



CITY OF LAKEWOOD

SUSTAINABILITY PLAN ANNUAL REPORT
2019–2020 (Revised January 2021)

This page intentionally left blank.

CITY OF LAKEWOOD

SUSTAINABILITY PLAN ANNUAL REPORT

2019–2020

City of Lakewood Sustainability Division

Jonathan Wachtel, *Sustainability Manager*

Caitlin Hasenbalg Long, *Senior Sustainability Planner*

Jeff Wong, *Senior Sustainability Planner*

Alyssa Vogan, *Sustainability Planner - Community Focus*

Christy Cerrone, *Sustainable Neighborhoods Program Associate*

Samantha Lasher, *Sustainability Intern*

CONTRIBUTIONS FROM:

City of Lakewood

Brian Harfst, *Maintenance Supervisor*

Chase Kozoh, *Construction Inspector*

Christina Lane, *Alternative Transportation Coordinator*

Drew Sprafke, *Regional Parks Supervisor*

Jim Haselgren, *Parks Manager*

Katie Faltys, *Economic Development Specialist*

Laura Pemberton, *Business Specialist*

Ramón Montoya, *Fleet Manager*

Partner Organizations

Erik Hall, *VTBS Architects for Archway Housing and Services*

Gary Harty, *Lakewood Bicycle Advisory Team*

Mary Gilkison, *Sustainable Green Mountain*

Russell Clayshulte, *Bear Creek Watershed Association*

Tom Quinn, *Alameda Connects*

Published August 2020

Revised January 2021 to reflect recent data
(pages 16-17, 21, 23, 45, 61-63, & 90)

01

02

03

04

05

06

07

INTRODUCTION

4

CLIMATE CHANGE
AND ADAPTATION

6

ENERGY, WATER, AND
THE BUILT ENVIRONMENT

14

SUSTAINABLE ECONOMY

24

ZERO WASTE

32

COMMUNITY COHESION
AND PUBLIC HEALTH

38

NATURAL SYSTEMS

46

TRANSPORTATION

52

APPENDIX A: TARGETS AND
INDICATORS

59

APPENDIX B: STATUS OF
IMPLEMENTATION STRATEGIES

78

APPENDIX C: SUSTAINABLE
NEIGHBORHOODS PROJECTS

89

INTRODUCTION

A NOTE FROM STAFF —

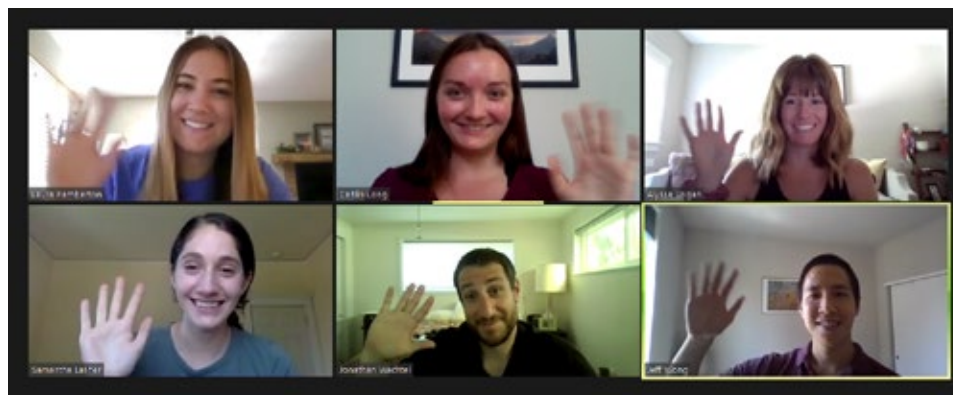
It has been five years since the adoption of the City of Lakewood Sustainability Plan. The result of almost two years of community visioning, technical working groups, public comment, and Planning Commission and City Council review, the Plan reflects the community's commitment to environmental protection, social equity, and economic resilience. The Plan's more than 30 adopted targets challenge us to reimagine, redesign, and reprioritize our shared systems in order to generate cleaner energy, move around without polluting our air, enhance the efficiency of our buildings, reconnect our landscapes, restore our biodiversity, support housing and food security for all residents, and welcome all those who live, work, or visit into a safe and inclusive community.

In the midst of one of the most transformative periods in a century, Lakewood's vision for a sustainable future is more relevant than ever.

The local impacts of the novel coronavirus pandemic have highlighted the interrelatedness of our environmental, social, and economic well-being and reiterated the strategic advantage of making resiliency and sustainability a core community value.

This annual report is the tool by which we hold ourselves accountable to this sustainable and resilient vision. In addition to highlighting key implementation efforts undertaken over the past year, this report also contains a comprehensive compilation of data in support of the Plan's 35 measurable targets and 90 sustainability indicators along with a progress report on the implementation status of the Plan's primary strategies. Each of the accomplishments highlighted in this report is the result of collaboration and teamwork within the City organization and across the community and region. We'd like to say thank you to all of the partners who continue to contribute to sustainability in Lakewood.

— **Lakewood Sustainability Staff**



CLIMATE CHANGE AND ADAPTATION

SUSTAINABILITY PLAN CHAPTER 1



2015 SUSTAINABILITY PLAN GOALS

Minimize Lakewood's communitywide greenhouse gas emissions and prepare and adapt to ongoing climate change impacts.

TARGETS

- Reduce communitywide greenhouse gas emissions by 20 percent below 2007 levels by 2025.
- Reduce communitywide greenhouse gas emissions by 50 percent below 2007 levels by 2050.
- Reduce municipal greenhouse gas emissions annually through 2025.

- The target is on track
- The target is not on track
- The target is TBD

2019–2020

HIGHLIGHTED INITIATIVES

01 THE CASE FOR RESILIENCE IN TIMES OF CHANGE

Public health and social justice events in the spring of 2020 demonstrated how important community resilience is during times of change. We can learn from these experiences to prepare for likely future climate change.



02 BEAR CREEK WATERSHED ADAPTATION PLAN

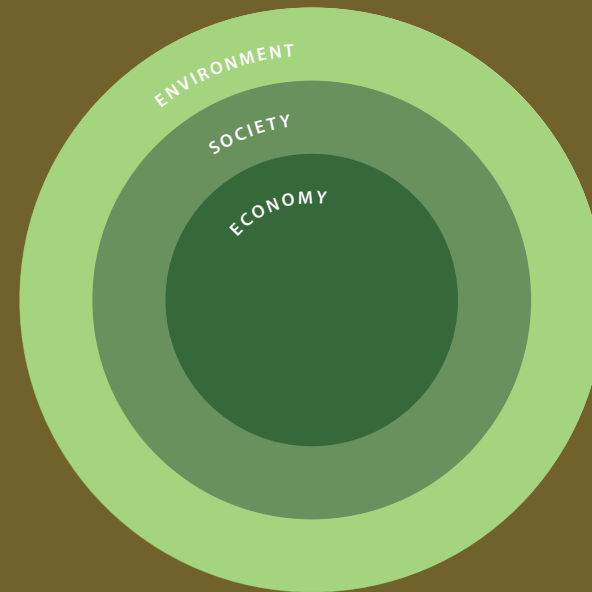
The Bear Creek Watershed Association performed climate modeling and risk analysis for the Bear Creek Watershed to inform water quality management in the face of a changing climate.

01 THE CASE FOR RESILIENCE IN TIMES OF CHANGE

In the wake of COVID-19, much has been revealed about ourselves, our society, and the world. This crisis brought to light some optimistic moments, such as demonstrating the viability of remote work opportunities for large segments of the population and communities banding together to support essential workers, but it also pulled back the curtain on the fragile state of our society. It revealed how vital low-income workers like delivery drivers and food servers are in our day-to-day lives; how far above and beyond their primary charge of education schools and teachers go to provide social services like food, health care, and clothing for our students; how interconnected the economy and public health are; and how beholden we are to one another's behavior and choices. Finally, the crisis also proved that Black and Hispanic communities face disproportionate impacts in nearly every metric, from the numbers of COVID-19 cases and deaths to unemployment claims resulting from virus-related closures to workers considered "essential" put at risk for the sake of the economy.

This virus is one of the first disruptions on an order of this magnitude to test the system of our society, but there will likely be more crises to come as the global temperature continues to rise. Regional assessments within Colorado indicate that in the coming decades we should expect prolonged extreme summer heat, increased frequency of severe storm events like the floods of September 2013 and hail of May 2017, and greater incidences of disease as local ecosystems shift in response to overall temperature rise. We have an opportunity right now to learn from the COVID-19 crisis, identify the gaps and weaknesses

AN UPDATED MODEL OF SUSTAINABILITY



Like Maslow's Hierarchy of Needs, this model of sustainability demonstrates how the environment is the foundation of our system as the physical space in which people live. We need a healthy and stable environment in order to grow as a society, and likewise need a healthy and stable populace with which to build a thriving economy. This is how we will build a strong and resilient Lakewood.

in our systems that need to be filled in order to have an equitable economic recovery, grow stronger and more cohesive as a society, and become better prepared to respond to future disruptions.

Climate change and structural racism have both been declared public health emergencies by agencies and local governments across the country, including Jefferson County. Although everyone will experience greater potentially life-threatening health risks from exposure to extreme heat, air pollution, wildfires, and severe weather, communities of color, and particularly Black communities, face the greatest impact as a result of systemic prejudice since the inception of our country. The influence of racial bias has been prevalent in everything from land use policies to hiring decisions, which today result in entire communities having disproportionately low incomes, substandard housing, physically demanding jobs, and exposure to environmental risks. This leaves people more vulnerable to the impacts of climate change and less able to adapt to major changes.

The COVID-19 pandemic and social justice dialogue emerging from the Black Lives Matter movement are shifting the status quo to recognize that the economy alone cannot sustain us. People must be healthy in order to effectively work, and our environment is one of the greatest contributors to our health. For Lakewood to thrive, we will take action to preserve our environment, support the most disadvantaged in our community, and promote local businesses, to become stronger and prepared to tackle future challenges together.

Resilience:

A capability to anticipate, prepare for, respond to, and recover from significant multi-hazard threats with minimum damage to social well-being, the economy, and the environment.

– Environmental Protection Agency

02 BEAR CREEK WATERSHED CLIMATE ADAPTATION PLANNING

by Russell Clayshulte, Manager of Bear Creek Watershed Association

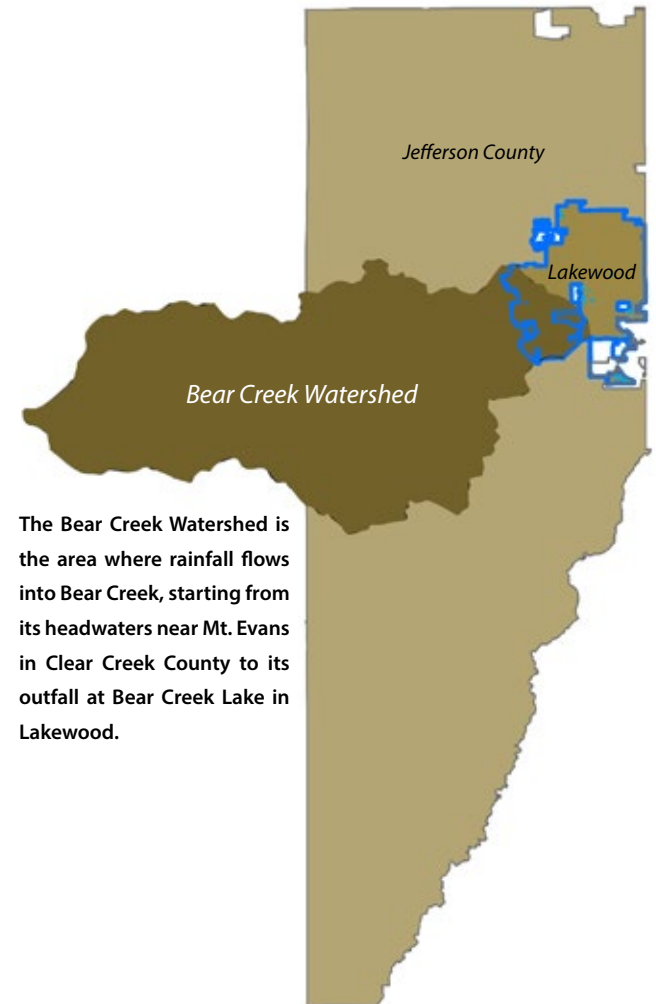
The Bear Creek Watershed Association (BCWA) has 14-member communities that provide drinking water, wastewater and stormwater services within the Bear Creek Watershed. BCWA conducted two climate change risk assessments using the U.S. Environmental Protection Agency's (EPA) Climate Resilience Evaluation and Awareness Tool (CREAT). BCWA used these assessments to build on existing modeling and monitoring efforts to better understand how climate change threats could affect utility operations and watershed health within the upper watershed above Evergreen and within the lower watershed above Bear Creek Reservoir. Each model assessment provided similar climate change threats, adaptations, and risks but with different management options.

BCWA included several expected climate change threats in the assessments that targeted existing and emerging water quality and quantity issues. Increasing temperatures from climate change could present regulatory and treatment challenges for water and wastewater utilities, in addition to affecting the health of sensitive fish species in the watershed. Minimal temperature increases of 1 to 2°F would present issues for the cold-water fisheries in the upper watershed. Additional concerns include water supply issues from drought, as well as water quality issues from wildfires and subsequent flooding. Previous flooding events have resulted in significant sedimentation of Evergreen Lake that diminished the reservoir's capacity. BCWA considered how climate change may increase the severity or frequency of these threats and assessed the

risks of water quality or quantity conditions that would challenge the ability to maintain a reliable supply, to treat the incoming raw water, and to protect the health of the watershed ecosystem.

The two projected scenarios looking out to 2050 used CREAT-provided data for moderate conditions with more extreme storms, and hotter and drier conditions with more extreme storms, which was the model with higher predicted probability for future conditions. This end year of the assessment aligns with the planning horizon of the state water plan. BCWA included annual and monthly data in its scenario to gain a better understanding of the changes in temperature and precipitation patterns throughout the year. Temperatures in March, July, November, and December are critical for snowfall and snowmelt, and temperatures in the winter and shoulder seasons are of the highest concern for temperature-driven water quality events.

The upper watershed can expect a temperature increase from 5.18°F to 6.12°F with much earlier snowmelt (17-45 days) and drier summer/fall seasons with an increased drought threat. This data can inform the potential severity of future climate change threats, which are predicted to increase by about 26% within the upper watershed and a 28.6% increase in 100-year storms within the lower watershed by 2050. The models predict more frequent and more intense storm events. This will increase flooding threats. BCWA also considered the 5-, 10-, 15-, 30-, 50- and 100-year storm events in its assessment.



The Bear Creek Watershed is the area where rainfall flows into Bear Creek, starting from its headwaters near Mt. Evans in Clear Creek County to its outfall at Bear Creek Lake in Lakewood.



Bear Creek Lake during the September 2013 flood. Climate models predict more frequent and more intense storm events, increasing future flooding threats.

Climate models predict a 28.6% increase in 100-year storms within the lower BCWA watershed by 2050.

Since the watershed is mostly snowpack-fed, BCWA has concerns about drought, increased surface water temperatures, changes in snowmelt timing and the potential impacts to water availability in the future. Multiple studies and reports for Colorado predict average annual temperatures increasing by a minimum of 2.5°F, with summers warming by 5-7°F and winters by 3-5°F by 2050. Warmer temperatures mean changes in evaporation and soil moisture, reducing snowmelt runoff in each of Colorado's river basins. More precipitation is expected to fall as rain rather than snow, and the state's high-elevation snowpack — the source of much of the state's water supply — could decline by 20% and melt earlier than in the past. These statewide results are consistent with the CREAT model predictions for the Bear Creek Watershed.

The CREAT models predict the watershed between 2020 and 2050 will become significantly hotter on average with an increased potential for drier conditions. The lower Bear Creek Watershed Model predicts an average 6.12°F increase in annual temperature in Middle Bear Creek Drainage and at Bear Creek Reservoir by 2050. As with all climate modeling, there is an understanding that future conditions can vary from predictions. However, planning for the expected changes of hotter and drier is a prudent management strategy. The results of a CREAT assessment provide information the BCWA can use for long-term watershed water quality planning processes.



CLIMATE CHANGE AND ADAPTATION

2019–2020 PROGRESS SNAPSHOT

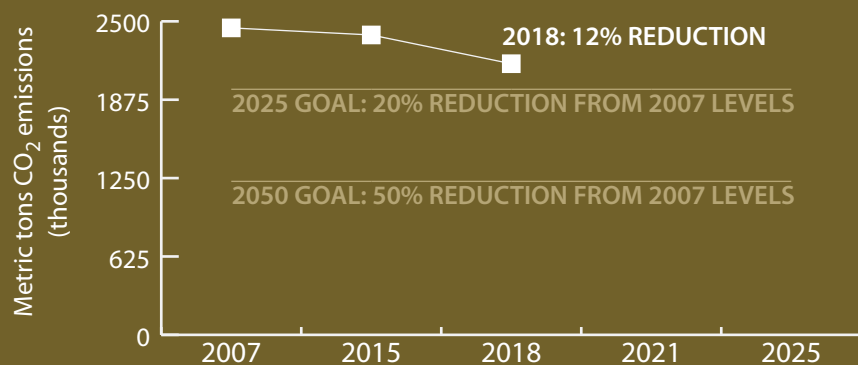
A full list of metrics can be found in Appendix A.

2025 TARGET	BASELINE	MOST CURRENT	CHANGE FROM BASELINE	NOTES	STATUS
Reduce communitywide greenhouse gas emissions by 20% below 2007 levels by 2025.	2,447,746 mtCO ₂ e	2,162,112 mtCO ₂ e	-12%	2018 GHG inventory measured in metric tons of carbon dioxide equivalent (mtCO ₂ e) using the Global Protocol for Community-scale GHG Inventories (GPC) methodology.	●
Reduce communitywide greenhouse gas emissions by 50% below 2007 levels by 2050.	2,447,746 mtCO ₂ e	2,162,112 mtCO ₂ e	-12%		●

● The target is on track ● The target is not on track ● The target is TBD

HOW FAR DO WE HAVE TO REACH OUR 2025 GOAL?

City of Lakewood 2018 GHG Inventory



WE NEED TO REDUCE EMISSIONS BY 203,915 mtCO₂ TO MEET OUR 2025 GOAL!

According to the EPA GHG Equivalencies Calculator, that is equivalent to:



8.7 MILLION
BAGS OF TRASH
RECYCLED



506 MILLION
MILES DRIVEN IN A
PASSENGER VEHICLE



44
WIND TURBINES
RUNNING FOR 1 YEAR

ENERGY, WATER, AND THE BUILT ENVIRONMENT

SUSTAINABILITY PLAN CHAPTER 2



2015 SUSTAINABILITY PLAN GOALS

Ensure affordable energy for Lakewood while transitioning to renewable energy sources.

Significantly enhance resource efficiency in Lakewood buildings.

Encourage development in Lakewood that values the natural environment and supports public health and community cohesion.

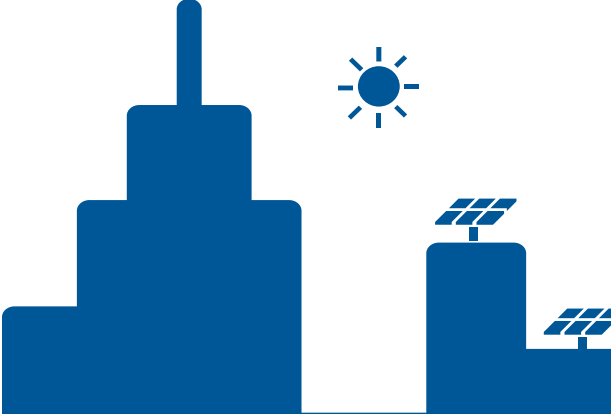
TARGETS

- Generate 45 percent of municipal, residential, commercial and industrial energy from renewable sources by 2025.
- Reduce municipal building and facility energy use by 30 percent by 2025.
- Reduce citywide building energy use intensity by 20 percent by 2025.
- Reduce citywide water use by 20 percent by 2025.
- Increase the percentage of certified green buildings each year from 2015 to 2025.

- The target is on track
- The target is not on track
- The target is TBD

2019–2020

HIGHLIGHTED INITIATIVES



01 LAKEWOOD'S CLEAN ENERGY PROGRESS

Lakewood residents and businesses continue to show their commitment to renewable energy by participating in both on-site and off-site renewable electricity opportunities.

02 SUSTAINABLE DEVELOPMENT CASE STUDIES

Two local examples of integrating green building and site design strategies are leading the sustainable development movement in Lakewood.

03 THE ROAD TO RENEWABLE ENERGY

Through the Renewable*Connect program, the city directed 1,015 kilowatts of solar energy to power city facilities. In 2019, several city facilities and parks were 100% solar-powered!

04 MUNICIPAL ENERGY & WATER CONSERVATION

City facility improvements result in projected annual GHG emissions reduction of 1.8 million pounds of CO₂ and \$133,000 in utility cost savings.



01 LAKEWOOD'S CLEAN ENERGY PROGRESS

One of the major goals of Lakewood's Sustainability Plan is to increase the use of renewable energy resources for electricity consumption and reduce carbon emissions in the city. In 2019, 22% of Lakewood's electricity came from renewable energy, according to Xcel Energy's Certified Renewable Percentage (CRP) for the Colorado grid mix. As the percentage of renewable energy in the grid mix continues to increase each year, greenhouse gas emissions from electricity generation continue to decrease. The Colorado Energy Plan, Xcel Energy's roadmap to achieving a cleaner grid mix and reducing carbon emissions, has a target of 55% renewable energy on its electricity grid by 2026. This means there are still opportunities in the Lakewood community to increase renewable energy use in our daily lives. Lakewood's climate and geographic location makes it a prime place for solar power use. Lakewood residents and businesses continue to show their commitment to renewable energy by participating in both on-site and off-site renewable electricity opportunities.

ON-SITE RENEWABLE ENERGY

On-site renewable energy in Lakewood primarily consists

of solar panel installations. It has become increasingly common to see solar panels on the roofs of Lakewood homes and businesses, and newly constructed buildings are now required to include solar-ready rooftops. The number of rooftop solar projects and kilowatt (kW) capacity installed in Lakewood continues to increase each year. In 2019, approximately 1,900 kW of solar capacity were permitted for installation in Lakewood. Local utility programs from Xcel Energy along with the federal solar tax credit makes solar power more affordable for Lakewood residents. In 2020 and 2021, residents can deduct 26 and 22 percent, respectively, of the cost of their solar panel system from their taxes.

OFF-SITE RENEWABLE ENERGY

While the number of on-site solar installations continue to increase, off-site renewable energy subscriptions have also become an increasingly popular option for both residential and commercial Lakewood customers that want renewable electricity without on-site installation of solar panels. According to the Colorado Energy Office, Colorado leads the nation with the most community solar projects. Community solar gardens are off-site solar

arrays that distribute solar generated power into the local electricity grid. Subscribers purchase a kW share of the solar energy produced and receive a credit on their utility bills. In 2019:

- 127 Lakewood households and businesses subscribed to community solar gardens
- Community solar gardens generated 4.7 million kWh of solar energy for Lakewood subscribers, offsetting 4.8 million pounds of carbon emissions.

