



DROUGHT RESILIENCE PLAN

WHAT WE HEARD REPORT

Drought Resilience Plan Strategic Actions

September 2022

Table of Contents

What we heard - Executive summary	5
Drought backgrounder.....	8
Draft drought framework overview	9
Project overview	10
Equity	11
Engagement overview.....	12
Objectives.....	13
Strategy	13
Timeline	13
Engagement audience and tactic summary	14
Rightsholders.....	16
What we asked.....	16
Communication plan.....	17
Who we heard from	18
Public	18
Equity deserving individuals	20
Youth	22
Businesses, agencies and organizations.....	22
Next steps	23
Summary of input	23
Verbatim comments.....	24
Reporting methodology.....	24
Reporting equity	25
Topic area #1- Youth perspective.....	26
Topic area #2- Lived experience of drought	31
Topic area #3- Your yard and watering	40
Topic area #4- Outdoor watering schedules	53
Topic area #5- Water reuse.....	81
Topic area #6- Financial and rate-based strategies.....	97

Topic area #7- Landscaping requirements in new communities and redevelopments	111
Topic area #8- Landscape and irrigation incentives.....	125
Topic area #9- Drought preparedness.....	135
Topic area #10- Prioritization and what's missing.....	139
Topic area #11- Equity	152
Appendix A- Social media commentary	174
Appendix B- Calgarian demographics	179
Appendix C- Central Library engagement.....	182
Appendix D- Outdoor pop up engagement	183
Appendix E- Youth engagement.....	184
Appendix F- Partnership opportunities to advance equity	185

Tables and Figures

Table 1- Draft Drought Resilience Framework.....	10
Table 2- Engagement audience and tactic summary	15
Figure 1- Portal performance summary	19
Figure 2- Business respondents by industry.....	23
Figure 3- How youth value water.....	26
Figure 4- Youth ideas on drought planning.....	27
Figure 5- Experience of drought impact- All responses	31
Figure 6- Experience of drought impacts-Immigrants and newcomers	31
Figure 7- Required to take drought action-All responses	32
Figure 8- Required to take drought action-Immigrants and newcomers.....	32
Figure 9- Responsible for yard maintenance	40
Figure 10- Response to mandatory water reduction	40
Figure 11- Motivation to conserve water.....	42
Figure 12- Business irrigation management	51
Figure 13- Online and Fair Entry support for outdoor watering schedules	53
Figure 14- Library support for outdoor watering schedule.....	54

Figure 15- Pop-up event support for watering schedules.....	54
Figure 16- Total respondent support for outdoor watering schedules	55
Figure 17- Resources to support compliance with schedule	70
Figure 18- Business support for outdoor watering schedules	76
Figure 19- Public support for water reuse.....	81
Figure 20- Additional information wanted about water reuse	90
Figure 21- Business support for water reuse	93
Figure 22- Business needs for more information	95
Figure 23- Support for rate-based strategies	97
Figure 24- Business support for rate-based strategies	106
Figure 25- Public support for landscape requirements on new developments	111
Figure 26- Business support for landscape requirements in new developments.....	121
Figure 27- Public support for incentive-based strategies	125
Figure 28- Public interest in program participation.....	125
Figure 29- Business support for incentive-based strategies.....	129
Figure 30- Business support for individual programs.....	129
Figure 31- Business drought planning priority.....	135
Figure 32- Desired support for drought preparation	135
Figure 33- Combined public strategy preference weighting	139
Figure 34- Strategies favoured versus least favoured.....	139
Figure 35- Combined business strategy preference weighting	147
Figure 36- Business strategy preference weighting	147
Figure 37- Respondent support for equity programs.....	152
Figure 38- Business support for equity programs	162



What we heard - Executive summary

The City of Calgary used the draft Drought Resilience Framework as the basis for all engagement which ran from May 24- June 14, 2022. This framework includes the draft vision, principles, goals, and strategic actions for advancing drought resilience across Calgary and the watershed. Feedback from this engagement will help the project team to finalize the Drought Resilience Plan, which will be presented to Council by June 2023.

Engagement was divided into two streams. First, a diverse group of internal and external subject matter experts were invited to provide detailed input on this framework. The purpose was to gather perspectives to ensure the framework reflected priority actions, as well as understanding gaps or issues, areas of alignment and the level of priority and involvement from key groups. The summary of this stream of engagement can be found on engage.calgary.ca/drought

The second stream, and the one summarized in this document, focused on the general public and businesses. Participants were asked to provide feedback about the proposed Strategic Actions in the framework that are most relevant to them.

With a key objective to understand equity as it relates to drought resilience, the engagement strategy acknowledged the specific level of impact for each target audience and created sensitive, appropriate, and effective opportunities for them to provide feedback. Understanding the lived experience, values and sentiments of equity deserving individuals will help the project team better understand how to incorporate equity into the Drought Resilience Plan and the implementation of the strategies.

Feedback from equity deserving Calgarians were gathered through the online portal, advisory panels, paper questionnaires distributed through Fair Entry and focus groups hosted by Action Dignity. The general public shared their feedback through the online portal, multiple outdoor pop-up events, and the Calgary Central Library. Businesses, agencies and organization, and youth shared their feedback through the online portal. Youth also shared their ideas at the Mayor's Expo, Calgary Central Library and at multiple school presentations.

Overall support for the strategic actions presented to business and public respondents was for the most part quite high. Regardless of the level of support for each strategic action, respondents shared valuable concerns, considerations, and unique ideas about each. While not statistically representative, this engagement highlighted key themes important to engagement respondents that The City should consider when designing and implementing these strategies.

Education was the most clear and consistent theme throughout this engagement. Many were surprised that drought could be an issue in Calgary and others dismissed the risk entirely. Some shared a common mindset that water is abundant, among other misconceptions. Very few respondents mentioned the current waterwise literature and resources made available through The City. Another related sentiment was the preference for an education over enforcement approach during implementation, as well as the desire for transparent data and proof of the need and benefits of this Plan.



Respondents shared a long list of water related topics they want to know more about, many of which The City already has resources to support. The current resources need to be promoted and shared widely to better support Calgarians. As the Drought Resilience Plan moves toward implementation, it will be imperative to have a complimentary education plan and dedicated team to rollout and maintain the implemented strategies and support the cultural and mindset shift required to reach drought resiliency.

Another theme running through the feedback was the expectation that The City starts leading by example. This sentiment was usually applied to landscaping and watering in parks and at City-owned facilities, the application of water reuse and The City's role in ensuring bylaws and regulations are aligned and do not conflict with the proposed drought resilience actions. Respondents want building codes, plumbing codes, and City bylaws to support positive action. Many others shared their expectation that The City hold developers, industry and businesses accountable by ensuring they also doing their part to build long-term resiliency and reduce short-term water demand.

A key concern for many is the cost to The City and taxpayers to support the strategies in this plan. This was made evident as the rate-based strategy was the least popular option with many sharing their current financial situation would not be able to handle an increase. Interestingly, many also shared frustration that the fixed service charges limit incentive to save water, but a higher cost of water would. Combined with the desire for data and proof, some respondent's support was reliant upon seeing a transparent cost/benefit analysis of the options.

Interestingly, indoor water use was also highlighted often in the engagement. Some youth, seniors, respondents living in multifamily buildings and homeowners alike believe that indoor water savings should not be excluded in the Drought Resilience Plan. For those who do not have green space to maintain, indoor water saving actions give them a way to participate in the solution. Others recognize this as an equity issue.

While the toilet rebate program was very successful at replacing thousands of high flow toilets with low flow models, many low income Calgarians were unable to afford the new toilet, regardless of the rebate offered. This highlights important equity considerations about higher baseline indoor water use due to household income or number of people living in the home, especially in light of possible rate-based strategies.

Many respondents identified risks of added inequity if various strategies are not implemented effectively. However, others recognized how the strategic actions are also inherently equity building. Promoting and supporting food growing on personal property and ways that reduce water bills ensures that no one gets left behind or experiences an unequal burden from drought conditions, or the solutions implemented to manage them.

Following this, engagement with equity deserving participants showcased that lived experience of drought needs to be viewed as an asset and points to many community leaders who want to be part of the solution. Many have an embedded water conservation ethic gained from experience, family storytelling and even religion. Immigrants and newcomers bring a unique insight that a born and raised Calgarians may not have. There's a unique opportunity to leverage their experience and include them during program implementation and promotion planning.



Understanding the core values shared by respondents offers many benefits. Values help the project team to make decisions based on what is important to respondents. They also provide insight into effective ways to frame and encourage people who do not support these strategies. For example, as cost is an important concern for many, drought resiliency could be framed as the fiscally responsible thing to do over the long-term, compared to the cost of inaction.

Some themes that emerged, could be viewed, and addressed through the lens of behavioural psychology. Two examples are 'concerns about the neighbour's opinion' and 'concerns about people still overwatering even with a watering schedule'. These themes present an opportunity to frame and promote strategy actions in terms of reference groups or 'people like me', understanding that when one person makes a change, people who see themselves similar to them are given social permission to do it too. An unexpected outcome, or rebound effect, such as overwatering with a watering schedule, could be managed through careful development of messaging that keeps the desired outcome and, in this case, the new social norm top of mind.

Finally, there is a wide community of individuals, businesses and organizations who want to be part of the solution. Formal partnerships with subject matter experts working in landscape, irrigation and permaculture will add legitimacy to The City's key messages and ensure that strategies are developed based on facts and a clear understanding of the available options. Informal community partners include churches and places of worship, community centers and gardens and the many individuals who have already made important changes to their landscape and behaviour. These early adopters have already done the hard work of stepping outside the social norm and doing something different. These are the champions that are well positioned to help the Drought Resilience Plan be a success.

For a detailed summary of the input that was provided, please see the [Summary of Input](#) section. For a verbatim listing of all the input that was provided, please see the separate [verbatim](#) document.



Drought backgrounder

History

Ensuring there is enough water to meet the needs of customers, the environment and a sustainable economy is essential to the future of Calgary and the region. History shows that our region is prone to prolonged, severe droughts while growth and climate change continue to place pressure on water resources in the Bow River watershed.

Recent dry conditions during the summers 2015-2017 prompted actions for drought response, which in turn, demonstrated various improvement opportunities in both short-term response actions and longer-term strategies. Calgary is now developing its first comprehensive Drought Resilience Plan to guide concrete action towards a drought resilient and water secure city for people, ecosystems, and businesses.

Drought risk

We are fortunate to have two mountain-fed rivers flowing into Calgary, but into the future our rivers and water supply are facing pressures from a growing population, limits on how much water we can draw from the river and the effects of a changing climate where droughts will be more common.

Calgary is a dry climate, and because of our proximity to the mountains, we can experience unpredictable swings in the weather from heavy rains leading to floods to many weeks of dry temperatures and little rain leading to droughts.

A multi-year drought impacting Calgary is one of our city's top climate risks. Impacts may also accumulate in severity when other compounding climate risks such as heatwaves, wildfires, and changes in seasonality overlap with drought occurrences.

In Calgary, all the water we drink and use in our everyday activities comes from the Bow and Elbow Rivers. Building resilience to drought today means Calgary will be better prepared for changes to our climate and help protect the rivers we all rely on.

Impact of drought in Calgary

- Lower river flows and less water available during times of the year when demand is at its highest
- Impacts to local agriculture
- Health of plants, wildlife, wetlands, trees, parks and open spaces, recreational opportunities, and private yards
- Drying out forests increases the risk of wildfires, affecting air and water quality



Planning for drought

The City's goal is to strengthen long-term drought resiliency as a core component of climate resilience and water security building efforts. The development of the draft Drought Resilience Plan has occurred over three phases, as described below.

Phase 1 identified Calgary's drought risk and vulnerabilities, and phase 2 focused on identifying drought adaptation and mitigation strategies. In phase 3, The City gathered information and feedback through research with citizens, Industrial, Commercial, Institutional business customers, and regional customers about the strategies being put forward for consideration in the Drought Resilience Plan.

Prior to engagement, the project team has drafted a high-level Drought Resilience Plan framework for the purposes of fostering dialogue and discussion. They are open to shaping, adjusting, and integrating new ideas and knowledge sources to ensure the Plan reflects community needs and values, as well as strengthens our resilience pathway forward. This engagement project leverages previous work and uses the framework as a basis for engagement design and outcomes.

Draft drought framework overview

Planning and preparing for drought is an essential part of The City's Water Security Framework and integrated watershed management approach. It is also a foundation of a climate-resilient city as described in Calgary's Climate Strategy: Pathways to 2050.

Aligning to these guiding strategies and building on our comprehensive understanding of drought risks + vulnerabilities, community values and learning from other leading drought-prone municipalities, The City developed the draft drought resilience framework, shown in Figure 1, which set forward a proposed pathway for drought resilience and response planning in Calgary. The draft framework includes a vision, principles, goals and strategic actions for a drought resilient Calgary:

- **Vision** is our desired future state. Our plan's vision supports and aligns to The City of Calgary's vision of 'making life better every day for Calgarians'.
- **Principles** shape and guide all our strategic decision making and actions.
- **Goals** set direction and articulate desired results and conditions.
- **Strategic actions** are the paths and approaches to achieve our goals, and ultimately our vision.

Aligning vision: *Making life better every day for Calgarians.*

Vision: A drought resilient city ensures a water secure and vibrant future for Calgarians.

Principles:

Climate resilience: The City makes climate-risk informed drought preparedness decisions

Water stewardship: The City and residents have a shared responsibility to shift our relationship with water

Equity and inclusion: The City integrates equity and Truth & Reconciliation into drought resilience planning and action.

Innovation: The City demonstrates innovation in our drought decisions and approaches

GOAL 1	GOAL 2	GOAL 3	GOAL 4
Use water wisely Further reduce our water use and demand	Protect our water supply <i>Secure and diversify our water supply and ensure drought resilient City operations</i>	Keep our rivers healthy <i>Connecting land and water to ensure our landscape is built for drought</i>	We're in this together <i>Support drought resilient communities and watersheds</i>
Strategic Actions 1A- Implement summer water schedules 1B- Update the 2005 Water Efficiency Plan 1C- Understand the financial impact of drought on City operations and customers	Strategic Actions 2A- Strengthen water licenses to ensure river withdrawals during drought 2B- Ensure City operations are prepared for drought 2C- Evaluate and implement alternate water supply sources for drought resilience	Strategic Actions 3A Improve our modelling on environmental flows, and climate impacts to our water supply 3B- Ensure drought is considered across the planning continuum 3C- Preserve, restore and build drought-resilient landscapes	Strategic Actions 4A- Continue to collaborate with major water users, the region and the Government of Alberta to protect the Bow River Basin. 4B- Build ongoing dialogue with and support First Nations during times of drought 4C- Reduce Calgarians' vulnerability to the impacts of drought

Table 1- Draft Drought Resilience Framework

Project overview

Project decision

By June 2023, The City of Calgary will develop and approve a Drought Resilience Plan that will support a water secure future for Calgary and the region, ensuring there is enough safe water for human well-being, ecosystem resilience and economic activities in times of drought.



Project goals

- Invite new forms of knowledge to strengthen and bolster the Plan
- Collaborate with key stakeholders to shape and strengthen aspects of the Plan
- Integrate equity considerations into the Plan
- Build off research findings and fill remaining knowledge gaps

Equity

The City of Calgary uses the definition of ‘climate equity’ that comes from the District of Saanich, BC:

Climate equity means working towards the just distribution of the benefits of climate actions (mitigation and adaptation) and alleviating unequal burdens created or worsened by climate change.

The Urban Sustainability Directors Network (USDN) defines the four key aspects of equity, which applies to all equity, not just climate equity:

Procedural (Inclusion): Inclusive, accessible, authentic engagement and representation in the process to develop or implement programs or policies.

Distributional (Access): Programs and policies result in fair distributions of benefits and burdens across all segments of a community, prioritizing those with highest need.

Structural decision-makers: Institutionalize accountability; decisions are made with a recognition of the historical, cultural, and institutional dynamics and structures that have routinely advantaged privileged groups in society and resulted in chronic, cumulative disadvantage for other groups.

Transgenerational: Decisions consider generational impacts and do not result in unfair burdens on future generations.

Defining ‘Equity-Deserving’

In this report, the term ‘equity-deserving’ will be used instead of ‘equity-seeking’. A useful explanation of these terms is found on the [Kwantlen Polytechnic University](#) website and supports our use of the term equity-deserving in this work.

Anti-racism work is based on the fundamental belief that all humans deserve equitable treatment. That no matter who you are, you have a right to be treated fairly, without bias. And yet, when we talk about Black, Indigenous, and people of colour, why do we refer to them as “equity-seeking” rather than “equity-deserving”? Think about it. To seek something is to ask for something from someone else. And if equity is a right, which it is, no one should be put into the position of having to ask for it. The act of asking for something puts the asker in a vulnerable position. The asker assumes all the risk: the risk of appearing needy and the risk of having to give control over to someone else. And what of the person or group being



asked? The “askee” becomes the one with all the power – the power to give, the power to deny, and the power to look the other way.

Engagement overview

At The City of Calgary, decisions are made daily that impact more than one million people. Input from Calgarian and other stakeholders helps The City better understand the perspectives, opinions, and concerns of people affected by City decisions. Public input is collected, where appropriate, and considered along with other factors (such as cost, environmental impact, technical limitations, and long-range plans/goals) before decisions are made.

Because of its open and accessible nature, engagement is virtually never positioned as the sole source of input into whether The City should do something, but rather helps to ensure City decision-makers have access to a range of ideas and feedback. This feedback is not statistically representative of all Calgarians, and therefore participants will be referred to as respondents and not Calgarians. All the input collected for this project will be considered with the lens of what will work best in the Calgary context.

"Engagement" at The City of Calgary is defined as: *Purposeful dialogue between The City and citizens and stakeholders to gather information to influence decision making.*

Engagement is:

- **Citizen-centric** focusing on hearing the needs and voices of both directly impacted and indirectly impacted citizens.
- **Accountable** upholding the commitments that The City makes to its citizens and stakeholders by demonstrating that the results and outcomes of the engagement processes are consistent with the approved plans for engagement.
- **Inclusive** making best efforts to reach, involve and hear from those who are impacted directly or indirectly.
- **Committed** allocating sufficient time and resources for effective engagement of citizens and stakeholders.
- **Responsive** acknowledging citizen and stakeholder concerns; and
- **Transparent** providing clear and complete information around decision processes, procedures, and constraints.

The City's commitment to transparent and inclusive engagement processes is outlined in the [Engage Policy \(CS009\)](#)

Objectives

- To engage key stakeholders on the draft Drought Resilience Plan framework
- To gather all stakeholder feedback on strategies and big moves in the draft plan
- To understand opportunities and challenges for advancing key strategies and actions
- To explore and understand equity/inequity as they relate to drought and drought management

Strategy

In terms of planning for drought, each stakeholder group has specific interests and will be impacted by the Drought Resilience Plan to varying degrees and those most at a disadvantage would have unique insight. This engagement strategy acknowledged those differences and created opportunities for stakeholders to provide feedback in ways that were sensitive, appropriate, and effective. Understanding the lived experience, values and sentiments of equity deserving individuals will help the project team better understand how to incorporate equity into the Drought Resilience Plan and the implementation of the strategies that are included within.

Timeline

2018- Drought a top risk

- Calgary's Climate Strategy identifies drought as a top climate risk for Calgary

2020- Council direction

- Council approves One Calgary One Water, a framework for sustaining a reliable water supply along with priority actions, including drought management

2021- Research and understanding

- Completion of a study to better understand Calgary's drought-related vulnerabilities and risks along with priority measures to increase resilience
- Citizen and customer opinion research on drought awareness and understanding

Spring 2022- Engagement

- Engagement with Key stakeholders, Calgarians, businesses, and Calgary's youth

Fall 2022- What We Heard

- What We Heard report published

By June 2023- Council

- Drought Resilience Plan will be presented to Council to seek support for continued program development

2023+- Implementation

- Drought Resilience Plan implementation and further program development

Engagement audience and tactic summary

Audience	Objective	Tactics	Participant Numbers
City of Calgary staff This audience is defined as cross Corporation staff who are involved in planning and resource management.	Gather feedback on draft Drought Resilience Plan framework.	Virtual workshop <ul style="list-style-type: none"> May 18, 2022 	44
Key local and provincial water resource groups This audience includes regional partners, academia, regulators, special interest groups, and key industry and business groups.	Gather feedback on draft Drought Resilience Plan framework.	Virtual workshops <ul style="list-style-type: none"> June 1, 2 and 6, 2022 	43
Business, agencies and organizations This audience is defined as the business community who are participating in engagement to represent the interests of their business and industry.	Gather feedback on draft drought strategic actions.	Online Engage portal <ul style="list-style-type: none"> May 24- June 14, 2022 	23
General public This audience is defined as individual Calgarians who are participating in engagement to share their personal interests and ideas.	Gather feedback on draft drought strategic actions.	Online Engage portal <ul style="list-style-type: none"> May 24-June 14, 2022 	1065
	Information session to present drought background information, introduce draft drought strategies and answer citizens questions.	MS Teams Live Q and A <ul style="list-style-type: none"> June 1, 6-7:30 p.m. 	30
	Stand alone educational display and onsite engagement. Staffed during key busy times for onsite engagement.	Calgary Central Library display <ul style="list-style-type: none"> May 24-June 14, 2022 	363
	Onsite engagement at busy parks in each quadrant of the city. Action Dignity participation at Prairie Winds to provide language translation support.	“Pop up” park events North Glenmore Park <ul style="list-style-type: none"> May 28, 2022 Prairie Winds <ul style="list-style-type: none"> May 29, 2022 Bowness Park <ul style="list-style-type: none"> June 4, 2022 	30 65 30

		Sue Higgins Park • June 5, 2022	80
Equity deserving Calgarians This audience is defined as Calgarians who might lack the means and capacity to increase personal resiliency to drought, those who may be unfairly impacted by any of the proposed drought strategies and experience increased barriers to participating in solutions. This includes but are not limited to racialized groups; English language learners; large occupancy households; people living with mental illness, physical or intellectual disabilities; seniors; youth; low-income individuals. Urban Indigenous individuals This group is defined as Indigenous peoples who have chosen to live in Calgary.	Gather feedback on draft drought strategic actions. Understand what equity deserving Calgarians need to be more resilient to drought.	Advisory Panels • Immigrant advisory table • Older Adult advisory table • Accessibility advisory table • Advancing engagement group Action Dignity focus groups • May 30- June 30, 2022 Senior's week pop-up • June 9, 2022 Paper questionnaire • Fair-Entry applicants • May 30-June 24, 2022	16 13 14 6 128 10 74
Youth Defined as Calgarians 18-24 years of age and under 18, who are participating in engagement to share their personal interests and ideas.	Gather feedback on how youth most value our water resources. Gather feedback on what they think should be included in a drought plan.	Online Engage portal • May 24-June 14, 2022 City Hall School at Central Library • St. Thomas Aquinas School • 2 x grade 5 classes • May 24 and June 3 Mayor's Expo at Central Library • May 31 and June 1 School presentation • Westgate Elementary • 4 x grade 2 classes • June 21, 2021	12 50 Unknown 100

Table 2- Engagement audience and tactic summary



Rightsholders

Also of significance in this strategy is the input of Indigenous peoples into drought management. They are important to our local landscape and national and local identity, and they bring a level of context that is vital to building a Drought Resilience Plan that reflects our local history and valuable knowledge about resource management. We will continue to work with the Indigenous Relations Office (IRO) and our external consultant on appropriate timing for engaging with the Indigenous Elders and knowledge keepers to inform the Plan.

The Rightsholders in the Treaty 7 region in southern Alberta includes:

- The Blackfoot Confederacy, made up of the Siksika, Piikani, and Kainai First Nations;
- The Stoney Nakoda First Nations, comprised of the Chiniki, Bearspaw, and Wesley First Nations; and;
- The Tsuut'ina First Nation.

The City of Calgary is also homeland to the historic Northwest Métis and to Métis Nation of Alberta, Region 3. Urban Indigenous Calgarians will be included in this engagement through all tactics available to the public.

What we asked

The questions asked in this engagement process, were customized for each stakeholder group, and guided by the specific objectives of engaging with that group. Questions and topics were explored in the various tactics described in Table 2 above.

The City used the draft Drought Resilience Plan Framework, as shown in Table 1, as the basis for all engagement, which was divided into two engagement streams. First, a broad group of internal and external subject matter experts were invited to provide detailed input on this framework. The purpose was to ensure the framework reflected priority actions for advancing drought resilience from a diverse perspective of subject matter experts, to capture any gaps or issues within the framework, understand the level of priority and involvement from key groups for implementing the strategic actions, and identifying areas of aligned work.

The What We Heard Report summarizing this feedback gathered from the first two audience groups outlined in Table 2: Internal City staff and key local and provincial water resource groups, can be found at engage.calgary.ca/drought

The second stream of engagement focused on the remaining audience groups in Table 2. The public and business community were asked questions about the proposed Strategic Actions of the framework most relevant to them.



The questions asked of public and business audiences fell into 11 focus areas, which are reported in detail in the [Summary of Input](#) section.

1. Youth Perspective
2. Lived experience of drought
3. Your yard or garden
4. Outdoor Watering Schedule
5. Water Reuse
6. Financial and Rate Based Strategies
7. Landscaping Requirements in New Communities and Redevelopments
8. Landscape and Irrigation Incentives
9. Drought Preparedness
10. Prioritization and What's Missing
11. Equity

The complete list of questions asked on the online engagement page can be viewed at:

- [Calgarians](#)
- [Businesses, Agencies and Organizations](#)
- [Youth](#)

Communication plan

To support and promote the public engagement opportunities, we used a variety of tactics to encourage Calgarians, businesses and youth to attend the virtual information session and visit the website to complete the online survey over the three-week period. Tactics included:

- Promoted and organic social media posts on Facebook, Instagram and Twitter which generated over 500 comments and 100 shares. For a summary of the commentary and themes from social media, please see Appendix A
- Bold signs were installed in 17 locations where water use is typically higher than average in the summer months.
- A sounding board was installed along the riverwalk in East Village.
- A media release garnered coverage on CTV, 660 News, CBC Radio and the Calgary Journal
- A radio ad aired on FairChild radio and Red FM to reach Punjabi, Hindi, Mandarin and Cantonese speaking Calgarians.
- Postcards were provided to local garden retailers to hand out to customers at point-of-sale stations.
- Posters (English, Traditional and Simplified Chinese, Tagalog and Urdu) and suggested social media content was supplied to community groups, stakeholders and community partners to share within their networks. This included Studio Bell, City of Calgary Recreation Centres, Carya (Village Commons) and the Calgary Zoo. These groups were extremely valuable in helping to encourage their members and followers to participate in the process.



- Internal City of Calgary employee communication channels.

Youth engagement promotion

- Mayor's Expo teachers
- City Hall teachers

Newsletter circulation

- NAIOP, Commercial Real Estate Development Association Government Affairs Committee
- Canadian Prairie Chapter of the Irrigation Association
- Building Owners and Managers Association
- Green Calgary Association
- Calgary Horticultural Society
- Calgary Local Immigrant Partnership

Who we heard from

Public

Information for this engagement project was collected from participating Calgarians using a variety of methods to reach specific population groups and equity deserving individuals. These tactics were also designed to help overcome barriers to participation such as reduced opportunity to meet in person due to sensitivities about COVID, access to technology, vision loss, reduced level of understanding of content, and language barriers.

The complete breakdown and summary of demographics of respondents are outlined in Appendix B. Demographic information was optional and includes combined information gathered from all participants, from all tactics, who chose to share it. Due to the voluntary nature of demographic collection, it is not an accurate reporting of all who participated in the engagement.

Online engagement

The engagement portal page was the most broadly used tactic in this process, which included a series of demographic questions that were embedded in the main survey. This resulted in the ability to couple responses and sentiment to specific demographics to explore any themes and value sentiments unique to that group.

This tactic included the full suite of questions covering all focus areas and saw a total 10,378 page visits from 9,591 unique visitors, with 1,176 contributions. The summary of activity on the portal page across the three-week period is shown in Figure 1. However, this activity includes business and youth visitors as well.

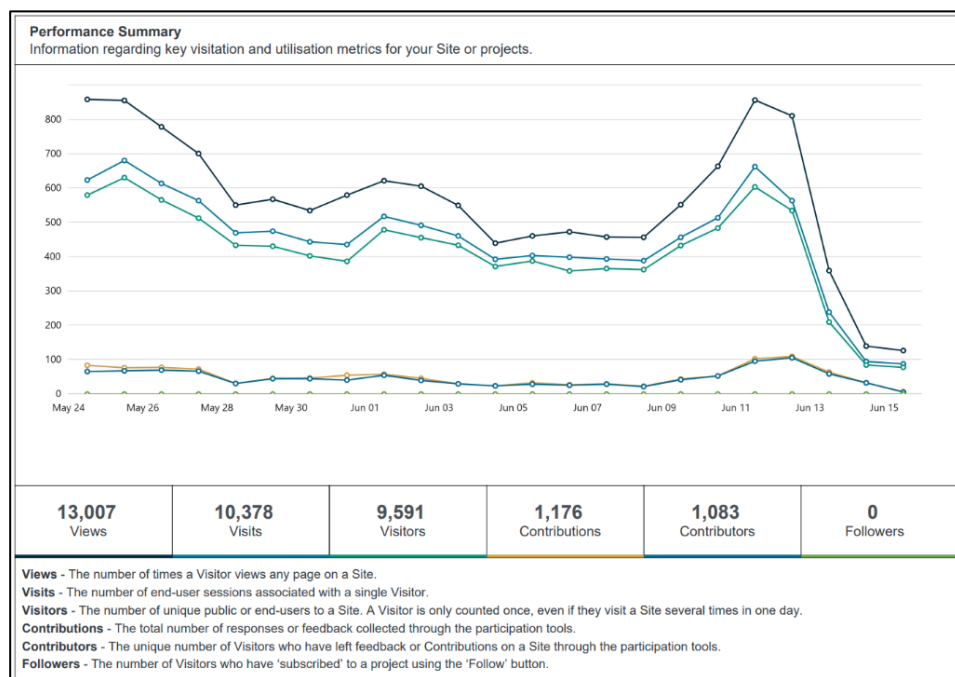


Figure 1- Portal performance summary

Alternative methods on the portal

To support inclusion and accessibility, a paper copy of the survey was available for download in standard sized font and in large print for those experiencing barriers to using the online form.

- Paper copy- downloaded 103 times
- Large print version- downloaded 57 times

Returned paper surveys:

- 2 emailed to Engage Resource Unit’s general email account
- 2 mailed to Engage Resource Unit’s mailbox

In-person engagement

Calgary Central Library display

This set up was installed with a few objectives in mind:

- Educate Calgarians about Calgary’s Watershed
- Raise awareness about the engagement opportunity
- Gather feedback on the proposed strategic action of outdoor watering schedules



The display was staffed during busy hours throughout the three-week period. Staff spoke with many Calgarians, including youth, older students, young families, people who live and work in the downtown area, and some individuals who are precariously housed.

A minimum of 362 people engaged with the engagement question boards about Outdoor Watering Schedules at the library, as shown in Appendix C.

Park pop-ups and Senior's Week

Staff set up pop-up engagement opportunities over the weekends in a major park in each quadrant of the city and attended a Senior's Week event in Olympic Plaza. Objectives were the same as described above for the library display. The boards from these pop-up events are shown in Appendix D.

These events allowed staff to engage with people from across the city, in places where they recreate. For the most part, respondents had time to stop and talk about drought and our engagement questions in a safe outdoor setting.

Equity deserving individuals

For this project, equity deserving individuals are identified as those who might lack the means and capacity to increase personal resiliency to drought, those who may be unfairly impacted by any of the proposed drought strategies and experience increased barriers to participating in solutions.

This includes:

- Low-income individuals living in low-density housing who are responsible for maintaining green spaces;
- Newcomers;
- English language learners;
- Multi-generation/ Large households; and,
- Those living with mobility issues:
 - seniors (65-75+)
 - those who identify as having a disability.

Fair Entry paper questionnaires

A paper copy version of the online survey was made available to Calgarians through a partnership with Fair Entry. Respondents who completed the survey were low income, with a high intersectionality with the other characteristics listed above.

Calgarians applying for the program at the Municipal Building and Village Square between May 30-June 24, 2022, were screened by staff by asking the question, "Are you responsible for maintaining green space, a yard or garden?" If the applicant answered yes, they were offered an opportunity to complete the survey.



As supported by The City's Inclusive Engagement Guide, participants who took the time to complete the paper questionnaire were offered a \$10 gift card as a token of appreciation.

Advisory groups

Short workshops were conducted with each of the advisory groups to gain understanding about the needs of each group with regards to the strategies being considered for the drought plan. The advisory groups are unique in their composition.

Immigrant advisory table: Volunteers from the community who represent different ethnocultural groups and diverse demographics within the newcomer population in Calgary.

Older adult advisory table: Members of the public are chosen primarily based on their lived experience.

Accessibility advisory table: Members of administration and the public, two of which are associated with CNIB and Deaf and Hear Alberta.

Accessible engagement group: Members of the public with lived experience, with representation from CNIB, Universal Access, March of Dimes, Disability Action Hall and Poverty Talks.

Action Dignity

Action Dignity was contracted to conduct discussions with groups and individuals within our diverse community populations, on The City's behalf. Community brokers were trained by City staff to ensure they understood the content and the objectives of the engagement prior to conducting focus groups.

The benefit of this approach is that it creates an environment in which participants feel safe and comfortable to talk about their ideas and values, in an authentic manner and in their first language. This helps to breakdown any cultural and language barriers, and results in candid sharing of feedback in ways that may not be collected directly through The City.

Over the course of four weeks, Action Dignity engaged with a total of 128 Calgarians, through 12 focus groups and 77 one-on-one individual discussions in the following languages:

<ul style="list-style-type: none">• Amharic• Chinese• Dari• English• French• Filipino- Tagalog• Hindi	<ul style="list-style-type: none">• Kenyarwande• Punjabi• Spanish• Tigrinya• Urdu• Pashto
---	--

Youth

In-person engagement

All in-person engagement with youth leveraged various opportunities as described below during the engagement period.

1. Display at Central Library

- City Hall School – two classes, grade 5
- Mayors Expo– two days, grades 1-6

2. School presentations

- 100 students- four classes, grade 2

Online engagement

An online survey option was provided to offer youth another option to submit their input. We received 12 online responses from youth. The results collected from the online youth questions were consistent with the results received from the in-person library engagement and school visit.

Businesses, agencies and organizations

Online engagement

The survey on the online engagement page for businesses received 23 responses and are not considered representative of the business sector, yet still provide valuable insight into specific concerns and interest from the business owners or operators who did complete the questionnaire. Due to the low volume of responses, all verbatim comments have been included in the report to help illustrate the nature of themes. Businesses, agencies and organizations were asked to describe their industry. Figure 2 outlines the breakdown of industries and the number who participated in the engagement process.

Question: How would you categorize your business/industry? Select all that apply.

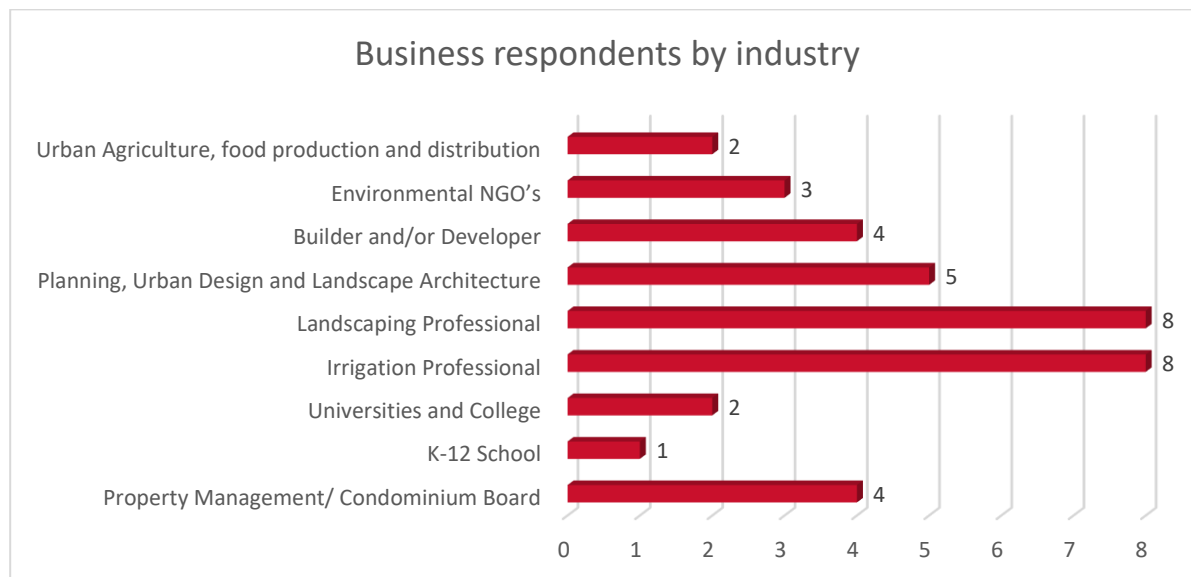


Figure 2- Business respondents by industry

A few other descriptions included:

- Consulting
- Permaculture education and consultancy
- Small scale cut flower producer

Next steps

Perspectives received from all groups throughout the engagement process will be published in a What We Heard Report to engage.calgary.ca/drought in fall 2022. The project team will then assess all inputs and formalize the Drought Resilience Plan that will be presented to Council for approval by June 2023.

Summary of input

This portion of the What We Heard Report is written to support the project team in making decisions regarding the Drought Resilience Plan and understanding the challenges and opportunities to advance water saving strategies. Therefore, it is very thorough and provides extensive supporting information to help illustrate concepts and ideas.

Members of the public and other stakeholders may be drawn to specific areas of interest within the report; however, it is not intended to be read in its entirety for all audiences.



Verbatim comments

Due to the high volume of comments received from the online portal, the complete verbatim report is available as a separate document [here](#).

Verbatim comments presented in this report include a sample of feedback, suggestions, comments and messages that were collected online and in-person through the engagement described in this report. Input has been reviewed and provided to project teams to be considered in decision-making for the project.

Any personal identifying information has been removed from the verbatim comments. Comments or portions of comments that contain profanity, or that are not in compliance with The [City's Respectful Workplace Policy](#) or [Online Tool Moderation Practice](#), have also been removed from participant submissions.

Wherever possible the remainder of the submissions has been included. No other edits to the feedback have been made, and the verbatim comments are as received. As a result, some of the content in verbatim comments may still be considered offensive or distasteful to some readers.

Reporting methodology

What we heard from all audience groups from all tactics combined is reported in each topic area. In many areas, a graph illustrating the general level of support for a strategy has been included. While engagement is not intended to act as voting or polling, this information provides a valuable snapshot of acceptance, or lack of, for various strategies proposed for inclusion in the Drought Resilience Plan.

In addition, when clear and unique themes emerge from the feedback from Calgarians and business respondents who do not support a strategy and from those who do, these themes will be reported accordingly. This reporting approach allows for a breadth of ideas that are raised by respondents who do or do not support a particular strategy and increases our understanding of the details, rationale, and values behind how citizens and stakeholders feel. This knowledge allows City decision-makers to understand the ideas and values that shape citizens' preferences and desires so that those ideas and values can be considered when making decisions.

For Calgarian respondents, the demographic breakdown of those who responded through the online portal page and paper questionnaires have been combined for a total numbers and equity group reporting purposes.

Engagement boards were used at the Central Library display for youth and the public, park pop ups, and the Senior's Week event. These tactics only focused on the strategic action (or strategy?) of outdoor watering schedules. The number of sticky dots on the boards for each sentiment have been counted and reported in summary graphs. Due to the nature of in-person conversations, some comments were handwritten by the respondent, and some were written by staff who summarized the sentiment of the conversation and comments when speaking with Calgarians. All comments gathered from these engagement boards are included in the separate [verbatim](#) document.



Due to a lower volume of responses from Business, Agencies, and Organization's responses on the online engagement page, all verbatim statements from these respondents have been included in each topic area of the report to help illustrate the nature of a theme. Similarly, feedback from key stakeholder workshops is completely included in this document.

All youth comments gathered online, and in-person are included in the [verbatim](#) document.

Reporting equity

Integrating equity into the Drought Resilience Plan was one of the guiding objectives of this engagement process. As such, unique themes and sentiments from equity deserving Calgarians have also been highlighted when they occur. This helps to highlight the voices, perspectives and needs of Calgarians that don't always participate in City of Calgary engagement projects.

The comments and feedback gathered from conversations with the four advisory groups were recorded through a mix of participant's handwritten notes on stickies and Engage staff who recorded comments. All feedback collected from these advisory tables are include in the Equity Section of this report.

Due to the unique nature of engagement with Calgarians conducted through Action Dignity, some of the questions asked are reported separately. However, feedback about specific strategies have been combined with that of the other tactics and reported in the final themes presented in this report. All verbatim comments are included in the verbatim document.

Topic area #1- Youth perspective

Drought resiliency and effective water management requires short and long-term planning. Today’s youth will inherit the impacts of the strategies implemented now. Therefore, understanding their perspectives on drought and water conservation was an important part of this engagement. Taking a biophilic approach to youth engagement, we focused on first connecting youth to the ways they value our rivers and the water it supplies, before asking them to consider solutions to protect it.

Part 1

Question: What do you appreciate the most about Calgary's rivers and the water they supply?

Youth participating in engagement enjoyed the opportunity to share their preference with sticky dots on a poster board, as shown in Appendix E. As highlighted in the picture collage below in Figure 3, the things that youth appreciate most to appreciate least were:

Drinking water	100
Wildlife	68
Splash parks	32
Boating	21
Using the river pathways	20
Gardening	19
Washing and indoor use	19
Running through the sprinkler	16
Fishing	13



Figure 3- How youth value water

Part 2

Question: What do you think should be in a plan to protect our city and Calgarians from the impacts of drought?

Youth respondents shared a variety of ideas through the online portal shown in Figure 4, and on an engagement board used at a variety of in-person engagement opportunities (Appendix E). All verbatim comments received from youth are reported in the [verbatim](#) document.

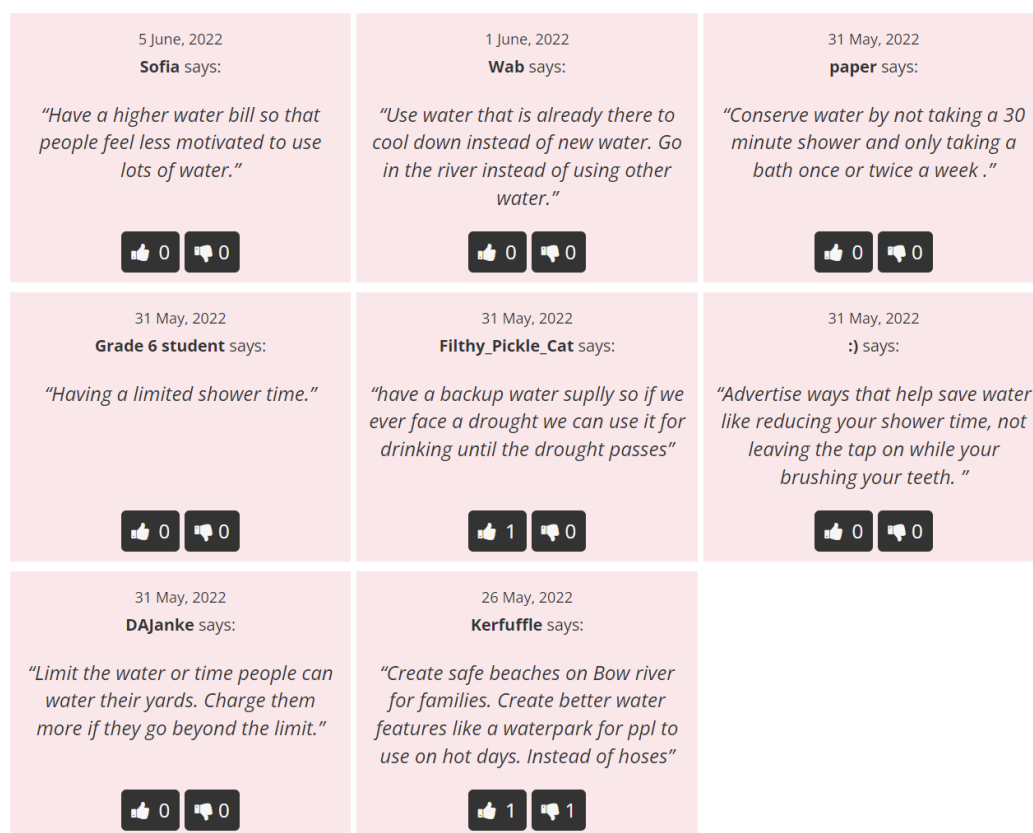


Figure 4- Youth ideas on drought planning

Themes from youth

The themes from youth below include quotes from the portal in Figure 4 and the comments collected from other youth events. In the order of most to least mentioned, themes from youth are:

Reduce outdoor watering

Many youth respondents shared ideas about reducing water outdoors through a schedule, watering based on plant's needs, more efficient use of tools, and letting rain do the job.



