

Climate Change Action Strategy

Annual Report 2023/2024





Recognition of Indigenous Peoples and Lands

We recognize that Surrey is situated on the unceded traditional territories of the Coast Salish peoples, including the ḱíćəṯ (Katzie), ḱʷɑ:ḱʷəḱ (Kwantlen) and Semiahma (Semiahmoo) First Nations. We also respectfully acknowledge the many other Indigenous nations that are represented among Surrey's population.

The City of Surrey is committed to reconciliation, engagement, and collaboration with local First Nations and Métis governments, and the Urban Indigenous communities in Surrey, in implementing the Climate Change Action Strategy. This includes working with and learning from Indigenous communities to develop actions, policies and programs.

Climate action offers an opportunity to address shared priorities of Indigenous communities and the City, and to build and deepen relationships in a way that honours Indigenous knowledge and perspectives.

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Climate Change Action Strategy Annual Report 2023/2024

Climate change is one of the major challenges of our time, with impacts being experienced both globally and locally in the form of extreme heat, wildfires and flooding. To prevent the worst impacts and prepare for the future, we must drastically reduce our carbon pollution and put measures in place to increase our resiliency. The City cannot act alone, but has an important role to play in ensuring a sustainable and resilient future for Surrey. Recognizing the need for urgent and effective action, the City developed the Climate Change Action Strategy (CCAS), the City's roadmap to a zero-carbon climate-resilient city by 2050 which was adopted by Surrey City Council on July 24, 2023.

The Climate Change Action Strategy Annual Report 2023/2024 is intended to advance the City's commitment to accountability, a guiding principle of the strategy and report the progress made in implementing the CCAS in the first year since its adoption. For each of the CCAS components, the Report provides the current status of each CCAS action and highlights projects that have been advancing CCAS actions in the last year. The Report supports the City's objectives to increase awareness and understanding of CCAS priorities so that Surrey residents are supported to take meaningful climate action.

Climate Change Action Strategy

CCAS Framework

The CCAS is organized around a long-term vision of a zero-carbon climate-resilient city in 2050, supported by six components or critical areas of action (Figure 1).



Figure 1. The Climate Change Action Strategy's framework.

Surrey's Climate Commitments

City of Surrey's GHG Targets

Baseline year: 2010

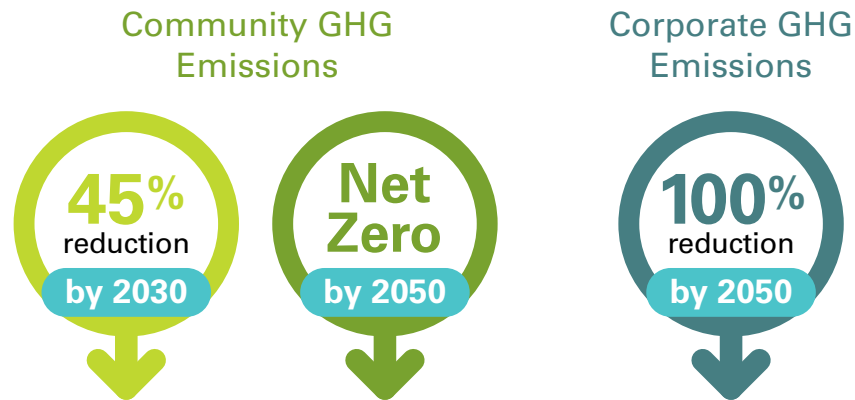


Figure 2. The City of Surrey's climate commitments.

The CCAS outlines the actions that the City of Surrey will take, together with other levels of government and partners, to reach the following targets adopted by Surrey City Council to:

- Reduce Surrey's community greenhouse gas (GHG) emissions from non-agricultural and non-industrial activities 45% by 2030 compared with 2010 levels, and to net zero¹ before 2050.
- Show corporate leadership by demonstrating best practices in climate change mitigation by reducing City of Surrey corporate GHG emissions to absolute zero² before 2050.

The CCAS takes an integrated approach to both reduce carbon pollution (also called "climate change mitigation"), while reducing risks and adapting to impacts such as extreme heat and flooding (also called "climate change adaptation"). This zero-carbon resilience approach pursues actions that combine the goals of reducing emissions and enhancing resilience to climate change impacts simultaneously. Adaptation and resilience actions included in the CCAS build upon the work of the 2013 Climate Adaptation Strategy and are identified with a resilience icon.

1 "Net zero" means that GHG emissions are reduced as much as possible and any remaining human-caused emissions of GHGs to the atmosphere are balanced by the withdrawal of GHGs from the atmosphere through deliberate human activities (e.g. tree planting).

2 "Absolute zero" means that GHG emissions are entirely eliminated without relying on activities to withdraw GHGs from the atmosphere, or on offsets. This target is feasible for assets within the City's direct control, principally buildings and fleet vehicles which have known pathways to decarbonization.

Pathway to 2050

To achieve the City’s climate commitments and avoid the worst impacts of climate change, Surrey must take decisive action to reduce emissions across all sectors. The City’s modeled net zero pathway (Figure 3) shows the scale of emissions reductions from each sector required to achieve the interim and net zero targets, and informs the actions of CCAS.

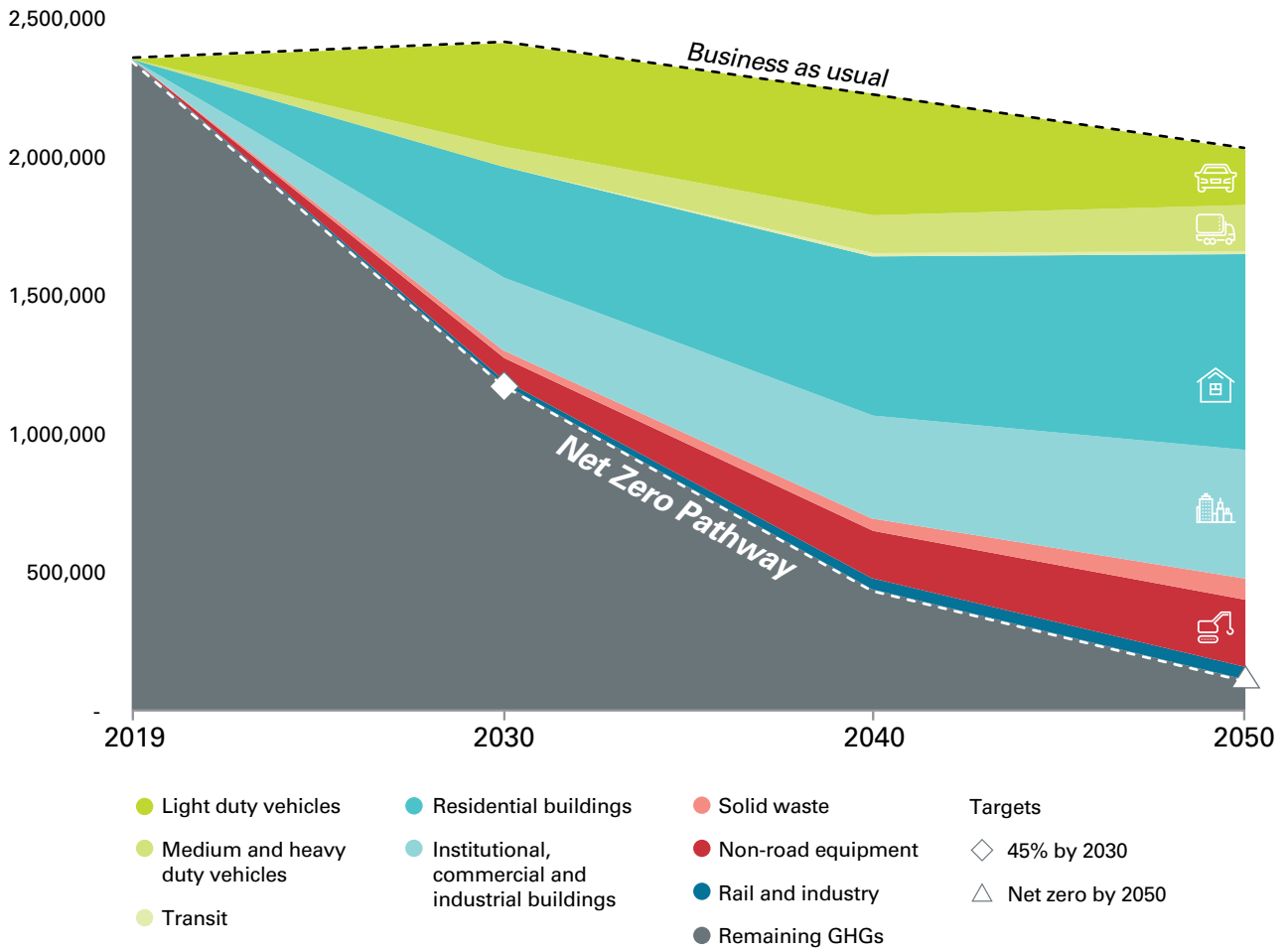


Figure 3. Comparison of projected community emissions: business-as-usual scenario vs. pathway to net zero.