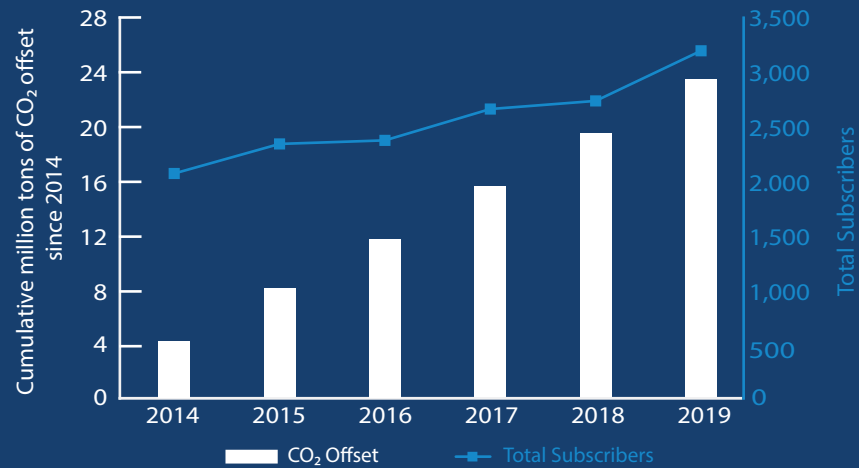
Xcel Energy also offers two different off-site renewable energy subscriptions: Windsource and Renewable*Connect. Under these plans, customers buy a share of the renewable energy produced at Xcel's off-site wind and solar facilities, which are located in other parts of Colorado. In 2019:

- 3,252 Lakewood households and businesses subscribed to Windsource, offsetting 8.4 million pounds of CO₂ emissions.
- 222 households and businesses (including the City of Lakewood) subscribed to Renewable*Connect in its first year of operation, offsetting 4.3 million pounds of CO₂.

In 2019, 3,601 Lakewood households and businesses
subscribed to off-site renewable energy programs, offsetting over
17 million pounds of CO₂ emissions!

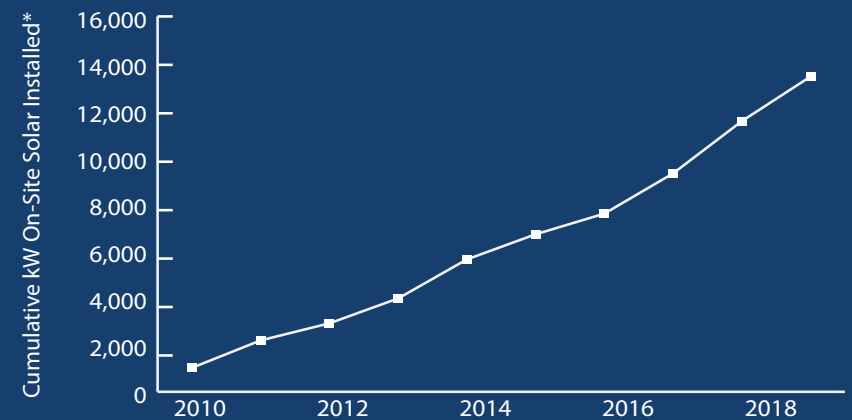
LAKEWOOD RESIDENTIAL WINDSOURCE PARTICIPATION

Xcel Annual Community Energy Report



CUMULATIVE KW SOLAR INSTALLED CITYWIDE

Lakewood building permits issued for solar panels



*Represents permitted kW installation since 2010



Photo Credit: NextEra Energy

The City of Lakewood subscribed to 1,015 kW of renewable energy from the Titan Solar Facility in Deer Trail, Colorado.

02 SUSTAINABLE DEVELOPMENT CASE STUDIES

According to the US Energy Information Administration, residential and commercial buildings accounted for 39% of total end-use energy consumption in the US in 2019. Total carbon emissions from electricity and natural gas use in Lakewood buildings continues to decrease on an annual basis due to increases in renewable energy generation and energy-efficient building construction. Green building and sustainable site design reduce the impacts of new development on the natural environment and support public health and community cohesion. The Terumo Blood and Cell Technologies campus and the Flats at Two Creeks Residences are examples of projects that are designed to maximize energy and water efficiency resulting in a reduction of associated greenhouse gas emissions, and they demonstrate leadership in the movement toward sustainable development in Lakewood.

TERUMO BLOOD AND CELL TECHNOLOGIES CAMPUS

Terumo Blood and Cell Technologies (Terumo BCT) manufactures specialized medical devices and is one of Lakewood's largest employers. Terumo BCT's 52-acre campus serves as both the worldwide corporate headquarters and a production facility supported by 2,500 employees. The company demonstrates its commitment to the environment through its corporate sustainability goals that also support the city's energy, water, and built environment goals.

In 2017, a massive hailstorm caused widespread damage in Lakewood, including Terumo BCT's rooftop solar array that was originally installed in 2009. The company decided to replace the damaged system with a new 175-kilowatt array, which was installed by local vendor Douglass Colony Group, Inc. The new solar array generated 48,589 kilowatt-hours of renewable energy for the campus in 2019. This is equivalent to avoiding the CO₂ emissions from burning 37,845 pounds of coal. "We are proud to do our part with solar energy. We know our site is visible within Lakewood, and the array complements our corporate values of integrity, care, quality, and creativity" says Christine Romero, communications specialist with Terumo BCT.

Terumo BCT's campus and operations also incorporate sustainable features including 18 Level 2 electric vehicle charging stations, an EcoPass program for employees to encourage public transportation use, and upgraded irrigation systems controls that reduce water consumption. In order to continually guide sustainability best practices, the company establishes specific quantitative goals annually, such as increasing recycling rate by 3% and reducing water usage by 15% for the current fiscal year.



Photo Credit: Douglass Colony Group, Inc.

Rooftop solar arrays at Terumo BCT's Lakewood campus. Learn more at www.terumobct.com

KEY SUSTAINABILITY FEATURES:

- ☒ On-site solar renewable energy
- ☒ Electric vehicle charging
- ☒ Landscape water use reduction
- ☒ Public transportation passes

FLATS AT TWO CREEKS RESIDENCES

by Erik Hall, Architect with Van Tilburg, Banvard, and Soderbergh

Archway Housing's Flats at Two Creeks Residences is an innovative transit-oriented affordable housing community focused on providing housing for low and very-low income veterans in the Denver metro area. Completed in early 2020, the development has 70 one-bedroom and eight two-bedroom units, with 20 units specifically set aside for homeless veterans. This LEED Gold certified building is located at the corner of West 14th Avenue and Gray Street, a short walk from both the Lamar Street Light Rail Station and the Colfax Corridor RTD bus routes. The project was completed on a brownfield remediation infill site that replaced 16 derelict units.

The project team sought to minimize the development's impact through its design and construction. The site includes a large percentage of open space for residents and a rooftop deck providing community space and great views. In order to enhance indoor air quality, the building utilizes materials, including paints, coatings, adhesives, sealants, composite wood, and flooring systems with low to no volatile organic compounds (VOCs). Interior finishes were also selected to maximize the use of regional and/or recycled products.

Energy and water related sustainable design features include on-site solar renewable energy, 90% daylight availability for occupied spaces to reduce electricity use from lighting, and highly efficiency water fixtures to reduce indoor potable water use by 46%. During construction, 80% of generated waste was diverted from landfills. Finally, the team intentionally focused on enhancing the local workforce by giving hiring preference to those in the community.

Archway Housing and the entire design team are proud to be recognized for leadership in energy and environmental design with Flats at Two Creeks Residences and are committed to ongoing stewardship of the environment and natural resources, enhancing the character of our communities without taxing the local ecology.



Photo Credit: Archway Housing and Services

Flats at Two Creeks includes 20 units for homeless veterans. Visit www.archwayhousingandservices.org.

KEY SUSTAINABILITY FEATURES:

- ✓ LEED Gold certification
- ✓ Brownfield redevelopment
- ✓ Transit-Oriented Development (TOD)
- ✓ Construction waste diversion
- ✓ On-site solar renewable energy
- ✓ Water efficient fixtures












03 THE ROAD TO RENEWABLE ELECTRICITY

The Lakewood Sustainability Plan set goals to generate 45 percent of energy from renewable sources both communitywide and for its municipal operations by 2025. In 2019, the city began its Renewable*Connect subscription with Xcel Energy. Through the Energy Future Collaborative, a partnership between the city and Xcel, the city signed up for a 1,015 kW share from Xcel's 50 MW Titan Solar facility in Deer Trail, CO. The city also purchased 274 kW of solar energy from a community solar garden in 2014.

Through the Renewable*Connect program, the city now delivers solar energy to numerous meters without on-site solar infrastructure. Last year, the city received over 2 million kWh of solar energy, which was allocated to different locations across the city. As a result, approximately 2.145 million pounds of potential CO₂ emissions were offset, and several municipal facilities are now 100% electrically powered by solar energy, including Heritage Lakewood Belmar Park. Heritage Lakewood includes a visitor center, 15 historic buildings, and an outdoor amphitheater, as well as Belmar Park, 132 rolling acres of grasslands, trees, lakes, and trails. Other facilities that are at or close to 100% electrically powered by solar energy include the city's Head Start and Early Childhood Education buildings, various urban parks, and assorted structures at Bear Creek Lake Park. The city's largest facilities (Civic Center, Public Safety Center, recreation centers, etc.) are not part of the Renewable*Connect program because of their potential for rooftop on-site solar generation.

The city continues to make progress toward its goal of 100% renewable electricity for municipal facilities and operations. This includes additional evaluation of on-site solar generation, as well as future renewable energy subscriptions.

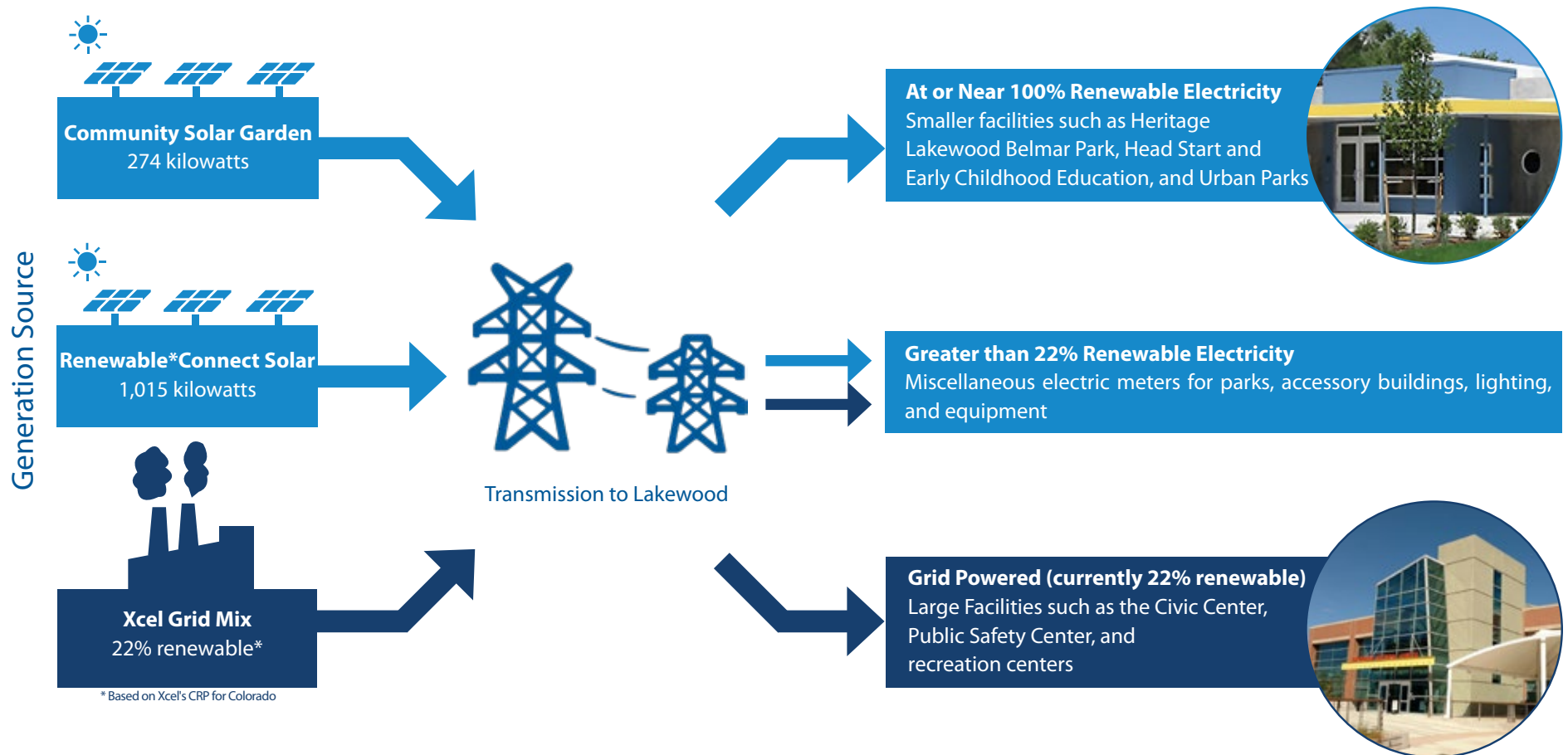
MUNICIPAL FACILITIES AT OR NEAR 100% RENEWABLE ELECTRICITY

-  Head Start & Early Education buildings
-  Heritage Lakewood & Belmar Park
-  Side Pockets at Clements Center
-  Addenbrooke Park
-  Bear Creek Lake Park (select locations)
-  Jefferson Green Park
-  Lakewood Park
-  O'Kane Park
-  Surfside Spray Park
-  Sutherland Shire Park
-  Whitlock Park

Find out more at lakewood.org/renewable!

Municipal Facilities: Powered by Renewable Electricity

The City of Lakewood is actively working to procure electricity from renewable sources to fulfill the electrical energy needs for municipal facilities. Over 39% of all municipal electricity used last year was generated from renewable sources. Learn more about Lakewood's efforts at lakewood.org/renewable.



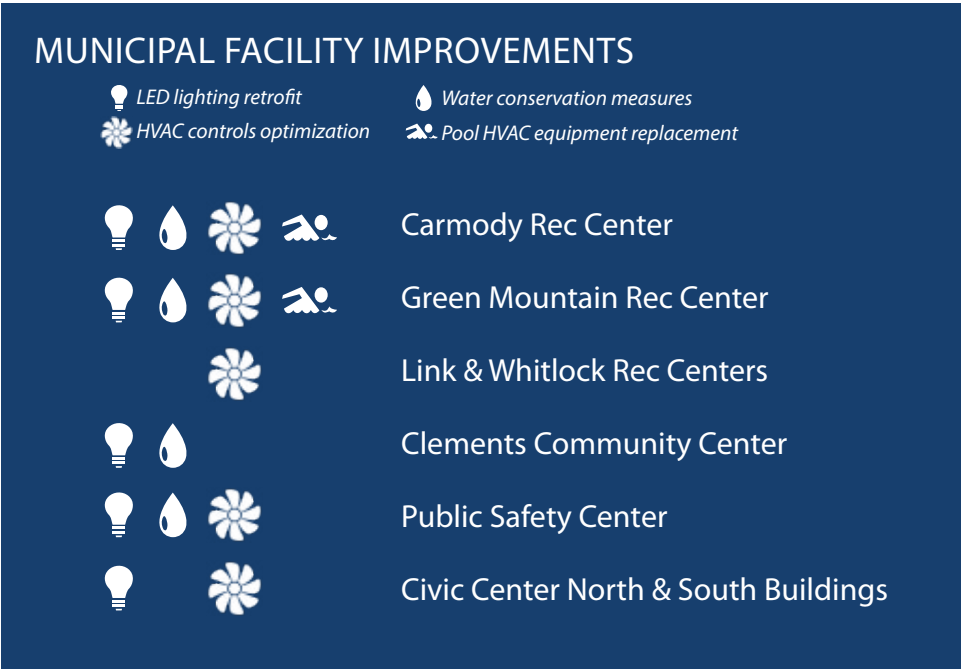
In 2019, Lakewood municipal facilities used over 2 million kilowatt hours of solar energy, which offset over 2 million pounds of CO₂ emissions!

04 MUNICIPAL ENERGY & WATER CONSERVATION

In 2018, the city signed an Energy Performance Contract (EPC) with McKinstry to implement Facility Improvement Measures that were previously identified during a technical energy audit. Construction was completed in 2019 and included HVAC controls optimization, LED lighting retrofits, and water conservation measures at several municipal facilities. The project also included some long overdue improvements to the pools at Carmody and Green Mountain recreation centers. At Carmody Recreation Center, the pool air circulation equipment, originally built in 1972, was replaced with

a high efficiency system, and the pool boilers at both Carmody and Green Mountain recreation centers were similarly operating past their useful life and replaced. The city has also been implementing the powerED program with McKinstry, a behavioral program that identifies low to no cost changes to existing controls and operations at municipal facilities to increase energy and cost savings. The efficiency improvements made through the EPC and powerED programs have resulted in a projected annual greenhouse gas emission reduction of 1.8 million pounds of CO₂ and over \$133,000 in utility cost savings.

Efficiency improvements result in annual GHG emission reduction of 1.8 million pounds of CO₂ and over \$133,000 in utility cost savings.



Energy efficiency improvements at Carmody Recreation Center.

ENERGY, WATER, AND THE BUILT ENVIRONMENT

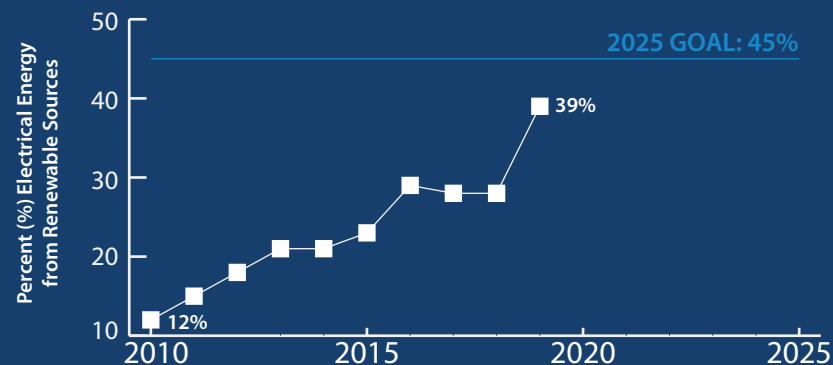
2019–2020 PROGRESS SNAPSHOT

A full list of metrics can be found in Appendix A.

2025 TARGET	BASELINE	MOST CURRENT	CHANGE FROM BASELINE	NOTES	STATUS
Generate 45% of municipal energy from renewable sources	12%	39%	+27 points	Data for these three targets only include electric energy. A full assessment has yet to be completed for energy from heating and transportation fuels. Xcel began reporting a Certified Renewable Percentage for its grid mix in 2019.	●
Generate 45% of residential energy from renewable sources	12%	24%	+12 points		●
Generate 45% of commercial and industrial energy from renewable sources	12%	22%	+10 points		●
Reduce municipal building and facility energy use intensity by 30%	.124 mmbtu/ft ²	0.119 mmbtu/ft ²	-4%	The baseline value was updated in 2020 to reflect more accurate historical data.	●
Reduce citywide building energy use intensity by 20%	2,832,699 MWh	3,093,760 MWh	+9%	Includes both electric and gas energy consumption; data is not normalized for weather	●
Reduce citywide water use by 20%	8,762,212 kgal	8,389,813 kgal	-4%	Adjusted for weather	●
Increase the percentage of certified green buildings each year	6 buildings	25 buildings	+19	Values represent cumulative number of LEED certified and Green Globes projects. Commercial citywide building stock is currently unavailable.	●

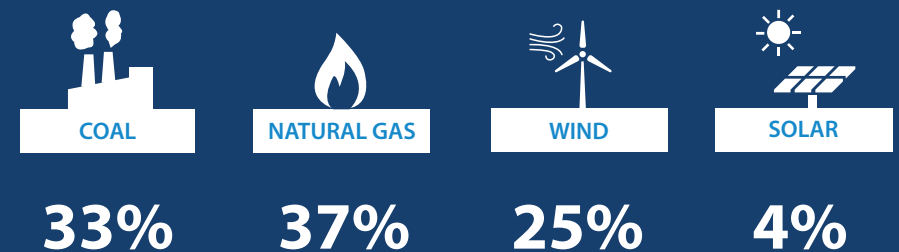
● The target is on track ● The target is not on track ● The target is TBD

MUNICIPAL RENEWABLE ELECTRICAL ENERGY



2019 XCEL ENERGY - ELECTRICAL ENERGY SOURCE MIX

Lakewood Annual Community Energy Report by Xcel



Remaining 1% electrical energy from hydroelectric power.

SUSTAINABLE ECONOMY

SUSTAINABILITY PLAN CHAPTER 3



2015 SUSTAINABILITY PLAN GOALS

Cultivate a sustainable, prosperous and self-reliant local economy.

Foster self-sufficiency and upward mobility of Lakewood households.

TARGETS

- Increase local food assets annually through 2025.
- Achieve participation from 20 local businesses in the first three years of implementing a green business certification program.
- Increase the percentage of households in CDBG qualified neighborhoods spending less than 45 percent of income on housing and transportation costs to 60 percent by 2025.
- Increase the number of households above the Living Wage Standard by 15 percent by 2025.
- Increase the number of housing units within a designated Complete Neighborhood by 25 percent by 2025.

- The target is on track
- The target is not on track
- The target is TBD

2019–2020

HIGHLIGHTED INITIATIVES

01 AWARD-WINNING LOCAL BUSINESSES

Four local businesses were the winners of the 2020 Lakewood Sustainability Awards for their actions to include resource conservation, waste reduction, and community support in their daily operations.

02 LAKEWOOD LOCAL

The City's Economic Development team has created a program to recognize local businesses and get the word out to the community about the importance of shopping local.

03 CITY EMPLOYEES TAKE A SUSTAINABLE FOOD SYSTEMS TOUR

The Employees' Committee for a Sustainable Lakewood visited two local businesses to learn more about sustainable food systems!



04 LIVING WAGE & RACIAL EQUITY

The Living Wage is the hourly rate that allows people to meet a basic standard of living. Examining key economic metrics reveals significant disparities between racial and ethnic groups in Lakewood.

01 AWARD-WINNING LOCAL BUSINESSES

2020 Sustainability Award Winners -- Community Award Category

Lakewood is celebrating its 13th annual Sustainability Awards program with an inspiring set of leaders. The four winners in the Community Award category for the 2020 Sustainability Awards showed us how creativity, passion, and enthusiasm can create sustainable businesses that conserve limited resources, keep waste out of the landfill, spread environmental awareness, and bring neighbors together.

SUSTAINABILITY AWARD WINNERS 2020

Check out all of the 2020 Sustainability Award winners!