- *limit the amount of the hose water you could use each week*
- *water schedule- have a time to water plants, measure how much water a plant needs*
- *restricions in water- most water being used in summer*
- *stop putting sprinklers on every day*
- *let the rain water your plants*
- *try to not water your plants all the time so we have water for other things*
- *better sprinkler use*

Reduce overall water use

Youth shared a very logical solution to drought of just using less overall and not wasting it.

- *don't leave the water running*
- *we should learn how to use the water more wsiely, not just using it for our own wants*
- *don't use that much water and don't waste it*
- *no wasting a cup of water*
- *only use water when we need it*

Reduce indoor water use

Indoor water use was also a focus, through mindful showering and brushing teeth, as well as reducing the number of baths per week.

- *have shorter showers*
- *turn off the tap while brushing your teeth*
- *turn tap off when washing your hair in the shower*
- *stop having long showers*

Increase water supply and storage

Many youth respondents shared ideas about finding and using new water sources and ways to store it for use during a drought.

- *more lakes/rivers all over Calgary, don't leave taps on.*
- *find water in new places*
- *another water reservoir*
- *access ground water*
- *mini wetland*

Consider water recreation

Some youth respondents shared that pools and splash parks could be an area to reduce water use. However, as seen in the image from the portal above, others see splash parks and the river itself as a solution to help people cool down during a drought and reduce the use of individual household garden hose.

- *Take down oand/or build less water parks. Even maybe at least use less water in them*
- *Reduce the amount o water used for water parks. Or even the water used for lawns*



- *less pools to save more water*

Value of water

Some respondents were quick to identify why water is so important.

- *because water is the source of life for all beings*
- *for all the animals and the ocean*
- *aqua is life*

Reuse

Respondents made connections to water reuse both at home by using excess water on plants and in the community through a storm pond.

- *water re-use*
- *use extra water in your plants*
- *put water in stormponds and use to water parks*

Filtration

This theme from respondents shares sentiments about increasing water filtration and relying on filtered water instead of river water.

- *Get more filters to make for filtered water*
- *don't use water, get filtered water*
- *Better water filtration*

Other water uses

Youth respondents shared other ways to reduce water use, including fire suppression and animal care.

- *use less water for fires*
- *I think they should add less fire or else the plants can die*
- *use less water for animals and pet*

Plant choices

This theme included ideas about landscaping choices that would be beneficial during a drought.

- *more mindful plant choices*
- *Plant more trees*

Cost of water

Two of the quotes from the portal also suggest increasing the cost of water as a motivator to reduce use.



Considerations and recommendations

Youth engagement participants shared many insightful ideas that align with the direction of the draft Drought Resilience Plan, including reducing outdoor water use, water reuse, and landscaping choices. Youth also referred to actions they are familiar with and have some level of control, such as their indoor water use and how they recreate with water in the summer. While these areas may not be a focus of the current draft plan, promoting actions that youth are able to participate in will be very important in getting everyone on board with water reduction during times of drought.

A few themes and sentiments also indicate an opportunity to continue education about Calgary's watershed and challenges we may face about water supply when in a drought. These include, finding new sources of water when we need it and prioritizing water use away from firefighting and caring for livestock and other pets. Education about the associated increased risks of fires during drought, when river flows are already low, and the impacts of drought on farmers and ranchers will be very beneficial for everyone, not just youth. Prioritization of water use during drought is a key consideration for drought planning, and the more Calgarians understand these limitations and decisions, the more inclined they will be to do their part to conserve.

Topic area #2- Lived experience of drought

Question 1: To what extent have you personally experienced the impact of drought, whether living here in Calgary, in other regions or in a different country? (select one)

Figure 5 illustrates feedback received from the portal, Fair Entry, and Action Dignity respondents.

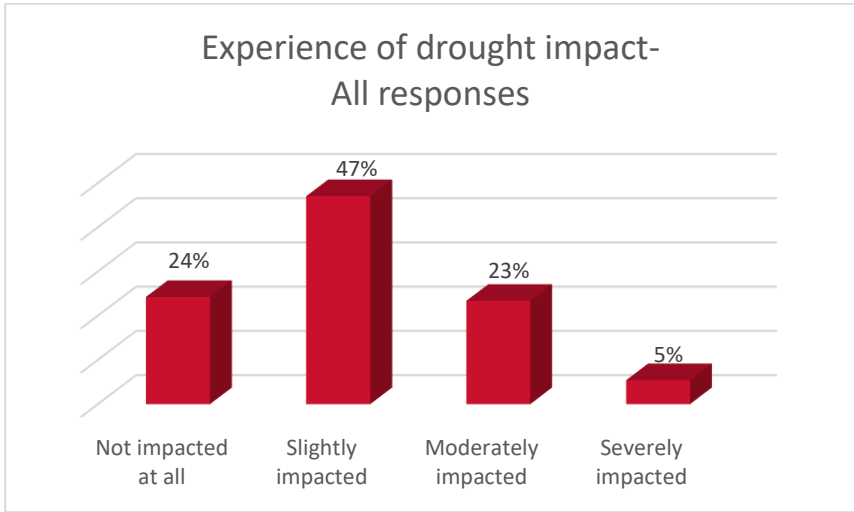


Figure 5- Experience of drought impact- All responses

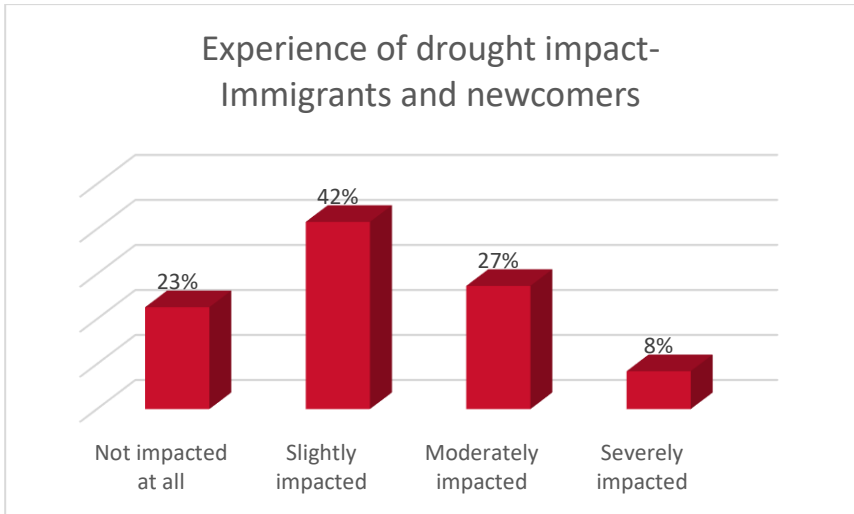


Figure 6- Experience of drought impacts-Immigrants and newcomers

Figure 6 illustrates respondents who identified as being born outside of Canada. Not all participants completed this demographic question.

Question 2: Were you asked to take action to reduce either your indoor or outdoor water use?

Figure 7 illustrates feedback received from the portal, Fair Entry and Action Dignity respondents.

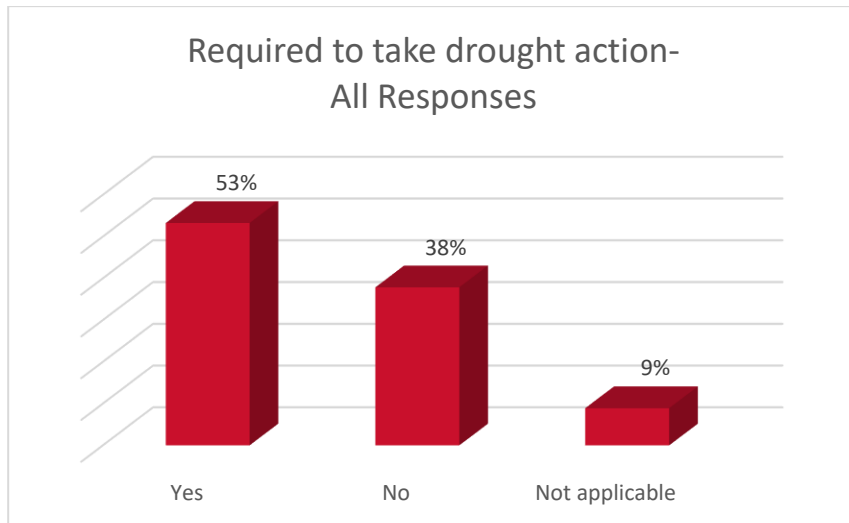


Figure 7- Required to take drought action-All responses

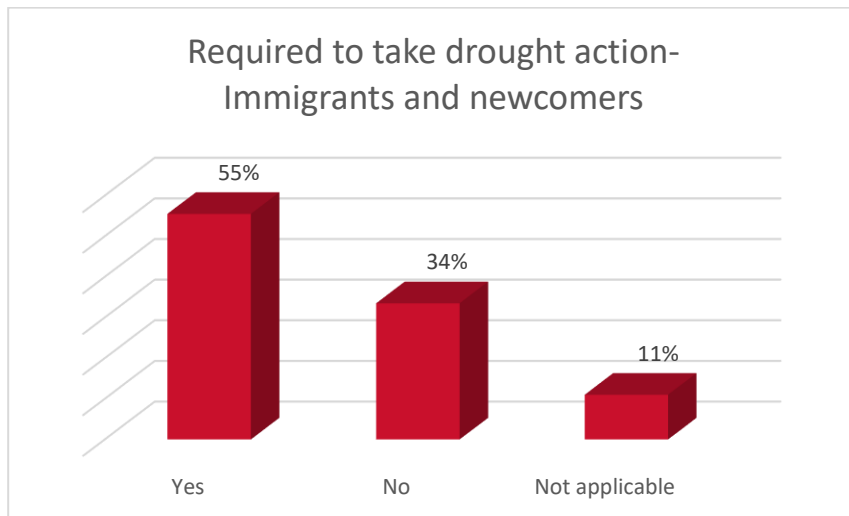


Figure 8- Required to take drought action-Immigrants and newcomers

Figure 8 illustrates respondents who identified as being born outside of Canada. Not all participants completed this demographic question.

Action Dignity- A drought narrative

A predominant theme that emerged from Action Dignity focus groups and interviews was a genuine surprise and shock from most participants that drought is a risk in Calgary. This is not unlike most Calgarians, even those born and raised here. One participant commented that it isn't possible as Canada has the most lakes and fresh water in the world.

Hearing about the impacts that are anticipated to accompany a drought in Calgary helped participants understand the risk in a Calgary context. Many of the drought impacts for Calgary mirror the first-hand impacts they experienced in other countries, albeit many of their experiences include extreme drought scenarios compared to what we may face in Calgary. Discussion about the drought proposed strategies started to get participants reflecting on their actions taken during that time.

Participants shared many stories of their experiences and memories of living with and adapting to drought conditions in their homeland. The stories of drought shared by participant's came from their time in Ghana, Nigeria, Jamaica, Cuba, Afghanistan, India, Ethiopia, Philippines, Peru, Pakistan, Australia, Papua New Guinea, Dubai, and Yemen.

The most common themes about the impacts of drought that emerged from this story telling were:

- **Interruption to water supply and limited access**
- **Travelling far distance/huge effort to get water**
- **Prohibited/ less outdoor watering**
- **High cost of water**
- **Rationing indoor water use/ limited supply**
- **Impacts to farming and food supply**
- **Poor living conditions/ reduced wellbeing**
- **Low drinking water quality**

"back home we had drought - Hilmand river dissappeared and the fish died. We had to travel 2 and half hours to bring water on the back of animals. We had lots of restrictions in usage of water. As kids and teens we were deprived from swimming, fishing from the river. Our household economy dropped for many years after the drought. As a result we not had access to what we wanted and needed."

Other themes about drought impact that emerged in lower numbers were:

- **Pest infestation**
- **Impacts to recreation**
- **Population displacement**
- **Impact to energy production**
- **Political upheaval**
- **Increased food prices**

"During the 2007-08 drought the crops of our families had dismally failed thereby forcing our community into food crisis. In many villages, peasants were even compelled to eat the seed which was saved to be planted."



- **Financial impact to families**

Themes about adapting and managing drought included:

- **Water reuse**
- **Planting drought tolerant plant species**
- **Switching to less water intensive crops**
- **Innovative water retention**

“Travelling is primarily the reason where you realize about water usage. I have travelled to Pushkau and desert nature of Rajasthan, India where people have to walk 10-15 miles to get a small bucket of water. Be it small or big families, each of them have to share that bucket of water. It is of extreme importance to highlight the ways of limiting water. Originally from India, where the municipality hinders the water wastage by limiting the usage hours. for instance, the water cannot be used in the morning hours to wash cars or plants. Only limited to showering or drinking purposes”

“In Nigeria, well was dug in a particular spot but no water was found, we were made to dig another spot which produced water. Some 10+ years after, borehole drilling was done in order to get more water to cater for a growing community. At a point was sold to the community in order to reduce wastage of water. It is believe that an individual will take proper care of whatever thing they bought with personal money”

“There was an El Nino drought in the Phillipines that lasted for almost 2 years (1997-98). There was crop failure, our livestock lacked food and were malnourished. Accompanying drought was severe, rat and locust infestation on Mindarios Island. My family suffered to the brink of bankruptcy.”

“In South Africa, I had experienced drought and we were out of our routines. In Pakistan, also we had shortage of water, remote areas in Pakistan always suffer from shortage of water as the city water pipes would not reach there. People were poor and could not have access to water and were using dirty water and they tried to purify it on their own. Rich people have access to everything and suffer less. In Dubai, I remember I was standing on a line of 100-200 people to get clean water. On work day was gone to get water. Life is not a life without water.”

“There was drought in Afghanistan in 2021. This created internal displacement of populations. Citizens lived in extreme poor conditions. There were migrations outside of their farmlands. Citizens resorted to fetching water from stagnant pools. Some fetched water from distant wells. Not a pleasant experience.”



"Back home in India, take water levels used to around 50ft which is now over 150ft. Submersible motor is required to get clean water and it is getting deeper and deeper"

"before we immigrated to Canada, we lived in the Philippines. During dry season between march and April, we had to resort to using water from the river to water our plants and do laundry. The price of drinking water was expensive esp. during drought." We re-use water from rinsing laundry to water our garden beds. some plants do not need watering every day so it is good to have knowledge about drought tolerant plants to save water. We used to big barrels to harvest rain water w/c we use for bathing, laundry and watering plants."

"Living back home (Lima, Peru), we would have simetimes water shortages. Lack of water due to lack of raining or the opposite (too much rain) and that would cause mudslides and trouble the water treatment plants that distribute water throughout the city. Otehr factor was the large population in the city. Some actions that the City implemented were: Reduction in hours of drinkable water supply (we could only have water from tap for a few hours). Recommendations about reducing water on gardens. At home we will reuse water from the laundry. Water used to rinse clothes were collected in buckets and then used to flush toilets. reduced the time taken to shower or just washcloth."

A conservation ethic

Participants shared that for many immigrants, conserving water was just a way of life, and that ethic has travelled with them to Calgary. Some evidence of this includes an 80-year-old woman who has a leaky tap in her house and captures that water with a bucket to use for drinking water. Another still washes her vegetables in the wet grass after it rains. Many others shared that they typically fill a bucket of water for bathing, and they are used to measuring their water use. Another participant shared what they currently do at home to save water:

"We use to have a bucket full of water to take a bath, thereby saving time and water in between soap and cleaning. while brushing a lort of water is wasted. Keep a mug beside you to do teeth. Try to save water in bucket while waiting for water to come at a required warm/hot level. dishwasher be used instead of direct cleaning to save water. open flow water to be minimal flow at all times. Storage of rainwater"

Many others know that watering in the heat of the day not only is bad for the plants but is very inefficient.

"you water less or water during non peek time. I always try to water at night when its cooler"

Action Dignity staff also shared their observations about who had a higher conservation ethic versus others. They shared that age and level of education influence their awareness of drought and climate change. For older immigrants, knowledge is from a lived experience of drought and change, and those with higher education have been taught the information. They noted that younger immigrants were a bit more careless about water conservation, as they may lack the direct experience of their parent and grandparents and have grown up with the norms of Western society. Females tend to be more open to learning more about drought in Calgary, and Action Dignity staff mentioned that women over age 30 shared worries about their kid's future.

The language of drought

A few Action Dignity staff mentioned that low-income participants were very surprised about the idea of drought in Calgary and some hadn't even heard of the word drought. Throughout the conversation, it was clear these participants understood the concept and conditions of drought, but the word "drought" itself was meaningless. Unsurprisingly, many cultures and languages have their own words to describe the condition of drought as some places are just dry all the time (their normal experience), and others have a distinct dry season.



Water conservation and religion

Another interesting finding from these focus groups and interviews was the intersection of water conservation and religion. A few Action Dignity staff shared that in Hindu scripture, it's written that water should be valued, and many do this out of duty and fear of God. The medicinal qualities of water are mentioned, and it is referred to as the elixir of life. Similarly, Islam scripture states that water wastage is not acceptable, and people are advised to use it in moderation and to consider the needs of future generations.

Question: Lived experience of drought is very valuable. How can The City work with you and your community to learn from you and encourage you to be a leader in your community when it comes to drought?

This section of the discussions produced fruitful feedback from Action Dignity participants and highlighted their enthusiasm and interest to support drought work. Based on the question, it is unsurprising that the two main themes from this question were:

Community is key

This theme highlights the meaning of community for many immigrants and newcomers, includes their cultural community, as well as the geographical one in which they live.

- *community conversation circle group*
- *to lead a community presentation on this drought management through community conversation circle and town hall meetings*
- *developing peer support groups that will meet monthly and pull ideas together*
- *collaborate with community associations*
- *provide people has good experiences of drought to teacher every community member*

Let us help lead the way

Participants were clear in their desire to share their knowledge and to be leaders when it comes to water conservation and drought action. They recognize their lived experience and conservation ethic as an important asset to The City and their community.

- *communicate with me, get other people with similar experiences to share information*
- *people who have been hired through this experience can contribute a lot by sharing this experience with others*
- *I have shared my experience living in a desert, for me, I could help if asked to*
- *God forbid if there will be such situation certainly I will come forward to help people. I will use every bit of reach to help people for bringing awareness and meeting the challenge.*
- *We are family heads. We can do all of our influences in our respective households and communities to make the new water budgeting a success.*



- *I am an elder and have seen many ups and downs in my life. I can share my knowledge if needed*
- *I have a large drought tolerant garden that is an example. I share my plants and garden knowledge with neighbours*

Partner with our community leaders

Participants recognize the influence of community leaders to help support dissemination of information and education.

- *talk to community leaders from drought impacted countries of origin ie. Sudan, Kenya, East Africa*
- *City can engage key community leaders from different communities to educate others about this.*
- *We strongly expect the implementation of safe and economical water utilization by attracting religions and community leaders and important professionals to impart basic drought resilience education.*

Keep the conversation going

Many participants comment on really enjoying being part of the engagement. Furthering these discussions and future engagements with their communities was also a clear theme.

- *surveys, advocacy, awareness*
- *Have a platform so everyone can give feedbacks*
- *these surveys definitely help to get an outlook on these issues*
- *consultation*

Considerations and recommendations

While respondents on the portal and Fair Entry were not directly asked to share what action they were required to take during their experience of drought, the lived experience of immigrants and newcomers illustrate severity of drought and the immense impact it had on their day to day lives, their quality of life and their wellbeing. Interestingly, the level of impact illustrated in Figures 7 and 8 do not show that much of a difference.

This could be explained by the fact that perceived level of personal impact is all relative. Immigrants who have experienced severe drought may rate that experience as slightly lower, because those conditions may be viewed as more “normal”. These individuals may rate the personal impact of drought in Calgary as minimal, compared to what they have experienced before. Born and raised Calgarians may rate their experience of drought as high, but it is within the context of drought here, which historically has been significantly less critical than in other countries.

This poses challenges and opportunities when considering the immigrant and newcomer population in Calgary. The challenge is that it may take even more effort to educate immigrants and newcomers and to even *convince* them about drought risk and the possible impacts when it potentially will be perceived as a



non-issue compared to their previous drought experiences. Additionally, some may consider actions that they used back home to be appropriate to use here and highlights a need for increased watershed and water service education. As one participant said, *"like back home, all households should dig a well."*

However, once the context of drought in Calgary is understood, newcomers and immigrant respondents have a conservation ethic and lived experience that is an asset and makes them well positioned to be leaders and educators for others in the community. Many participants shared a high willingness to participate and to be involved in supporting awareness, and others want to learn more so they can in turn teach and lead others. Many participants showed ownership of the topic due to their lived experience and felt highly invested after the engagement. It is expected that further conversation and engagement with diverse communities will trigger the same stimulus to be a leader.

In engagement we tend to see language differences as a barrier that need to be overcome in various ways. This was a key reason for partnering with Action Dignity to support this engagement. Continuing to partner with community organizations to reach immigrants and newcomers will help The City to create inclusive and equitable strategies, communication, and services. A richness of information is uncovered when Calgarians feel at ease to participate in discussions in their first language and with members of their community.

When it comes to the Drought Resilience Plan, appropriate "drought" language will be an important bridge to connect with newcomer and immigrant populations. Similarly, there is an opportunity to leverage the duty to conserve water outlined in religious scripture and develop partnerships with places of worship, churches, and religious leaders to share appropriate information and aid in education.

Educating school-aged children is a common suggested avenue for promoting environmentally conscious behaviours, where it is expected that children will go home and teach their families. From a cultural perspective with many newcomers and immigrants, it is typically the older generations passing down their conservation ethic to younger family members. While there is always a benefit to educating youth on these topics, heavily relaying on this method to reach immigrant individuals ignores the valuable leadership, lived experience and knowledge of older family members.

Topic area #3- Your yard and watering

Public respondents

Question 3: I, (or someone else in my household) is responsible for maintaining green space, a yard, or a garden?

Figure 9 illustrates responses from the public portal and Fair Entry responses.

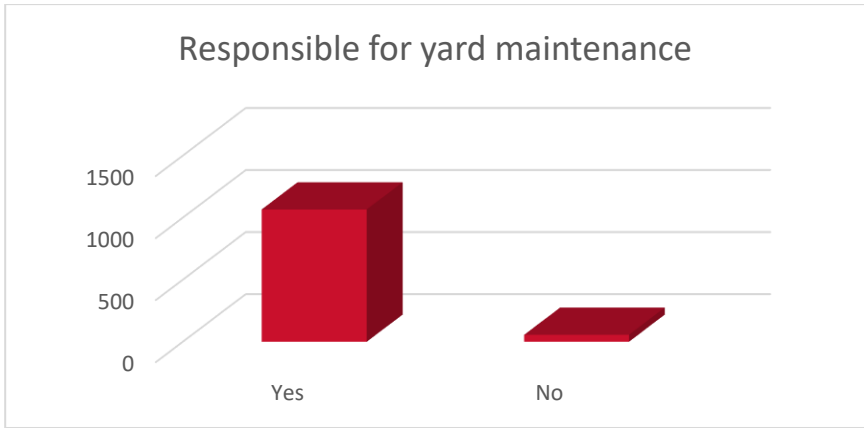


Figure 9- Responsible for yard maintenance

Question 4: Which description best fits how you would respond if Calgary experienced an extended hot and dry period, and The City asked/required you to reduce your outdoor watering? Select the description that applies to you most.

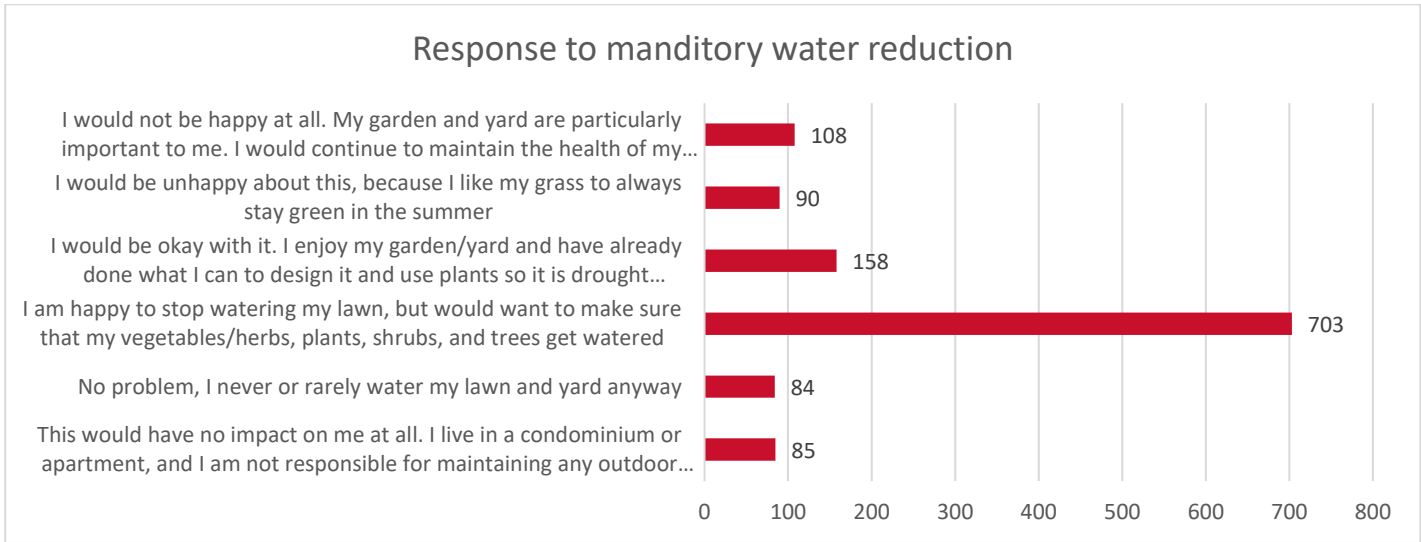


Figure 10- Response to mandatory water reduction

Figure 10 outlines what we heard from the public, Fair Entry paper questionnaires and Action Dignity interview participants. This graph clearly outlines respondents are for the most part happy to reduce lawn watering, but they would not want to see their plants, shrubs, veggie gardens and trees impacted.

Fair Entry and Action Dignity respondents were given an opportunity to explain in their own words how they would be impacted by a mandatory reduction of water use. There were a few common themes shared by people who stated they would not be happy about these requirements.

Themes from unhappy/ highly impacted respondents

Entitled to water my garden

- *only a couple of months to enjoy my back yard annually so water is the main reason to give life to my plants, trees and grass that beautify my front and back yard*
- *Having a large green yard in a community that lacks greenery and trees, we would like to keep the amount of water allotted to my yard*
- *This does not make any sense, we water our grass only July and August. It will cost more if we lose grass and later had to replant them*
- *I have trees and green areas to water, they require water to maintain the landscape of the neighbourhood*

Detriment to environmental benefits

- *greenspace will be reduced leading to lack of oxygen and reducing % of rain and good quality air*
- *We need more natural green areas. Winter is too long and we need to maintain them in the summer. They contribute and purify the oxygen*
- *We don't have much green areas like Vancouver. It is important to preserve our landscape because they have the purpose to give us shade and keep us cool*
- *this will impact the whole life system, plants and trees will gradually die*

Impact to valuable family time

- *with small children on hot days in the summer we have a pool or sprinkler days. We also try to make small gardens of veggies and fruits.*
- *fun activity would be reduced, bonding time with family would also be affected*

Impact to personal well-being

- *The way that reducing outdoor watering would greatly impact me and family would be very negatively as the temperature rises during the summer and using water helps reduce the risk of heat exhaustion*
- *One of my hobbies is gardening, my plants will not have enough water*

Question 5a: What would motivate you to reduce your outdoor water use during times of drought? Select all that apply.

Figure 11 includes responses from the public portal, Fair Entry paper questionnaires and Action Dignity.

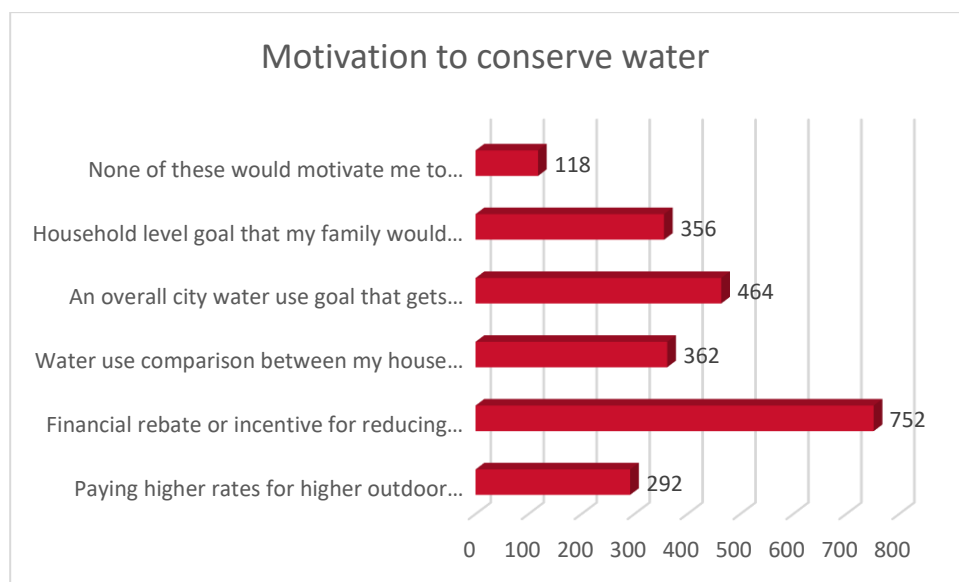


Figure 11- Motivation to conserve water

Question 5b: Other?

Respondents were also given an opportunity to share other things that might motivate them to reduce their water use during times of drought.

Themes from public respondents

Participants shared many ways to motivate them to reduce water. This first section of themes appeared in the feedback the most. In order of most to least mentioned, the themes are:

Incentives, rebates, and subsidies

This was the most mentioned theme about motivation to reduce water use. Participants shared interest in getting financial support to complete their plans for a drought tolerant front yard. Others were specific about rebates, incentives and subsidies for rain barrels and irrigation tools, and rewarding people who stay within a certain amount of water use.

- *We have a plan to xerispace our entire front yard but have only done have of it because it is expensive and time consuming. We would love an incentive to be able to complete the other half of our yard aside from just being good people.*

- *We wish we didn't have to water our grass because we feel it is a waste, but the cost to replace it with anything you can possibly imagine (artificial turf, graduated steps, rock beds or any form of landscaping) is so atrociously expensive that we would go broke. Last two quotes were almost 10,000\$. So we continue to water*
- *An incentive or rebate to install an inground sprinkler system with timer. This would result in less water wastage by being able to water during early morning hours as well as directing water to areas that require it without overspray to sidewalk or running down the street.*
- *Pay more, get rebates when use less than avg*
- *Financial rebate for staying within water use targets*
- *Financial rebate or incentive for water wise landscaping as well as having rain barrels.*

Education, public perception, and behaviour

This theme is broken into a few different education categories and how respondents believe behaviour of water use could change.

Calgary's water

Many respondents want to know more about Calgary's water supply both in context of drought condition and in comparison, with other cities. Many want to better understand the impact of usage and how their actions will contribute.

- *Communicate how real this problem is here in calgary. I don't believe we have the same extreme problems other cities have*
- *How about current drought conditions*
- *Understanding the impact of my water use and why I need to reduce. That my actions would actually help.*
- *Clear information on capacity and usage vs needs*
- *An information/advertising campaign about the real consequence of water wastage and climate change. Because Calgary has two large rivers people think they can use water with impunity.*
- *Yearly or seasonal updates about anticipated conditions, city concerns, and potential local impacts of such events*
- *Clear communication about problems city is having with meeting water demand; this is invisible to public but should be made known. We should all take responsibility for using water wisely. Also, distribute lower cost rain barrels.*
- *Calgary water use comparison to other cities.*

Break up with green grass

This theme was from respondents who think the societal norm of having green grass needs to end as well as the social pressure to "keep up with the Jones".

- *Campaigns that nudge society towards losing the ideal of a perfect green yard, which ultimately is arbitrary but not many people want that one dead yard if their neighbors have the nice yard..*
- *One barrier is being the only one not watering your lawn on the block or culdesac. It looks bad if you are the only yellow/brown lawn. Need to change the overall public perception that its OK to not water lawns as much.*
- *I support restrictions, like those which would change the behaviours of my neighbour who waters a large yard (and the street) almost every day and cuts his grass super-short requiring more water. No financial incentive of penalty will work for wasteful people. Lots of education should be given to people of all socio-economic levels, kids, etc.*
- *Regulation. Marketing in favor of brown lawns so it's portrayed as a positive neighborly thing to do instead of being a slacker. This was successfully done in Victoria*
- *Encourage native plants and grasses and wildflowers including dandelions instead of immaculate green lawns. Provide incentives for having such landscapes, develop a program to change the culture behind lawns.*

Communication

These respondents shared their expectations about promotion and communication, and some reflected on if this approach alone is enough motivation for people would be to act.

- *Just simple messaging, letting citizens know about reducing water use and my moral incentive to do so.*
- *Perhaps an awareness campaign is all we need. Why does the city need to intervene when they haven't just asked Calgarians to do tge right thing.*
- *Explaining importance of water through documentary in schools, workplace, etc*
- *Being clearly asked to do so, that I can't miss - ads on buses, bus stops, etc. Also, being allowed/encouraged to have something smarter than grass on my lawn - for example currently planting clovers there might cause frowns from neighbours.*

Promote drought tolerant plants

- *The City should promote xeriscaping and planting native grass/tree/plant species through an information campaign to incentivize people. Market it as being both drought resistant, and making our area more ecologically healthy/diverse.*
- *water reduction education on types of plants, especially food producing plants*
- *More publicity & education on xeriscaping.*
- *Suggest the City helping households to replace lawn's with native plants or other if not using those spaces for gardening to produce fruits and vegetables and flowers or srubs for protection and or privacy.*
- *educational information is the key to get as many people as the City can onboard with reducing water usage. Lawns should be a thing of the past; make use of the space for vegetable gardens or use drought tolerate landscaping.*

Free rain barrels

Many respondents think The City should provide free rain barrels and believe this tool would help them during times of drought.

- *City to provide rain barrel like like compost and garbage bin*
- *If the city provided free rain barrels which allowed households better prepare for drought, I would feel more motivated to reduce using city water for my gardens.*
- *I have been wanting to have a rain barrel so that I can store water but they are expensive. If I was provided a rain barrel, I would be able to use less water from the hose.*
- *Provide homeowners with water barrels and instructions on how to install plus how to make your lawn drought friendly. Carrots not sticks. Financial incentives are good but only if the process is simple, well known and reliable.*
- *rain barrels from the city to collect rain water.*

Corporate responsibility and fairness

This theme includes ideas about water reduction requirements being fairly applied to corporations and industry, and for some, having them act before individual households are asked to act.

- *When corporations are held to the same standard as citizens. Nice green golf courses while we can't adequately grow our own food gardens. Cucumbers don't do water rotations.. as with many vegetables.*
- *I would like to see large complexes ie Shopping venues cut back their water usage, have often seen irrigation system running after rainstorm or watering sidewalks. They should be required to do more landscaping that doesn't require as much watering or use drip systems.*
- *Knowing that industries that use high volumes of water (fresh) were asked to significantly decrease their water usage before the burden is placed on individual homes and private citizens*
- *Stricter Corporate and industry water reduction laws*
- *Knowing that I am not the only one making these changes. It would bother me to see automatic sprinkles (commercial or private) watering while I am being resitricted.*
- *I would be motivated to follow the lead of both public and private golf courses and other similar facilities. If they are allowed to continue watering so should I. If their water usage is curtailed, I would be fine with curtailing mine. I would also be fine curtailing my water usage if cleaning of sidewalks and driveways by residential and commercial is absolutely prohibited and failure to comply carries a significant penalty and fine.*

Already conserving water

Many participants believe they are already doing what they can to reduce outdoor water use and don't think they can reduce their water use further, nor would any of the suggested options motivate them further.

- *I use 3 rain barrels, NEVER EVER water my lawn, and do what I can to reduce my outdoor use of City water.*
- *I do try to very much limit outdoor watering. A financial incentive would be great, but def not necessary for me*
- *I already minimize water use all the time, my household use is low.*
- *I have a hardscaped yard with two raised vegetable garden beds. The beds are watered on a timer using drip irrigation so there is literally nothing that would motivate to reduce my water usage during times of drought.*
- *We don't use much water outdoors so it is hard to say as we would likely be under most thresholds for outdoor use.*

Service charges kill motivation

This theme contains sentiments of frustration about the cost of the water service charges being too high and reducing motivation to conserve water at all.

- *Most of my cost for water is the fixed cost, I use about 3 cubic metres a month so the quantity is irrelevant.*
- *Reduction in bs wastewater charge that doesn't reflect actual usage at all. I barely water my lawn and it stays green mostly. But when there is long dry spells I water the trees.*
- *The only way to get people to conserve water is to reduce distribution costs and charge for the actual WATER usage!!! Those in condos are the least affected currently and the worst offenders!*
- *the City is already charging me a very high rate for the water use*

Seeing The City leading by example

Many respondents want to see The City taking the same action as Calgarians would be asked to take, including watering, plant choices and maintenance. A few respondents also shared their frustration with the expectation to maintain City trees and the cost to do so on their property.

- *Seeing proof that corporations and the city of Calgary facilities etc were using less water before the onus is passed to the individual by increasing already out of control living costs.*
- *Seeing City ops reduce water use - includes by not mowing dried out public lawns in August*
- *Seeing the City also implement water wise strategies as in keeping grass longer, not using herbicides (every plant counts and no rain means it doesn't get washed away) xeriscaping*
- *Calgary Parks leading by example. Reduced turf watering, cover crops so soil for annual flowers isn't left vacant, right tree at right locations in parks, open discussion on what the city is doing. How many native/xeriscape plants planted and maintained vs annual and exotic water-intensive. Why cut down plants in the fall in city parks? Isn't that against the biodiversity strategy. Everyone needs to play a role. Ensure rain gardens are upkept not planted and forgotten.*



City trees

There was a distinct niche of sentiments from those who have a City-owned tree on their property and feel frustrated that they are required to water it, considering possible water reduction strategies and restrictions.

- *permission to remove city trees on my property that need excessive watering*
- *We live in a high and dry sw facing corner lot, that is mostly garden and very large city & fruit trees with a tiny bungalow. In our densified neighborhood, the green space and ecological benefits our yard provides is essential not just for our own food, but also shared food garden beds, provider of fresh air and habitat for many pollinators and birds as well. We would like to see yyc drastically reduce water treatment/waste water rates in summer as our yard retains all the city water used. Also happy to have support from city through free or discounted access to rainwater catchment, supporting construction of swales, and also to capture road runoff through gutter/sidewalk cutouts that allow runoff to charge groundwater for trees and food yards, and also change bylaws around use of grey water. It's ironic that the city wants residents to cut water usage when it allows so much natural and grey water to literally go down the drains and not be put to use.*

Enforcement and fines

Motivation for many respondents would come from seeing that enforcement and fines would be given for those who are not following a watering schedule and restrictions or are blatantly wasting water.

- *Spent 2 years restricted to 200 litres of water per household per day. Strict monitoring by City and fines for non compliance.*
- *Fines for over watering, setting watering times*
- *Fines if we watered when asked not to*
- *When private residences, commercial space, businesses, city parks are fined for using their automatic water sprinklers during rain storms.*
- *Seeing enforcement on water restrictions*
- *Water restrictions with a fine if people are found to be watering when not allowed to*

Bylaws and building Codes

Some respondents talked about bylaws, rules and building code that create red tape to Calgarians implementing water reducing landscape options.

- *Stop mandating sod be used when making new developments and have lawns of native grasses or xeriscaping*
- *The city needs to change the building code and mandate grey water systems from showers and bath tubs. This water is what should be used to water our grass and gardens.*
- *Allowing households to freely replace their lawns with Indigenous plants and grasses. I was appalled when I was told I couldn't do this unless I made the plantings in a "garden bed"*



- *Adjust the land use bylaw to permit the growth of native grasses and plants that exceed 15cm, not just within gardens.*

Support food growers

Some respondents share concerns that people who grow food would be penalized and feel that water used for growing food should be exempt.

- *I would want to hear about why the city was asking me to reduce my outdoor water; especially since groceries have gotten so expensive, we are growing more of our own food in our backyard, and we need to be able to water it (or provide grocery subsidies for families to purchase fruits and veggies!)*
- *Restricting when outdoor watering can be done. exceptions should be made for people growing food.*
- *I don't care about beauty areas, but I have no desire to lower watering my vegetables below the bare minimum required.*

It's the right thing to do

There are always people who are motivated by altruism and see the benefit of their actions contributing to the greater good and the benefits to their community.

- *I do not need motivation other than helping my community and the world. We all need to be a part of fixing climate change and this is one piece we can easily do.*
- *I would just do it if we needed it collectively. There doesn't need to be an incentive or disincentive, it would just be about the common good.*
- *I am motivated to reduce my water consumption for the greater good. Just tell me the plan and I'll do it. This is way overdue in my opinion.*
- *I would not need to be motivated to reduce my water use in a time of drought. I would do what's necessary (this should be an option in this survey).*

Residential grey water

Many respondents would like to see residential grey water systems become the norm so they could reduce their use of potable water on their yard.

- *Grey water system to reduce drinking water use. Reducing lawn coverage on property.*
- *Low tech greywater solutions, easy to install large scale rainwater capture systems. I have 2 kids and a large edible food garden - these have priority for me.*
- *Introduction of grey water for residential homes, rain barrel reserves installed in community gardens, water storage ponds*

Additional themes mentioned in lower numbers

There were many themes that emerged from this question, but many were mentioned in much lower numbers than the themes above.

- **Increase availability/ affordability of drought tolerant plants**
- **Target new development/ get it right from the start**
- **Water restrictions**
- **Learn from other municipalities**
- **Desire for large water storage on personal property**
- **Awareness of global water shortage and value of water**
- **Make it easy**
- **Replacing dead grass is too expensive, so I will water it**
- **Religious obligation to conserve**
- **Having a program for condos and apartment properties**

Unsupportive of water reduction strategies

There are some respondents who do not support the ideas presented in this question and for some, water conservation in general. General sentiments here include criticism about taxes, interference, and a feeling of entitlement to water..

- *stop interfering with peoples lives. You guys already try to fight in Quebec. Stop being a bunch of communist. We pay enough.*
- *I have little to no trust that the city would not abuse any financial disincentives. Council has shown it wants to increase taxes wherever possible*
- *the present system of pay as you go is doing fine*
- *If the City tried to force water use rules on citizens, and even worse - sets up snitch phone lines for neighbours to call, I would be inclined to disobey the rules out of principle. Not everything should be addressed with a hammer. A collaborative and informative approach is best, not policies and create division, particularly among neighbours.*
- *if my grass and plants need water, I will water them anyway*

Misunderstanding about water use

This theme includes comments that illustrate misunderstanding about water use in our city and a lack of understanding about why outdoor water use in the summer would be so important.

- *we only use outdoor water end of june to September*
- *Those in condos are the least affected currently and the worst offenders!*
- *City enforced reduction in animal agriculture to stop the main source of water waste*

- *I don't want to pay more for water consumption. It is already high and expensive. People who live in condos waste more water taking long hours in the shower. That water could be wisely used. The City is assuming that people who live in houses water outdoor more. I'm mindful of my water consumption but I still pay high rates. The city should focus in better and efficient ways to spend their money. The City is always looking for excuses on how to take more money from residents. The City doesn't care about the environment, it is only about money. First more taxes, now more restrictions. We are living in an inflation, in times of inflation is a bad strategy to raise bill costs. Gas, utilities and food are very expensive and now the City wants to make the outdoor water more expensive/less affordable.*

Unique ideas

The following section includes a few suggestions for unique ways to encourage homeowner and neighbourhood participation to achieve the goal of outdoor water use reduction.