Community Emissions

The City has completed annual emissions inventories from 2010 to 2021, capturing emissions from buildings, transportation and waste in alignment with the standards set out in the Global Protocol for Community-Scale Greenhouse Gas Emission Inventories. The City’s inventories incorporate the highest quality data available from a range of sources, including the Province’s Community Energy and Emissions Inventory which released 2021 data in 2023. The City intends to complete annual emissions inventories as the data becomes available.

Surrey’s community emissions have increased by 6% between 2010 and 2021 (Figure 4), as the population grew by 24%. This increase was primarily driven by an increase in emissions from buildings as a result of development and the continued use of fossil fuels for space and water heating. Emissions from transportation remained relatively stable despite a growing number of vehicles due to improvements in vehicle fuel efficiency and uptake of zero emission vehicles. Emissions dipped in 2015 due to reduced heating demand as a result of a warmer winter, and in 2020 due to COVID-19.

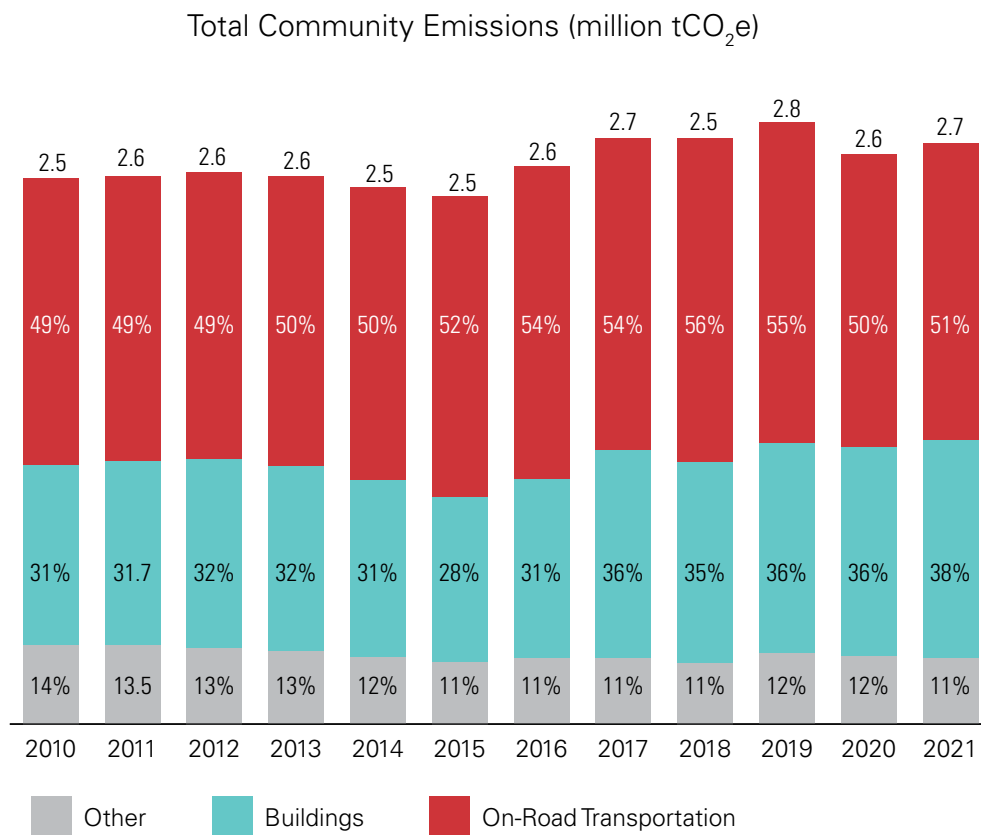


Figure 4. Community-wide emissions in Surrey from 2010 to 2021.

As of 2021, Surrey's total carbon emissions were approximately 2.7 million tonnes (tCO₂e) per year. Vehicles are the biggest source of Surrey's carbon emissions, accounting for 51% of total emissions (Figure 5). These emissions come from trips made within and through Surrey by passenger vehicles (28%) and commercial vehicles like freight trucks (23%). Buildings are the second-largest source of Surrey's community emissions, accounting for 38% of total emissions, mainly due to burning gas for space and water heating. Other notable sources of community carbon emissions include:

- Non-road equipment, like construction and agricultural machinery, contributes 6.7% of total community emissions.
- Waste contributes 2.5% of Surrey's total community emissions, mainly from methane released by decaying organic matter in landfills.
- Industry represents emissions from industrial processes and equipment, which contribute 1.4% of community emissions.

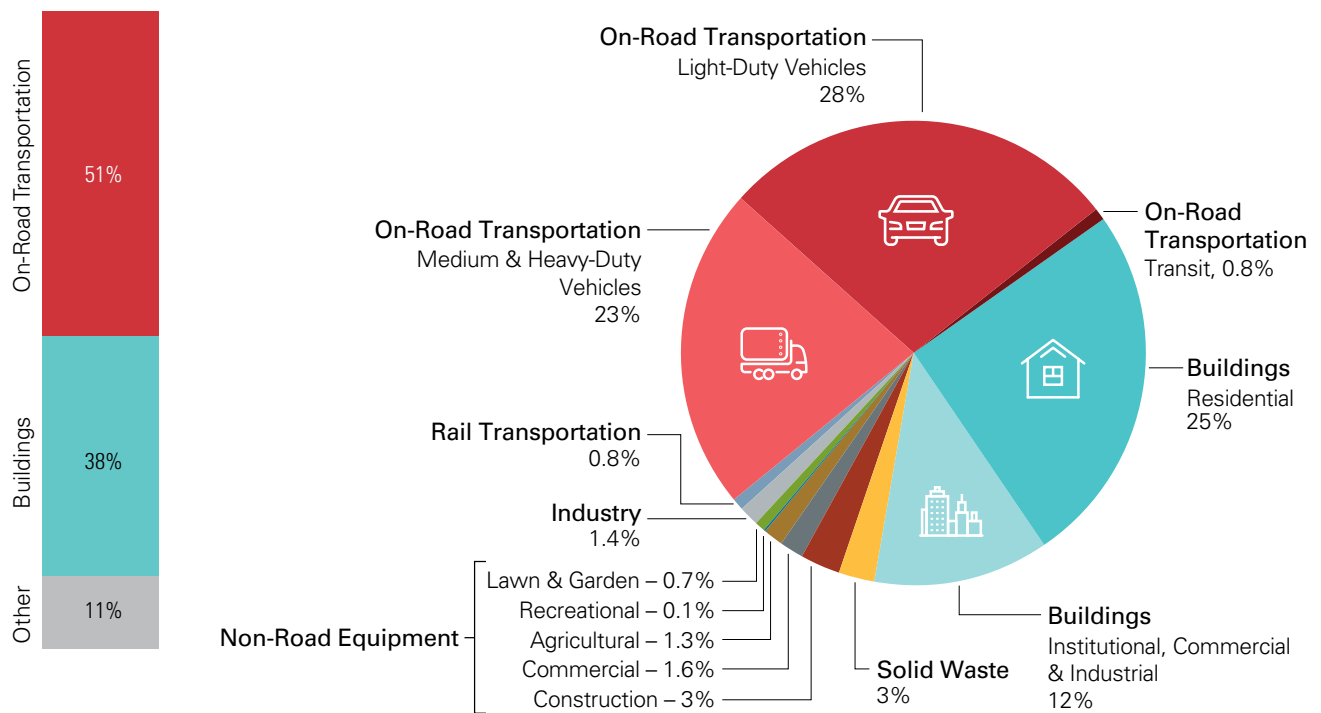


Figure 5. Breakdown of Surrey's community carbon pollution in 2021. Data and methodology have been updated from the inventory included in CCAS to reflect best practices and improved data sources.

Corporate Emissions

The City completes inventories of corporate emissions from its own operations, which amount to less than 1% of overall community emissions. The data sources for the corporate inventory are owned by the City, which means inventories can be completed annually with the previous year’s data and monitored closely to see the impact of operational changes.

The City’s corporate emissions have remained relatively stable since 2010, despite increasing activities due to the city’s growing population. In 2023, Surrey generated approximately 17,400 tonnes of carbon pollution (tCO₂e). City-owned facilities are the largest source of corporate emissions (Figure 6), mainly from burning gas for heating the City’s pools, arenas, community centres, fire halls, libraries, and administrative buildings. City-owned vehicle fleets and contracted work, such as road building, account for the next largest sources of emissions. The remaining emissions are attributed to solid waste collection and infrastructure, such as pump stations.

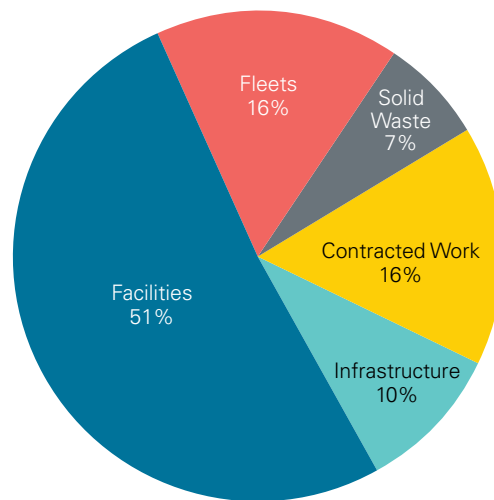


Figure 6. Breakdown of Surrey’s corporate carbon pollution in 2023.