Defender of the Planet Youth Award Category:
Lakewood Elementary Styrofoam Stoppers
Dunstan Middle School Planet Patriots
Devinny Elementary Environmental Club

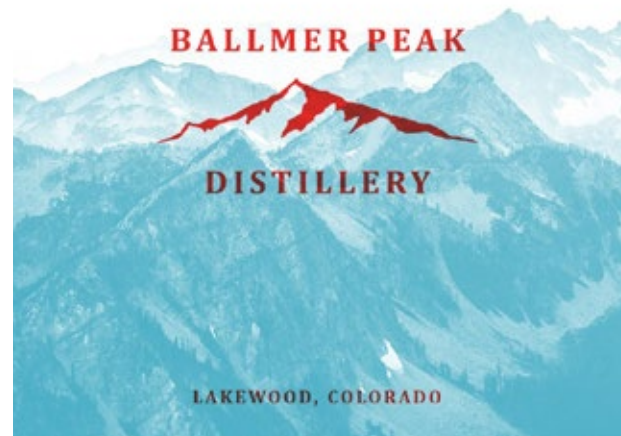
Bruce Peoples Eco-Employee Award:
Lynn Coppedge, former Senior Sustainability Planner

Go to Lakewood.org/SustainabilityAwards to learn more about the program and to see past winners.

BALLMER PEAK DISTILLERY

Water Conservation & Waste Reduction

[Ballmer Peak Distillery](#) is being recognized for conserving more than 400,000 gallons of water and keeping more than 24,000 pounds of waste out of area landfills each year through water conservation and waste reduction efforts. The company's efforts demonstrate how extra research and small investments can result in triple-bottom-line benefits that conserve resources, save money, and support community partnerships.



COMPOST COLORADO

Curbside Compost Collection

[Compost Colorado](#) is making composting mainstream, easy, affordable, and accessible for Lakewood residents, helping them fight climate change while supporting sustainable lifestyles and the local economy. Not only does Compost Colorado collect and compost more than two tons of organic waste each week from its 112 subscribers in Lakewood, but it also provides customers with package-free delivery of locally produced goods from its online store.



RECYCLED MAT-TERS

Upcycling & Job Training

[Recycled Mat-ters](#) is a local business that embraces environmental, fiscal and community sustainability. It has developed an innovative business model that diverts waste from landfills by repurposing used commercial mats to create an end market for the recycled material. The company also provides hands-on training and work experience in the growing recycled product manufacturing market to Lakewood youth. The business diverts approximately 100 mats destined for landfills per week, and refurbishes or recycles them.



EIBER VILLAGE AT GARRISON STATION

Preservation & Efficiency

Everett Court Partners LLC developed [Eiber Village at Garrison Station](#), which provides a beautiful and exciting affordable housing option for seniors seeking a sustainable lifestyle in Lakewood. The outcome of this project was an energy and water efficient development that not only has a local historic landmark designation but also provides a range of positive benefits to the neighborhood and residents with convenient access to multimodal transportation options.

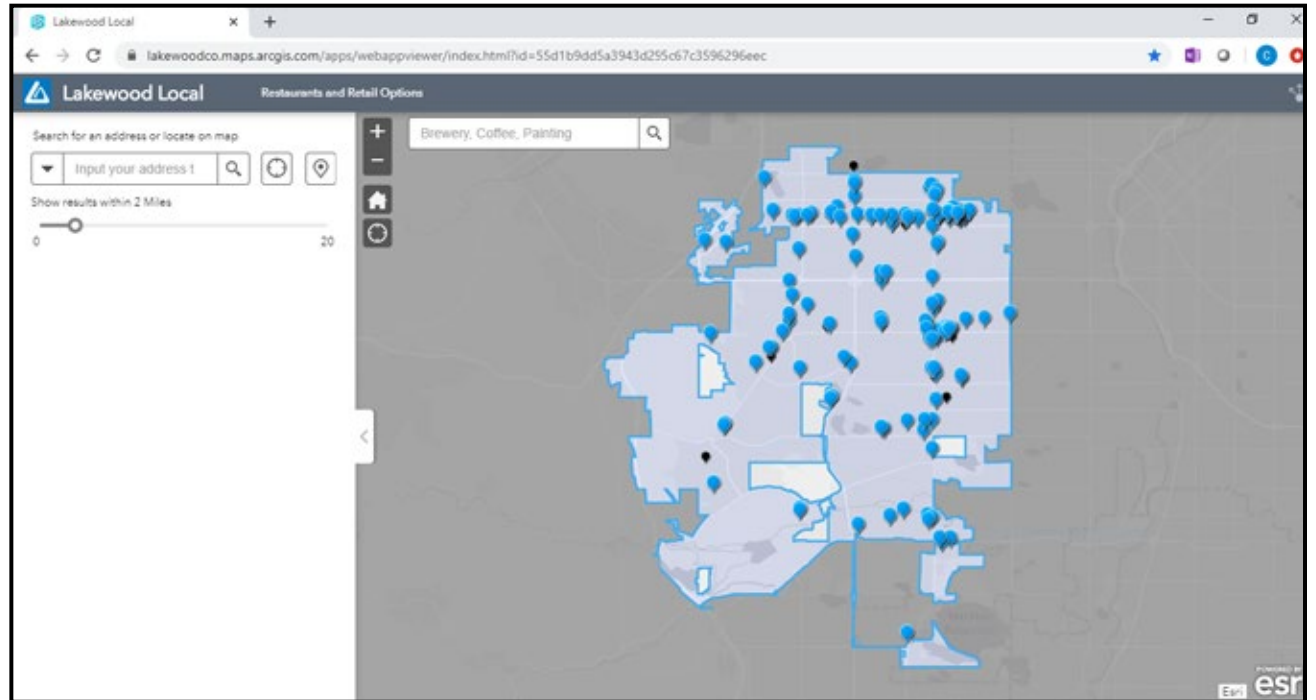


Photo Credit: Hartman Ely Investments

02 LAKEWOOD LOCAL

Information from Katie Faltys, City of Lakewood Economic Development Specialist

Lakewood Local was started in 2020 by the Economic Development team to highlight Lakewood's locally owned and grown businesses and their impact on the community. Lakewood Local aims to showcase all that our Lakewood businesses have to offer and the power behind frequenting the businesses that make Lakewood their home and make Lakewood special. To assist in COVID-19 recovery efforts, an interactive map was launched to help residents search for retailers and restaurants that are open in their area. Residents can help by spreading the word to the community the importance of shopping local, and by shopping at local businesses themselves. Businesses who want to participate can contact [Economic Development](#) to be identified on the online map and receive a Lakewood Local sticker for their window, if desired.



Screenshot of [Lakewood Local Map](#)



GREAT REASONS TO SHOP LOCALLY:

- ✓ **It keeps money in our local economy.** Each dollar spent at an independent business returns an average of three times more money to the local community than \$1 spent at a national chain.
- ✓ **It creates more jobs.** Independent businesses employ more people per dollar of revenue.
- ✓ **It helps fund city services.** Sales tax revenue funds services such as police, street repair, parks and recreation.

03 CITY EMPLOYEES TAKE A SUSTAINABLE FOOD SYSTEMS TOUR

The Employees' Committee for a Sustainable Lakewood (ECSL) is a cross-departmental committee that was founded in 2007 to explore opportunities to advance sustainability in municipal operations and encourage sustainable behavior in the organization and community. Each month, committee members meet to discuss opportunities, host guest speakers, and go on educational tours.

Last fall, employees had the opportunity to visit two local organizations providing local, healthy, and sustainable food to the community. The Co-op at 1st, a community center that provides the surrounding neighborhoods with access to healthy food and wellness activities, gave the committee a tour of its recently opened building. The Co-op has a farmer's market that is run entirely by volunteers, a center for wellness, and a community space with a commercial kitchen that can be rented out for events.

The second stop on the tour was to the Fleischer Family Farm, located in the Sustainable Southern Gables neighborhood. The Fleischer Family Farm has been open for several years now and during the tour employee's learned how an urban farm can bring a community together, what daily operations look like, what kind of produce grows well in our climate, and how to encourage kids to eat their vegetables. Additionally, the owner Paul Fleischer shared the story of how the farm worked closely with the city to ensure that appropriate zoning and building requirements were being met for farm operations. Our committee is so grateful to have the opportunity to learn from these organizations and looks forward to more local sustainability tours in the near future.

Visit Lakewood.org/LocalFood to learn more about local food projects, community gardens, farmers' markets, and more!



Inside Co-op at 1st



Fleischer Family Farm

04 LIVING WAGE & RACIAL EQUITY

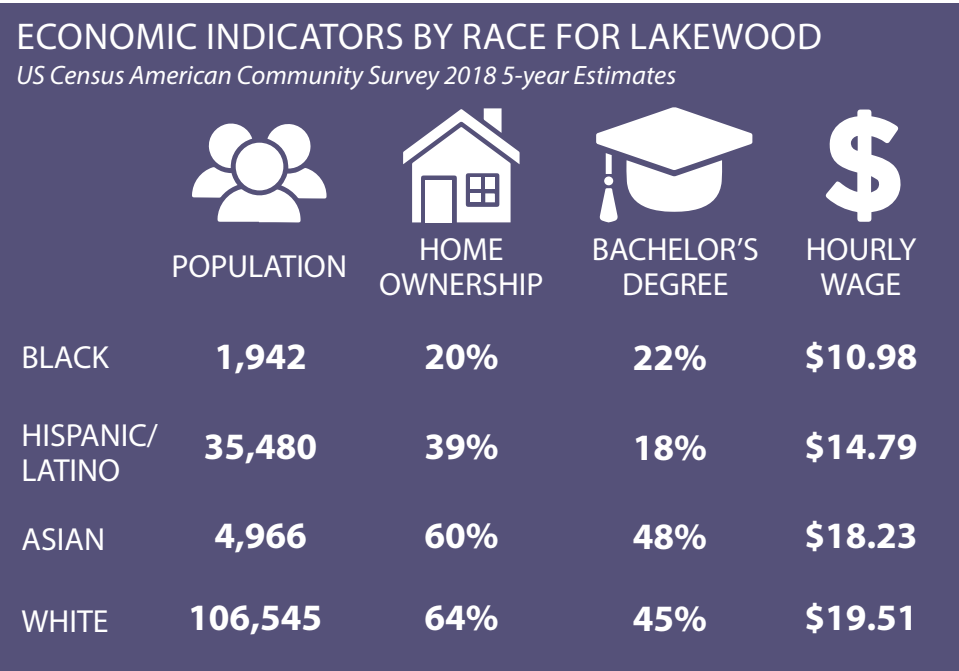
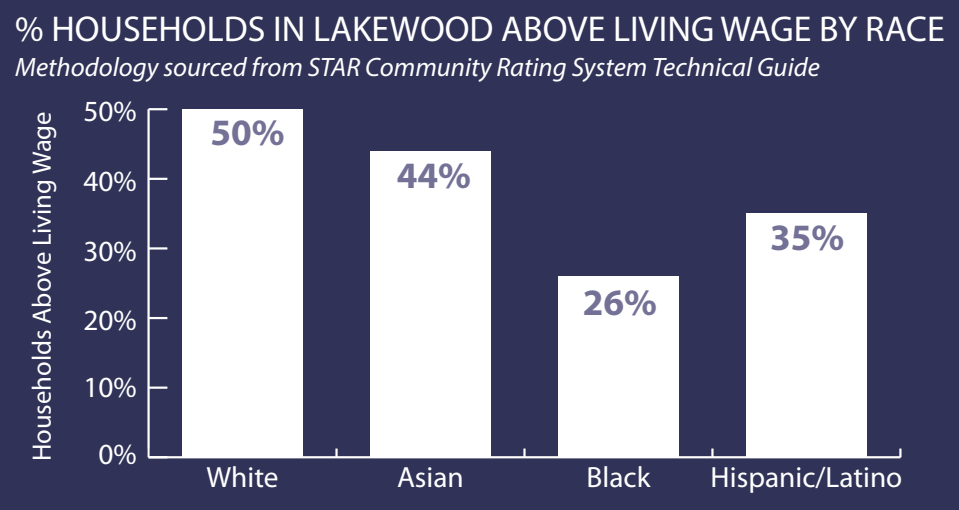
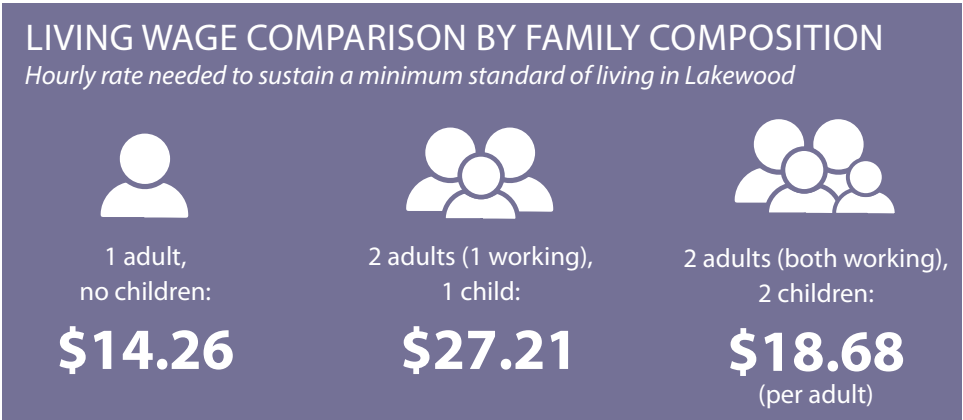
WHAT IS THE LIVING WAGE STANDARD?

Massachusetts Institute of Technology (MIT) developed a living wage calculator to estimate the cost of living in a community or region based on geographically specific typical expenses. This tool is publicly available at www.livingwage.mit.edu.

According to MIT, “the living wage is the minimum income standard that, if met, draws a very fine line between the financial independence of the working poor and the need to seek out public assistance or suffer consistent and severe housing and food insecurity. In light of this fact, the living wage is perhaps better defined as a minimum subsistence wage for persons living in the United States.”

The model includes costs for food, childcare, health insurance, housing, transportation, and basic necessities (e.g. clothing, personal care items, etc.) as part of the minimum standard of living. It does not include common “luxuries,” such as pre-prepared meals or dining at restaurants; entertainment; leisure time for unpaid vacations or holidays; or savings, investments, or the purchase of capital assets (e.g., provisions for retirement or home purchases).

In Lakewood, when adjusted for the average household size, 52% of households do not earn a living wage. This figure is up 5 percentage points from the 2010 baseline. Exploring economic data by race reveals stark discrepancies between groups in various metrics, including wages, educational attainment, and home ownership rates. This demonstrates the impact of systemic racism on members of the Lakewood community.



SUSTAINABLE ECONOMY

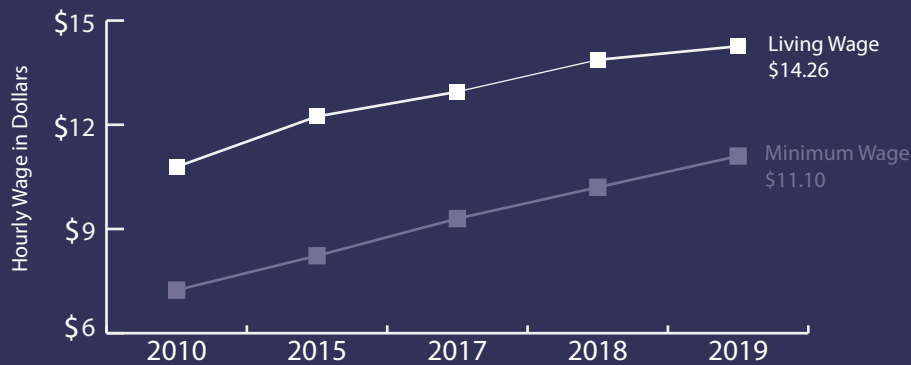
2019–2020 PROGRESS SNAPSHOT

A full list of metrics can be found in Appendix A.

2025 TARGET	BASELINE	MOST CURRENT	CHANGE FROM BASELINE	NOTES	STATUS
Increase local food assets annually	37	58	+57%	Includes community gardens, farms, Community Supported Agriculture sites, and farmers markets.	●
Increase the percentage of households in CDBG qualified neighborhoods spending less than 45% of income on housing and transportation costs to 60%	24,399 households (92%)	N/A	N/A	Due to challenges with data assumptions and lack of consistent methodology, the H + T Affordability Index will no longer be used to track this metric. Alternative data source may be needed.	●
Increase number of households above Living Wage Standard by 15%	32,843 (53% of hh)	31,361 (48% of hh)	-5 points	Methodology sourced from STAR Community Rating System Technical Guide	●

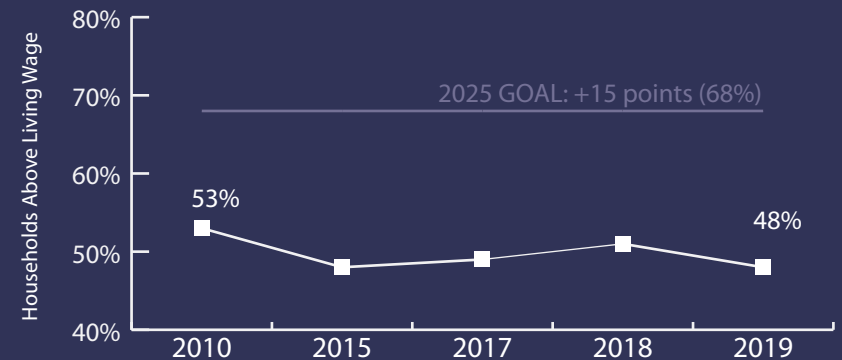
● The target is on track
 ● The target is not on track
 ● The target is TBD

DENVER-AURORA-LAKEWOOD LIVING WAGE VS. COLORADO MINIMUM WAGE



% HOUSEHOLDS IN LAKEWOOD ABOVE LIVING WAGE

Methodology sourced from STAR Community Rating System Technical Guide



ZERO WASTE

SUSTAINABILITY PLAN CHAPTER 4



2015 SUSTAINABILITY PLAN GOALS

Create a culture of zero waste in Lakewood through education, municipal operations, infrastructure and services.

Foster sustainable household waste management.

Foster sustainable commercial waste management.

TARGETS

- Achieve a 60 percent communitywide diversion rate by 2025.
- Achieve an 80 percent diversion rate at the Civic Center by 2025.
- Achieve increased diversion rates for specific municipal facilities.
- Achieve a 90 percent diversion rate at City of Lakewood Earth Day and Cider Days events.
- Achieve 60 percent residential and construction and demolition diversion rates by 2025.
- Achieve a 60-90 percent diversion rate for priority waste streams.

- The target is on track
- The target is not on track
- The target is TBD

2019–2020

HIGHLIGHTED INITIATIVES

01 FESTIVAL ITALIANO ZERO WASTE EFFORTS

The Alameda Corridor Business Improvement District partnered with Zero Waste Services and Belmar to implement more recycling and composting at the annual Festival Italiano.

03 MUNICIPAL ZERO WASTE INITIATIVES

The Employees' Committee for a Sustainable Lakewood (ECSL) held a week full of educational and interactive activities for employees to promote the City's internal zero waste program!

02 COMMUNITY-DRIVEN COMPOSTING

The annual Southern Gables neighborhood leaf collection event has grown and evolved to include volunteers raking yards for seniors in the community and local composting of the leaves at Fleischer Family Farm.

01 FESTIVAL ITALIANO ZERO WASTE EFFORTS

by Tom Quinn, Alameda Connects Executive Director

In 2019 the Alameda Corridor Business Improvement District (ACBID) again partnered with Zero Waste Services and Belmar Starwood Retail Group to improve recycling and composting at Festival Italiano in September. Festival Italiano is Lakewood's largest outdoor event with over 100,000 attendees each year.

ACBID sponsored this effort by paying Zero Waste Services to plan and implement a recycling and composting program for the event. With the help of numerous volunteers the program diverted over 20% of the waste produced at Festival Italiano through recycling and composting of food waste.



City Councillor Barb Franks helping sort trash at a zero waste station.

LESSONS LEARNED FROM ZERO WASTE FESTIVAL ITALIANO

- ✓ **Use identifiable zero-waste containers.** Cover all trash cans not part of zero waste stations to prevent large quantities of recyclable and compostable materials going in the trash.
- ✓ **Have more zero-waste stations than you think you need.** A large number of stations are needed to be successful. Festival Italiano featured 20 waste stations for over 100,000 attendees. Adding additional stations would increase ease and convenience for attendees.
- ✓ **Get vendors on board.** All vendors and shop owners in the event area must agree to participate in recycling and composting. It just takes one using non-compostable or recyclable cups/containers to contaminate the waste stream.
- ✓ **Watch your dumpsters.** Very close monitoring of recycling and compost dumpsters is needed to prevent contamination. Too much trash results in the whole load being rejected. Request dumpsters with covers.
- ✓ **Be prepared to get messy!** To avoid contamination and increase diversion success, consider all options, including sorting all the trash yourself.

WASTE DIVERSION AT 2019 CITY EVENTS

Percent of waste diverted from landfills through recycling or composting.



02 COMMUNITY-DRIVEN COMPOSTING

by Christy Cerrone, Sustainable Southern Gables



In November 2019, the Southern Gables neighborhood held its sixth annual Leaf Collection and Composting Day, where the neighborhood collects leaves to be composted instead of going to the landfill. This event has grown and evolved since its inception. There were two exciting new additions to the event this year. First was that the leaves were deposited to be composted right in our neighborhood at Fleischer Family Farm. We also formed a new partnership this year with the Denver Christian School to rake leaves for seniors so we were able to rake for 30 seniors. Fleischer Family Farm is a new urban farm in our neighborhood that grows food, runs a farm stand in the summer, offers a CSA, teaches classes on beekeeping, chicken-keeping, and more. The farm needed all of the leaves that it could get to help add nutrients to the soil, and our leaf composting day was the perfect way to get literally tons of leaves for them!

The day was a tremendous neighborhood community effort by Southern Gables Neighborhood Association, Sustainable Southern Gables, Westwoods Community Church, Denver Christian School, Green Gables Elementary School, Fleischer Family Farm and our great Southern Gables volunteers. With the success of Southern Gables' annual leaf collection and composting events, other Sustainable Neighborhoods in Lakewood have also started their own, serving as a model for positive impact throughout the community!



Volunteers unloading bagged leaves for composting at Fleischer Family Farm.

The Southern Gables neighborhood composted over 800 bags of leaves. That's approximately 14,800 pounds!

03 MUNICIPAL ZERO WASTE INITIATIVES

by Laura Pemberton, City of Lakewood Business Specialist

Recycling, composting, and landfill. Initially, it may seem that these three destinations for the Civic Center and other city facilities' waste is straightforward, but tricky items can stump even the greatest waste experts. During the week of November 12-15, 2019, the Employees' Committee for a Sustainable Lakewood (ECSL) held Zero Waste Week to educate other employees and promote the municipal zero waste program. The success of the municipal zero waste program relies on a whole system approach where employees are conscious of their upstream, midstream and downstream choices to reduce waste heading to the landfill. This week included different activities featuring the zero waste principals of refuse, reduce, reuse, rot, and recycle. The week began with a Kickoff Challenge where employees were encouraged to submit photos of themselves using reusable food and beverage containers for their work coffee, breakfast, and lunch. Throughout the week volunteers held surprise "pop-ins" and popped

into various staff meetings and departments to catch employees using reusable food and beverage containers. Employees who were utilizing reusable containers were commended for their sustainable practices and entered a drawing for zero waste items. On Thursday of Zero Waste Week, ECSL held a recycling discussion featuring Jasmin Barco of Eco-Cycle and Hanna Chaffer of Alpine Waste & Recycling. Following an interactive recycling sorting game, these recycling experts answered employees' questions regarding Colorado's current recycling market, clarifying recycling myths, and providing strategies for recycling effectively. Volunteers also created educational videos featuring fellow Lakewood staff discussing green procurement, composting, and proper bin placement for various waste items. Zero Waste Week featured fun and interactive educational activities for employees while serving as a refresher and generating awareness of the whole system approach to zero waste.