- *A city program that offers education on drought resistant plants that are native to the area. If the city offered a **free yard plant** that fit this criteria I gaurantee a ton of gardeners from around the city would be interested. It would be a good campaign to bring awareness to the issue.*
- *Money talks but instead of higher fees, what about an **annual contest**. Which neighbourhood can change the most, with significant cash (rebate) prizes. Check out what India did. <https://youtu.be/8nqnOcoLqE>*
- *Subsidized plants that are drought resistant. **Neighborhood level competitions** for best drought-resistant yards. It is critical that ALL new homes are required by the developers to only put in drought resistant grasses like fescue.*
- *Fines for watering during restricted times, **remove dump fees for sod** to encourage homeowners to xeriscape.*

Business respondents

Question: How does your business manage irrigation? Select which one applies.

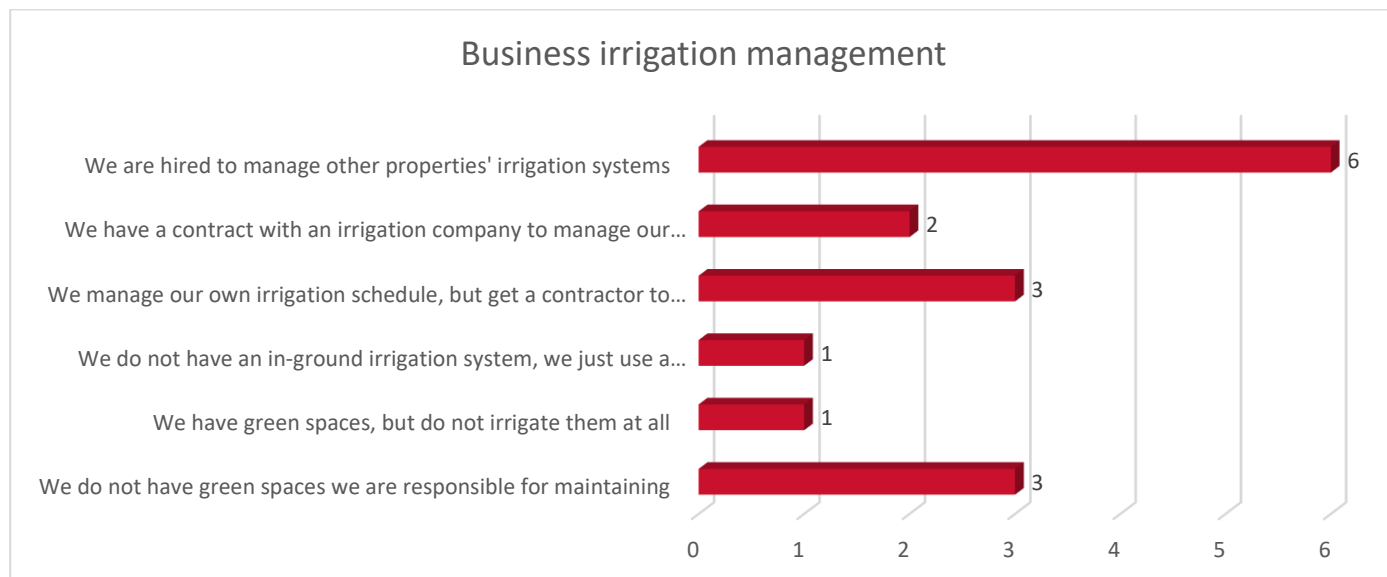


Figure 12- Business irrigation management

Some respondents shared their own description of how their business manages irrigation or their role in irrigation management for others.

- *We do not have water onsite so we pull from the hydrant using a water meter we rent from the city*
- *We are hired to educate and consult on rainwater harvesting design and implementation.*
- *Intelligent irrigation strategies including weather-forecast-based irrigation controllers.*
- *design irrigation system and park spaces*
- *Commercial Irrigation contractor*
- *We have our own irrigaiton system and manage it and maintenance ourselves. Anything to big, repairs, we get in contractor to help.*
- *We have an in-house Irrigation Technician that manages our Priority 1 Irrigated Sports Fields*

Considerations and recommendations

Maintaining green space for personal and environmental benefit, the right to have a nice yard, family time and well-being are important personal values that are more likely to supersede a request by The City to reduce water use or comply with a mandatory water restriction. Similarly, the reason given by respondents about what will motivate them also point to personal values that need to be closely considered when implementing restrictions.

The influence of others, especially of those who an individual identifies with, is a powerful motivator proven by many behavioural science studies. A respondent familiar with this concept said:

“People won't self report that their neighbours' actions motivate them but behavioral science shows that it's strong.”

This can be seen in comments from people about feeling bad that they have the one house on the block with a brown lawn. Leveraging this concept and recognizing human beings innate need to fit in with others, could help flip this scenario to the one person with a super green lush lawn during drought conditions, being the one who feels bad or guilty and singled out.

Another very common sentiment from respondents was that having a rain barrel, especially a free one provided by The City, would be the tool that would motivate them to reduce potable water use during drought conditions. While rain barrels are certainly part of effective water conservation practice throughout a normal summer, their benefit will be limited during consecutive months with no rain to fill them up. These connections need to be made for Calgarians to move past the idea that rain barrels are the best or only solution to achieve outdoor water conservation. “How” we water is one side of the equation, but “what” we need to water is arguably more important.

Continued education is required. Most Calgarians will benefit from learning more about Calgary's water source and supply, our treatment capacity and water use in the summer. While understanding the risk of drought in Calgary is very important, understanding the limitations and challenges that Calgary will face during drought conditions will really help to illustrate a strong “why”. Similarly, education highlighting water use broken down by residential, industry and municipal use, as well as comparison to other city's will help Calgarians to better understand the context of why residents would be asked to reduce their outdoor water use, and that the responsibility cannot solely lie with business and industry.

For businesses, Figure 12 illustrates there is opportunity to increase education about efficient watering with companies who irrigate themselves, and an opportunity to work with the irrigation and landscaping industry to ensure that businesses and Calgarians are getting the information and support they need to be water efficient with their irrigation behaviour.

Topic area #4- Outdoor watering schedules

Public respondents

At a variety of in-person events, engagement focused on respondents' ideas and perception about the concept of outdoor watering schedules. This strategy is used widely by drought prone cities including many of our regional neighbours like Okotoks and Airdrie. Pictures of the boards used at in-person events are in Appendix D. The question we asked on the portal survey, in addition to these boards was:

Question 6: To what extent do you support The City implementing an outdoor watering schedule as part of the Drought Resilience Plan?

Figure 13 illustrates the combined feedback from the public portal and Fair Entry respondents, Figures 14 and 15 illustrate support from respondents at the library and parks, and Figure 16 illustrates a combined total of all respondents.

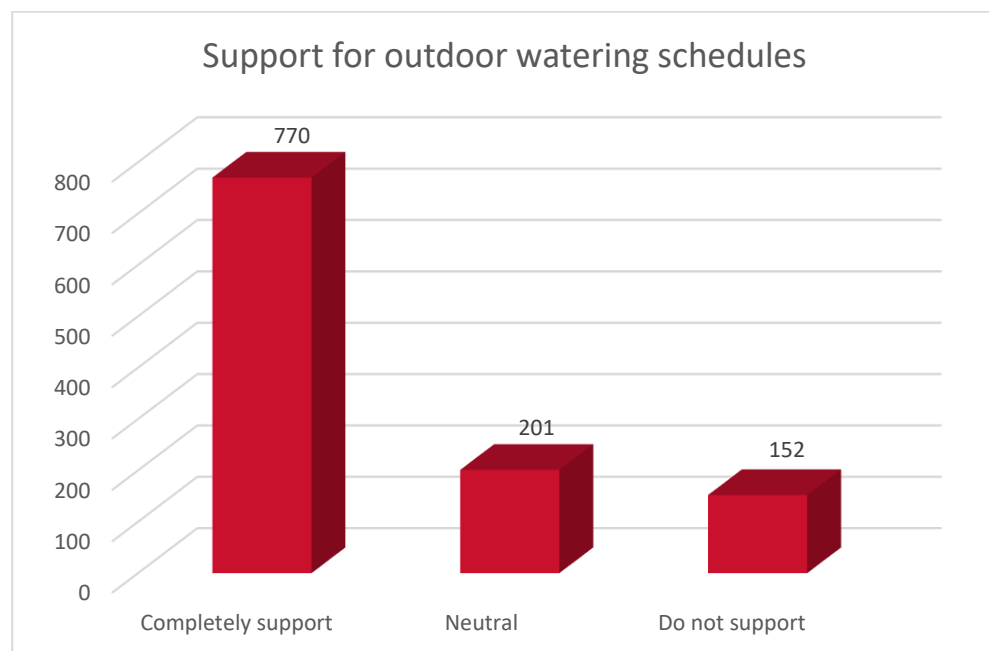


Figure 13- Online and Fair Entry support for outdoor watering schedules

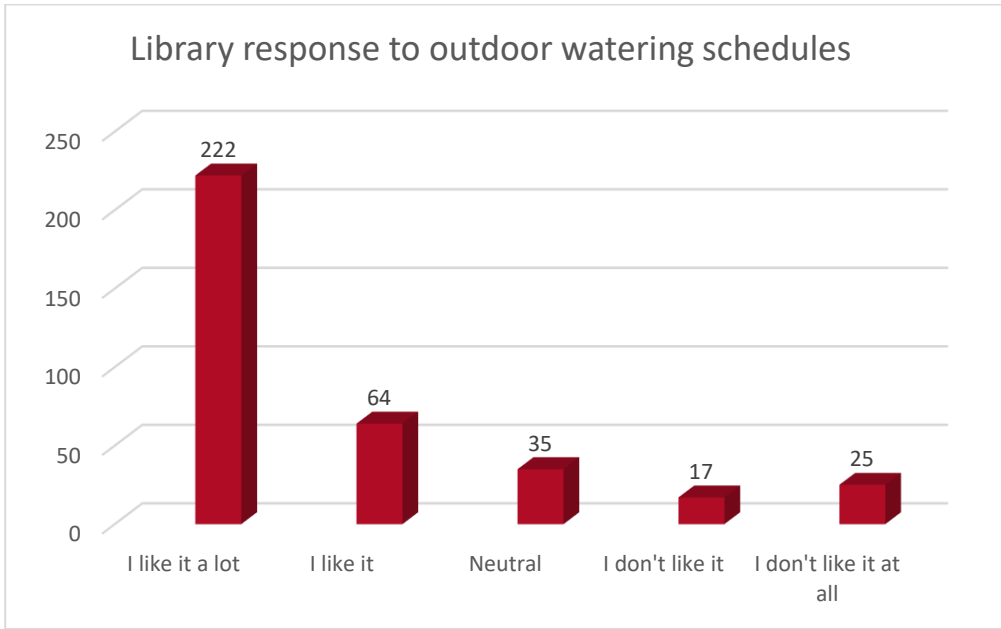


Figure 14- Library support for outdoor watering schedule

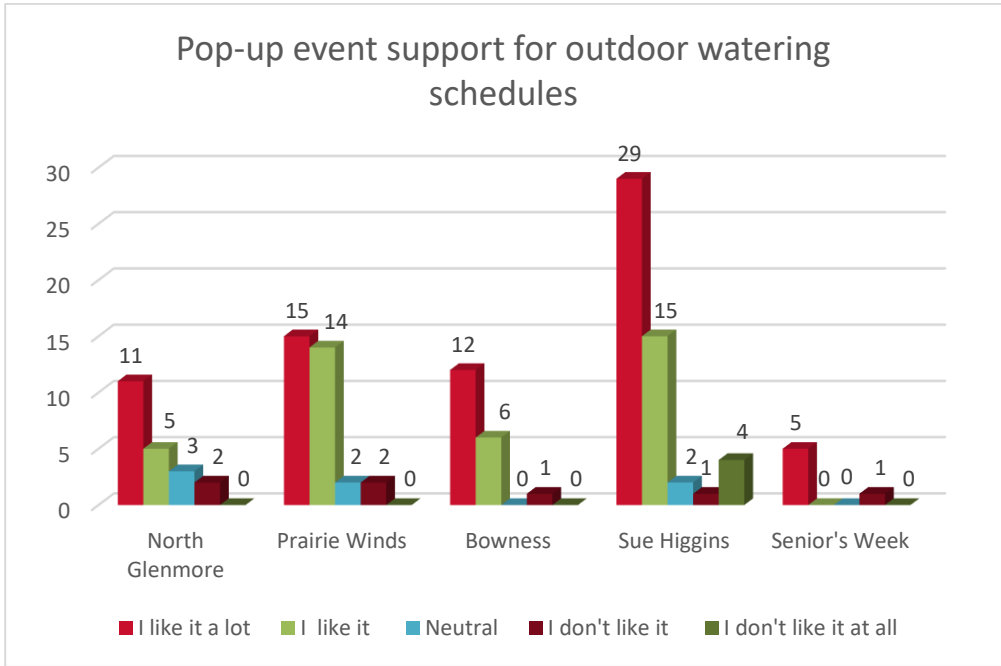


Figure 15- Pop-up event support for watering schedules

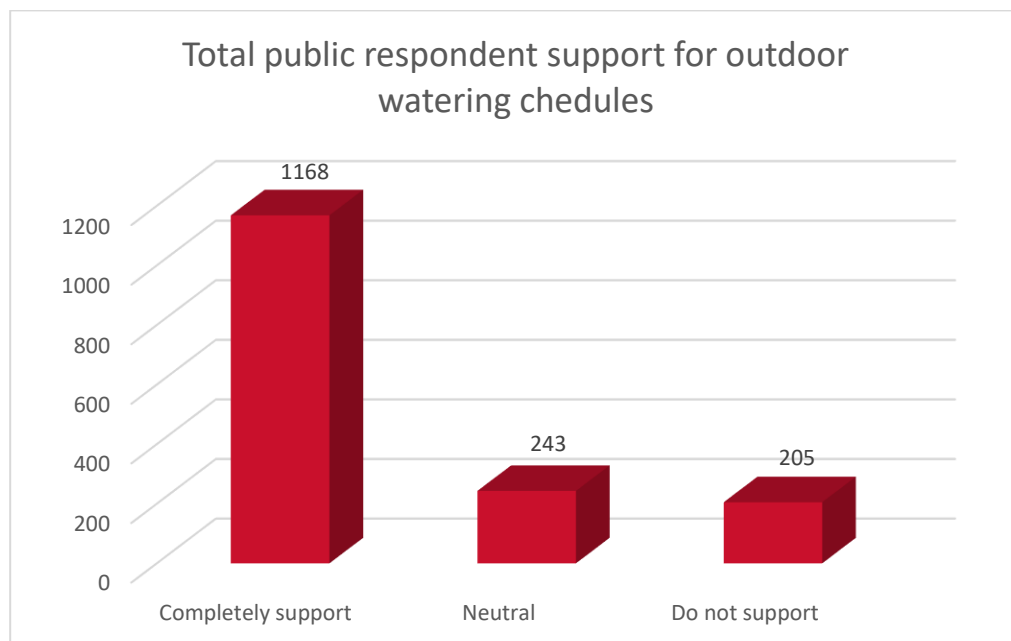


Figure 16- Total public respondent support for outdoor watering schedules

Question 7: Please share your thoughts about The City pursuing an outdoor watering schedule. For example: What do you like? What do you not like? Do you have any concerns The City should take into consideration when developing this idea?

The following themes include feedback from the public portal, Fair Entry and Action Dignity.

Feedback from this question produced a very large number of unique themes, especially from those who support this concept. The following section is listed in order of themes shared by all level of supporters, those who do support it and also feel neutral, and finally those who do not support the concept of outdoor watering schedules. In each section, themes are listed in order of most to least mentioned.

Themes from respondents of all levels of support

Watering schedule and personal schedules incompatible

Many respondents shared a concern about the proposed schedule not working with their own or others schedule. Shift workers and those who work away for periods of time were mentioned frequently.

- *This is easy for people with irrigation, but seems like a classist policy, as shift workers and those without fancy irrigation systems will need to reschedule their lives or not water.*
- *Everyone has a different schedule and may be away some days or working, it would be difficult to follow for some.*

- *Some flexibility would be nice. I love the proposed schedule but if I'm busy both of my days I still hope to be able to water that week if I feel like I need to (i.e. Calgary is experiencing high temps).*
- *This will be a challenge for folks that do not work a typical 9-5 job such as health care workers. My partner works shifts that are from 5pm to 8am so if he works that night while I'm out of town we lose a day of watering.*

City service not acceptable/ needs to lead by example

Many respondents point to The City to lead by example by changing its own watering practices, building more water storage capacity, removing bylaws that are counter to effective drought planning on private property and reducing development.

- *The City has to lead by example. E.g. Sprinklers recently installed in Riley Park are doing a great job of watering the asphalt pathways on a daily basis.*
- *If the residents are required to follow it, businesses and the city should too. I think of times I have driven past sprinkler systems that are on during a downpour. I know they are scheduled, but if citizens abide by the schedule, EVERYONE should.*
- *There is a lot of run off from the mountains. We have lots of water. Learn how to utilize it.*
- *There are some significant changes that can be made for homeowners. Grass is the worst option, but getting fined for having front yard vegetable gardens, raised gardens, and container gardening is counter to drought planning. These options would significantly reduce run-off and wasted water use as well as support families in taking initiatives to reduce their summer food bills. We want options.*
- *1. Lead by example. There is City water overflow in my back alley (perhaps a leak) supported by blue hoses from fire hydrant, they say will continue at least 10 weeks, just pouring down the drain. Why? 2. One person may not do outdoor watering but takes a long shower every single day or flushes toilet with every pee etc. Indoor water use + outdoor water use = total water use. Measure that.*
- *Stop allowing for more communities to be developed. It's disgusting*

Hard to enforce and people may not follow

Regardless of the level of support respondents shared, many respondents thought it would be very hard to enforce and are sceptical that people will follow. This included complaints about The City's current ability to enforce existing bylaws.

- *I am concerned about enforcement....some of my neighbours seem oblivious to environment.*
- *I like that it allows some watering but has limits for everyone. I think it will be hard to enforce without neighbours reporting each other.*
- *I have a lot of doubts about how many Calgarians would comply with these rules unless they were enforced somehow*
- *As usual any schedule or restrictions only seem to apply to those willing to follow. This may not be the best approach but I guess it's something.*

- *I don't believe that people will follow these schedules. People who want to water their grass will always claim that it is new grass and our already over-worked bylaw officers will never respond to complaints from neighbours. What is the point?*
- *How would this ever be enforced? The city barely enforces their current laws & bylaws. You'll have good Samaritans of course but once people see they don't have to follow that they won't abide from the handful that respects the bylaws*

I'm already doing this

Many respondents shared they already follow many of the practices highlighted in the example schedule given, and as a result they felt that a city-wide watering schedule would not impact them negatively.

- *As long as I can water my garden (herbs plants and trees) I am ok to forgo the grass. I already use timers to water in cooler times of the day- this should also be considered and mandated*
- *I'm ok with the schedule because I always water my vegetables garden and my grass by hoses with spray nozzles, I think the use of water is less, plus I know that water is distributed evenly. (sometimes people turn the sprinklers on and go inside the house and forget about it. (run for too long unnecessary*
- *I would support a watering schedule for the use of sprinklers only. I use a hose, and a watering can, to hand water all of my trees, shrubs, and flowers, and I would not want this to be restricted. I rarely water the grass.*
- *Make sense. We water in the evening anyway. Needs to be communicated well so people actually follow it. We have a rain gauge so we monitor rain volume to determine if we need it water. Simple tool makes a great impact on water usage rain barrels are also great*

Industry and business accountability

This theme includes comments that suggest corporations and industry should be asked to reduce their water use before residents.

- *Hold actual polluters and actual high water use businesses accountable first, before trying to spin this as an individual citizen problem.*
- *Strict schedules should be imposed on golf courses and corporate/industrial users of city water, and residents should be given rain barrels and resources/education re: smarter water usage. Placing restrictions on residents without holding industry accountable will only create more indignant anger among an already stressed population.*
- *Implement after you fine private residences, commercial space, business for using their automatic irrigation systems during rain storms... then I will consider my water use.*
- *An outdoor watering schedule is a neat idea, but maybe corporations/businesses/etc should be encouraged to reduce water usage before civilians are.*

Adverse effects

This theme includes comments about unintended consequences such as reduces lawn care and excessive water use on permitted watering days.

- *The schedule is a good idea in theory, but I do not wholly believe in the practicality of it. I understand the importance of water conservation, but sometimes people's schedules just wouldn't allow them to maintain and care for their lawn. Poor lawn maintenance could kill plants, and add undue stress and costs to homeowners. The city should perhaps reduce lawn care in public parks instead.*
- *scarcity triggers paranoids*
- *I don't think it will work. I just think that people will water more on the days that they are allowed to water.*
- *Minimizing days just means I'll increase the time on my sprinklers on days allowed*
- *Would be tough for me as gardener. Water waste management should apply on daily activities such as do not let water flowing all the time during brushing teeth or washing dishes. Those bad habit of wasting clean water must stop. Meanwhile if Calgarians do not take care of their yard/garden, I believe it impacts micro climate and local ecosystem. Green city = better mental health.*

Not enough water

Some respondents were concerned the number of days provided in the example schedule would not be enough for their food garden, maintaining mature trees, and newly planted plants and grass.

- *I don't support it as laid out above. Sprinklers aren't just for lawns, and twice a week isn't enough if we go a month with little to no rain. We have a huge back yard with trees, shrubs, flowers, and vegetables.*
- *Two days a week might be tight, especially if you have new plants that need higher watering frequency when just planted*
- *With a large vegetable and flower garden, it would be difficult to maintain with limited sprinkler use which would then increase my family's costs for food in the summer and fall months*
- *We have a lot of elm trees and they steal water from my garden. If I reduce watering to 2x/week, my garden will die. Add to the 'hoses with nozzles', irrigation systems on timers with mist spray heads (I'm not sure if the exact terminology)*
- *If you're putting in new grass or trying to revive dead grass, you need to water much more than twice a week so this schedule would hinder that.*

Concerns about watering schedule and rain events

Respondents who shared concern about this theme questioned if the schedule would be effective if it didn't take into account recent or forecasted rainfall, possibly resulting in people overwatering.

- *It should adjust each week based on actual rainfall and temperatures*

- *Does not take into consideration recent rainfall. Our irrigation system adjusts based on recent rainfall, not just day of the week.*
- *What if it rains on days when watering is allowed.*
- *I do not like this plan as it does not allow citizens the flexibility to water when and how they want, including around rainfall.*

Complicated and needs clarification

Some respondents posed questions indicating the need for clarity about different types of watering tools and some felt like the example schedule seems complicated and hard to follow.

- *sounds arduous*
- *Sounds complicated and expensive/ difficult to enforce*
- *What are the consequences for not following? How is it regulated? So I just fill my water barrel on my days?*
- *Unclear if a drip irrigation system for hanging plants on a timer would apply? In terms of water consumption, that's more like a spray nozzle, but it's unclear.*
- *Sprinkler system strictly for lawn or does it include fruit trees and shrubs, and herbs gardens?*
- *Would drip irrigation/sprinkler systems be better and have different rules than big pivot style? If someone is running a hose all day with a spray nozzle, how is that better than a sprinkler?*

Negative neighbour relations

Respondents who shared this sentiment were worried about having a neighbour 'snitch' line through 311 and didn't want neighbours to develop negative relations over watering schedules.

- *I think it makes sense but seems like it would cause trouble between neighbors ratting each other out.*
- *I don't think it changes behaviours, we still waste water and many will water unnecessarily on days that are "allowed". I see it creating more arguments between neighbours for not following rules than creating positive change, we shouldn't encourage another means to police our neighbours. Humans respond to positive change not more rules and division.*
- *I have lived somewhere this was used and it created petty fights between neighbours. Also, why would the water system want to force usage extremely high 4 days a week?*
- *Would it be up to the neighbours to 'rat' on our community? That will not work.*

Need proof of benefit

Some respondents shared they would support the concept if drought conditions were clearly defined, and the need and benefit of a watering schedule could be justified with data.

- *Do not implement one of Calgary does not absolutely need one. Will support fully if there is proof that there is a true concern*

- *This survey is designed to produce a pro schedule result, honesty would be appreciated. I would have support for a schedule if it was limited to, and attached, to something measurable such as reservoir level. Not ideology.*
- *We haven't had a drought since 2002. Why are we pursuing a watering schedule?*
- *Would be in favour if there was evidence of drought conditions in Calgary. My quick internet research doesn't indicate there has been in decades.*

Make it voluntary

Some respondents from all levels of support felt that if The City did move forward with the schedule, that it should be voluntary and not mandatory.

- *Education about how & when to water would be a better idea. One of the worst offenders is the city. It's not unusual to see a city truck watering at 2pm on a hot sunny day. I lived in an area in BC where people were assigned days. It was not successful. People's schedules don't always align with their watering days. Teaching people how to water more efficiently is a much better solution.*
- *It is vital that the city does not take a "heavy hand" and force or financially penalize citizens for using a service that they pay (and pay dearly) for every month.*
- *The pre-emptive intervention is why some people are starting to feel like governments are getting too large. If and when we need to reduce water consumption ask the citizens to do so and trust that they care enough about our community to do the right thing.*

Special circumstances and equity concerns

This theme includes perspectives about equity issues for those with medical conditions, seniors and those who work shift work.

- *I don't like having specific days and times because I have a medical condition that I can't control good days and bad days to do anything physical. I'd rather have a time limit. I'd MUCH rather see us replace our lawn with natural native plants so we don't have to waste water on lawn that does nothing for the environment or pollinators. (and uses many chemicals to maintain weed free status)*
- *The hours are too restrictive for seniors. Perhaps before 11 am and after 6 pm would give people more of a chance.*
- *I don't think this solves the issue of over use. In fact, for automated sprinkler systems, how many wealthy people in the city do you think have them? Regulating those who turn their sprinklers on manually, which may be working class individuals who already run a tight ship, is applying pressure to a group of people who already juggle so much. Better off providing water capture vessels for free.*
- *As for even/odd days, those who can afford automated sprinkler systems can simply program their systems and won't end up using less water overall. So, there's an equity issue. Disallowing sprinkler use during the day is a good idea though.*



Additional themes mentioned in lower numbers

The following themes emerged from the feedback from all respondents, albeit in relatively small numbers compared to the themes outlined above.

- **Increase cost for more water use**
- **Schedule only okay during times of drought**
- **Expensive to enforce and to upgrade watering methods**
- **Increase number of trees**

Themes shared by supportive and neutral respondents

General support/ It's the right thing to do

This was the most common theme mentioned amongst all responses. This theme included sentiments of general support for the idea.

- *I think it makes absolute sense to protect our most valuable resource.*
- *I like everything about the model above.*
- *Do it. Now. It's not a bad thing to get us in the habit before it's needed.*
- *I like it as it balances out water usage and people can keep to their limits. I believe it is a fair strategy*

Comments specific to example schedule

Even though the level of support from respondents for a watering schedule is very high and many shared comments about what they liked about the example given, many also suggested ways to make it a more attractive option for them. This section breaks comments from this theme into sub themes.

Appreciation for allowance of hand watering

Many respondents commented that still being about to water by hand is what makes the schedule manageable for them as they can keep their trees, shrubs, flowers, and food gardens alive. Many stated that they didn't care too much about not being able to use a sprinkler for their lawn.

- *I don't mind the program if I am able to use a water can or spray nozzle I can manage. But would not be happy to be cut of*
- *I support it for lawns but think people should be able to water flowers, vegetables, and shrubs as needed so they can survive*
- *I would like the ability to manually hand-water - totally agree about sprinklers for lawns*



More than 2 days a week/ odd and even days preferred

- *In another city, the schedule was determined by address so we could either water on even or odd days. Your example of twice a week is not enough to maintain my garden.*
- *I do support some sort of restriction, but only when necessary, and more than 2 days a week.*
- *No real problem with a schedule. Should use all 7 days of the week not just four. Educate first.*
- *More than 2 days a week would be nice to be able to water in case you miss your day.*

Like the daily watering times, but unsure about set days

- *I like the time of day but picking specific days of the week is problematic because I work 12 hour shifts on the stated days. I would be happy to only do it twice a week if I could pick my days*
- *I do think the city needs to hold citizens accountable because it's sad to watch people waste water down the drains. I support evidence backed limits such as watering early and late because of heat and evaporation, but the days of the week are concerning to me. Peoples work schedule or precipitation forecasts would often clash. I'd rather support bylaws about not over-saturating lawns.*
- *Weekly schedule may not address specific days of the week that are particularly hot. Suggest establishing a quota per household or incentivizing water reductions and penalizing excessive water use. Strongly encourage Calgarians to water in early morning/late evening to minimize impacts of evaporation and promote more sustainable irrigation methods such as drip irrigation.*

Include all watering tools

- *One missing thing would be potentially a separate schedule for drip irrigation for garden beds*
- *I generally follow the above example anyway. I never water my grass and hand water pots, seedlings and new plants in the mornings. I would want to be able to hand water seedlings and my pots daily as they dry out faster. I also have a dripper line in my vegetable beds, which category would that fall under? Also, if hand watering was prohibited, would hand watering with grey water be allowed?*
- *I completely support an outdoor watering schedule during dry periods. The watering schedule should also include the use of automated irrigation systems such as drip and spray irrigation that can be on timers for early morning or late evening watering and sprayers set to water for multiple short intervals (like 2-3 mins on and 5 mins off) for water to be absorbed into the ground and recent runoff.*

Include time of watering or volume

- *Hoses should also be limited to a time use of 15 min or less if it's during the water restriction window 9AM-7PM. The time for watering in the afternoon could start after 6PM.*
- *I think restricting it to when it makes the most sense in early morning or evening. I see people watering in the middle of the day which is such a waste. I don't know if there is a way to control amount but I also think people way over water. I often see water running down streets or mud running down paths etc. I don't know how to prevent this other than time limits maybe?*

- *The timing is good, but alternating by using house number will cause a lot of confusion around the rules especially with enforcement, hoses with spray nozzles are excessive at wasting water just like sprinklers so they should also be limited within the hours, regardless of what private persons do, the golf courses are a gigantic waste of water that need to be redeveloped to more water efficient.*

New sod should not be allowed in drought

- *New grass watering anytime does not encourage xeriscaping. Spray nozzle use anytime does not deter hosing down of walks & driveways, or vehicle washing.*
- *I love that it would focus on watering lawns. I think it could be better if new lawns didn't get an exemption, it would be great to encourage use of other ground covers that are more environmentally friendly rather than lawns which are not native to the area.*

Year-round schedule

- *Calgary should implement a schedule to conserve water year round. Much is wasted regularly.*
- *Water restrictions should be in use any time. We need to be more aware overall of our water usage*
- *I think the water schedule above is very reasonable able and should be in place all the time, not just during drought.*

Other considerations and suggested modifications for schedule

- How do wind and high temp days impact schedule
- Needs of specialized facilities, (vegetable farms, orchards, nurseries)
- Exemptions for new homes with new sod
- By community instead of house number
- Offering an alternative date or option for those with incompatible work schedules, a special permit for extenuating circumstances
- Large trees that require high volumes of water and steal water from gardens (including neighbours)
- Fairness about what the water is being used for
- Suggestion to change to before 10 am
- Schedule incompatible with people who schedule watering based on moisture sensor
- Alerts from The City to share optimal days to water instead
- Decals/ signage to display that says person/ house is watering with reused water from rain barrel to reduce neighbour animosity
- Allowing irrigation systems with a timer, and regular sprinklers not allowed as they are more efficient
- Schedule the 'Anytime' watering methods on the days not already dedicated to sprinkler watering, to further spread the water demands out over the week
- Provide free inspections by summer students about sprinkler position accuracy
- Certain city or provincial parks should be provided exemptions for certain plants ie botanical garden. Reader rock gardens Devonian Loughheed house

Enforcement

Must be enforced, but how?

- *Make sure the city enforces any schedule. Nothing annoys more than me being a good citizen and neighbours not complying with the restrictions.*
- *I have no problem with it so long as bylaws are actually enforced. No point having. Laws that some people obey while others just ignore since there is limited if any enforcement.,*
- *Pro-active enforcement is critical.*
- *Please actually enforce what you put in. During Covid there has been almost no enforcement of any policy at any level of government so how will people take it seriously?*
- *Would this be monitored, are there resources to monitor and or what accountability would there be for those not following?*
- *How do you implement schedules in highly transient neighborhoods?*

Grace period before enforcement

- *There would need to be lots of education and reminders leading up to it, as well as a grace period. Once people have had time to adjust, Bylaw enforcement would be crucial to ensuring people are actually abiding by this. Drought resilience only works if most people are on board to work together.*
- *I think that using a schedule would be great, I know that neighboring municipalities struggle to actually enforce schedules mostly because people arnt aware of them. There would need to be a massive communications push to raise awareness and that push would need to take place for several years in a row for people to actually be aware, let alone follow. No app for this, nobody will use it.*
- *Heavy education & publicity with a bylaw as last resort. Bylaw must be enforced if implemented.*

Knowledge and experience with schedules in other places/ why don't we have this already

Many supportive respondents shared experiences of living in cities with watering schedules and that they felt it worked well. This sentiment was mostly coupled with surprise that Calgary does not have a watering schedule already.

- *The city should implement this sooner rather than later to encourage and normalize wise water use. I have experienced such a schedule whilst living in Australia. It's a fact of life.*
- *I came to Calgary from BC, where we have had watering restrictions in the summer since the 80s. I am shocked that this isn't implemented already given Calgary's water resources.*
- *I feel it's great initiative! A lot of American cities have been doing this and it's time for Calgary to start.*
- *I come from Vancouver this is normal for me and I was surprised it was not happening here already.*
- *I have lived in cities where watering with sprinklers is limited to 2 days a week via address, it works well. Hand watering should always be allowed, new plantings need daily watering for their 1st week*

to get established. Do let us keep our birdbaths clean & full :). But I detest seeing people hose down their driveways - that is unacceptably wasteful! So perhaps some rules re washing driveways ;)

Focus on making permanent change to landscaping

Many respondents felt that while watering schedules are helpful, they ignore what should be the end goal of making permanent changes to the landscaping that needs watering in the first place. Some mention that new bylaws could help achieve this goal.

- *This is essential. Nobody should be watering a lawn. Xeriscaping with drought tolerant plants should be the norm. Let the wildflowers (weeds?) grow as they please and allow them to feed the bees. Lawns are ridiculously resource heavy to maintain.*
- *I agree with this. The city should also encourage xeriscaping, native flower gardens, and use of clover in lieu of monoculture lawn.*
- *I don't think this goes far enough. Outdoor watering of grass should be banned. The City should change the land use bylaw to limit or ban grass for new homes built. Xeriscaping should be mandated. Under ground water collection should be required for outdoor use. Outdoor watering of grass should have significant penalties. When the glaciers are mostly melted what will Calgary do for water then?*
- *I think the overall goal should be for people to move away from having lawn/grass that is not native to this area. However this is a good first step.*
- *Enforcing a watering schedule like this early on would prepare people for more severe rules and regulations in the future. Seems like a band-aid solution. We should decrease areas that need watering in the first place. Implement rainwater systems that can water landscapes instead of turning on the tap.*

Incentives and rebates are important

This theme was predominantly mentioned by those who support or felt neutral about watering schedules, with approximately 25 per cent being non supporters.

- *I feel it is important to understand the current state of Calgarian yard and water usage before any broad implementation. Offsetting water usage for avid gardeners with community members who do not do outdoor yard care is something to consider. Incentivising waterwise gardening and yard management is much more effective than punishment.*
- *I'm fine with a schedule, but I would ideally like to see incentives and rebates for draught resistant, native plants.*
- *create incentives for water wise behavior. Like if someone's water usage decreases after doing an online course or something, give them a break on their bill. Same for builders. Give them a tax break if they install water wise shrubs or plants instead of sod. Incentivize homeowners to use rain barrels (ie: \$5 off water bill per rain barrel installed).*

- *Grass lawns are a big contributing issue to the lowering water table. Give land tax rebates to people who use Permaculture design in their yards and get rid of grass. No more turf grass in public spaces*
- *Rebate for auto sprinkler system*

Frustration with neighbours wasting water

Many respondents shared stories of their neighbour's water wasting behaviors and the frustration they feel. Many feel a watering schedule would help to reign in bad watering behaviour.

- *I support the regulation of humans who do not understand/care (or are not capable of understanding/caring) about their role and the effects of their actions within a community.*
- *I think it is a good idea as my neighbour waters his lawn twice in a day for temps over 25 degrees—completely unnecessary*
- *I think the schedule is great. Additional information on which types of sprinklers and what times of day waste less water would be helpful in encouraging others. I see a lot of people water mid-day in the hot sun and also a lot of people wasting water from in-ground sprinklers that spray the road/sidewalk/driveway.*
- *Pet peeve is water run off from a property that forgot about their hose*

Don't inhibit food production

For many respondents, the importance of maintaining their food gardens to provide for their family was made very clear. Some also felt that food crops should be promoted alongside other drought resilient plants, so both support people with increasing food costs and to make green space functional instead of just aesthetic.

- *Different neighborhoods have different characteristics. I live in an area with lots of townhouses with small backyards. We have a few tomato plants, flower pots and that's all. In some neighborhoods people water huuuuge lawns. City should consider such differences. Promote self-sufficiency through small vegetable gardens and discourage grass & lawns.*
- *I have converted my lawn into a vegetable garden and use significantly less outdoor water in the summer. I would like the city to consider homes like mine who utilize the garden to supplement groceries for our family*
- *I like that hand watering and hose with spray nozzle could still be permitted, as I would like to keep my flower and vegetable planters watered.*
- *Grass lawns should be lowest priority for watering. Gardens that grow food should be highest priority.*
- *Just make it clear that grass and sprinklers are unnecessary by vegetable gardens are ok.*
- *Fruit and vegetable gardening should be exempt.*
- *I currently use a large part of my lot for urban farming - I would like any proposed plan to consider the use of water - e.g. more restrictive for lawns and or decorative plants and less restrictive for productive uses such as vegetable or fruit gardening*

Cut water use in other areas

Many respondents commented on other areas of water waste that they felt should be addressed as well. This includes washing driveways and cars, indoor water use, car washes, businesses and public spaces.

- *Sprinklers under kids trampoline is unnecessary, playground areas, schools grounds and other public spaces should be cut. It is not a necessity. People trying to grow their own garden for consumption is especially with high food prices.*
- *What about washing cars outdoors, windows, siding, driveways/sidewalks?*
- *Look at and target actions/strategies/education where outdoor watering is highest. For example businesses where water use is high, communities where water use is high*
- *I would support 100%; in addition there should be a project to identify leaks/ wastage and address them*
- *My biggest concern isn't outdoor watering, its all the water that every household uses by doing their dishes in the dishwasher everyday and also showering more than 3 times a week.*

Change the cultural norm of green grass

Supportive respondents also shared a common sentiment that the cultural norm of having green grass needed to change and this approach would help to do that.

- *I absolutely hate that this is entirely about timing of lawn watering. Screw lawns - should be prohibited to water them at all.*
- *It seems like the biggest barrier to lower water usage is cultural. People are unreasonably obsessed with lawns. More examples of drought-tolerant and native landscaping around city-owned buildings would help to change this.*
- *I think it's more than just creating a watering schedule. Lawns have become a status symbol of being a good community citizen and they're not functional. They use up lots of water and man hours to maintain. We should focus on education our communities of what native plants we can reintroduce to our yards that will help support the ecosystem around us. Nature's Best Hope is a great book about this.*
- *Mandatory watering restrictions slowly allow attitudes to change over time... this includes the more natural tendency to become accustomed to grass turning brown during times of low rain and over a period of time it allows the community to be okay with this and in a sense, it becomes a 'badge of honour' because the community sees itself as being water responsible*

Encourage or provide rain barrels

- *It works in other communities, it can work here! I think if you provided rain barrels to Calgarians that would help them tend thwor gardens on their schedule regardless.*
- *I think this is completely reasonable. Would like to see more encouragement of rain barrels as this is a way that you can feel guilt free about your water use!*

- *I am trying to grow food because food costs are high and many of the grocery suppliers have proven to be seeking profit to the detriment of the people. I would be upset if I could not access some water to keep my garden alive. Rain barrels are extremely helpful but they are very expensive, i would be able to reduce my water usage more if barrels were more affordable.*

Better reuse

Respondents who shared this sentiment would like this strategy to be coupled with effort and education about how to reuse water.

- *I am supportive of an outdoor watering schedule as long as it does not prohibit watering by hand and supports repurposing indoor water for outdoor use.*
- *We need to find ways to use recycled water for gardens*
- *Make the new houses to have mandatory gray water storage tanks.*
- *It would depend on the circumstance. I already try to be water wise. I have 3 fish tanks in my house and I use the water change water to water my garden. I think providing people with water recycling ideas like that would be better offer free rain barrels now that kind of thing*

Additional themes mentioned in lower numbers by neutral and supportive respondents

A few other themes emerged from this question, but many were mentioned in much lower numbers than the themes above.

- **Target new builds and development**
- **Don't prevent kids playing in the sprinkler**
- **Need to include schedule solutions for multi-family buildings**
- **Schedule not always great for irrigation systems as it can lead to “set it and forget it” outcomes**
- **Provide more examples of drought landscaping**

Themes from unsupportive respondents

City intervention not required and Water is my right

These two themes went hand-in-hand amongst non-supporters of this strategy. Many feel like a watering schedule is government overreach and feel that they should be able to use as much water as they want because they pay for it.

- *I would strongly oppose this. There are enough demands upon families schedules without the city trying to tell me when I can water my vegetables*
- *We don't need bureaucrats now telling us when we can and can't water our lawns. That would be an utter waste of money. Just ask people to limit their outdoor water usage, indicate which times are*

best suited to limit use, and then simply let people do so. Why is the city looking to expand their scope once again?

- *The pandemic has shown expecting citizens to follow a rule for the good of others even with risk of penalty does very, very little to actually meet goals. Rewards and minimizing inconvenience will always be a more effective strategy.*
- *You are overstepping your mandate.*
- *It's too much government control. If I use more water than someone else, I pay for it, and I should be allowed to use it more water than the next person. Why should I be punished by some by-law when I am paying for my water. And yes, If I'm paying for it, it is "my" water.*
- *How about I water my lawn when it needs to be watered, not on some City schedule. The City should provide water to its taxpayers in all conditions.*

Another way to raise taxes and reduce service

- *The city cant do anything right. Tax and spend is the only tool in the toolbox*
- *Taxes and prices are so high. I don't want the government telling me when I can use public resources*
- *The city needs to stop controlling e.v.e.r.y.t.h.i.n.g!! Like our waste and recycling. It was touted as saving Calgarians money, yet we now pay more for less service. The water restrictions and/or rebates suggested, are just lip-service to get the city's agenda pushed forward. REGARDLESS of what I say, I already know the watering restrictions will be forced on us.*

Water and drought are not an issue here

Some non supporters shared that that one of the reasons they do not support watering schedules is because they do not believe water supply and the risk of drought are a real issue and should not be The City's focus.

- *It seems like this program is based on *speculation* that Calgary *might* become prone to drought in the future. The City has two rivers that deliver ample water year round. I have a hard time believing that there is a real problem to be solved here.*
- *Clearly people in city hall are bored if they think water is a problem, we are surrounded by it*
- *Completely ridiculous. We all should have the right to water our gardens and yards whichever days we need to. We all live busy lives and water is not an issue here.*

Question 8a: What support or resources could The City offer to make it easier to follow an outdoor watering schedule? Select all that apply.

Figure 17 illustrates feedback from the public portal.

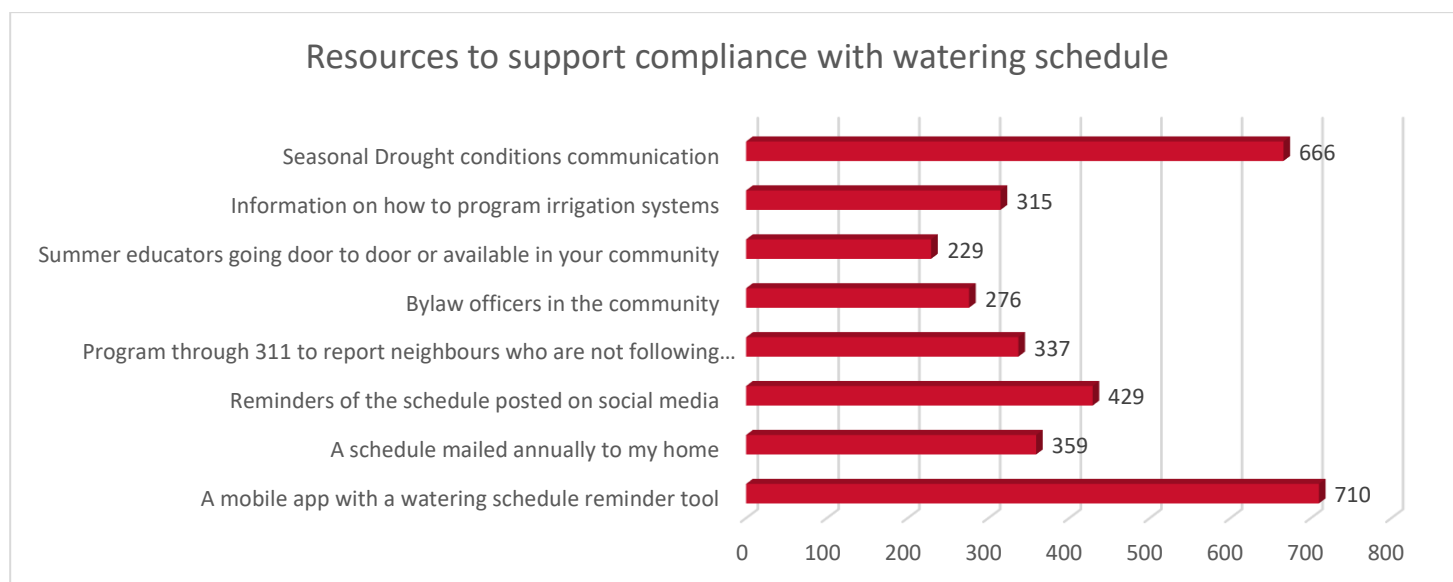


Figure 17- Resources to support compliance with schedule

Question 8b: Other ideas?