Measuring our Progress

The CCAS Annual Report provides a summary of the current implementation phase and status for the CCAS actions. In addition, the Report includes the implementation phase for each CCAS action as an indicator of implementation progress alongside highlights of projects advancing actions of the six key components.

Surrey’s Climate Action Tracker³ provides additional information about each of the CCAS actions including the implementation phase and status, project updates and staff leads. The Tracker is a dynamic platform that is updated bi-annually and shares detailed information about CCAS implementation progress with the public.

The CCAS also defines measures and targets for some components, and others will be developed following further analysis. The measures and targets enable progress towards the City’s climate commitments. The CCAS Annual Report provides updates on these measures and targets when data is available. Measures will be refined and added as data becomes available.

3 <https://climateactiontracker.surrey.ca/>



Summary of Progress

Progress in implementing the CCAS is measured by the phase and status of actions. The action phase reflects the current point in the implementation process and the status indicates whether or not the implementation process is on time. Together, the phase and status of actions indicate how CCAS implementation is progressing and whether the City is on track to meet its climate commitments. Over time, progress in implementing the CCAS will be reflected in the community and corporate GHG emissions inventories.

Implementation Phase of CCAS Actions

In the first year since CCAS adoption, 77 CCAS actions (63%) have been initiated and are at various stages of implementation (Figure 7). The remaining 46 actions (37%) have yet to be started. The majority (87%) of initiated actions are in the planning or implementation phases. Two actions (2%) have been completed and 8 actions (7%) require ongoing implementation and are marked as 'continuous'.

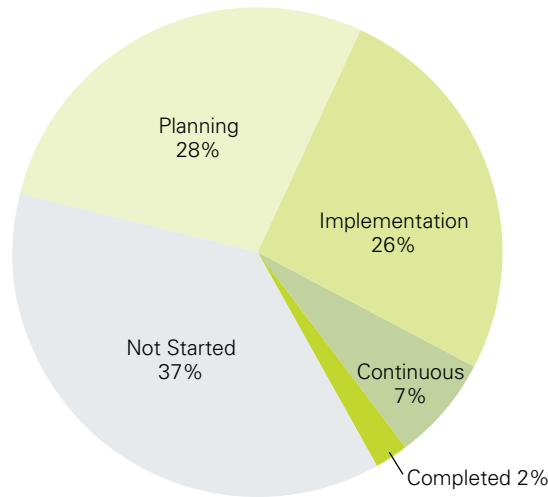


Figure 7. Implementation phase of CCAS actions as of September 2024.

Status of CCAS Actions

To date, 70 CCAS actions (57%) are being implemented on time and 21 actions (17%) are behind schedule according to their implementation timelines. Three actions (2%) have been postponed and the remaining 29 actions (24%) do not yet have implementation timelines identified (marked as 'not applicable').

Quick-Start Actions

When the CCAS was adopted, Council directed that all 38 Quick-Start actions be initiated within two years, as priority actions which act as catalysts to other actions. The implementation phase and action status of the Quick-Start actions indicate CCAS progress in the near-term. To date, 71% of Quick-Start actions have been initiated and 61% are on time

Detailed Progress by CCAS Component

The following pages include detailed information on the progress of implementing actions in each CCAS component. Each action references the lead and supporting divisions, and the action progress and status. Abbreviations and icons used in the tables are shown below and in Table 1. Projects are highlighted in each component representing examples of progress made in each CCAS component in the first year since CCAS adoption.

Departments and Divisions Abbreviations

- **CS** – Corporate Services
 - » CF – Civic Facilities
 - » HR – Human Resources
 - » IT – Information Technology
 - » M&WT – Marketing & Web Team
- **Eng.** – Engineering
 - » D&C – Design & Construction
 - » Realty
 - » Ops. – Operations
 - » Trans. – Transportation
 - » U&DE – Utilities & District Energy
- **Finance**
- **PRC** – Parks, Recreation & Culture
 - » Parks
- **P&D** – Planning & Development
 - » Building
 - » CP&S – Community Planning & Sustainability
 - » DP – Development Planning
- **PESWG** – Public Engagement Strategy Working Group
- **SI&CI** – Social Infrastructure & Community Investments
 - » EIS – Economic Investment Services
 - » I&GR – Indigenous & Government Relations
- **SFS** – Surrey Fire Services
- **Library** – Surrey Libraries






Type of Icon	Icon	Description
Quick-Start Action		A priority action to be initiated within two years of CCAS adoption.
Co-Benefits		
Equity		Shift has strong potential to improve equity as defined in Section F of the CCAS.
Resilience		Shift has strong potential to improve resilience to climate impacts as defined in Section E of the CCAS.
Health		Shift has strong potential to improve human health, including personal safety, physical health, and mental health.
Prosperity		Shift has strong potential for economic benefits, including by reducing costs, generating economic activity, and efficiently using resources.

Table 1. Description of icons used in implementation tables beginning on the following page.

Component Structure

Each component includes the following hierarchy:

- **Vision:** A narrative description of the desired future state for that component in 2050.
- **Goals:** The outcomes needed to reach the vision.
- **Shifts:** The changes needed to achieve each goal.
- **Actions:** The specific policy or program interventions needed to achieve a Shift.



Bold City Leadership

Vision for 2050

The City of Surrey stands among this region's leaders in placing equitable climate action at the heart of decision-making. The City's own vehicles, buildings, and infrastructure are free of carbon pollution and well-prepared for climate change impacts well before 2050. With support from the City and other partners, residents are empowered and engaged in tackling the climate crisis. Surrey's actions set a path for many others to follow, and support a thriving, local green economy.

2023/2024 Implementation Phase

Completed	0
Continuous	4
Implementation	2
Planning	11
Not Started	12









Goal 1: Align the City's decision making and financial planning with climate commitments

Shift L1. Advocate for senior government regulations and funding, to accelerate ambition and action to meet local, provincial, national, and global climate commitments.



Shift L2. Assess staff capacity and financial resources to meet climate commitments and seek to fill gaps.



Action	Lead Division Supporting Division	Quick Start	Action Phase
L2.1. (QS) Explore options to develop a financing strategy to meet 2030 climate commitments, including capital and operating budgets.	Finance P&D – CP&S		Planning
L2.2. (QS) Undertake periodic budget reviews for opportunities to improve alignment with climate commitments.	Finance P&D – CP&S		Not started
L2.3. Pending findings of resourcing review, explore new revenue sources to support climate action, such as external funding, partnerships, potential increased taxation, etc.	Co-led: Finance; P&D – CP&S		Not started
L2.4. Develop strategies and seek council approval to address resource and capacity gaps needed to deliver on CCAS commitments.	P&D – CP&S CS – HR		Planning
L2.5. Provide staff education and training opportunities in climate action and CCAS priorities for staff involved in CCAS actions.	P&D – CP&S CS – HR		Continuous
Shift L3. Develop tools and programs to embed climate action in the City's financial decision-making and reporting.			
L3.1. (QS) Develop and implement a "climate test" to evaluate and document the climate implications of significant capital projects and policy decisions.	P&D – CP&S Finance		Planning
L3.2. (QS) Develop and implement a system to efficiently track and report progress toward CCAS targets and actions across departments.	P&D – CP&S CS – IT		Continuous
L3.3. (QS) Explore reporting options on climate risks and actions, based on Climate Related Financial Disclosure (TCFD) guidelines.	Co-led: Finance; P&D – CP&S		Planning
L3.4. (QS) Develop criteria and procedures for the management, allocation, and spending of climate-related funds on high-priority initiatives.	Co-led: Finance; P&D – CP&S		Implementation

Goal 2: Transition to zero-carbon and resilient City assets

Shift L4. Ensure new civic facilities, vehicles, and other assets are zero-carbon and designed for climate resilience.



Action	Lead Division Supporting Division	Quick Start	Action Phase
L4.1. (QS) Explore climate and sustainability standards and design guidelines for new civic facilities.	CS – CF P&D – CP&S		Planning
L4.2. (QS) Initiate a review of the City's procurement policies to identify potential options to encourage zero-carbon and climate-adaptive technologies and practices.	Finance P&D – CP&S		Not started
L4.3. Explore opportunities for social procurement criteria (e.g. community benefits) for climate-related projects.	Finance Eng. – U&DE		Not started
L4.4. Identify opportunities for leading low-carbon construction practices in City design and construction standards, purchasing guidelines and contracts.	Eng. – D&C P&D – CP&S		Not started

Shift L5. Develop strategic plans to phase out carbon pollution from existing City facilities, vehicle fleets and waste collection.



