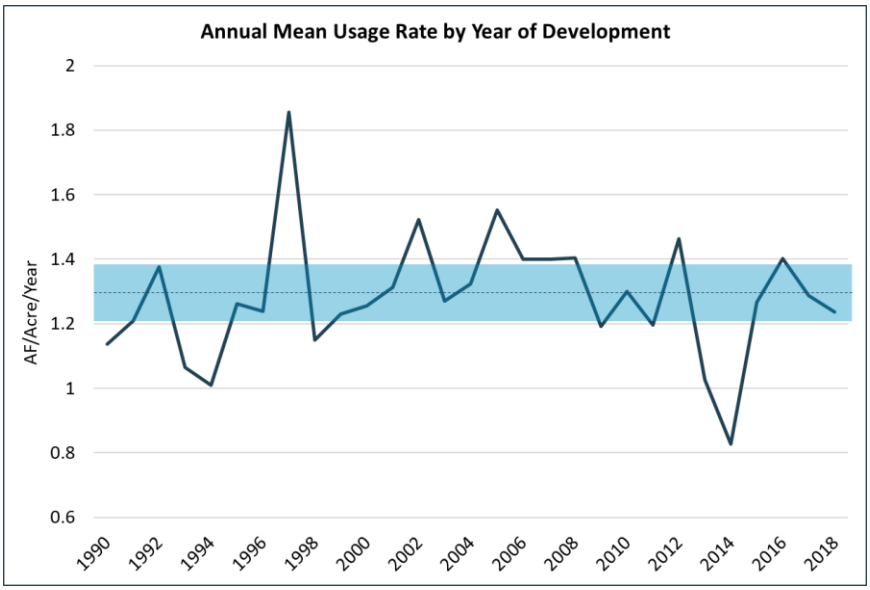


Figure 18: Water usage rates for each year with a band showing the 30th to 70th percentile

One of the challenges associated with using a subset of development years is that doing so requires data indicating the year of development. The Assessor database does not provide this information for all developed parcels because not all parcels have site improvements that are documented by the County.

Roughly 21% of developed parcels in classifications used for establishing usage rate metrics in the Model do not have year-built data associated with them. In some cases, consumption per acre on these parcels is greater than the 1990-2018 averages for their reported land use classification, and in some cases consumption is lower. Because the build-dates on these parcels are not known, they were not included in the calculations of average water use by land use category for parcels developed between 1990 and 2018 that are used to forecast water use for each land use category going forward.

Demand Modifiers

The Model calculates a projected increase in annual water sales based on new acres of land forecasted to be developed in the city each year and an estimated annual usage rate per acre developed. Springs Utilities also sells water to a small number of suburban water customers outside the city limits, to large military customers both inside and outside the city, and for hydrant use not associated with any one parcel. These sales currently add up to about 5,000 acre-feet each year and are relatively stable from year to year.

In addition to these sales volumes, Springs Utilities calculates annual volumes of non-revenue water each year. Most of this volume is associated with real losses due to system leakage. Real losses are a function of miles of main line, number of connections, operating pressure, system age, and other factors. The AWWA estimates that the absolute minimum volume of real losses we can expect in our system is about 9 percent of annual inside city sales. The 2012 through 2021 average for our system was about 12.5%. This is the baseline assumption in the Model. Springs Utilities' avoidable losses (as defined by AWWA) average about 1.5 percent of total water production. This percentage is lower than found for about 75 percent of water utilities with AWWA-validated water loss audits like Springs Utilities.

Suburban and Hydrant sales percent adders are shown in Table 5. These are included as a percent of inside city sales because volumes are expected to grow as the city grows.

Adder	2016 -2019 Averages	Ave % of In City Sales Adder in Model
Suburban Sales - AF	295	0.50%
Hydrant Sales - AF	368	0.65%
Non-revenue Water - AF	7,345	12.50%

Table 5: Adders as a percentage of inside city sales

Military sales are included in the Model as a volume rather than as a percentage because they tend to remain relatively flat over time. This is expected to remain the case. However, some increases have been observed in recent years and this will be monitored and updated as necessary.

Year	AF/Year
2016	3,927
2017	3,798
2018	4,207
2019	4,312
2020	4,612
10th Percentile Military	3,850
Median Military	**4,250**
90th Percentile Military	4,750

Table 6: Military sales adder

Demand Reducers

Water efficiency is a critical component of long-range planning that includes the IWRP, Drought Response Plan, Water Efficiency Plan and the Water Shortage Ordinance. The IWRP defined future water supply needs from water efficiency efforts to reach 11,000 to 13,000 acre-feet a year by buildout. Since 2017, Springs Utilities has achieved more than 800 AF of savings toward the IWRP target through 2021.

Springs Utilities' 2015 Water Use Efficiency Plan identified over 20 new or ongoing efficiency programs to implement by 2021 with a cumulative annual savings goal of 1,123 AF. Nearly all of the programs identified in the 2015 Water Use Efficiency Plan were implemented and the savings goal was exceeded with a total of 1,961 AF saved through 2021.

By the end of 2021, Springs Utilities had achieved total cumulative conservation savings of more than 7,200 AF since 2001. To reach the 11,000 – 13,000 AF cumulative water savings goal in the IWRP, Springs Utilities will have to continue to address inefficient uses and reduce demands through comprehensive programming.

Since approval of the IWRP in 2017, Springs Utilities has achieved more than 800 AF of savings toward the IWRP demand management goal. Because the measures implemented to achieve this 800 AF of savings include permanent 3-day week watering rules that apply to all customers, these savings are expected to grow over time to approximately 1,500 AF by 2070. This leaves a gap of roughly 10,500 AF of water savings that will be sought through ongoing water conservation efforts.