The following themes include feedback from the public portal.

Other strategies proposed in plan

Many participants suggested other programs and strategies that would help support them in making a water schedule easier. Since this question came before the other strategies, this suggests that respondents see benefits in the other proposed strategies in the draft Drought Resilience Plan and generally see the success of a watering schedule being coupled with other supporting programs. Suggested strategies mentioned included water reuse through rain barrels and grey water systems, landscaping transformation support, incentives, rebates, and giveaways.

- Coupling a restriction on behaviour with options for alternatives may assist compliance. For example, finding ways to transition the from turf species that are currently used for any green spaces (i.e., lawns, parks, school yards, etc...) to native species or grasses and forbs that are drought-tolerant. Demonstration projects throughout the city to help people visualize how amazing (!) they would look and educate on their ecological benefits.*

- *Incentives for irrigation systems*
- *Rebates to add a grey water sysyem on my main shower and bath.*
- *Rebates 4 rain barrels, more access 2 compost & mulch at landfills, timers 4 scheduled watering, soaker hoses,etc every 3 to 4 years. Prefer email 2 mobile app.*

Education

One of the most mentioned themes to this question included topics that respondents would like to learn more about. This includes irrigation how-to, impact of watering and conserving, lawn alternatives, watering needs of plants and plant lists.

- *I would love an 'irrigation for dummies' session. The system was installed by a previous owner and we would like to learn about updating components (drip irrigation versus spray heads etc...)*
- *information on the effect on the individual of following or not following guidelines. Info on why drought resistant yards are better, what they can do to improve their systems, rebates and incentives.*
- *Information about lawn alternatives for families who still want to be able to use their yard for general running around/play*
- *Information on how much water your lawn actually needs. List of drought resistant/water smart plants for flower beds.*
- *there should be support and education provided about why resilient lawns are better for water management. Perhaps also tying to key messages around food security as well (encourage people to grow food rather than water aesthetic green lawns).*
- *Happy to follow a watering schedule, but some education would be nice. Videos on what I can do in early spring to set my grass up for success while using less water into the summer. Also, based on yard size how long and often I need to water in order to keep grass green.*

Educate me about this

- Responsible outdoor water use
- That water misuse is actually socially unacceptable
- Water recycling ideas
- Why watering during the hottest hours isn't a good idea
- Drought resilient plants. Brochures at garden centres and online.
- Drought is a real issue not just in other places in the world
- Drought resistant lawn alternative
- Why resilient lawns are better for water management
- How to use a water sprinkler, ie water the lawn, not the sidewalk and road
- Efficient irrigation
- That we are not the only city pursuing these measure
- How to set up yards for success

- How long and often to water certain plants
- Rain barrel use, xeriscaping methodologies, and raingardens
- Watering / irrigation methods that use less water
- Clarity on irrigation systems, and whether there is a difference between e.g. irrigating grass vs. irrigating a vegetable garden
- How many days of water we have remaining in the reservoir for the city

Copy waste and recycling's approach

This theme was one of the most mentioned. Respondents appear to like how the blue, green and black cart program schedule is communicated and would like to see a outdoor watering schedule piggy backing these already established methods. This includes the use of the app, email and mailed out reminders, webpage on Calgary.ca, the calendar notification and text message reminders.

- *The garbage and recycling collection emails are helpful for our household. Something like that would be good - prefer email.*
- *Add it to the garbage calendar schedule*
- *Posting the schedule to the city's website like the waste collection schedule is now, where you put in your address and it tells you when pick up is.*
- *For notifying households, a similar feature for blue/black/green bins where you can add the calendar invite to your phone and set up notifications. I would support an email notification over mailing paper to our house.*
- *Post the schedule on the City Website like garbage pickup. Quit trying to figure out more costly ways of delivering simple information instead of using platforms you already have.*
- *Text message service like the one you are currently eliminating for garbage (which is nuts by the way, why get rid of it!?)*

Not everyone is on social media and/or follows The City

Many respondents commented that relying solely on digital channels to communicate and remind people of a schedule would miss many Calgarians. These respondents mentioned TV, radio, news, a seasonal mailer, including it in the water or property tax bill, and outdoor signs.

- *No apps Please! Not everyone has an I-phone. I don't and am not planning on purchasing one even though this seems to be the norm now.*
- *Old-fashioned TV, radio and newspaper ads. An older gardening generation might struggle with compliance, and social avenues wouldn't necessarily reach them*
- *Old-fashioned TV, radio and newspaper ads. An older gardening generation might struggle with compliance, and social avenues wouldn't necessarily reach them*
- *DO NOT entirely rely on apps or digital communication - my household will not use*
- *ending flyer to each residence once a year on how & when to use water for plantation & lawn.*



- *Large scale Signs posted on connector roads reminding the community about the schedules that apply to them*

Use community communicators

This theme includes ideas about leveraging communication tools that can reach a large number of people in a community including schools, community association newsletter and even the Ward Councillor.

- *Note the info on the evening news. Post reminders in the community newsletters. Have the councillors remind people in their reports to their ward. Mailouts are expensive and waste paper.*
- *Communicating with community centers/schools to help send reminders.*
- *Information to school so that kids know about the importance of water conservation and what our city is doing and come home and tell their parents.*

Be careful to avoid unintended consequences

- *Keep it simple. Whatever is done it shouldn't cause people to water more often. A reminder about watering might mean people who wouldn't normally water are reminded about watering!*
- *The city has good apps and brutal apps. A useful app with pilot projects by the city to highlight potential I like. It would need work. Calgary Parks is brutal with social media (Arbor Day came and went... ooops). Guidance could work. 311 tattle-line is greasy but likely needed for the extremist lawn waterers. There is risk of creating fake lawnsapes which are arguably the worst.*

Rain barrels

Many respondents would like to see The City offer free or heavily discounted rain barrels to provide an alternative water source and to help comply with the schedule. Education and installation support is also of interest to many respondents.

- *Provide DEEP discounts for water barrels (or FREE) for those who wish to use collected water for their needs.*
- *Subsidized rain barrels for residents*
- *RAIN BARREL education, programming, subsidies. We shouldn't be using treated water for things like watering lawns and gardens!*
- *Provide citizens with rain barrels*
- *Direct support for setting up rain barrel systems*

Unique ideas

Some respondents shared ideas for programming to support and engage Calgarians and achieve the goals of water conservation, including useful reminders to use at home, mandatory tools on new irrigation installs, utilizing City compost and mulch, and an ask an expert resource.

- *Give out a water basin for sinks for extra water use with a schedule on it? The basin/bag could be used for when water is run straight from the tap for warming up or other quick use reasons then used to water plants and grass. Subsidized or free drought resistant grass seed, plants? Water retaining mulch or straw giveaways?*
- *Mandatory rain sensor for installed irrigation systems.*
- *a tool for residents to ask questions and seek clarifications (instead of a tool to report neighbors!)*
- *Rebates 4 rain barrels, more access 2 compost & mulch at landfills, timers 4 scheduled watering, soaker hoses, etc every 3 to 4 years. Prefer email 2 mobile app.*

Generally unsupportive

This theme had the most volume of comments for any individual theme from this question.

- *Under no circumstances should an outdoor watering schedule be implemented*
- *No watering restrictions are needed*
- *This is just a bad idea, please don't do it*
- *I will never comply with any of this for any reason. It could be the apocalypse and I'd water my lawn with the last drop of water in the city just to spite you*
- *not interested in a schedule to water my property.*
- *The City should think about Safety of the citizens and crime reduction rather than taxing us for water use which we already pay for. A BIG NO to this plan, do what is important for the citizens!!!*

This theme was closely associated with a few other themes to explain respondent's lack of support for outdoor watering schedules.

Options require too many resources, too expensive for taxpayers

- *You're failing in every other area. Our roads are [removed]. No bylaws to enforce garbage or dogs on leashes.. now you're telling me these finite resources are being brainstormed to ticket people using water they pay for?*
- *Please don't spend too much money on education and start ticketing right away*
- *All of these options are wasteful uses of public resources and should be allocated to landscape / watering education.*
- *No resources. Stop wasting taxpayer money on ineffective initiatives.*
- *All these options are pointless and a waste of tax dollars.*

Give people choice and privacy

- *Incentives for purchasing watering timers. DO NOT send people to my door, DO NOT INFRINGE on my privacy.*
- *don't implement this. If someone doesn't want to water their lawn or if they want to water it each day, that is their choice and cost.*



- *Not having a watering schedule. My yard my rules*

No snitch line or bylaws

- *Encouraging neighbour ls to report each other is an appalling approach.*
- *There are not enough Bylaw officers now, so adding to their workload might not be the most effective approach.*
- *I do not support this idea. And creating programs for neighbours to spy on each other does not feel like a positive way to bring communities and neighbours together.*
- *no bylaw officers or reporting on 311. it is garbage that you need to charge taxpayers for bylaw and reporting. People report anything on 311 and it becomes a drain on the system. People in our neighborhood called 311 to remove a dead squirrel from the road. Not everyone has social media or chooses to follow the city.*

Sounds like a done deal

A few respondents commented that it sounded like The City has already decided to roll out a watering schedule, regardless of the outcome of engagement.

- *Sounds like you've already made up your mind that you're doing a schedule.... Not to late to get a better solution than this.*
- *This question causes great concern that an outdoor watering scheduling is a done deal.*
- *Sounds like you want a watering schedule as yur solution and you're not at all interested in other ideas.*

Equity concerns

Related to concerns about bylaw, some respondents shared concerns about inequity when it comes to enforcement and training.

- *Reporting neighbors and increased bylaw seems like a huge waste of resources. Not to mention, increasing bylaw officers, is this going to have a negative impact on those in typically discriminated against groups, especially Black and Indigenous.*
- *every single one of these is a classiest solution.*
- *I have a Concern re Bylaw officers: They need to have mental health training such as is received by The Clubhouse Society of Calgary (a.k.a. Potential Place)*

Business respondents

Figure 18 outlines what we heard from businesses when asked the question:

Question B3: To what extent do you support The City implementing an outdoor watering schedule as part of the Drought Resilience Plan?

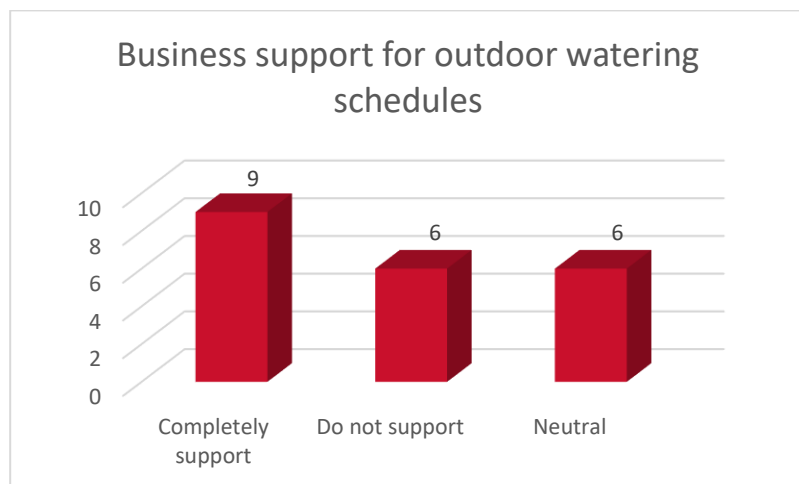


Figure 18- Business support for outdoor watering schedules

Question B4: Please share your thoughts about The City pursuing an outdoor watering schedule. For example: What do you like? What do you not like? Do you have any concerns The City should take into consideration when developing this idea?

Theme shared by business respondents with all levels of support

All respondents, regardless of their level of support for this strategy, shared considerations for how to make this strategy effective, in addition to general concerns. Some of these themes were shared by those who support this strategy and those who do not. Therefore, this section is not divided into unique themes for different levels of support.

Support watering needs of plants

- outdoor watering schedules should be utilized, however, they need to be reasonable in terms of maintaining usable outdoor spaces and to a watering amount that keeps the plant material and turf alive
- Commercially sprinklers may need to be used on new installs beyond "New Grass". Restricting watering time on new installations will greatly increase the liability carried by the installing contractor. Language and permissions must be clear to allow watering by any means for new plants, shrubs, trees of any kind.
- Like how it is open from 7 pm to 9 am, but do not like being restricted to specific days and only two days. Some areas of Calgary have zero topsoil so only water twice a week would be hard on the plants, especially newer developments. Having zero topsoil means having a very small gas tank and needed to fill more often with less.

Focus should be more broad

Must also think about soil health, plants, and food types of watering

- *I think this needs to be a multi phase approach and not just about water use, we should also be looking at what is being watered and does it feed people as one or is it completely esthetic. If we focus on native plants, increasing soil health then this also mitigates water use.*
- *The City will need to be concerned about the soil conditions before scheduling the irrigation days and run time. For example, planting new trees and adding green bags to irrigating is not a solution. many trees are suffering from drying. the same with Old and new development parks. In our company, we have cost-effective and environment-friendly tech solutions that can save money for the city.*
- *We think a watering schedule is a great way to reduce wasteful watering. We believe that, while sprinklers are the big concern, it wouldn't hurt to apply the watering schedule to other forms of watering, too. At the very least, at particular times.*

Incentivize, exceptions, and rewarding good practice

- *Logical and common sense. Incentivize businesses and home owners to install timer-based irrigation options to help this succeed.*
- *City required us to put in lawn (past) when we wanted xeriscape. Have green roof (native prairie) and no tax incentive at all. We should be getting a tax rebate but absolutely no incentive to put in green roofs (higher upfront costs as insulation increase not recognized for heating/cooling impact). make incentive and give rebates for those how have or want to do the best thing*
- *I would look at exemptions for those with Irrigation Systems already utilizing integrated irrigation systems that have incorporated technology to reduce water over-use?. The CBE for example recently upgraded all irrigation controllers to the latest Rainbird models enabling us to reduce our water output considerably.*
- *In principle it is a good idea and completely support it, but feel that the city and people are leaving out the untapped resource of harvested rainwater. Households that are harvesting rainwater should be able to water with a sprinkler whenever necessary/needed, providing that they are drawing water from their rainwater storage.*
- *Water managed sites.*

Unintended consequences and system limitations

This sentiment of this theme is that schedules would result in undesirable outcomes such as overwatering, and poor plant health due to watering timing. The specific function of some commonly used irrigation systems was also mentioned here.

- *If a schedule is put in place - It would be a tendency of the user to overwater - to ensure they get their "share "*

- *These have shown not to save on water, as people tend to water even if it's not needed due to the restricted watering times/days. Or lift restrictions for those properties that have water efficient irrigation systems that are maintained on a regular basis under monthly contracts.*
- *We use a sunrise UV timer for drip watering 4 rows of flowers. These flowers do require more water than our perennial garden, so benefit from being watered at sunrise for 10 minutes a day. A schedule like this would only work if we could still water them.*
- *Many irrigation systems use low flow water application nozzles like the MP Rotator and Toro Precision nozzles. You cannot water these systems in watering windows because they use less water but take longer to apply the right amount of water. Water windows promote water early evening and that is the worst time due to wind and leaving the landscape wet all night promoting unhealthy moss mold etc..*
- *Just really do not like the watering on specific days and times*

Enforcement versus education

- *I think enforcement would be difficult.*
- *I like the concept of providing some controls to manage this finite resource. The challenge inevitably falls to governance, compliance and enforcement. Universal compliance and the cost of enforcement to go along with that is unrealistic. Prominent and ongoing campaigns to promote a watering schedule for voluntary compliance would provide the best compliance per dollar of investment.*

City to lead by example

- *Please start using newer technology for irrigation controller with park system, if want buy in from professional industry*
- *I believe the use of smart irrigation controllers can greatly reduce the amount of unused water. I think the City could do a better job of supporting homeowners to embrace smart irrigation controllers, similar to what Okotoks does.*

Considerations and recommendations

Engagement respondents from the public shared a very high level of support for the concept of outdoor watering schedules, but the support from business respondents was mixed. Regardless of level of support, many concerns and suggestions were shared for consideration. While many respondents shared that they liked the time-of-day recommendation, more were unsure about having set days. This concern was coupled with sentiments about it not being enough water for gardens and food plants, and that two days a week would be difficult for most people to manage with their personal schedule. For those who do not support this concept, sentiments about having the right to water freely and having flexibility were common. Therefore, if adopted, a 3 or 4 day set watering schedule may help to reduce some of these concerns. For example,



even addresses water on even days, odd addresses on odd days on the calendar. Or even addresses can water on Mon, Wed, Fri, odd on Tues, Thurs and Sat, and everyone (or no one) on Sunday.

Many respondents referred to the example schedule as a restriction. After the pandemic, we heard sensitivity to the idea of restrictions in the feedback. Therefore, how a watering schedule is framed and described will be important for a few reasons. Firstly, to manage ongoing sensitivities about government restrictions, and secondly, to avoid possible confusion if and when The City needs to declare more strict water restrictions in an emergency.

Another suggestion we heard from respondents is to take a voluntary and education-first approach to a new watering schedule. Education over enforcement, at least for a few years, was a common sentiment. There is a shared concern about The City's ability to enforce compliance, but for many, they shared that full enforcement after some time and especially in a drought year, would be their expectation of The City if a watering schedule is adopted. Related to enforcement, was a common concern about bad relations developing between neighbours if enforcement is put in the hands of Calgarians through 311 and bylaws.

It is important to understand and work with the driving values of those people who are likely to ignore the watering schedule entirely. If they highly value their green space and its health, this value will mostly likely supersede any watering recommendation or bylaw. Crafting clear messages and providing data and research that supports the use of watering schedules and ongoing plant health may be enough for them to participate. Similarly, many value fiscal responsibility and perceive these strategies to be a government money grab or way to increase taxes. Communication about these strategies can highlight that they are an effective way to avoid or reduce current and future expenses, such as water treatment costs, personal water bill, plant expansion/maintenance and even the cost of inaction against drought impacts for the city as a whole.

Social norming needs to be carefully considered if a watering schedule is adopted. Many referred to the influence of their neighbour's opinion when it came down to letting their grass go brown. Programming that supports people in this behaviour and normalizes it can be helpful. For example, a large public campaign about reduced lawn watering with tools like lawn signage can let people declare they are participating. This declaration by some, gives permission for others to join in too. This is an example of leveraging reference groups, where individuals feel more comfortable changing a behavior when they see "people that I relate to and are similar to me" behaving that way too.

There is a risk that a watering schedule could create an undesirable norm and a rebound effect. We heard that many Calgarians do not water their lawn often and really don't mind if it goes brown. Consistently hearing about a schedule that normalizes watering a few days a week, could send the message that this is the social norm that they should be following, resulting in them increasing their watering frequency. It will be key that a watering schedule is framed in a way that suggests "if you need to water, this is the recommendation/ bylaw", and not "this is how we suggest you water your garden".

There are many other considerations that respondents posed in the feedback, and many will require consideration. Some of the most common were young families who have kids who play in the sprinkler



during the day on the weekend, shift workers who may miss both the morning and the evening time slot, the different soil compositions and planting zones across Calgary that could influence soil moisture and therefore water needs, how to managed predicted and actual rainfall in relation to the schedule, and extenuating circumstances that may require an exemption or extra support. One respondent shared that they rely on home care throughout the day and are unable to get outside alone to water their yard in the proposed times given.

Both business and public respondents shared that they really liked and appreciated that hand watering was allowed all the time in the example schedule given. This appears to be the aspect of the proposed schedule that supports acceptance of this strategy as it allows people to still maintain their gardens, shrubs, trees and most importantly, their homegrown food. Supporting and not penalizing Calgarians who grow food was a clear and highly mentioned sentiment. We also heard a concern from a few that a watering schedule may not work when establishing new drought-tolerant plants. Consideration needs to be made to ensure that recommendations in a schedule also support the behavior and permanent changes to landscaping that are key to drought resiliency.

In addition, many recommended that all forms of watering be included in a watering schedule to avoid grey areas and making assumptions and using them incorrectly. In-ground irrigation, surface sprinklers, hose with spray nozzle, drip line and soaker hoses were all mentioned for inclusion. Similarly, many respondents shared a desire for guidelines for watering times and/or volume for different plant types. It was noted that a schedule is all well and good, but it won't stop people from watering excessively on their allowed day.

Based on what we heard from respondents, it is recommended to work closely with the irrigation industry, including the Canadian Prairie Chapter of the Irrigation Association (CPCIA), Landscape Alberta, and the Horticultural Society to truly understand the ins and outs of watering volume and frequency for plants and grass for well-established areas and new communities. Those needs will be different, but the trick will be to find a city-wide watering recommendation that achieves the water demand reduction objective while also allowing for plant establishment and keeping established landscapes as healthy as possible. This will be especially important if a watering schedule is implemented every year as a peak demand management tool and not just during times of drought.

While drought resiliency depends on modified watering behaviours and the landscape transformation narrative is important, there are many Calgarians who cannot afford it (even with incentives) or simply like having grass. The City would benefit from a clear understanding about best ways to keep grass alive under drought conditions, how grass goes dormant, how long it takes for it to truly die off, and likelihood of it returning. This will give The City informed key messages for citizens who are concerned about brown lawns and the cost to replace dead grass and increase the likelihood of people following the watering schedule.

City recommendations will be perceived as more legitimate if it is communicated that they were developed in partnership with the irrigation and landscaping industry. Involving the irrigation and landscaping industry in the development of key messages and the schedule itself, will most likely help to improve the industry's support for watering schedules.

What we heard from respondents was that an implemented watering schedule should be combined with other strategies, such as incentives for plants to help transform WHAT they water and effective irrigation tools to change HOW they water. Both of these considerations to drought resiliency for landscaping are key. However, another solution to the root cause of drought vulnerability is to increase the soil depth requirement for new developments in the city bylaw. This was mentioned by the irrigation and landscaping industry. This created a deeper ‘sponge’ in which to hold moisture longer and the environment to successfully grow more drought tolerant grasses and plants that typically have longer root systems. This would not only be a stormwater runoff win, but also a water efficiency and drought resiliency win too.

Topic area #5- Water reuse

Public respondents

Question 9a: To what extent do you support The City developing a Water Reuse Strategy as part of the Drought Resilience Plan?

Figure 19 outlines what we heard from respondents through the public portal and Fair Entry.

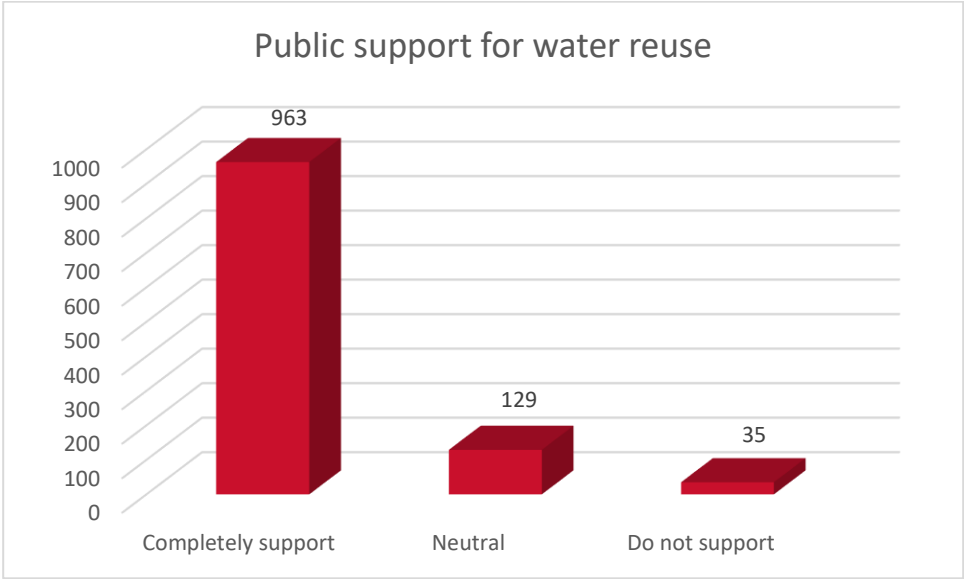


Figure 19- Public support for water reuse

Question 10: Other? Please share your thoughts about The City pursuing water reuse. For example: What do you like? What do you not like? Do you have any concerns The City should take into consideration when developing this idea? (Q10)

Themes are from combined feedback from the public portal, Fair Entry and Action Dignity.

Themes from respondents with all levels of support

All things rain barrels

This was the most frequently mentioned shared theme from respondents of all levels of support. Respondents shared requests for free, heavily rebated rain barrels as well as education on winterization and installation.

- *Perhaps the city could provide rain barrel kits to residents and instructions on how to go about water reuse*
- *People need resource and support to install rain barrels*
- *It would be great to have rain barrels provided to houses, or an incentive to buy one*
- *If the city provided a rain barrel to re use water I would support that completely*
- *Would the city be able to provide a rain barrel to everyone (or at least under 50\$) so that it could be affordable.*

Cost

This theme includes ideas about the cost for infrastructure, operations and for the taxpayer. Some said they would support the strategy if it didn't add any extra cost for them.

- *I don't believe the city management is competent enough to pull this off safely and within the same budget already in place.*
- *Should not cost the users and residents any more money.*
- *my only concern is what further cost there is to tax payers, I feel we waste money on things not needed - ie: fluoride, councils personal home security etc*
- *What is the cost and where is it coming from?*
- *Cost would be prohibitive!*

Hold business and industry accountable too

Many respondents shared that they would like to see more reuse happening for water cooling, golf course and parks maintenance, during construction, and oil and gas production.

- *We have rain barrels in place. I dont see the same collection or reuse in large scale for commercial or city parks which would have a great impact.*
- *It also doesn't fall all on the individual. I think pressure on industry is also required as the oil and gas sector uses the most amount of water.*
- *I would like to know that high use industries like bottling and golf are also doing their part*
- *I like this idea, especially for water intensive actions and locations that might not be able to/willing to cut back on water use such as in construction and on golf courses.*



- *Especially for construction and other commercial water trucks. I have watched in disbelief at the number of trucks filling with clean drink water at local fire station just to be poured out . There has to be a better way!*

Need more information

Regardless of level of support for water reuse, respondents shared a desire for additional information, both to help their decision about supporting it and also how to make it work at home.

- *I'd need to be educated a bit more, but it's environmentally friendly*
- *I think this is a good idea at a high level, but would need to be consulted on specifics*
- *No opinion without further information*
- *I am not familiar enough with the impact of this strategy in other municipalities to have a strong opinion.*

Selective use is ok

Some respondents shared the uses that they feel comfortable using reused water and some uses where they felt it was inappropriate or even dangerous.

- *water reuse for commercial water-cooled air conditioning systems is ok. not for lawns as you still have kids that will drink from garden hoses or sprinklers*
- *Great for industrial grassed areas & golf courses. Not appropriate for parks & playgrounds.*
- *Like not using potable water for lawns and plants. Not like the cost of doing this. Wondering if it be used in Commercial Car washes, Fire hydrants.*
- *Hose water should always be drinkable. Water trucks are essential to the city and potable water should be the only water supply in these trucks!*
- *This is a great idea for decorative items*

Misunderstanding reuse

This theme highlights a few misunderstandings about reuse, including what it is, where it comes from and how it would be used.

- *I have pets and an organic garden. Many of my trees and shrubs would not do well if I watered them with pesticides or harmful fertilizers that another homeowner might choose.*
- *Curious about what this would look like. I.e. how would reuse water get to my home for me to use on my lawn.*
- *My only concern would be the delivery method. As a home owner, how would I access reuse water?*
- *This is an excellent idea, provided the city determines a delivery program. With the increase cost in gas, pick up locations would deter individuals from utilizing this service, due to cost and inconvenience.*



- *We have the Bow and Elbow River, I'm not sure why water isn't used directly from there for non drinking water use.*
- *concern of kids playing in or drinking, say, water from sprinklers or fountains that is not clean*

Limitation of rain barrels

Limitations mentioned in this theme include space for barrels, inability to use them for irrigation, and either not getting enough rain or not having enough storage space to catch all the rain in a downpour.

- *Could the City encourage rain barrel use at residences? I live in a townhouse condo and my condo bylaws state that rain barrels are not allowed, but I would like not to be penalized if I install one during a drought.*
- *I think rainwater collection is hugely undervalued here. The rain barrel program is ok, but the storage could be bigger and better designed for restrictions of space on narrow lot and high density homes. There is not enough space for a barrel on the side of my house. I would love to have a rain tank like the ones from <https://www.thintanks.com.au/> they are very narrow but store a lot of water.*
- *Good idea, but it only rains one month a year, not enough rain through the year to incur extra expenses like buying barrels*
- *how do you hook up an existing irrigation system to reuse rain water? without running an external pump (gas or electric) you can't. My yard is fully sloped, I am unable to place a rain barrel at my downspouts, without significant money spent, there are many yards that cannot use rain barrels. quite coming up with bylaws that only work for new neighborhoods.*

Please don't use wastewater

This theme includes sentiments about discomfort using reused wastewater.

- *I pee and poop into potable water. Everyone in the city does. That is stupid. Grey water should be reusable. Not poop water.*
- *Water containing human waste should absolutely not be reused in this manner. The risk of propagation of disease is too great. We already know that there is covid in our wastewater, so we are going to spray that water everywhere and use it to fill fountains?*
- *We are already using rain water (6 barrels, 20 gallons each) We would not fancy having to use waste water*

Themes from unsupportive respondents

Lack of support and criticism

This was the only theme that emerged from unsupportive respondents. It includes sentiments about the lack of value for water reuse, it being another cash grab and not where The City should be placing its focus.

- *If we are in serious drought then implement water restrictions, like you always have.*

- *I do not see the value in this program and prefer the City focus it's resources on existing infrastructure eg roads etc.*
- *Stop passing your problems to citizens. You sell millions of liters of water to coca cola that gets turned into high sugar unhealthy soda then expect me not to water my garden. Try showing your serious about the issue first.*

Themes shared by supportive and neutral respondents

General comments of support

This theme includes all supporting comments that encouraged The City to pursue this strategy and to do it quickly. Many shared their surprise that The City is not doing this already.

- *Water is life, if not reused, it's wasted. Reuse shows respect / uses knowledge. "you don't know what you've got til it's gone"*
- *Love it and would like to see it implemented ASAP.*
- *I think this approach is paramount in developing a resilient drought plan for the city.*
- *This is sensible!*
- *100% support a water reuse system. It's ridiculous in the 21st century to be dumping our treated water back into the bow.river.!*
- *Re-using water makes sense. I'm surprised the city doesnt already do it.*
- *We aren't already doing this? Seems like a no brainer.*

Demand for residential grey water reuse

This was one of the most mentioned themes by supporters. Respondents would like to have the ability to collect and use grey water in their homes and believe new builds should be built with them as a requirements and existing homes should be retrofitted. Many mentioned the need to change the building and plumbing code to do this.

- *I'd love to be able to use my shower water to water my plants. Anything the city can do to make this more practical would be helpful.*
- *I think rain water should be used to flush toilets and the city should collect its own water for landscaping and construction dampening*
- *I think educating citizens on how to reuse their own gray water for things like watering the garden or washing the car is a great idea and fully support this type of water reuse*
- *All homes and businesses should be retrofitted with grey-water tanks. It has never made sense to me that we flush our toilets with clean water.*
- *Fully support this idea. New build housing should have grey water systems as a legal requirement. Information & financial incentives to retrofit grey water systems would be great.*
- *extent is probably highly dependent on provincial regulations. Also need to be realistic about how far you can go with reuse given building code and provincial regulatory constraints.*

Contaminants and odour

This theme included sentiments and concerns about the safety of children, pets, wildlife, and food plants, in addition to contamination in the water and the environment as a whole.

- *Treatment/safety of reused water on vegetable/herb gardens; any odour?*
- *Totally support as long as water being reused is safe for biodiversity*
- *I like this idea a lot. I worry about reused water I'm using on my veggie patch having contaminants/runoff from fertilizers, roads, etc depending on the source but as long as the city can share how this is accounted for I feel great about it.*
- *Excellent idea. Have to consider contaminants and pollutants.*
- *Pets & wildlife drink out of decorative ponds & fountains. Not sure this is a good idea.*
- *I'm just thinking that if the quality of the the reused water isn't very clean (i.e. chemical residues from vehicles in stormwater) it could affect the environment, say, if it were to fill local park ponds or something like that. People still wash their cars with soap in their driveways, and my neighbour's vehicle leaks oil like crazy onto the street... so I know that runoff quality isn't good.*

Education about grey water reuse

Many respondents want to learn more about this approach, including how it would work city-wide but also how they can reuse more water at home.

- *Love it. Again educating people to correctly identify sources of potable and non potable around their houses is important.*
- *Have it built in to new developments somehow. For retrofit, have rebate incentives. Also educational videos or info on various ways for a homeowner to implement water reuse on their property.*
- *My gut feeling is that this could be one of the most impactful interventions for reducing water use. I think it is consistent with messages we've received for decades about recycling other materials and therefore seems like a natural progression. It will be very important to emphasize to the public that drinking and bathing water will remain clean and safe*
- *Water consumption reduction is critical. When we can use the same water for multiple applications it makes sense! I think it's important to consider if this is for residential properties how a home owner would access it, clear instruction on application etc. If it is for city use then I think clear communication of how it is being used and any risk, concerns clearly identified and answered.*

Questions about practical implementation

This theme includes many questions about the “how” of water reuse, including its application for irrigation.

- *Reuse is always a good idea but practical implementation could take a long time*
- *Great ideas.. it's the "how" that's the big question.*
- *This is a great idea. My questions are: Where would residents obtain non-potable water? Will new pipes be laid underground and new piping retrofitted in buildings/homes?*

- *How would this be managed? How will organizations using this water be charged? Special pipes????!!! If trucked, will the costs be excessive?*
- *How can average property-owning Calgarians participate?*
- *This is a great idea in theory but what are the costs involved? Would additional lines need to be created? How would the water be collected and where would it be 'treated'?*

City to lead by example in City facilities and parks

This theme includes sentiments about The City showing leadership by implementing water re-use in its own facilities and park spaces, in addition to the planting choices and watering behaviours.

- *A water reuse program is a great idea. The City needs to lead by example on this. Sprinkler systems that overshoot the vegetation and water the pavement (see picture above) does not show good leadership*
- *There are city owned green spaces that have sprinklers going EVEN when it rains, this is completely asinine.*
- *City parks should consider this. Businesses...not my tiny little lot*
- *I like it but the city/province water treatment requirements are too high so too costly to the city/tax payers/home buyers. Need to find cheaper ways and not install gold standard pump stations that produce potable water.*
- *Are you suggesting that citizens should be responsible for reusing water? I don't think that's right. But I do generally support the city looking at this initiative.*
- *City could use treated wastewater for watering its parks*
- *I think regular grass is a massive waste of 'new' water. Water reuse seems like the best options for areas that actually need some extra care. I would prefer all the plants in the city to be more drought resistant, native varieties and not gold course style green lawns*

Learn from other municipalities and research

These respondents talked about taking lessons learned from other municipalities who have gone through the trial-and-error phase and those who are now leaders in wastewater, grey water and stormwater reuse. Others want the research about ecology and contaminants to be completed.

- *If we're looking at the total resource available (rivers + aquifers), how does storm water utilization (e.g., to water park lawns) affect the total resource for Calgary (but downstream as well). Seems like a good opportunity for a life-cycle analysis. Would also be good to understand any potential contamination from the dissolved/undissolved contaminants from run-off into storm water ponds*
- *Need to look at what SW US and Australia are doing so we don't fall behind.*
- *Make aware of the need, options and the benefits. China, Kuwait and Qatar are the leaders in reusing the waste water and can learn a lot from their facilities.*
- *Absolutely you should be doing the above! Water is so precious. In Australia you can buy certain washing powders that are safe to then use as grey water for the lawn. Growing up the washing*



machine watered our grass. We were also encouraged to keep buckets in shower and sink and use water on flowers.

- *City should not reinvent the wheel or go overboard \$& - draw on the many successes and good alternatives exist in places like California Arizona*

Support for low impact development

This theme includes respondents support for increased use of storm ponds, curb cuts, rain gardens and permeable pavement to reuse stormwater more effectively.

- *I like it. I also like the approach that some cities have taken to cut out curbs and drain water into front yards, lowering trees and shrubs to focus water at their roots.*
- *Create more rain catchment gardens in public spaces like the one at Winston Heights community garden. Reduce grass in city parks and rec areas and replace with gardens and fountains.*
- *We should reuse the water in the storm sewer system where possible.*
- *We need more permeable pavements, local catch basins and permitting for individual homeowners to install gray water reuse if they choose.*

Rain barrels are the new blue and green bin

Respondents who shared this sentiment believe that rain barrels should be treated the same way as waste and recycling, where each household is given one.

- *Anything i can do to capture water I would do. Maybe providing water barrels like you did with the recycling and compost containers.*
- *Yes this is a good idea, maybe the same way we get the recycle, garbage and compost containers from the city we can get water barrels to collect water from the rain at home and use it on the garden and lawn*
- *please provide rain barrels as standard like garbage/recycle/compost bins with program for replacement or add additional every 5-10 years for homeowners (rain barrels wear out/leak eventually and affordable replacements are difficult to find)*
- *Water barrel program similar to waste bin program with proper set up*

Reduced treatment costs

Respondents who shared this theme shared that they really liked that water reuse would save both energy and water treatment costs.

- *This sounds like a win win to reuse water but also save the costs of treatment.*
- *We should make use of available water as much as possible. If untreated water is not a requirement for something we should absolutely by re-using water. The financial benefits from treating less water is incentive enough to implement these changes.*

- *Use water with the least amount of energy needed possible. Reuse strategies are great - let's get serious about this.*
- *it is necessary to support energy conservation*

Additional themes mentioned in lower numbers

- **Use signage when reuse water is being used**
- **Make it easy for people**
- **Use reused water to wash cars**
- **Collect car wash water for reuse**
- **Decentralized/ community rainwater collection**
- **The wastewater charge on my bill should change**
- **Ensure multi-family buildings have reuse solutions too**
- **I like that it is innovative**
- **Re-used water is better for plants anyway**
- **Must be well monitored**
- **Concerns about pest and insect breeding**
- **Increase public recreation to beat the heat- more access to rivers and splash parks**
- **Reduce overall demand first before investing in infrastructure**
- **Increase our city-wide capture and storage capacity**
- **full cost/ benefit analysis needs to be conducted**
- **Incentivize landscape changes**

Unique ideas to consider

These ideas are verbatim ideas shared by respondents. Unrelated parts of the whole comment have been removed.

1. *Could private companies or individuals receive access to this cheap resource to provide private watering services if a scheduled service is in place?*
2. *It could be tied to rates (reused water at a lower rate) for communication as a cost-savings measure to the city.*
3. *Usable green spaces within communities should be a priority as they can extremely well used to encourage healthy, active, and social living.*
4. *I have to participate in the Water Freeze program every winter. That is a lot of unused water going down the drain. Is there any way to make this water part of the water reuse program? I would be interested in finding out.*
5. *Setup some free pump stations people could use if they choose.*
6. *...less concrete swales in mew community allowing water to flow to green spaces*

7. To assist low income families who may supplement their groceries by growing their own gardens and it would help if through the fair entry program they could receive free or highly subsidized rain barrels and irrigation equipment.
8. In Australia you can buy certain washing powders that are safe to then use as grey water for the lawn.
9. ...these park signs could be used on public grass and shrub areas that are left unwatered - tell people why the city isn't watering certain areas
10. Use mats instead of H₂O as dust control on construction sites
11. Potentially including it with the years property taxes
12. Free rain barrel is good, with a deposit based.
13. Would be nice to see the U of C engage in engineering challenges of how to run toilets with grey water instead of fresh

Question 11a: What would you want to know more about to increase your level of comfort and overall support for water re-use. Select all that apply.

Figure 20 below outlines what we heard from Calgarians on the portal.

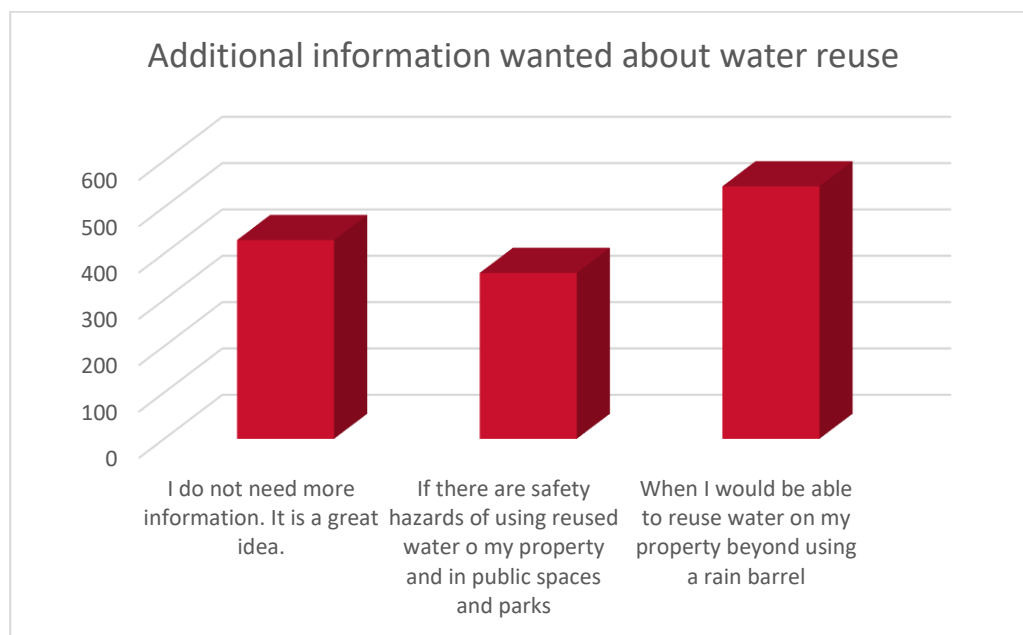


Figure 20- Additional information wanted about water reuse

Question 11b: Other?

Respondents were also given an opportunity to share other topics that they would like to gain understanding about with regards to water reuse.

Themes below are from feedback collected on the public portal.

How and when

This was the most common theme. Respondents are interested in the logistics of water reuse on their property. Many comments are posed as questions, indicating that reuse is probably a relatively new concept and most people have lots of questions.

- *Not only "when" I would be able to reuse water on my property but "how" do I do this?*
- *Seen on Sask farm: summer pipe from kitchen sink to yard, so all used kitchen water drains to yard. Can this be done and how?*
- *How I can reuse water on my property beyond using a rain barrel*
- *is there another way besides a rain barrel?*
- *How would I do this? ie. How would I recycle bath water?*
- *When will the city permit grey water systems?*
- *I live in a condo which does not capture rainwater. what possible reuse of water could be done?*

Not supportive

- *stop wasting tax money. no such thing as climate change or its increasing with the city running its mouth.*
- *No information needed. It's not a good idea!*
- *Nothing...It's another stupid idea from our elected officials*
- *I would never feel comfortable with this.*
- *Leave it alone.*
- *dumb.*

Cost to implement and to the taxpayer

Closely following and often associated with the non-supportive comments above, is the sentiment that water reuse will be too costly and not a good way to spend taxpayer dollars.