L5.1. (QS) Complete a climate and energy transition plan to identify, prioritize and implement opportunities to improve energy efficiency and phase out fossil fuel combustion across all City facilities, aligned with meeting corporate GHG reduction targets.	CS – CF P&D – CP&S		Planning
L5.2. (QS) Complete the second phase of the green fleet transition plan to meet corporate GHG reduction targets.	Eng. – Ops. P&D – CP&S		Implementation
L5.3. Account for GHG emissions reduction and climate resilience in day-to-day facilities operating and management practices and procedures, and in Facility Condition Assessments.	CS – CF		Planning

Shift L6. Design and manage City infrastructure and assets to reduce climate risk and improve resilience, prioritizing nature-based solutions.



L6.1. (QS) Explore options for funding climate adaptation in capital projects.	P&D – CP&S Finance		Not started
L6.2. (QS) Update the City's hazard, risk, and vulnerability assessment to incorporate current climate projections, best practices, and provincial regulations and guidelines.	P&D – CP&S Eng. – U&DE		Not started
L6.3. Continue to plan for and implement climate resilient infrastructure and ecological management.	Eng. – U&DE PRC – Parks		Continuous

Goal 3: Collaborate with and empower the community and businesses in climate action

Shift L7. Continue to update emergency management programs and resources to enhance community resilience to climate-related extreme weather events.



Action	Lead Division Supporting Division	Quick Start	Action Phase
L7.1. In partnership with other agencies, build capacity in the community for managing climate-related emergencies, prioritizing equity-seeking groups and vulnerable individuals.	SFS Eng. – U&DE		Continuous
L7.2. Partner with academic and training institutions, health authorities and others to undertake, share, and apply research and best practices to assess and reduce risk and vulnerability to climate-related hazards such as extreme heat and flooding.	SFS		Not started

Shift L8. Continue to update emergency management programs and resources to enhance community resilience to climate-related extreme weather events.



L8.1. Update economic development strategies using an equitable climate lens, to encourage innovative companies that are working to address risks and opportunities of the zero-carbon transition in Surrey.	SI&CI – EIS		Not started
L8.2. Explore opportunities to promote economic development in the green building industry.	SI&CI – EIS		Not started


Shift L9. Support and enable Surrey residents, employees, and groups to take meaningful climate action in their work and daily activities.



L9.1. Develop education campaigns to increase public awareness and understanding of CCAS key priorities and individual actions that can make the biggest impact.	P&D – CP&S CS – M&WT Library		Planning
L9.2. Complete a consumption-based GHG inventory to support residents and businesses in reducing lifecycle emissions from products and materials.	P&D – CP&S		Not started
L9.3. Explore opportunities for community grant program to incorporate climate action, prioritizing equity-seeking groups and vulnerable individuals.	Finance P&D – CP&S SI&CI		Not started

Shift L10. Embed equity in climate action policies and implementation.



L10.1. Work across City departments toward the development of shared understanding and definition of equity that fits Surrey's context to support and guide staff in incorporating equity considerations in plans and policies.	SI&CI		Planning
L10.2. (QS) Leverage data to develop climate equity mapping tools, consistent with strategic corporate equity policy.	P&D – CP&S SI&CI		Planning
L10.3. Engage communities, especially impacted equity-seeking populations, in the development and implementation of climate change-related policies and programs.	P&D – CP&S PESWG Library		Planning

2023/2024 Project Highlights

Climate Action Tracker

Launched on December 5, 2023, Surrey's Climate Action (Tracker)⁴ communicates the City's progress towards achieving the targets, goals and actions established in the CCAS. The Tracker was developed to communicate updates on CCAS implementation, provide analytics for reporting CCAS data and act as a project management tool for staff working on CCAS actions. By communicating regularly and transparently on progress, the Tracker will build critical public support and participation in climate action in Surrey to realize the emissions reductions and improved climate resiliency targeted by the CCAS. The Tracker is the product of deep collaboration and leadership demonstrated by City staff, City Council and community members to pursue an innovative platform designed to coordinate work across divisions and departments and promote a high degree of accountability for the City in achieving its climate commitments.

Funding for the Fleet Transition Study

The City has been successful in securing approximately \$50,000 for the development of a Zero Carbon Fleet Transition Strategy and 2030 Action Plan through the Green Municipal Fund. Building off an initial green fleet analysis, the study aims to determine how the City's corporate emission reduction targets can be achieved through the transition of City vehicles to zero carbon alternatives and the actions required to support this transition. Specifically, this study will evaluate the feasibility of fleet replacement and management approaches to align with the City's climate commitments. The results of the study will help guide decisions relating to vehicle purchases and fuel supply infrastructure to eliminate carbon emissions from the City's fleet by 2050.

New Facilities Energy Manager

In March 2024, the City hired a Facilities Energy Manager to lead energy management and emissions reduction initiatives across City facilities. This new position within the Facilities division of Corporate Services is supported by funding from BC Hydro and the Province's Local Government Climate Action Program. The Facilities Energy Manager is responsible for leading the implementation of CCAS actions related to City facilities to improve energy efficiency and phase out fossil fuel consumption across City facilities, and account for emissions reduction and climate resilience in day-to-day facilities operations. Reducing emissions from the City's over 100 buildings is a key strategy in achieving the corporate target of absolute zero by 2050, as emissions from facilities account for 51% of corporate emissions.

Local Government Climate Action Program Working Group

An internal working group has been established to guide the allocation of Local Government Climate Action Program funds to priority climate action initiatives. Made up of representatives from four City departments, the working group reviews applications submitted to identify projects that will reduce emissions and increase climate resiliency, in alignment with the Province's CleanBC Roadmap to 2030 and Climate Preparedness and Adaptation Strategy objectives. To date, the working group has recommended 16 projects for funding that advance the City's climate objectives. In the future, the working group process could be utilized for other climate-related funding as it becomes available to ensure the prioritization of high-impact initiatives.

Emergency Preparedness Guide for Older Adults

In spring 2024, the City launched a new Surrey Emergency Preparedness Guide for Older Adults to help seniors prepare for and stay safe during emergencies such as extreme weather. The quick reference guide provides information to help older adults navigate the City of Surrey Emergency Preparedness Program. The guide offers the key information of what they need to know, including important telephone numbers and some tools to help prepare for an emergency. This resource, in addition to ongoing communication efforts specific for seniors, is an important strategy in increasing the community's resilience to climate impacts.

4 <https://climateactiontracker.surrey.ca/>

Climate-Resilient Park and Play Area Retrofits

To provide protection during hot weather, the City is working to retrofit parks and public spaces with increased shading. In the last year, nine new covered picnic shelters were in City parks and four shade structures were installed in daycare play areas at recreation centres to provide cool spaces. In addition, approximately 750 shade trees were planted in parks and approximately 2,000 were planted along city streets, increasing comfort for park visitors and pedestrians during hot weather.

Measures and Targets

Interim corporate GHG targets for 2030 will be developed to ensure leadership and consistency with community targets, pending completion of costing studies and transition plans for corporate fleets and facilities.



Resilient 15-Minute Neighbourhoods

Vision for 2050

Residents can meet their daily needs within a safe and easy walk, roll, or cycle trip from home. Most neighbourhoods have a mix of housing types, with shops, services and inclusive public spaces. Lush trees and greenspaces provide cooling, beauty and connection with nature.

2023/2024 Implementation Phase

Completed	0
Continuous	0
Implementation	4
Planning	9
Not Started	6






Goal 1: Plan and build a network of 15-minute neighbourhoods

Shift N1. Update land use planning regulations—including the City’s Official Community Plan (OCP), Zoning Bylaw and other plans — to support creating more 15-minute neighbourhoods.






Action	Lead Division Supporting Division	Quick Start	Action Phase
N1.1. (QS) Prepare proposed updates to the Zoning Bylaw to support a wider variety of types of homes (e.g. multiplexes up to four storeys) in existing residential neighbourhoods, along with small scale commercial uses (e.g. corner stores).	P&D – CP&S P&D – DP		Planning
N1.2. (QS) Integrate climate objectives and targets in the update of the OCP.	P&D – CP&S P&D – DP		Planning
N1.3. In the process of planning 15-minute neighbourhoods, review policy options to improve adding affordable housing supply.	P&D – CP&S P&D – DP SI&CI		Planning
N1.4. (QS) Expand the policy framework within the OCP to support density near rapid transit corridors.	P&D – CP&S P&D – DP Eng. – Trans.		Implementation
N1.5. (QS) Consider introducing a new designation in the OCP to encourage more neighbourhood centres with services and commercial amenities at key locations across the City.	P&D – CP&S P&D – DP		Planning
N1.6. Encourage more office, employment and commercial uses within town centres, frequent transit development areas and neighbourhood centres.	P&D – CP&S P&D – DP		Implementation
N1.7. Update the urban design framework and policy within the OCP to prioritize 15-minute neighbourhood objectives.	P&D – CP&S P&D – DP		Planning
N1.8. In the process of planning 15-minute neighbourhoods, continue to collaborate with the Surrey School District and Province to align school capacity increases with neighbourhood growth.	P&D – CP&S SI&CI		Implementation
N1.9. (QS) Undertake an analysis of development economics to quantify long-term impacts of greenfield development vs. intensification and infill.	Co-led: P&D – CP&S; Eng.		Not started
N1.10. Explore opportunities to price in future costs of operations and maintenance for major infrastructure that is funded by new growth.	Co-led: P&D – CP&S; Eng.		Not started
N1.11. Establish targets for new growth within urban redevelopment areas.	P&D – CP&S		Not started


Shift N2. Update regulations and policies for new development to support reduced automobile reliance.  