Utilities' current Water Efficiency Plan (WEP) (completed in 2022) commits Utilities to specific conservation activities that are expected to reduce demands by about 2,200 AFY by 2029. Although additional conservation savings after 2029 are more uncertain, if Utilities is successful in reaching the water savings goal from the IWRP, these longer term savings would add 214 AF per year to the annual demand reductions achieved by conservation

during each year from 2022 through 2070 (e.g., result in 10,486 acre feet per year less water use in 2070 than would occur without conservation).

In addition to the "active" conservation savings, "passive" conservation savings also are included as a demand reducer. Passive savings result from the natural replacement of domestic fixtures to fixtures that meet current water and energy efficiency standards. These are only applied to existing residential customers developed before 1990 because new residential parcels are being built to meet these standards. These savings are not applied to non-residential customers because a variety of other factors influence these demands to such an extent that the impacts of efficiency standards are not evident.

Passive savings are accrued according to the information provided in Table 9. These calculations equate to annual incremental demand reduction of about 161 AF per year until maximum savings potential of 3,500 AF is achieved in 2043.

Residential Land Use Class	Annualized Savings %	Assumptions
High Residential (8-11.99)	-0.60%	Assumes 20% savings potential from 2020 baseline. Achievable over thirty years in a linear fashion. Assumes 90% of use is indoors and all passive savings occurs indoors.
Low Residential (0.5-3.4)	-0.33%	Assumes 20% savings potential from 2020 baseline. Achievable over thirty years in a linear fashion. Assumes 50% of use is indoors and all passive savings occurs indoors.
Medium Residential (3.5 - 7.99)	-0.40%	Assumes 20% savings potential from 2020 baseline. Achievable over thirty years in a linear fashion. Assumes 60% of use is indoors and all passive savings occurs indoors.
Very High Residential (12-25)	-0.63%	Assumes 20% savings potential from 2020 baseline. Achievable over thirty years in a linear fashion. Assumes 95% of use is indoors and all passive savings occurs indoors.
Very High Residential (25+)	-0.63%	
Very Low Density Residential (0-0.4)	-0.27%	Assumes 20% savings potential from 2020 baseline. Achievable over thirty years in a linear fashion. Assumes 40% of use is indoors and all passive savings occurs indoors.
Assumed Max Cumulative Savings Potential	3,500	Passive Savings calculations are based on current efficiency standards and are expected to peak in about 2040 or at about 3,500 acre-feet. This would result in an average residential indoor gpcd of about 42 or 43 even without any active conservation programming.

Table 7: Passive savings calculation methodology

Model Outputs

Population Growth

Population is an output of the Model and is a function of Utilities LUC growth share and acreage growth rates. The current population forecast from the model is that the service area population will increase from about 528,000 in 2022 to about almost 745,000 residents by 2050. The projected average annual population growth rate over the next 28 years is about 1.24 percent per year. This is a somewhat slower growth rate than the 1.6 percent per year growth experienced since 2015.

Annual Water Demand

The demand forecast, displayed in Figure 19, predicts potable water demands to exceed 85,000 AF in 2030, 105,000 AF in 2050, and 129,000 in 2070 without additional active conservation. For the purposes of this forecast,

savings from additional conservation are projected to include both the specific water use reductions through 2029 that Utilities has committed to in its 2022 WEP and the more uncertain additional reductions in water use that it hopes to achieve after 2029 to meet the conservation savings goals from the IWRP. Annual demands are likely to increase somewhat faster after the early 2040s when passive water savings are fully realized. These values represent of very slight change from the data presented in the 2022 WEP due to the incorporation of an updated customer growth forecast, consumption data for five additional years, the inclusion of two additional years of development (2017 and 2018), and a minor subsequent change in future LUC growth share.

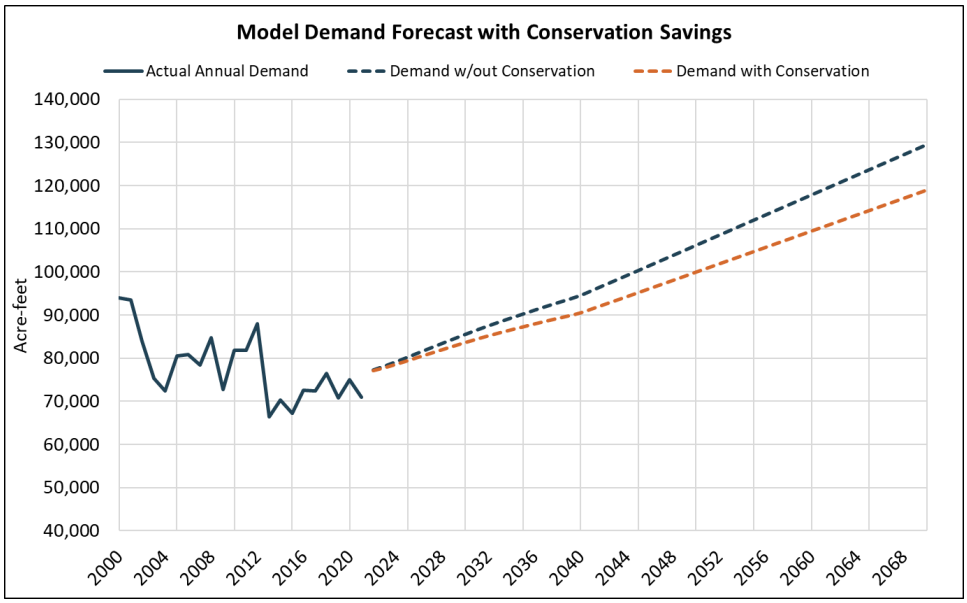


Figure 19: Model demand forecast with and without conservation

Forecast Annual GPCD

The Model also produces a forecast of annual gpcd with and without conservation. By 2040, the Model predicts system-wide gpcd to 125 without conservation and 120 with conservation, a reduction of 100 gpcd since the year 2000. Historical and predicted gpcd is shown in Figure 20.