- *Cost of the research and development and continued cost as a taxpayer*
- *I do not support this initiative. it will be way to costly*
- *the cost of building the overall process of collecting and reusing rainwater, stormwater and wastewater to continue to irrigate community parks*
- *Cost. In particular a transparent cost-benefit analysis, that is more specific than some generic "the sky is falling if we don't" justification.*
- *COST!!!! WHAT'S IT GOING TO COST???*
- *It's a great idea but given the city's horrible track record of spending taxpayer dollars I'd want to understand how you're going to go about doing it in a cost-effective and responsible way*
- *Studies on what other countries doing to combat this issues or preparing for it.*

Education, data, and proof

Many respondents said they want more information to help answer their questions. This ranges from information about the basics of water reuse, to potential water savings, use on food plants and other innovative ways to reuse.

- *Quantification of reduced water usage (e.g., percentage of water saved)*
- *Studies on what other countries doing to combat this issues or preparing for it.*
- *What actually is reuse water? Where does it come from and what is in it potentially?*
- *I've selected both above, because I do think it's a great idea and I don't need more information to be on board, but I would still like that information so I am fully informed.*
- *Reuse water for vegetables??? More information needed*
- *The city should provide more information on these types of programs and methods more visually appealing than using a rain barrel to store water for resuse. Also Information on other methods of reuse such as toilets that you wash your hands to fill the toilet tank.*

Contamination and public health

Some respondents shared concerns about the safety of reused water while others are confident it is safe and The City should communicate this more clearly.

- *It should be clearly communicated that available evidence suggests that rain barrel water use on vegetables is safe. City information doesn't currently do this.*
- *Permitting gray use water is possible but people need to understand the limitations and risks, including bacterial and contamination with detergents and other nutrients*
- *Report on water quality of the reused water including pharmaceuticals and emerging contaminants.*
- *Reuse of water from a bath, for example, requires good health. These policies may negatively affect frail or disabled*
- *I'm what ways can I use the grey water? Any health concerns? Does it need filtering or treating? Who's going to pay for the equipment or technology?*

Misunderstanding reuse

There were quite a few comments that indicate there is an opportunity for public education about water reuse is, how it is installed and what it can be used for.

- *How would individual homes be supplied with reusable water (aside from their rain barrels)?*
- *How would the city provide access to this water?*

Business respondents

Figure 21 outlines what we heard from businesses when asked the question:

Question B5: To what extent do you support The City developing a Water Reuse Strategy as part of the Drought Resilience Plan?

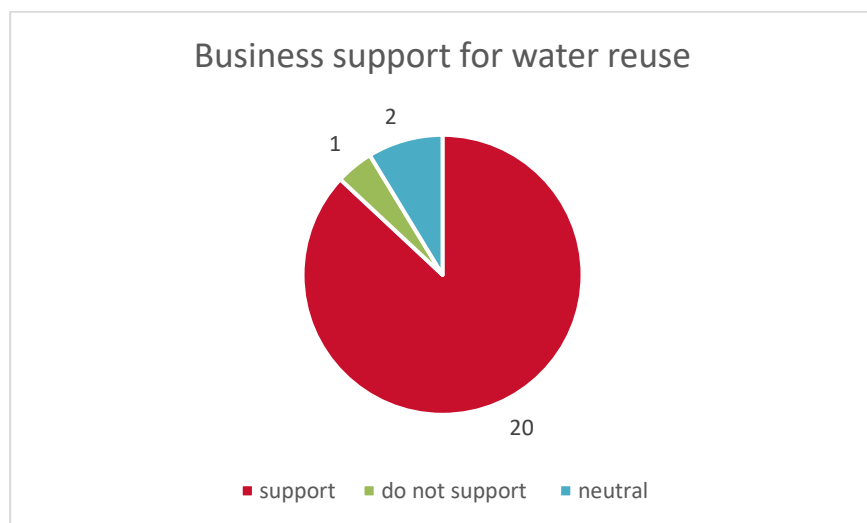


Figure 21- Business support for water reuse

Question B6: Please share your thoughts about The City a Water Reuse Strategy as part of the Drought Resilience Plan. For example: What do you like? What do you not like? Do you have any concerns The City should take into consideration when developing this idea?

The most common theme for this strategy from business respondents was that of overall support and that this strategy just makes sense. Again, supporters shared a few concerns and suggestions for The City to consider.

Supportive comments

- *A fantastic idea that can and should most certainly be used at scale.*
- *I think focus on efficient use of existing resources makes a lot of sense.*
- *Water reuse is brilliant.*
- *love it*

Cost and appropriate application- not one supportive person shared this sentiment

- *in areas where it makes sense i agree with it, however can not be a blanket policy as it does not work in every instance. The plan needs to be looked at in depth as it is a very expensive system to put in place and to maintain. It looks great on paper, but the hard costs need to be visited and fully understood.*
- *BUT it has to make financial sense. Xeriscape should be promoted first, then reuse where can be cost effectively implemented - new development areas or big redevelopments make more sense*
- *In a Park setting - Re-use of Storm water makes sense A) Developments are mandated to use surface water collected on their sites aka Irrigation. Park sites Irrigated with storm water & UV treated do not require use of more expensive & finite potable water.*
- *Good strategy. We're having more clients and developers interested in permeable surfaces (patios, court yards etc) with their own water storage for later garden use. Save from always losing run off, from concrete asphalt etc.*
- *I support re-use if combined with water quality and salinity management. Existing development regulations completely omit snow removal and snow storage facilities on sites. We mandate bike racks and garbage enclosures but the 6 months of snow are neglected to be included in the development of the built landscape. Snow storage, soil profiles interfaces, and ground water recharge are opportunities*
- *Should be a community thing (storm pond pumping throughout community. Like the community of Artesia, south of Calgary. To do per house is not cost effective. Also do not go overboard on water treatment or have it start at the storm pond level. A decent pond should be the focus.*

Align regulation and remove red tape

This theme includes sentiments about The City supporting the implementation of the strategy through alignment of policy and removing red tape.

- *We already reuse captured stormwater from industrial properties and use them in toilets/urinals. Fully support this strategy and City should not be a barrier to implementation.*
- *ensure coordination of all regulations for reusing water so that one can actually implement the strategy and a property owner can execute the strategy*
- *Water reuse is great, but the filtering requirements by the province make it unrealistic and unaffordable. Until the City addresses that it will not be adopted well and many existing systems will no longer work when the changes happen*

City needs to be willing to take risk

This theme highlights a desire for The City to try new things and lead by example.

- *I think this is a no brainer, in a city we are extremely good at sending the water away when it falls from the sky. But if we can capture and reuse, that will go much further. Verge Permaculture has*

done a ton of research on rain water capture and use and could be a great resource. The city has to stop always looking from a liability perspective and instead a leader in change for its citizens

Health and safety concerns

Some respondents shared concerns about contamination and public safety when using re-used water.

- *I support reuse water, my only concern is the possible health factors with distribution of reuse water in the air*
- *Safety concern. water can be contaminated with E-coli bacteria.*

Limitations for irrigation systems

These respondents point to limitation in the application of reuse on their property and from an industry perspective.

- *I don't feel this something that could be supported on CBE fields short of running new deep services?*
- *That a harder look use of reuse from irrigation, it does not always work*

Figure 22 below outlines what we heard from businesses when asked the question:

Question B7: What would you want to know more about to increase your level of comfort and overall support for water re-use. Select all that apply.

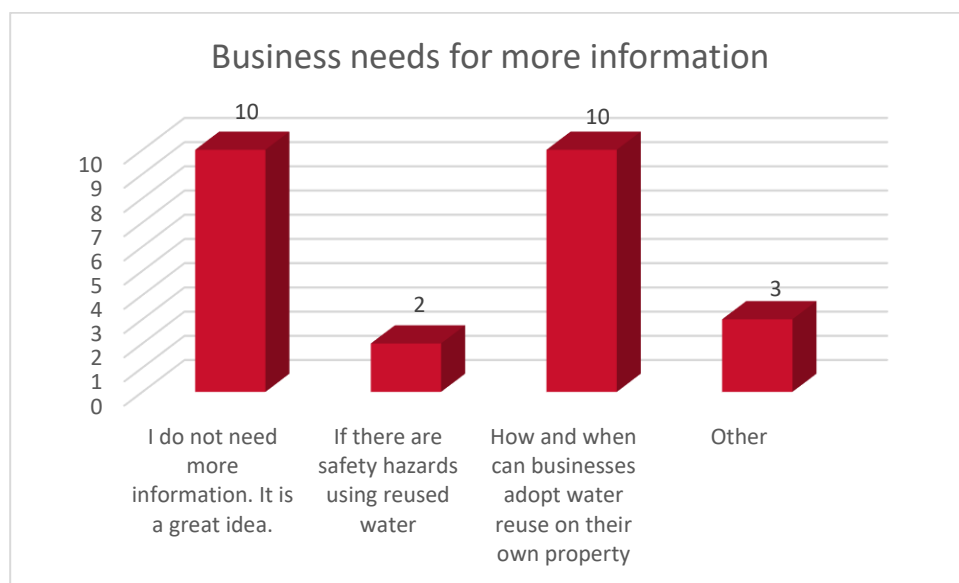


Figure 22- Business needs for more information



Question 7b: Other?

Respondents were given an opportunity to share other things that they they'd like to know more about with regards to water re-use. Respondents shared the importance of cost implications, both for The City and for business, and that water re-use should not replace or diminish the use of other important strategies.

- *For business to adopt (invest) in such measures, a financial benefit must be presented as part of the justification.*
- *it needs to be a well thought out plan and the city and/or business needs to understand the long term cost implications*
- *Need to be cost effective and should not replace less use promotion (xeriscape) and water management into water table*

Considerations and recommendations

While water reuse was widely supported by the respondents during this engagement, many questions and concerns were raised. Reuse seems to be a relatively new concept for some, with many people assuming that rain barrels are the solution. A common theme for this strategy was having The City provide a free or heavily subsidized rain barrel to every homeowner through a subsidy program or similar to the green and blue bins for waste management. No one mentioned the rain barrel sales The City supports through Green Calgary, indicating a need to promote sales much more widely or to explore new ways of getting affordable rain barrels into the hands of Calgarians.

We heard from some respondents a clear discomfort about water reuse, with some sharing the selective uses where they would and would not feel comfortable. Others shared concerns about safety for children, pets, food crops, wildlife and the environment due to contamination issues. There were also many questions about the implementation of reused water, include where it comes from and how it is distributed. Some respondents' feedback highlighted significant misunderstandings about this drought resiliency approach. Many concerns and questions we heard from respondents could be addressed through a comprehensive education plan, clear communication, data and proof of success from other countries.

Respondents desire to have residential greywater reuse is very high. Many shared frustration that it is currently not allowed and want The City to advocate for updated federal plumbing codes and Calgary bylaws that reduce red tape for residents reusing water safely in their home.

Topic area #6- Financial and rate-based strategies

Public respondents

Question 12: To what extent do you support The City pursuing financial and rate-based strategies as part of the Drought Resilience Plan?

Figure 23 outlines what we heard from public portal and Fair Entry respondents.

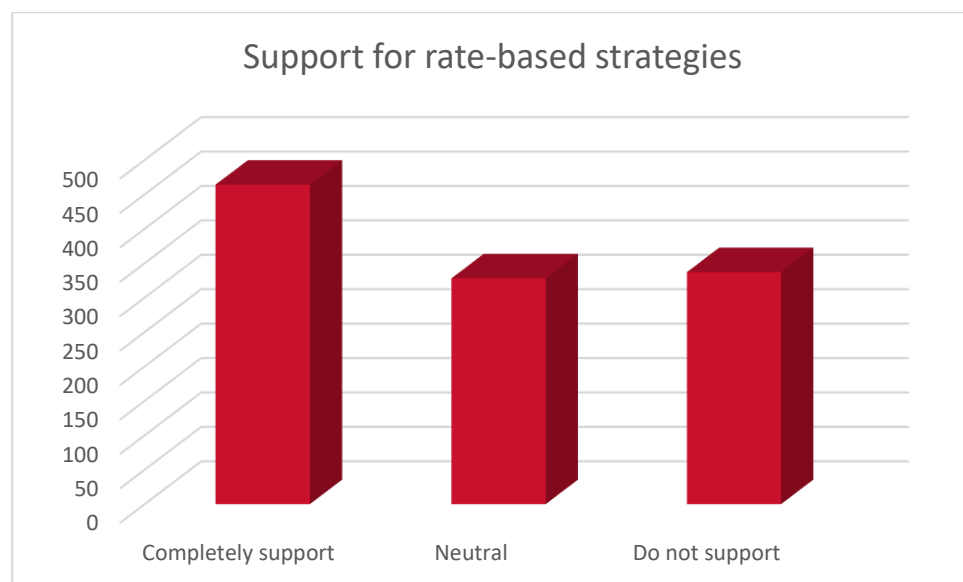


Figure 23- Support for rate-based strategies

Question 13: Please share your thoughts about The City pursuing an outdoor watering schedule. For example: What do you like? What do you not like? Do you have any concerns The City should take into consideration when developing this idea?

Themes are from feedback from the public portal, Fair Entry and Action Dignity.

Themes from supportive respondents

Supportive respondents shared that they liked the idea of this strategy because it made sense and was fair. However, this sentiment was often accompanied by concerns and considerations that respondents felt The City needs to address. These are outlined below.

A fair strategy

- Good and fair option



- *We need to deal with this now before we become like California. I fully support any efforts.*
- *User pay system makes sense. Use more, pay more.*
- *This is a great idea and makes people conscious of this issue.*
- *People should be made accountable*

Financial ‘sticks’ work

Many supporters of this strategy believe that financial disincentives are the best way to motivate behaviour change.

- *Strong financial incentives are the only strategy that will change behaviour. Education and awareness are nice, but they will only ever make a tiny difference, and cause frustration for the honest people who heed the message and put in effort when the majority don't care.*
- *We already monitor our water use all year so it wouldn't have much of an impact on us but it might make others think before they turn the sprinkler on and go off for the day.*
- *Water usage must be quantified economically otherwise behaviour won't change.*
- *Money talks.*
- *This is common sense and a market based solution that should resonate with many Calgarians. There would need to be improved visibility to household water use for people to act on the signal.*

User decides and has control

This theme includes sentiments about Calgarians maintaining privacy and still having the right to decide how they use water and when.

- *This is exactly how the city should regulate water use. Anything else involves the city getting into private matters and restricting individual choice that it has no business doing*
- *This is the best idea. This way someone can make the choice to turn the sprinkler on for their kids on a hot summer day without having a bylaw officer show up at their door.*

Themes shared by supportive and neutral respondents

These respondents shared many considerations, questions, and concerns, despite their support for this approach. These are broken down into three sections, with the themes in each section listed from most to least mentioned. The three main themes are Considerations for Rate Structure, What Respondents Believe is Required, and Undesirable Outcomes.

Considerations for rate structure

What is a basic amount of water?

This theme includes comments and questions about how The City would determine a baseline volume and some offer suggestions to consider.

- *Larger families will use more water so maybe the summer use rate needs to be based on winter use rather than overall volume.*
- *Its OK. As long as the low rate allows for some outdoor landscape watering in the volumes (for an average yard with lawn and garden)*
- *The survey should include an option for limited support. I might have multiple months of below average water use and then extenuating circumstances requiring a month of higher use. Should an averaging be considered.*
- *The rate differentials must be quite high to make a material impact on water usage. The example's differential is not very high.*
- *I wonder about "guarantee a basic amount of water for indoor water use at a fixed rate" and how this amount would be calculated, and particularly how this would affect outliers for example, mutli-generational low-income families.*

Only during drought

Many respondents supported a surcharge during times of drought, but this sentiment was often combined with comments about the baseline amount of water being reasonable enough for day to day indoor use and some outdoor watering.

- *I like implementing higher rates when there is periods of drought. If people want to water then they can pay for it. This would obviously need to be clearly stated by the city on multiple channels so people are aware when rates increase.*
- *I like the surcharge during a drought. Not a increase during summer.*
- *Higher prices during drought periods seems more in line with the overall goal, rather than just higher prices all the time.*
- *I am more in favor of a surcharge for water over a certain volume used during droughts.*
- *OK to put a tax on use of irrigation systems and excess water use but the untaxed base amount of water per household needs to be sufficient for gardening vegetables by hand. Surcharge taxes should only be used in drought circumstances.*
- *As long as there is a reasonable level of water use included for drinking, bathing etc. I think it's fair in drought situations to add a surcharge for amounts used over the 'limit'. Would like very clear communication about water rates as it is very difficult to understand the current bill I receive.*

Per person basis

- *I think this is a great idea, but I wonder if there is a way of incorporating a per person use charge? I don't want this to disproportionately impact families*
- *Need to take into consideration how many people are living in the household too.*
- *I like it, but would want to ensure that it's based on population not address/unit. There are federal programs encouraging multi-generational homes, which would be punished if every rate-payer was given the same amount of water, even though on a per-capita basis they would be below average as they'd all share a yard, etc...*

- *With the increased costs for everything these days this is tougher to consider. It should be set high enough to not impact regular indoor water use of a family, and needs to be considerate of the number of people in a home. For instance a 80 yr old senior who lives alone does not need the same cap as a family of 5 or 6. And I am more likely to support cost increases during times of drought.*

What will the money be used for?

Many people questioned how the extra revenue from block rates or a surcharge would be use. Many shared supports for it going back into drought resilience and subsidizing lower rates for low income Calgarians but were not happy about the idea of it going into a general pot for unrelated operations.

- *Not sure. If people can still afford to use water outside even with higher rates then it does not help water conservation.*
- *Also, what would the additional funds collected go towards?*
- *I'd be interested to see where the extra costs go-- what are they funding? more public services? I'd support that. But any sort of "relief payments" back to Calgarians reduces the impact of our funds.*
- *I think these strategies are helpful in times of drought, but given the City of Calgary's poor fiscal track record I am concerned that this is something the city would use to generate extra income to cover poor fiscal management in other areas, If there are not very clear boundaries set for extra charges.*
- *If this is implemented, the extra money collected from surcharges should further reduce the basic rate (eg you are charged for using more and rewarded for using less), or be used for grants for transitioning lawns to drought resistant landscaping.*

Only for excessive use

- *I do not support this if it increases water bills which I already find high. If there is a tiered level it should only kick in when someone reaches excessive consumption. If a household is being extremely wasteful then there could be a charge but for moderate water use including inside and outside of the home I would not like to see a tiered rate where marginally more use is more expensive.*
- *We are hearing about families having difficulty affording utilities right now, so it seems hard to justify. I think this would need to be a last resort strategies and would need to target outlier water consumption (very heavy users).*
- *This is a good idea but prices should rise exponentially as useage goes up. Maintain low and affordable rates for normal home useage and greatly increase rates for very high useage (golf courses for example).*

Leak alerts and live monitoring

These themes were closely associated, where respondent commented that it is an unfair approach unless people can know in live time how much water they are using and when they are approaching the next tier or block. This theme connects, meter technology, measuring indoor versus outdoor water use and how to read a water bill.

- *Most people aren't aware of their water use until their bill arrives. It would be a nasty shock to get an inflated bill. Is there a way to get a continuous info feed on water use in your home? Can water meters directly send info to owners? I think a "water*
- *My one concern (with all water metering) is that ideally there should be an alert if you are suddenly using more water. Just as the mobile phone companies have in place to prevent accidental large surprise bills. If you've developed a leak you could easily not know about it until the bill comes. An earlier alert will stop people from getting mad about the system, and save further water*
- *I need more information - how much does a typical family use for indoor water and how might a large family be affected by this tiered system. I would also like a more current reading of what my water consumption is, particularly if I am trying to stay in the lower tier of rates.*
- *Make this as plain-language as possible - it can be confusing (I think you're already doing a good job!). How would someone be given a heads up if they were trending towards the next rate block?*
- *It is really hard to know how much I'm using until it is too late and already a month past. How would I measure the output easily? It is hard to budget water usage with such variable weather.*

Tie to property value or income

- *I would personally like to see water surcharges tied to property value or income of the property owner in some way, as those with enough money wouldn't be as disincentivized from using water needlessly as the average citizen.*
- *People should be charged or taxed based on their income level and where they live and what kind of building they live in - for example, higher income people living in a large piece of land in the suburbs should be paying way more for water, especially when they're wasting it on a lawn.*
- *Tiered rate makes sense, but perhaps scaled to house size or property size?*
- *The ability of citizens to pay must be a major consideration. It should be based on annual income and not on property value.*

Yard size and type of landscaping

- *I support this action as the system is set up via financial means. As long as the city provides a structure that reviews existing key indicators for property type and possible water.*
- *Economic ability to pay. Taxes based on grass coverage I would support*
- *Size of the property should also be taken into consideration, to some extent.*

- *I believe that the usage rates should take into consideration the type of landscaping being watered and consider deductions for those using water wisely such as maintaining a yard that doesn't need water as often or that waters the yard during optimal times ie not in the heat of the day.*

What respondents believe is required

Education and transparency

This was one of the most common themes, where respondents shared topics in which they would like more information and their expectation for transparency in how rates are calculated.

- *You need to communicate very clearly why the rates structures are set up this way. You'll need to communicate a lot about the changes and offer tools for people to reduce their water use before implementing this and after.*
- *again make it fully transparent regarding how the numbers are calculated.*
- *I am sick of neighbour's watering their grass, especially in the late afternoon when the sun is beating down on their property. Education is needed here.*
- *Need to provide support and education to help people achieve success in meeting targets that would lower their lot cost. Have a help line or a link to resources that can help people.*
- *I think this will help people give more thought to their watering strategy. Communication and education are key elements to get people on board.*
- *To many uncertainties with any kind of rates with the inflation and people trying to financially recover from Covid - and I am not sure how these would work - would like more info.*
- *What constitutes a DROUGHT?*
- *I need more information on this plan from communities that do this.*

Combine with other tools and support

- *it is a good way to encourage people to better use their water. but I would like to see it used in conjunction with legalising other possible sources of water like graywater.*
- *I like it, and rather than just having penalties there should be incentives for people who change their behaviour by reducing water use, or increasing rain or grey water harvesting, through rain barrels as an example.*
- *I support a rate based level but should also pair with rebates on changing residential green spaces. Should give homeowners incentive to change to water friendly lawns/gardens or it'll just be punishment to try and keep old lawns green with no cheap alternatives*

Don't forget about multifamily housing

- *Condos complexes tend to be "last or excluded" and usually harder to sell changes years after the City initiative started....like the low flow toilet rebate, and solar panels because we are "too big" for*

online resources to self-serve. To help us, please at least make it simple link to then connect to someone at the City for our next step.

- *The rate differentials would have to be significant. It would need to account for the number of units. le a condo bldg, that does not have individual meter units would easily exceed threshold, but might actually only be using a small per unit amount.*
- *My question on this is wondering how the tiering would work for condos and multi-family (townhouses) as they are often (older ones especially) are on a single meter.*

Undesirable outcomes

Wealthy people will not be incentivized

- *I like this idea, but it will likely not make any difference for people with lots of money.*
- *This won't change behaviour for people who can afford the higher rates- folks who live on large parcels in Mount Royal aren't going to care and are going to keep watering their lawns as much as they want because they can afford it and the rest of us will pay for it.*
- *The problem with rate based strategies is that people who typically use far too many resources (in any sector and of any kind) typically have far too much money and it has no impact on what they do.*
- *I dislike that wealthy people will be largely unaffected while low income families will carry higher financial burdens. I think financial incentives would be more effective (e.g., fixed cost for water but a graded rebate based on usage each month/year)*

Declining yard maintenance

- *I don't like that some will not maintain property, i.e. not water at all. Hence, fire hazard increases and weeds get stronger. OR will beg for assistance.*
- *My only concern would be tree health and potential tree death if folks don't water during a drought period. This would create additional hazards/ environmental effects*
- *I think it depends on the situation. For example I have planted 80 drought resistant shrubs on my property but the first 2 years they need a bit extra water to establish. I dont think I should be punished for that.*
- *It penalizes people with new houses and landscapes that require additional resources in their first year.*

Themes from unsupportive respondents

These respondents shared many questions and concerns, alongside their lack of support for this approach. These are broken down into two sections, including Cost to the Taxpayer and People who Will be Unfairly Penalized. Themes in each section listed from most to least mentioned.

Cost to the city and the taxpayer

Life is already expensive

- *The cost. once again everything has gone up and this would be one more thing that would affect the cost of living. It's hard enough as it is*
- *I'm already reducing food consumption, I'm cold all the time because I can't afford the increase in rates and taxes. Read the room.*
- *As a senior with low income I wouldn't like getting a higher bill on water use.*
- *We are taxed to the hilt now. Please do not make it more expensive to maintain my property.*
- *However penalties/fines for washing cars, driveways etc would be welcomed*
- *We are taxed to the hilt now. Please do not make it more expensive to maintain my property.*
- *However penalties/fines for washing cars, driveways etc would be welcomed*

People who will be unfairly penalized

Are low-income and live in multigenerational homes

This was the most common reason that respondents do not approve of this strategy. They point to inequities for large families and the disproportionate burden that low-income families and senior would experience.

- *Often times strategies like this make far too little of an impact and may only negatively effect people who may also be struggling with poverty and other systemic barriers. I prefer incentives vs. disincentives, but perhaps I'm not understanding completely what's being proposed here*
- *This rate penalizes larger families or mti famil dwellings as it's not based per person. People living in shared spaces should be rewarded for their s.aller living footprint not penalized because there are more people in one house. This also applies to earlier in the survey. This solution assumes every house hold has the same number of people.*
- *This will likely harm those unable to pay in the first place and not effect those that don't care what they pay. Large yards with lots of grass are going to continue as they are and leave the real work of water conservation to the rest of us. It's very much a class system and I do not support this.*
- *This is completely classist and punishes low income folks for the excesses of the rich*
- *There's a fundamental equity issue when water use is restricted by cost. Water is a fundamental human right and thus should be free regardless of use. Other ways of encouraging responsible water use should be considered.*

Grow food

- *I do not support this strategy as most of these types of strategies do not take into account water used for food production nor do they credit residents who repurpose indoor water for outdoor use. Outdoor watering schedules with heavy fines for violators is preferable.*



- *This seems like you are punishing people who are trying to make ends meet by growing their own food. I don't support this initiative at all. Pls do not implement it - life in Calgary is already too expensive for so many people who are struggling to make ends meet.*
- *This makes it difficult for low income and fixed rate household to do what they can to reduce food costs using strategies like gardening in the summer. I would like to know what the impact would be for these marginalized populations before I could support this.*
- *Some people will be raising vegetable gardens as a way to save money, penalizing them for watering with financial strategies will be detrimental. As well as to organizations that have community gardens.*
- *This punishes those that want to grow veggies in their garden. We should encourage people to grow their own food, which of course uses water. While those that are watering their lawns should be discouraged.*

Have unique circumstances

- *Depends on the number of people who live in the residence. Also what if there is a home business located there re: hair salon, painter, etc. Also seniors who have home care use more water sterilizing equipment and cleaning up after procedures. Many cannot afford to pay more water.*
- *Taxing water could prove counter productive by reducing funding available for water saving investments. Some families may have particular reasons that they need to use more water and any program that takes that into consideration would be unduly intrusive towards individual privacy.*
- *How do you know what the water is being used for? Unfortunately, for pain management, our family tends to run the bath several times a day.*

Maintain trees and their environmental benefits

- *Again, if you have a yard that requires water (mature trees/plantings) you are at a disadvantage.*
- *My neighbors do not water their trees instead their roots get water from my plants- so I pay to keep their trees alive? Trees and grass keep the area cool unlike rock mulch or concrete. If you are going to charge more for water then charge extra for ac*
- *We bought a property with a lot of trees, shrubs, and perennial flower gardens. These are all beneficial to the environment and need to be watered. I don't think I should have to pay more to maintain this, when having this green space is benefitting the environment.*

Rely on yard for wellbeing

- *Really?! Tax, tax, tax.....can we not enjoy a green lawn, beautiful plants, happy bees and birds for the 4 months a year that our weather allows us to??? This is NOT PHOENIX!!*
- *During Covid many people's sanctuaries were their yards. It gave me my sanity. So if you start charging me more for letting my kids play in the sprinklers or watering my flowers, i'm going to get very sad very fast. Honestly this is a terrible idea.*

Have kids and want to play

- *Hate it. Charge money for water YYC doesn't have. Where's the money going? Somewhere good? A beach ? A NW splash pad ? Your just fining ppl to get them to stop. Instead plan a city that's better! Outdoor water park. If U build it they will come! (Calypso Ottawa) guess where ppl R on hot days. Not filling pool in yard. Red deer discovery Canyon! Not home w/hose on!*

Business responses

Figure 24 outlines what we heard from businesses when asked the question:

Question B8: To what extent do you support The City pursuing financial and rate-based strategies as part of the Drought Resilience Plan?

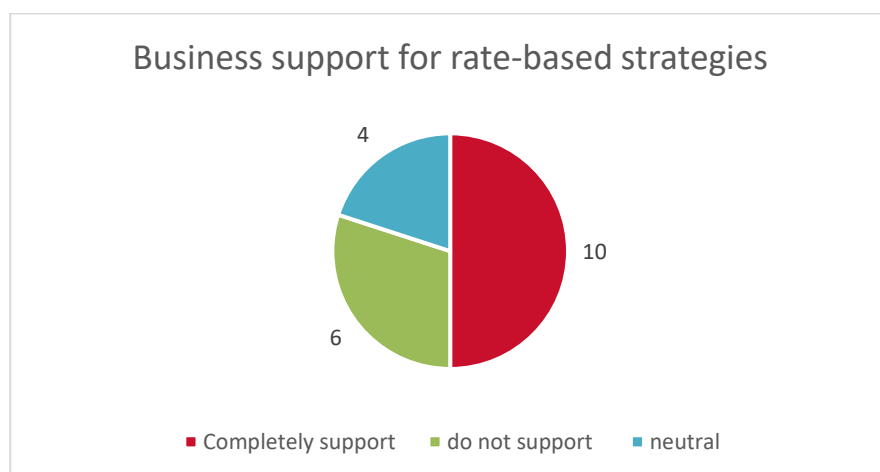


Figure 24- Business support for rate-based strategies

Question B9: Please share your thoughts about The City pursuing financial and rate-based strategies. For example: What do you like about it? What do you not like? What would a strategy like this mean for you? Do you have any concerns The City should take into consideration when developing this idea?

Themes from unsupportive respondents

For the respondents who do not support this strategy, there were two unique concerns. These include **Ineffective Approach** and the possibility for **Unhealthy Landscaping**

- *This is to restrictive & Municipal overreach. Probably de-moralizing in keeping Landscape healthy.*

- *Trying to get more money from ppl never solves the issue. Research and development will. Money better spent and more ppl will support this idea.*
- *Do not support...those with low income would perhaps not benefit from something like this. Also people would intentionally water less resulting in loss of significant greenery throughout Calgary.*

Themes shared by respondents with all levels of support

Themes that were shared by all respondents of this strategy include the following in order of most suggested with least suggested:

Water is too cheap/ money talks

- *Not sure what this is about. Think we pay too little for water for it to justify water conservation.*
- *I think this is great, most don't understand how subsidized the true cost of water really is, so this may help in seeing the bigger picture. Most people will change when it hits them in the pocket change.*
- *More water we use, the greater our overhead cost / infrastructure cost which means more money spent on pipelines and water treatment plants, which cost billions.*
- *Money talks and this gives a financial incentives to reduce water use.*
- *A rate structure increase may help create an economic condition to justify capital investment on sustainability and water reuse.*
- *it is an option that would require more information as to what sets the criteria for the Rate Block*

Must combine with other strategies to be effective

- *Just charging more does not create the proper incentive for creating real lasting change. It should be coupled with something along the line of required water meters for irrigation, smart controllers, annual irrigation inspection, give the lower rate. Any other time, charge the higher rate.*
- *is it a simple beautification of your residential landscape, or is it a requirement to make a space usable. The business should not be punished with higher water rates because they need to make an outdoor space usable.*
- *I'm unsure of how this would impact our organization. We use a lot of water to regulate the temperature of our buildings (especially in summer). With a rising carbon price, I'm not sure we also have the capacity to have rising water prices. Although we wholeheartedly support water reduction strategies and would do our best to participate fully.*
- *Rates based on consumption are an excellent idea. At the residential level, as long as equity is carefully considered, this could be a game-changer. It would be great to offer incentives with this, too, such as tying this rollout to subsidies for native drought-resistant plants, or similar. We believe many would enjoy these plants and less grassy lawns if they were introduced to them.*
- *I believe this would increase the stop light on smart irrigation controllers*

Unique nature of water use must be considered

- *I agree with the theory of penalizing a consumer who is using an excessive volume. However, each consumer is different. A single consumer may be consciously managing consumption, but forced into a premium rate because they have multiple users. Conversely, a single consumer with fewer users may be wasteful in consumption and still benefit from lower rates.*
- *Cannot support without more information. Some uses have different water requirements than others.*

Equity concerns

- *Financial blocks like this only act as a paywall to abuse - those who can afford to pay the higher rates won't be affected by this, only those struggling will.*
- *Please ensure that vulnerable populations are considered.*

Rewards and education

- *Agree that it should be employed, but would also urge a consideration for a rebate for households that harvest rainwater. Also, while raising the price is effective, it doesn't educate people on the why. Educational programs should be created to help people reduce their use.*
- *rebates for those who have xeriscape, stop requiring lawn on boulevards should be xeriscape*

Question B10: What considerations should The City make to ensure financial equity for business customers, should a rate-based strategy be implemented?

Themes shared by all business respondents

Nature of water use and type of business

- *Attempt to ensure that costs are ~ reflective of usage.*
- *This will be very contextual and depends on what type of business it is. I am sure there are some that are very responsible already but many that could care less and use way more than they need.*
- *what is the water being used for and the level of necessity of use*
- *This makes a lot of sense for businesses, too, although there might be exceptions or differing rates for critical businesses that use a lot of water (certain types of manufacturing, for example). While everyone should pay for the water they use, a gradual introduction of the rates might be prudent, as this could be a large business expense.*
- *Income level, amount of grass*

Incentivizing individual reduction

- *One rate. Perhaps track consumption over multiple years and provide incentives for reduced usage.*

- *Consider whether the organization already has water reduction and reuse strategies in place (ie: the rate should be a financial incentive to improve, rather than punishment for using water in general)*
- *Higher use should be higher rate, though the rationale needs to be clearly explained (and science-based).*

Impacts to business

- *Businesses are already under stress from all the government charges. Adding sur-charges just hurts them more.*
- *Where city has required certain "landscaping" you can not hold business responsible for not having xeriscape. Tax incentives should be in place to encourage (and pay for) change. Business carries too much of the tax burden now.*
- *What impact of overall margins for the business. Garden markets will be in trouble for higher costs. Which will be turned over to the customer. Which that customer too will be paying more at their home residence.*

Impacts to landscape

- **Another concern is the health of our landscape. If the green infrastructure are starved of water, we will see an overall decline in the vibrancy and health of our green infrastructure.*
- *The green infrastructure offset. You may have the unintended consequence of less green infrastructure on sites and an escalation to heat island and paved impervious surfaces. This could cause the opposite effect of encouraging less plants/impervious surface and more run off.*

Considerations and recommendations

Rate based strategies received the most mixed support of all the strategies proposed. In the current economic environment, many feel that increasing the cost of a basic necessity is unacceptable. If The City did move forward with a rate-based strategy, respondents shared many considerations for how a basic volume of water should be calculated and what factors should be examined to develop 'blocks' and any increase in pricing. It would be imperative for The City to be transparent about how rates are calculated if this strategy is adopted.

Equity issues, especially concerns for low-income, multi-generational and large families were commonly expressed. Some raised other important considerations where individuals might use more water indoors for medical procedures, pain relief and extenuating circumstances. In addition, both Calgarians and business respondents expect that some exemptions are needed to not unfairly penalize those growing food, maintaining mature trees and trying to establish new drought tolerant plants, as per other City recommendations.



A few comments from this question illustrate an opportunity to increase education about average household water use and the average volume and cost of general indoor living (like drinking water) to reduce concerns that basic water use during a hot summer is going to be impacted. As one respondent said, *“Is it possible to know what water is being used outside versus inside? I wouldn’t like to see my cost of water go up just because we’re drinking more water in the heat.”*

Calgarians and business respondents expressed a desire to track their water use in real time to control their use and costs. If this strategy were to be implemented, it will be important to ensure that Calgarians who pay a water bill have the tools to not only monitor their water use, but also make changes to their landscape to reduce it. This can only be accomplished when incentive/rebate programs are in place, resources are readily available, people are able to reuse water effectively and Advanced Metering Infrastructure (AMI) is an option for Calgarians.

There also appears to a gap in understanding about why a block rate strategy would be beneficial, especially during drought conditions. The need to manage water demand against the available or reduced water supply in the current week or month needs to be clearly articulated to ensure people understand that justifications like *“I only using water outdoors during the summer”* and suggestions of *“averaging annual water use to determine a block rate”* do not help to solve the issue of reduced water supply during drought conditions.

Topic area #7- Landscaping requirements in new communities and redevelopments

Public responses

Question 14: To what extent do you support The City pursuing water-wise landscaping requirements in new developments as part of the Drought Resilience Plan?

Figure 25 outlines what we heard from the public portal and Fair Entry respondents.

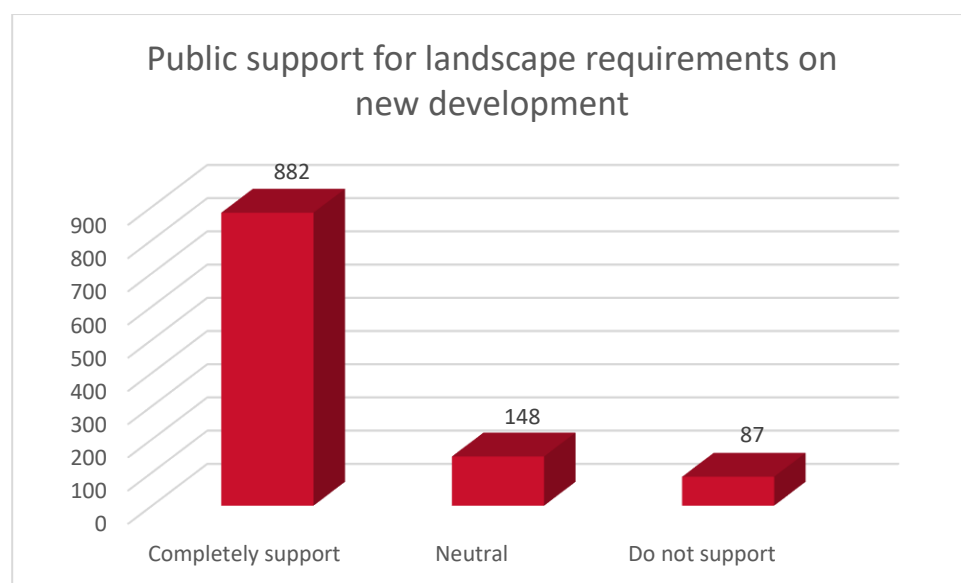


Figure 25- Public support for landscape requirements on new developments

Question 15: Please share your thoughts about The City pursuing landscape requirements in new developments. For example: What do you like about it? What do you not like? Do you have any concerns The City should take into consideration when developing this idea?

Themes shared by respondents with all levels of support

Regardless of the level of support that respondents had for this strategy, some shared concerns, and suggestions about making it acceptable for everyone.

Don't turn Calgary into a concrete jungle

This theme included many comments from respondents who believe water-wise means lots of hardscaping with rocks and pebbles. Many are concerned about the negative effects of creating heat sinks.

- *In new development but also encouraging greenery as it is part of the requirement of new neighborhood. We don't want to live in concrete. We have enough of the roads and bridges being huge and using space.*
- *Calgary is not in a desert. As a keen gardener I support landscaping that support biodiversity and pollinators, but I believe we can do this in a water-wise manner without creating heat sinks due to unnecessary xeriscaping with rock and pebbles, or limiting landscaping to native plants only. Relaxing restrictions on boulevards to allow raised beds and remove lawns is an easy step forward.*
- *The enjoyment of a property owner- to use grass or vegetation or to hardscape their property, should not be dictated by City Hall. Hardscaping holds the heat, vegetation has a cooling effect and the plants produce healthy environments.*
- *Drought tolerant plants for sure. NO to hardscaping or zero scaping! Germany is forcing property owners to rip up their hardscaping in their front yards, and put in plants. Hardscaping contributes to heat build up in the cities. Plants act as carbon capture, benefit pollinators and reduce exterior heat! Please do the research!*

Cost to the homeowner

Respondents who shared this concern mentioned the cost in both time, money, and effort to install and then maintain the landscape. Many also commented that the price for the developer would just get pushed onto the home buyer, further making home ownership out of reach for new buyers.

- *YES! I hate grass! What a useless species of plant to spend water on. We don't eat it but we continue to dump drinking water on it for aesthetics. But Landscaping is SUPER expensive and residents will need help to convert our properties.*
- *New communities need to be planned well. Concern is people's willingness or ability to maintain.*
- *Supportive but concerned about current homeowners having to change lawns, gardens, etc., which costs time and money*
- *Is it going to cost tax payers?*
- *These "water-wise landscaping plans" sound expensive, with costs being pushed to the end user (i.e the buyer)*

People need flexibility, make it voluntary

- *I am in support of this tool to reduce water use as long as the guidelines allow for a wide enough range of landscaping options.*
- *Great idea but not as a landscaping "requirement"*
- *I think that this is a good idea, but should not be mandated, perhaps as an option for a new homeowner. I support some requirements though such as drainage ditches to collect and move water to a storage location.*
- *Builders should get a rebate or reduction in tax when they follow these programs. They should not be forced upon us. One size does not fit all. Property tax could also be lowered for property owners who implement this plan.*

- *I like it, but hope that it won't be implemented in the same cookie cutter way as grass and 2 trees right now. Doing the same landscaping through a whole new division because it's cheapest runs the risk of some other problem down the road*

Would create interest, beauty, and demand

Some respondent shared the sentiment that this approach could help to create a new norm around landscaping and show others landscaping options so they may be motivated to do the same on their existing property.

- *Has some benefit, but there needs to be balance in keeping the city beautiful*
- *This is a great start! Plus if the newer builds have these requirements, people doing renovations may be more motivated to plant those types of plants to modernize their home*
- *If this is done in new communities, people buying into this are fully aware. This would create a new group of water wise citizens and create a new standard of thought of yards and water use.*
- *it sets up communities for sustainability. It demands more creativity to make neighbourhoods beautiful.*

Enforcing the requirement

This theme included sentiments about holding developers accountable to install the landscape and then the homeowner to keep the landscaping in place over the long term.

- *Would be very difficult to enforce as there are those who would change it after to what they want....more grass.*
- *Penalties applied if not used by developers.*
- *how are you actually going to enforce these - education and treating people like adults will be more effective and far less costly*

Themes shared by supportive and neutral respondents

General comments of support

This was the theme with the most comments from generally supportive respondents, with many sharing that this concept is a no brainer and should have been in place a long time ago.

- *I see no drawbacks to requiring new communities to develop drought resilient landscaping. This should be the standard.*
- *Love this, should have been implemented a long time ago.*
- *Sounds appropriate considering climate change*
- *100%, this should be the new normal.*

I really like...

The following section outlines the themes that supportive and neutral respondents like about landscaping requirements for new developments.

Native and drought tolerant species

These respondents liked the idea of replacing grass with other plants, although the support for native only plants versus the use of drought tolerant, but not native was mixed.

- *water wise landscaping is a great idea. It will promote native and drought tolerant plant species*
- *promote native plants and try to find a source of native grasses*
- *We have so many native bushes that often get overlooked for planting that would feed birds or wildlife. I.e. Saskatoon, buffaloberry, etc. Lilacs are often planted which aren't native and serve no purpose.*
- *This is fantastic and I'm very supportive of this! Would like to see the seed give away again too for native plants and more native plants in city parks. Requirements should apply to business too.*
- *I think that requiring more drought resistant plants is great, I don't think reducing green areas and replacing with more cement is better for the environment. Replacing no native grass and trees with more plants that survive better in this climate naturally should be better for all resources and not just water.*
- *I think that requiring more drought resistant plants is great, I don't think reducing green areas and replacing with more cement is better for the environment. Replacing no native grass and trees with more plants that survive better in this climate naturally should be better for all resources and not just water.*

Supporting pollinators, wildlife, and biodiversity

Respondents sharing this sentiment were enthusiastic about this approach and see the environmental benefit beyond just water savings.

