

GOAL & TARGET RECOMMENDATIONS

ENVIRONMENTAL STEWARDSHIP PLAN UPDATE

November 2019

Executive Summary

OVERVIEW

This memorandum presents suggested goals and targets for the Environmental Stewardship Initiative (ESI) Strategic Plan Update (now *Sustainable Bellevue: Environmental Stewardship Plan*). These recommended goals and targets reflect the culmination of an iterative research and outreach process that included extensive research and analysis on historic progress, industry and peer city best practices, forecasted trends, input from city staff experts, and local context considerations.

The outreach and engagement process helped to gather input on residents' priorities and their level of interest in Bellevue being a leader in environmental stewardship and sustainability, in addition to informing people about progress to date and the intent of the plan update process. This initial phase of public outreach included:

- ▶ An online survey to solicit feedback from the public (~385 respondents)
- ▶ A workshop with Bellevue residents (~40 attendees)
- ▶ A workshop with Bellevue sustainability leaders and stakeholders, representing major institutional leaders in Bellevue (~25 attendees)
- ▶ Briefings and collaborative meetings with City staff leadership teams

The updated Environmental Stewardship Plan—and this memorandum— share the same focus areas as the previous ESI Strategic Plan which included, **Climate Change, Materials Management & Waste, Mobility & Land Use, Natural Systems, and Energy.**

The potential targets are organized into **three levels of ambition**:

- ▶ **Stretch** targets place Bellevue on a slightly more aggressive path than historic and current trends.
- ▶ **Bold** targets are more ambitious than Bellevue's current pathway. They are consistent with many peer cities as well as with best practices.
- ▶ **Leading edge** targets are the most ambitious option and would align Bellevue with the most advanced cities around the world acting on climate change and sustainability.

The memorandum presents recommended goals and targets and supports those recommendations with the following information:

- ▶ Existing City goals and targets (if applicable)
- ▶ Suggestions for updated and new goals and targets
- ▶ Peer city target examples
- ▶ Potential target options, organized by level of ambition



- ▶ Current and projected progress for key target indicators
- ▶ Example strategies that could support target achievement

SUMMARY OF RECOMMENDED GOALS AND TARGETS

The recommended goals and targets for Bellevue's municipal operations and for the entire city are outlined below. These targets generally align with the "Bold" level of ambition, aligning Bellevue with peer cities in the region and with best practices. These long-term aspirational targets will provide the framework for the Environmental Stewardship Plan. The communitywide targets have a target year of 2050, unless otherwise noted, however interim targets will also be developed as part of the plan update process. To lead by example, staff recommend targets for municipal operations of 2040, unless otherwise noted, to demonstrate Bellevue's leadership. This will put the City on a path to achieve its municipal operations targets ten years ahead of the communitywide targets.

Based on the analysis and outreach process, staff recommend targets aligned with the "Bold" level of ambition for several reasons: because this ambitious level of commitment aligns with best practices and peer communities and is considered to be more achievable than the leading edge targets. A summary of the recommended goals and targets is provided below, along with a snapshot of Bellevue's progress to date.

Climate Change

Goal: Reduce Bellevue's greenhouse gas emissions and prepare and adapt to ongoing climate change impacts.

Scope	Target	Progress to date
Communitywide	▶ Reduce Bellevue's communitywide greenhouse gas emissions 80% by 2050 , compared to a 2011 baseline.	▶ Reduced emissions 9% between 2011 and 2018.
Municipal Operations	▶ Reduce Bellevue's municipal operations greenhouse gas emissions by 80% by 2040 , compared to a 2011 baseline.	▶ Reduced emissions 22% between 2011 and 2018.

Materials Management & Waste

Goal: Reduce the negative impacts from consumption and waste practices and strive towards zero waste of resources.

Scope	Target	Progress to date
Communitywide	▶ Achieve zero waste by 2050 .	▶ Achieved an overall average 40% recycling rate for the past five years, comprised of a 66% recycling rate for single-family homes and 22% for multi-family and commercial buildings.
Municipal Operations	▶ Achieve zero waste in municipal operations by 2040 .	▶ Achieved an average 53% recycling rate at Bellevue City



Hall and the Bellevue Service Center.

Mobility & Land Use

Goal: Minimize the environmental impacts of transportation and development in Bellevue by focusing development in growth centers and providing all residents with access to a variety of mobility options.

Scope	Target	Progress to date
Communitywide	<ul style="list-style-type: none"> ▶ Achieve a 45% commute-trip drive-alone rate for residents and people working in Bellevue by 2050. ▶ Strive to have 50% electric vehicles registered in Bellevue by 2050 ▶ Reduce per capita vehicle miles travelled (VMT) by 50% by 2050, compared to a 2011 baseline ▶ Support transit oriented development and strive to achieve 85% of jobs and 65% of households located with a ¼ mile of frequent transit service (every 15 minutes) by 2050 	<ul style="list-style-type: none"> ▶ 66% commute-trip drive alone rate for residents ▶ 73% commute-trip drive alone rate for Bellevue workers ▶ Approximately 1500 electric vehicles registered in Bellevue in 2019 ▶ 3% VMT/capita reduction since 2011 ▶ 63% jobs (42% housing) within ¼ mile of frequent transit service (15 min.) as of 2012
Municipal Operations	<ul style="list-style-type: none"> ▶ Strive to achieve a 40% commute-trip drive alone rate for city employees by 2040 ▶ Strive to electrify 75% of all light duty vehicles in Bellevue's fleet by 2040 ▶ Achieve a 30% fuel reduction from Bellevue's fleet by 2040. 	<ul style="list-style-type: none"> ▶ 43% commute-trip drive alone rate for City employees ▶ 41% low emissions vehicles (LEV) in municipal fleet ▶ 5% fuel reduction for municipal fleet

Natural Systems

Goal: Improve and preserve the integrity and health of Bellevue's natural systems and ensure all of Bellevue's residents have access to Bellevue's abundant natural resources.

Scope	Target	Progress to date
Communitywide	<ul style="list-style-type: none"> ▶ Achieve a 40% citywide tree canopy by 2050 ▶ Ensure that 90% of Bellevue's residents live within 1/3 of a mile to a park, open space, or trail by 2050. ▶ Maintain and improve the health of Bellevue's streams¹ 	<ul style="list-style-type: none"> ▶ 37% tree canopy citywide in 2017 ▶ 73% of residents live within 1/3 of a mile from a park, trail, and/or open space in 2018

¹ A target for stream health will be recommended in 2020, as part of the Watershed Management Plan currently under development.

Scope	Target	Progress to date
Municipal Operations	<ul style="list-style-type: none"> ▶ Achieve a 10% reduction in water use in municipal operations by 2040. ▶ Achieve 80% of forest in healthy condition (class 1 or 2)² by 2040. 	<ul style="list-style-type: none"> ▶ 4% water use reduction ▶ 75% of public urban forests are in class 1 and 2 condition

Energy

Goal: Ensure long-term access to clean energy while reducing the fiscal and environmental impacts of consumption.

Scope	Target	Progress to date
Communitywide	<ul style="list-style-type: none"> ▶ Achieve 100% renewable energy by 2045. ▶ Reduce energy use by 30% by 2050, compared to a 2011 baseline. 	<ul style="list-style-type: none"> ▶ 40% renewable energy as of 2018 ▶ 5% energy use reduction since 2011
Municipal Operations	<ul style="list-style-type: none"> ▶ Achieve 100% renewable energy by 2030 for municipal operations. ▶ Reduce energy use from municipal operations by 40% by 2040. 	<ul style="list-style-type: none"> ▶ 70% renewable energy as of 2021 (through PSE's Green Direct program) ▶ 32% energy use reduction since 2011

² This target will likely need to be revised after the Parks Department completes a forest health assessment in 2020, which will use an updated methodology for assessing forest health.

Introduction

This report provides a summary of the recommended goals and targets for the update to the Environmental Stewardship Initiative (ESI) Strategic Plan (now called *Sustainable Bellevue: Environmental Stewardship Plan*).