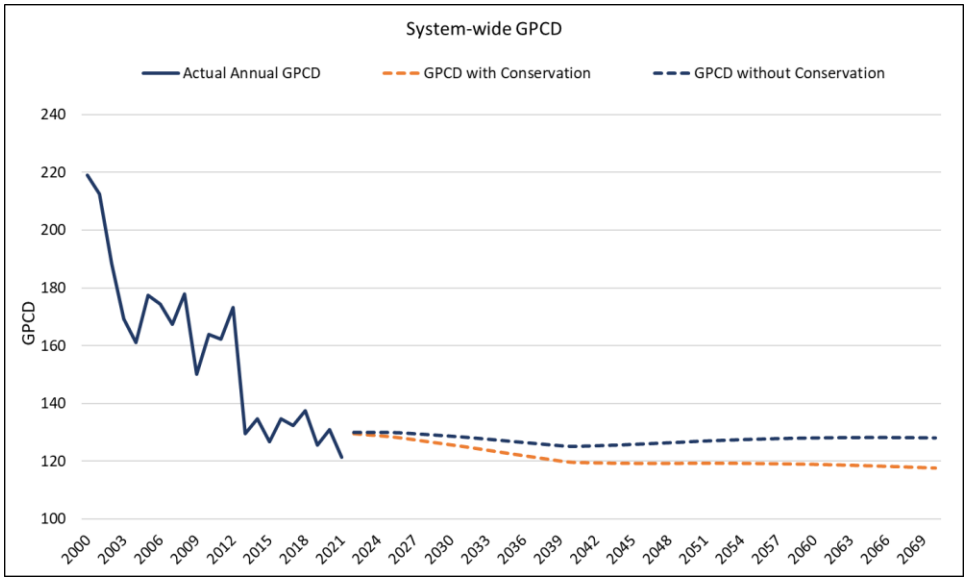


Figure 20: Historical and predicted gpcd

Equations Determining Future Water Demand in Utilities' Land Use-Based Water Demand Model

To assist the reader in understanding the components of the Model, the key equations projecting future water demands are described below.

Moderate Annual Demand$_t$ = ICS$_t$ + ADJS$_t$

Where:

ICS$_t$ = Inside City Sales in year t

ICS$_t$ = Base ICS + DA$_t$ x CDI

Base ICS = Average Annual Inside City Sales 2016-2019 (AFY)

DA$_t$ = Total Developed Acres within the City since 2020

= DA$_{t-1}$*(1+CGF$_t$)[1]

CDI = Composite Demand Intensity

= Sum (Use$_{LUC}$*Share$_{LUC}$)

Where: Use$_{LUC}$ = median use per acre for each of 15 land use classifications (LUC) from 2016-2019[2], and
Share$_{LUC}$ = proportion of total developed acres accounted for by each LUC from 1990-2016

ADJS$_t$ = Other Adjustments in year t

ADJS$_t$ = PS$_t$ +CS$_t$ +TII$_t$ + SS$_t$ + MS$_t$ + HS$_t$ + NR$_t$

PS$_t$ = Passive Savings in year t[3]

PS$_t$ = Passive Savings in year t-1 + ResAcresByLUC$_{2019}$ x BaseDemandIntensByResLUC[4]$_{2016-2019}$ x AnnSaveByResLUC[5]

CS$_t$ = Conservation Savings in year t

CS$_t$ = Conservation Savings in year t-1 – 214 AFY[6]

TII$_t$ = Temperature Increase Impact in year t

TII$_t$ = TII$_{t-1}$ + ICS$_t$ x AnnTempImpact[7]

SS$_t$ = Suburban Sales in year t

SS$_t$ = ICS$_t$ x SubPctInCity[8]

MS$_t$ = Military Sales in year t

MS$_t$ = 4,250 AFY[9]

HS$_t$ = Hydrant Sales in year t

HS$_t$ = ICS$_t$ x HydPctInCity[10]

NR$_t$ = Non-revenue water in year t

$NR_t = ICS_t \times PctNonRevH2O$[11]

[1] CGF is Utilities' customer growth forecast by year, specified as a percentage (e.g., 1.10% in 2022). The customer growth forecast is based, in part, on population projections for El Paso County from the State Demography Office.

[2] Note that CDI is essentially the same (1.28 AF/acre) if the weighted median is based on use per acre from 1990-2016.

[3] Passive savings begin to be applied in 2022. Passive savings are only projected for the residential land use categories and for parcels developed prior to 1990. Savings are capped at 3,500 AFY, achieved in year 2043 in Moderate forecast.

[4] In the passive savings calculation, BaseDemandIntensByResLUC is the calculated median water use per acre between 2016 and 2019 for residential parcels developed as of 1990.

[5] In the passive savings calculation, AnnSaveByResLUC is expressed as an annual percentage reduction in water use ranging from -0.27% for Very Low Density Residential to -0.63% for Very High Density Residential LUCs. The percentage reduction in use is based on the percentage of use associated with indoor uses in each LUC. Savings are capped at 3,500 acre-feet per year due to significant uncertainty related to potential. Active conservation targets are assumed to assure full potential is achieved and then some.

[6] Conservation savings begin in 2022 and are not capped in the model. Savings reach 10,471 AFY by 2070 in Moderate forecast (presumed buildout)

[7] In the Moderate forecast, AnnTempImpact can be set to 0.13% per year. However, AnnTempImpact is currently set at 0% in the Moderate forecast

[8] In the Moderate forecast, SubPctInCity (Suburban percent of inside city sales) is set to 0.50% per year.