In 2019, the Civic Center diverted 88,296 pounds of waste through recycling and composting!



Employees' Committee for a Sustainable Lakewood members show their reusable drinkware and zero-waste lunches during Zero Waste Week.

ZERO WASTE

2019–2020 PROGRESS SNAPSHOT

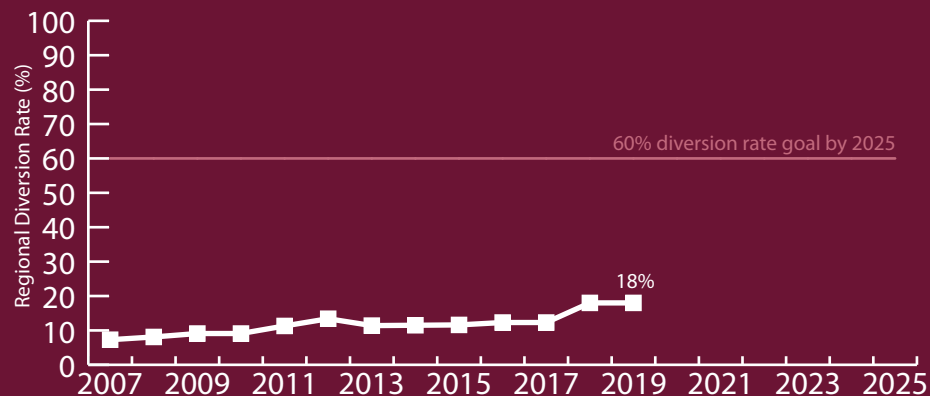
A full list of metrics can be found in Appendix A.

2025 TARGET	BASELINE	MOST CURRENT	CHANGE FROM BASELINE	NOTES	STATUS
Achieve a 60% communitywide diversion rate	9%	18%	+9 points	Baseline based on statewide total; current year based on Front Range region total. Metric includes commercial and residential waste. Residential waste alone is estimated at a 10% diversion rate.	●
Achieve an 80% diversion rate at the Civic Center	68,433 lbs	88,296 lbs	+29%	The city is currently working with its trash hauler to obtain accurate data for trash generated. Metrics include pounds recycled and composted.	●
Achieve increased diversion rates for specific municipal facilities	11th Ave - 6,192 lbs Patterson - 7,392 lbs Daniels - 5,285 lbs Lasley - 2,460 lbs	11th Ave - 14,244 lbs Patterson - 12,605 lbs Daniels - 12,367 lbs Lasley - 10,644 lbs	11th Ave: +130% Patterson: +71% Daniels: +134% Lasley: +333%	Head Start classrooms were selected due to their recent zero waste program launch and youth impact. Metrics include pounds recycled and composted.	●
Achieve a 90% diversion rate at City of Lakewood Earth Day and Cider Days events	Cider Days: 87% Earth Day: 80%	Cider Days: 82% Earth Day: N/A	Cider Days: -5 points Earth Day: N/A	Cider Days 2019 decreased due to higher than anticipated amounts of recyclable and compostable waste, leading to recycling/composting rollofs to be filled too soon and staff unable to sort 630 extra pounds of generated waste. The in-person Earth Day 2020 was canceled due to COVID-19 and converted to a virtual event, thus no waste material was created nor diverted.	●

● The target is on track ● The target is not on track ● The target is TBD

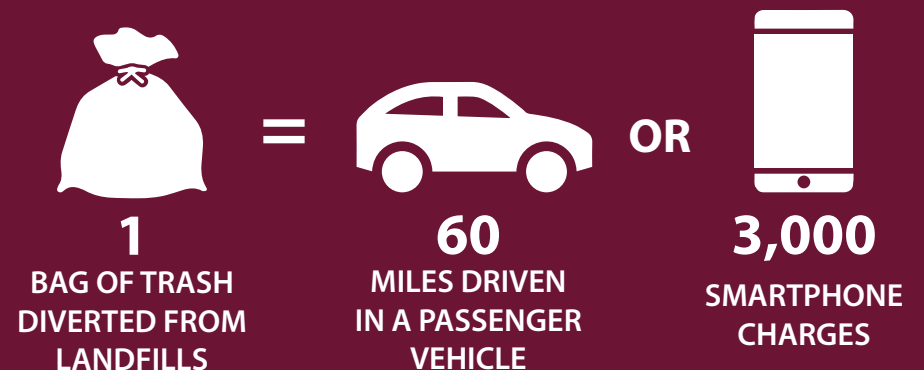
PROGRESS TOWARDS COMMUNITY-WIDE ZERO WASTE

Colorado Department of Public Health and the Environment



WHAT IS THE IMPACT OF LANDFILL DIVERSION?

GHG emissions avoided by recycling one bag of trash is equivalent to:



COMMUNITY COHESION AND PUBLIC HEALTH

SUSTAINABILITY PLAN CHAPTER 5



Photo Credit: Anna Hanel, Weir Gulch Gardens resident

2015 SUSTAINABILITY PLAN GOALS

Strengthen community cohesion, increase civic participation and celebrate diversity.

Promote physical well-being through healthy eating and active living.

Promote social equity and provide strong supportive services.

TARGETS

- Increase the percentage of residents reporting “good” or “very good” satisfaction ratings for Lakewood’s efforts at welcoming citizen involvement as reported in the City of Lakewood Citizen Survey to 60 percent by 2025.
- Increase resident subscriptions to city communication tools each year through 2025.
- Certify 12 neighborhoods as “Outstanding Sustainable Neighborhoods” in the Sustainable Neighborhoods Program by 2025.
- Increase recreation program participation each year through 2025.
- Eliminate USDA-defined food deserts in Lakewood.
- Achieve community affordable housing targets.
- Increase the percentage of residents reporting “good” or “very good” satisfaction ratings for Lakewood programs for people with special needs, older adults, low-income persons and homeless people to above Front Range benchmarks.

- The target is on track
- The target is not on track
- The target is TBD

2019–2020

HIGHLIGHTED INITIATIVES

01 LAKEWOOD'S SUSTAINABLE NEIGHBORHOODS

The Sustainable Neighborhoods Program expanded to two new neighborhoods in 2020. During the COVID-19 crisis, neighbors have found new ways to continue their sustainability efforts.

03 ENGAGING KIDS IN SUSTAINABILITY

The Sustainability Division believes that Lakewood’s youth are one of the keys to making a difference in the community, and provides educational opportunities to engage them in the city's work.



02 COMMUNITY PARTNERSHIPS & DOING GOOD

Green Mountain Elementary School and Sustainable Green Mountain Neighbors partnered to recycle and donate unneeded materials.



04 VIRTUAL EARTH DAY CELEBRATION 2020

Despite the in-person event being canceled due to COVID-19, Lakewood staff and community partners came together to broadcast a two-hour live virtual celebration for the 50th anniversary of Earth Day!

01 LAKEWOOD'S SUSTAINABLE NEIGHBORHOODS

EXPANDING LAKEWOOD'S SUSTAINABLE NEIGHBORHOODS PROGRAM

The Sustainable Neighborhoods Program welcomed two new Lakewood neighborhoods into the program in 2020. This directly supports the Sustainability Plan target to certify 12 "Outstanding Sustainable Neighborhoods" by 2025.

Applications for new neighborhoods closed in March. An evaluation committee made up of representatives from various city departments reviewed the applications using the program's evaluation criteria, which include an assessment of the potential impact of proposed projects, the potential for increasing community cohesion and engagement through the program, level of neighborhood support, and proposed strategies to advance equity and inclusivity in the neighborhood. Based on the evaluation process, the Weir Gulch Gardens and O'Kane Park neighborhoods were selected to join the Sustainable Neighborhoods Program.

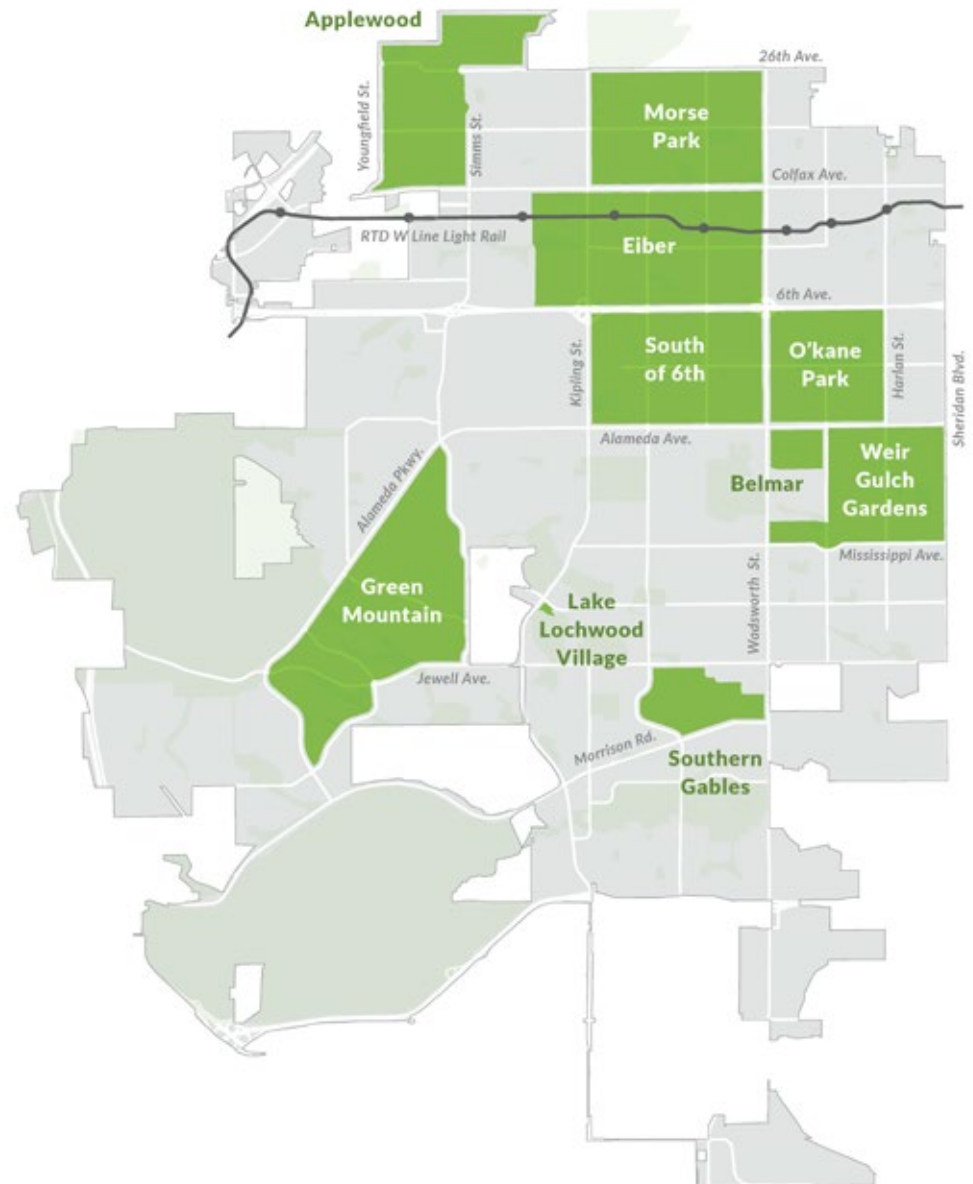
Both neighborhoods are excited to get started working on implementing new and exciting sustainability initiatives for their residents. Naturally, in a time that requires social and physical distancing, it has been challenging to plan the usual kickoff gatherings and meetings. Neighborhood leaders are exploring new, creative ways to engage their neighbors. The leaders plan to send out newsletters and surveys, and find other unique ways to get the word out about their acceptance to the Sustainable Neighborhoods program.

WELCOME TO THE TWO NEWEST SUSTAINABLE NEIGHBORHOODS!

Learn more at SustainableNeighborhoodNetwork.org/Lakewood



2020 LAKEWOOD'S SUSTAINABLE NEIGHBORHOODS MAP



THE VALUE OF RESILIENCY AND COMMUNITY DURING THIS EXTRAORDINARY TIME

During this time of uncertainty and isolation across the world, the importance of knowing your neighbors is invaluable. Volunteers in the Sustainable Neighborhoods Program have been finding innovative ways to keep the momentum and discussion around sustainability going while also emphasizing the importance of building deeper connections and support systems in their neighborhoods. During the COVID-19 crisis, neighbors have hosted virtual workshops and happy hours, exchanged seeds while practicing responsible social distancing, organized neighborhood cleanups, connected with and provided for neighbors in need, shared resources on topics such as gardening tips, kid activities during self-isolation, and much more. We are reminded during challenging times about the importance of creating resilient communities, and the Sustainable Neighborhoods Program is one tool that has proven its ability to help achieve this.

The COVID-19 crisis has served as a reminder of what makes neighborhoods resilient. Lakewood's Sustainable Neighborhoods are resilient because they are connected, engaged, and innovative.

LAKEWOOD'S SUSTAINABLE NEIGHBORHOODS ARE RESILIENT BECAUSE THEY ARE:



CONNECTED

1,839

followers on
neighborhood social
media pages

15,500

neighborhood mailings
sent annually

1,500

neighbors connected
on email lists

12

schools involved in
neighborhood projects
in 2019



ENGAGED

27,345

residents engaged since
2012

102

community projects
implemented since
program inception

900

hours volunteered by
neighbors in 2019



INNOVATIVE & ADAPTIVE

Yard signs

to promote programs
and projects

Reinvigoration

events to encourage
participation

Connected

with local,
mission-aligned
businesses

Virtual

events and workshops

02 BUILDING COMMUNITY PARTNERSHIPS AND DOING GOOD

by Mary Gilkison, Sustainable Green Mountain



Sign to clarify recyclables for teachers cleaning out their classrooms



Unneeded chairs ready to be donated to community organizations

In a great community effort, Green Mountain Elementary School (GMES) and Sustainable Green Mountain (SGM) neighbors partnered to divert waste while benefiting their community.

In preparation for the 2019 summer purge prior to carpet replacement at the school, SGM volunteers met with GMES teachers and staff to discuss options for recycling and reuse of items. SGM supplied information on items that could be donated to local charities such as ARC and Salvation Army. To assist teachers during classroom cleanout, posters were made clarifying which items could be placed in the recycling bin.

During the summer purge, GMES ended up with books, moving boxes, and used student desks and chairs that teachers didn't need anymore. Instead of just tossing items in the trash and recycling bins, the school contacted SGM to find ways these items could be reused. Ten boxes of children's books were donated to neighborhood Little Free Libraries and the Jefferson County library system. Over 100 student desks were distributed to a local elementary school, and over 100 student chairs were distributed to a neighborhood learning center. Hundreds of moving boxes were donated to people in the community who needed them for moving, making stage sets for children's plays, and gardening. This was a successful community effort to give new life to items and help neighbors.



Book donations to Little Free Libraries

03 CONTINUING TO ENGAGE LAKEWOOD'S KIDS IN SUSTAINABILITY

Lakewood's Sustainability Division has initiated a number of ways to engage Lakewood's youth with sustainability issues. Staff met with after-school clubs at Devinny Elementary School, South Lakewood Elementary School, and Dunstan Middle School to hear about the work they are doing, learn how we can support them, and share some ways they can get involved in city sustainability work. Field trip groups from South Lakewood Elementary and Lasley Elementary enjoyed sustainability scavenger hunts around Belmar Park and the Lakewood Civic Center. Students searched for recycling and composting bins, learned about conservation efforts at Kountze Lake, and identified pollinators.

Due to the COVID-19 restrictions, we weren't able to implement some of our favorite youth activities at the annual Earth Day Celebration. However, we moved the Earth Day Celebration online, and we found a number of presenters for our Virtual Earth Day Celebration who focused on creating content kids would love. In particular, the kids were drawn to the native bird demonstration from Nature's Educators, the recycled craft project led by the Lakewood Cultural Center, the song "Reduce, Reuse, Recycle" sung to the tune of "Itsy Bitsy Spider" and the "Love Notes to the Earth" that were shared during the broadcast.

We believe that Lakewood youth are a key to making a difference in our community now and in the future, and we are always open to new ideas for involving them in our work.



Sustainability Planner Alyssa Vogan speaks to Devinny Elementary School's environmental club.

MORE RESOURCES FOR KIDS

- ✓ Read the Sustainability Plan for Kids written by students at Dunstan Middle School at Lakewood.org/KidsPlan.
- ✓ Check out the 2020 Defender of the Planet youth sustainability award winners (and all of the past years' winners!) at Lakewood.org/SustainabilityAwards.
- ✓ Watch the great kid's activities on Lakewood's Annual Earth Day Celebration that are both fun and educational. The 2020 virtual event is available at Lakewood.org/EarthDay!
- ✓ Find out if your school has an eco or environmental club you can join! Or, if they don't, start one!

04 VIRTUAL EARTH DAY CELEBRATION 2020

Lakewood's Earth Day Committee is made up of staff from across all city departments. This group worked hard for months planning the best Earth Day Celebration yet for the 50th anniversary of Earth Day. Events that were expected to be highlights for guests young and old were a solar powered bubble tower, a Parade of Species led by Alameda High School's Marching Band, interactive education from Sustainable Neighborhood volunteers, over 50 vendors working on sustainability and environmental stewardship, live music from four local bands, a beer garden hosted by Jovial Concepts, local food trucks, and much more.

Due to COVID-19, the event had to be canceled; however, thanks to the quick thinking of the committee, the Earth Day Celebration was moved online! Staff and volunteers quickly and nimbly created a schedule of two hours of 3-5 minute presentations, songs, lessons, and more — covering a wide range of sustainability topics from composting and recycling, to bike helmet fitting and kids crafts, to enjoying nature and protecting wild birds of prey. Additionally, the Action Center, one of the Lakewood organizations on the frontline of COVID-19 response efforts, was able to share more about its mission and how it supports the community in challenging times and every day.

Residents watched the celebration on Facebook live, Lakewood Channel 8 online, or Comcast Channel 8. The broadcast can be viewed again at [Lakewood.org/EarthDay](https://www.lakewood.org/EarthDay). We hope to celebrate Earth Day in-person next year, but we found that the Virtual Earth Day Celebration was a great way to reach residents around Lakewood and beyond.

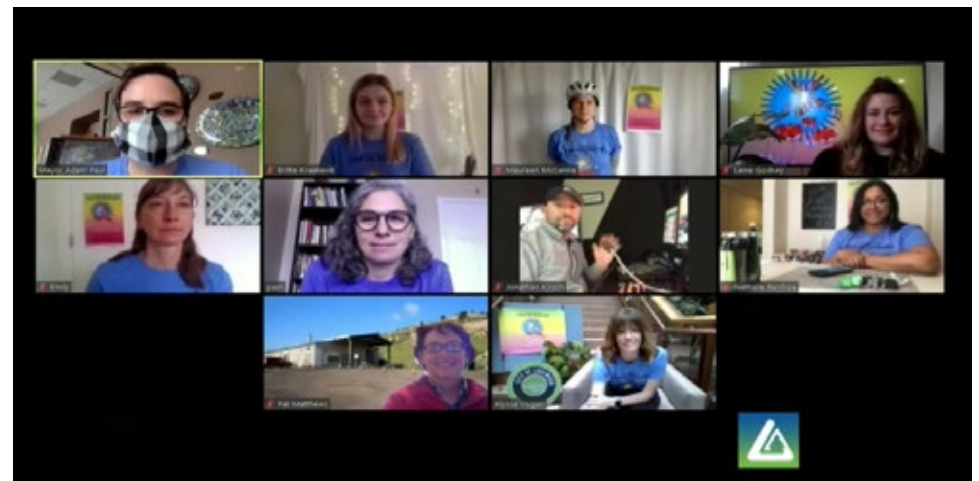


Poster designed by Martin Phillips



Love note to the Earth posted on Instagram

Over 2,463 community members tuned in live or watched the recording!



Mayor Paul, Lakewood city staff, and musical and educational partners say goodbye at the end of the broadcast! Thanks to everyone who made our virtual Earth Day Celebration such a success!

COMMUNITY COHESION AND PUBLIC HEALTH

2019–2020 PROGRESS SNAPSHOT

A full list of metrics can be found in Appendix A.

2025 TARGET	BASELINE	MOST CURRENT	CHANGE FROM BASELINE	NOTES	STATUS
Increase the percentage of residents reporting “good” or “very good” satisfaction ratings for Lakewood’s efforts in welcoming citizen involvement as reported in the City of Lakewood Citizen Survey to 60%.	57%	39%	-18 points	Data from 2018 City of Lakewood Citizen Survey; surveys are conducted every few years.	●
Increase resident subscriptions to the city communication tools each year.	31,251	84,142	+169%	Residents may subscribe to more than one newsletter and thus be double counted; some subscribers may not be Lakewood residents.	●
Certify 12 neighborhoods as Outstanding Sustainable Neighborhoods in the Sustainability Neighborhoods Program.	2	8	+6	The program began in 2012; the baseline reflects the program’s first full year.	● *
Increase recreation program participation each year.	352,000	488,215	+38%	Includes participation at city recreation centers, pools, and as of 2017, the Clements Center.	●
Eliminate USDA-defined food deserts in Lakewood.	6	3	-50%		●
Increase the percentage of residents reporting “good” or “very good” satisfaction ratings for Lakewood programs for people with special needs, older adults, low-income persons and homeless people to above Front Range benchmarks	Older Adults: 60% Special Needs: N/A Low-Income: N/A Homeless: N/A	Older Adults: 59% Special Needs: 42% Low-Income: 41% Homeless: 31%	N/A	2018 City of Lakewood Citizen Survey; in 2010, only the older adults category was benchmarked; in 2018, benchmark comparisons were not available in any category.	●

● The target is on track

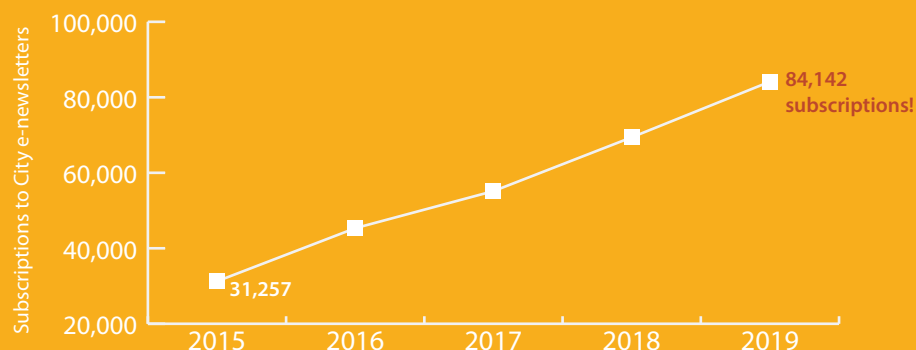
● The target is not on track

● The target is TBD

* Additional resources will be necessary to continue program expansion

CITY COMMUNICATION

City newsletter subscriptions continue to rise!