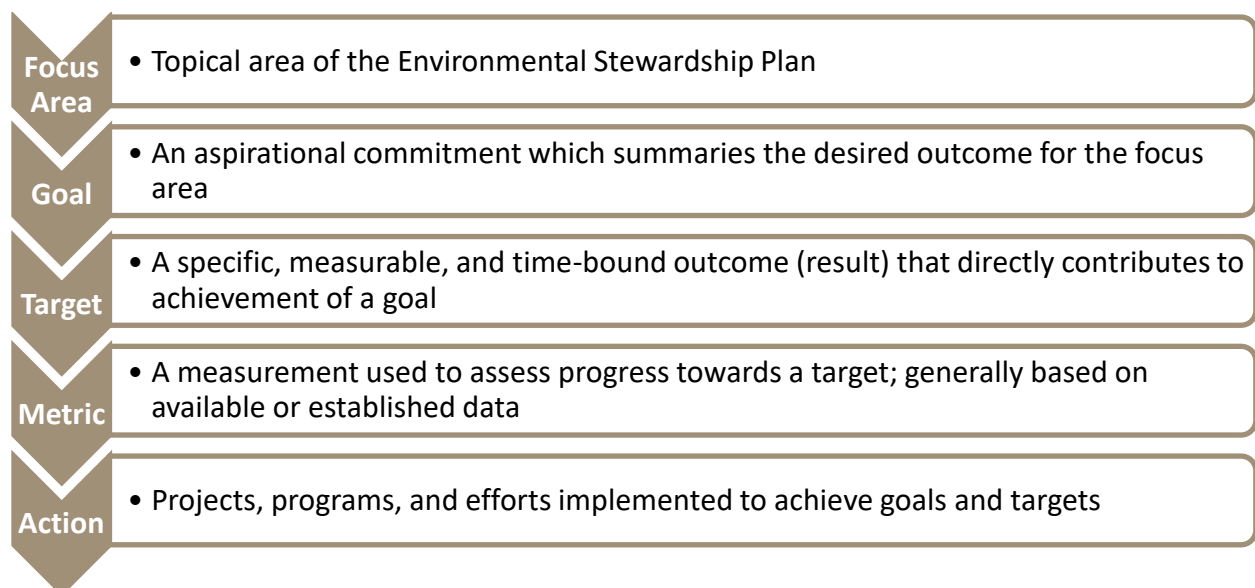
The goals and targets presented in this document are meant to build upon and enhance existing environmental efforts while providing an overarching framework for the strategies and actions in the Environmental Stewardship Plan. The goals and targets create a long-term vision for environmental stewardship and will be aspirational targets which will provide direction for the strategies and actions in the updated plan.

The updated Environmental Stewardship Plan will have the same focus areas as the current ESI Strategic Plan, which include:

- ▶ Climate Change
- ▶ Materials Management & Waste
- ▶ Mobility & Land Use
- ▶ Natural Systems
- ▶ Energy

Each focus area in the plan will have an overarching goal with associated targets—measurable performance indicators that can be used for tracking progress. An illustration of the hierarchy of the focus area, goals, targets, metrics, and actions is provided below in Figure 1.

Figure 1. ESI Strategic Plan Overview



This memorandum outlines **potential targets for both communitywide efforts and for municipal operations**. Many leading cities choose to have goals and targets for municipal operations that either mirror their citywide goals or exceed the citywide goals. Some cities that want to “lead by example,” choosing to adopt more aggressive goals for their municipal operations to demonstrate their commitment.

This document presents recommended goals and targets and supports those recommendations with the following information:

- ▶ Existing City goals and targets
- ▶ Suggestions for updated and new goals and targets
- ▶ Peer city target examples
- ▶ Potential target options, by category
- ▶ Current and projected progress for key target indicators
- ▶ Example strategies that could support target achievement
- ▶ Analysis of the pros and cons of target options

CONTEXT & BACKGROUND

The **Environmental Stewardship Initiative** commenced in 2007 to coordinate interdepartmental efforts to improve the environment in Bellevue. The work of ESI has been guided by the 2013-2018 ESI Strategic Plan.¹ To prepare for the update of the ESI Strategic Plan, the **ESI Progress Report**³ summarizes progress toward Bellevue's environmental goals, key project highlights from the past five years, and brief updates on each of the actions in the ESI Strategic Plan and considerations for possible next steps.

A key takeaway from the ESI Strategic Plan Progress Report is that the city's current environmental goals are a mix of short-term and long-term goals, aspirational and more achievable goals, measurable and qualitative goals, and goals which are included in Council adopted plans or in other strategic plans.

Goal setting is part of a larger **performance management approach**, which involves aligning measurable outcomes to overall citywide visions and policies. Local governments seeking to develop action plans for their environmental efforts are using goal setting and performance management to define future outcomes and develop strategies and actions for achieving those goals. Bellevue's City Council Vision relating to a High Quality Built and Natural Environment establishes the vision for the environment in Bellevue and the interplay of the built and natural environment of the "City in a Park."

Bellevue's **Comprehensive Plan** is the city's overarching policy document that provides policy direction for the ESI and for the five focus areas of the ESI Strategic Plan. **The suggested goals outlined in this document aim to advance the associated policies from the Comprehensive Plan.** The example targets for each goal provide an illustration of the types of commitments leading cities are making to focus their environmental action plans. A selection of best practice examples from Pacific Northwest cities, leading national cities, and cities from recent Bellevue Downtown Association study tours are included as examples.

Similar to the interrelationship of the various elements of Bellevue's Comprehensive Plan, the **focus areas of the ESI Strategic Plan are also interdependent.** The built environment consumes energy, generates waste, and creates transportation demand, all of which impact the climate change focus area and the ability to reduce greenhouse gas emissions and adapt to climate change. The natural systems focus area is closely tied to the mobility and land use focus area because the city's land use policies and development patterns impact natural systems in Bellevue.

³ ESI Strategic Plan Progress Report: <https://bellevuewa.gov/city-government/departments/community-development/environmental-stewardship/esi-strategic-plan>.



POTENTIAL GOALS AND TARGETS

This memorandum is intended to present recommended goals for each focus area and potential targets for each goal. Existing goals and targets and current performance toward the existing targets are also provided, from the **ESI Progress Report** and the **ESI Performance Dashboard**⁴.

The **potential targets listed within this document are categorized into three categories or options:**

- ▶ **Stretch** targets place Bellevue on a slightly more aggressive path than historic and current trends.
- ▶ **Bold** targets are more ambitious than Bellevue's current pathway. They are consistent with many peer cities as well as with best practices.
- ▶ **Leading edge** targets are the most ambitious option and would align Bellevue with the most advanced cities around the world acting on climate change and sustainability.

The following sections of this document outline **suggested goals, existing targets (if applicable), and potential new targets** for the Environmental Stewardship Plan. The associated comprehensive plan policy is provided for each focus area and goal, along with peer city examples, and an in-depth analysis of the target options and progress to-date.

OUTREACH AND ENGAGEMENT PROCESS

The potential targets and recommendations presented in this memorandum are the culmination of an iterative research and outreach process that included extensive research and analysis on historic progress, industry and peer city best practices, forecasted trends, and local context considerations. Residents and stakeholders provided input on their priorities and desire for Bellevue to take a leadership role with respect to environmental stewardship through the following approaches:

- ▶ An online survey to solicit feedback from the public (~340 respondents)
- ▶ A workshop with Bellevue residents (~35 attendees)
- ▶ A workshop with Bellevue sustainability leaders (~30 attendees)
- ▶ 6 pop-up events throughout Bellevue to engage with residents

These outreach sessions provided ample feedback and opportunity to further refine the ESI goals and targets. The planning and consultant teams incorporated these findings into the target options and recommendations presented in this document. The detailed results of the outreach process are outlined in the report, Environmental Stewardship Plan Update Phase 1 Outreach Summary. Some of the key takeaways from the outreach include:

- ▶ 48% of survey respondents wanted Bellevue to be on the leading edge; 29% wanted Bellevue to take bold action; and 15% wanted Bellevue to be as ambitious as it is today.
- ▶ 65% of survey respondents think Bellevue strongly agree that Bellevue should be a leader in sustainability and environmental stewardship.
- ▶ At the community workshop, residents strongly supported leading edge commitments for climate change, and supported both bold and leading edge targets for the other focus areas.

⁴ ESI Performance Dashboard: https://k4c.scope5.com/public_dashboard.



- ▶ At the Sustainability Leaders Workshop, some attendees reiterated their organizations' commitments to reducing greenhouse gas emissions and renewable energy in the near term, such as T-Mobile's commitment to 100% renewable energy by 2030 and Vulcan's commitment to the Seattle 2030 districts' goals of reducing energy and water use by 2030 and transportation emissions 50% by 2030 in the 2030 district.

SETTING A BASELINE

The targets and analyses presented in this memorandum assume a baseline comparison year of 2011. The planning and consultant team recommend setting a common **baseline year of 2011** for the following reasons:

- ▶ Having a consistent baseline year for all targets will improve the communication and reporting of these targets to the community and City staff.
- ▶ Methodologies and data availability changes over time. The year 2011 is recent enough that methodologies will be consistent over the tracking period, yet distant enough that past progress can be seen and evaluated.
- ▶ Complete data are available for all proposed targets in 2011.

TARGET ANALYSES APPROACH

For each focus area in this report, options for targets are presented and organized into the **stretch**, **bold**, and **leading edge** level of ambition. An initial analysis was performed to document the current trends and assess how progress aligns with the various target options, also taking into account the impact of population and job growth and other factors such as state legislation. An analysis of each target option was also performed through engagement with city staff subject matter experts and through the community workshop.