[9] In the Moderate forecast, Military Sales are set to the median annual use between 2016 and 2020.

[10] In the Moderate forecast, HydPctInCity (Hydrant sales as percent of inside city sales) is set to 0.65% per year.

[11] In the Moderate forecast, PctNonRevH2O is set to 12.5% of inside city sales. Non-revenue water is typically represented as a percentage of total water production, which is about 10%. Reductions in non-revenue water are integral to the Active conservation savings targets.

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Colorado Springs Utilities
Monthly Residential Customers and Consumption 2013-2022

Water

Line No.	Year	Month	Customers	cf	cf per Customer
(a)	(b)	(c)	(d)	(e)	(f)
1	2013	Jan	122,374	80,484,027	658
2	2013	Feb	122,498	64,152,949	524
3	2013	Mar	122,669	76,020,275	620
4	2013	Apr	122,833	88,639,728	722
5	2013	May	123,058	140,355,145	1,141
6	2013	Jun	123,239	188,790,725	1,532
7	2013	Jul	123,420	153,621,259	1,245
8	2013	Aug	123,585	125,516,332	1,016
9	2013	Sep	123,693	115,347,514	933
10	2013	Oct	123,748	85,766,470	693
11	2013	Nov	123,861	67,217,194	543
12	2013	Dec	123,956	73,704,143	595
13	2014	Jan	124,061	71,899,560	580
14	2014	Feb	124,147	61,592,893	496
15	2014	Mar	124,241	70,223,958	565
16	2014	Apr	124,396	90,002,191	724
17	2014	May	124,608	147,274,103	1,182
18	2014	Jun	124,757	174,137,161	1,396
19	2014	Jul	124,897	168,440,932	1,349
20	2014	Aug	125,012	128,549,653	1,028
21	2014	Sep	125,107	144,566,969	1,156
22	2014	Oct	125,174	103,427,102	826
23	2014	Nov	125,285	63,798,599	509
24	2014	Dec	125,371	72,909,683	582
25	2015	Jan	125,442	71,903,215	573
26	2015	Feb	125,553	58,948,362	470
27	2015	Mar	125,705	72,460,892	576
28	2015	Apr	125,851	104,877,014	833
29	2015	May	126,030	83,925,727	666
30	2015	Jun	126,164	118,585,009	940
31	2015	Jul	126,329	145,825,246	1,154
32	2015	Aug	126,464	162,367,253	1,284
33	2015	Sep	126,529	164,851,892	1,303
34	2015	Oct	126,582	103,102,568	815
35	2015	Nov	126,698	64,688,694	511
36	2015	Dec	126,825	74,178,470	585
37	2016	Jan	126,790	71,388,619	563
38	2016	Feb	126,838	64,680,486	510
39	2016	Mar	126,874	76,023,790	599
40	2016	Apr	127,031	75,420,355	594

Colorado Springs Utilities
Monthly Residential Customers and Consumption 2013-2022

Water

Line No.	Year	Month	Customers	cf	cf per Customer
(a)	(b)	(c)	(d)	(e)	(f)
41	2016	May	127,631	84,700,531	664
42	2016	Jun	127,829	146,153,989	1,143
43	2016	Jul	127,983	186,465,738	1,457
44	2016	Aug	128,152	143,943,367	1,123
45	2016	Sep	127,905	166,447,800	1,301
46	2016	Oct	128,365	110,542,968	861
47	2016	Nov	128,507	76,205,962	593
48	2016	Dec	128,427	72,852,489	567
49	2017	Jan	128,803	63,033,439	489
50	2017	Feb	128,965	62,776,813	487
51	2017	Mar	128,777	89,699,442	697
52	2017	Apr	129,380	87,688,370	678
53	2017	May	129,603	103,710,070	800
54	2017	Jun	129,206	193,640,504	1,499
55	2017	Jul	129,982	148,580,725	1,143
56	2017	Aug	130,233	139,653,409	1,072
57	2017	Sep	130,077	148,269,196	1,140
58	2017	Oct	130,463	76,264,044	585
59	2017	Nov	130,656	68,303,536	523
60	2017	Dec	130,685	75,499,037	578
61	2018	Jan	130,989	65,621,492	501
62	2018	Feb	131,137	60,487,013	461
63	2018	Mar	131,067	82,827,440	632
64	2018	Apr	131,537	84,039,988	639
65	2018	May	131,827	167,993,798	1,274
66	2018	Jun	131,581	204,663,595	1,555
67	2018	Jul	132,185	157,501,552	1,192
68	2018	Aug	131,957	152,519,153	1,156
69	2018	Sep	132,484	155,247,133	1,172
70	2018	Oct	132,563	82,906,759	625
71	2018	Nov	132,446	65,859,906	497
72	2018	Dec	132,720	68,048,981	513
73	2019	Jan	133,046	67,754,936	509
74	2019	Feb	133,215	59,277,527	445
75	2019	Mar	133,392	71,793,210	538
76	2019	Apr	133,627	78,159,759	585
77	2019	May	133,319	117,395,224	881
78	2019	Jun	134,086	143,738,849	1,072
79	2019	Jul	134,275	156,897,043	1,168
80	2019	Aug	134,133	171,155,695	1,276
81	2019	Sep	134,602	160,720,876	1,194

Colorado Springs Utilities
Monthly Residential Customers and Consumption 2013-2022