Action	Lead Division Supporting Division	Quick Start	Action Phase
N2.1. (QS) Develop transportation demand management strategies for new development in rapid transit areas.	Eng. – Trans		Planning
N2.2. Continue to consider opportunities to adjust parking requirements and on-street parking management to support infill development (adding housing density to existing residential areas near frequent transit).	Eng. – Trans		Planning
N2.3. Consider encouraging designs for off-street parking that allow structures to be adapted for purposes other than vehicle storage in the future.	Eng. – Trans <i>P&D – DP</i>		Not started

Goal 2: Improve climate resilience of new and existing neighbourhoods

Shift N3. Design and retrofit neighbourhoods with green and inclusive public spaces that improve climate resilience.   

N3.1. Design and retrofit public plazas and parks with built and natural features that provide cooling, refuge and shelter from heat and rain, prioritizing neighbourhoods with higher equity need.	PRC – Parks <i>P&D – DP</i>		Implementation
N3.2. Build and retrofit more public multi-use leisure spaces with green infrastructure (such as landscaping, trees) within road rights of way.	Eng. – Trans. <i>PRC – Parks</i>		Planning

Shift N4. Encourage food growing in new developments and in publicly accessible spaces in existing neighbourhoods. 

Shift N5. Integrate climate adaptation in land-use planning regulations and development policies.  

N5.1. Continue to review and update land development regulations to protect people and property from climate risks (e.g. Hazard Land Development Permit Areas)	P&D – DP <i>Eng. – U&DE</i>		Planning
N5.2. Provide for more greenspace, ecological services and amenities that provide climate resilience in the City’s Official Community Plan and Neighbourhood Concept Plans.	P&D – CP&S <i>P&D – DP</i> <i>PRC – Parks</i>		Not started
N5.3. Identify areas prone to climate risks and look for opportunities to mitigate them through land use plans and redevelopment.	P&D – CP&S <i>Eng. – U&DE</i>		Not started

2023/2024 Project Highlights

Enabling Small-Scale, Multi-Unit Housing

In July 2024, the City adopted changes to its Zoning Bylaw to align with recent provincial housing legislation and enable the development of small-scale, multi-unit housing options across the city. The changes mean that three to six units are now permitted on all single-family and duplex zoned lots, providing more options for housing including secondary suites, coach houses, garden suites and houseplexes. In addition to increasing housing supply and providing a wider range of housing options, the zoning changes enable more residents to live closer to amenities, reducing the need to drive and advancing 15-minute neighbourhood objectives. By enabling the gentle densification of existing neighbourhoods, more residents will be able to meet their daily needs within a walk, roll or cycle trip from home, encouraging the shift to active transportation modes and reducing emissions from transportation, the City's largest source of greenhouse gas emissions.

Embedding Climate Action in the Official Community Plan Update

The City is currently updating the Official Community Plan (OCP). This multi-year, multi-phase process will result in a plan that sets out the vision, goals and objectives for the future development of the City and contains policies and strategies for achieving this vision. One of the goals of the update is to strengthen climate action objectives in the OCP. To support this, a study was undertaken with consultants, with funding from the Local Government Climate Action Program and BC Hydro. This work included a best practices review of leading municipalities across Canada, along with a review of the CCAS, and concluded with recommendations on how to further embed climate action into the OCP. Recommendations from this study will be considered during the OCP update process. Climate action was also a recurring theme during Phase I engagement on the OCP, with 28% of participants reporting that climate change is one of the key challenges the city is facing.

Complete Communities Analysis

The City's complete communities geospatial knowledge is expanding through a \$150,000 grant from the Province's Complete Communities program. The analysis will address key knowledge gaps in creating more complete communities in Surrey where a diversity of housing, employment opportunities, amenities and services are within a 15-minute walk. The analysis includes filling in missing data, undertaking an assessment for the City's urban Indigenous and low-income populations, and current and future access to amenities under various infrastructure, housing and transportation scenarios. The findings of the made in Surrey analysis will serve as a baseline assessment of 15-minute neighbourhoods and inform the OCP update.

Measures and Targets

15-Minute neighbourhood metrics will be developed pending analysis supporting the City's Official Community Plan update.



Safe Zero-Carbon Transportation

Vision for 2050

People can easily get around within and between neighbourhoods via networks of safe, accessible sidewalks, bike paths, and frequent transit. As these sustainable choices increase, there is less need for people to use a car. All vehicles are zero emissions, resulting in cleaner air and a quieter city.

2023/2024 Implementation Phase

Completed	2
Continuous	0
Implementation	7
Planning	6
Not Started	7



Goal 1: Prioritize walking, cycling, and public transit over personal vehicles

Shift T1. Update transportation practices, policies, standards, and capital plans to prioritize walking, cycling, and public transit.



Action	Lead Division Supporting Division	Quick Start	Action Phase
T1.1. (QS) Explore options for funding to accelerate the build-out of infrastructure for walking, cycling, and transit.	Eng. – Trans. Finance Eng. – Ops.		Implementation
T1.2. Integrate green infrastructure (e.g. rain gardens and street trees) as a core element of “complete streets” to support climate resilience including protection from extreme heat.	Eng. – U&DE Eng. – D&C		Not started
T1.3. (QS) Pilot complete street retrofits on key corridors, providing protected walking/cycling facilities and green infrastructure such as rain gardens and street trees.	Eng. – Trans. PRC – Parks Eng. – D&C		Planning
T1.4. Increase public awareness of the need to prioritize active modes and transit, for the benefit of road users and climate action.	Eng. – Trans		Implementation
T1.5. (QS) Pilot a pedestrian “green” street conversion in each of Surrey’s five town centres, including tactical interventions to create safe areas for non-motorized mobility and public space, along with trees and landscape features.	Eng. – Trans		Not started

Shift T2. Build networks of accessible and protected walking, cycling, and rolling routes connecting popular destinations and 15-minute neighbourhoods.













T2.1. (QS) Finalize the implementation plan for delivering the Strategic Cycling Network for North Surrey town centres.	Eng. – Trans. Eng. – Ops. Eng. – D&C		Completed
T2.2. By 2030, complete Phase 1 of the Strategic Cycling Network and sidewalk network upgrades, prioritizing locations near SkyTrain stations and City Centre.	Eng. – Trans. Eng. – D&C		Planning

Shift T3. Encourage more equitable and sustainable use of public space through revisions to on-street parking policies.



T3.1. Explore parking management and/or alternative uses of curb space in Town Centres and around SkyTrain stations.	Eng. – Trans		Not started
T3.2. Consider a curbside management strategy to achieve other uses of public space in lieu of parking.	Eng. – Trans. Eng. – Ops.		Not started

Shift T4. With support of senior governments, expand and improve frequent and rapid transit networks to connect all town centres, and provide transit service to connect 15-minute neighbourhoods.  			
Action	Lead Division Supporting Division	Quick Start	Action Phase
T4.1. Work with TransLink and Metro Vancouver to identify and deliver frequent transit network improvements needed to meet the Metro Vancouver and Surrey 2030 and 2050 land use and transportation GHG targets.	Eng. – Trans. P&D – CP&S		Planning
T4.2. Implement transit priority measures along high priority corridors using a data-driven approach.	Eng. – Trans. Eng. – D&C		Implementation
Shift T5. Encourage personal and shared electric bicycles and other micro-mobility options through policies, programs and infrastructure.  			
T5.1. (QS) Initiate an e-bike sharing pilot program in Surrey City Centre for launch in 2024.	Eng. – Trans.		Completed
T5.2. (QS) Explore options to provide secure cycle parking at City facilities.	CS – CF Eng. – Trans.		Not started
Goal 2: Transition to zero emissions vehicles			
Shift T6. Support and accelerate the transition of personal vehicles from internal-combustion to zero-emissions technologies. 			
T6.1. Install public electric vehicle charging stations at existing and new City facilities to meet anticipated demand.	Eng. – Trans. CS – CF		Implementation
T6.2. Advance opportunities and partnerships for expanding public electric vehicle charging infrastructure.	Eng. – Trans. Finance		Implementation
T6.3. (QS). Define more specific electric vehicle infrastructure requirements in the Zoning Bylaw for non-residential building typologies.	Eng. – Trans. P&D – DP		Planning
T6.4. Develop data supported tools for implementing public charging infrastructure and related programs and policies.	Eng. – Trans. P&D – CP&S CS – IT		Planning
T6.5. Advocate to BC Hydro for funding and programs to help existing multiple-unit residential buildings add electric vehicle charging, and review opportunities for supportive City processes.	P&D – Buildings Eng. – Trans.		Not started
Shift T7. Advocate for and encourage efficient and zero-emissions goods movement. 			
T7.1. Advocate for senior government policies and programs to transition to zero-emissions freight vehicles.	Eng. – Trans. P&D – CP&S		Implementation
T7.2. Explore opportunities to encourage zero-emissions commercial vehicles through collaboration with other jurisdictions and industry.	Eng. – Trans. P&D – CP&S		Planning
Shift T8. Support and enable shared electric vehicles as an alternative to personal vehicles. 			
T8.1. Work with partners to expand access to electric vehicle sharing.	Eng. – Trans.		Implementation
T8.2. Leverage data, digital technology and economic tools to support the shift to active modes, public transit and shared EVs.	Eng. – Trans.		Not started