Participants at the community workshop were presented with the target options and were asked to select their preferred target. For climate change, all of the participants selected the leading edge target, and for the other focus areas residents were somewhat split on selecting the bold or leading edge targets.

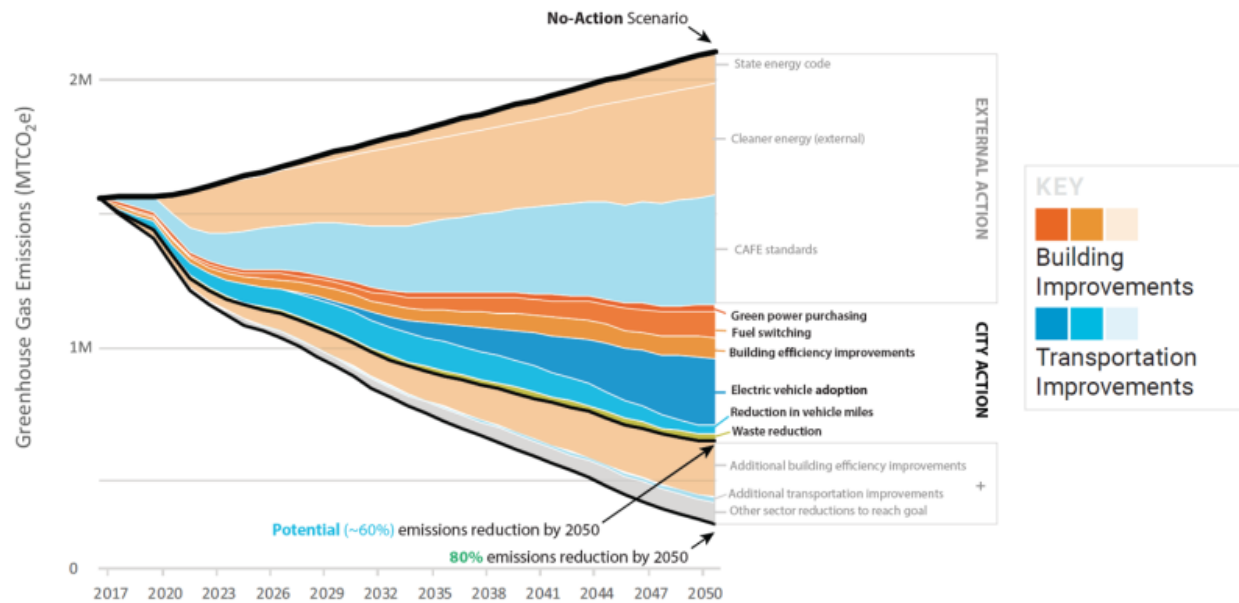
Staff also analyzed the potential implications of the various target options, and the level of effort to achieve each target option. The following criteria were taken into consideration as part of the analysis:

- ▶ Cost
- ▶ Level of effort for implementation
- ▶ Best practices

For the climate change targets, an initial analysis of strategies, known as a "wedge analysis" was performed as shown in Figure 2. This analysis for climate change and for the other focus areas will be further refined in the next phase of the planning process, to identify the most impactful strategies for achieving the goals and targets. In addition, the team will also undertake another round of outreach and engagement to gauge priorities and support for various actions from Bellevue's residents, businesses, and other stakeholders.



Figure 2. Example community “wedge analysis” to show sustainability actions required to meet targets. Assumptions for key indicators are provided in bullet points to the right of the graph.



Based on the analysis and outreach process, staff recommend targets aligned with the “Bold” level of ambition for several reasons: because this ambitious level of commitment aligns with best practices and peer communities and is considered to be more achievable than the leading edge targets. A more detailed analysis of the possible targets, best practices, example strategies, and recommended targets is provided in the following section.

Analysis and Recommendations

CLIMATE CHANGE

Comprehensive Plan Policy

Establish an achievable citywide target and take corrective actions to reduce greenhouse gas emissions such as reducing energy consumption and vehicle emissions and enhancing land use patterns to reduce vehicle dependency. (EN-6)

Recommended Goal & Targets

Reduce Bellevue's greenhouse gas emissions and prepare and adapt to ongoing climate change impacts.

Scope	Target
Communitywide	▶ Reduce Bellevue's communitywide greenhouse gas emissions 80% by 2050, compared to a 2011 baseline.
Municipal Operations	▶ Reduce Bellevue's municipal operations greenhouse gas emissions by 80% by 2040, compared to a 2011 baseline.

Context

Based on analysis from leading scientific and international policy efforts, taking action to mitigate the negative effects of climate change will require efforts from national, state, and local levels of government, along with the private sector. The **State of Washington** has committed to reduce greenhouse gas emissions by 50% by 2040, and Bellevue has endorsed the **Countywide Planning Policy** which calls to reduce countywide GHG emissions, compared to a 2007 baseline, by 25% by 2020, 50% by 2030, and 80% by 2050.

Cities around the world are establishing greenhouse gas emissions reduction targets to guide their climate action efforts.⁵ These emissions reduction targets typically align with international scientific consensus that global emissions should be reduced by at least **80% by 2050** to avoid the most harmful impacts of climate change, to limit global warming to no more than 2 degrees C. Cities with greenhouse gas emissions reduction targets and climate action plans recognize that to achieve their local goals, action is required at the federal, state, and local level. These plans can be used to help identify state-level policies which would help to achieve local climate goals.

Many governments and businesses are increasingly setting targets to achieve **carbon neutrality** (i.e., net zero emissions). The City of Seattle has a target for net zero emissions by 2050, and the State of California recently set a target to reach net zero emissions by 2045. Many of these targets are inspired by a recent report from the Intergovernmental Panel on Climate Change (IPCC), which found that curbing global warming below 1.5

⁵ ARUP and C40 Cities Climate Leadership Group, Global Aggregation of City Climate Commitments: <https://www.c40.org/researches/global-aggregation-of-city-climate-commitments-methodology>.



degrees C will be required to avoid the most extreme climate change impacts, and that doing so will require a large, fundamental shift in our GHG emissions trends.

Many **local companies** have also established greenhouse gas emissions reduction goals. Puget Sound Energy (PSE) has established a goal to reduce emissions 50% by 2040; REI has committed to being “climate-neutral” by 2020, and Salesforce has committed to net-zero greenhouse gas emissions. Most recently, Amazon announced a suite of climate and sustainability commitments including a target of carbon neutrality by 2040, 100% renewable energy by 2030, and 50% of shipments achieving net zero carbon by 2030.

Bellevue has endorsed a regional climate action goal through the **King County Cities Climate Collaboration** (K4C) and has the opportunity to update its emissions reduction target, which is currently out of date, to guide Bellevue’s climate action efforts.

Peer Cities

Communitywide Targets	Municipal Operations Targets
<p>Dozens of cities around the U.S. have established emissions reductions targets.⁶ A snapshot of some local government targets are below, in order of aggressiveness:</p> <ul style="list-style-type: none"> ▶ 30% reduction by 2030 <ul style="list-style-type: none"> • Nashville, TN (2014 baseline) ▶ 40% reduction by 2030 <ul style="list-style-type: none"> • Portland, OR (1990 baseline) ▶ 50% reduction by 2030 <ul style="list-style-type: none"> • King County, WA, Redmond, WA, and Issaquah, WA (2007 baseline) ▶ 70% reduction by 2050 <ul style="list-style-type: none"> • Nashville, TN (2014 baseline) ▶ 80% reduction by 2050 <ul style="list-style-type: none"> • King County, WA, Redmond, WA, Issaquah, WA, and Shoreline WA, (2007 baseline) • Denver, CO (2005 baseline) • San Diego, CA (2010 baseline) • Portland, OR (1990 baseline) ▶ Zero net emissions by 2050 <ul style="list-style-type: none"> • Seattle, WA 	<p>Many cities with communitywide greenhouse gas emissions reductions targets also adopt targets for their municipal operations, which are either the same or have a more aggressive timeline than the communitywide target. Some examples are as follows:</p> <ul style="list-style-type: none"> ▶ 15% reduction by 2020 <ul style="list-style-type: none"> • San Diego, CA (2010 baseline) ▶ 20% reduction by 2020 <ul style="list-style-type: none"> • Nashville, TN ▶ 50% reduction by 2030 <ul style="list-style-type: none"> • King County, WA (2007 baseline) ▶ 40% reduction by 2030 <ul style="list-style-type: none"> • San Diego, CA (2010 baseline) • Nashville, TN ▶ 50% reduction by 2035 <ul style="list-style-type: none"> • San Diego, CA (2010 baseline) ▶ 53% reduction by 2030 <ul style="list-style-type: none"> • Portland, OR (2006 baseline) ▶ 80% reduction by 2050 <ul style="list-style-type: none"> • King County, WA (2007 baseline) • Nashville, TN ▶ Zero net emissions by 2050 <ul style="list-style-type: none"> • Seattle, WA ▶ Reduce municipal greenhouse gas emissions to less than 3% of the level of emissions that meet the Community Climate Goal

⁶ ARUP and C40 Cities Climate Leadership Group, Global Aggregation of City Climate Commitments: <https://www.c40.org/researches/global-aggregation-of-city-climate-commitments-methodology>.