Water

Line No.	Year	Month	Customers	cf	cf per Customer
(a)	(b)	(c)	(d)	(e)	(f)
82	2019	Oct	134,673	90,246,252	670
83	2019	Nov	134,688	65,046,148	483
84	2019	Dec	134,775	67,731,567	503
85	2020	Jan	134,877	73,193,578	543
86	2020	Feb	134,998	62,332,575	462
87	2020	Mar	135,453	66,429,673	490
88	2020	Apr	135,629	93,878,413	692
89	2020	May	135,994	183,829,388	1,352
90	2020	Jun	136,216	162,468,143	1,193
91	2020	Jul	136,015	174,839,271	1,285
92	2020	Aug	134,602	175,254,188	1,302
93	2020	Sep	136,949	150,271,724	1,097
94	2020	Oct	136,864	120,106,144	878
95	2020	Nov	137,243	68,919,053	502
96	2020	Dec	137,554	74,176,874	539
97	2021	Jan	137,919	73,808,182	535
98	2021	Feb	138,117	59,866,403	433
99	2021	Mar	138,383	70,767,944	511
100	2021	Apr	138,326	82,717,740	598
101	2021	May	138,890	105,888,748	762
102	2021	Jun	139,122	161,656,446	1,162
103	2021	Jul	138,930	167,672,567	1,207
104	2021	Aug	139,531	172,501,505	1,236
105	2021	Sep	139,766	156,911,245	1,123
106	2021	Oct	139,936	115,245,995	824
107	2021	Nov	140,184	61,716,072	440
108	2021	Dec	140,144	77,629,115	554
109	2022	Jan	140,473	68,630,892	489
110	2022	Feb	140,600	60,135,623	428
111	2022	Mar	140,814	68,576,371	487
112	2022	Apr	140,794	99,005,892	703
113	2022	May	141,359	137,697,027	974
114	2022	Jun	141,595	163,029,408	1,151
115	2022	Jul	141,647	166,298,845	1,174
116	2022	Aug	142,076	149,973,666	1,056
117	2022	Sep	142,187	144,480,327	1,016
118	2022	Oct	142,339	104,481,531	734
119	2022	Nov	142,494	65,379,035	459
120	2022	Dec	142,600	80,912,104	567

Colorado Springs Utilities
Monthly Residential Customers and Consumption 2013-2022

Electric

Line No.	Year	Month	Customers	kWh	kWh per Customer
(a)	(b)	(c)	(d)	(e)	(f)
1	2013	Jan	182,128	142,183,572	781
2	2013	Feb	182,293	114,758,960	630
3	2013	Mar	182,702	123,458,324	676
4	2013	Apr	182,875	113,699,854	622
5	2013	May	183,053	111,363,935	608
6	2013	Jun	183,031	117,172,640	640
7	2013	Jul	183,008	131,981,541	721
8	2013	Aug	183,618	130,221,010	709
9	2013	Sep	183,530	114,491,149	624
10	2013	Oct	183,711	105,205,493	573
11	2013	Nov	184,073	110,358,144	600
12	2013	Dec	184,113	141,217,242	767
13	2014	Jan	184,316	138,033,130	749
14	2014	Feb	184,760	118,843,786	643
15	2014	Mar	184,845	120,280,061	651
16	2014	Apr	185,192	109,308,611	590
17	2014	May	185,491	105,349,238	568
18	2014	Jun	185,623	109,126,251	588
19	2014	Jul	186,165	126,409,965	679
20	2014	Aug	186,798	121,963,113	653
21	2014	Sep	186,756	109,764,360	588
22	2014	Oct	187,040	106,406,047	569
23	2014	Nov	187,021	109,007,155	583
24	2014	Dec	187,319	141,976,779	758
25	2015	Jan	187,528	140,503,427	749
26	2015	Feb	187,705	113,845,102	607
27	2015	Mar	188,005	124,110,902	660
28	2015	Apr	188,357	110,763,257	588
29	2015	May	188,715	104,901,312	556
30	2015	Jun	188,799	117,335,133	621
31	2015	Jul	189,034	130,433,977	690
32	2015	Aug	189,586	131,835,141	695
33	2015	Sep	189,539	118,248,119	624
34	2015	Oct	189,884	110,979,459	584
35	2015	Nov	190,092	112,309,838	591
36	2015	Dec	190,360	143,093,742	752
37	2016	Jan	189,444	140,717,609	743
38	2016	Feb	189,510	119,002,126	628
39	2016	Mar	189,511	124,019,521	654
40	2016	Apr	189,829	111,840,241	589

Colorado Springs Utilities
Monthly Residential Customers and Consumption 2013-2022

Electric

Line No.	Year	Month	Customers	kWh	kWh per Customer
(a)	(b)	(c)	(d)	(e)	(f)
41	2016	May	190,534	112,974,837	593
42	2016	Jun	190,650	120,623,832	633
43	2016	Jul	191,024	144,565,447	757
44	2016	Aug	191,177	135,648,808	710
45	2016	Sep	190,736	112,456,097	590
46	2016	Oct	191,365	108,212,232	565
47	2016	Nov	191,634	113,291,982	591
48	2016	Dec	191,519	144,581,948	755
49	2017	Jan	191,879	145,702,578	759
50	2017	Feb	191,960	113,468,287	591
51	2017	Mar	191,409	125,152,215	654
52	2017	Apr	192,426	104,175,148	541
53	2017	May	192,717	110,764,040	575
54	2017	Jun	191,990	122,182,977	636
55	2017	Jul	193,066	141,264,019	732
56	2017	Aug	193,534	124,645,044	644
57	2017	Sep	193,268	118,806,288	615
58	2017	Oct	193,723	104,662,049	540
59	2017	Nov	193,987	118,776,823	612
60	2017	Dec	193,990	149,312,012	770
61	2018	Jan	194,429	127,612,876	656
62	2018	Feb	194,645	120,197,434	618
63	2018	Mar	194,588	124,553,746	640
64	2018	Apr	195,215	101,979,380	522
65	2018	May	195,522	108,716,756	556
66	2018	Jun	195,071	141,406,094	725
67	2018	Jul	195,932	145,356,506	742
68	2018	Aug	195,651	133,308,305	681
69	2018	Sep	196,582	119,287,907	607
70	2018	Oct	196,524	109,369,670	557
71	2018	Nov	196,458	128,181,851	652
72	2018	Dec	196,952	140,240,421	712
73	2019	Jan	197,517	134,718,838	682
74	2019	Feb	197,608	119,178,526	603
75	2019	Mar	198,097	128,087,259	647
76	2019	Apr	198,246	101,134,974	510
77	2019	May	197,711	110,523,008	559
78	2019	Jun	198,821	110,221,909	554
79	2019	Jul	198,940	140,785,971	708
80	2019	Aug	198,858	155,107,215	780
81	2019	Sep	199,501	119,171,326	597