2019/2020 SUSTAINABLE NEIGHBORHOODS PROGRAM PARTICIPATION

6,599 RESIDENTS ENGAGED IN:



26
EVENTS



24
WORKSHOPS



33
CLUB MEETINGS

Note: several scheduled opportunities in spring 2020 were canceled due to COVID-19.

NATURAL SYSTEMS

SUSTAINABILITY PLAN CHAPTER 6



2015 SUSTAINABILITY PLAN GOALS

Mitigate the negative effects of the built environment and human behavior on Lakewood's natural systems to ensure biodiversity and enhance ecosystem services.

Enhance Lakewood's resilience to the impacts of climate change using green infrastructure and ecosystem-based adaptation.

TARGETS

- Increase the acreage of functional and healthy natural ecosystems.
- Ensure that all waters within Lakewood meet or exceed the Colorado Department of Public Health and Environment's Water Quality Standards for the uses assigned.
- Achieve tree canopy coverage of 30 percent by 2025.

- The target is on track
- The target is not on track
- The target is TBD

2019–2020

HIGHLIGHTED INITIATIVES

01 ECOSYSTEM-BASED ADAPTATION

To help mitigate the impact of climate change on our local ecosystems, Lakewood Parks Division has turned to a unique approach to land management that works with existing natural systems to create a more resilient environment for all species.

02 PESTICIDE REDUCTION IN PARKS

Lakewood's Parks Division has strived to reduce use of traditional pesticide products to prevent disturbing pollinator habitat. There are now four parks in Lakewood that are entirely pesticide-free!

01 ECOSYSTEM-BASED ADAPTATION

by Drew Sprafke, City of Lakewood Regional Parks Supervisor

Ecosystem-based Adaptation (EbA) is a term describing a unique approach to reducing vulnerabilities to the impacts of climate change through overall better management of ecosystems and the services they provide. Conservation International defines EbA as “the use of nature — conservation, restoration, and sustainable management of ecosystems and biodiversity — to address climate impacts on people and livelihoods.” This can include a wide variety of approaches to management of natural resources, wildlife, agriculture, and other green infrastructure. The City of Lakewood utilizes multiple management principles and techniques in our open space parks and natural areas that fit nicely within the overall umbrella of EbA, help make our community more resilient, and recognize that the overall health of ecosystems is vital to human health, well-being, and livelihoods. Several of the more significant management steps used in Lakewood Parks include restoration, weed control, water quality management, and wildlife habitat management.

Per the Natural Areas Plan, park staff focus significant efforts each year on restoring and improving native plant communities. Most of the open space areas in Lakewood have previously been heavily impacted by agriculture, mining, and various developments. These disturbances have resulted in many areas of low plant biodiversity and significant impacts from invasive weed species. These weeds, many of which are legally classified by the state of Colorado as Noxious Weeds, were introduced from other countries, have no natural predators, outcompete native plants, and generally provide poor wildlife forage. Staff focus their efforts on reducing populations of these aggressive noxious weeds through a balanced approach

referred to as Integrated Pest Management (IPM). As part of IPM, staff work diligently to restore infested and disturbed areas with native plants through seeding, erosion control methods, and tree and shrub planting. At the same time, staff focus on areas of low plant biodiversity, implementing seeding of native species to improve the overall habitat quality.

Many of these restoration projects focus on two types of ecosystems that are critical to large numbers of plant, wildlife, and insect species, and to water quality: riparian zones and wetlands. Riparian areas are those ecosystems dominated by a waterway, usually a creek, stream, or river. Efforts are focused on increasing wetland and riparian plant diversity through removal of highly aggressive noxious weed species such as Russian olives and purple loosestrife, and through plantings of native shrubs, trees, riparian grasses, and wetland specific plants such as rushes. At the same time, staff work to improve the integrity of creek banks to prevent sediment



Bear Creek Greenbelt Park is a 379-acre preserve that parallels Bear Creek and contains wetlands, fishing ponds, and riparian forests. The natural stream corridor provides a continuous trail connection and wildlife corridor from Wadsworth Boulevard west to Bear Creek Lake Park.

Ecosystem-Based Adaptation management principles can be a key part of creating communities that are significantly more resilient to the potential impacts of climate change and disasters.

erosion, which can drastically reduce water quality. Additional efforts are made to improve surface water quality of creeks, ponds, and reservoirs. Lakewood works actively with the Bear Creek Watershed Association to closely monitor water quality issues including nutrient loading from runoff and water treatment upstream, and to improve overall quality through management practices. These include a substantial aeration system in Bear Creek Reservoir, large restoration projects to reduce erosion and restore vegetation that can filter nutrients, and monitoring overall aquatic health through species inventories. Maintaining and restoring these water-based ecosystems can be very significant to community resiliency in times of drought or flood by protecting water sources, reducing and filtering pollutants, and providing vegetative “armoring.”

One of the main goals of Lakewood’s Natural Areas Plan is to protect and restore wildlife habitat in the open space areas in order to maintain species diversity. Two examples highlight Lakewood’s efforts in this area. One is our Wildlife Monitoring program. This program, overseen by the park rangers and natural resource staff, has trained volunteers monitoring wildlife cameras, bat boxes, blue bird boxes, and raptor nests throughout the open space areas. The volunteers monitor species observed, movement patterns, nesting success, and other data, which allow park staff to implement informed management decisions related to habitat improvements and other park projects. A second example is the Beaver Management Plan. Beavers are vitally important wildlife species and are considered a keystone species, meaning they provide valuable habitat for other wildlife species. At the same time, many people consider them to be a nuisance species as they damage trees, flood areas, and slow water flow. The Lakewood management plan

balances the need to protect certain areas from beaver dams, particularly trails and private property, while maintaining active beaver habitat areas. Staff continually monitor populations, map dams, protect trees with wire wrapping or a paint/sand mixture, and implement other management techniques in order to protect resources and maintain beaver populations. Allowing beaver dams to remain intact creates habitat for other species of mammals, fish, reptiles, amphibians, and insects; creates amazing wildlife viewing opportunities; and creates a much more resilient system through water filtration, slowing flood waters, and allowing sediment to settle.



This interesting device, known as a “Beaver Deceiver,” is installed in the Bear Creek Greenbelt. It allows staff to better manage the beaver pond water level without triggering beavers to remove more trees to patch the dam.

02 PESTICIDE REDUCTIONS IN PARKS

by Jim Haselgren, City of Lakewood Parks Manager

The City of Lakewood Parks Division is committed to providing the best outdoor recreational opportunities to all visitors and user groups across the system. With 110 park sites totaling nearly 7,400 acres, it is a daunting task to complete the maintenance and improvement needs efficiently, economically, and responsibly in all the areas for which we are responsible. We have taken many steps to make the best effort toward helping the city achieve our sustainability goals:

- We have eliminated the application of glyphosate products, commonly known as Roundup. We researched and utilized alternative methods including mechanical weed removal and the use of horticultural vinegar with limited success. We have saved money on chemicals, but labor and time has increased in our system from needing to return several times for multiple applications of nonherbicide products.
- The Parks Division is very aware and cognizant of pollinator pathways as we have reduced our neonicotinoid herbicide applications greatly and have created pollinator pathway demonstration gardens and educational programs at Bear Creek Lake Park.
- We have reduced and eliminated in some areas the spraying of milkweed, an important food source for migrating Monarch butterflies.
- In our greenhouse operations, staff have worked to create an Integrated Pest Management (IPM) program utilizing beneficial insects to control pests instead of herbicides.
- We continue our Pesticide Free Park program, identifying four parks throughout the system where we do not apply herbicides at all, using alternative methods for weed control instead.
- Across the city, we have moved away from heavy water-requiring annual beds and planted more water-wise perennial plants in parks and median applications.



Rampart Park is one of four Lakewood parks that are part of the Pesticide Free Park program. The others are Taft, Lakewood Estates, and Kent Knutson Parks.

NATURAL SYSTEMS

2019–2020 PROGRESS SNAPSHOT

A full list of metrics can be found in Appendix A.

2025 TARGET	BASELINE	MOST CURRENT	CHANGE FROM BASELINE	NOTES	STATUS
Ensure that all waters within Lakewood meet or exceed the CDPHE's Water Quality Standards for the uses assigned	1 body of water impaired	1 body of water impaired	0%	Bear Creek Reservoir is regularly monitored for phosphorus (P) and chlorophyll a (Chl-a) levels that might exceed the existing TMDL requirements. All designated reservoir uses are currently being met. The known nutrient impairment will continue to be managed by Lakewood staff and the Bear Creek Water Association.	●
Achieve 30% tree canopy coverage	7.8%	14%	+6.2 points	Data source changed from iTree Landscape tool to DRCOG LULC 2018 pilot project due to data in iTree not being updated since 2011.	●

● The target is on track

● The target is not on track

● The target is TBD

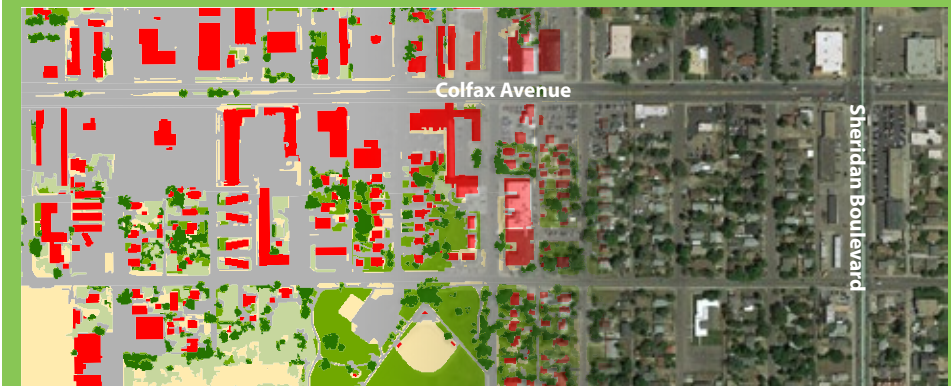
PARKS BEST PRACTICES

Lakewood's Sustainability and Parks Divisions

- ✓ Created pollinator pathway gardens and educational programs
- ✓ Implemented an Integrated Pest Management program to sustainably control pests
- ✓ Increased water efficiency by using water-wise plantings in medians and parks
- ✓ Established four Pesticide-Free parks
- ✓ Eliminated the use of all glyphosphate products (e.g. Roundup)

TREE CANOPY COVERAGE

New data from DRCOG allows us to visualize tree canopy coverage and identify gaps



TRANSPORTATION

SUSTAINABILITY PLAN CHAPTER 7



2015 SUSTAINABILITY PLAN GOALS

Develop, maintain, and operate sustainable transportation systems and infrastructure.

Foster sustainable transportation choices in Lakewood.

TARGETS

- Convert all streetlights to LED or other high efficiency lighting technologies by 2025.
- Reduce Lakewood's daily per capita vehicle-miles-traveled by 10 percent by 2025.
- Reduce the percent of trips to work by single-occupancy vehicles from 75 percent to 65 percent by 2025.
- Reduce petroleum-based fuel consumption of the city fleet by 2025.

- The target is on track
- The target is not on track
- The target is TBD

2019–2020

HIGHLIGHTED INITIATIVES

01 BICYCLING UPDATES

Hear from the city's Transportation Engineering Division and the Lakewood Bicycle Advisory Team about efforts to improve Lakewood's bicycle and pedestrian network.



02 FLEET ANTI-IDLING EFFORTS

The Lakewood fleet has implemented new policies to minimize the amount of time fleet vehicles spend idling for wide-ranging benefits. Now that's efficient!

03 RECYCLED ASPHALT PAVING

Streets in Lakewood are paved with a mix including 25% recycled asphalt, which is cheaper and reduces the need to mine new aggregate, making it a more environmentally friendly choice!

01 BICYCLING UPDATES

FROM THE CITY

By Christina Lane, City of Lakewood Alternative Transportation Coordinator

The city's Transportation Engineering Division was awarded several grants this year, each requiring matching city resources, to improve Lakewood's bicycle and pedestrian network:

- A Community Mobility Planning and Implementation (CMPI) grant will fund the construction of a shared use path on the north side of West Alameda Avenue from Kipling Street to Garrison Street, filling a network gap that will allow for improved access to Belmar and the Union corridor.
- A Transportation Alternatives Program (TAP) grant will fund the construction of a shared use path on the east side of Wadsworth Boulevard from Woodard Drive to Vassar Avenue, creating a much-needed facility for people accessing bus stops and navigating the steep grade. It will also provide improved access to future Lakewood open space located east of Wadsworth Boulevard
- The Active People Active Places grant awarded in 2018 was utilized to install Lakewood's first bike boxes at the intersection of South Garrison Street and West Alameda Avenue. This new treatment creates a safer environment for both bicyclists and motorists alike when navigating the intersection. For more information, enjoy an educational video available on the city's [bicycling webpage](#).

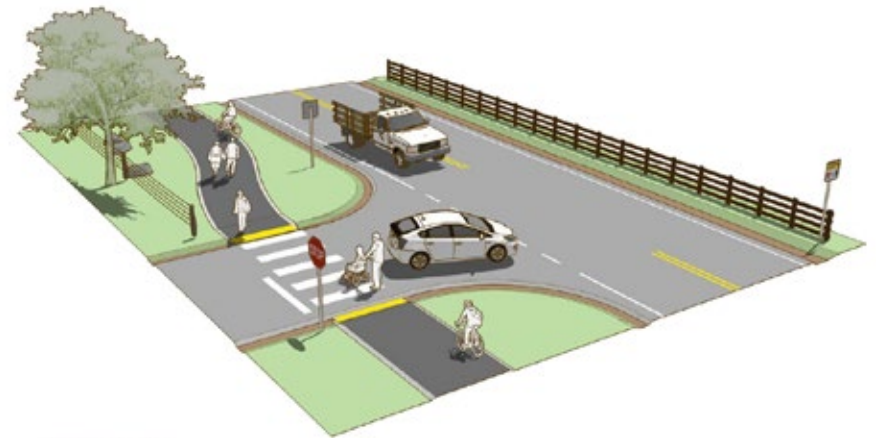
Several on-street bike lanes were also installed during the 2019 overlay season, creating greater bicycle-connectivity throughout the community. Jewell Avenue, West 10th Avenue and Florida Avenue all received bike lanes, and bike lanes were extended through the Kipling Street intersection at West 26th Avenue to reduce the number of bicycle-motorist conflicts.

ADDITIONAL RESOURCES FOR BICYCLING IN LAKEWOOD:

- ✓ [Lakewood 2018 Bicycle System Master Plan](#)
- ✓ [Jefferson County Regional Bicycle Route Map](#)
- ✓ [Bicycle Colorado \(nonprofit organization\)](#)



Bike box installed at Garrison Street and Alameda Avenue.



Source: Facility Types

Shared use paths are off-street facilities generally located along high-traffic routes that are used for walking, biking, and other non-motorized activities.

FROM THE COMMUNITY

By Gary Harty, Founder of the Lakewood Bicycle Advisory Team (LBAT)

Our goal has always been to reduce Vehicle Miles Traveled (VMT) by making transportation by bicycle an attractive, efficient, and safe mode of travel. Every car trip replaced with a bicycle trip benefits the planet, the community, and our bodies because it reduces emissions that are put into the air. Missing infrastructure and close proximity to high speed vehicles makes this a challenge. Toward that end, members of LBAT have been working on identifying a low-stress network of streets that can get us from point A to point B with a minimal amount of exposure to motor vehicles. A low-stress street can best be defined as being appropriate for anyone, regardless of ability from age 8 to age 80. We are modeling the program based on the successful [BIKE STREETS map](#) developed this past year in Denver. Stay tuned for a GIS map to be published online in the not too distant future in partnership with city staff.

Our Summer and Winter Bike to Work Day Breakfast Stations have grown in popularity thanks to some great business partners in Lakewood. Those include Village Roasters, Great Harvest Bread Co., Santiago's Burritos, and Chick-fil-A. Success is measured by rewarding committed bike commuters and encouraging new bike commuters to ditch the car for their work commutes.

Volunteers from LBAT also staffed the free bicycle valet parking for Lakewood's Cider Days and Earth Day Celebrations. Residents of Lakewood appreciate having a safe place to park their bicycles at these popular events, knowing that they have avoided the traffic and been kind to the planet at the same time. These are always fun events for our volunteers.

Go to facebook.com/BikeLakewood to learn more and get involved!



Cycling Without Age: This program continues to serve senior residents at Eaton Senior Communities and Creekside Senior Campus. We use volunteers and specialized trishaws to provide fresh air, companionship, and community connections. It is a great program to combat social isolation for members of our senior community. Although the program is on hold due to COVID-19, as of March 11, 2020, we have been on 480 outings with a total of 646 passengers. We will be celebrating our third anniversary this coming September.

“We have been on 480 outings with a total of 646 passengers.”

02 ANTI-IDLING - GOOD FOR THE ENVIRONMENT AND OUR BUDGET

by Ramón Montoya, City of Lakewood Fleet Manager

Would you be surprised to learn that in studies conducted nationwide it was found that the average time a vehicle spends idling was 44%? In my personal experience with our own internal studies I have been able to verify that this is an accurate finding.

When you consider who is idling, it becomes easier to understand. Consider any person whose office is basically their vehicle. Within the City of Lakewood, any number of jobs (Police, Animal Control, engineers, plow trucks/dump trucks) where the drivers go to a destination then for one reason or another they will sit and idle to perform the functions of their jobs. There are really two situations where excessive idling is warranted: either when it is hot or cold outside. When it's hot people will run their vehicle to keep the AC going. When it's cold people will run their vehicle to keep the heater going.

Both situations are where we can make an impact on "excessive idling." We define excessive idling as anything past 12 minutes. In a heavy-duty truck this allows for a warm-up as well as a cool down period. Anything beyond that is a waste, although we understand the desire to keep a cab warm and toasty when it is a blizzard outside. When staff is operating under blizzard conditions, and they are stopping for lunch, they do not want to shut down the truck only to come back out in 30 minutes to a frozen truck. Now it will take another 30 minutes just to thaw it out. On the other hand, when it is 90 degrees outside it is easier to cool it off, but there are circumstances where the vehicle needs to stay cool (Animal Control for example, and there are many others).

So rather than focusing on the exceptions, we have enacted plans to focus on the fleet. There are cars and trucks that are left idling more out of habit than from necessity. These we can work with to create an impact on our fleet. To that end, we have begun a program of installing devices in our fleet that monitor idle time as well as other driver behavior and vehicle diagnostics. Set to the parameter of 12 minutes, the device will start beeping on some vehicles and on others it will automatically shut it off. These incidents are followed up by an automatically generated system email that tells the manager as well as fleet management what vehicle is being reported and what the issue is. We leave it up to the division manager to conduct training to correct the behaviors.

Manufacturers say that a vehicle idling for an hour is the equivalent on the engine of driving hard for 33 minutes. This directly correlates to the amount of wear and tear the engine takes and how long between oil changes that vehicle can run. Typically, a truck in our fleet with high idle time will require an oil change in approximately 3,000 miles. A vehicle with "good" idle time averaging in the low teens percentage-wise will require an oil change in 6,000 to 8,000 miles. This is a very significant difference both in terms of wear and tear on the engine as well as the expense to have to perform more than two times as many oil changes. Over the life of that vehicle and multiplied by the number of vehicles in our fleet, it is easy to see how the dollars and lost time can add up.

Reducing fleet idle time from 30 minutes to 12 minutes over the course of a year avoids the equivalent emissions of 187 miles of driving. Every little bit counts!



Excessive idling causes more wear and tear on fleet vehicles, requiring more maintenance.

03 RECYCLED ASPHALT PAVING

Information from Brian Harfst and Chase Kozoh , City of Lakewood Public Works Department

Did you know that the City of Lakewood uses recycled asphalt pavement (RAP) in its street paving operations? RAP has various benefits. Paving contractors, like Martin Marietta, receive tax breaks when using RAP, which also makes it a more cost effective option for the city. Additionally, RAP is a more sustainable option because it reduces the need to mine for new paving aggregate, which can cause air and water pollution, biodiversity loss, and erosion. Lastly, RAP extends the life span of roads, which saves money in the long term. For example, RAP has extended the life span of residential roads by four to six years in Lakewood.

The City of Lakewood uses a mixture of 25% RAP and 75% new paving material in its operations on arterial, collector, and residential streets throughout the city. Why doesn't the city use 100% RAP? More asphalt binder – which is essentially paving glue – is required in RAP as compared to new paving material. This makes the pavement stiffer and more susceptible to cracking during freeze/thaw cycles, which are common in Colorado. The city has found that a 25%/75% RAP mixture provides a good balance of cost savings and quality roads. Warmer climates can use a higher percentage of RAP – sometimes upwards of 80%.



DID YOU KNOW?



Lakewood has an annual \$6 million paving budget.



In 2019, over 1 million tons of asphalt were used on Lakewood roads, including 250,000 tons of RAP.



In 2019, the city used 1,100 tons of RAP for internal projects, such as shouldering, backfill, parks, and dirt roads.



Road surface treatments are up to 10 times cheaper than mill and overlay.

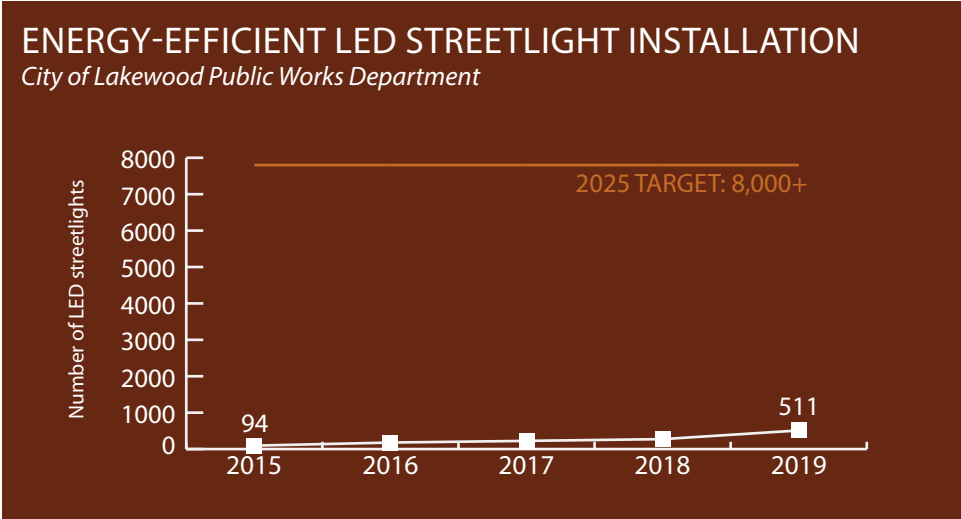
SUSTAINABLE TRANSPORTATION

2018–2019 PROGRESS SNAPSHOT

A full list of metrics can be found in Appendix A.