- *I like that this approach targets new homes and will promote pollinator-friendly areas. I think this is something that just makes sense*
- *I absolutely love this idea! If we normalize the imperfect look of native plants and do away with the perfectly kept lawns, not only will we be using less water but we will be diversifying our local ecosystems. It will have a larger impact that goes beyond our yards!*
- *More native and bee- and bird-friendly plants too!*
- *This is the best idea yet from this survey. Helping pollinators and our water? Sign me up! Completely agree. In fact, I would purchase seeds from the city for drought resistant, native, bee friendly seeds for my own garden.*

Lawn and grass alternatives (e.g. clover)

Many really liked the idea of new developments replacing the current standard turf species with various alternatives such as clover, creeping thyme, and other climate appropriate grasses. A few even suggested banning grass mix that require high water use to thrive.

- *Clover and drought tolerant lawn replacements should be used as often as possible*
- *I completely support this. Lawns are a complete waste of space and should be banned. If you need a green space to play in for example, plant clover. It is better for the land, doesn't require as much care and is prettier.*
- *I have struggled to find good lawn alternative seed mixes for the Calgary area. Calgary should consider restricting the sale of non - drought tolerant lawn seed mixes in the city limits*
- *Grass is attractive but high maintenance. If there are more drought resistant options (likely also less labor intensive) it is a great alternative. Creeping thyme is drought resistant, resilient enough to walk on, conserves moisture in the ground and chokes out weeds. It also only grows to about 4" and has flowers to help pollinators. Win, Win, Win!*
- *This just makes sense - grow region appropriate grasses etc*

The City Should...

The following section outlines the themes that supportive and neutral respondents feel The City should be doing to support this concept.

Educate and encourage change

Education was once again one of the most frequently mentioned themes for this approach. Respondents are keen to learn and would like more resources.

- *No. More education might be needed to show residents the options, but also the benefits of using more suitable plant selections though*
- *City should give people all information and basic designs and incentives.*
- *Please have a webpage with drought resistant plants. Consider using them and propagating them in city road spaces and then selling them to the public.*

Provide incentives and assistance

Many respondents mentioned the need for and the benefit of offering incentives and financial assistance to support not only new home buyers, but also Calgarians living in established homes. The following are some unique suggestions of various ways The City could help.

- a discount on mulch, it's not feasible to get large volumes from the landfill
- offset programs available for low-income Calgarians for landscape improvements for water use?
- submit receipts for rebate on a certain percentage of approved products and plants

- Submit greenhouse receipt for a tax credit for certain plants
- Use the tree map and assess the least naturalized areas to provide such incentives
- Provide a cost-effective consulting service
- directed outreach through community associations to approach homeowners with turf lawns with suggestions and financial incentives to landscape differently
- Homeowner and builder education and incentives (tiered rates)
- Incentivize specific types of landscaping and make it part of the house purchase
- Small property tax rebate for people using water-reduction landscaping techniques, water harvesting, etc.
- Offer a range of kits from ornamental to food production

Make developers and homebuilders responsible

Many respondents believe that developers should be held accountable for the communities in which they build and the landscaping they are required to install on private property. For some this also includes including water harvesting solutions at the community and household level as well as a design that encompasses a higher level of sustainability.

- *new developments should be REQUIRED to submit environmentally appropriate, drought-tolerant species in their design (as well as water re-use strategies). these should be certified by a certified landscape architect.*
- *To me, this question is a no brainer. Please make developers responsible for water wise landscaping and xeriscaping.*
- *The incorporation of water collection should be required for all new builds whether redevelopment or new communities.*
- *We should absolutely make developers think of all aspects of sustainability*
- *Look at the picture holistically - it is not just landscaping but home design, blinds, energy consumption, (we have a next dr neighbour whose air con is on April to October), quantity of pavement on driveway, etc. that are all part of the solution. And don't delay - we need to do this yesterday!*

Support existing properties too

Respondents who shared this sentiment believe that this type of requirement should not stop at new developments and that re-development and large landscaping project in established communities should be required to follow the same requirements.

- *It should not be limited to new developments. If an owner in an older community wants to rip up their grass and plant drought tolerant plants this should be supported as well. I believe they do this in Okotoks.*
- *This shouldn't just be for new builds. It should be city wide to reduce water usage and increase native biodiversity everywhere.*

- *I like this idea but would also like to see older areas targeted for this plan as well. No reason why areas that are undergoing redevelopment couldn't follow this practice.*
- *IT doesn't seem fair to only have new communities do that*

Focus on City land and lead by example

Many respondents feel that The City has a role to play in leading the way by doing the right thing on City owned property. Respondents shared many ideas about what meaningful action from the city could involve, as outlined in the list below.

- *Make city land a priority to develop into more resilient natural spaces. Be an example for the citizens. Why would someone feel responsible for diversifying their lawn when the city maintains swathes of barren grass along roads, decorative flower baskets, etc. that are not water conscious.*
- *I think it should concentrate on the public spaces as that's where I see tons of water waste not on private property.*
- *It should also apply to city owned property across the entire city. Some of the decisions you have made around tree placement in medians and on boulevards means that they need supplemental water to even survive the first few years - reducing the planting in these type of inhospitable places would reduce your water demands.*
- *We should absolutely be getting people to have more drought tolerant and native species. We live in a cup du sac with grass in the middle. Why isn't this full of wildflowers that don't get mowed by the city? That way the city saves money on mowing it, and we can help the bees. Same with grass on the side of our highways like Deerfoot. Plant wildflowers or micro clover instead! Less grass is better*

The City can show leadership by...

- not planting annual flowers in planter boxes
- converting existing walkways and road medians
- giving away seeds for native plants again
- committing to permeable paving when they replace old sidewalks
- adding water hungry grasses to existing invasive species plant list
- planting native grass and flowers alongside new road construction and less grass that is meant to be mowed
- restricting the sale of non - drought tolerant lawn seed mixes in the city limits
- encouraging native plants and water wise plants (clover, dandelions)-especially in city areas, parks and boulevards
- stop using Kentucky blue grass, instead use fescue grass blends in all public spaces

Control or limit urban sprawl

This theme includes sentiments about slowing the growth of Calgary's footprint, controlling high water use community features, and increasing density of existing communities.

- *New developments need to include NOT developing community lakes, limitations on development of golf courses, development of natural parks versus areas requiring regular watering.*
- *Stop letting the city sprawl. Please.*
- *Maybe the City should also consider NO new development...*
- *I would like to see more of renovations with less costs in older/aging homes rather than too much of expansion of the city at the same time.*
- *Developers can use this as a marketing strategy. The City seriously needs to stop the sprawl though. Easy*

I'm concerned about...

Losing the benefits of traditional green areas

Respondents who shared this sentiment worry that there would be less public green spaces, the city would be less beautiful and that there are many benefits to having lawn, especially for families with young children and pets.

- *As long as there are green spaces/parks included in the new developments .*
- *Green spaces are important*
- *If you create water - wise landscaping in New developments please consider more green spaces, trees and gazebos and shade areas for these areas. This would create some cooling in the area as with drought you get heat which in some areas of the US. creates discord among citizens.*
- *One of the amazing things about Calgary is it's green spaces - I would insist that all developments continue to have them (in a waterwise way)*
- *Families with young children or pets may want grass in their yard as opposed to rocks and shrubs.*
- *Grass makes our city look beautiful. Don't cut down on it. Plant more trees.*

Impact to the tree canopy

This sentiment included comments about the benefit of having more trees, the protection of existing mature trees and the type of tree species that are planted in new developments.

- *Noticed many newer trees planted in new communities dead. Plant more drought tolerant trees and protect from rabbits.*
- *how about an incentive to retrofit existing neighbourhoods, incentivize tree planting and other water wise activities.*
- *Please tell me that restricting the removal of mature trees (public AND private) is part of this plan!!!*
- *this is an amazing strategy as most plants require a lot of water. Planting drought resistant plants saves water and the community is still able to plant trees.*
- *New districts should have Native-species planted. These type of trees are better equipped to survive drought. Species (especially trees) not native to this area are water guzzlers and should be banned.*

City bylaws

Respondents worried about bylaws shared that current rule conflict with increasing drought tolerant planting and some have even been flagged by bylaw officers for adding drought tolerant species and lawn cover in their front yard.

- *If we dig up our front lawn and plant native plants, they are considered an eyesore. It's time for the City to change itself too.*
- *Allow and encourage non-traditional lawns and native plant ground cover*
- *Water wise landscaping should be encouraged. New developments should be required to include this in order to gain an occupancy permit.*
- *Change building codes to make new homes more drought resistant. The city has complete control over this*
- *all communities not just new ones, we are hassled yearly by your bylaw officers because our lawn is not kentucky grass but drought resistant clover and local prairie natives that are not meant to be mowed, we have not watered our lawn for 5 years since it was established*
- *If we dig up our front lawn and plant native plants, they are considered an eyesore. It's time for the City to change itself too.*

Additional themes mentioned in lower numbers by supportive and neutral respondents

I like...

- **this idea but I need more information**
- **this and I am already doing this**
- **this because it's done right from the start**
- **this because people could grow food instead**
- **this because it would create interest and demand**

The City should...

- **include grey water and reuse**
- **lead by example and provide equitable service**
- **say no to front lawns all together**
- **encourage permaculture as it is an Indigenous approach to landscape**

I'm concerned about...

- **specific communities not having a say in the landscaping**
- **an increase of weeds and invasives**
- **not being allowed to grow food for my family**
- **everything looking brown and ugly, we need colourful flowers**

- upsetting our neighbours if we made a change to drought tolerant front lawn
- equity towards, low income, young families, immigrants who need to buy in new developments

Consider this...

- leveraging partnerships and expertise to develop landscaping
- a pesticide and herbicide ban to truly support pollinators
- how to manage runoff by using permeable paving

Themes from unsupportive respondents

There were only two themes that predominately emerged from non supportive respondents.

Too much government interference

- *Tax paying citizens in a free country and city should be as minimally impacted as absolutely required by governments.*
- *Focus on city business not my personal landscaping habits.*
- *Believe that we should be able to make our own decisions of what plants to plant on our property.*
- *It crosses the line and it makes the city step into authoritarian territory. Private property must feel like it. We can persue other routes. Put a cap on suburbs large house development, stop expanding calgary, build up, no wide and build a forest around Calgary. Turn empty city land into diverse forest and look at what other countries are doing.*
- *You can keep out of my yard... unless you wish to pay for the new landscaping and plants.*

I just don't like it

- *I don't really care because its not affecting me but is sounds pretty unfair. Not really a good idea*
- *I disagree with this*
- *not a good idea*

Business responses

Figure 26 outlines what we heard from businesses when asked the question:

Question B11: To what extent do you support The City pursuing water-wise landscaping requirements in new developments as part of the Drought Resilience Plan?

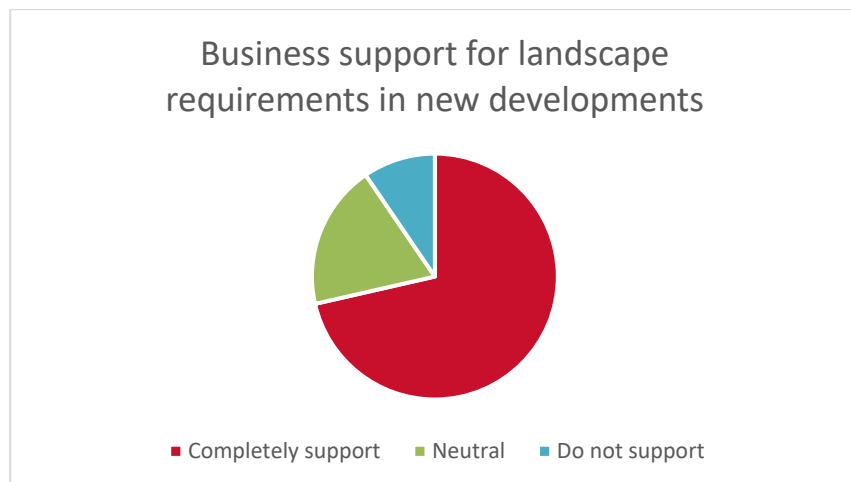


Figure 26- Business support for landscape requirements in new developments

Question B12: Please share your thoughts about The City pursuing landscape requirements in new developments. For example: What do you like about it? What do you not like? Do you have any concerns The City should take into consideration when developing this idea?

Theme shared by business respondents with all levels of support

Must be fully informed

This theme includes sentiments that the long-term maintenance costs of this strategy need to be considered and recognition that it won't work everywhere.

- *Water-wise landscaping must be understood and approached properly for our climate. Although some water savings may be realized, too often the long-term maintenance costs associated with this type of landscaping is not contemplated. Proper maintenance of this infrastructure is neglected requiring continuous investments for renewal.*
- *The city needs to understand that this may not work for every development and that it is extremely costly system to implement and maintain. alternative plan should be considered. The potential for the re-use systems to be topped up from a potable water supply to keep irrigation operational also*

needs to be part of the conversation as we move into hotter temperatures with climate change, ex 2021

- *Most landscapes are chosen based on curb appeal and personal preference, some considerations will need to be considered when pursuing landscape requirements such as long term ongoing maintenance costs*

Themes shared by unsupportive and neutral respondents

Inconsistent with current guidelines and bylaws

Some respondents point to a misalignment between current City landscaping policy for developers that would need to be addressed.

- *This would create two sets of rules for development and want causes issues*
- *There are many ways to have drought restisant landscapes, the City will need to review their own bylaws to allow for examptions. Such as turf type fescue that is allow to be higher then 6 inches.*
- *Limiting Turf to site percentage - again , over regulation. Not everyone wants to Live a Condo or apartment life style. Promotion of Smart Controllers & water efficient irrigation systems also developing turf that is less water dependant.*

Still needs to be beautiful

These respondents feel that a properties value will develop on it's attractiveness and that can still be achieved through smart design of mixed landscape design.

- *Different turf maintained through proper irrigation instead of changing the whole landscape*
- *Drought tolerant landscapes can look ugly. When you require businesses to install irrigation only on plants and not grass the property looks dumpy and reduces property values. Focus on having properties irrigated with smart watering (grass and beds) with routine maintenance to ensure proper water use and maintenance. Charge developers more if these requirements are not met.*

Themes shared by supportive and neutral respondents

Focus on pervious versus impervious design

This theme includes sentiments about creating a sponge with quality soil and promoting water storage instead of allowing precious water to drain over hard surfaces.

- *Require builders to install more loam / top soil on properties and around trees. This means more water is stored in the soil and not in run off into our sewers. The water is then stored in the soil to be used by the plants and trees when needed and not as high demand for irrigation systems.*
- *Only if they are built on scientifically proven methods. Covering soil with rock mulch is not a drought strategy. Building intelligent soil profiles and structures that can utilize the water on site is. Having*

designs that incorporate salt use planning for sidewalks is helpful vs just using less grass and increasing impervious surfaces and heat sinks. We are 1000 m elevation, evaporation is a problem.

- *Permeable paving works in certain applications and is a great idea.*
- *The city should concern about developing Green roofs and adopting new technologies for monitoring water and plant stress.*
- *xeriscape first, water management second and then reuse water systems. AT DEVELOPER COST (passed on to those buying) or we keep encouraging spread vs better management of existing*

Showcase and educate

This theme highlights the importance of showcasing drought tolerant landscaping in community areas and using these spaces to educate residents about the possibilities for their property through community-based programming.

- *To me, this should be a no-brainer going forward.*
- *While this doesn't effect our industry exactly, we educate about water-wise gardening and landscaping, and we would support this strategy and would endeavour to teach new homeowners about the requirements.*
- *Educational/community programs that include small scale earthworks and rainwater harvesting should be created in addition to help people understand the basics of this.*
- *This in my opinion would have the most beneficial effect and would be the most cost effective while beautifying the city and being more environmentally friendly. We at the Urban Farm could be a great way to showcase this and help educate our fellow citizens of how this could look and why it is important.*
- *Residential always tough. As each individual has their own thought for how the yard will look. But commercial or architectural controlled areas. Can be easily beautiful and functional for both residence and community. Wether open water storage. Or tank storage. Out of sight.*

A question for consideration

- *What about landscaping requirements for existing/approved developments?*



Considerations and recommendations

The overall support for requirements in new developments is very high amongst Calgarians and business respondents. Many recognize the advantage of getting it right from the start and the additional benefits beyond water savings.

For many, drought tolerant means brown, dry grasses and lots of hardscape. We heard from respondents that having beautiful spaces with greenery, colour, and lots of trees both at home and in public spaces is very important. To increase the demand and support for drought tolerant landscaping in both new and established neighbourhoods, it will be very important for people to see examples of what drought tolerant can actually be.

There are very mixed feelings about government enforced requirements or regulations with concerns about enforcement and perception about limited choice. Optional guidelines could be a more effective way to begin. This will allow developers and home builders who want to be leaders in the industry, to step up and be recognized for their commitment to drought resiliency. Conducting a pilot in several communities where homebuilders offer optional drought tolerant landscaping upgrade packages may be a good way to showcase how drought tolerant landscaping can also be beautiful, while helping to increase demand for new buyers.

Like any new initiative posed by The City, respondents are concerned about the cost that could be passed onto new buyers from homebuilders or for the cost to landscape shortly after buying a new home. Incentives and rebates that support people to act will drive up demand for certain plants, materials and tools, eventually increasing the availability of them and eventually reducing the price for developers, homebuilders, garden centres and homeowners.

Both Calgarians and business respondents point to City bylaws that directly conflict with increasing drought tolerant landscaping, posing a big challenge when citizens are keen to create drought resiliency on their property but are penalized through bylaws. As one respondent commented,

The City's current requirements are outdated and force commercial sites for example to have irrigation. When developers want to implement xeriscaping practices it is currently not permitted. However, rather than being prescriptive the City should broaden what is permissible NOT just change one narrow list to another.

Many respondents were clear these requirements and guidelines should extend beyond just new builds and stated the need to support homeowners with existing landscaping. Water reuse came up before other strategies in the engagement survey that would support residents of existing homes and gardens. This highlights a genuine support and enthusiasm for the other strategies without having seen them yet.

Public responses

Question 16: To what extent do you support The City pursuing landscape and irrigation incentive programs?

Figures 27 and 28 include feedback from the public portal and Fair Entry.

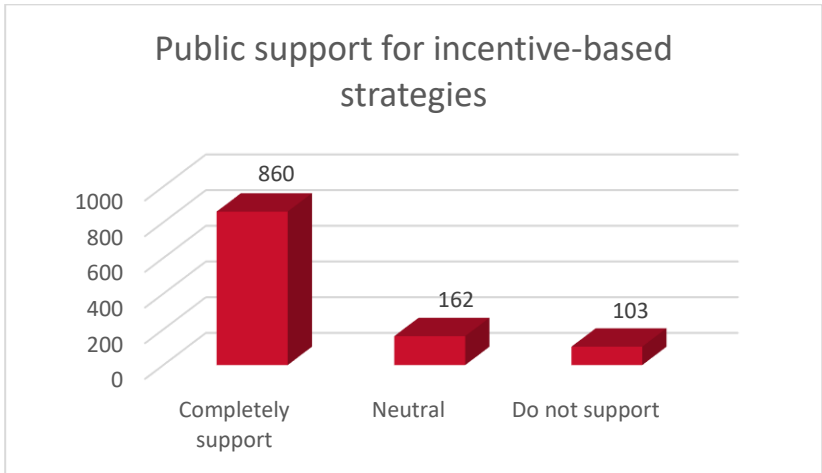


Figure 27-Public support for incentive-based strategies

Question 17: To what extent would you be interested in participating in the following program concepts, should they be offered?

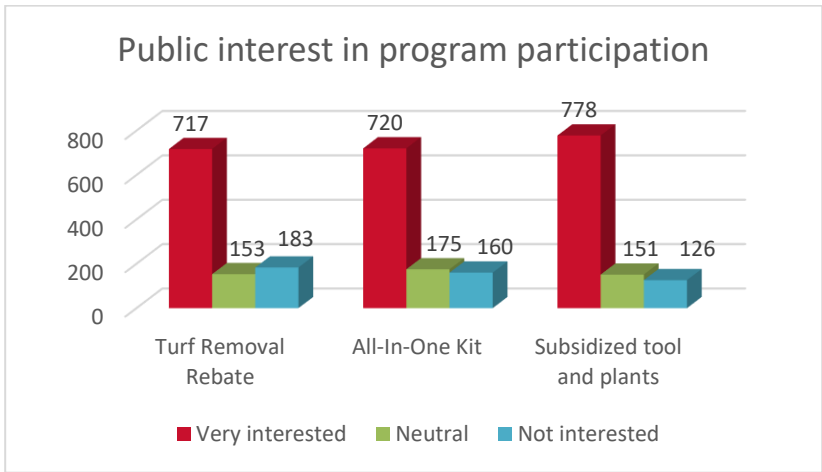


Figure 28- Public interest in program participation

Question 18: Please share your thoughts about The City pursuing landscape and irrigation incentive programs. For example: What do you like about it? What do you not like? Do you have any concerns The City should take into consideration when developing this idea?

The themes from this question are compiled from the portal, Fair Entry and Action Dignity.

Themes shared by respondents with all levels of support

I need more information

Some respondents shared that they would need to understand more about the programs before they could form an opinion about their level of support.

- *Somewhat to very interested, I love this as a way to get more biodiverse yards with more native species growing across the city. Realistically, I'm skeptical that the uptake, and water savings would reward the effort. What is the anticipated per home water reduction benefit of going from turf to partial native/waterwise landscaping?*
- *I need more information. Does waterwise mean landscaping like Arizona? I'm definitely not interested in that. Help me find a solution that allows me and my children to enjoy a feeling of nature (no just rocks/pavement)*
- *Followup and concrete stats on success or not. Including before and after readings/measures.*
- *We need to see the details. In principle, we are willing to cooperate*

I like...

- that financial incentives and rebates will encourage and motivate people to act
- the all-in-one kits because it makes it easy

The City should consider...

- expanding these incentives to include all property and ownership types
- consider doing this in public spaces, where people can visit and see examples
- the amount of the rebate. Landscaping is very expensive so the rebate would need to be significant to make it worth it

I'm concerned about...

- having no lawn at all but would consider groundcover alternatives like clover so I get the water savings benefit and lawn space.
- the cost of these programs and their effectiveness
- how equitable these programs will be for lower income citizens

Themes shared by supportive and neutral respondents

I have already done this

- *We removed the sod in our backyard already and would like to do the same in our front yard.*
- *I love this idea ... just wish I hadn't already started doing this in my front yard!*
- *I replaced our entire lawns, both front yard and backyard, 8 years ago. Make it easy for people to do this, and they will do it.*
- *"Unfortunately" we've already eliminated all turf in our yard, so we wouldn't qualify for these incentives. Bummer!*

I like...

- Everything about this approach

The City should consider...

- Offering more education to citizens about why this is important
- rewarding people who have already done this already
- provide rain barrels to those who want one
- other strategies as well

I'm concerned about...

- people adding too many rocks, gravel, paving and adding to the heat sink

Additional themes mentioned in lower numbers by supportive and neutral respondents

I like....

- fake grass, why isn't this included?

The City should consider...

- penalties for not taking action
- proving free, cheap mulch

I'm concerned about...

- encouraging food gardens and not just drought tolerant plants
- my ability to do the physical labour required and would need some help
- people installing fake grass and adding to the issue of heat

Themes from unsupportive respondents

Focus on core services and don't spend taxpayer money this way

Respondents unsupportive of incentive-based programs shared that they do not believe that taxpayer dollars should be used to support others in this manner. Many also feel that The City should just focus on what they believe to be core services and stop trying to control what happens on private property. Others don't believe drought is an issue for Calgary at all.

- *We only enjoy our yards for 4 (FOUR)!!! Months per year. Stop meddling and focus on other priorities that have a meaningful impact. The sky is not falling, we are not Phoenix, and how much did we pay (with my tax money), for these external consultants??*
- *To rebate, you first have to steal the money from someone against their will. I am against theft.*
- *Focus on snow removal, transit, running the city. Quit getting into everyone's personal business.*
- *As a tax payers I do not need to subsidize other home owners. If the water is not available, people will do this.*
- *This is far too much micromanagement.*
- *Who will be paying for these "incentives"? The tax payer?*
- *NO to our tax dollars going into this. Homeowners can afford to make these changes themselves.*
- *First Calgary is not always in a drought, our typical precipitation over the last 50 years is 417.99mm. In the last 50 years, 24 have exceeded this amount. This is unnecessary*

Business responses

Figure 29 outlines what we heard from businesses when asked the question:

Question B13: To what extent do you support The City pursuing landscape and irrigation incentive programs for businesses with landscaping on their properties?

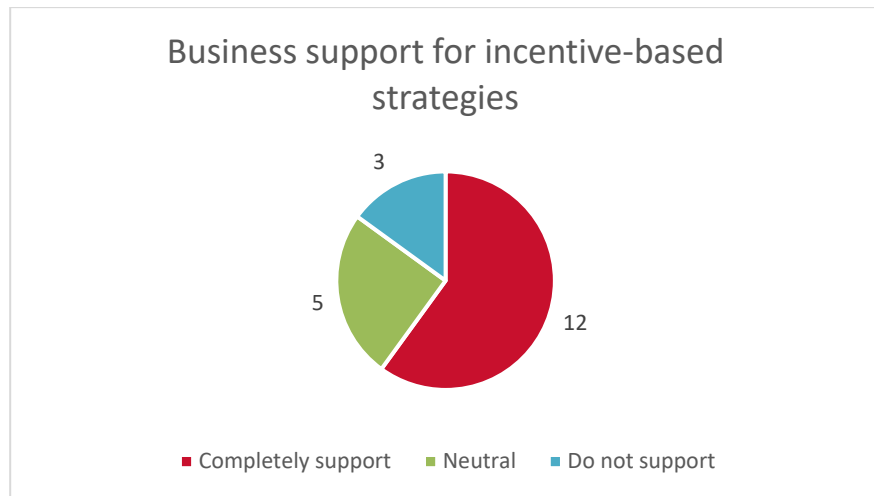


Figure 29- Business support for incentive-based strategies

Question B14: To what extent would you be interested in participating in the following program concepts, should they be offered to the business community?

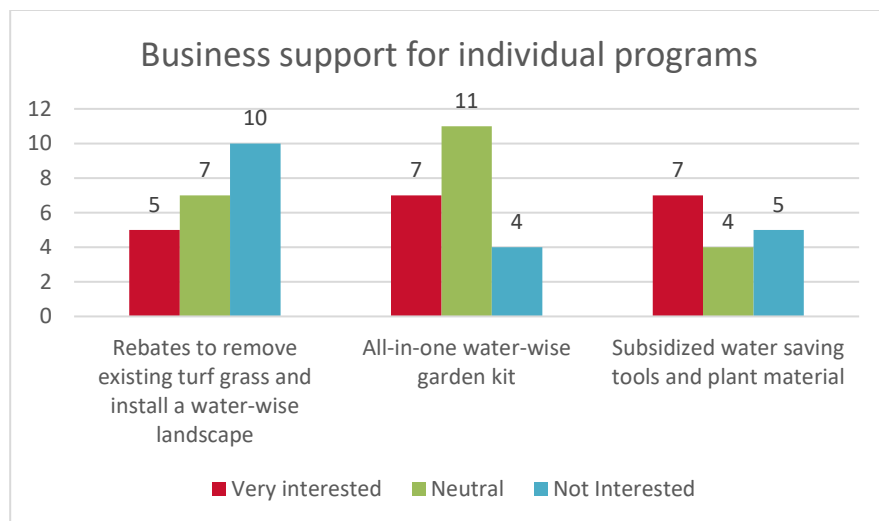


Figure 30- Business support for individual programs

Question B15: Please share your thoughts about The City pursuing landscape and irrigation incentive programs. For example: What do you like about it? What do you not like? What would a strategy like this mean for you? Do you have any concerns The City should take into consideration when developing this idea?

Themes shared by unsupportive and neutral respondents

Waterwise maintenance and the role of turf

This theme includes sentiments about the increased time and water required to maintain waterwise landscaping and statements about the continued role of grass.

- *There is a common misperception that water-wise or xeriscaping = low maintenance. Specifically, less maintenance than turf grass. Agreed, that water consumption can be reduced. This approach requires a significant investment time to manually maintain that must be understood. Ignoring this will result in a decline to the urban infrastructure.*
- *Turfgrass is highly beneficial in any environment. We don't get enough precipitation here to make water wise gardens thrive so water would still be required. Could add up to more water in the end keeping plants alive!*
- *I do believe turf has it's place in our landscape, but I think people need to be retrained. Turf does not need to look like a golf Course, It needs to be maintained to a lower standard*

Not The City's role

One unsupportive respondent simply did not think these programs should be subsidized by The City at all.

- *These should not be subsidized by the city. The information should be made available for knowledge, options and implementation, but it should not be subsidized.*

Themes shared by supportive and neutral respondents

A few themes were shared by supporters and those who are neutral about The City pursuing landscape and irrigation incentives. Some shared tentative support and ideas about the programs. This respondent simply supports the idea of incentive programs.

- *Great idea.*

Tentative Support

Regardless of support, some respondents shared thoughts on attractiveness of turf rebates and if any program would be mandated.

- *Financial rebates to existing turf gas owners is likely to help - they are more likely to be affluent and insensitive to the rebate.*

- *Need more information*
- *As long as this is not mandated by City.*

Specific tools to consider for subsidy and incentivization

This theme contains suggestions for tools and approaches that respondent's think should be considered for subsidy or to use as incentives. These ideas range from tools to manage and distribute irrigation, harvest rainwater to improving soil standards and biodiversity through plant variety and trees.

Trees, soil and biodiversity

- *Native species is the opposite of biodiversity and security. It is often misused, nothing is native to the urban environment. We need to encourage the a **greater biodiversity** and not limit the plants to handful of grasses that once grew here. Foreign plants also come with resistance to introduced species from their point of origin.*
- *Educating the consumer and forcing developers / **new construction to install greater quantity of top soil.** 8-12" instead of 2-4". Also to required XXX amount of top **soil around all planted trees** on City / business properties to reduce the amount of dead trees. Also **require businesses to maintain their landscapes** / tree / shrub count and not to let them die as we need the trees for our air.*

Irrigation and harvesting rainwater

- *This is leaving out **rainwater harvesting**, which can be an enormous contribution to irrigation use while simultaneously reducing stormwater inputs to the river systems.*
- *Our rain barrel survey always includes comments from participants that they would replace more grass if there were subsidies, so we think this is an excellent idea. These programs would be something we'd be hoping to educate on, as well. It would be great to include rain barrels in with water saving tools and possibly to explore the use of **low-pressure soaker hoses** and **irrigation systems**.*
- *Landscape will always help the saving of water. But can't miss out on **curb appeal**. Both the city and residents want that beautiful look. Simple things that help. **Fabrics** under top dressing. Contain moisture. **Drip lines** instead of sprayers.*

Timers and controllers

- *Okotoks as a proactive rebate program. Do believe to move the needle you need to **rebate wi-fi timers**. A traditional rain sensor can have a 10% water savings. Some wi-fi timers, when properly set up can save 50%. Imagine if commercial sites had to have a decent timer, **rain sensor and master valve** installed to get a **building permit** signed off? Just like a landscape plan.*
- *If the city offers timers to attach to hoses for drip irrigation in the beds, it is promoting a technology that runs counter to it's own cross connection control policy. Such systems need backflow*



prevention and certification. Offer a **rebate for SMART controllers on existing/new irrigation systems**. Water wise landscapes take more maintenance and they look dumpy if not maintained

Unique idea for program design

This supportive respondent was already thinking about the logistics of effective program design and implementation.

- *Your barking up the right tree for me know. This is the right path. We are already in this world trying to promote it and educate on this, so your talking our language. The city may want to look into **small native plant nurseries at Urban Agricultural plots or city land** that can propagate and grow the plant material to handle this kind of volume going forward.*

Considerations and recommendations

While support for incentive-based programs is relatively high amongst engagement participants, they shared some concerns and considerations for program development and implementation. For some, especially those in the landscaping industry, vilifying grass is a concern. They argue that climate appropriate grass varieties or drought tolerant lawn replacements, such as clover, provide the benefits of a lawn that people have come accustomed to enjoying. Instead of replacing all grass, The City should consider including lawn alternatives and specific drought tolerant grass species in the program's rebate and incentive criteria as these will still result achieving a reduction in outdoor watering demand.

When considering what options might be approved for rebate as a replacement for grass, The City could include and encourage citizens to plant food crops instead of solely drought tolerant ornamental gardens. Many people feel available green spaces would be best used if they were purposeful and helped to increase an individual's food sovereignty, which is the ability to grow and supply food for themselves While growing food might require daily watering at a household level, food sovereignty on private properties builds widespread resilience to the more regional impacts to food crops during a drought. If included, watering food crops would need to be permitted anytime in a water schedule and even emergency watering restrictions. The City could also work with local permaculture groups to design attractive, yet bountiful food garden designs as an option for an all-in-one garden kit. A food focus to landscape design aligns to [CalgaryEATS! Food System Assessment and Action Plan.](#)

As for specific irrigation tools that could be rebated, it's advisable to work closely with the irrigation industry to fully understand the best options available, including their ideal application and water savings potential, installation, maintenance and market price points. This will assist The City in deciding what tools should be rebated and to design effective educational resources to accompany the rebate.

This knowledge is also key for deciding the value of a rebate. Some respondents commented that landscaping is expensive, so the rebate would need to be significant enough to offset the high price tag of



the investment to successfully incentivize action. Others identified barriers beyond the cost of changing their landscape. The physical ability required to change landscaping is big barrier for many. Calgarians experiencing physical limitations due to age, disability or other mobility challenges will need extra support.

This could be achieved by offering a subsidized installation add-on to the purchase of an all-in-one garden kit that could be completed by a team of limited term summer students or as a training opportunity for students pursuing landscaping certifications through Olds College as an example. Alternatively, The City could contract a local landscaping company to complete the installation at a reasonable price for Calgarians who need the support. Addressing this type of barrier is a good example of how equity becomes embedded into the Drought Resilience Plan.

Some shared their concern these types of rebates would result in an increase of hardscaping, including large stretches of rocks, pebbles and even fake turf reducing neighbourhood aesthetics while contributing to the urban heat island effect and other consequences to the environment. These concerns are legitimate, especially in terms of stormwater runoff and supporting healthy pollinator populations. The City will need to closely consider how these landscape components will be included in these program strategies. This could be achieved through limiting the square footage of hardscaping used when replacing grass or clear applications where it is allowed, such as on the narrow strips often found between driveways for instance.

It was made clear from the feedback to this question that many people have already taken initiative to change their yards and gardens into drought tolerant spaces. Many were disappointed they would not benefit from the incentives or rebates proposed and wished they could be retroactive. Citizens who have already done this work offer an exciting opportunity to achieve the desire from many respondents for positive reinforcement and education instead of penalties.

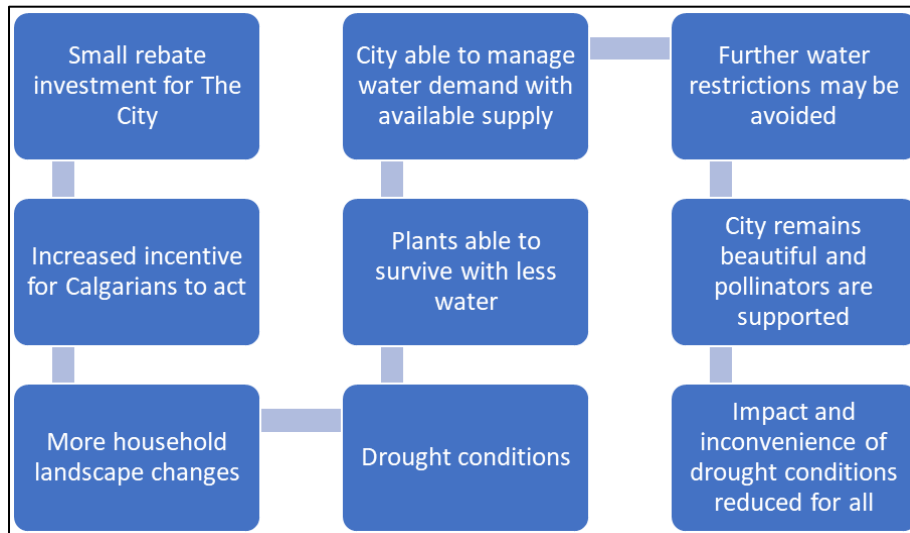
The City should consider ways to publicly recognize those who have been early adopters of drought tolerant landscaping. This could be achieved through a campaign or competition asking people to submit pictures of their drought tolerant yards with an explanation of when they did the work and what water wise decisions they made. These Calgarians could enter to win a retroactive rebate to thank them for being leaders in their community. Lawn signs could be given to each house that advertises their commitment to water efficiency by having a drought tolerant yard.

Throughout the feedback from this engagement, we heard that people want to see examples of what is possible and the need for demonstration sites. The City could get permission from the people submitting pictures to be added to a drought resilient yard map for Calgary. This would not only recognize their hard work, but also give others the inspiration and ideas they are looking for to make these landscaping changes themselves. By positively and publicly showcasing great examples and helping to identify the early adopters of this type of landscaping, The City is well positioned to leverage the power of social reference groups and reduce the perceived limiting influence of neighbors' opinions. Ultimately, this is a step towards shifting the current mindset and the social norm about landscaping that is required to increase drought resilience.

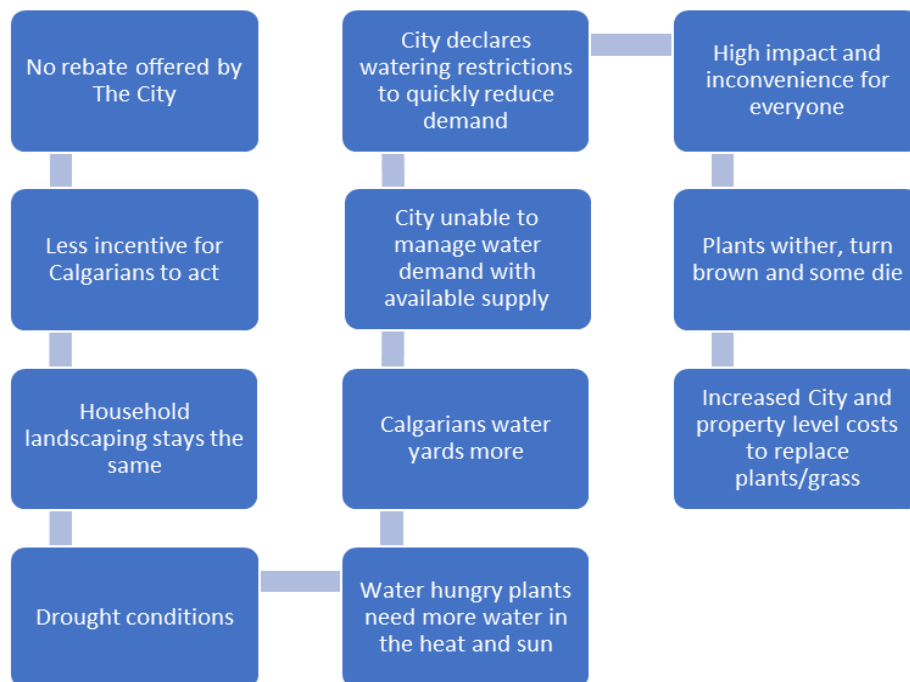
One of the biggest issues for participants who do not support rebate and incentive-based strategies is they do not believe it is necessary or a good way to spend taxpayer money, especially amongst those who can

afford to change their landscape on their own. To acknowledge these concerns and add transparency, The City could frame these incentives as fiscally responsible strategies when compared to the cost of unmitigated drought impacts and inaction over time. Calgarians who share this opinion will benefit from The City explaining the personal and societal costs of action versus inaction.

For example:



This is opposed to the cost of inaction:



Business responses

Figure 31 outlines what we heard from businesses when asked the question:

Question B16: What priority is drought preparation and adaptation for your business?

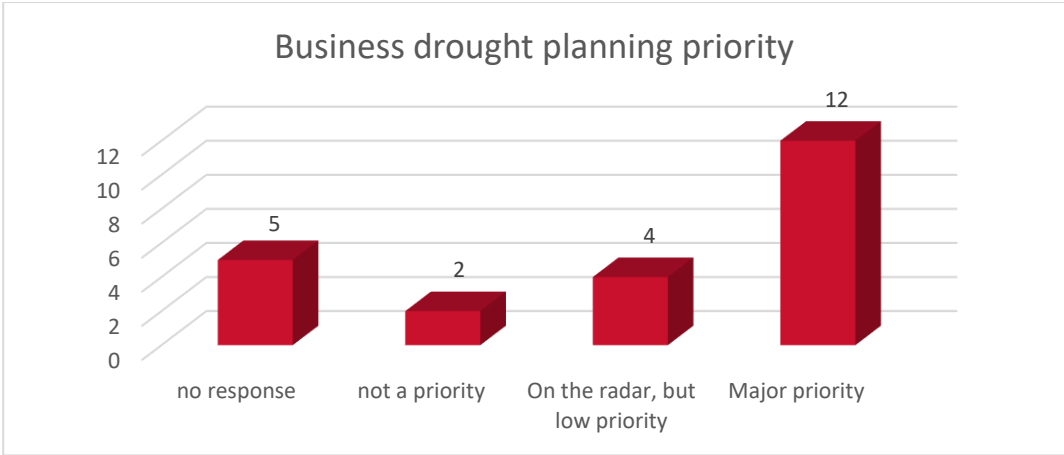


Figure 31- Business drought planning priority

Figure 32 outlines what we heard from businesses when asked the question:

Question B17: How can The City help businesses to prepare for times of drought? (Select all that apply).

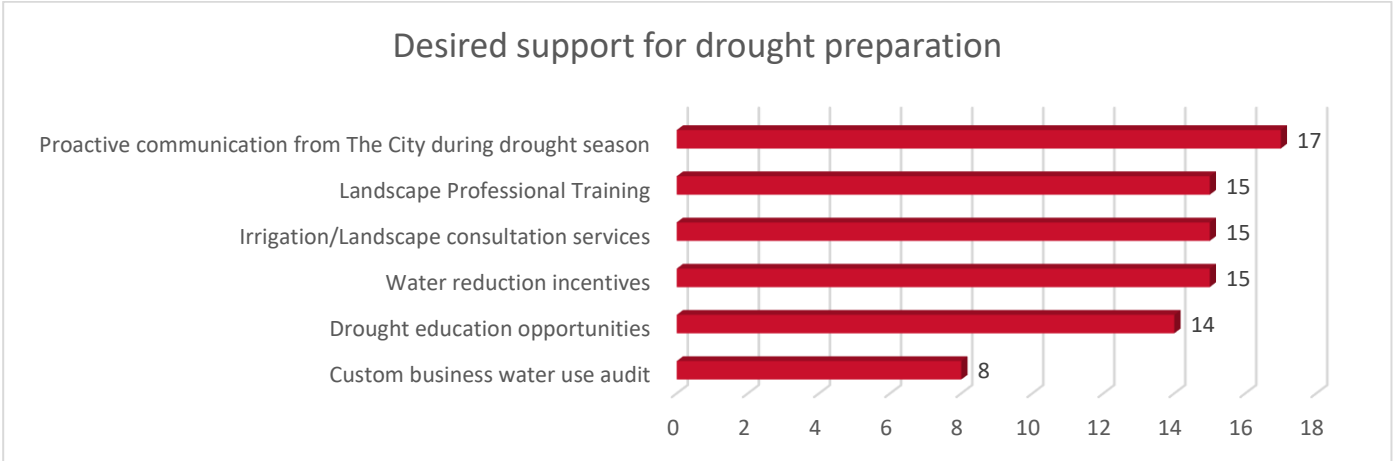


Figure 32- Desired support for drought preparation

Question 17b: Other?

Additional suggestion for support The City could provide included alignment between city business unit's design standards, education, and training.

- *Alignment of expectations with Planning/Parks for alternative design solutions*
- *Rainwater Harvesting Consultation and Education Programs*
- *Additional training for better maintenance practices, for plant material can be maintained during drought periods*

Additional comments about drought preparedness:

Respondents offered many thoughts on this topic, with each representing a unique idea or theme. These themes are listed below, in no order.