Colorado Springs Utilities
Monthly Residential Customers and Consumption 2013-2022

Electric

Line No.	Year	Month	Customers	kWh	kWh per Customer
(a)	(b)	(c)	(d)	(e)	(f)
82	2019	Oct	199,697	111,244,873	557
83	2019	Nov	199,885	125,715,534	629
84	2019	Dec	199,914	141,311,014	707
85	2020	Jan	200,075	142,322,283	711
86	2020	Feb	200,359	130,151,116	650
87	2020	Mar	200,903	118,304,694	589
88	2020	Apr	201,141	116,019,607	577
89	2020	May	201,747	126,275,869	626
90	2020	Jun	202,169	130,548,445	646
91	2020	Jul	201,956	165,422,214	819
92	2020	Aug	199,501	155,571,635	780
93	2020	Sep	203,648	129,215,791	635
94	2020	Oct	203,635	130,689,749	642
95	2020	Nov	204,246	115,896,384	567
96	2020	Dec	204,258	154,584,710	757
97	2021	Jan	205,065	152,347,986	743
98	2021	Feb	205,448	139,973,056	681
99	2021	Mar	205,721	127,606,355	620
100	2021	Apr	205,586	119,370,483	581
101	2021	May	206,657	114,466,005	554
102	2021	Jun	206,565	138,525,163	671
103	2021	Jul	206,232	167,069,194	810
104	2021	Aug	206,768	169,737,642	821
105	2021	Sep	206,751	129,355,795	626
106	2021	Oct	206,928	119,008,939	575
107	2021	Nov	207,053	104,411,966	504
108	2021	Dec	207,095	149,742,249	723
109	2022	Jan	207,699	142,742,871	687
110	2022	Feb	207,895	130,844,299	629
111	2022	Mar	208,147	133,655,748	642
112	2022	Apr	207,807	118,208,601	569
113	2022	May	208,472	110,949,364	532
114	2022	Jun	208,592	140,205,345	672
115	2022	Jul	208,367	175,809,951	844
116	2022	Aug	208,852	160,118,847	767
117	2022	Sep	208,931	127,197,033	609
118	2022	Oct	209,253	109,518,188	523
119	2022	Nov	209,573	137,622,527	657
120	2022	Dec	209,795	159,690,089	761

Colorado Springs Utilities
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Natural Gas

Line No.	Year	Month	Customers	Ccf	Ccf per Customer
(a)	(b)	(c)	(d)	(e)	(f)
1	2013	Jan	170,645	25,992,030	152
2	2013	Feb	170,807	21,815,551	128
3	2013	Mar	171,150	18,306,919	107
4	2013	Apr	171,264	15,504,359	91
5	2013	May	171,443	7,473,547	44
6	2013	Jun	171,473	3,155,157	18
7	2013	Jul	171,503	3,225,848	19
8	2013	Aug	171,992	3,077,844	18
9	2013	Sep	172,083	3,482,537	20
10	2013	Oct	172,332	11,234,925	65
11	2013	Nov	172,687	17,149,956	99
12	2013	Dec	172,807	27,331,939	158
13	2014	Jan	173,079	25,463,217	147
14	2014	Feb	173,384	21,795,377	126
15	2014	Mar	173,553	17,937,793	103
16	2014	Apr	173,850	12,107,295	70
17	2014	May	174,049	7,286,580	42
18	2014	Jun	174,198	3,653,763	21
19	2014	Jul	174,628	3,351,133	19
20	2014	Aug	175,032	3,317,068	19
21	2014	Sep	175,273	4,022,107	23
22	2014	Oct	175,558	8,366,003	48
23	2014	Nov	175,698	19,653,707	112
24	2014	Dec	175,913	26,167,626	149
25	2015	Jan	176,084	24,520,956	139
26	2015	Feb	176,284	19,817,264	112
27	2015	Mar	176,522	15,603,736	88
28	2015	Apr	176,786	11,223,461	63
29	2015	May	177,047	9,316,813	53
30	2015	Jun	177,148	3,741,477	21
31	2015	Jul	177,437	3,470,588	20
32	2015	Aug	177,791	2,916,998	16
33	2015	Sep	177,853	3,146,874	18
34	2015	Oct	178,233	7,125,233	40
35	2015	Nov	178,470	18,548,971	104
36	2015	Dec	178,703	26,848,525	150
37	2016	Jan	177,936	24,506,306	138
38	2016	Feb	178,020	19,227,074	108
39	2016	Mar	178,035	17,612,387	99
40	2016	Apr	178,322	12,632,075	71

Colorado Springs Utilities
Monthly Residential Customers and Consumption 2013-2022