2025 TARGET	BASELINE	MOST CURRENT	CHANGE	NOTES	STATUS
Convert all streetlights to LED or other high efficiency lighting technologies	94 (1.2%)	511 (6.4%)	+5.2 points	There are more than 8,000 streetlights in Lakewood. All city-owned streetlights are now LED. In 2018, the city entered into a deal with Xcel Energy requiring all streetlight repairs to include LED replacements.	●
Reduce the percent of trips to work by single-occupancy vehicles from 75% to 65% by 2025.	79%	78%	-1 point	Data from 2018 American Community Survey	●
Decrease petroleum-based fuel consumption of the city fleet by 10%	330,505 gallons	320,542 gallons	-3%	Data not normalized for weather	●

● The target is on track
● The target is not on track
● The target is TBD



EMPLOYEE COMMUTER REWARDS PROGRAM

Final Program Highlights (2018-2019; not funded for 2020)

84 LAKEWOOD EMPLOYEES

LOGGED
9,732 TRIPS

COMMUTED
81,301 MILES

EARNED
\$16,096

AVOIDED
43,387 LBS

APPENDIX A

TARGETS AND INDICATORS

CLIMATE CHANGE & ADAPTATION: TARGETS		METRIC	BASELINE YEAR	BASELINE	MOST CURRENT YEAR	MOST CURRENT	CHANGE	SOURCE	NOTES
TARGET: Reduce communitywide greenhouse gas emissions by 20% below 2007 levels by 2025.									
		Greenhouse Gas Emissions	2007	2,447,746 mtCO ₂ e	2018	2,162,112 mtCO ₂ e	-12%	City of Lakewood Greenhouse Gas Inventory	Metric: metric tons of carbon dioxide equivalent (mtCO ₂ e); Methodology: Global Protocol for Community-scale Greenhouse Gas Emission Inventories (GPC). GHG inventories are anticipated to be completed every 3 years. The next inventory is scheduled for 2021.
TARGET: Reduce communitywide greenhouse gas emissions by 50% below 2007 levels by 2050.									
		Greenhouse Gas Emissions	2007	2,447,746 mtCO ₂ e	2018	2,162,112 mtCO ₂ e	-12%	City of Lakewood Greenhouse Gas Inventory	Metric: metric tons of carbon dioxide equivalent (mtCO ₂ e); Methodology: Global Protocol for Community-scale Greenhouse Gas Emission Inventories (GPC). GHG inventories are anticipated to be completed every 3 years. The next inventory is scheduled for 2021.
TARGET: Reduce municipal greenhouse gas emissions annually through 2025.									
		Municipal Greenhouse Gas Emissions	-	-	-	-	-	-	Data not available

	METRIC	BASELINE YEAR	BASELINE	MOST CURRENT YEAR	MOST CURRENT	CHANGE	SOURCE	NOTES
ENERGY, WATER, & THE BUILT ENVIRONMENT: TARGETS	TARGET: Generate 45% of municipal energy from renewable sources by 2025.							
	Percent of municipal energy from renewable sources	2010	12%	2019	39%	+27 points	Lakewood Annual Community Energy Report and Renewable Energy Standard Compliance Report, both by Xcel Energy	Systemwide service data for Public Service Co. of Colorado. This only includes electric energy. A full assessment has yet to be completed for energy from heating and transportation fuels. This data includes the new solar energy subscription that began in 2019.
	TARGET: Generate 45% of residential energy from renewable sources by 2025.							
	Percent of residential energy from renewable sources	2010	12%	2019	24%	+12 points	Lakewood Annual Community Energy Report and Renewable Energy Standard Compliance Report, both by Xcel Energy	Systemwide service data for Public Service Co. of Colorado. This only includes electric energy and does not include Net Metering. A full assessment is yet to be completed for energy from heating and transportation fuels.
	TARGET: Generate 45% of commercial and industrial energy from renewable sources by 2025.							
	Percent of commercial and industrial energy from renewable sources	2010	12%	2019	22%	+10 points	Lakewood Annual Community Energy Report and Renewable Energy Standard Compliance Report, both by Xcel Energy	Systemwide service data for Public Service Co. of Colorado. This only includes electric energy and does not include Net Metering. A full assessment is yet to be completed for energy from heating and transportation fuels.
	TARGET: Reduce municipal building and facility energy use intensity by 30% by 2025.							
	Municipal energy use intensity (mmbtu per square foot)	2015	0.124	2019	0.119	-4%	City of Lakewood Community Resources Department and Sustainability Division	Includes electric and gas energy consumption normalized for weather. Based on data from occupied city buildings with energy use greater than 100 million British Thermal Units (mmbtu). The baseline value was updated in 2020 to reflect more accurate historical data.
	TARGET: Reduce citywide building energy use intensity by 20% by 2025.							
	Citywide energy use in megawatt hours (MWh)	2012	2,832,699	2019	3,093,760	+9%	Lakewood Annual Community Energy Report by Xcel Energy	Value represents total energy use consumption (electric and gas energy); data is not normalized for weather
	TARGET: Reduce citywide water use by 20% by 2025.							
	Citywide water use in kilogallons	2010	8,762,212	2019	8,389,813	-4%	Denver Water	Normalized for weather
	TARGET: Increase the percentage of certified green buildings (new construction and renovations receiving occupancy permits) each year from 2015-2025.							
	Percentage of certified green buildings within citywide building stock	2010	6	2019	25	+19	Green Globes, USGBC LEED, and Living Building Challenge online project directories	Values represent cumulative number of LEED certified and Green Globes projects. Commercial citywide building stock is currently unavailable.

ENERGY, WATER, & THE BUILT ENVIRONMENT: INDICATORS								
METRIC	BASLINE YEAR	BASELINE	MOST CURRENT YEAR	MOST CURRENT	CHANGE	SOURCE	NOTES	
Indicator: Kilowatts of on-site solar energy installed	2010	1,023	2019	1,900	+86%	Permit Data from City of Lakewood Public Works Department	Metric reflects number of kW installed on an annual basis. Since 2010, a total of 13,435 kW of on-site solar has been permitted citywide.	
Indicator: Number of residential subscribers to community solar projects and wind source	2015	Windsor 2,500 Solar Garden 9	2019	Windsor 3,234 Solar Garden 76 Renewable*Connect 121	Windsor +29% Solar Garden +744%	Lakewood Annual Community Energy Report by Xcel Energy	The Renewable*Connect program began in 2019.	
Indicator: Annual energy resource mix as reported by Xcel Energy	2010	Coal: 61% Natural Gas: 27% Wind: 10% Hydro: 1% Other (includes solar): 1%	2019	Coal: 33% Natural Gas: 37% Wind: 25% Hydro: 1% Solar: 4% Other: 0%	Coal: -28 Natural Gas: +10 Wind: +15 Hydro: 0 Solar: +3 Other: -1	Lakewood Annual Community Energy Report by Xcel Energy	Systemwide service data for Public Service Co. of Colorado. Includes Renewable Energy Credits not owned by Xcel Energy.	
Indicator: Residential electricity and gas costs	2015	Electricity \$0.12/kWh Natural Gas \$0.78/therm	2019	Electricity \$0.11/kWh Natural Gas \$0.72/therm	Electricity -8% Natural Gas -8%	Lakewood Annual Community Energy Report by Xcel Energy	-	
Indicator: Number of business subscribers to community solar projects and wind source	2015	Windsor 16 Solar Garden 5	2019	Windsor 18 Solar Garden 51 Renewable*Connect 101	Windsor +13% Solar Garden +920%	Lakewood Annual Community Energy Report by Xcel Energy	The Renewable*Connect program began in 2019.	
Indicator: Commercial electricity and gas costs	2015	Electricity \$0.09/kWh Natural Gas \$0.48/therm	2019	Electricity \$0.09/kWh Natural Gas \$0.45/therm	Electricity 0% Natural Gas -6%	Lakewood Annual Community Energy Report by Xcel Energy	-	
Indicator: Kilowatts of energy generated from on-site renewable energy systems for municipal buildings	2010	0	2019	0	0%	City of Lakewood Community Resources Department	No on-site renewable energy systems for municipal buildings exist	
Indicator: Kilowatts of energy purchased from off-site renewable energy systems	2014	274	2019	1,289	+370%	City of Lakewood Sustainability Division	The city purchased 274 kW (no RECs) in 2014. In 2019, the city purchased an additional 1,015 kW (RECs). REC = Renewable Energy Credit.	
Indicator: Energy use intensity by sector	-	-	-	-	-	-	Data not available	

	METRIC	BASELINE YEAR	BASELINE	MOST CURRENT YEAR	MOST CURRENT	CHANGE	SOURCE	NOTES
ENERGY, WATER, & THE BUILT ENVIRONMENT: INDICATORS	Indicator: Municipal energy use intensity (mmbtu/ft²)	2015	0.124	2019	0.119	-4%	City of Lakewood Community Resources Department	Includes both electric and gas energy consumption normalized for weather. Based on data from occupied city buildings with energy use greater than 100 million British Thermal Units (mmbtu). The baseline value was updated in 2020 to reflect more accurate historical data.
	Indicator: Water use by sector	-	-	-	-	-	-	Data not available
	Indicator: Municipal water use	-	-	-	-	-	City of Lakewood Community Resources Department	Data to be collected upon implementation of utility tracking software
	Indicator: Number of certified green building projects	2010	6	2019	25	+19	Green Globes, USGBC LEED, and Living Building Challenge online project directories	Values represent cumulative number of LEED certified and Green Globes projects. Commercial citywide building stock is currently unavailable.
	Indicator: Number of indoor air quality investigations and/or complaints filed with Jefferson County Public Health	-	-	-	-	-	-	Data not available
	Indicator: Number of certified sites through the Sustainable Sites Initiative	2010	0	2019	0	0%	Sustainable Sites Initiative	-

METRIC		BASELINE YEAR	BASELINE	MOST CURRENT YEAR	MOST CURRENT	CHANGE	SOURCE	NOTES
SUSTAINABLE ECONOMY: TARGETS	TARGET: Increase local food assets annually through 2025.							
	Number of local food assets	2015	37	2019	58	+57%	City of Lakewood Planning Department	Includes community gardens, farms, Community Supported Agriculture sites and farmers markets
	TARGET: Achieve participation from 20 local businesses in the first three years of implementing a green business certification program.							
	Number of certified green businesses	-	-	-	-	-	-	City of Lakewood green business certification program to be established
	TARGET: Increase the percentage of households in CDBG qualified neighborhoods spending less than 45 percent of income on housing and transportation costs to 60% by 2025.							
	Number of CDBG qualified neighborhoods spending less than 45% of income on housing and transportation costs	2013	24,399 households (92%)	N/A	N/A	N/A	Center for Neighborhood Technology (CNT) H + T Affordability index and City of Lakewood Planning Department	Due to challenges with data assumptions and lack of consistent methodology, the H + T Affordability Index will no longer be used to track this metric. Alternative data source may be needed.
	TARGET: Increase number of households above Living Wage Standard by 15% by 2025.							
	Number of households above the Living Wage Standard	2010	32,843 (53% of hh)	2019	31,361 (48% of hh)	-4.5%	US Census Bureau, H12: Average Household Size of Occupied Housing Units by Tenure, and B19001 - Household Income for the Past 12 Months	Methodology sourced from STAR Community Rating System Technical Guide.
	TARGET: Increase number of housing units within a designated Complete Neighborhood by 25% by 2025.							
	Number of housing units within a designated Complete Neighborhood	-	-	-	-	-	-	Criteria to be established after the completion of Sustainability Plan Strategy SE2-B, p. 65

METRIC		BASELINE YEAR	BASELINE	MOST CURRENT YEAR	MOST CURRENT	CHANGE	SOURCE	NOTES
SUSTAINABLE ECONOMY: INDICATORS	Indicator: Location quotients of specifically identified sectors	-	-	-	-	-	-	Data not available
	Indicator: Urban agriculture permits issued	2014	93	2019	34	-63%	City of Lakewood Planning Department	"Urban agriculture permits" are small animal permits; permits not required for zone districts R-1-9, R-1-12, R-1-18, and R-1-43
	Indicator: Acreage of community gardens and urban farms	2015	50+	-	-	-	City of Lakewood HEAL Cities & Towns Food Access Assessment Report	Data based on a single year report; only accounts for 7 of the 22 total community gardens and urban farms; 2020 data had not been released by the publication date
	Indicator: Funds deposited into locally owned and managed financial institutions	-	-	-	-	-	-	Data not available
	Indicator: Unemployment level	2010	Avg rate: 10% Avg no.: 7,956	2019	Avg rate: 2.8% Avg no.: 2,445	Avg rate: -7 points Avg no.: -69%	Bureau of Labor Statistics Data Finder	-
	Indicator: Jobs to labor force ratio	-	-	-	-	-	-	Data not available
	Indicator: Average "click rate" for the City Economic Development electronic newsletter	2015	3.5%	2019	3.6%	+0.1 points	Mailchimp.com	-
	Indicator: Median household income	2010	\$59,826	2018	\$64,100	+7%	U.S. Census Bureau	2010 data adjusted for 2018 inflation. 2019 data had not been released by publication date.
	Indicator: Percentage of households that meet or exceed the living wage standard	2010	53%	2018	48%	-5 points	U.S. Census Bureau	Methodology pulled from STAR Community Rating System Technical Guide. 2019 data had not been released by publication date.
	Indicator: Percentage of households that spend more than 45% of income on housing and transportation costs	2013	45%	N/A	N/A	N/A	Center for Neighborhood Technology (CNT) H + T Affordability index	Due to challenges with data assumptions and lack of consistent methodology, the H + T Affordability Index will no longer be used to track this metric. Alternative data source may be needed.

	METRIC	BASELINE YEAR	BASELINE	MOST CURRENT YEAR	MOST CURRENT	CHANGE	SOURCE	NOTES
SUSTAINABLE ECONOMY: INDICATORS	Indicator: Number of residents on waiting lists for subsidized units at MWHS properties	2015	200	2019	600	+200%	Metro West Housing Solutions	Metrics reported in households selected for wait list
	Indicator: Number of households in areas within a designated Complete Neighborhood	-	-	-	-	-	-	Criteria to be established after the completion of Sustainability Plan Strategy SE2-B, p. 65
	Indicator: Jefferson County Schools postsecondary and workforce readiness score	2012-2013	Exceeds: 3 Meets: 0 Approaching: 4 Does not meet: 2	2018-2019	Exceeds: 1 Meets: 4 Approaching: 2 Does not meet: 3	-	Colorado Department of Education	Number for each category represents number of high schools that meet each set of criteria. Removed one high school and added two high schools in 2018-2019.
	Indicator: High school graduation rates and postsecondary educational attainment	2010	High School Grad & Higher: 90% Bach. Degree and higher: 36%	2018	High School Grad & Higher: 92% Bach. Degree and higher: 39%	High School Grad & Higher: +2 points Bach. Degree and higher: +3 points	U.S. Census Bureau	2019 data had not been released by publication date
	Indicator: Participation in workforce development programs and skills training	2015	2,258 participants	-	-	-	American Job Center	Data not available

	METRIC	BASELINE YEAR	BASELINE	MOST CURRENT YEAR	MOST CURRENT	CHANGE	SOURCE	NOTES
ZERO WASTE: TARGETS	TARGET: Achieve a 60% communitywide diversion rate by 2025.							
	Diversion rate	2010	9%	2019	18%	+9 points	Colorado Department of Public Health and Environment	CDPHE updated methodology between 2018 and 2019; therefore, current data may not be comparable to baseline year
	TARGET: Achieve an 80% diversion rate at the Civic Center by 2025.							
	Pounds recycled and composted	2018	68,433 lbs	2019	88,296 lbs	+29%	City of Lakewood Hauler Reports	2019 is the first year that accurate monthly data for waste generated was obtained.
	TARGET: Achieve increased diversion rates for specific municipal facilities.							
	Pounds recycled and composted	2017	11th Ave - 6192 lbs Patterson - 7392 lbs Daniels - N/A Lasley - N/A	2019	11th Ave - 14,244 lbs Patterson - 12,605 lbs Daniels - 12,367 lbs Lasley - 10,644 lbs	11th Ave +130% Patterson +71%	City of Lakewood Hauler Reports	The four Head Start Classrooms were selected to be tracked separately due to their recent zero waste program launch and youth impact
	TARGET: Achieve a 90% diversion rate at City of Lakewood Earth Day and Cider Days events.							
	Diversion rate	2014	Cider Days: 87% Earth Day: 80%	2019 2020	Cider Days: 82% Earth Day: 0%	Cider Days: - 5 points Earth Day: +0 points	City of Lakewood Community Resources and Planning Departments	Cider Days 2019 decrease due to early filling of rollofs and were unable to sort 630 extra pounds of generated waste. Higher attendance of 5,262 in 2019. Earth Day 2020 was a virtual event due to COVID-19, so no material was created nor diverted.
	TARGET: Achieve a 60% residential diversion rate by 2025.							
	Diversion rate	2010	9%	2016	10%	+1 points	City of Lakewood Sustainability Division	Baseline based on statewide total; most current data based on recycling participation rate from 2016 Lakewood Trash and Recycling Survey and peer communities' diversion rates.
	TARGET: Achieve a 60% construction and demolition diversion rate by 2025.							
	Diversion rate	2019	23.5%	2019	23.5%	-	City of Lakewood Sustainability Division	Baseline includes permit data from when ordinance enacted in 2018 through 2019.
	TARGET: Achieve a 60-90% diversion rate for priority waste streams.							
	Diversion rate	-	-	-	-	-	-	Priority waste streams to be established after the completion of Sustainability Plan Strategy ZW3-A, p. 89

	METRIC	BASELINE YEAR	BASELINE	MOST CURRENT YEAR	MOST CURRENT	CHANGE	SOURCE	NOTES
ZERO WASTE: INDICATORS	Indicator: Number of residents engaged through zero waste outreach and education campaigns	2015	6 campaigns + events	2019	15 campaigns + events	+150%	City of Lakewood	Includes community events and other outlets providing zero waste education; 2019 included Cider Days, Sounds Exciting, Older Adult Wellness Fair, Sustainability Newsletter, 9 zero-waste Sustainable Neighborhoods events, Virtual Earth Day Celebration and Big Boom Bash
	Indicator: Number of city facilities that offer recycling and composting collection	2015	Composting: 2 Recycling: 19	2019	Composting: 8 Recycling: 22	Composting: +300% Recycling: +16%	City of Lakewood Sustainability Division	Does not include recycling containers at park sites
	Indicator: Participation at special collection events	2015	Participation: 3,373 Pounds: 39,259 Gallons: 112	2019	Participation: 7,778 Pounds: 78,103 Gallons: 170	Participation: +130% Pounds: +99% Gallons: +52%	City of Lakewood Sustainability Division and Public Works, Police, and Community Resources Departments	Participation: the approximate number of vehicles at the CDBG Neighborhood cleanup, Shred Day, and Cleanup Days; and reported attendees at Sustainable Neighborhoods paint recycling and leaf composting events Pounds: prescription drug take-back, holiday lights, Earth Day E-cycle (2019), paint, and leaves composted Gallons: cooking oil
	Indicator: Volume of material collected at Quail Street Recycling Center	2012	1,200 tons	2019	1,638 tons	+37%	City of Lakewood Public Works Department	-
	Indicator: Volume of hazardous material collected at Rooney Road Recycling Center	2004	131 tons	2019	288 tons	+120%	City of Lakewood Public Works Department	Rooney Road Recycling Center Authority Management Committee member jurisdiction
	Indicator: Residential diversion rate (seven units or fewer)	2010	9%	2019	18%	+9 points	Colorado Department of Public Health and Environment	CDPHE updated methodology between 2018 and 2019 therefore, current data may not be comparable to baseline year
	Indicator: Percentage of residents with recycling/composting services	-	-	2016	Recycling: 66%	-	City of Lakewood Trash and Recycling Survey	Data based on a single year survey targeted toward single-family residences
	Indicator: Percentage of residents who compost at home	-	-	2016	22%	-	City of Lakewood Trash and Recycling Survey	Data based on a single year survey targeted toward single-family residences
	Indicator: Residential diversion rate (more than eight units)	2010	9%	2019	18%	+9 points	Colorado Department of Public Health and Environment	CDPHE updated methodology between 2018 and 2019 therefore, current data may not be comparable to baseline year

	METRIC	BASELINE YEAR	BASELINE	MOST CURRENT YEAR	MOST CURRENT	CHANGE	SOURCE	NOTES
ZERO WASTE: INDICATORS	Indicator: Percentage of multifamily residences with recycling/composting services	-	-	-	-	-	-	Data not available
	Indicator: Commercial landfill diversion rates	2010	9%	2019	18%	+9 points	Colorado Department of Public Health and Environment	CDPHE updated methodology between 2018 and 2019; therefore, current data may not be comparable to baseline year
	Indicator: Number of restaurants and grocery stores participating in food composting program	-	-	-	-	-	-	Data not available
	Indicator: Number of individuals employed at reuse and resource recovery businesses	2015	34 businesses	-	-	-	City of Lakewood Finance Department	Data from city generated list of "Used Merchandise Stores" then filtered to include only reuse and resource recovery businesses; number of employees to be determined.
	Indicator: C&D landfill diversion rates	-	-	-	-	-	-	Data not available

METRIC		BASLINE YEAR	BASLINE	MOST CURRENT YEAR	MOST CURRENT	CHANGE	SOURCE	NOTES
COMMUNITY COHESION & PUBLIC HEALTH: TARGETS	TARGET: Increase the percentage of residents reporting "good" or "very good" satisfaction ratings for Lakewood's efforts in welcoming citizen involvement as reported in the City of Lakewood Citizen Survey to 60% by 2025.							
	Percentage of residents reporting "good" or "very good" reporting satisfaction of welcoming citizen involvement in the Citizen Survey	2010	57%	2018	39%	-18 points	City of Lakewood Citizen Survey	No citizen survey was conducted in 2019. Survey is conducted every 2-3 years.
	TARGET: Increase resident subscriptions to the city communication tools each year through 2025.							
	Number of resident subscriptions to city e-newsletters	2015	31,251	2019	84,142	+169%	Mailchimp.com	Residents may subscribe to more than one e-newsletter and thus be double counted; some subscribers may not be Lakewood residents
	TARGET: Certify 12 neighborhoods as "Outstanding Sustainable Neighborhoods" in the Sustainable Neighborhoods Program by 2025.							
	Number of Outstanding Sustainable Neighborhoods	2013	2	2020	8	+6	City of Lakewood Sustainability Division	The program began in 2012; the baseline reflects the program's first full year
	TARGET: Increase recreation program participation each year through 2025.							
	Number of participants in city recreation programs	2010	352,000	2019	488,215	+39%	City of Lakewood Community Resources Department	Includes participation at city recreation centers, pools (Glennon pool was closed in summer 2019), & the Clements Center.
	TARGET: Eliminate USDA-defined food deserts in Lakewood.							
	Number of USDA-defined food deserts within the city boundary	2015	6	2019	3	-50%	U.S. Department of Agriculture Food Access Research Atlas	Food deserts are defined within tract boundaries. Only Jefferson County tracts are included.
	TARGET: Achieve community affordable housing targets.							
	TBD	-	-	-	-	-	-	Criteria to be established after the completion of Sustainability Plan Strategy CC3-A, p.113
	TARGET: Increase the percentage of residents reporting "good" or "very good" satisfaction ratings for Lakewood programs for people with special needs, older adults, low-income persons and homeless people to above Front Range benchmarks.							
	Front Range benchmark comparison of the percentage of residents reporting "good" or "very good" satisfaction of programs for people with special needs, older adults, low-income persons, and homeless people	2010	Older Adults: Similar (60%) Special Needs: N/A Low-income: N/A Homeless: N/A	2018	Older Adults: N/A (59%) Special Needs: N/A (42%) Low-income: N/A (41%) Homeless: N/A (31%)	-	City of Lakewood Citizen Survey	No Front Range comparison has been established yet. No citizen survey was conducted in 2019. Survey is conducted every 2-3 years.