2023/2024 Project Highlights

Sustainable Transportation Projects

The City advanced a number of initiatives to support the shift to walking, cycling and transit, including the following:

- Lena Shaw Elementary School Streets Pilot: Promoting active school travel by restricting vehicular traffic on the road fronting the school. Students and caregivers were encouraged to walk or bike to school when the street frontage was activated to celebrate sustainable transportation to school.
- Surrey City Centre Protected Cycling Network Project: Using quick-build and tactical infrastructure, the City implemented 5 kilometers of protected cycling infrastructure in Surrey City Centre to promote cycling and safety. The project connected rapid transit, busses, employment centers and amenities in the heart of Surrey.
- R6 Rapid Bus and Bus Priority Project: Working with TransLink, the City supported the R6 Rapid Bus implementation by reallocating private vehicle road space on Scott Road to allow for bus speed and priority measures. This major project provides fast and frequent bus service on a corridor which has the highest transit ridership of any transit route in the South of Fraser Region.

Reductions in Off-Street Parking Requirements

In alignment with the Province's new housing legislation, the City reduced parking requirements for duplexes, removed off-street parking requirements for small-scale multi-family housing within eligible frequent bus stop areas and removed minimum residential parking ratios for developments in transit-oriented areas within 800 meters of SkyTrain stations or 400 meters or bus exchanges. Eliminating or reducing off-street parking requirements prioritizes walking, cycling and transit over private vehicle parking, reduces embodied carbon in underground parking infrastructure, reduces construction costs and improves clarity for developers. In particular, removing off-street parking requirements for housing that is in close proximity to high frequency transit will encourage the shift to transit from personal vehicles, reducing greenhouse gas emissions from transportation.

Electric Bike Share Pilot

The City launched an electric bike share program as a two-year pilot in North Surrey to help reduce GHG emissions and reliance on vehicles. The objective of the pilot project is to increase the use of cycling as a primary mode of transportation for shorter trips to key community destinations that complements and supports walking and transit. The pilot project is operated by Bird Canada and enables residents to rent from a supply of 300 electric bikes available throughout City Centre and Guildford Town Centre. Given the high population and employment densities, and number of community and retail destinations, travel distances are ideal for shared electric bike trips in North Surrey. Since the launch of the program at the end of April to the end of August, approximately 10,500 rides have been taken, averaging 17 minutes and 2.7 kilometres per trip.

Electric Vehicle Fast Charging Hubs

In collaboration with BC Hydro and with funding from the Province of BC and Natural Resources Canada, four fast charging hubs were opened in Surrey which feature 20 new charging stations, adding 40 ports to the charging network in the city. The hubs located at the Surrey Arts Center, North Surrey Sport & Ice Complex, Surrey Guildford Recreation Centre and Surrey Sport and Leisure Complex are BC Hydro's first ever electric vehicle (EV) fast charging hubs. The charging stations can add up to 180 kilometers of driving range in 10 minutes, can power share to charge two vehicles at once and are wheelchair accessible. Increasing access to public fast charging provides more options for drivers when they're on the go, and enables residents with barriers to home charging to switch to an EV.

Measures and Targets

Outcome	Measure	Current	2030	2050
Transportation GHGs	GHG emissions from light-duty vehicles (% reduction from 2010 baseline)	7*	30	100
Mode Shift	Resident trips taken by walking, cycling, and transit (%) (approx. 20% as of 2019)	Not available**	30	50
Mode Shift	Total resident vehicle km travelled (% reduction from 2019)	Not available**	TBD	TBD

**2021 data from most recent community GHG emissions inventory.*

***Mode shift data is currently available every five years and is expected in fall 2024.*



Healthy Zero-Carbon Buildings

Vision for 2050

All buildings across Surrey are healthy, energy efficient, and zero-carbon in operational emissions. They are constructed to minimize lifecycle emissions, are comfortable year-round, and help to protect occupants from the impacts of climate change.

2023/2024 Implementation Phase

Completed	0
Continuous	0
Implementation	7
Planning	4
Not Started	8





Goal 1: Avoid carbon pollution and improve energy efficiency and resilience to climate impacts in new buildings



Shift B1. Update City policies and bylaws for new construction to rapidly phase out operational carbon pollution and improve energy efficiency and climate resilience.⁵







Action	Lead Division Supporting Division	Quick Start	Action Phase
B1.1. (QS) Update the Surrey Building Bylaw to enable greenhouse gas limits and/or offer low-carbon compliance pathways to rapidly phase out operational carbon pollution across all types of new buildings, alongside Energy Step Code updates for energy efficiency.	P&D – Building P&D – CP&S		Planning
B1.2. Develop and publish a schedule of anticipated future updates to climate related building standards.	P&D – Building P&D – CP&S P&D – DP		Not started
B1.3. Require Part 3 development applicants to incorporate future weather data in building modelling and report to the City on results and implications.	P&D – Building P&D – CP&S		Not started
B1.4. Advocate to senior governments for building code standards to ensure buildings are designed to avoid overheating.	P&D – Building P&D – CP&S SI&CI – I&GR		Implementation
B1.5. Collaborate with non-profit housing agencies, and advocate to senior governments for funding, to support and streamline zero-carbon resilient affordable housing developments.	P&D – CP&S SI&CI P&D – DP		Planning
B1.6. Develop incentives to encourage industry leaders to build to higher standards in advance of minimum regulatory requirements.	P&D – CP&S P&D – DP		Planning
B1.7. Develop policies and requirements to assess and reduce embodied carbon and improve climate resilience in new buildings, beginning with reporting requirements.	P&D – Building P&D – CP&S P&D – DP		Not started


⁵ A “zero-carbon resilient” building means a building that that avoids on-site combustion of fossil fuels, is energy-efficient, and designed to protect occupants from future climate hazards such as over-heating and wildfire smoke. Ideally it also minimizes embodied carbon in materials and construction, and incorporates sustainable site features (e.g. for habitat and rainwater management). A mix of approaches will be taken to phase in requirements, encourage best practices, and/or advocate for senior government regulations.

Shift B2. Align city zoning, policies, processes, and permitting to reduce barriers to and enable the rapid construction of new resilient zero-carbon buildings.  




Action	Lead Division Supporting Division	Quick Start	Action Phase
B2.1. (QS) Undertake a scan to identify existing or potential barriers to resilient zero-carbon buildings in City policies and/or bylaws (e.g., urban design, floor area, and setbacks).	P&D – CP&S P&D – DP		Implementation
B2.2. (QS) Replace the Sustainable Development Checklist with a tool that prioritizes and encourages resilient zero-carbon buildings and sustainability features.	P&D – CP&S P&D – DP		Not started
B2.3. Provide training opportunities for City staff in the current and emerging technologies and practices needed to deliver resilient zero-carbon buildings.	P&D – Building CS – HR		Implementation
B2.4. Consider zoning approaches to encourage resilient zero-carbon building forms (e.g., heights conducive to mass timber buildings).	P&D – CP&S P&D – DP		Implementation
B2.5. Demonstrate leading energy and climate performance in new City buildings and recognize local industry leaders.	CS – CF P&D – CP&S		Implementation


Shift B3. Advocate to senior levels of government, BC Hydro, and other agencies to increase capacity and growth of the resilient zero-carbon building industry.  

Shift B4. Implement policies for zero-carbon resilient buildings through continuous improvement processes.  

B4.1. (QS) Review green building program implementation needs including staffing, data collection, and processes for quality assurance of submissions.	P&D – Building P&D – Administration		Planning
B4.2. (QS) Develop a strategy for integrating energy and GHG data from permit applications and reports and integrate into City business application tools for analysis and tracking.	P&D – Building		Not started
B4.3. Explore opportunities to evaluate and improve the quality and completeness of submissions for compliance with building energy and emissions regulations and policies.	P&D – Building P&D – DP		Not started

Goal 2: Phase out carbon pollution and improve energy efficiency of existing buildings

Shift B5. Advocate for and implement programs and policies to accelerate affordable zero-carbon resilience retrofits.   

B5.1. Advocate for senior government regulations, funding, education programs and program supports to phase out GHG emissions from existing buildings.	P&D – CP&S P&D – Building		Implementation
B5.2. (QS) Develop a data-based decision support tool to inform action planning, policy making, and program development for retrofiting buildings.	P&D – CP&S P&D – Building		Implementation
B5.3. Develop a comprehensive existing buildings strategy for resilient, zero-carbon building retrofits.	P&D – CP&S P&D – Building		Not started
B5.4. Implement home energy labelling to encourage informed decision-making by home buyers.	P&D – Building		Not started

2023/2024 Project Highlights

Zero Carbon Step Code

In May 2023, the Province introduced the Zero Carbon Step Code to provide a pathway to gradually reducing emissions and achieving zero carbon new construction by 2030. Currently a voluntary standard, the Zero Carbon Step Code provides the City and other local government with the ability to introduce greenhouse gas limits for new buildings, if adopted. The incremental steps of the Zero Carbon Step Code provide a strong signal to the building industry of future requirements. To date, over 20 municipalities in BC have adopted Zero Carbon Step Code requirements. The City has undertaken analysis of building permit data, costing studies and best practices to consider an appropriate approach in Surrey's context.