Natural Gas

Line No.	Year	Month	Customers	Ccf	Ccf per Customer
(a)	(b)	(c)	(d)	(e)	(f)
41	2016	May	178,927	8,492,189	47
42	2016	Jun	179,075	3,732,108	21
43	2016	Jul	179,366	3,474,453	19
44	2016	Aug	179,505	3,449,641	19
45	2016	Sep	179,146	3,610,480	20
46	2016	Oct	179,793	6,395,819	36
47	2016	Nov	180,081	14,004,483	78
48	2016	Dec	180,032	27,127,921	151
49	2017	Jan	180,446	23,789,214	132
50	2017	Feb	180,592	16,843,671	93
51	2017	Mar	180,252	14,607,234	81
52	2017	Apr	181,137	10,991,570	61
53	2017	May	181,323	7,204,750	40
54	2017	Jun	180,642	3,811,808	21
55	2017	Jul	181,659	3,358,480	18
56	2017	Aug	181,972	3,551,122	20
57	2017	Sep	181,797	4,844,532	27
58	2017	Oct	182,424	10,078,496	55
59	2017	Nov	182,751	14,121,193	77
60	2017	Dec	182,818	24,455,721	134
61	2018	Jan	183,267	21,994,375	120
62	2018	Feb	183,524	21,860,746	119
63	2018	Mar	183,456	16,656,293	91
64	2018	Apr	184,038	11,471,947	62
65	2018	May	184,252	5,150,644	28
66	2018	Jun	183,866	3,704,622	20
67	2018	Jul	184,714	3,246,323	18
68	2018	Aug	184,444	3,413,014	19
69	2018	Sep	185,281	3,528,294	19
70	2018	Oct	185,416	12,046,744	65
71	2018	Nov	185,365	20,558,196	111
72	2018	Dec	185,785	25,322,892	136
73	2019	Jan	186,265	24,742,221	133
74	2019	Feb	186,426	22,497,537	121
75	2019	Mar	186,785	22,004,854	118
76	2019	Apr	186,948	9,839,261	53
77	2019	May	186,439	10,836,643	58
78	2019	Jun	187,489	4,377,249	23
79	2019	Jul	187,616	3,166,714	17
80	2019	Aug	187,466	3,514,667	19
81	2019	Sep	188,098	3,288,572	17

Colorado Springs Utilities
Monthly Residential Customers and Consumption 2013-2022

Natural Gas

Line No.	Year	Month	Customers	Ccf	Ccf per Customer
(a)	(b)	(c)	(d)	(e)	(f)
82	2019	Oct	188,428	13,668,223	73
83	2019	Nov	188,622	19,967,230	106
84	2019	Dec	188,763	24,439,480	129
85	2020	Jan	188,896	26,080,111	138
86	2020	Feb	189,151	25,286,223	134
87	2020	Mar	189,760	16,200,465	85
88	2020	Apr	189,965	13,296,073	70
89	2020	May	190,392	7,077,748	37
90	2020	Jun	190,791	3,634,082	19
91	2020	Jul	190,649	3,755,837	20
92	2020	Aug	188,098	3,495,647	19
93	2020	Sep	192,266	5,549,645	29
94	2020	Oct	192,352	11,999,905	62
95	2020	Nov	193,012	15,841,861	82
96	2020	Dec	193,056	25,794,852	134
97	2021	Jan	193,735	26,626,568	137
98	2021	Feb	194,066	25,355,281	131
99	2021	Mar	194,315	21,110,325	109
100	2021	Apr	194,129	14,385,634	74
101	2021	May	194,879	8,281,102	42
102	2021	Jun	194,834	4,485,862	23
103	2021	Jul	194,521	3,761,038	19
104	2021	Aug	195,012	3,576,637	18
105	2021	Sep	195,096	3,678,009	19
106	2021	Oct	195,213	9,745,689	50
107	2021	Nov	195,406	12,886,510	66
108	2021	Dec	195,497	21,778,032	111
109	2022	Jan	196,043	25,336,307	129
110	2022	Feb	196,225	24,923,602	127
111	2022	Mar	196,476	20,653,184	105
112	2022	Apr	196,170	12,447,209	63
113	2022	May	196,735	7,050,113	36
114	2022	Jun	196,877	4,176,459	21
115	2022	Jul	196,768	3,810,131	19
116	2022	Aug	197,276	3,490,919	18
117	2022	Sep	197,391	3,788,905	19
118	2022	Oct	197,688	9,077,381	46
119	2022	Nov	198,029	22,540,881	114
120	2022	Dec	198,236	28,466,019	144

Colorado Springs Utilities
Monthly Residential Customers and Consumption 2013-2022