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ANALYSIS AND RECOMMENDATIONS

- Denver, CO

Target Options

PROGRESS	Stretch	Bold	Leading Edge
Communitywide Target Options			
9% emissions reduction since 2011	▶ 70% emissions reduction by 2050	▶ 80% emissions reduction by 2050	▶ Carbon neutrality by 2050
Municipal Operations Target Options			
22% emissions reduction since 2011	▶ 80% emissions reduction by 2050	▶ 80% emissions reduction by 2040	▶ Carbon neutrality by 2050

Potential Strategies

Communitywide Strategies	Municipal Operations Strategies
<ul style="list-style-type: none"> • Energy efficiency and conservation in commercial and residential buildings • Incentives or requirements for green building for new construction • Purchasing renewable energy • Onsite renewable energy • Reducing emissions from transportation • Increasing access and use of non-motorized transportation options • Waste minimization from residential, commercial, and industrial facilities 	<ul style="list-style-type: none"> • Energy efficiency and conservation in municipal buildings and equipment • Purchasing renewable energy • Onsite renewable energy • Reducing emissions from vehicle fleet • Reducing emissions associated with commute trips and employee travel • Increasing access and use of non-motorized transportation options • Waste minimization from city facilities

Progress To-Date

In 2007, Bellevue City Council became a signatory of the U.S. Conference of Mayors Climate Protection Agreement (MCPA) and passed Resolution 7517 to formally adopt a goal to reduce greenhouse gas emissions to 7% below 1990 levels by 2012. Bellevue achieved significant reductions in municipal emissions since signing the MCPA and more modest reductions in communitywide emissions despite significant population and job growth during the time period.

The previous ESI Strategic Plan goal (2013-2018) was to measure, communicate, plan, and act to reduce citywide greenhouse gas emissions. City staff annually collect emissions data to conduct greenhouse gas inventories to measure emissions for community-wide and municipal operations according to global protocols. In 2018, Bellevue's community-wide emissions totaled 1.57 million metric tonnes of carbon dioxide equivalent (MTCO₂e), which is a 9% reduction since 2011.

Figure 3 shows annual greenhouse gas emissions produced by the public and private sector, which includes energy used in buildings, outdoor lighting, city infrastructure, transportation within city limits, and waste sent



to landfills. Annual GHG emissions have remained relatively consistent since 2011 achieving a 9% greenhouse gas reduction despite rapid growth. The results are publicly reported on the ESI Performance Dashboard⁷.

Figure 3: Communitywide GHG Emissions (MTCO₂e)

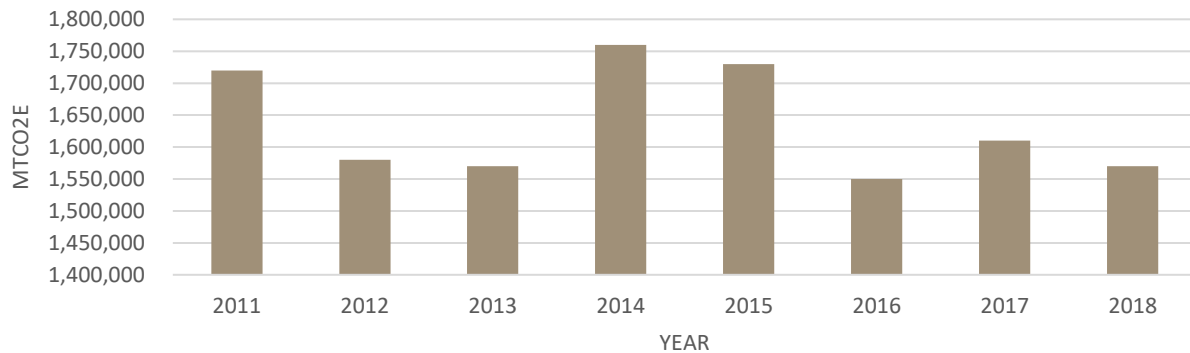
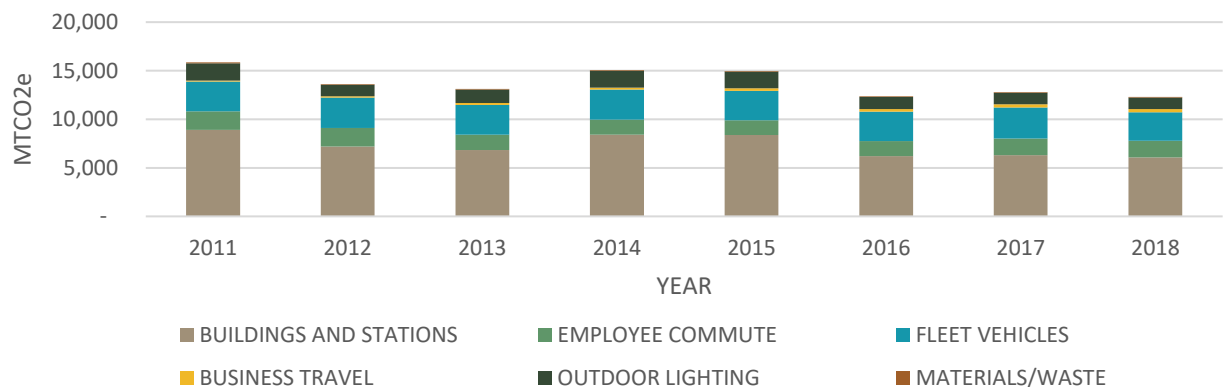


Figure 4 summarizes annual greenhouse gas emissions for municipal operations including buildings, lighting, waste generation, municipal fleet, employee commutes, and business travel. Greenhouse gas emissions from municipal operations have decreased by 22% since 2011. The two largest contributors are municipally-owned buildings and the fleet. The greatest reductions achieved are the result of outdoor lighting efficiency from LED retrofits.

Figure 4: Municipal Operations GHG Emissions (MTCO₂e)



Analysis and Recommendations

The recommended Communitywide targets are aligned with the “Bold” category of action, peer communities, and best practices. The 80x50 target aligns with the Paris Agreement and scientific understanding of the reductions necessary to avoid 2 degrees of global warming and avoid the catastrophic risks of climate change. The leading edge target of carbon neutrality is being adopted by a handful of cities, corporations, and

⁷ ESI Performance Dashboard: https://k4c.scope5.com/public_dashboard.

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institutions around the world and would require a complete transition away from all fossil fuel use. A carbon neutral goal would align with the latest scientific research to reduce emissions enough to avoid 1.5 degrees of global warming and further curtail the risks of climate change.

Participants at the October 1st Community Workshop expressed their interest in a leading edge climate target. However, based on the projected population and job growth in Bellevue, current trends, feasibility, level of effort and costs, staff recommend the “Bold” targets for reducing both communitywide and municipal operations emissions.

Climate Change	
Recommended Targets	Rationale
Communitywide	
▶ Reduce Bellevue’s communitywide greenhouse gas emissions 80% by 2050, compared to a 2011 baseline.	<ul style="list-style-type: none">▶ Bellevue has reduced communitywide greenhouse gas emissions by 9% between 2011 and 2018, despite 11% population growth during that time and 9% job growth. The Washington State Clean Energy Transformation Act will catalyze a transition to renewable energy in Washington State, which will have a significant impact on Bellevue’s ability to meet this emissions reduction target. The other goals and targets outlined in this document, in particular the Mobility and Land Use goals, will also play a significant role in reducing greenhouse gas emissions.▶ An 80% by 2050 emissions reduction target is aligned with the Paris Climate Accord, the King County Cities Climate Collaboration, peer cities, and national best practices.
Municipal Operations	
▶ Reduce Bellevue’s municipal operations greenhouse gas emissions by 80% by 2040, compared to a 2011 baseline.	▶ Based on past trends and the projected impact of Bellevue purchasing renewable energy through PSE’s Green Direct program, staff recommend a municipal operations target of 80% by 2040. This bold target allows Bellevue to lead by example through its municipal operations, but striving to achieve an 80% reduction ten years ahead of the communitywide target.



MATERIALS MANAGEMENT & WASTE

Comprehensive Plan Policy

Work with residents, businesses, and waste haulers to continue to improve the percentage of waste diverted from landfill. (EN-17)

Recommended Goal & Targets

Reduce the negative impacts from consumption and waste practices and strive towards zero waste of resources.