Combine landscaping and rates- *Drought preparedness is important, and creating drought proof landscapes and resiliency at the home scale is a key component in achieving this on top of charging more for more usage during times of drought.*

Combine permits and required tools- *Do believe it all comes down to permits. If you have to submit and landscape plan for a building permit on a commercial site, you should have to also install a decent wi-fi timer, master valve and rain sensor.*

Partner to audit and rate- *It is an important topic and don't just go with what other have done. Really think about using professional organizations to audit landscapes and irrigation system so they can earn a drought water rating and then base water rates on that and it needs to be reviewed yearly for irrigation and every 3 years for landscape (dead plant replaced etc....)*

Improve design- *Deeper understanding site design and evolve beyond the catch phrases and fads.*

Non-drought consumption- *I think there are two questions at hand. Drought preparedness / management which requires tactics to address the extremes. The other question is how we manage responsible water consumption during non-drought periods.*

Be fully informed- *Critical that we manage our water resource - equally critical that the consequences of changing landscape practices are acknowledged so we avoid trading one problem for another.*

Business decision- *provide the knowledge, but it is up to the business to implement*

Embedded behaviour- *I do believe we are constantly thinking of how to reduce water use on property, I don't believe it is a priority but a mindset.*

Policy alignment- *I would love to see some really clear connections made between the Climate Resilience Strategy and Drought Resilience Plan in City communications. People need to understand that these two issues are closely related.*

Effective policy- *We are in irrigation and we promote proper use of water with irrigation. Don't make policies that create behaviours where people feel they must over water because they only have a narrow window to do it. Create policies that promote proper water usage and application as needed. It saves more money in the long term*

Question B18: What opportunities do you see for your business/industry to be part of drought management and achieving a drought resilient city?

The most frequently mentioned ideas for this question were education and training, followed by design and installation, having a seat at the table and partnerships.

Education and training

- *We are already helping teach about water catchment, native plants and increasing the soil sponge to help mitigate water issues. So we are excited to see this push go more mainstream*
- *In conjunction with Dr. Peter Coombes (<https://urbanwatercyclesolutions.com/>), we run a comprehensive rainwater harvesting course that educates people on systems thinking and the small scale solutions that rainwater harvesting provides. On top of that, our permaculture design course offers small scale solutions to the homeowner to give them the tools and knowledge to build a resilient landscape.*
- *Whatever steps the City takes as part of the drought resilience plan, we will be supporting it and we see the opportunity to further expand our education offerings and our rain barrel programs.*
- *Education, education, education*
- *Universities and colleges are a great place to share information (ie: a way to reach Calgarians with messaging).*
- *Love the idea of training, education and consultation! Would be thrilled to participate in this.*

Design and installation

- *Re-think urban development to include the landscape as a utility.*
- *Retro fit projects*
- *we can help provide knowledge, design with bmp on plant material and irrigation*
- *As a City of Calgary Irrigation Contractor - we could play a role in water re- use for Developer /Parks*
- *[identifying information removed] Will be happy to share and work beside relevant City organizations like Parks, Urban forestry, Water service and Recreation. With our Wireless cutting edge*



technologies, we can monitor soil moisture /drought with Max at the 2m depth levels of the plants' root zone. No cutting roots, pathways, roads or land, No underground cables saving time and money. [identifying information removed]

A seat at the table

- *Large landowners responsible for showing leadership in water conservation and resource management should be engaged in the discussion.*
- *Could host forums inviting businesses to discuss in a group setting?*
- *Education and consultation on practical approaches to drought management if invited to the table.*
- *Great opportunity for some changes. Having more people aware of the challenges ahead. And in the end having good people working for their own city. Give something back you know is helping. While making a living doing it.*

Partnerships

- *We are a an irrigation company through the CPCIA. By supporting the CPCIA, you can then help us sell more jobs and install water saving irrigation systems.*

Considerations and recommendations

Many respondents shared that drought preparation is a big part of their business planning, while for others, it was not their focus. Regardless, business respondents shared a clear interest in being part of the solution. For some, they want to be at the table to provide expertise that will help ensure that policies and regulations developed by The City are effective and do not result in unintended outcomes. For others, they would like to be a conduit for information between The City and their clients. Proactive communication from The City was selected as the best support The City could give businesses. This could come in the form of partnerships with industry collectives, formalize seasonal drought condition updates customized for businesses with different outdoor water use requirements and for their role in providing service and education for others.

Topic area #10- Prioritization and what's missing

Public responses

Question: 19.a. Now that you have learned about all the possible strategies and programs of the drought Resilience Plan, please tell us how you think The City should prioritize these strategies. Drag and drop the strategies with the highest priority at the top.

Figures 33 and 34 include feedback from the public portal and Fair Entry respondents.

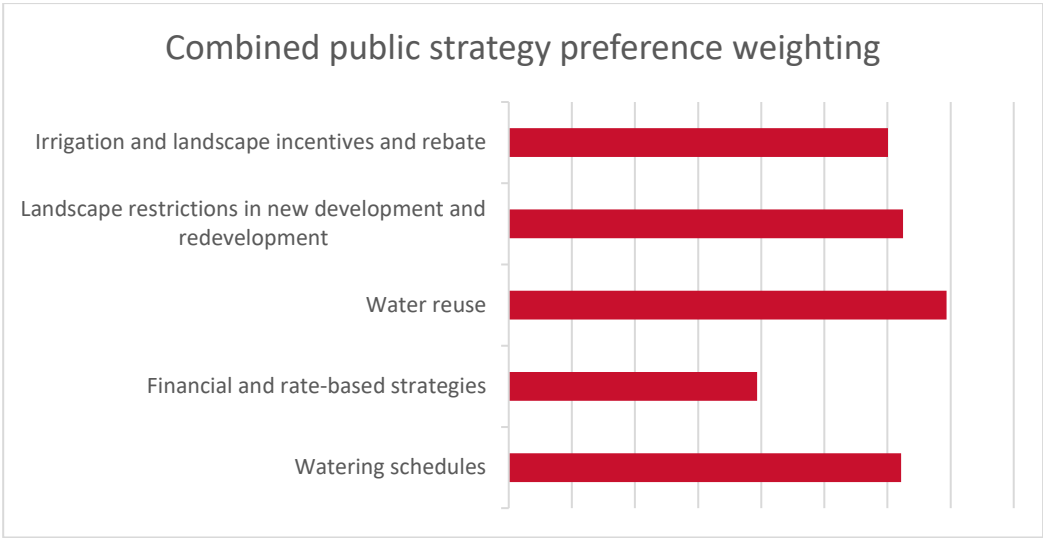


Figure 33- Combined public strategy preference weighting

Most favoured	<div></div> 286	<div></div> 71	<div></div> 267	<div></div> 176	<div></div> 193
	<div></div> 149	<div></div> 100	<div></div> 269	<div></div> 261	<div></div> 198
	<div></div> 145	<div></div> 113	<div></div> 240	<div></div> 251	<div></div> 223
	<div></div> 260	<div></div> 185	<div></div> 134	<div></div> 162	<div></div> 216
Least favoured	<div></div> 128	<div></div> 484	<div></div> 70	<div></div> 123	<div></div> 146
	Watering schedules	Financial and rate-based strategies	Water reuse	Landscape restrictions in new development and redevelopment	Irrigation and landscape incentives and rebate

Figure 34- Strategies favoured versus least favoured

Figure 34 outlines the number of times each strategy was weighted as most favoured and least favoured to showcase the trend of prioritization. This shows that the financial-based strategy was prioritized last significantly more times than any other strategy, whereas water reuse had the least number of people prioritizing it last.

Question 19.b: Why did you prioritize these items this way?

Respondents shared their reasoning for how they prioritized the proposed selection. Many unique themes emerged from respondents with all levels of support for drought resiliency strategies, but some were very predominant. The following list of reasoning behind prioritization also points to driving values for respondents. The following are listed in most mentioned to least mentioned.

Themes shared by respondents with all levels of support

1. Lowest hanging fruit first- tackle the strategies that are easiest to implement
2. Long term water savings- chose strategies that will have the biggest impact in achieving ongoing and consistent water savings. This was typically associated with water reuse and landscape transformation strategies
3. Build new communities right from the start
4. Provide flexible incentives and support citizens with the they need to effectively change their landscaping
5. Keep costs low for Calgarians- prioritize strategies that keep taxes and water utility bills low or even save citizens money
6. Conventional landscaping needs to change- choose strategies that tackle the root cause of excessive water use by changing what needs to be watered
7. Carrot before the stick- support through incentives and education will be more effective than rate increases and restrictions
8. Involve everyone - choose strategies that apply to everyone equally and ones in which all can participate
9. Long term water savings - choose strategies that quickly reduce demand for potable water
10. No rules or restrictions- prioritize strategies that allow citizens to choose and exercise their freedom
11. Equity- choose strategies that address inequities and do not add further burden for equity deserving Calgarians
12. Keep costs low for The City- prioritize and design strategies to be the most cost effective, result in the best bang for the buck and reduce passing costs onto Citizens
13. Rate based strategies should be the last resort or off the table completely- this strategy will negatively impact all Calgarians, who are already struggling in this economic climate
14. Money is powerful motivator- proven ways to save money through strategies will be effective and financial consequences will also be effective
15. Change mindset and grass culture- focus on education and strategies that will expand a conservation narrative that is key to changing the current social norms
16. Least effort and impact on citizen's lives- choose strategies that require little from Calgarians and do not impact their daily lives in a significant way
17. Get buy-in and ease people into changes- choose strategies that ease people into drought resiliency and will get the most buy-in and least resistance
18. Enforcement challenges- don't implement strategies that cannot be enforced
19. No more division- select strategies that don't undermine community and neighbour relations

Reasoning mentioned in smaller numbers

- I don't like any strategies/unsupportive
- All strategies have merits
- Prioritize strategies that citizens can personally do at home and are achievable
- Prioritize strategies that invest into a better city and healthier environment
- Start with one strategy, see how it goes and then add as needed. All may not be needed
- Large scale strategies should be prioritized over individual responsibilities
- Prioritize strategies that are common approaches in other municipalities
- Prioritize strategies that also benefit those with existing yards
- Prioritize strategies that fix mistakes from the past, like development requirements and effective reuse of water
- Indoor water saving strategies need to be included as well
- City needs to show leadership first at city owned parks and facilities
- Utilize strategies only during periods of drought
- Make strategy choices fair for gardeners

Question 21: Are there any strategies or ideas you think are missing that would help build Calgary's resilience to drought, reduce outdoor watering demand, and protect our water supply?

Throughout the engagement topics and questions, respondents shared many ideas about what they think should be included in a drought Resilience Plan. The feedback to this question echoed many of those previous ideas, but also presented some new ideas as well. This section provides a high-level summary of the themes that have emerged frequently in the feedback for other topics and question. New or more unique ideas are then highlighted more in depth, followed by themes that occurred in low numbers in the feedback to this question.

Strategies already proposed in draft plan

Many respondents reiterated their desire for The City to adopt strategies already presented for feedback. This is a good indicator of support and enthusiasm for the following strategies:

- Water reuse and residential grey water
- Landscaping incentives and retrofits

Additional ideas mentioned most frequently

Education and communication

A list of topics that respondents would like to learn more is outlined on page 71.



The City needs to lead by example

Many respondents in this engagement look to The City to lead the way. This includes walking the talk with landscaping and watering practices, maintenance of parks, boulevards, and medians, and also changing the bylaws and red tape that limit achieving drought resilience.

Rain barrel subsidies for residents

Respondents believe that a key solution to drought resilience is increasing the number of rain barrels by providing them for free or with a subsidy. Respondents want education and installation support.

Programs, regulations, requirements for large water users, industry and business

This suggested theme includes ideas about protecting water supply through upstream industry regulation, and requirements for golf courses and car washes. Many respondents want to know that if they are being asked to act, that so are all industries and businesses.

Promote rewilding, drought plants and demonstration sites

This theme includes ideas about how to promote and increase the demand for drought tolerant plants and creating and showcasing demonstration sites where people can learn about plant varieties, planting techniques, maintenance and get design ideas.

Increase city-wide capture and storage of rain and snowmelt

This theme includes sentiments about finding ways to capture and store spring run off and even flood water. Some respondents also would like to see snow collected and stored for future use.

Effective enforcement

Many respondents commented throughout the previous questions about the need for consistent enforcement for any new mandatory strategy adopted in the final plan. For many this involves fines for blatant misuse of water and a way to report misuse.

Change the obsession with green grass

Many respondents shared their desire for the current cultural norm of front yards with green grass to be changed. This theme includes ideas about popping the bubble on people's love for their grass through lawn shaming, restrictions on allowed grass footage and public campaigns that normalize the "new normal" of drought tolerant landscaping.



Support food growers

Respondents who are enthusiastic about food feel strongly that watering schedules, bylaws and other strategies should not inhibit Calgarians from supporting themselves and their families by growing their own food. Many also feel like food plants and community gardens should be promoted to replace existing grass.

Learn from other municipalities and do the research

Respondents who shared feedback with this theme want to ensure The City doesn't repeat the mistakes of other cities who have initiated these strategies before. In addition, many would like to see the data and the proof that these strategies are sound and the cost/ benefit analysis makes them justifiable.

New and unique themes

Focus on trees

Respondents with this feedback feel like trees need to be a big part of the drought plan. Many recognize their benefits of shade in the community and if properly placed, shading homes. Respondents would like trees to be exempt from watering restrictions, for The City to plant drought tolerant tree species and to have consideration and support for residents who water city owned trees.

- *Strategy should protect health of trees and ensure they get enough water*
- *When the city replaces trees that have died for whatever reason, replace the tree with a native tree that is more drought resistant. Get rid of the city acres of useless lawn grass and plant more native grasses/shrubs.*
- *Plant more trees AND WATER WELL UNTIL ESTABLISHED (I had to water the city trees behind my last house while they were gwtting established or they would have died!) It's an up-front water investment that will pay dividends in conserved moisture in the long run.*
- *I would encourage the City to create more urban forests, by placing some of the turf in city parks with trees and shrubs.*
- *Focus on maintaining the urban forest & avoiding heat islands. This may require more restrictions on trees developers can remove as density increases*

Community planning and design

This theme includes ideas about how communities are designed and built and some solutions that respondents feel would compliment the goal of increasing Calgary's drought resilience.

- *Clean air.. should also be considered,.. using plants as natural AC on buildings, better design in buildings .. it's all linked, a hot downtown concrete jungle causes more water use, Dubai has building*

entirely covered in plants meaning they don't need AC. Temperature control directly impacts water use, plants bring water & create moisture & humidity.

- *Incorporating water resiliency into planning strategies.*
- *Calgary's urban design needs improvement alongside homeowners. I strongly advise the city to hire FoodScape Cooperative and Indigenous designer Heather Morigeau to help the city develop better urban planning strategies*
- *Get rid of the kms of concrete swale in new communities*
- *City surfaces need to be rethought. Huge parking lots waste what little rain water there is. Parkades take up less space. What about metal grids with the weeds growing through with some kind of mesh so we don't lose our keys. Change the bylaws about how many spaces are needed per business ?! make sidewalks absorbent somehow. ALL Roofs to have collection sites.*

Increase low impact development

This theme includes comments about The City utilizing more rain gardens, green roofs, permeable pavement and curb cuts to use stormwater as a resource rather than something that need to be moved back to the river quickly.

Target indoor water savings too

Some respondents would like The City to not forget about the value of indoor water conservation messages and incentives. While many of the suggested retrofits are now bylaw for new builds and retrofits, there are still opportunities to leverage water savings. This avenue will be especially important during a drought to encourage action for people living in condos without green space they need to maintain.

- *City could Incentivize using electronic taps or other taps designed to use less water in households.*
- *You talk about drought but only discussed yard water use, what about indoor water usage? Some people waste drinking water in garburators pushing food down the drain instead of sending it to the green cart, also some people use bath tubs regularly, wasting hundreds of litres of water to clean themselves, some people run the washing machine almost empty, etc. There are many other areas of concern.*
- *Fixtures inside the house such as low flow shower heads, functional toilet (solid vs. liquid waste), a timed faucet for hand washing, water efficient washer, and dishwasher are also tools to help conserve water. New housing developments should also include these as part of the standard package.*
- *Don't forget to focus on indoor water usage. The incentives a few years ago for installing low-flow toilets and fixtures were a fantastic idea.*

Community level solutions and leadership

Respondents who shared comments with this theme felt that a one size all solution won't work, and the implementation of solution should be at the community level. This includes identifying community leaders who can help others.

- *Apartment-style condo specific rebates and incentive programs. Balancing funding based on community equity - NE has lower income, so they should get a bigger piece of the pie. People with \$1million homes can pay their own way.*
- *Encourage small-scale, local solutions over big technocratic projects by reducing the bureaucracy the city demands. Encourage urban gardening initiatives, plant fruit bearing bushes and trees that are adapted for the climate. Replace road median grass with native species.*
- *Education on implemented strategies could be promoted by many community groups, including naturalist groups, community associations and faith communities.*
- *Work with community associations to educate residents. Introduction new watering strategies gradually to allow people time to adjust.*

Leverage and partner with garden centers to help change the market

This theme includes suggestions of working closely with nurseries and garden centres to identify and promote drought tolerant species in an effort to increase the demand and slowly increase the supply and cost of these varieties.

- *The supply of native plants (at garden centers and big box stores) is very low. We need to look at increasing the supply of growers and retailers offering native plants. They also tend to be more costly so price is a barrier. If the market is going to transform it needs to be profitable for the large retailers, so they need to part of the solution.*
- *Partnering with garden centres to clearly signpost drought resilient or native species.*
- *I run a small gardening company - we encourage water-wise use for all our clients, but any incentives for businesses to encourage water-wise practices would be appreciated. We are poised to educated a lot of Calgarians about their water use and it would be great to tie in with other industry partners. How can local gardening business help with water use more?*
- *Get greenhouses and nurseries to stop selling high water consumption plants or, at least, make sure they properly identify how much water a certain plant needs to survive in our climate - like is done for electrical consumption ratings on fridges or TV.*

Real time metering

This theme includes ideas about being about to track water use throughout the month, set household limits/goals and identify leaks. Some respondents feel this would be mandatory if The City increased rates for increased water use, but also recognized a possible benefit of being rewarded for lower water use due to reuse.

- *I think outdoor businesses or personal should have a water meter to keep track of water useage, have a limit that everyone can agree to or come in terms with. Anyone that goes over the limit should be charged fees.*
- *Real-time availability of home water usage via an app connected to meter. Let me know what I'm using while I'm using it. Allow me to set alerts when reaching thresholds.*
- *smart water meters (put the water data in the hands of users), make sure that ICI are getting unique programming catered to their specific water uses (and add incentive structures and custom audits alongside)*
- *People should monitor how much water they use*

Additional themes mentioned in lower numbers

- Conduct a full cost/ benefit analysis and share with citizens
- Include drought strategies for multi-family building and residents
- Research and leverage technology solutions
- Reduce urban sprawl and increase density
- Reducing distribution system leakage
- Accounting for water reuse on residential utility bills
- Protecting riparian and wetland areas
- Promoting free city mulch and compost and including it in landscaping packages
- Accounting for different planting zones in Calgary
- Find ways to allow children to still play in sprinklers
- Create public ways to beat the heat, including water efficient splash parks and more river access
- Don't forget Calgary still needs biodiversity and beauty
- Provide an audit or consultation program to assist Calgarians in making changes
- Focus on new development
- Limit development in sensitive areas
- Secure our drinking supply

Business responses

Figures 35 and 36 outline what we heard from businesses when asked the question:

19.a. Now that you have learned about all the possible strategies and programs of the drought Resilience Plan, please tell us how you think The City should prioritize these strategies. Drag and drop the strategies with the highest priority at the top.

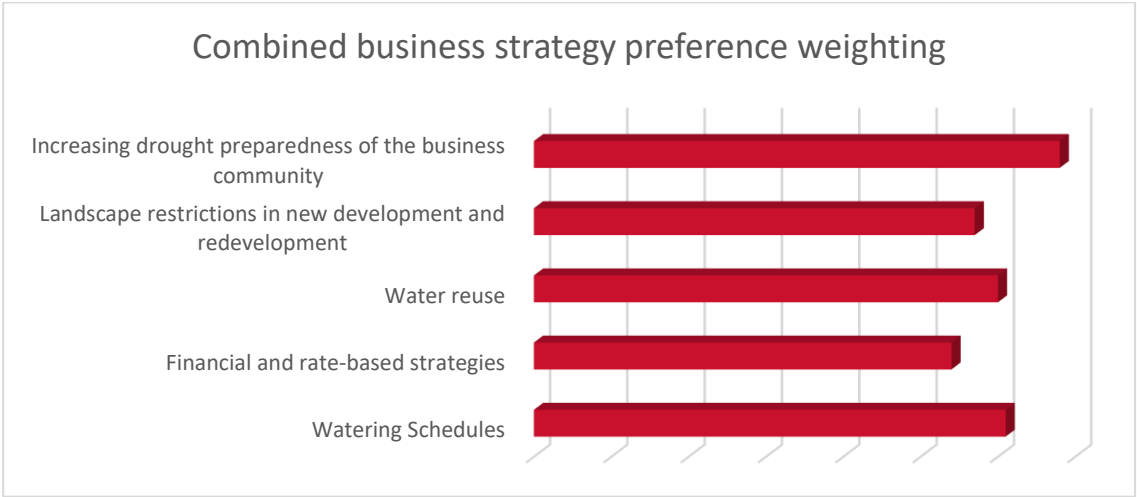


Figure 35- Combined business strategy preference weighting

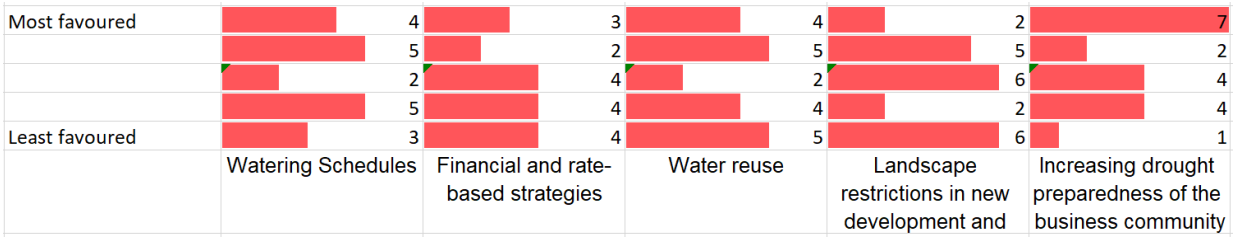


Figure 36- Business strategy preference weighting

Like Figure 34, Figure 36 illustrates the trend of strategy prioritization from business respondents. This graph shows that increasing drought preparedness of businesses was prioritized the most, and landscape restrictions in new developments was prioritized the least by the most people.

Question B19.b: Why did you prioritize these items this way?

Most themes that emerged from this question were about what respondents perceived to be the most effective and impactful approach, however there are many definitions of what would achieve this.

Logical first step

- The reuse of water is an integral first step that will save millions of litres of water, which can be otherwise be used by the following strategies.

- *We need to stop the "leaks" right away first and then start the educating and transitions with hands on and economics.*
- *Water reuse is great for larger buildings with big roofs or high employee ratio with lots of available grey water.*

Carrot before the stick

- *Awareness and voluntary compliance will provide the greatest return on investment. Practical applications to reuse water will also provide a material benefit. Financial incentives and further restrictions will shift problems from water management to decline of green infrastructure*
- *Education of people and supporting there need to do better will increase interest in my opinion, use of the carrot not the stick.*

Other solutions before financial solutions

- *Education and professional application of services will always be more effective than just charging more money for the water. If you couple the first 3 with professional audit on a 1 to 3 year basis with securing lower water rates, it will have a greater impact.*
- *I believe that increasing what people and business should pay. Is not always the answer. Everything cost money yes. But will the products available today. It can be a sustainable solution rather than just having everyone pay more.*
- *We prioritized based on a combination of difficulty to implement and impact. Watering schedules should be quick to implement and have decent impact. Water re-use is really important, but difficult, we'd imagine. Landscape restrictions might be the most difficult, but would be a large impact. Financial and rate-based might receive a lot of pushback, despite their effectiveness.*

Ease of implementation and adoption

- *ease of implementation and likelihood of adoption*
- *Tried to rank those that are easiest to implement higher.*

Fairness

- *Business have financial reality and to keep taxing does not encourage or help business survive. Setting hurdles or requirements for new development makes it a level playing field for those in that area so okay with that.*
- *As stated before, financial solutions only offer barriers to those who are already in a difficult financial position, we should be rewarding those who are cultivating outdoor space*

Question B21. Are there any strategies or ideas you think are missing that would help build Calgary's resilience to drought, reduce outdoor watering demand, and protect our water supply?

Theme shared by business respondents with all levels of support

Improvement of green infrastructure and urban design

This theme includes sentiments of innovation by The City leading by example to improve water retention and overall urban design.

- *Green infrastructure can capture and clean run off. Soil design, connected greenways, shade trees, could all inform design as a utility to urban infrastructure. Specifying number of trees is a short sighted example requirement on development and Calgary is decades behind other municipalities around the world on regulations for landscape architecture and urban design.*
- *Water management. The development and encouragement of densification without understanding the impact on water (movement, ground water table vs river) is short sighted and needs to be understood. City needs to start walking the talk as keep seeing grass and trees planted which are both higher maintenance and water intensive - where is the xeriscape????*
- *Awareness and investment in enhanced maintenance practices that improve water retention of the existing green infrastructure.*
- *Continue with new innovation and products. And don't forget about the native plants and grasses. They were here before us. And will be after us.*

Partnerships and consultation

- *sit down with the industry and discuss options that are feasible and sustainable. i believe everyone understands the concerns and importance, but it needs to be an industry discussion and understood that not ever development is the same.*
- *Consult with the Canadian Prairie Chapter of the Irrigation Association in the drafting for efficient irrigation system as well as yearly inspection/audit requirements. Stay away from promoting people installing hosebib based timer and it create a larger danger on our water drinking supply due to cross contamination.*
- *The CPCIA would be willing to support and educate this transition.*

Rainwater harvesting and grey water

- *As mentioned many times before, rainwater harvesting. In between the months of April and October of 2021, a household in Calgary with a roof area of 217m squared could have harvested 52,898L of rainwater for the purposes of irrigation or indoor use (toilets, dishwashers, etc.). However, the key is to setting up your system correctly (does not mean UV) in order to ensure a clean supply.*

- *We noticed that there's no discussion of grey water use in the survey. While we understand the reasons that it might not be the most appropriate strategy for Calgary, we hope the City is considering grey water use. Additionally, we believe that rain barrels are going to be important tools for reducing outdoor water use, so we're looking forward to continue to support these programs.*

Considerations and recommendations

The two questions in this section about prioritization and what is missing from the proposed drought action strategies, were effective in identifying driving values that both business and public respondents feel should be used in The City's decision making for implementation.

The interesting finding from this topic is the most predominant themes of reasoning were applied across the board of strategies, with a few exceptions. This highlights that reasoning for prioritization is based on personal level of understanding, perception and assumptions, such as what would be the lowest hanging fruit and easiest to implement, what would be the most cost effective, and what strategy would result in the most quantifiable water savings and long-term drought resilience.

What is most important for the project team when it comes to strategy selection, prioritization and implementation is understanding respondent's driving values. These sentiments provide direct insight into criteria that respondents would like The City to use when deciding which programs to implement. Once The City has further explored feasibility, a full cost benefit analysis, and quantifiable water savings, the values heard in this engagement can then be used as a guideline to help prioritize strategy selection and implementation.

However, a vast number of public respondents strongly suggest that rate-based strategies and those that increase personal cost to the taxpayer be the last resort or not considered at all. A high number of public and business respondents agree that a carrot before the stick approach would be the most effective and the most acceptable approach for Calgarians who can be vocal in their desire for flexibility and the freedom to choose. This could be approached by a voluntary and education first approach while incentivizing people with incentives, rebates and other supporting resources to take positive action that results in desired resiliency. This is opposed to increasing financial and personal burden that may not necessarily create tangible improvements. At the very least, many suggest being fair by giving people time to make positive changes before financial sticks are put in place. Additionally, some highlighted that if the other strategies are effective, the rate-based strategy might not even be necessary.

While there are some respondents who shared their lack of support for many or all the proposed strategies, many more see the bigger picture and the interconnectedness of how to achieve drought resilience. This is illustrated by comments about the need for innovative community planning and design, increased accountability from developers and home builders, and updating regulations and City bylaws that stand in the way of progress. Other recognized the benefit of partnerships, leveraging community leaders and of



course the immense need for education that will help shift the current culture of water hungry grass dominant landscaping and excessive water use.

For others, there is still great value in indoor water conservation messaging. Regardless of drought conditions occur during the summer months when water demand is the highest due to outdoor watering, many feel that indoor water savings would still contribute to city wide demand reduction. This is especially important for citizens living in multi-family accommodation who are not responsible for outdoor watering and others looking for ways to contribute. The toilet rebate program and the low water use bylaw have resulted in significant changes to the efficiency of indoor water fixtures.

However, the reality is some low-income citizens may have been left behind, unable to afford the toilet to get the rebate in the first place or now are unable to afford large water leaks or replacement of high flow fixtures. Many rental suites under the control of landlords or other property owners may not have updated their suites and continue to pass down the higher cost for water due to higher volume. The topic of indoor water use presents unique issue of inequity, as does achieving drought resiliency outdoors.

Topic area #11- Equity

Question 20.a. To what extent do you support The City prioritizing programs that support vulnerable Calgarians as we advance our Drought Resilience Plan?

Figure 37 outlines what we heard from respondents on the public portal.

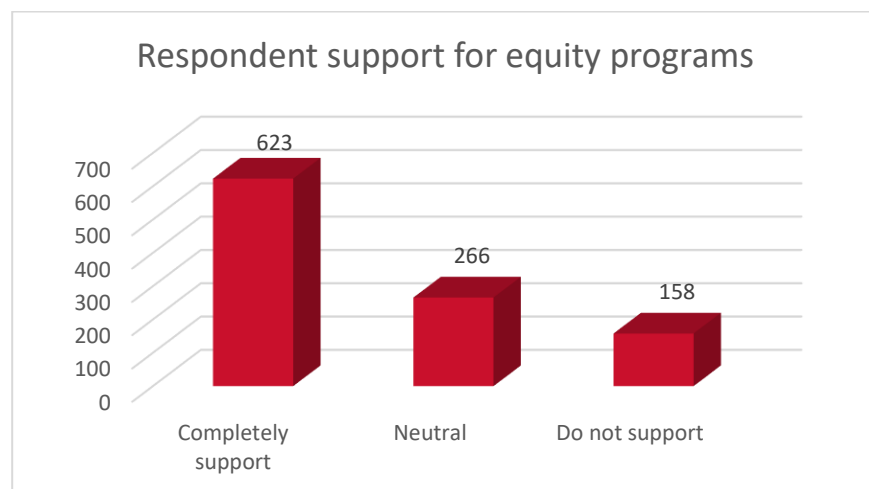


Figure 37- Respondent support for equity programs

20.b. Do you have any additional comments about drought and equity?

Themes shared by respondents with all levels of support

Not sure, I need more information

- *What exactly does this look like?*
- *This is way too nebulous. What exactly does this entail?*
- *Without a list of facts around programs and costs vs results, it is impossible to guess with the information provided.*
- *I am inclined to support, but can't say I "completely support " until I understand the details of what is being proposed*

Consider:

Who is vulnerable and equity for whom?

This theme highlights the spectrum of ideas respondents have about equality and equity and illustrates that people are not on the same page about who deserves equity. This includes low income, vets, seniors, single family households, people who pay for the watering of city owned trees, and the next generation.

- *But who decides what a “vulnerable” Calgarian is?!*
- *Whose definition of equity is used?*
- *Equity is a nice word. It never happens. Single person households always pay more then their share for all city services, including water. The one size fits all approach is always unfair.*
- *Do people understand the difference between equity and equality? Always seems to be a lot of finger pointing that "they" are getting things "we" are not*
- *Some homeowners have very large yards which they have invested a lot of time, labour and money in. Some homeowners also maintain large City lands between the sidewalk and road curb. This is generally appreciated by the public as a whole. Perhaps bill/invoice limits should be given to homeowners with large very yards who have worked hard to make Calgary attractive for everyone.*
- *How is it determined? At what point does personal choice and accountability enter the discussion? If someone is living beyond their financial means (and there are a lot in this city) come into the qualification of vulnerable?*
- *Equity aka white people bad, men bad, straight people bad. Go fly a rainbow*
- *Old people like me living in pre-1990's homes will scream bloody murder when their water costs increase as they need to, but instead of rebates, place a lien on our inflated home values to save water for tomorrow's users - Boomers & Gen X'ers have wasted more than our fair share!*
- *Only for vets, seniors AMD ppl.living with disabilities with low income*

Low income probably not the problem or high-water users

This theme included sentiments about low-income people not being the source of the problem for many reasons, including not owning a home in the first place, having small landscapes that use less water and not being worried about drought and their landscaping at all.

- *The equity piece doesn't quite make sense because the largest culprits for water usage are richer people - the people with big lawns, pools, large bath tubs, etc. Poorer people are likely to have smaller residences that inherently use less water. Set pricing strategies so that a small townhouse or apartment are more likely to fall into low usage rates.*
- *I don't understand the equity issue here, those who can afford to live in houses are not the lowest income people*
- *to be fair, those who cant afford their yards are not watering any way*
- *Vulnérables do not have lawns that much, middle class mostly afford lawns. I guess equity doesn't play an important role in this case!*
- *If people can't meet their subsistence costs, they're not going to care about these issues.*
- *I don't think this is needed unless you implement a rate hike. Drought is likely not even on the vulnerable populations' minds.*

Middle income Calgarians need support too

- *Many Calgarians are vulnerable to rising inflation, rising cost of living, and rising cost of utilities, far beyond the typical vulnerable community, especially in the last 2.5 years*
- *There needs to be consideration for those who don't qualify for low income programs but who are still barely able to manage their day to day living expenses given the definition of low income.*
- *I find that my own family often doesn't qualify for low income support but any event like a drought can make life a lot financially harder for us. It's important to support the programs but choosing to make water more expensive will just hurt many families.*
- *definition of vulnerable is too narrow, households just above the low income cut-off are entirely excluded from most programs. Home owners are, by definition, largely not lowest income.*
- *Low income cut-off is too low, it helps some but not all who require, households barely over the cut-off get no support and with additional costs are worse off. Gardening should NOT be a privilege of the low income (subsidized) and highest income (who can pay)?*

Everyone has a role to play, regardless of income

- *Everyone should be able to do their part to save natural resources*
- *Some low-income friends of mine don't work because they prefer to play. They used federal climate rebate to buy gasoline. Low income doesn't equal "good water steward". Everyone has to learn to reduce their impact, regardless of income. Any program (eg rate based) designed to impact USE should be fully applied to all users. Give more aid to landscape etc incentives based on income.*
- *EVERYONE needs to work toward water conservation. This is not about income level.*
- *Everyone should save water!*
- *It should not be a financial hardship on anyone, however I feel that everyone is able to do their share regardless of income.*

Support with conditions

- *Support income based programs, not based on other conditions*
- *Excessive water use in summer should not be 'rewarded' because someone is low income. Same rules should apply. For incentive programs to change out lawns, then yes.*
- *I do not support the City's "Robin Hood" approach. While food, water and shelter are basic human needs, lawns are not. Tax dollars should not be reallocated based on income for the purpose of landscaping. Find other priorities.*
- *Everybody should have enough water for basic household needs. However, we should not be subsidizing watering the yards of low income households. Perhaps low income households could use more assistance in converting their existing landscapes to be more drought tolerant.*
- *If we are going to spend money supporting vulnerable Calgarians it should be spent offering social services instead of landscaping their yards. Absolutely make sure they're not disproportionately impacted by any increases in rates.*

Who pays?

- *Equity support programs need a sustainable funding source and suggest we'd need to re-examine existing financial revenue/rate structures to be successful. Otherwise, increases to general tax base will just cause more anguish.*
- *Exponential penalty curves. Subsidize the lowest income bracket with the highest bracket. Where will the monies come from to fund these programs? The tax payer?*
- *I don't even know what this means. Please provide details and how we would pay for such programs.*

Themes for 'consider' mentioned in lower numbers

- **Fair entry**
- **Impact to neighbourhood value**

Focus on...

Protecting low-income basic water needs

- *Very important! Access to water (and green space) should not be for the rich*
- *Everyone should have a basic right to clean water, and the poorest among us shouldn't be left out.*
- *We cannot limit access to drinking water/cleaning water for unhoused and vulnerable populations*
- *If indoor water use is maintained as a critical service, then shouldn't vulnerable people actually be better protected by drought resilience planning? Any rate fees should be set so that basic use indoor water rates wouldn't change.*
- *Access to clean water is a human right. It's good to see the city taking steps to protect water for everyone.*

Accessible education and support

- *Areas with less income need more support as these households may not have income to make improvements. Community plant sharing programs? Landscaping workshops? Vouchers for local suppliers? Bring the mulch and compost to the community and show residents how to use them. Encourage a food gardens and food forests.*
- *Cultural considerations should be addressed. Talk to different communities about why they have the yards they do, and barriers to other options, e.g., expense of tree maintenance.*
- *Low income communities probably don't have a choice about water use. Focusing workshops or pop-up booths in those areas may be impactful. Offering free tools or conducting surveys in those areas may help.*
- *Like utility rates, many users do not conserve but expect financial assistance. Calgary is shockingly low on conservation of natural resources. Lack of educational programs to encourage compliance*

and conservation is noticeable to me coming from BC with BC Hydro efforts and regional water utilities where we had been doing this for some years.

- *Providing more equitable access to drought-tolerant landscaping for the lower income areas would help beautify these areas and make them more desirable. Education on how to maintain is needed as well.*

High water users and rich should pay more

- *Allowing low income people to pay less than everyone else, but we all know that the wealthiest single family detached home owners disproportionately emit carbon, use water etc. Equity should mean taxing them proportionately (like the concept used in Finland, where speeding tickets have been over \$100,000 if the driver is super wealthy).*
- *Lower income families are less likely to use as much water as they are metered, it is the larger homes that need to make changes as they have a lot of landscape and more people per house. Making these people make changes would be more beneficial*
- *I would guess that higher income households use more water on landscapes & their businesses than low income residents do. Targeting these households could have the most impact.*
- *Once again you will set certain requirements that screw most of us over. Tax [profanity removed] out of the 10% of people who use tons of water on their huge yards, and companies with the decorative yards and excessive water use. Don't punish us average users who don't even have 1/5 of the water use of others*

Creating benefit for all

- *In order for this program to work, everyone has to benefit.*
- *If people are financially struggling, should they really be spending money on lawn and garden supplies? If there are financial incentives, they should be available equally among all residents.*
- *Low income cut-off is too low, it helps some but not all who require, households barely over the cut-off get no support and with additional costs are worse off. Gardening should NOT be a privilege of the low income (subsidized) and highest income (who can pay)?*
- *the City should focus on solutions that do not create a burden for ALL citizens, not just protected groups.*

Incentives and rebates

- *Irrigation and landscape incentives and rebate should be #1 priority and pay for use lowest priority*
- *Equity can be relatively easily addressed with rebates/tax refunds. Also, most low income Calgarians don't have yards and lawns to water.*
- *I'm not sure if certain areas of the city are more prone to drought, so this seems most applicable if it is spread out among people with different salaries. I think there should be larger incentives for people with a lower household income.*

- *I think the subsidy or rebates for irrigation, etc. should be incentive enough that they would apply to low income as well. Even though I'm not low income, coming up with an added home owner's expense is not easy so the incentives should be substantial enough for all. A few dollars is not enough to incentivise someone who was not planning to upgrade anyway.*
- *If we implement rebate plans instead of taxes for water use, there will be no need to protect vulnerable Calgarians.*

Taxing less and keeping costs low for all

- *How about you stop taxing us to the point of poverty*
- *Do not increase our taxes. Already pay too much to city hall . Figure out how to do it without charging us more.*
- *Will city hall be changing out public areas to be more water wise*
- *We are all in favour of equity, but we already pay substantial rates, tailored to the size of our property*
- *The last thing we need is the city charging everyone more for water, then turning around and offering a rebate to "vulnerable" people. How about don't charge extra as it is?*

High water using businesses and corporations

- *Golf courses shouldn't be prioritized in droughts.*
- *Has to ensure the property is owned by an individual, NOT a corporation or business or landlord.*
- *I will reiterate this point: commercial use and golf should be cut down before actual people need to reduce their water use. I should not have to suffer because some rich person decided that tropical plants would look super neat in the front lobby of this random building no one enters.*
- *Golf courses and people in neighborhoods with extensive properties with grass lawns, what is the plan for them for drought mitigation?*

Themes shared by supportive and neutral respondents

General support for equity considerations

- *This is the most Important factor*
- *It's extremely important, because people who cannot afford to xeriscape etc. will be stuck with higher maintenance costs, and will "bring down" their neighborhoods.*
- *It is critically important for success to support people with drought plans, I would hope we coordinate this with food sovereignty in assisting people to grow food in their yards as well.*
- *This is the best way to prevent a political issue with positive change*
- *This is very important - we need to do everything we can to ensure equity, otherwise the program won't work! Individual efforts make a big difference, but the greatest impact will be if we do this as a team. If everyone is going to be on board we need the support those who need it*
- *I will always support the City prioritizing supporting our most vulnerable citizens.*

- *High five for thinking about this. Be creative with ways this can solve multiple issues. Get rid of grassy areas near low income dwellings and replace them with edible water-wise landscaping to increase food security at the same time.*
- *Make Calgary drought resilient, ignore the usual haters who hate anything government does to help, especially when it comes to addressing the coming climate crisis*

Consider

Vulnerable Calgarians should not be unfairly penalized

This theme includes sentiments about ensuring vulnerable people are not burdened further, both by the drought actions and strategies The City decides to take, especially rate increases, and from the impacts of drought itself.

- *I think the real solution is to not develop programs that further disadvantage vulnerable Calgarians. Better to spend taxpayer funds on helping those people first.*
- *Do not financially burden those with lower incomes.*
- *The city should be intelligent and work to identify and implement ideas that do not place additional financial burdens on its vulnerable.*
- *Unless you do things to hurt the vulnerable you need not save them from your actions.*
- *As I had commented above I would worry about large low-income families feeling this the most. We need to ensure that the people that can pay do and we don't punish the vulnerable.*
- *if you want to support vulnerable citizens of Calgary, don't touch any more of the bills and rates*
- *Extra rates only harm the lower and middle classes already struggling. We should focus on the perception and culture around lawns first.*

The rich will continue to be high water users

Respondents of this theme shared thoughts about the wide divide between the rich and poor in Calgary and their worry that people who can afford it will continue to use as much water as they want, simply because they can afford it.

- *We have a serious class divide in this City. I worry about wealthier households who will just pay to use water for pools/hot tubs/grass and not curb behaviour and families who are just cooking/bathing/cleaning but have larger families are also getting fined. These larger families often are lower income and we need to be sure we aren't putting them under additional stress.*
- *increased costs while still allowing unlimited watering is not equitable as people with more resources will be able to install underground sprinklers and will not be as concerned about costs*
- *The rate hike concept could have negative consequences on vulnerable Calgarians. It likely will not change the behaviours of the most wasteful Calgarians.*
- *More affluent communities often seem to use more water and don't seem to care about following restrictions. I have witnessed this my entire life. To many it is more important to them for their grass*



to look nice than consider the impact droughts have on everyone. Financial incentives will not stop some people from using excess water because they can afford it.

Themes in 'consider' mentioned in lower numbers

- **Equality for the environment**
- **Leaks and real time monitoring**
- **community and income level analysis**
- **effects of heat in all areas during drought**
- **rewilding our city is best for all**
- **landscaping is cost prohibitive for low income**
- **block rates ARE equitable**

Focus on

Supporting food growers and food sovereignty

- *Help low income people grow their own food!*
- *This is crucial as many marginalized community members also strive for connections to the land and land stewardship, and food sovereignty.*
- *People try to grow a garden to save money especially with rising prices. They shouldn't be penalized for that*
- *help them set up kitchen gardens with climate wise perennials (ie: rhubarb, crabapples) and veggie boxes (raised beds to be watered with rain barrel water maybe?) so they can reduce lawn + grow food for their family.*

Protect and increase public park space

- *More public green spaces are an enormous part of equity, because not everybody has a huge backyard. Also, these should be participatory--like people should feel ownership and be able to touch and use things in them. I hope that's not lost as we work towards drought resistance.*
- *Green spaces and food sources are needed downtown anyway and would help our homeless population as well as every other calgarian. Green spaces are what we most need for revitalization and we could start with parks made up of native special and perennial food crops (like rhubarb, Saskatoon, honeyberry, apple trees, etc)*
- *Bringing back water fountains in the city parks would be great. Not everyone has a place they can go to get fresh water all the time.*
- *Equity is very important because fairness means balance in the access to resources we need to live. If we can get it, everything will be better in the city. Neighborhoods in Calgary and any other city with low income families don't have green spaces with trees and plants. The city should begin there with a program to recover those spaces involving the community in the work.*

Creating community action and solutions

Some respondents feel like a community approach to helping the vulnerable would be best, where neighbours work to help each other, and community green spaces are used to support food security.