New Requirements for Cooling

In response to the recommendations of the Report to the Chief Coroner of BC on the heat-related deaths in summer 2021, the Province introduced changes to the BC Building Code to minimize risks to health and safety due to overheating in homes. Beginning in March 2024, new residential dwellings must provide on living space that is designed not to exceed 26 degrees Celsius. This change will help residents in new homes stay safe during extreme heat events. The City participated in the Province's engagement on the development of the requirements and is responsible for ensuring compliance with the new provisions in the BC Building Code.

Assessment of Barriers to High Performance Buildings in Design Guidance

Supported by funding from the Local Government Climate Action Program and BC Hydro, a study was undertaken to identify potential barriers in the City's design guidance to energy efficient, low carbon and climate-resilient new buildings. The study involved a review of current guidance in the Official Community Plan, Zoning Bylaw and secondary land use plans, interviews with other leading jurisdictions and workshops with staff and industry. The recommendations from this study are currently being considered for future updates to building design guidance to enable and reduce regulatory barriers to provide more high performance construction in the city.

Launch of the Development Inquiry Assistant

The City has introduced the Development Inquiry Assistant (DIA), an artificial intelligence tool designed to assist with questions related to development, building, and renovations. DIA aims to increase access to and awareness of permitting processes and requirements, ultimately expediting timelines and improving application quality. It connects residents to information on the City's website, including energy efficiency rebate programs and Energy Step Code requirements, helping to raise awareness of low-carbon, energy-efficient resources and standards.

Expanded Rebate Program for Heat Pumps

The Province recently expanded the CleanBC Better Homes Energy Savings Program to offer up to \$44,900 for energy-saving home upgrades, including up to \$19,000 for an electric heat pump replacing a gas space heating system. The program is income-qualified, ensuring that the highest levels of assistance are provided to those that need it the most. The enhanced rebates enable more City residents to complete energy upgrades and heat pump retrofits, helping to reduce monthly utility bills, improve year-round comfort and indoor air quality, and reduce greenhouse gas emissions. The City promotes the rebates to raise awareness of the expanded program among residents.

Existing Buildings Tool

With support from BC Hydro, the City has developed a data-driven decision-making tool to support staff in facilitating the transition to resilient, zero-carbon buildings across the community. The geospatial tool incorporates a variety of data sources to create a robust picture of every building's energy and emissions performance, and key building and household characteristics that shape performance. Where real data is not yet available for a given building, the tool estimates certain building characteristics and energy performance values based on known data. The tool will be refined over time and inform the development of the City's retrofit programs and policies for existing buildings.

Measures and Targets

- Currently, the majority of new homes are designed with natural gas systems. Many new large residential buildings are designed with electric baseboards or connection to the City's district energy system.
- By 2030, all new buildings are designed to avoid operational GHG emissions.
- By 2050, all operational GHG emissions from existing buildings have been eliminated.



Climate-Positive Resilient Ecosystems

Vision for 2050

The city is threaded with protected and restored forests, streams, and wetlands, along with parks, urban trees and rain gardens. These ecosystems provide places for people to enjoy nature, support biodiversity, store carbon, reduce air and water pollution, and improve climate resilience.

2023/2024 Implementation Phase

Completed	0
Continuous	1
Implementation	10
Planning	3
Not Started	9



Goal 1: Protect, connect, and restore ecosystems

Shift E1. Explore opportunities to further protect, manage, and restore ecosystems, and incorporate green infrastructure on City-owned lands, to improve ecological and climate resilience.



Action	Lead Division Supporting Division	Quick Start	Action Phase
E1.1. Incorporate green infrastructure in City projects, such as raingardens, street trees, absorbent and biodiverse landscaping, and wildlife-friendly road crossings in key locations.	Eng. – U&DE PRC – Parks Eng. – D&C		Not started
E1.2. (QS) Explore opportunities to better integrate green infrastructure such as robust street trees and rain gardens in road rights of way, including supportive maintenance programs and budgets.	PRC – Parks Eng. – D&C		Implementation
E1.3. Improve biodiversity and resilience of City parks and greenspaces, such as by controlling invasive species and including more native plants, pollinator habitat and water-conserving landscaping features.	PRC – Parks		Implementation
E1.4. Develop a strategy to enhance boulevards to address loss of trees and landscaping in existing neighbourhoods.	PRC – Parks		Not started

Shift E2. Implement policies and practices to manage natural assets and biodiversity for ecological and climate resilience.






E2.1. Apply leading standards and practices to plant and maintain structurally and biologically diverse, long-lived, healthy and climate-resilient trees in parks and street boulevards.	PRC – Parks Eng. – D&C		Implementation
E2.2. Increase public awareness and understanding of the value of the City's natural assets through communication and Engagement. Ensure this information is accessible to the city's diverse and multi-lingual communities.	PRC – Parks CS – M&WT Library		Planning
E2.3. Explore opportunities to encourage retaining and planting trees on private land.	P&D – Building PRC – Parks		Not started
E2.4. Ensure that budgets and staffing are sufficient to implement the Urban Forest Management Strategy and Biodiversity Conservation Strategy.	PRC – Parks Finance		Implementation
E2.5. Consider approaches to prioritize equity-seeking groups and vulnerable individuals when designing urban forestry and biodiversity policies and programs.	PRC – Parks		Implementation


Shift E3. Review opportunities to strengthen environmental review processes, bylaws and policies for development and infrastructure projects to better support climate resilience and biodiversity.



E3.1. Continue to coordinate with senior government agencies to ensure City bylaws and policies align with and support provincial and federal regulations for ecosystem protection.	P&D – DP		Planning
E3.2. Strengthen policies and work with developers to protect and restore ecosystems and implement the City's Biodiversity Conservation Strategy objectives on development sites.	P&D – DP PRC – Parks		Not started
E3.3. Review opportunities to improve climate resilience through regulatory and policy updates, such as to the Official Community Plan and Zoning Bylaw.	P&D – CP&S PRC – Parks		Implementation


Shift E4. Inventory, assess, and monitor ecosystems and green infrastructure to support adaptive management.  

Action	Lead Division Supporting Division	Quick Start	Action Phase
E4.1. Inventory, assess and monitor the health and value of Surrey's natural assets, including by leveraging community and academic partnerships and technologies (e.g., remote sensing, digital monitoring artificial intelligence).	PRC – Parks		Implementation
E4.2. (QS) Explore methods to better quantify and maximize carbon sequestration in Surrey's natural systems and identify opportunities to integrate in City policies and initiatives.	PRC – Parks		Planning
E4.3. Assess the vulnerability of Surrey's natural systems to extreme heat and other climate impacts.	PRC – Parks		Implementation
E4.4. Estimate the economic value of natural assets and ecosystem services and include in decision-making.	PRC – Parks P&D – CP&S		Not started


Shift E5. Manage rainwater to improve ecological and climate resilience. 



E5.1. Review and update requirements for on-site rainwater management on development sites, to support natural hydrology and reduce flood risk.	Eng. – U&DE P&D – DP		Not started
E5.2. Look for opportunities to restore and daylight creeks and riparian areas in City projects and in partnership with developers.	P&D – DP Eng. – U&DE		Not started

Goal 2: Encourage opportunities for regenerative agriculture and negative emissions

Shift E6. Explore opportunities and partnerships to support ecologically regenerative agriculture and land use practices in the Agricultural Land Reserve for GHG reduction, carbon sequestration, and improved climate resilience. 

E6.1. Advocate to the Province to develop a strategy for managing irrigation and stream flows for improved climate resilience.	Eng. – U&DE		Not started
E6.2. Develop a strategy for ecologically sensitive management of City parks within the Agricultural Land Reserve.	PRC – Parks		Continuous
E6.3. Support research and encourage innovative practices for regenerative and climate-resilient agriculture.	PRC – Parks P&D – CP&S		Implementation

Shift E7. Explore opportunities for negative emissions, especially through ecosystem restoration, to remove carbon from the air and store it in plants and soil. 

E7.1. (QS) Collaborate with universities, senior governments, First Nations and stakeholders to research opportunities for carbon sequestration in natural areas.	PRC – Parks P&D – CP&S		Not started
E7.2. (QS) Undertake a pilot project exploring the opportunity for soil carbon sequestration and regenerative agriculture in the Agricultural Land Reserve.	PRC – Parks		Implementation

2023/2024 Project Highlights

Mound Farm Park Pilot Project

Regenerative agriculture and habitat enhancement approaches are being piloted at Mound Farm Park to improve carbon sequestration, agricultural productivity and biodiversity, supported by Local Government Climate Action Program funding. The project involves the removal of invasive species, extensive restoration of a floodplain forest, and installation of pollinator strips and winter cover crops. Through a partnership with Kwantlen Polytechnic University's Institute of Sustainable Food Systems, soil assessments will be repeated seasonally every five years to monitor the impact of the project on soil health and carbon sequestration. The results of the pilot will inform future farmland management practices in Surrey's parkland to increase opportunities for climate change mitigation.