Scope	Target
Communitywide	▶ Achieve zero waste by 2050.
Municipal Operations	▶ Achieve zero waste in municipal operations by 2040.

Context

King County provides solid waste planning, transfer, and disposal services under the Solid Waste Interlocal Agreement (ILA). King County recently completed the process of updating the Comprehensive Solid Waste Management Plan, which was adopted by Bellevue City Council in June 2019. This plan sets a goal for zero waste of resources by 2030, for materials with economic value, with an interim target of a 70% recycling rate for all countywide waste. The King County Council adopted this plan in XX of 2019, and the Bellevue City Council approved the plan in June 2019⁸

Republic Services contracts with the city for the collection of solid waste generated in Bellevue. The 7-year contract, beginning June 2014, provides garbage, recycling, and organics collection services to single-family, multifamily, and commercial customers. Under state law, commercial entities can independently contract for the collection of their recyclable materials. Several private recycling companies provide commercial service. The city manages the solid waste contract with Republic Services and provides outreach, education, and technical assistance to residents and businesses aimed at promoting waste prevention, recycling, and proper disposal of hazardous and moderate risk wastes.

In 1989, **Washington State** established a 50% recycling goal when the Washington Legislature passed ESHB 1671, known as the Waste Not Washington Act. The State is currently adopting new statewide quantitative goals for waste reduction and recycling.⁹ King County has a goal of recycling 70% by 2030, and all waste in the long-term, which is included in the 2019 King County Solid Waste Management Plan.¹⁰

⁸ Bellevue City Council Resolution 9628, Approving the 2019 Comprehensive Solid Waste Management Plan for the King County Solid Waste System.

⁹ State Solid and Hazardous Waste Plan: Moving Washington Beyond Waste and Toxics.
<https://fortress.wa.gov/ecy/publications/documents/1504019.pdf#page=24>.

¹⁰ King County 2019 Comprehensive Solid Waste Management Plan:
<https://www.kingcounty.gov/depts/dnrp/solid-waste/about/planning/comp-plan.aspx>.



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ANALYSIS AND RECOMMENDATIONS

As part of a comprehensive climate or sustainability action plan, many leading cities around the country are establishing aggressive recycling goals. These goals range from minimizing and managing waste to more aggressive zero waste targets.

Peer Cities

Communitywide Targets	Municipal Operations Targets
<ul style="list-style-type: none"> ▶ 40% diversion rate by 2020 <ul style="list-style-type: none"> • Dallas, TX ▶ 60% diversion rate by 2040 <ul style="list-style-type: none"> • Dallas, TX ▶ 70% of construction and demolition debris recycled by 2020 <ul style="list-style-type: none"> • Seattle, WA ▶ 70% of municipal solid waste recycled by 2022 <ul style="list-style-type: none"> • Seattle, WA ▶ Zero waste, with a 70% by 2030 interim goal <ul style="list-style-type: none"> • King County, WA ▶ Zero waste by 2022 <ul style="list-style-type: none"> • San Jose, CA ▶ Zero waste by 2040 <ul style="list-style-type: none"> • Austin, TX • Dallas, TX 	<ul style="list-style-type: none"> ▶ 90% diversion rate by 2030 <ul style="list-style-type: none"> • Cleveland, OH ▶ 80% diversion rate by 2015 <ul style="list-style-type: none"> • Santa Monica, CA ▶ 95% diversion rate by 2030 <ul style="list-style-type: none"> • Santa Monica, CA ▶ 90% waste diversion rate for new city-funded projects and major renovations with more than 5,000 square feet of occupied space <ul style="list-style-type: none"> • Seattle, WA

Target Options

PROGRESS	Stretch	Bold	Leading Edge
Communitywide Target Options			
40% recycling rate (average) in 2018 - 64% single family rate - 22% multi-family and commercial rate	▶ 50% recycling rate by 2050	▶ Zero waste of resources with economic value by 2050	▶ Zero Waste of resources with economic value by 2040
Municipal Operations Target Options			
53% recycling rate in 2018	▶ 70% recycling rate by 2050	▶ Zero Waste of resources with economic value by 2040	▶ Zero Waste of resources with economic value by 2035



Potential Strategies

Communitywide Strategies	Municipal Operations Strategies
<ul style="list-style-type: none"> • Education and outreach to promote recycling and organics collection for single-family residential, multi-family residential, and commercial properties • Mandatory commercial recycling and/or organics collection • “Pay as you throw” financial incentives for waste reduction • Require construction and demolition recycling at job sites 	<ul style="list-style-type: none"> • Implement the Environmentally Preferable Purchasing (EPP) Policy to eliminate source waste • Provide recycling and organics collection at all City facilities • Host zero waste events • Surplus or donate all reusable items • Track construction and demolition waste recycling for city projects

Progress To-Date

The City of Bellevue uses the recycling rate to measure the total amount of recycling and composting against the total amount of waste generated in the residential sector (single family homes) and in the multi-family/commercial sector. In Bellevue, the communitywide recycling rate has stagnated at a 40% average for both sectors since 2011. The residential sector achieved a 64% recycling rate, which is higher than the 22% recycling rate for the multifamily/commercial sector in 2018.

Waste audits are conducted at City Hall and Bellevue Service Center to measure recycling rates for municipal operations. The first waste audit was conducted at City Hall in 2009. Since then, City Hall’s recycling rate has increased by 10% achieving a 66% recycling rate in 2017. Bellevue Service Center achieved a 39% recycling rate, which achieves a 53% recycling rate average for municipal operations.

In 2013, the City developed an Environmentally Preferable Purchasing (EPP) Policy to ensure that operational purchases prioritize products that are compostable and recyclable from rapidly renewable sources with zero toxicity to occupants. Educational programs, signage, and increased recycling or composting receptacles have also supported the City’s high recycling rate.

Analysis and Recommendations

The recommended Communitywide targets are aligned with the “Bold” category of action, peer communities, and best practices. Cities and corporations around the country are establishing goals for “Zero Waste”, which is defined as zero waste of resources with economic value. This aspirational commitment is intended to promote waste minimization along with reuse and recycling, but also recognizes that some materials cannot be recycled or reused.

The newly adopted King County Solid Waste Management Plan sets an aspirational goal of zero waste by 2030, with an interim goal of a 70% recycling rate. Given the high percentage of commercial waste in Bellevue, staff recommend a longer term zero waste goal by 2050 for Bellevue, which would be more achievable than the highly aggressive County goal of zero waste by 2030.

The municipal operations targets are based on past performance, best practices, and position the lead by example by exceeding the recommended communitywide targets and striving for zero waste by 2040 from city operations.



GOAL & TARGET RECOMMENDATIONS

ANALYSIS AND RECOMMENDATIONS

Waste	
Recommended Targets	Rationale
Communitywide	
<ul style="list-style-type: none"> ▶ Achieve zero waste by 2050. 	<ul style="list-style-type: none"> ▶ Best practice cities around the country are establishing “zero waste” targets, as an aspirational vision for reducing waste going to landfills through waste reduction, reuse, and recycling. ▶ The King County Comprehensive Solid Waste Management Plan, which Bellevue adopted, includes a zero waste by 2030 goal. ▶ Given Bellevue’s current overall 40% recycling rate, zero waste by 2050 seems more attainable, as achieving this goal will likely require new actions for increasing recycling and diversion, in particular for multi-family and commercial buildings.
Municipal Operations	
<ul style="list-style-type: none"> ▶ Achieve zero waste in municipal operations by 2040. 	<ul style="list-style-type: none"> ▶ Bellevue is already leading by example at City Hall, with a 66% recycling rate, demonstrating that a high recycling rate is possible in an office building. ▶ Staff recommend that the City aim to achieve the zero waste target ten years ahead of the communitywide goal, in 2040.



MOBILITY & LAND USE

Comprehensive Plan Policy

- ▶ Establish targets to increase the proportion of commute trips by modes other than driving alone. Periodically evaluate progress toward these targets and adjust programs and activities as needed to achieve the goal. (TR-8)
- ▶ Continue to ensure that the city as an employer sets a positive example by maintaining a comprehensive and effective transportation demand management program for its employees. (TR-12)
- ▶ Ensure that the transportation system infrastructure in Bellevue provides mobility options for all modes, and accommodates the mobility needs of everyone, including underserved populations. (TR-12)
- ▶ Promote a clear strategy for focusing the city's growth and development to the Downtown regional growth center and to other areas designated for compact, mixed use development served by a full range of transportation options. (LU-1)
- ▶ Promote the use of alternative fuels such as electricity and compressed natural gas and evaluate the use of such fuels for the city's vehicles. (EN-54)
- ▶ Support means to reduce transportation-source greenhouse gas emissions. (TR-140).