METRIC		BASELINE YEAR	BASELINE	MOST CURRENT YEAR	MOST CURRENT	CHANGE	SOURCE	NOTES
COMMUNITY COHESION & PUBLIC HEALTH: INDICATORS	Indicator: Voter turnout in regular municipal elections	2010	71%	2019	40%	-31 points	City of Lakewood City Clerk's Office	Regular municipal elections were held in 2019
	Indicator: Enrollment in citizen academies	2013	Planning Academy: 19 Police Academy: 24	2019	Planning Academy: 28 Police Academy: 24	Planning Academy: 47% Police Academy: 0%	City of Lakewood Planning and Police Departments	-
	Indicator: Number of applications for citizen boards and commissions	2014	24	2019	46	+92%	City of Lakewood City Clerk's Office	Number varies on how many board or commission openings occur that year
	Indicator: Number of volunteers participating in city programs and activities	2014	47,955 hours	2018	57,801 hours	+21%	City of Lakewood Community Resources Department	2019 data not available. Methodology is being updated.
	Indicator: Total page views on Lakewood.org	2015	4,546,627	2019	4,166,537	-8%	Google Analytics	-
	Indicator: Number of followers of Lakewood social media channels	2015	20,773	2019	78,236	+277%	City of Lakewood City Manager's Office	-
	Indicator: Number of Google Translate requests for Lakewood.org web pages	-	-	-	-	-	-	Data not available
	Indicator: Minority resident satisfaction with the job Lakewood government does at welcoming citizen involvement	2010	52%	2018	45%	-7 points	City of Lakewood Citizen Survey	No citizen survey was conducted in 2019. Survey is conducted every 2-3 years.
	Indicator: Resident satisfaction with overall quality of life	2010	90%	2018	84%	-6 points	City of Lakewood Citizen Survey	No citizen survey was conducted in 2019. Survey is conducted every 2-3 years.
	Indicator: Number of participants in the Sustainable Neighborhoods Program	2013	763	2019/2020	5,495	+620%	City of Lakewood Sustainability Division	The program began in 2012; the baseline reflects the program's first full year. The Network's credit year is from June 2019 through May 2020. 108 projects, events, and workshops were held.
	Indicator: Number of registered neighborhood organizations	2015	129	2019	114	-12%	City of Lakewood Planning Department	-

METRIC		BASLINE YEAR	BASLINE	MOST CURRENT YEAR	MOST CURRENT	CHANGE	SOURCE	NOTES
COMMUNITY COHESION & PUBLIC HEALTH: INDICATORS	Indicator: Number of neighborhoods, households and people registered on NextDoor.com	2015	102 neighborhoods	2019	143 neighborhoods	+40%	City of Lakewood	-
	Indicator: Participation in Lakewood's Inspire Arts Week	2013	2,500	2019	7,155	+186%	City of Lakewood Community Resources	-
	Indicator: Attendance at city Cultural and Heritage programs	2010	85,606	2019	217,944	+155%	City of Lakewood Community Resources	Annual HCA audit of paid and free attendance
	Indicator: Annual number of public art installations	-	-	2019	Permanent: 28 Temporary: 61	-	City of Lakewood Community Resources + Comprehensive Planning	Most of the art installed in 2018 was associated with the 40W ArtLine (reported as running total).
	Indicator: Acreage of community gardens and urban farms	2015	50+	-	-	-	City of Lakewood HEAL Cities & Towns Food Access Assessment Report	Data based on a single year report; only accounts for 7 of the 22 total community gardens and urban farms
	Indicator: Number of households in identified food deserts	2015	11,018	2016	6,071	-45%	United States Department of Agriculture Food Access Research Atlas	-
	Indicator: Resident's satisfaction with recreation programs and facilities	2010	Programs: 78% Facilities: 81%	2018	Programs: 80% Facilities: 80%	Programs: +2 points Facilities: -1 point	City of Lakewood Citizen Survey	No citizen survey was conducted in 2019. Survey is conducted every 2-3 years.
	Indicator: Number of unique visits to city recreation facilities	-	-	-	-	-	City of Lakewood Community Resources Department	Data not available
	Indicator: Bicycle traffic counts	2017	Average Weekday Usage along: Garrison St @ 500: 50 Bear Creek Trail E. of Estes: 106	2019	Average Weekday Usage along: 13th Ave Bike Path (W Line) @ Zephyr: 39 Bear Creek Trail - E. of Estes: 223 Garrison St @ 500: 27 26th Ave @ 9230: 142 32nd Ave @ Simms St: 137		City of Lakewood Public Works Department	2019 bicycle counts at 13th Ave were conducted in March & October 2019, at Bear Creek Trail in March, April, & September 2019, Garrison St. in February 2019, 26th Avenue in July 2019, and 32nd Avenue in February & June 2019; 2017 bike counts at Garrison Street were conducted in October 2017, at Bear Creek Trail in August 2017
	Indicator: Level of Bicycle or Walk Friendly Community certification	2014	Bronze	2019	Bronze	-	The League of American Bicyclists Bicycle Friendly Community Report Card	-
	Indicator: Jefferson County public health selected health conditions and causes of death	2011	Leading Causes of Death: Cancer: 21% Cardiovascular Diseases: 24% Unintentional Injuries 7%	2018	Leading Causes of Death: Cancer: 20.5% Heart Disease: 21.1% Unintentional Injured: 6.9%	Leading Causes of Death: Cancer: -0.5 Cardiovascular Diseases: -3 Unintentional Injuries: -0.1	Jefferson County Public Health Community Health Assessment	Data reported for Jefferson County as a whole. Cardiovascular diseases was reported as heart disease in 2018 data. Chronic lower respiratory diseases is the third leading cause of death at 7.5%; unintentional injuries is fourth in 2018

METRIC		BASELINE YEAR	BASELINE	MOST CURRENT YEAR	MOST CURRENT	CHANGE	SOURCE	NOTES
COMMUNITY COHESION & PUBLIC HEALTH: INDICATORS	Indicator: Number of residents on waiting lists for subsidized units at Metro West Housing Solutions properties	2015	200	2019	600	+200%	Metro West Housing Solutions	Metrics reported in households selected for wait list
	Indicator: Percentage of households that spend more than 45% of income on housing and transportation costs	2013	45%	N/A	N/A	N/A	Center for Neighborhood Technology (CNT) H + T Affordability index	Due to challenges with data assumptions and lack of consistent methodology, the H + T Affordability Index will no longer be used to track this metric. Alternative data source may be needed.
	Indicator: Participation in City of Lakewood Family Services programs	2015	56,167	2019	59,415	+6%	City of Lakewood Community Resources Department	-
	Indicator: Number of people served through the Action Center	-	-	2017	Over 20,000	-	The Action Center	-
	Indicator: Resident's feelings of safety	2013	In your neighborhood during the day: 96% Walking alone in your neighborhood after dark: 72%	2018	In your neighborhood during the day: 96% Walking alone in your neighborhood after dark: 66%	In your neighborhood during the day: - Walking alone in your neighborhood after dark: -6 points	City of Lakewood Citizen Survey	No citizen survey was conducted in 2019. Survey is conducted every 2-3 years.

	METRIC	BASELINE YEAR	BASELINE	MOST CURRENT YEAR	MOST CURRENT	CHANGE	SOURCE	NOTES
NATURAL SYSTEMS: TARGETS	TARGET: Increase the acreage of functional and healthy natural ecosystems.							
	Acreage of functional and healthy natural systems	-	-	-	-	-	-	Criteria to be established after the completion of Sustainability Plan Strategy NS1-C, p. 128
	TARGET: Ensure that all waters within Lakewood meet or exceed the CDPHE's Water Quality Standards for the uses assigned.							
	Number of waters in Lakewood that meet or exceed the CDPHE's Water Quality Standards	2015	1 body of water impaired	2019	1 body of water impaired	0%	Colorado Department of Health and Environment, Water Quality Control Commission, Colorado's Section 303(D) List of Impaired Waters and Monitoring and Evaluation List	Bear Creek Reservoir is regularly monitored for phosphorus (P) and chlorophyll a (Chl-a) levels that might exceed the existing TMDL requirements. All designated reservoir uses are currently being met. The known nutrient impairment will continue to be managed by Lakewood staff and the BCWA.
	TARGET: Achieve 30% tree canopy coverage by 2025.							
	Percent coverage	2011	7.8%	2018	14%	-	DRCOG 2018 LULC Pilot Project	Baseline established with i-Tree landscape tool; as of 2020, data had not been updated since 2011. DRCOG 2018 LULC data available for the first time in 2020 as an alternative data source. DRCOG data not comparable to i-Tree data.

METRIC		BASELINE YEAR	BASELINE	MOST CURRENT YEAR	MOST CURRENT	CHANGE	SOURCE	NOTES
NATURAL SYSTEMS: INDICATORS	Indicator: Acreage of land cover by habitat type	2011	Developed: 20,904.2 acres Forest: 195 acres Wetland: 927.5 acres Water: 642.9 acres Other: 5,529.1 acres Cultivated: N/A	-	-	-	i-Tree Landscape Tool	i-Tree uses NLCD land cover, tree canopy, and impervious surface data; "other" includes shrub/scrub, grassland/herbaceous, and barren land; data has not been updated since 2011, an alternative data source may be needed to continue tracking this metric.
	Indicator: Acres of Colorado List A noxious weed species on city owned property	2015	30	2019	23	-23%	City of Lakewood Community Resources Department	List A noxious weed species currently/ formerly seen and controlled: purple loosestrife, orange hawkweed, myrtle spurge, cypress spurge. Japanese knotweed confirmed in 2019.
	Indicator: Population counts of key indicator species	-	-	-	-	-	City of Lakewood Community Resources Department	No official inventory or identification process has been established; species most likely include native pollinators, bats and some amphibians
	Indicator: Number of developments that have installed or retrofitted BMP's to improve water quality	2015	57	2019	249	New in 2019: 39	City of Lakewood Public Works Department	Most current data is cumulative total, including 2015. All water quality BMPs are inspected annually.
	Indicator: Number of environmental education programs and outreach events	2013	108	2019	167	+55%	City of Lakewood Community Resources Department	-
	Indicator: Attendance at Lakewood's annual Earth Day Celebration	2012	500	2020	2,463	+393%	City of Lakewood Sustainability Division	2020 Earth Day Celebration was a virtual event due to COVID-19
	Indicator: Percentage of permeable land	2011	68%	2018	60%	-	DRCOG 2018 LULC Pilot Project	Baseline established with i-Tree landscape tool; as of 2020, data had not been updated since 2011. DRCOG 2018 LULC data available for the first time in 2020 as an alternative data source. DRCOG data not comparable to i-Tree data.
	Indicator: Percentage of 100-year flood plain w/ vegetative coverage	-	-	-	-	-	-	Data not available





	METRIC	BASELINE YEAR	BASELINE	MOST CURRENT YEAR	MOST CURRENT	CHANGE	SOURCE	NOTES
TRANSPORTATION: TARGETS	TARGET: Convert all streetlights to LED or other high efficiency lighting technologies by 2025.							
	Number of LED streetlights	2015	94	2019	511	+444%	City of Lakewood Public Works Department	There are more than 8,000 streetlights in Lakewood. All city-owned streetlights are now LED. In 2018, the city entered into a deal with Xcel Energy requiring all streetlight repairs to include LED replacements.
	TARGET: Reduce Lakewood's daily per capita VMT by 10% by 2025.							
	Vehicle miles traveled (VMT)	2015	16.5	2015	16.5	0%	Denver Regional Council of Governments (DRCOG) Travel Models	Data is collected every 5 years, 2015 is the most recent baseline year. Source is DRCOG RTP-2018; do not compare to previous year's baseline due to change in methodology
	TARGET: Reduce the percent of trips to work by single-occupancy vehicles from 75% to 65% by 2025.							
	Number of single-occupancy vehicle trips	2010	54,989	2018	68,173	+24%	United States Census Bureau	2019 data had not been released by publication date
	Percent of trips to work that are single-occupancy	2010	79%	2018	78%	-1 point	United States Census Bureau	2019 data had not been released by publication date
	TARGET: Decrease petroleum-based fuel consumption of the city fleet by 10% by 2025.							
	Gallons of petroleum-based fuel consumed	2010	330,505	2019	320,542	-3%	City of Lakewood Public Works Department	Data not normalized for weather
	METRIC	BASELINE YEAR	BASELINE	MOST CURRENT YEAR	MOST CURRENT	CHANGE	SOURCE	NOTES
TRANSPORTATION: INDICATORS	Indicator: Annual vehicles miles traveled in street maintenance operations	2010	156,865	2019	307,349	+96%	City of Lakewood Public Works Department	Data not normalized for weather
	Indicator: Concentration of criteria air pollutants	-	-	-	-	-	-	Data not available
	Indicator: Street construction waste diversion rates	-	-	-	-	-	City of Lakewood Public Works Department	Per city regulations, no waste is generated. All materials for street construction programs (concrete and overlay) are recycled or reused.
	Indicator: Percentage of recycled materials used in street maintenance and construction	-	-	-	-	-	City of Lakewood Public Works Department	Materials being recycled are asphalt binder and aggregates; per city, no more than 20% recycled asphalt pavement (RAP) may be used on collector and arterial streets overlay; no more than 30% RAP on patching, minor collectors and residential streets.
	Indicator: Street and signal lighting energy use	2013	7,024,646 kWh	2019	6,654,542 kWh	-5%	City of Lakewood Public Works Department	Data includes metered, non-metered, flasher and flat rate usage





	METRIC	BASELINE YEAR	BASELINE	MOST CURRENT YEAR	MOST CURRENT	CHANGE	SOURCE	NOTES
TRANSPORTATION: INDICATORS	Indicator: Commuter mode split	2010	Drove alone: 79% Carpooled: 9% Transit: 4% Walked: 2% Other: 6%	2018	Drove alone: 78% Carpooled: 10% Transit: 4% Walked: 2% Other: 7%	Drove alone: -1 point Carpooled: +1 point Transit: 0 point Walked: 0 point Other: +1 points	United States Census Bureau	2019 data had not been released by publication date
	Indicator: Transit ridership	2010	3,959,935	2019	4,123,833	+4%	Regional Transportation District, Service Development Department	Data derived from RTD reports; data reflects the average annual ridership based on average total daily passengers at each bus and light rail stop in Lakewood
	Indicator: Percentage of household income spent on transportation	2013	19%	N/A	N/A	N/A	Center for Neighborhood Technology (CNT) H + T Affordability index	Due to challenges with data assumptions and lack of consistent methodology, the H + T Affordability Index will no longer be used to track this metric. Alternative data source may be needed.
	Indicator: Bicycle level of service	-	-	-	-	-	-	Methodology undetermined
	Indicator: Number of miles of bike trails and routes and number and length of missing segments	2015	317 mi. of trails and routes	2019	340 mi. of trails and routes	+7% for trails and routes	City of Lakewood Community Resources and Public Works Departments	Includes bike lane miles, paved shoulders, shared roadways and shared use paths
	Indicator: Bicycle traffic counts	2017	Average Weekday Usage along: Garrison St @ 500: 50 Bear Creek Trail E. of Estes: 106	2019	Average Weekday Usage along: 13th Ave Bike Path (W Line) @ Zephyr: 39 Bear Creek Trail - E. of Estes: 223 Garrison St @ 500: 27 26th Ave @ 9230: 142 32nd Ave @ Simms St: 137		City of Lakewood Public Works Department	2019 bicycle counts at 13th Ave were conducted in March & October 2019, at Bear Creek Trail in March, April, & October 2019, Garrison St. in February 2019, 26th Avenue in July 2019, and 32nd Avenue in February & June 2019; 2017 bike counts at Garrison Street were conducted in October 2017, at Bear Creek Trail in August 2017
	Indicator: Number of alternative fuel vehicles in Lakewood	2015	Jeffco: 275	2019	Jeffco: 3,727	Jeffco: +1,255%	Colorado Department of Revenue, Division of Motor Vehicles	Alternative fuel vehicles refers to only electric vehicles
	Indicator: Number of alternative fuel vehicles in the City's fleet	2015	5	2019	5	0%	City of Lakewood Public Works Department	First Generation Prius Hybrid and Chevy Volts
	Indicator: Number of alternative fuel stations in Lakewood	2015	7	2019	14	+100%	US Department of Energy	-
	Indicator: Average miles per gallon of vehicles in Lakewood	-	-	-	-	-	Colorado Department of Revenue, Division of Motor Vehicles	Data not available

APPENDIX B

STATUS OF IMPLEMENTATION STRATEGIES

The rating system used in this report places implementation strategies into four categories:

	The strategy implementation is complete .
	Significant progress has been made on implementing this strategy.
	Implementation is underway .
	Implementation has not started .

PROGRESS		STRATEGY	NOTES
CLIMATE CHANGE & ADAPTATION		CCA1-A Greenhouse Gas Data Collection, Tracking and Reporting. <i>Regularly monitor Lakewood's greenhouse gas emissions.</i>	Community GHG inventories have been completed for 2007, 2015 and 2018. Municipal GHG inventory has not been completed.
		CCA1-B Greenhouse Gas Reduction Strategies. <i>Utilize emission reduction assessments to prioritize and implement greenhouse gas reduction strategies.</i>	Some assessments are being used to inform project and program outcomes. Additional strategies for implementing GHG impacts into organizational-wide decision making are necessary.
		CCA1-C Climate Change Vulnerability Study <i>Conduct a climate change vulnerability assessment, recognizing that future conditions and threats will be different from current or historical conditions.</i>	Currently, staff is utilizing regional vulnerability assessments for Colorado and other front range communities.
		CCA1-D Climate Preparedness Plan <i>Based on the climate change vulnerability study, develop a climate preparedness plan to prepare for multiple climate futures.</i>	



Complete











Significant Progress



Implementation Underway



Not Started

ENERGY, WATER, & THE BUILT ENVIRONMENT			PROGRESS	STRATEGY	NOTES
		BE1-A Renewable Energy Transmission and Generation <i>Expand renewable energy generation and access while ensuring necessary transmission infrastructure.</i>			Opportunity to prioritize as part of the current Energy Futures Collaborative with Xcel Energy.
		BE1-B District-Scale Sustainability <i>Establish unique districts within Lakewood where community sustainability goals are achieved through customizable guidelines.</i>			Federal Center property was originally identified as a potential site for this strategy. No alternative site has been identified.
		BE1-C Sustainable Energy and Water Resource Center <i>Establish a resource center to provide information and consulting services to residents and businesses related to energy and water conservation and renewable energy generation.</i>			Implementation will be ongoing to ensure up-to-date resources.
		BE1-D Municipal Renewable Energy Generation <i>Develop a municipal renewable energy generation strategy to increase the percentage of municipal energy and fuel generated from renewable sources such as wind, solar, advanced biofuels and other alternatives to fossil fuels.</i>			This is a prioritized strategy for implementation. Staff has identified several pathways that could facilitate 100% renewable electricity for municipal buildings.
		BE2-A Efficiency in Resource Intensive Buildings <i>Target resource intensive buildings for efficiency improvements.</i>			Initial implementation underway based on Energy Futures Collaborative work plan.
		BE2-B Reporting & Benchmarking Energy and Water Use <i>Develop a campaign to encourage voluntary benchmarking of energy and water consumption at the building or site scale through the use of utility data tracking software.</i>			
		BE2-C Resource Efficient Municipal Facilities <i>Effectively manage and reduce municipal energy and water use.</i>			Newly implemented utility management software and energy performance contracts.
		BE2-D Resource Efficient Building Codes <i>Conduct a review of the newest edition of building and energy codes on a regular basis to ensure the best fit for protecting life and safety, economic climate and support of city sustainability goals.</i>			New codes adopted in 2018. Updates should occur approximately every three years.



Complete




Significant Progress



Implementation Underway



Not Started

PROGRESS	STRATEGY	NOTES
	BE3-A LEED Standards for Municipal Buildings <i>Adopt an ordinance requiring that all newly constructed municipal buildings with year-round occupancy meet at least LEED Silver standards from the USGBC.</i>	Research into best practices is currently underway.
	BE3-B Green Building Construction and Retrofits <i>Target significant developments for green building and sustainable site design support, including minimizing hazardous materials, creating healthy indoor spaces, resource efficiency and using locally and sustainably sourced materials.</i>	Research into best practices is currently underway.
	BE3-C Sustainable Site Planning and Development <i>Integrate key elements of the Sustainable Sites Initiative (SSI) to integrate into the city's site planning standards.</i>	Various elements adopted as part of the Lakewood Development Dialogue zoning code update process.



Complete










Significant Progress



Implementation Underway



Not Started

PROGRESS		STRATEGY	NOTES
SUSTAINABLE ECONOMY		SE1-A Local and Healthy Food <i>Develop a comprehensive strategy in order to increase production, availability, and consumption of locally grown, affordable, and healthy food.</i>	Several assessments completed along with various projects. No city-wide comprehensive strategy developed.
		SE1-B Local Products and Services <i>Develop a comprehensive strategy in order to increase the production, availability, and consumption of local products and services.</i>	
		SE1-C Live Local and Hire Local Campaign <i>Develop a brand and marketing campaign that promotes use of local goods and services along with a hire local Lakewood campaign to encourage businesses to hire local talent.</i>	The Economic Development team established the Lakewood Local brand, webpage, and online map to help residents identify local businesses that are open in their area during the COVID-19 recovery.
		SE1-D Local Investment <i>Facilitate investment and entrepreneurship in the local economy.</i>	Existing programs are available through partner agencies and organizations.
		SE1-E Sustainable Business Hub and Certification Program <i>Form a dynamic community to foster a self-reliant local economy, increase adoption of sustainable business practices, and set a standard for business sustainability by connecting businesses to local producers, potential employees, the education community, technical resources, existing sustainability and economic development programs, and funding opportunities.</i>	Assessment of certification programs available through Hometown Colorado project. Participation in Best for Colorado program through B Lab, a nonprofit for business practices that serve the greater good.
		SE2-A Self-Sufficiency Education <i>Host events and provide information for residents to encourage self-sufficient household practices.</i>	The online Sustainability Resource Center provides information on various sustainable practices. Sustainable Neighborhoods host educational workshops and events for Lakewood residents with assistance from city staff.
		SE2-B Complete Neighborhood Index <i>Develop an index for assessing the completeness of neighborhoods in order to reduce transportation costs, build community cohesion, increase housing values, and provide other household and community benefits.</i>	The Union Neighborhood Vision Plan is underway to assess the completeness of the Union Boulevard corridor.