- *Everyone needs to get onboard. Neighbours can help neighbours that need assistance.*
- *Try to make a plan to get people to work together as not all want to work on projects around there home*
- *More community gardens with water-wise design. Garden angel program like snow angels?*

Multifamily buildings

- *Equity comes into play in multi-family developments; also, personal circumstances could make regular maintenance of certain water-related fixtures very difficult and these people should not be penalized.*
- *Look at equity for non-single detached homes when considering rebates and incentives. People who can't afford yards still have to pay rent/condo fees that could be reduced through these programs.*
- *Very important. Please don't underestimate how much it will help to make these things affordable and easy for lower income communities. Growing up in Falconridge and working in Marlborough Park, families under financial strain don't have the luxury of time or money to redo their gardens. Landlords need easy, affordable ways to help with these water goals also.*

Racialized and disabled Calgarians first

- *Prioritize Indigenous peoples, Black people, people with disabilities first*
- *I hope this program is engaging indigenous groups, too, as I imagine they'll have a really different opinion.*
- *Yes! 1. Stop planting such water needy plants in your pretty boxes at city Halle 2. Stop planting water needy plants in community boxes and parks 3 TEND TO YOUR INDIGENOUS AGREEMENTS AND BRING THEM CLEAN WATWR BEFORE CHARGING ME ANY MORE FEES 3. our water usage is minimal and based on need, we don't have a lawn that needs water but I fear our laundry usage would fuck us right over.*

Themes in 'focus on' mentioned in lower numbers

- **The City walking the talk**
- **creating more water storage capacity to prepare**
- **Increasing access to drought tolerant plants**

Themes from unsupportive respondents

Unsupportive of municipal support program

This theme was the most common among respondents who do not support The City creating equity focused programs.

- *This is wasted effort.*
- *stupidest thing i've heard in a while. you want me to pay more taxes so that someone else can get a break landscaping and watering their lawn?*
- *There's no drought. The river is flowing fine and always will.*
- *It's not an issue here. Stop trying to think of ways to charge Calgarians more for the constantly reducing number of services you offer. You're killing our economy and making people move away.*

No to subsidizing others

- *Equality is great but equity is a discriminatory bunch of hogwash*
- *Again we all need to contribute and there is something we can all do- I am not a fan of continue subsidy*
- *Being low income shouldn't mean they get things for free! It's everybody or nobody*
- *If they can afford a house and a mortgage, don't see why I should be subsidizing these people.*

Drought wont impact vulnerable more

- *I would need to know how low income would be impacted more than high income.*
- *Drought would affect all?*
- *I fail to see how drought effects vulnerable Calgarians more than any other Calgarian.*
- *In the scenario the City is using I'm not sure how equity is an issue for watering a lawn*
- *If you can afford to water your grass I think you are financially ok!*

Low-income people have enough support already

- *Low income already have supports, the city can change on their own their Calgary housing yards as they see fit.*
- *This is ridiculous, we have enough social programs in this country.*

Everyone is struggling

- *Everyone is being effected by this. Make solutions that help everyone.*
- *I mean we are all struggling with inflation right now.*
- *As a homeowner in Calgary, I find the costs to live hear are escalating. My choice to maintain and make responsible choices go beyond the existing costs. I think it is wrong to punish those who care to make a difference by taking even more. If you cannot afford maintenance of homeownership there*

are apts and condos where it's done for you. The business of equity is unfair and quite frankly biased.

Everyone should take care of themselves

- *They can get jobs installing irrigation systems!*
- *Everyone is responsible for managing their own budget. Including water management*
- *I do not support any sort of wealth redistribution scheme. Everyone should be treated fairly and equally.*

Business responses

Figure 38 outlines what we heard from businesses when asked the question:

Question B20a: To what extent do you support The City prioritizing programs that support vulnerable Calgarians as we advance our Drought Resilience Plan?

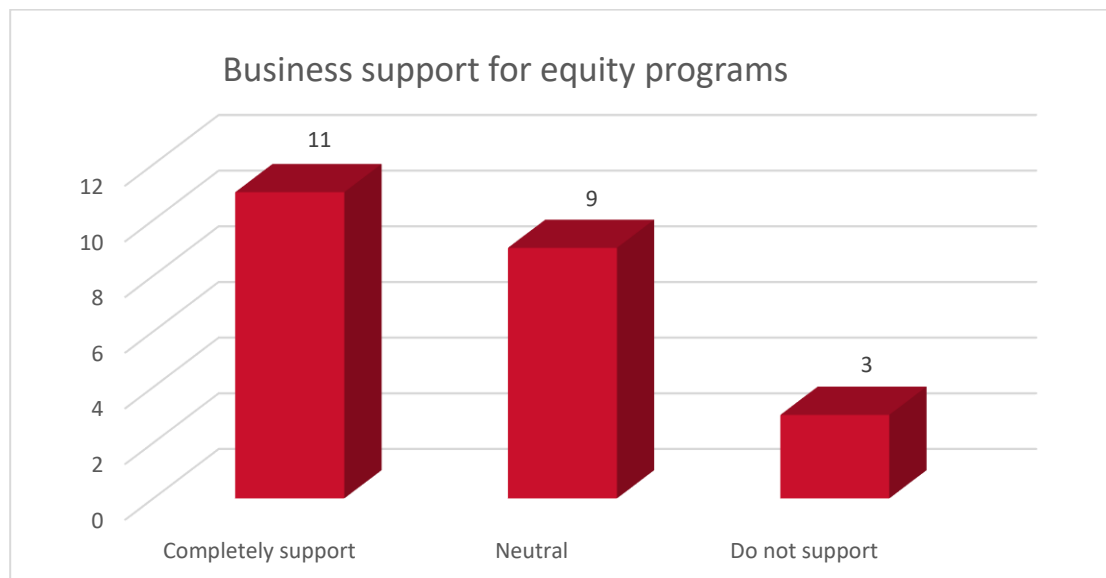


Figure 38- Business support for equity programs



Question B20.b. Do you have any additional comments about drought and equity?

Themes from unsupportive respondents

For those who were unsupportive of The City prioritizing programs that support vulnerable Calgarians, the key theme was being:

Unsure of Drought and Equity Connection

- *Not sure what the profile of a vulnerable Calgarian - but I assume they would not be Landscape owners.*
- *Don't see how linking vulnerable with drought is appropriate - two separate issues.*
- *Cannot support a program without more information or knowing the objective*

Themes shared by neutral and supportive respondents

For those who were neutral or shared support for this approach, the two common sentiments were about protecting low income/high density living families from price increases and their right to access water and reflecting on if their knowledge and lived experience is a vulnerability or an asset.

Concern about impact of rate changes

- *This should be a very high consideration when it comes to any subsidies and rate changes. Additionally, prioritizing education for underserved groups is a good way to make sure no one is left behind.*
- *Per my comments above, rate-based strategies have the potential to penalize vulnerable / low income citizens in high density living. Water is an essential element of life that must be available to all.*

Knowledge and lived experience

- *They are probably some of the best at working within their means and we should be using them as an example*
- *This is a good idea, but would also encourage educational programs as well to help them understand various tactics to reduce water usage and seek alternate and sustainable forms of inputs.*



Action Dignity

Question: What support or resources would you need to be able to participate in these strategies/programs?

Participants in the Action Dignity focus groups and interviews shared many themes about the resources and support they would need to participate in these programs and strategies equally. In order of most mentioned to least mentioned, there themes were:

How The City should communicate and educate

- *Social media and TV/ Radio*
- *educational content via social media and other platforms*
- *more enlightenment via leaflets, TV, radio, social media*
- *information dissemination posted on social media site, local TV*
- *To post all these in social media, TV and radio news. Small seminars*

Transit

- *posters on transite to create awareness*
- *potentially more radio ads and local advertising on transit*

Grocery stores

- *Info bulletins in grocery stores*

In schools

- *It will be better to maintain water use education in the school curriculum*
- *youtube ads, promotions and guest speakers in schools for kids.*

Workshops, webinars and training in different languages

- *more frequent educational sessions planned by the city with multiple language translation/interpretation available*
- *more educational workshops, sessions to be offered, we want more alert and informed community members they will do well and they will lead others by telling us and by setting examples with their own deeds*
- *we could have great support through training and awareness*
- *info sessions that reach all communities*
- *language appropriate information sessions*
- *set up town hall meetings with councillors*
- *workshops or educational seminars on water conservation*



Brochures and mailouts that are accessible and in different language

- *send us a brochure/written note about these strategies so people have more chances of contributing information in different languages*
- *information in different languages*
- *They should send flyers in different languages by mail, advertisements,*
- *Indepth information in accessible and understandable forms (infographics etC)*
- *Infographics*
- *a better explained process. It is quite difficult to understand the terms, processes and explanation*

Community approach to education

- *Training community members*
- *community training*
- *friend group ni consultative settings w/ stakeholders*
- *group meetings organized by leaders in the community*
- *education, teaching communities*
- *pamphlets or booklets containing information should be sent to every home. Workshops should be held in every community, print media to bring awareness among people*
- *we would love to have an expert come into our community and organize a gathering for all neighbours to listen and find out how we can act on this.*
- *fostering community based environmental activities*

General education

Many participants shared ideas about the need for more education to raise general awareness.

- *more awareness, publicity, education needed*
- *information drive as lots of residents are unaware of these programs*
- *more information, educate people in the city about the advantages*
- *more educating resources and creating awareness*

Gardening support and examples

This theme includes sentiments of support required to reduce outdoor water use through gardening and includes ideas about home visits, providing plants and seeds. Others here shared a desire for demonstrations and examples from other cities.

- *more detailed information on the methods to conserve water in the household and/or outdoors. Implementing more rules or regulations in communities for them to participate in water conservation*
- *waterwise plant supply*

- *help the community to establish their own garden beds. Provide them with seeds rather than money. It directly/indirectly helps water reduction health and wellness*
- *provide garden ideas, gardening courses, incentives to purchase native and drought tolerant plants, city staff to visit homes upon request. The city people need to be master gardeners or certified horticulturalists, not summer students.*
- *educational workshops, handouts, demo for anything that can be shown as a demo*
- *examples of how some of these strategies have been deployed in other cities*

Regular communication

- *regular updates*
- *periodic information*
- *regular update regarding these strategies*
- *I think the city should give an update to offer so that people can learn about the strategies going forward*

Financial support

- *expensive, our budget not even went up. Our salary do not show any proportionate increase to cope with skyrocketing grocery prices and related services*
- *because everything is very expensive, but money we get from work. Our respective household income to cope up with change in bills*
- *Financial rebate/support*
- *awareness meetings and supply of recognized tools*

Focus on those who will act

- *we endorse funds for media, schools and communities for educating the youth and women as they are the best making water utilization strategies a great success.*

Advisory Tables

The following section outlines the results of four short workshops held with 3 council supported advisory group and one discussion group for accessible engagement.

Part 1

After receiving a presentation illustrating each strategy that is proposed in the draft Drought Resilience Plan, all groups were asked the question:



Question: What support or resources would you need to be able to participate in these strategies/programs?

Themes shared by all advisory groups

These themes were common in each group and are listing from most mentioned to least mentioned in the conversations.

Education and workshops

- *Offer newcomer gardening/ drought workshops*
- *Use community gardens as learning hubs*
- *Newcomer communities need to be informed about the benefits/ rebates properly before it gets lost in translation*
- *More education- especially at garden centre*
- *Need to change public opinion about what is beautiful vs. what plants use less water*

Drought and strategy information

- *Content: Would be helpful to share an estimation of how much of our drinking water is unnecessarily going down the drain?*
- *What does it mean to protect rivers?*
- *What would the approaches look like for residential and industries – are the strategies the same or are they going to be different?*
- *I live in a house that has a front and back yard. I have a grassy plot. It's very important to water. You said that outdoor water will be more costly. Will there be different meters for indoor and outdoor water?*

Rates and equity issues

- *Rate scaling approach – has promise but is there a potential for an exemption or rebate for larger families that may be lower income and just using the water for laundry, cooking, hygiene etc*
- *Anything to do with rates and water volume needs to really consider how the threshold of inexpensive vs expensive is calculated. The only fair way is per person/ household. Using an average occupancy size will benefit households with 2 people and immediately penalize larger/ multi-gen households.*

Rain barrel support

- *Rain barrels, rainwater capture and storage solutions- with bug mesh*
- *Give people lots of advice and support on using rain barrels. A lot of people want to grow vegetables. Not only focus on planting drought resistant plants – also provide info on growing food, but using rain barrels.*
- *Rain barrels, rainwater capture and storage solutions- with bug mesh*



Older adult needs and interests

Condo living

Many of the seniors in the advisory group, live in a condominium/ multifamily dwelling.

What can I do?

- *Not sure what a renter, mixed dwelling and non-home owner can help save water as it appear to be directed a home owners with grass? Are there other water saving strategies.*
- *Is there interest how you can support drought strategies if you're not responsible for green space?*
- *Can people living in multi-family have an impact on drought preparedness?*
- *Are there ways for seniors to be involved in drought resiliency who live in multifamily?*
- *A lot of the drought engagement seems to be focused on people who live in houses. There are many seniors who live in multi-family.*
- *Considerations for contribute to drought resiliency through other ways other than gardening*

Condo landscaping

- *I live in a condo that has a front and back yard. There are people interested in xeriscaping and reducing the cost of water. Exterior watering is the biggest expense in condo fees. I hope this program will be expanded to people who live in condos, villa style condos. Packages for condo complexes would be useful*
- *Multi-unit scenario – shared grounds/common areas – there is some value in putting it out to homeowners, but also the property managers as well. The property managers are the ones that hire the landscapers and need to know this.*
- *Encourage condo buildings to put in water resistant plants*

Indoor water use

- *Each condo is equipped with a dish washer – people should be encouraged to only put it on when it's full*
- *Indoor water conservation tricks and tips for multifamily residents so they feel like they're contributing*
- *Reduce water use through showering, washing, etc.*

Growing food

- *We live in a single family home. We have a big vegetable garden. I do think you will find a lot of people putting in vegetable gardens that never did before. How do you allow people to do that without punishing them by making their outside water cost more money?*
- *Don't penalize people who want to use water to grow food*

Container gardening

- *Also container/balcony gardening*
- *I don't know what plants to put in outdoor flower boxes – encouragement and recommendations on the type of plants to put in outdoor planters*

Large lots

- *Many people in my neighbourhood love gardening and have nice front and back yards. According to our developer – bigger slopes in the front and back. Water loss rate is high. From an aesthetic point of view – gardening is good. But we also have to consider the design of the slope and make sure to have less water loss.*

Accessibility

Inclusive communication

- *If he hadn't heard about this today, but doesn't do print medium, he wouldn't have known about this. It's a larger question – how can we do more to get this to people that are interested?*
- *I don't have much additional to add aside from hopefully with the campaign it can be made virtual (adding step by step videos and what not)*
- *PR on messages on the LRT and buses and bus transfers*
- *Alternative formats to promote the kits and the strategy*

Sight loss considerations

- *When talking about water usage and watering too much. It's not necessary to water the sidewalks and concrete doesn't grow. People with sight loss don't like the showers when they're walking.*
- *Likes the scaled water use – how would someone who can't read the water meter be able to access their water usage. Do we have a smartphone app that interfaces with the water meter so that people can monitor their usage?*
- *To [identifying information removed] point what app might work to read the water meter such as a test on the app 'Be My Eyes' and 'Seeing AI' work on a smartphone? (sorry these may only be apple apps and I am not sure about android).*

Considerations for physical disabilities

- *Households with disabled folks often use more water because showers and other bathing needs take longer and it may require more laundry for health needs (just further to that equity point)*
- *Water schedule – for those who rely on attendant services to turn water on and off – may not be able to meet the watering schedule. It would be difficult for them to get out to turn water on and off early in the morning*

- *Some kind of incentive to help with the labor required for plantings would be really helpful for people with disabilities*
- *Need to incorporate a lot of education for water saving plants. Noting that a lot of the drought tolerant plants are low maintenance would be helpful. Many people with disabilities can't do their own garden maintenance. Also use other rain water capture and storage techniques to help people with low maintenance (e.g. swales, rain gardens).*

What can I do?

- *Not sure what a renter, mixed dwelling and non-home owner can help save water as it appear to be directed a home owners with grass? Are there other water saving strategies.*
- *Is there interest how you can support drought strategies if you're not responsible for green space?*
- *What can I do as a Calgarian to save our water and watershed.*

Look to other municipalities

- *Agreed best practices from other countries and municipalities would be helpful.*
- *Water recycling needs to be done – look at Australia for examples*
- *Also – can you have a standard around water conservation like they do in Okotoks?*

Waterwise solutions

- *PhD in Atmospheric Science – have you considered ways that we can gain more water when the snow pack is higher? But the mountains aren't necessarily getting higher. It's city policy to open the dams when the snow pack is higher... in theory we should be capturing this water in years of larger snowfall*
- *Can you encourage people to reuse kitchen water on their lawn?*
- *Plants and kits are great suggestions for people as if we leave it to others, they won't do it*
- *Try to reduce the amount of run off – turf stone is the commercial name – it's a brick/patio stone that has water go through it instead of the regular stones that direct water into the storm drain*
- *Don't water at 3 in the afternoon – water at cooler times of the day.*
- *Drinking water and high quality water is used to water lawns. Perhaps we can use brown/grey water to water lawns instead of our drinking water.*
- *new build homes - landscape rebate*
- *This can't be a 3 month thing, this needs to be an ongoing thing*



Immigrants and newcomers

Language barriers

- *All material needs to be available in multiple languages*
- *Supply resources and training in their first language*
- *What or how many languages are we putting this into? In order to reach more people, we need this in more languages?*
- *Concern about Language barriers*

Lived experience an asset and a hurdle

- *Incorporate discussion of plants that worked in drought back home and what works well here*
- *Leverage the expertise of newcomers with lived experience of drought to lead gardening in their communities*
- *Defining drought might be challenging for newcomers- many have lived experience of very severe drought, and do not think drought could be a risk here. Even if The City says it is, it will be a hard sell and will need to be put into context about the impacts of drought in Calgary*

Enforcement

- *Concern about compliance- how will it be enforced? Who would be targeted?*

Inequity at household level

- *Take a household perspective- people need to have functional taps (not leaking)- some people must keep water always flowing in a small volume- what happens to their water use volume with rate-based solutions? Can you encourage people to reuse kitchen water on their lawn?*

Shift work

- *Watering schedules may not work for low income/ newcomers who are working shift work/ two jobs.*

Part 2

In addition to the discussion for the previous question, all groups were also asked about partnerships and resource that would support equity deserving Calgarians with their unique needs and considerations. The specific question was:

Question: Who does The City need to partner with to ensure that equity deserving Calgarians get the support and resources they need?

The result of this brainstorming exercise is listed in Appendix F



Considerations for the Drought Resilience Plan

The concept of equity as it relates to drought resiliency produced a rich spectrum of ideas and opinions. Firstly, for many respondents on the public portal, the definition of equity and equality are not clear, with many conflating the two. Additionally, both business and public respondents questioned how equity relates to drought at all. One of the biggest themes to emerge from this topic is the concept of who is deserving of equity and how will 'vulnerable' be defined.

Respondents' feedback illustrated that while many recognize that low income, disabled, racialized and newcomer Calgarians could be more vulnerable to drought and therefore would require additional support (equity), many believe that equity is achieved when everyone is offered the same benefit (equality), with the exact same outcome. Many respondents feel they are also deserving of special consideration for a multitude of reasons, including the struggle with the rising costs of inflation for everyone, middle income Calgarians never getting any extra perks or support, and even the effort of some to beautify their neighbourhood by maintaining a large and attractive front yard. Additionally, some feel that equity means that everyone should contribute in the exact same way, with little recognition of unfairly distributed financial burdens. For many, the idea of subsidizing others is completely inappropriate.

We also heard from some respondents a lack of understanding or empathy for how drought related impacts and resiliency actions could exacerbate inequity. Many believe low income and vulnerable people are not the main water users, do not own a home, are not worried about water use, and therefore should not be the focus of programming effort. While this may be true for some, it ignores for example, multi-generational households with higher water use due to high occupancy and low-income folks who may not be able to make changes to their home to reduce both indoor and outdoor water use, thereby increasing their vulnerability in the face of possible increasing water rates. Conversely, other respondents stated the connection between drought, its impacts, and the action required to increase resiliency that will ensure groups of people do not get 'left behind'.

This poses challenges and opportunities for The City should programming to support vulnerable Calgarians be considered. Providing education and awareness about the differences between equity and equality will be key. Amidst Calgary's social norm that promotes hard work, independence, freedom to choose, and the entrepreneurial spirit, these strategies and any program for equity deserving Calgarians will need to be framed in a way that builds empathy for others and communicates how achieving equity for some leads to collective benefits for all. This could be approached in a values-based manner. For people who value a beautiful well-kept yard and attractive neighbourhood, support for equity deserving neighbours to 'upgrade and beautify' their yard, could help to appeal to this value. For others who value cost efficiency, the cost of inaction may be an effective way to communicate so folks see the benefit of drought resiliency actions and the need to support everyone to achieve it.

When speaking directly with equity deserving respondents, we heard clearly that people want to be part of the solution. To do that, they first need to know how they can best contribute and may need additional considerations to support them to do their part. This could include The City using culturally appropriate



communication channels and educational resources in a variety of languages and options for both homeowner and multi-family dwellers. Extra consideration for those with limited mobility, sight and hearing loss will also be important.

To achieve equity in the Drought Resiliency Strategy, there are four key questions that should be considered:

1. Who could be disproportionately impacted by drought?
2. Do drought actions/strategies we're exploring unfairly impact anyone?
3. Is there a risk that drought program benefits could be unfairly distributed?
4. How do we address these inequities in the Drought Resiliency Strategy?

Appendix A- Social media commentary

Engagement: 281

448 Comments 97 Shares

In general, most of the commentary online was supportive of ways to conserve water and people showed an openness to exploring new ways of gardening and reusing water. That being said, many people are sensitive to the associated costs and increases to their water bill.

OUTDOOR WATERING SCHEDULES

Outdoor watering schedules was not heavily debated on social media; however when mentioned most people appear to be on board with the concept, but there are some concerns about the details and if it will hinder avid gardeners and those who water their veggie gardens. There were also some concerns raised around compliance and making them mandatory



Nancy Jardine

I'm an avid gardener, use water wisely but am concerned about restrictions. I am on a water metre already and pay for what I use. My parents live in a town with certain days they can water. It's an absolute nightmare.

Like Reply 1w Edited



Sally Roenisch

The City MUST put a water only on certain days protocol. I am a water warrior and it upsets me to see people leaving their water on for hours ! only water in early morning or the sun will evaporate a lot of it. Such waste.

Like Reply 1w




Derek Burnett


Outlaw lawn watering, but allow watering of vegetable gardens?

Like Reply 2w








 **Kira Parkes**
I think there's A LOT of people who are finished hearing the word mandatory for a while. Let's come up with something that doesn't involve compliance.


Like Reply 1w  7


INCENTIVES FOR 'DOING THE RIGHT THING'


We observed support for various forms of incentives (e.g. tax relief, etc.) when residents make choices that reduce their outdoor water use.

 **Wanda Nicholls McMinn**
Provide tax relief to those that landscape with rock gardens and no front lawns or fine those who water to the point where it's running down the sewer system.

Like Reply 1w   18


 **Donna Winn-o'connor**
What kind of insensitive could encourage people to change their thoughts about grass? Smaller patches, perhaps some discounts on vegetation that would save the city water. More decorative rocks? Scrubs? Need some life around the house though.


Like Reply 1w  4

 **Katie O'Connor**
Donna Winn-o'connor tax reduction for xeriscaped yards. ***

WATER REUSE

Most discussion online was keen to support water reuse opportunities and saw new communities and renovations as opportunities to put these into practice. Rain barrels were often cited as an opportunity that hasn't been widely enough adopted across Calgary. Calgarians showed a lot of support for distributing rain barrels city-wide.

 **Bianca Miller**
It would be great if the city supplied rain barrels to each house, like they did with the compost bins.

Like Reply 2w  155



Rishi Kapoor

We need to find ways to use recycled water for gardens

Like Reply 1w



Livia Castro

In my country we use the water from the wash machines to clean garage floor and other outdoor areas that not necessarily need 100% clean water.

I wonder how (and if) this could be an option here. 😊

Like Reply 1w



Angel Root-Lussier

I'd love to see grey water systems put into place for new builds and incentives for older areas as renovations are done to implement using grey water systems. So that when you wash your hands, shower or do laundry, that water is used for the toilet. There are multiple ways to install filters and clean the water enough so that it can be used for black water purposes. This would save a lot of water from simply going down the drain when it's not very dirty and could have multiple uses.

Landscaping designs. Rainwater collection systems considered when designing new homes so that rain barrels are not always having to be used. Storm water collection to water grass and gardens can be done at the land developer level if time is given to planning and consideration for the future and our environment.

At the same time land developers and builders can also install solar battery stations at the end of streets to house power rather than electricity boxes.

Like Reply 2w



Brett Gilmour

how about this for all new construction and renovations:

- mandatory low-flush toilets,
- separate potable and purified water lines
- in-home water recycling
- rainwater catches and cisterns feeding the purified water system

These measures have been standard practice in some countries for over 30 years.

Like Reply 1w Edited



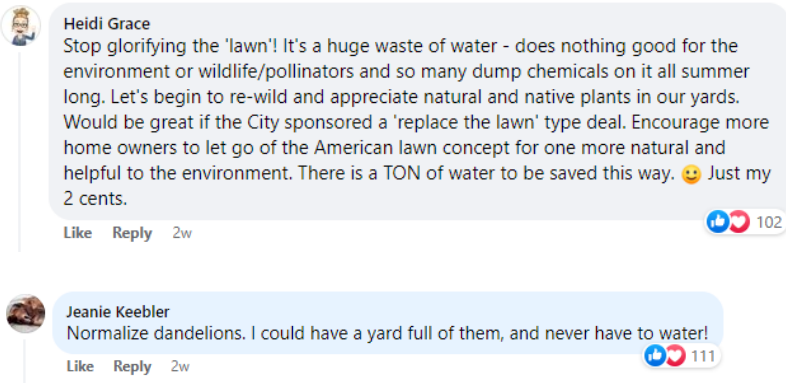
TREES

Calgarians value trees, not only for their aesthetic qualities, but also for the relief they provide during heat waves. They're concerned about Calgary's tree canopy and perceived loss of trees.



LANDCAPING ALTERNATIVES

Calgarians are open to alternative ways, beyond grass, to landscape their yard.



THE CITY HAS A LEADERSHIP ROLE

Calgarians are looking for The City to take the lead and set an example. From using sprinklers in the parks when it's raining to street sweeping, Calgarians observe when City practices appear misaligned.

They also see opportunities for increasing education amongst residents about ways they can be more waterwise at home.



Theresa Wiersema

We all need to be water wise, including the City of Calgary. There are many times when it's pouring rain out and the City sprinkler system still goes on in the green space right behind my house.

Like Reply 1w



Patricia Odoerfer

Theresa Wiersema I see it. It's ridiculous. ...

Like Reply 6d



Patricia Odoerfer

In the middle of the day too ...

Like Reply 6d



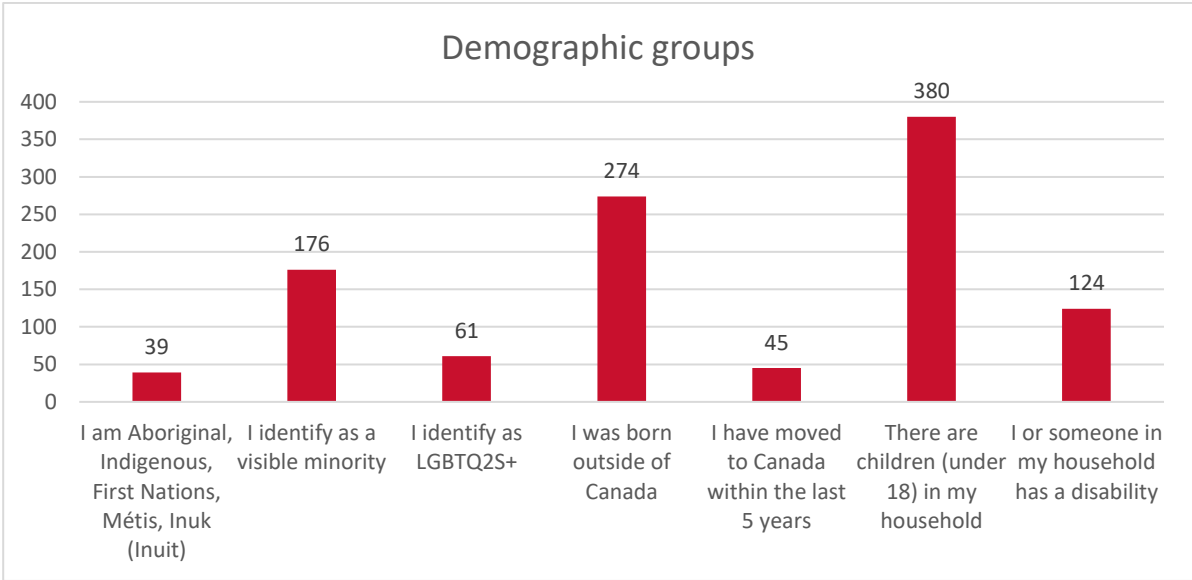
Michael Harvey MacInnis

I think just more teaching and learning how to use water wisely is needed before making and changes but putting a stop on yard sprinklers is a good start.

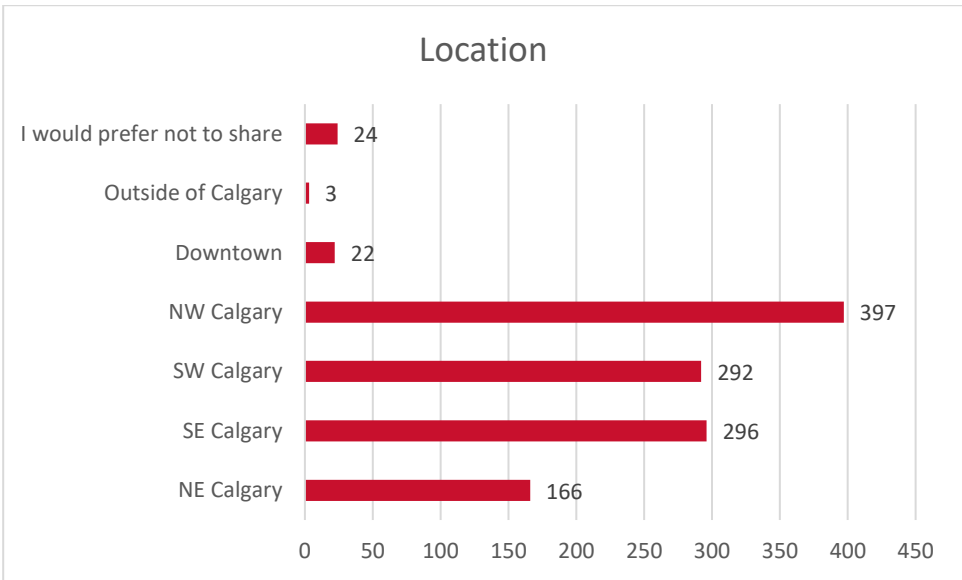
Like Reply 1w

Appendix B- Calgarian demographics

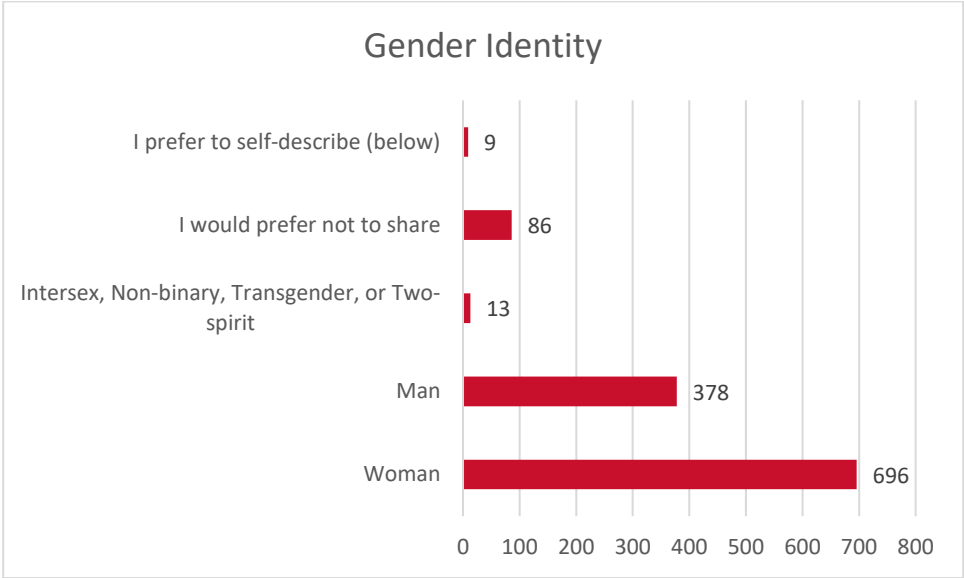
Question: Which population group(s) do you identify with (select all that apply)? These response categories are based on those used by Statistics Canada.



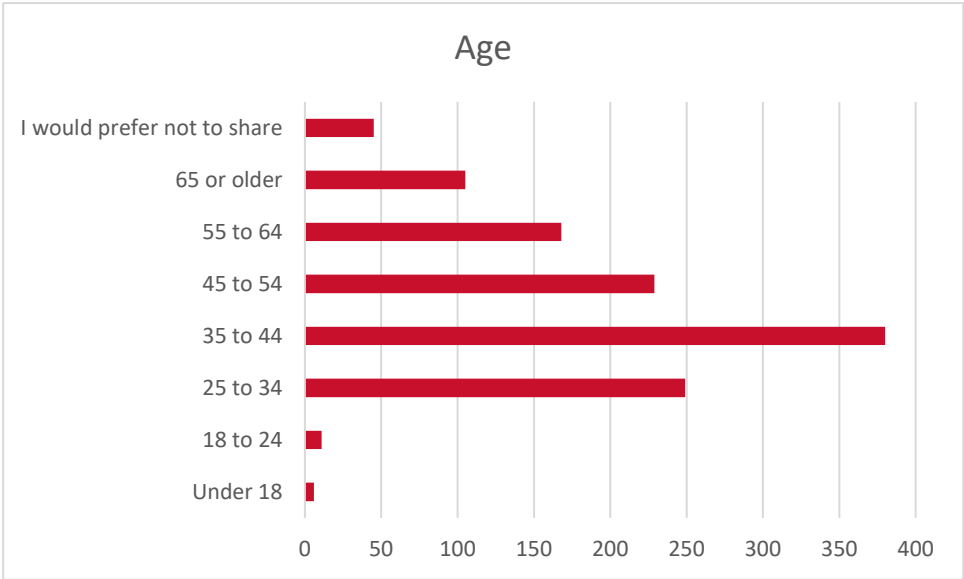
Question: Location - Please let us know where you live. Select one



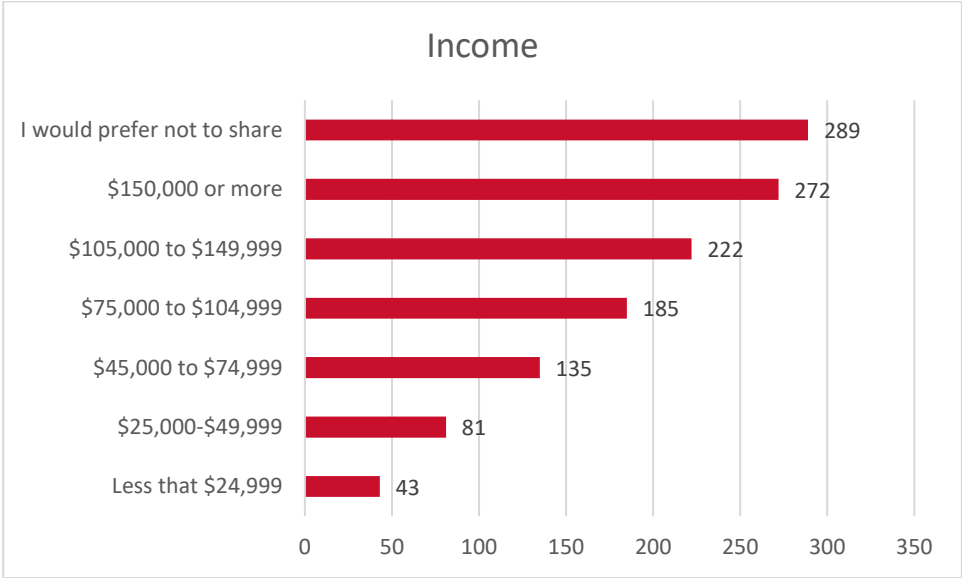
Question: Gender identity - Please choose the option that best describes you. Select one



Question: Age - What is the age-range of the person providing this input. Select one



Question: Household income - What is your total household income before taxes?



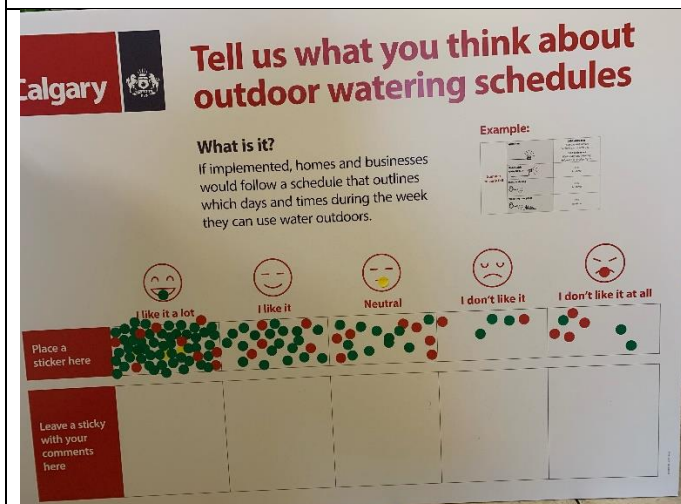
Appendix C- Central Library engagement



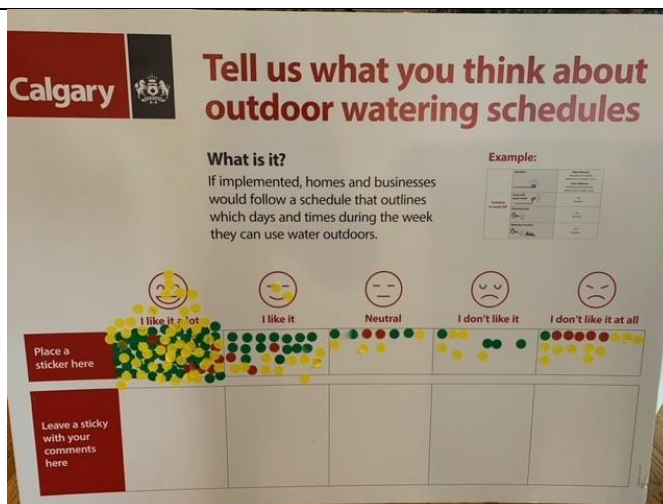
Display Set up: May 24- June 14, 2022



Engagement Board- Week #1

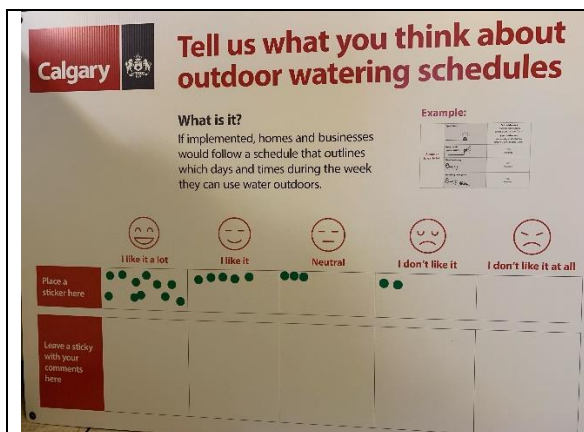



Engagement Board- Week #2



Engagement Board- Week #3

Appendix D- Outdoor pop up engagement






Calgary 

Tell us what you think about outdoor watering schedules

What is it?
If implemented, homes and businesses would follow a schedule that outlines which days and times during the week they can use water outdoors.

Example:

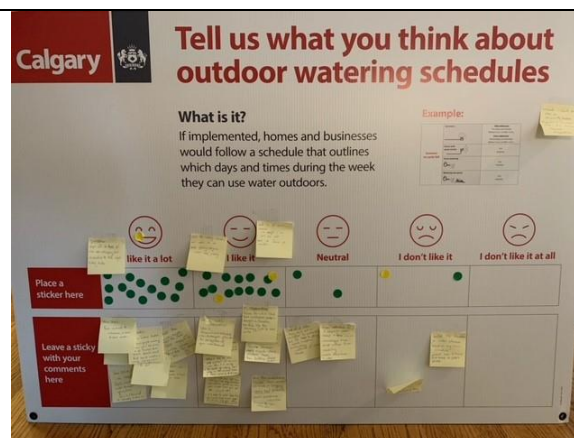
Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
8:00 - 10:00	8:00 - 10:00	8:00 - 10:00	8:00 - 10:00	8:00 - 10:00	8:00 - 10:00	8:00 - 10:00


 I like it a lot
  I like it
  Neutral
  I don't like it
  I don't like it at all

Place a sticker here

Leave a sticky with your comments here

North Glenmore Park- May 28, 2022








Calgary 

Tell us what you think about outdoor watering schedules

What is it?
If implemented, homes and businesses would follow a schedule that outlines which days and times during the week they can use water outdoors.

Example:

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
8:00 - 10:00	8:00 - 10:00	8:00 - 10:00	8:00 - 10:00	8:00 - 10:00	8:00 - 10:00	8:00 - 10:00

 I like it a lot
  I like it
  Neutral
  I don't like it
  I don't like it at all

Place a sticker here

Leave a sticky with your comments here

Prairie Winds Park- May 29, 2022



Calgary 

Tell us what you think about outdoor watering schedules

What is it?
If implemented, homes and businesses would follow a schedule that outlines which days and times during the week they can use water outdoors.

Example:

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
8:00 - 10:00	8:00 - 10:00	8:00 - 10:00	8:00 - 10:00	8:00 - 10:00	8:00 - 10:00	8:00 - 10:00

 I like it a lot
  I like it
  Neutral
  I don't like it
  I don't like it at all

Place a sticker here

Leave a sticky with your comments here

Bowness Park- June 4, 2022



Calgary 

Tell us what you think about outdoor watering schedules

What is it?
If implemented, homes and businesses would follow a schedule that outlines which days and times during the week they can use water outdoors.

Example:


Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
8:00 - 10:00	8:00 - 10:00	8:00 - 10:00	8:00 - 10:00	8:00 - 10:00	8:00 - 10:00	8:00 - 10:00

 I like it a lot
  I like it
  Neutral
  I don't like it
  I don't like it at all

Place a sticker here

Leave a sticky with your comments here

Sue Higgins Park- June 5, 2022






Calgary 

Tell us what you think about outdoor watering schedules

What is it?
If implemented, homes and businesses would follow a schedule that outlines which days and times during the week they can use water outdoors.

Example:

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
8:00 - 10:00	8:00 - 10:00	8:00 - 10:00	8:00 - 10:00	8:00 - 10:00	8:00 - 10:00	8:00 - 10:00

 I like it a lot
  I like it
  Neutral
  I don't like it
  I don't like it at all

Place a sticker here

Leave a sticky with your comments here

Senior's Week- June 9, 2022

Appendix E- Youth engagement



Appendix F- Partnership opportunities to advance equity

- Think about where a newcomer will go to get information about Calgary
- Community Associations
- Newcomer groups
- Landscapers
- Lawn maintenance companies
- University students
- Schools- kids will send info home to students and help them to understand it
- Schools- in curriculum
- Faith communities
- Get support from Indigenous communities
- All the newcomer agencies
- Newcomer support groups
- Temples/ Mosques
- Religious leaders
- YMCA
- Centre for newcomers
- 1000 Voices- Genesis
- Trellis
- Action Dignity
- CIWA
- Caring for Elderly
- LINC- Waste and Recycling have done presentations through this group
- Garden Centres
- Genesis Centre



- Calgary Catholic Immigration Society
- Tsuu Tina
- Calgary Climate Hub, Arusha, Sustainable Calgary, Water Shed Warriors, Bow Riverkeepers
- Reach out to agencies that support people with disabilities or support lower income Calgarians
- Calgary Housing, Community Garden Groups and garden centres
- Community Centres
- The City has a Digital Equity group - they may be able to give a technology poverty lens to accessibility
- Calgary Public libraries and community hubs
- Access Calgary Transit
- Youtube
- Love City parks like Dale Hodges Park, bird sanctuary, science centre and ralph klein