Recommended Goal & Targets

Minimize the environmental impacts of transportation and development in Bellevue by focusing development in growth centers and providing all residents with access to a variety of mobility options.

Scope	Target
Communitywide	<ul style="list-style-type: none"> ▶ Achieve a 45% commute-trip drive-alone rate for residents and people working in Bellevue by 2050. ▶ Strive to have 50% electric vehicles registered in Bellevue by 2050 ▶ Reduce per capita vehicle miles travelled (VMT) by 50% by 2050, compared to a 2011 baseline ▶ Support transit oriented development and strive to achieve 85% of jobs and 65% of households located with a ¼ mile of frequent transit service (every 15 minutes) by 2050
Municipal Operations	<ul style="list-style-type: none"> ▶ Strive to achieve a 40% commute-trip drive-alone rate for city employees by 2040 ▶ Strive to electrify 75% of all light duty vehicles in Bellevue's fleet by 2040 ▶ Achieve a 30% fuel reduction from Bellevue's fleet

Context

The **Washington State Growth Management Act (GMA)** requires state and local governments to manage growth by identifying and protecting critical areas and natural resource lands, designating urban growth areas, preparing comprehensive plans and implementing them through capital investments and development



regulations. Bellevue's **Comprehensive Plan**¹¹ is the city's preeminent policy document, which guides all growth and development in Bellevue, in accordance with regional growth strategies. Bellevue also has a number of other sub-plans which support the Comprehensive Plan, such as neighborhood area plans, the Pedestrian and Bicycle Transportation Plan, the Smart Mobility Plan, and the Commute Trip Reduction plan¹². The goals and targets provided here build on the policy direction from Bellevue's Comprehensive Plan. The Comprehensive Plan includes an aspirational target for reducing commute-trip drive-alone rate for city residents to 55% and city workers to 60% by 2035.

Washington State has a goal of registering 50,000 plug-in electric vehicles by 2020. Washington State also recently enacted into law House Bill 2042¹³ to advance the adoption of electric vehicles in Washington State. This bill reinstates the sales tax exemption for electric and alternative fuel vehicles, enables public and private utilities to invest in electric vehicle infrastructure, provides funding for EV car-sharing for low income communities, and provides funding for transit fleet electrification.

In 2011, the Washington State legislature established the following **transportation demand management goals** through RCW 47.01.440¹⁴ to reduce annual per capita VMT below seventy-five billion VMT by:

- ▶ 18% by 2020
- ▶ 30% by 2035
- ▶ 50% by 2050

Regarding the efficiency of the City's vehicle fleet, the State of Washington has a law¹⁵ requiring state agencies and local governments to fuel publicly owned vehicles, vessels, and construction equipment with electricity or biofuels to the extent practicable. The City of Bellevue is required to comply with this law, however there is some flexibility in how fleet managers implement this requirement due to the "extent practicable" qualification.

Peer Cities

Communitywide Targets	Municipal Operations Targets
<ul style="list-style-type: none"> ▶ 25% of commuters drive alone by 2035 <ul style="list-style-type: none"> • Seattle, WA ▶ 25% of all commute trips are done by bike and 25% by transit by 2035 <ul style="list-style-type: none"> • Portland, OR ▶ 30% electric light-duty vehicle ownership by 2030 	<ul style="list-style-type: none"> ▶ 20% of the city's fleet to electric vehicles by 2030 <ul style="list-style-type: none"> • Portland, OR ▶ 60% clean fleet vehicles <ul style="list-style-type: none"> • Riverside, CA ▶ Purchase 200 plug-in electric vehicles within by 2020 <ul style="list-style-type: none"> • Denver, CO

¹¹ Bellevue Comprehensive Plan: <https://bellevuewa.gov/city-government/departments/community-development/planning-initiatives/comprehensive-plan>.

¹² Bellevue Transportation plans: <https://bellevuewa.gov/city-government/departments/transportation/planning>

¹³ Washington State Green Transportation Legislation: [HB 2042](#).

¹⁴ Washington State Statewide goals to reduce annual per capita vehicle miles traveled by 2050; [RCW 47.01.441](#).

¹⁵ Washington State and Local Government Agency Electric Vehicle and Alternative Fuel policy: [RCW 43.19.648](#).



GOAL & TARGET RECOMMENDATIONS

ANALYSIS AND RECOMMENDATIONS

Communitywide Targets	Municipal Operations Targets
<ul style="list-style-type: none"> Seattle, WA 45% non-drive alone trips by 2030 Redmond, WA 70% non-drive alone trips by 2035 Portland, OR Replace a minimum of 10,000 gas- or diesel-powered vehicles with electric vehicles by 2020 Multnomah County 26,700 light rail boarding's per day by 2024 Redmond, WA 75,000 zero emission vehicles on the road by 2025 Sacramento, CA 45% of households and 85% of jobs are located within an urban village by 2030 Seattle, WA 80% of Portland's population will live in walkable neighborhood by 2035 Portland, OR 95% of new housing will be built within ½ mile of mass transit stations New York City, NY 57% of new housing within 1,500 feet of mass transit stations by 2025; and 65% by 2035 Los Angeles, CA 	<ul style="list-style-type: none"> Purchase 250 new electric vehicles by 2020 (70% of light duty fleet) Seattle, WA Purchase 400 new electric vehicles by 2023 (100% of light duty fleet) Seattle, WA 75% of annual light-duty fleet purchases to be zero emission vehicles by 2020 Seattle, WA 100% zero-emissions passenger vehicles in fleet by 2022 San Francisco, CA 5% reduction in mobile source pollution by 2020 Riverside, CA 50% reduction in greenhouse gas pollution across the municipal fleet by 2025 Seattle, WA (2013 baseline)

Target Options

PROGRESS	Stretch	Bold	Leading Edge
Communitywide Target Options			
66% commute-trip drive alone rate for residents and 73% commute-trip drive alone rate for workers (5-year average)	▶ 55% commute-trip drive alone rate by 2050 for residents and workers	▶ 45% commute-trip drive alone rate by 2050 for residents and workers	▶ 35% commute-trip drive alone rate by 2050 for residents and workers
Approximately 1500 electric vehicles registered in Bellevue in 2019	▶ 40% electric vehicles on the road by 2050	▶ 50% electric vehicles on the road by 2050	▶ 60% electric vehicles on the road by 2050



GOAL & TARGET RECOMMENDATIONS

ANALYSIS AND RECOMMENDATIONS

3% VMT/capita reduction in 2018	▶ 35% VMT/capita reduction by 2050	▶ 50 % VMT/capita reduction by 2050	▶ 60% VMT/capita reduction by 2050
63% jobs (42% households) within ¼ mile of frequent transit service (15 min.) as of 2012	▶ 70% of jobs and 65% of households are within a ¼ mile of frequent transit service (every 15 min.)	▶ 85% of jobs and 65% of households are within a ¼ mile of frequent transit service (every 15 min.)	▶ 90% of jobs and 70% of households are within a ¼ mile of frequent transit service (every 15 min.)
Municipal Operations Target Options			
43% commute-trip drive alone rate for employees in 2018	▶ 50% commute-trip drive alone rate by 2040	▶ 40% commute-trip drive alone rate by 2040	▶ 30% commute-trip drive alone rate by 2040
41% low emissions vehicles (LEV) in municipal fleet in 2018	▶ 50% light duty fleet electrification by 2040	▶ 75% light duty fleet electrification by 2040	▶ 100% light duty fleet electrification by 2040
5% fuel reduction for municipal fleet since 2011	▶ 20% fuel reduction for municipal fleet by 2040	▶ 30% fuel reduction for municipal fleet by 2040	▶ 40% fuel reduction for municipal fleet by 2040

Potential Strategies

Communitywide Strategies	Municipal Operations Strategies
<ul style="list-style-type: none"> • Commute trip reduction programs for large and small businesses • Expand access to public transit • Expand network of bike lanes and sidewalks to improve pedestrian and cyclist access and safety for people walking and bicycling • Encourage and/or incentivize alternative fuel vehicles • Expand electric vehicle charging infrastructure in public facilities, workplaces, and residences 	<ul style="list-style-type: none"> • Incentivize public transportation commute trips with Orca cards • Increase electric vehicle charging infrastructure for employees and vehicle fleet • Assess the total cost of ownership for electric vehicles in the vehicle fleet • Provide employee driver education around the benefits of electric vehicles and anti-idling