Releaf Tree Planting

Every year the City plants trees with Surrey residents providing hands-on opportunities in parks that raise environmental awareness, provide opportunities to discover and connect with nature, and foster a relationship and ongoing desire to care for, or steward, our parks and natural areas. Further to engaging Surrey residents in our parks and natural areas, these planting projects in combination with volunteer-lead invasive plant removal projects in the same areas, restore natural ecosystems, enhance biodiversity and improve ecological and climate resilience. In the spring and fall, the City hosts opportunities to plant native trees and shrubs, and large, stand-alone shade trees which provide shade, clean air and water, help slow run off and control erosion, create wildlife habitat, and improve people's physical and mental health, as well as helping the City achieve its overall canopy cover goals. Since the adoption of CCAS, almost 4,000 people have helped to plant 160 shade trees and nearly 8,000 native plants in over 40 parks.

Pollinator Tree Well Planting Projects

In June 2024, the City worked with local residents to plant native pollinator plants in tree wells, the space surrounding the trunk, in Salmonberry Park in Cloverdale. The pollinator plantings provide valuable habitat for pollinating insects and birds in the tree wells of newly planted shade trees. Surrey Youth Stewardship Squad volunteers are monitoring and maintaining these tree wells regularly through the summer and into the fall. This project built upon a successful tree well pollinator planting pilot project in Orchard Grove in 2022 which included ongoing monitoring by Surrey's Natural Areas Partnership team. Both projects provide a great opportunity for youth to develop plant identification skills and connect with nature, and for the City to collect valuable biodiversity data and support habitat for pollinating insects and birds.

Preparing for Climate-Resilient Planting Along the Surrey-Langley Skytrain Corridor

In anticipation of the Surrey-Langley Skytrain expansion, the City is testing new plant species to ensure resilience in one of Surrey's main transportation corridors. Cultivating a thriving landscape beneath the new guideway can help green the corridor and regulate temperatures, improve biodiversity, sequester carbon, and enrich the pedestrian realm. Experimental plots are currently being tested beneath the existing guideway and other comparable sites to determine how various plant species survive in challenging urban conditions. The insights gained will guide the selection of plants and maintenance of the boulevards and medians. In addition, water connections are being installed to enable potential future irrigation of select Fraser Highway medians should additional funding be confirmed. This system will improve plant establishment and resilience, as well as reduce long-term maintenance costs. Both these projects are propelled by the Local Government Climate Action Program, advancing numerous objectives of the Climate Change Action Strategy.

Measures and Targets

- The Surrey Urban Forest Management Strategy target is to increase the urban forest canopy (not including lands within the Agricultural Land Reserve) to 30% by 2038, from 29% in 2021.
- Other measures and targets to support climate-positive resilient ecosystems may be developed in the future, such as for carbon sequestration by natural areas, estimation of the value of ecosystem services, and parkland acquisition.



Resilient Energy and Zero-Waste Systems

Vision for 2050

Surrey's energy systems are free of carbon pollution. Most uses rely on electricity, while renewable fuels are prioritized for the most difficult to decarbonize uses. Goods and materials are produced and reused in a circular manner that avoids waste and generates value for the community.

2023/2024 Implementation Phase

Completed	0
Continuous	3
Implementation	2
Planning	2
Not Started	4



Goal 1: Work toward zero waste and a circular economy

Shift Z1. Support and collaborate with Metro Vancouver to update the regional Integrated Solid Waste and Resource Management Plan.



Action	Lead Division Supporting Division	Quick Start	Action Phase
Z1.1. Collaborate with Metro Vancouver to identify opportunities for further reducing waste and associated GHG emissions and fostering a circular economy through the regional solid waste management plan update.	Eng. – Ops.		Implementation

Shift Z2. Continue to enhance waste reduction, diversion and circular economy programs and services for residential and commercial sectors.



Z2.1. Continue supporting and educating residents to divert remaining organics and recyclables from the garbage stream.	Eng. – Ops.		Continuous
Z2.2. Explore opportunities to expand local production of biofuel from waste.	Eng. – Ops.		Not started
Z2.3. Advocate to Recycle BC and Metro Vancouver for new global recycling and waste reduction initiatives that have greatest potential to reduce waste and emissions.	Eng. – Ops.		Continuous
Z2.4. Review repair and reuse options to advance circular economy principles and practices, in collaboration with Metro Vancouver.	Eng. – Ops.		Planning

Shift Z3. Increase diversion and reuse of waste materials generated from construction and demolition.



Z3.1. (QS) Explore policies to require and encourage building deconstruction, and diversion of demolition and construction waste.	P&D – Building Eng. – Ops.		Not started
Z3.2. Explore opportunities to encourage low-waste building technologies and materials (e.g. modular; recycled content).	P&D – Building		Not started

Goal 2: Transition to zero-carbon, resilient energy systems

Shift Z4. Support broad scale electrification and zero-carbon resilient energy networks.



Z4.1. Advocate to utilities and the Province of British Columbia for energy prices that support affordable zero-carbon energy.	P&D – CP&S SI&CI – I&GR		Implementation
Z4.2. Advocate to BC Hydro for improved planning and provision of sufficient electrical supply and distribution in new growth areas, accounting for increased electrification.	SI&CI – I&GR P&D – CP&S P&D – DP		Continuous
Z4.3. Explore opportunities to encourage on-site and distributed energy and self-production (e.g., solar, battery, smart grid systems).	P&D – Building P&D – CP&S P&D – DP		Not started

Shift Z5. Transition Surrey City Energy to zero carbon and scale the system to best support zero-carbon buildings.



Z5.1. (QS) Establish a zero-carbon rate class for Surrey City Energy customers to meet requirements for new building energy and emissions standards.	P&D – CP&S		Planning
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2023/2024 Project Highlights

Surrey City Energy Sewer Heat Recovery Project

The City’s district energy system, Surrey City Energy, provides heat and hot water to residential, commercial and institutional buildings in City Centre. The Sewer Heat Recovery Project involves the design and construction of a 15-megawatt sewer heat recovery facility which will generate low-carbon energy by using waste heat recovered from a Metro Vancouver regional trunk sewer. Once online, the Sewer Heat Recovery Project is expected to supply approximately 65 to 70% of Surrey City Energy’s total annual energy, reducing reliance on natural gas boilers, and significantly decreasing the system’s greenhouse gas emissions. To date, the City has been successful in securing \$28.7 million in external funding towards the Sewer Heat Recovery Project and design work is underway, with the project expected to be completed in 2028.

BC Utilities Commission Decisions

In early 2024, the BC Utilities Commission (BCUC) released decisions on three proceedings, accepting FortisBC and BC Hydro’s long-term resource plans and denying FortisBC’s renewable natural gas (RNG) connections service for new construction due to an unfair rate subsidized by existing ratepayers. Surrey was registered as an intervenor in the three proceedings and collaborated with Metro Vancouver and other municipalities to understand the implications of the utilities’ long-range planning processes and the Province’s approach to the energy transition on the City’s ability to meet adopted GHG reduction targets. The BCUC’s decision on FortisBC’s RNG program supports the City’s ability to achieve the emissions reductions from buildings required to achieve the City’s targets. Going forward, the BCUC will be requiring the utilities to improve the coordination between their long-range planning processes and to update the plans more frequently, reflecting the pace of the energy transition.

New Rebates for Solar Panels and Battery Storage

In July 2024, BC Hydro launched new rebates of \$5,000 for eligible solar panels and an additional \$5,000 for battery storage systems for qualifying residential customers. These rebates will make it easier for Surrey residents to generate their own power, reduce their bills and deliver clean energy back into the electricity grid. The City is promoting the rebates to residents and will continue to participate in BC Hydro’s engagement processes to inform future programs.

Measures and Targets

Outcome	Measure	Current	2030	2040	2050
District Energy GHGs	Surrey City Energy GHG intensity (kg CO ₂ e/MWh)	The majority of the system is powered by high efficiency natural oilers, with some geo-exchange heat.	70	35	0
Solid Waste GHGs	GHG emissions from City-collected solid waste (tCO ₂ e/y)	66,317*	TBD	TBD	0

*2021 data from most recent community GHG emissions inventory.



Conclusion

The Climate Change Action Strategy Annual Report 2023/2024 provides an overview of the implementation of CCAS actions in the first year since its adoption in July 2023, including the current implementation phase and status of each action and project highlights. As implementation of CCAS continues, future editions of the CCAS Annual Report will report progress on actions and updates on measures and targets.

CCAS actions reflect the opportunities and priorities known at the time of strategy development, and new and updated actions will be added over time. Meeting the targets identified in the CCAS will require advancing the actions as quickly as possible, in collaboration with all orders of government, society, businesses and the community. Together we can work towards a zero-carbon, climate-resilient future for Surrey.