Wastewater

Line No.	Year	Month	Customers	cf	cf per Customer
(a)	(b)	(c)	(d)	(e)	(f)
1	2013	Jan	125,369	88,690,009	707
2	2013	Feb	125,496	85,720,884	683
3	2013	Mar	125,662	81,427,193	648
4	2013	Apr	125,820	90,752,233	721
5	2013	May	125,990	91,760,968	728
6	2013	Jun	126,136	92,764,324	735
7	2013	Jul	126,281	96,375,444	763
8	2013	Aug	126,444	93,306,368	738
9	2013	Sep	126,602	93,409,889	738
10	2013	Oct	126,758	93,738,194	740
11	2013	Nov	126,877	86,106,173	679
12	2013	Dec	126,973	91,425,987	720
13	2014	Jan	127,075	88,544,697	697
14	2014	Feb	127,162	85,495,095	672
15	2014	Mar	127,257	81,978,462	644
16	2014	Apr	127,383	88,218,930	693
17	2014	May	127,514	85,600,440	671
18	2014	Jun	127,617	89,275,987	700
19	2014	Jul	127,743	92,539,197	724
20	2014	Aug	127,857	86,383,365	676
21	2014	Sep	128,013	90,879,875	710
22	2014	Oct	128,137	92,534,843	722
23	2014	Nov	128,281	85,481,003	666
24	2014	Dec	128,368	94,294,621	735
25	2015	Jan	128,439	86,979,958	677
26	2015	Feb	128,558	85,003,262	661
27	2015	Mar	128,719	86,262,793	670
28	2015	Apr	128,862	89,145,399	692
29	2015	May	128,965	84,328,859	654
30	2015	Jun	129,055	89,139,199	691
31	2015	Jul	129,221	91,282,390	706
32	2015	Aug	129,353	87,037,697	673
33	2015	Sep	129,467	91,154,121	704
34	2015	Oct	129,609	90,687,834	700
35	2015	Nov	129,753	85,614,792	660
36	2015	Dec	129,886	93,353,784	719
37	2016	Jan	129,909	88,393,246	680
38	2016	Feb	130,037	83,921,441	645
39	2016	Mar	130,173	90,756,769	697
40	2016	Apr	130,317	83,390,252	640

Colorado Springs Utilities
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Wastewater

Line No.	Year	Month	Customers	cf	cf per Customer
(a)	(b)	(c)	(d)	(e)	(f)
41	2016	May	130,455	83,087,902	637
42	2016	Jun	130,626	90,704,381	694
43	2016	Jul	130,775	91,290,998	698
44	2016	Aug	130,948	90,354,701	690
45	2016	Sep	131,144	95,699,884	730
46	2016	Oct	131,273	86,511,535	659
47	2016	Nov	131,441	83,964,067	639
48	2016	Dec	131,585	89,877,962	683
49	2017	Jan	131,754	80,783,030	613
50	2017	Feb	131,908	75,546,408	573
51	2017	Mar	132,102	93,944,656	711
52	2017	Apr	132,279	84,358,096	638
53	2017	May	132,423	85,571,023	646
54	2017	Jun	132,608	91,860,791	693
55	2017	Jul	132,746	90,563,028	682
56	2017	Aug	133,006	98,190,927	738
57	2017	Sep	133,181	87,650,616	658
58	2017	Oct	133,368	87,830,389	659
59	2017	Nov	133,646	83,010,970	621
60	2017	Dec	133,994	90,304,731	674
61	2018	Jan	134,148	82,800,207	617
62	2018	Feb	134,292	75,180,507	560
63	2018	Mar	134,506	90,497,617	673
64	2018	Apr	134,685	82,609,328	613
65	2018	May	134,869	90,245,304	669
66	2018	Jun	135,013	93,051,497	689
67	2018	Jul	135,195	91,938,632	680
68	2018	Aug	135,356	96,415,220	712
69	2018	Sep	135,518	88,600,856	654
70	2018	Oct	135,698	91,242,242	672
71	2018	Nov	135,847	83,764,915	617
72	2018	Dec	136,017	84,855,622	624
73	2019	Jan	136,193	84,495,728	620
74	2019	Feb	136,357	74,502,526	546
75	2019	Mar	136,524	89,218,869	654
76	2019	Apr	136,717	78,780,587	576
77	2019	May	136,854	88,705,935	648
78	2019	Jun	137,048	88,932,559	649
79	2019	Jul	137,222	86,010,476	627
80	2019	Aug	137,442	93,614,583	681
81	2019	Sep	137,589	86,098,481	626

Colorado Springs Utilities
Monthly Residential Customers and Consumption 2013-2022

Wastewater

Line No.	Year	Month	Customers	cf	cf per Customer
(a)	(b)	(c)	(d)	(e)	(f)
82	2019	Oct	137,736	91,744,378	666
83	2019	Nov	137,854	81,058,753	588
84	2019	Dec	138,000	84,610,855	613
85	2020	Jan	138,167	87,209,274	631
86	2020	Feb	138,281	78,261,458	566
87	2020	Mar	138,528	78,401,271	566
88	2020	Apr	138,676	86,070,509	621
89	2020	May	138,963	93,140,341	670
90	2020	Jun	139,150	88,216,520	634
91	2020	Jul	139,450	91,416,692	656
92	2020	Aug	137,589	92,205,892	670
93	2020	Sep	139,925	87,826,167	628
94	2020	Oct	140,159	94,689,125	676
95	2020	Nov	140,300	80,457,547	573
96	2020	Dec	140,461	89,842,475	640
97	2021	Jan	140,661	89,828,500	639
98	2021	Feb	140,859	72,330,088	513
99	2021	Mar	141,118	86,201,409	611
100	2021	Apr	141,368	89,018,509	630
101	2021	May	141,505	87,858,779	621
102	2021	Jun	141,699	93,314,777	659
103	2021	Jul	141,894	97,356,863	686
104	2021	Aug	142,127	92,673,795	652
105	2021	Sep	142,397	94,148,434	661
106	2021	Oct	142,628	96,658,122	678
107	2021	Nov	142,893	77,430,447	542
108	2021	Dec	143,014	93,242,911	652
109	2022	Jan	143,183	85,157,056	595
110	2022	Feb	143,306	76,001,416	530
111	2022	Mar	143,514	87,540,951	610
112	2022	Apr	143,733	90,223,237	628
113	2022	May	143,927	86,024,403	598
114	2022	Jun	144,142	88,852,043	616
115	2022	Jul	144,360	97,336,252	674
116	2022	Aug	144,606	91,775,795	635
117	2022	Sep	144,775	88,207,117	609
118	2022	Oct	145,003	87,433,443	603
119	2022	Nov	145,156	88,719,288	611
120	2022	Dec	145,272	85,690,529	590