Progress To-Date

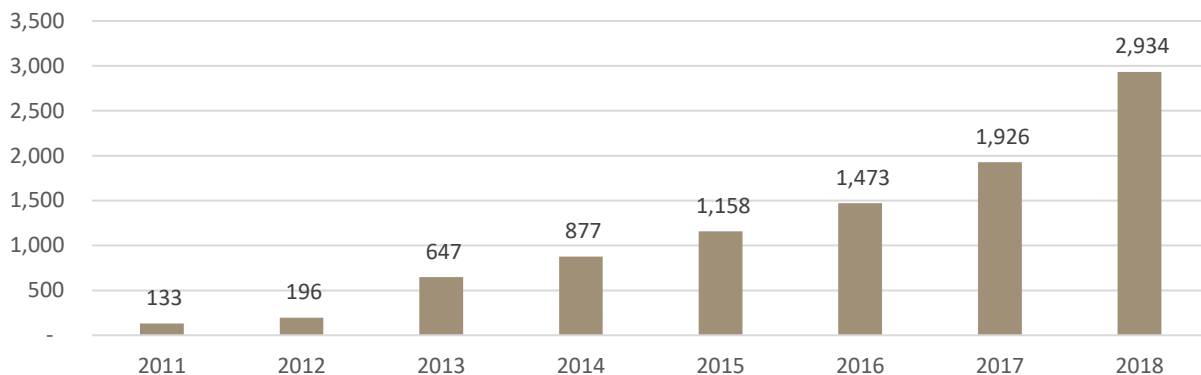
The City of Bellevue is required by the state to maintain a Commute Trip Reduction (CTR) program, which is focused on employers citywide with 100 or more full-time employees. The City adopted an updated 2015-2019 CTR Plan in September 2015 and received a WA State CTR grant to assist employers in developing and implementing CTR programs for their employees. The City also launched the *Choose Your Way Bellevue* program that provides employers and individuals with alternative travel options in Bellevue. As of the last



American Community Survey 5-year average, 65.9% of Bellevue residents and 73.4% of Bellevue workers drove alone for their commute.

Figure 5 shows that electric vehicle ownership has exponentially increased since 2011 in Bellevue. The City deployed and operates over 20 public charging stations in support of electric vehicle adoption.

Figure 5: Bellevue Electric Vehicle Registrations by Year



The City of Bellevue tracks the average number of vehicle miles traveled (VMT) and has achieved 3% VMT per capita reduction since 2011. Reducing VMT in the community leads to improved air quality and less traffic congestion, and is also a key strategy for reducing greenhouse gas emissions. The City supports land use policies that direct transit-oriented development in growth centers, creating denser development in close proximity to stations and stops on the frequent transit network. The City has located 63% of jobs and 42% of households within ¼ mile of frequent transit service (15 minutes) as of 2012.

The City of Bellevue is committed to supporting alternative commute options to employees by providing Orca transit passes, vanpool options, and electric vehicle charging stations. The City participates in the WA State Commute Trip Reduction (CTR) Survey to measure the drive alone rate at City Hall and Bellevue Service Center. In 2017 the City achieved a 43% average drive alone rate, with a 40% drive alone rate at City Hall and a 56% drive alone rate at Bellevue Service Center.

Bellevue's fleet department is transitioning away from conventional fuel use and is integrating cleaner options such as electric vehicles, plug-in hybrids, and biofuel. The fleet currently includes 6 electric vehicles and 121 plug-in hybrids totaling 41% of low emissions vehicles (LEV) in the fleet. The City has partnered with local commercial restaurants since 2011 to collect biofuel for fleet fuel use, diverting it away from the City's sewer systems and landfills. Biofuel is a cleaner-burning diesel replacement that is estimated to save the City \$25,000 per year in fuel savings.

Analysis and Recommendations

The recommended Communitywide targets are aligned with the "Bold" category of action, peer communities, and best practices. These targets align with best practices in the region for reducing the impact of transportation on the environment, encouraging use of non-motorized transportation options, and focusing growth around transit. These targets build upon existing transportation targets and projection from Bellevue's Comprehensive Plan and Transit Master Plan.

GOAL & TARGET RECOMMENDATIONS

ANALYSIS AND RECOMMENDATIONS

The municipal operations targets are based on past performance, best practices, and position the lead by example by exceeding the recommended communitywide targets.

Mobility & Land Use	
Recommended Targets	Rationale
Communitywide	
▶ Achieve a 45% commute-trip drive-alone rate for residents and people working in Bellevue by 2050.	▶ The target for a 45% commute-trip drive alone rate goal for 2050 builds upon the existing 55% goal for 2035, and also accelerates the goal for Bellevue workers to match that of people who live and work in Bellevue.
▶ Strive to have 50% electric vehicles registered in Bellevue by 2050	▶ The recommended target of 50% electric vehicles is an aspirational target slightly more ambitious than the Puget Sound Regional Council's analysis in Vision 2040 ¹⁶ , which posits a "likely" scenario of 20% EVs and an "aggressive" scenario of 45% EVs by 2040.
▶ Reduce per capita vehicle miles travelled (VMT) by 50% by 2050, compared to a 2011 baseline	▶ The target to reduce per capita vehicle miles travelled echoes the Washington State Transportation Demand Management target of reducing per capita VMT by 50% by 2050, which is also referenced in Vision 2040.
▶ Support transit oriented development and strive to achieve 85% of jobs and 65% of households located with a ¼ mile of frequent transit service (every 15 minutes) by 2050	▶ The transit oriented development target highlights the importance of focusing development near transit in designated growth centers. This target is based on projections in the 2014 Bellevue Transit Master Plan, for the number of households and jobs that will be served by public transit in 2030, assuming the growing funding scenario ¹⁷ .
Municipal Operations	
▶ Strive to achieve a 40% commute-trip drive alone rate for city employees by 2040	▶ City of Bellevue employees working in City Hall and the Bellevue Service Center are already taking advantage of Bellevue's mobility options for getting to work, and the City employees are currently at a commute-trip drive-alone rate of 43%, demonstrating Bellevue's existing leadership.
▶ Strive to electrify 75% of all light duty vehicles in Bellevue's fleet by 2040	▶ Leading cities around the country are making commitments to electrify their vehicle fleet – some focused on light-duty vehicles only, and other cities on all vehicles in the fleet. Staff recommend an aspirational goal focused on transitioning light-duty vehicles to electric vehicles.
▶ Achieve a 30% fuel reduction from Bellevue's fleet	▶ Transitioning to electric vehicles, implementing anti-idling and other fuel saving tools, and reducing non-essential work trips will help to achieve Bellevue's fuel reduction goal.

¹⁶ PSRC, Transportation 2040 Update (2014).

¹⁷ Bellevue Transit Master Plan (2014), p. 95.



NATURAL SYSTEMS

Comprehensive Plan Policy

- ▶ Work toward a citywide tree canopy target of at least 40% canopy coverage that reflects our “City in a Park” character and maintain an action plan for meeting the target across multiple land use types including right-of way, public lands, and residential and commercial uses. (EN-12)
- ▶ Manage Bellevue’s forest resources, including street trees, formal plantings, and self-sustaining natural stands, to ensure their long-term vitality. (PA-31)
- ▶ Equitably distribute a variety of parks, community centers and other indoor and outdoor recreation facilities throughout the city. (PA-3)
- ▶ Make low impact development the preferred and commonly-used approach to site development to minimize impervious surfaces, native vegetation loss, and stormwater runoff. (EN-46)
- ▶ Manage aquatic habitats, including shoreline and riparian (streamside) habitats, to preserve and enhance their natural functions of providing fish and wildlife habitat and protecting water quality. (EN-64)

Recommended Goal & Targets

Improve and preserve the integrity and health of Bellevue’s natural systems and ensure all of Bellevue’s residents have access to Bellevue’s abundant natural resources.

Scope	Target
Communitywide	<ul style="list-style-type: none"> ▶ Achieve a 40% tree canopy by 2050 ▶ Ensure that 90% of Bellevue’s residents live within 1/3 of a mile to a park, open space, or trail. ▶ Maintain and improve the health of Bellevue’s streams¹⁸
Municipal Operations	<ul style="list-style-type: none"> ▶ Achieve a 10% reduction in water use in municipal operations ▶ Achieve 80% of forest in healthy condition (class 1 or 2)¹⁹

Context

Bellevue boasts 2,700 acres of **natural and green areas** throughout the city, which are part of a local and regional ecosystem of habitats and natural processes. The streams, lakes, and forests of Bellevue connect the city, like its streets, to Bellevue’s neighbors, and are part of the Puget Sound watershed ecosystem. The natural systems in Bellevue are managed through various national, state, and local laws and policies, such as the National Pollution Discharge Elimination System Program (NPDES) stormwater permit, land use code, clearing and grading code, critical areas code, and other permitting requirements.

¹⁸ A specific target for stream health will be recommended in 2020, as part of the Watershed Management Plan currently under development.

¹⁹ This target will likely need to be revised after the Parks Department completes a forest health assessment in 2020, which will use an updated methodology for assessing forest health.