Complete











Significant Progress



Implementation Underway



Not Started

	PROGRESS	STRATEGY	NOTES
ZERO WASTE		ZW1-A Zero Waste Outreach and Education Campaign <i>Develop sector-specific outreach materials and educational campaigns to promote zero waste concepts and resources.</i>	Recycle! It's Good for Lakewood Campaign was launched in 2018 and resources are available on Lakewood.org. Outreach and education efforts are ongoing.
		ZW1-B Municipal Facility Zero Waste Programs <i>Develop customized zero waste strategies for new and existing municipal facilities based on the type of use and users, waste characteristics and unique constraints.</i>	Recent expansion of compost and recycling services to municipal facilities includes four Head Start facilities and the Lakewood Heritage Center.
		ZW1-C Green Procurement Program <i>Expand the city's green procurement program for the preferential purchase of green products and services and provide guidance for implementation.</i>	Previous efforts include staff trainings, group purchasing of sustainable products and preferred vendor lists for sustainable and healthy caterers. Updates to these materials is ongoing.
		ZW1-D Municipal Zero Waste Tools <i>Develop resources and tools for City employees and facility users to support zero waste events, meetings and operations.</i>	Ongoing expansion of toolkits, resources and trainings.
		ZW1-E Reuse and Resource Recovery Facilities <i>Assess existing resource recovery facilities and infrastructure for capacity and material limitations in order to expand opportunities for landfill diversion.</i>	Some assessments completed in support of related projects including identifying outlets for organic waste, household hazardous waste, hard-to-recycle materials and construction and demolition waste. Resources are available on the sustainability website and free, custom hard-to-recycle collection boxes are available for residents to help in-home recycling.
		ZW1-F Yard Waste Collection Site and Services <i>Establish a collection site and provide supportive services to divert yard waste from landfills and generate revenue for expanded recycling and sustainability services.</i>	Ongoing internal efforts to identify sites and program options. Periodic community collection events provided by city. Several neighborhood-initiated leaf collections through the Sustainable Neighborhoods Program.
		ZW2-A Residential Curbside Recycling and Waste Diversion <i>As an immediate priority, present City Council with potential programs and policies for residential waste haulers that address the inclusion of recycling services in collection contracts, minimize impacts to neighborhoods from traffic and noise and explore the use of variable rate collection systems where the cost of service is based on the volume of trash generated.</i>	Staff initiated a robust community outreach effort in 2018 and used the collected feedback and additional research to compile a comprehensive report on the existing residential waste collection system in January 2019. In June 2019, staff produced a report detailing alternative residential waste collection systems for Lakewood to consider. City Council referred the question to the ballot, and in November 2019 voters opted not to proceed with a contracted hauler system.
		ZW2-B Residential Organic Waste <i>Provide opportunities for residents to divert organic waste from landfills.</i>	Several neighborhood-initiated leaf collections through the Sustainable Neighborhoods Program. City classes on backyard composting. Workshops on composting through Sustainable Neighborhoods. Compost Colorado was a 2020 Sustainability Award winner, currently serving 112 Lakewood residents.



Complete







Significant Progress



Implementation Underway



Not Started

PROGRESS		STRATEGY	NOTES
ZERO WASTE		ZW2-C Multifamily Recycling and Composting <i>Assist multifamily developers, owners, managers and homeowner associations in implementing recycling and composting programs in residential developments.</i>	The adopted Enhanced Development Menu, which applies to new developments over 20,000 square feet gross floor area, includes options to encourage recycling and composting.
		ZW3-A Commercial Waste Assessment and Prioritization <i>Assess commercial waste systems to identify gaps in resource recovery facilities and prioritize the development of programs and policies.</i>	Lakewood has partnered with other local jurisdictions to apply for a grant to investigate the regional “wasteshed,” including infrastructure/facility needs and end markets for recycled materials.
		ZW3-B Commercial Waste Diversion Programs and Policies <i>Develop commercial waste diversion programs and policies that support responsible disposal choices, enhance efficiency, minimize environmental impacts and convert waste into valuable products.</i>	
		ZW3-C Construction and Demolition Waste <i>Adopt construction and demolition (C&D) waste diversion requirements and provide supportive materials for businesses.</i>	The building code requires large developments to recycle C&D waste. Resources are available for contractors online and at city offices.



Complete






Significant Progress



Implementation Underway



Not Started

COMMUNITY COHESION & PUBLIC HEALTH		PROGRESS	STRATEGY	NOTES
		CC1-A	Diversity in Civic Participation and Leadership <i>Build capacity for residents of all ages, abilities and backgrounds to participate in civic life and assume leadership roles in order to ensure accurate representation of the city's diverse population.</i>	Multiple projects on LakewoodTogether.org and LakewoodSpeaks.org.
		CC1-B	Open and Honest Communication <i>Support the city's core community value of open and honest communication.</i>	Expanded multilingual resources provided by the City Manager's Office, employee intercultural awareness trainings provided by the Human Resources Department.
		CC1-C	Social Resilience and Personal Networks <i>Strengthen and expand community social networks to foster collaboration, communication and cooperation.</i>	Ongoing development and support of a variety of programs and networks.
		CC1-D	Sustainable Neighborhoods Program <i>Expand the Sustainable Neighborhoods Program and the Sustainable Neighborhood Network in order to encourage direct resident action, assist residents in enhancing neighborhood sustainability and reduce the environmental footprint of residents.</i>	Two new neighborhoods joined the program in 2020. Continued expansion will require additional resources (staff and funding).
		CC1-E	Arts, Culture, and Events <i>Recognize arts, culture and community events as important components of sustainability.</i>	Significant expansion of creative industries, and ongoing integration of art and sustainability projects and programs.
		CC2-A	Regional Health Efforts and Organizations <i>Collaborate with regional partners in order to identify critical issues, develop programs and policies, and track effectiveness.</i>	Ongoing participation by city staff in county efforts and programs.
		CC2-B	Local and Healthy Food <i>Develop a comprehensive strategy in order to increase production, availability and consumption of locally grown, affordable and healthy food.</i>	Several assessments completed along with various projects. No city-wide comprehensive strategy developed.
		CC2-C	Community Physical Wellness Programs <i>Promote healthy eating and active living programs in businesses, schools and other community organizations.</i>	Several ongoing programs with local schools through Sustainable Neighborhoods Program. Overlaps with CC2-A.
		CC2-D	Access to Physical Activity Facilities and Programs <i>Increase use of physical activity facilities and participation in recreation classes and programs.</i>	Variety of projects/services including Lakewood Possibilities Fund, development of Carmody Universal Playground and Addenbrooke Outdoor Fitness court.



Complete








Significant Progress



Implementation Underway



Not Started

PROGRESS		STRATEGY	NOTES
COMMUNITY COHESION & PUBLIC HEALTH		CC2-E Design for Active Living <i>Integrate key elements of the Center for Active Design's Active Design Guidelines into the city's development guidelines.</i>	
		CC3-A Affordable Housing <i>Create and periodically update a locally-adopted comprehensive housing strategy in collaboration with other jurisdictions and organizations in the region.</i>	Housing study completed.
		CC3-B Community Happiness <i>Catalyze happiness by designing spaces and supporting services that support mental wellness.</i>	Multiple city programs support mental wellness including recreation, parks, and public art.
		CC3-C Aging In Place <i>Develop and support programs, policies and resources that allow residents to age in place.</i>	Handful of programs/efforts underway related to this strategy including the housing study, Sustainable Neighborhoods Program projects, recreation programs, etc.
		CC3-D Access to Human and Family Services <i>Support programs and services that enable residents to meet their fundamental needs.</i>	Variety of programs offered by the city and community organizations.



Complete




Significant Progress



Implementation Underway



Not Started

PROGRESS		STRATEGY	NOTES
NATURAL SYSTEMS		NS1-A Culture of Ecological Stewardship <i>Facilitate communitywide stewardship of Lakewood's natural heritage by advancing understanding of the importance of biological diversity and the value of ecosystem services.</i>	Assorted programs and outreach efforts.
		NS1-B Landscape and Agricultural Stewardship <i>Reduce the impacts to ecosystem health, air and water quality resulting from landscaping and agricultural practices in Lakewood.</i>	Significant number of workshops and projects through the Sustainable Neighborhoods Program including the Bee Safe initiative.
		NS1-C Biodiversity Inventory, Classification and Best Management Practices <i>Identify natural habitat types in the city and establish management areas based on land use context.</i>	Inventory methodology and process was outlined in 2016 but staff was unable to secure grant funding to proceed. No additional progress at this time.
		NS1-D Green Infrastructure Network <i>Establish a Green Infrastructure Network (GIN) to strategically facilitate habitat protection, restoration and connectivity across the urban landscape.</i>	
		NS1-E Municipal Natural Resource Management <i>Manage municipal natural areas, parks, right-of-ways and other properties to maximize ecological health and biological diversity.</i>	Assorted programs supporting water quality, nontoxic pest and noxious weed management, including ecosystem-based management practices and reducing pesticide usage to promote pollinator health.
		NS2-A Stormwater Management and Flood Control <i>Increase the capacity of Lakewood's landscape to manage stormwater and protect water quality.</i>	Various stormwater management projects and programs implemented by the Public Works department.
		NS2-B Cooling and Carbon Sequestration <i>Adapt to increased temperatures and reduce carbon in the atmosphere through healthy vegetation, tree canopy coverage and use of low-reflective materials.</i>	The recently adopted Enhanced Development Menu includes measures for large developments to reduce urban heat island and promote healthy vegetation. The city launched the Lakewood Loves Trees tree planting initiative to celebrate Lakewood's 50th Anniversary.



Complete











Significant Progress



Implementation Underway



Not Started

PROGRESS	STRATEGY	NOTES
TRANSPORTATION	 T1-A Environmentally Friendly and Efficient Street Maintenance Operations <i>Protect the environment, reduce air and water pollution and improve vehicle efficiency while maintaining a high level of service in street maintenance operations.</i>	Newly implemented street sweeping material screening and recycling program.
	 T1-B Roadside Vegetation <i>Increase the viability and extent of roadside landscaping and vegetation through coordinated planning efforts to assess infrastructure, design, plant selection and street maintenance operations.</i>	Various streetscape and median planting programs completed or underway.
	 T1-C Street and Signal Lights <i>Convert street and signal lights to LEDs or other high efficiency technologies.</i>	All city-owned lights use high efficiency lighting. Major roadblock to successful implementation is Xcel ownership and tariff rates for existing streetlights.
	 T1-D Sustainable Street Repair and Construction <i>Ensure sustainable street repair and construction.</i>	Street operations continue to utilize recyclable materials and to recycle street construction waste.
	 T2-A Bicycle and Pedestrian Planning and Outreach <i>Remove barriers to bicycle and pedestrian transportation through a comprehensive strategy.</i>	The city's first alternative transportation coordinator is leading the implementation of the completed city's Bicycle Master Plan, including new bicycle facilities and continued coordination with the Lakewood Bicycle Advisory Team.
	 T2-B Transportation Management Services <i>Collaborate with west metro agencies to develop an approach, or several, to provide sustainable transportation management services.</i>	The West Corridor Transportation Management Association was launched to promote convenient transportation options along the W Line corridor and throughout Lakewood, Jefferson County, Golden and West Denver.
	 T2-C Way To Go <i>Utilize and promote the suite of transportation management tools available through Denver Regional Council of Governments' Way to Go program.</i>	Implementation will be ongoing.
	 T2-D City Fleet <i>Develop a strategic plan to increase fuel efficiency and incorporate alternative fuel vehicles into the city vehicle fleet.</i>	The fleet now includes a few alternative fuel vehicles. An anti-idling policy for fleet vehicles reduces emissions and improves efficiency and maintenance costs (see page 56 for more details).



Complete



Significant Progress



Implementation Underway



Not Started

APPENDIX C

SUSTAINABLE NEIGHBORHOOD PROJECTS

FROM PROGRAM CERTIFICATION YEAR JUNE 2019 - MAY 2020

TOTAL NEIGHBORHOOD PARTICIPATION JUNE 2019-MAY 2020

NEIGHBORHOOD NAME	PARTICIPATION	CREDITS EARNED	CERTIFICATION STATUS
Applewood	1,223	74	Outstanding
Belmar	304	93	Outstanding
Eiber	203	95	Outstanding
Green Mountain	593	264	Outstanding
Lake Lochwood Village	71	88	Outstanding
Morse Park	2,663	96	Outstanding
South of 6th	562	63	Outstanding
Southern Gables	980	80	Outstanding
TOTAL	6,599	853	8 Outstanding Sustainable Neighborhoods

PROGRAM GOAL AREAS



LAND: Stewardship and conservation of ecosystems and resources



PEOPLE: Social vitality through community interaction, partnerships, and outreach



WATER: Conserving water resources and improving water quality



ENERGY: Energy conservation and use of renewable energy sources








AIR: Reducing emissions, improving both outdoor and indoor air quality






WORKSHOPS JUNE 2019-MAY 2020

NEIGHBORHOOD		WORKSHOP NAME	ATTENDANCE	CREDITS EARNED	NOTES	PROGRAM GOAL AREAS SUPPORTED				
						LAND	PEOPLE	WATER	ENERGY	AIR
Applewood		How to Start Seeds	15	4		X				
Eiber		The Art of Mending	15	8	2 clinics were held	X	X			
Eiber		Resilience Circle	35	9	2 workshops were held	X	X	X	X	X
Green Mountain		Varroa Mites and Treatment Options	6	4		X	X			X
Green Mountain		Herb Drying and Canning	6	4		X	X		X	
Green Mountain		Composting with Emily 2	7	4		X	X	X		X
Green Mountain		Rain Barrels and Wildlife	9	4		X	X	X	X	X
Green Mountain		Queen Bees - Beth Conrey	10	4		X				X
Green Mountain		Zero to Hero! Lauren's 6-Year Yard Transformation	14	4		X	X	X		X
Green Mountain		Seed Collecting/Garden Tour	12	4		X	X	X		X
Green Mountain		Garden Tour at Wendy's	11	4		X	X	X		X
Green Mountain		Soap Making Workshop	4	4			X		X	X
Green Mountain		Exhausted? Stop Idling!	4	4			X			X
Green Mountain		Prepare Your Girls for Winter and Plans for Next Spring	4	4		X	X			
Green Mountain		Composting with Mary	13	4		X	X	X		






WORKSHOPS JUNE 2019-MAY 2020 (CONTINUED)

					PROGRAM GOAL AREAS SUPPORTED				
NEIGHBORHOOD	WORKSHOP NAME	ATTENDANCE	CREDITS EARNED	NOTES					
Green Mountain	Seed Starting and Using Soil Blocks	23	4		x	x	x		
Green Mountain	Planting for Pollinators	22	4		x	x	x		
Green Mountain	Swarms and Swarm Retrieval	10	4		x	x			
Green Mountain	Gardening 101/Challenges of Gardening in GM	21	4		x	x	x		
Green Mountain	Planting for Pollinators - GM Area Homeschoolers	20	4		x	x	x		
Morse Park	Urban Farm Tour: Raising Goats, Ducks, and Chickens	20	4		x	x		x	x
Morse Park	Urban Farm Tour: Bees, Veggies, Chickens, and More	30	5		x	x	x	x	x
South of 6th	S. Lakewood Elementary Community Garden Meeting	2	4		x	x			
South of 6th	Compost Colorado - Curbside Compost Service	10	4		x			x	x
	TOTAL WORKSHOPS = 24	323	106		22	21	12	7	13

CLUB MEETINGS JUNE 2019-MAY 2020






					PROGRAM GOAL AREAS SUPPORTED				
NEIGHBORHOOD	CLUB NAME	ATTENDANCE	CREDITS EARNED	NOTES					
Eiber	Walkin' and Talkin' Trash	37	11	7 cleanup days held	x	x	x		
Eiber	Eiber Steering Committee	44	9	9 steering committee meetings held	x	x	x	x	x
Green Mountain	Zero-Waste Lifecycle Club	44	13	7 lifestyle club meetings held	x	x	x	x	x
Southern Gables	Monthly Luncheon	180	10	10 luncheons held		x			
	TOTAL CLUB MEETINGS = 33	305	43		3	4	3	2	2

PROJECTS COMPLETED JUNE 2019-MAY 2020

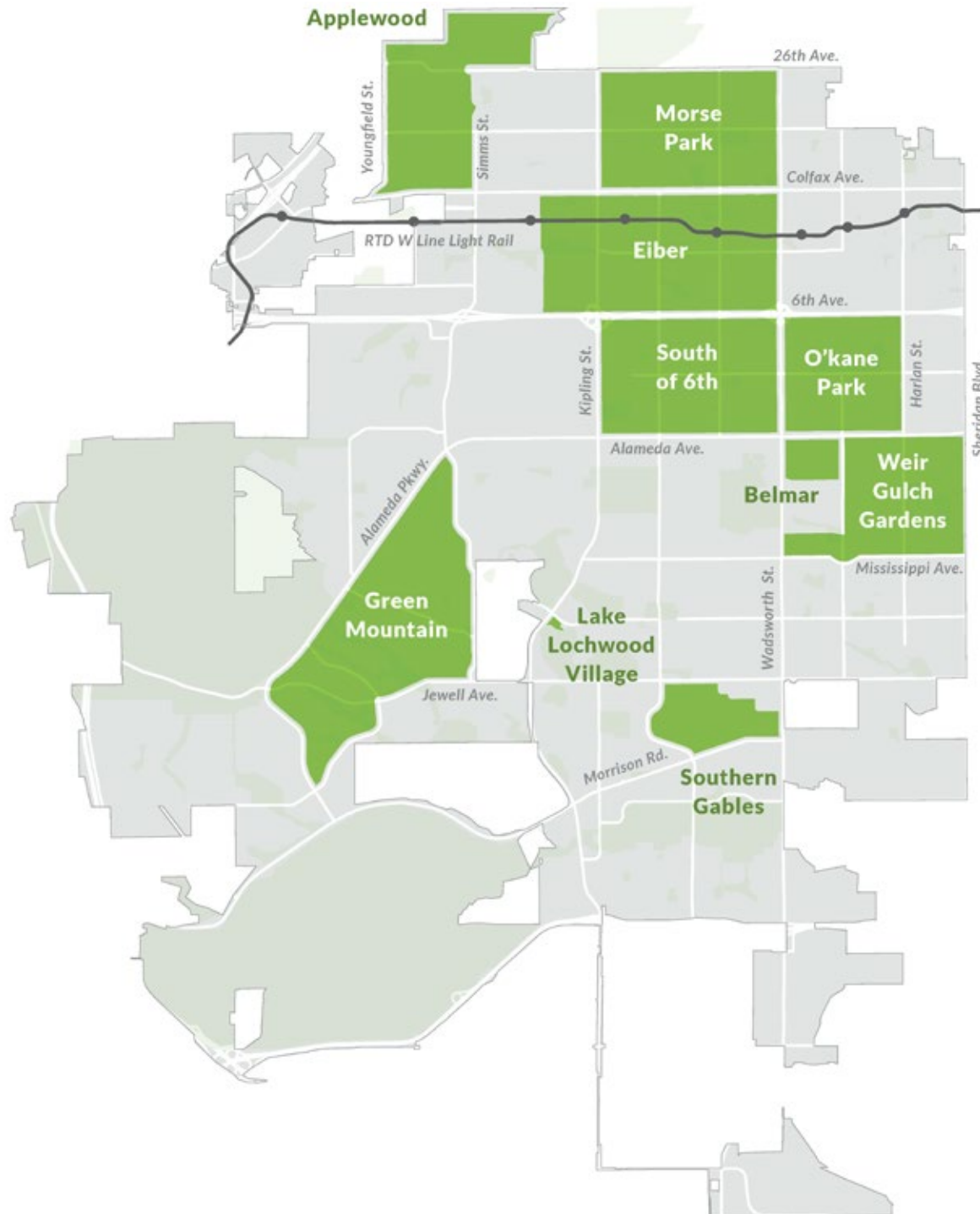
				PROGRAM GOAL AREAS SUPPORTED				
NEIGHBORHOOD	PROJECT NAME	CREDITS EARNED	NOTES					
Belmar	Belmar Community Garden Activities	80	6 identified goals were achieved	x	x	x		
Eiber	Food Rescue at the Action Center	10	This project is ongoing		x			
Green Mountain	Community Upcycling with Green Mountain Elementary School	65	4 identified goals were achieved	x	x			
Green Mountain	Continuation of School Lunchroom Waste Reduction Program	55	3 identified goals were achieved	x	x			
Lake Lochwood Village	Website Creation	10			x			
Lake Lochwood Village	Replacement of Roofing with Hail-Resistant Shingles	12		x	x	x	x	
Morse Park	Tree Planting	30	This project is ongoing	x	x	x	x	x
Applewood	Free Little Library Build	6			x			
	TOTAL PROJECTS = 8	268		5	8	3	2	1

EVENTS JUNE 2019-MAY 2020

PROGRAM GOAL AREAS SUPPORTED

NEIGHBORHOOD	EVENT NAME	ATTENDANCE	CREDITS EARNED	NOTES					
Applewood	Bike to Work Station	70	10			x			
Applewood	Fourth of July Parade and Ice Cream Social	450	13			x			
Applewood	Free Produce Market	62	10		x	x			
Applewood	Paint Recycling Event	513	13	Co-hosted with Morse Park; 482 people, 31 volunteers and 20 dogs!	x	x			
Applewood	Sustainable Movie Night	30	5		x	x			
Applewood	Seed Share	83	12		x	x			
Eiber	Adopt a Gulch Cleanup	19	6	7 adults and 12 boy scouts		x	x		
Eiber	Eiber Elementary Literacy Program	20	30			x			
Eiber	Eiber Annual Sustainability Opera House	15	6		x	x	x	x	x
Eiber	Adopt the Gulch (Lakewood)	8	6		x		x		x
Eiber	Eiber Elementary Family Assistance	10	6			x			
Green Mountain	First Annual Green Mountain Community Party	150	13		x	x	x	x	
Green Mountain	First Annual SGMN Community Farmer's Market	55	8		x	x		x	x
Green Mountain	First Annual SGMN Holiday Market	148	12		x	x			
Lake Lochwood Vill.	Composting with Fondue Dinner and Song	45	10		x	x		x	x
Lake Lochwood Vill.	Community During COVID	15	10			x			
Lake Lochwood Vill.	Recycling	11	6		x	x		x	x
Morse Park	Summer Social	100	11			x		x	
Morse Park	Glens Art Walk	2,000	13			x			
Morse Park	Paint Recycling Event	513	13	Co-hosted with Applewood; 482 people, 31 volunteers, and 20 dogs!	x	x			
South of 6th	Paint Recycling Event	200	12		x	x			
South of 6th	Zero Waste Annual Neighborhood Picnic	200	13		x	x		x	
South of 6th	South of 6th Costume Parade	50	8			x			x
South of 6th	Food Drive for JeffCo Action Center	100	12			x			x
Southern Gables	Neighborhood Night Out	650	12		x	x			
Southern Gables	Leaf Collection and Composting Day	134	12	45 volunteers, 30 seniors had leaves raked for them, 56 households brought leaves	x	x			
Southern Gables	Community Garden Pot Luck Supper and Work Day	16	6		x	x			
	TOTAL EVENTS = 26	5,154	288		17	26	4	7	7

2020 MAP OF LAKEWOOD SUSTAINABLE NEIGHBORHOODS



STAY INFORMED



Read the Sustainability Plan and this Report Online

Lakewood.org/sustainabilityplan



Learn More about Sustainability in Lakewood

Lakewood.org/green



Sign Up for Our Newsletter

Lakewood.org/sustainabilitynews



Follow Us on Social Media

@lakewood

Facebook.com/PlanLakewood

Instagram.com/LakewoodSustainability



Join the Lakewood Sustainability Cooperative

Lakewood.org/scoop



Email Us

Sustainability@Lakewood.org



Lakewood.org/green