The **NPDES permit** addresses water pollution by regulating sources that discharge pollutants into natural bodies of water such as Lake Washington and Coal Creek. The Environmental Protection Agency authorizes state governments to perform permitting, administration and enforcement of the program. As part of Bellevue's NPDES requirements, the City reviewed its land use and clearing and grading codes and updated them to align with the Washington State Department of Ecology Stormwater Manual. Bellevue completed this update to its land use and clearing and grading codes at the end of 2016. This code update resulted in updated requirements for single-family development for impervious surface cover along with updated clearing and grading permit requirements related to tree removal.

As part of the 2015 Comprehensive Plan update, the City adopted a goal of **40% tree canopy cover**, based on best practice recommendations from American Forests, a leading urban forestry organization.²⁰ Bellevue has been measuring its tree canopy since the 1980's, and as of 2017 last reported that the **tree canopy was 37%**.

Bellevue is a member of the **Cascade Water Alliance**, which is a municipal corporation comprised of seven municipalities (five cities and two water and sewer districts) in the Puget Sound region that joined together to provide safe, clean, reliable water supply to its 380,000 residences and more than 20,000 businesses. Cascade Water Alliance administers regional water conservation services on behalf of its members. The 2014-2019 Conservation Program includes goals for water conservation for Cascade's service territory.

Peer Cities

Communitywide Targets	Municipal Operations Targets
<ul style="list-style-type: none"> ▶ 30% Tree canopy <ul style="list-style-type: none"> • Seattle, WA ▶ 40% Tree canopy <ul style="list-style-type: none"> • Kirkland, WA • Shoreline, WA ▶ 75% of landscape to be used to capture rainwater for filtration or reuse <ul style="list-style-type: none"> • Washington D.C. ▶ 1,035 acres of forested parkland into active management by 2040 <ul style="list-style-type: none"> • Redmond, WA ▶ Reduce stormwater pollution by using nature based methods. <ul style="list-style-type: none"> • Seattle, WA ▶ 96% of residents live within a 10-minute walk (½ mile) of a park <ul style="list-style-type: none"> • Seattle, WA ▶ 89% of residents live within a 10-minute walk (½ mile) of a park <ul style="list-style-type: none"> • Portland, OR 	<ul style="list-style-type: none"> ▶ 20% reduction of potable water in city facilities²¹ <ul style="list-style-type: none"> • Denver, CO ▶ 22% reduction in potable water use for parks and golf courses <ul style="list-style-type: none"> • Denver, CO ▶ 50% less water in landscaping <ul style="list-style-type: none"> • Phoenix, AZ ▶ 20% less water in interiors <ul style="list-style-type: none"> • Phoenix, AZ ▶ 30% more water efficient than code for new city-funded projects and major renovations with more than 5,000 square feet <ul style="list-style-type: none"> • Seattle, WA ▶ 20% reduction in water use <ul style="list-style-type: none"> • Santa Monica, CA (2013 baseline)

²⁰ Bellevue Comprehensive Plan, Environment Element: <https://bellevuewa.gov/city-government/departments/community-development/planning-initiatives/comprehensive-plan>.

²¹ ACEEE Water conservation goals database: <https://database.aceee.org/city/water-services>.



GOAL & TARGET RECOMMENDATIONS

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<ul style="list-style-type: none"> ▶ 92% of residents live within a 10-minute walk (½ mile) of a park <ul style="list-style-type: none"> • Kirkland, WA 	
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Target Options

Progress	Stretch	Bold	Leading Edge
Communitywide Target Options			
37% tree canopy citywide in 2017	▶ 40% tree canopy citywide by 2060	▶ 40% tree canopy citywide by 2050	▶ 40% tree canopy citywide by 2040
73% of residents live within 1/3 of a mile from a park, open space, or trail in 2018	▶ Ensure at least 80% of residents live within 1/3 of a mile from a park, trail, and/or open space by 2050	▶ Ensure at least 90% of residents live within 1/3 of a mile from a park, trail, and/or open space by 2050	▶ Ensure at least 100% of residents live within 1/3 of a mile from a park, trail, and/or open space by 2050
Maintain and improve the health of Bellevue's streams	▶ TBD (Q1 – Based on Utilities Watershed Management Plan)	▶ TBD (Q1 – Based on Utilities Watershed Management Plan)	▶ TBD (Q1 – Based on Utilities Watershed Management Plan)
Municipal Operations Target Options			
4% water use reduction since 2011	▶ 5% water use reduction in municipal operations by 2040	▶ 10% water use reduction in municipal operations by 2040	▶ 15% water use reduction in municipal operations by 2040
75% of public urban forests are in class 1 and 2 condition in 2018	▶ 75% of public urban forests are in class 1 and 2 condition by 2040 ²²	▶ 80% of public urban forests are in class 1 and 2 condition by 2040	▶ 85% of public urban forests are in class 1 and 2 condition by 2040

Potential Strategies

Communitywide Strategies	Municipal Operations Strategies
<ul style="list-style-type: none"> • Tree retention and replacement requirements • Tree planting programs for public and private property • Forest health management programs and projects 	<ul style="list-style-type: none"> • Improve water efficiency in city facilities and irrigation systems • Drought tolerant landscaping to minimize irrigation demands • Tree retention and replacement requirements for city projects

²² The Forest Health target will likely be updated in 2020, after the Parks Department completes a forest health assessment, which will use an updated methodology for measuring forest health.



- | | |
|---|---|
| <ul style="list-style-type: none"> • Water efficiency and conservation education and outreach • Further incentivize or require low-impact development for public and private property | <ul style="list-style-type: none"> • Low impact development requirements or guidelines for city projects |
|---|---|

Progress To-Date

The City of Bellevue measures the total amount of tree canopy cover communitywide, conducts forest health assessments, and increases park accessibility through park and open space acquisition, development, and programs. On average the City has planted approximately 10,000 trees per year and achieved a 37% tree canopy cover as of 2017.

Maintaining the health of the forests is equally important for air quality, stormwater management and erosion control. Bellevue Parks Natural Resource division reported that 73.6% of public urban forests are in class 1 and 2 condition, with class 1 being the healthiest.

The Parks and Open Space plan currently has a goal of having 73% of Bellevue residents live within a 1/3 mile of a park, open space, or trail. As of 2017, the City is exceeding this target as 75% of all residents have this level of access to trails.²³

The Utilities Department is currently developing a Watershed Management plan, which includes maintaining the health of local streams and developing recommendations for improving overall ecosystem health. The plan will determine the best approach for measuring stream health and recommend a metric and target to be included in the Environmental Stewardship Plan.

City staff measures the total amount of indoor and outdoor water used at municipally owned buildings and facilities. This includes City Hall, Bellevue Service Center, and parks and recreation centers. The total use of potable water has decreased by 4% since 2011. This is the result of upgrading plumbing fixtures, repairing leaks, and maintaining irrigation systems.

Analysis and Recommendations

The recommended Communitywide targets are aligned with the “Bold” category of action, peer communities, and best practices. The 40% tree canopy target is already established in the Comprehensive Plan. The Parks and Open Space plan established near-term goals around park access, and the recommended long-term 2050 park access goal builds provides an aspirational vision for walkable access to parks in Bellevue, aligned with best practices.

The municipal operations targets focus on urban forest restoration and water conservation. Bellevue’s Parks Department assesses forest health for Bellevue’s forested areas on Parks property and develops annual plans to maintain and restore the health forest in Bellevue’s 2,500 acres of parks space by removing invasive species and planting trees. The City will be undertaking a forest health assessment in 2020, which will use an

²³ Bellevue Parks and Open Space System Plan, 2016 p.37

https://parks.bellevuewa.gov/UserFiles/Servers/Server_4779004/File/Parks%20&%20Community%20Services/Park-Planning/ParksOpenSpacePlan/parks-open-space-plan-2016.pdf.



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improved methodology for assessing forest health, and will likely results in a new baseline assessment and target for forest health, more closely aligned with current best practices and peer communities.

Natural Systems	
Recommended Targets	Rationale
Communitywide	
▶ Achieve a 40% tree canopy by 2050	▶ The 40% tree canopy goal is considered best practice and is established in the Bellevue Comprehensive Plan. In order to achieve this goal, the tree canopy in Bellevue needs to increase by nearly 700 acres, which is roughly equivalent to 675 football fields. This can be achieved through a mix of tree retention and tree planting – minimizing the loss of canopy while also expanding the canopy in areas of greatest need. To achieve this goal, tree canopy loss from development will need to be minimized and tree canopy replacement and new plantings will need to be accelerated.
▶ Ensure that 90% of Bellevue’s residents live within 1/3 of a mile to a park, open space, or trail.	▶ The Parks and Open Space plan currently has a goal of having 72% of Bellevue residents live within a 1/3 mile of a park, open space, or trail, and currently 73% of residents have this level of access to trails. The Environmental Stewardship Plan is recommending a long-term goal of 90% of Bellevue residents living within a 1/3 of a mile of a park, trail, or open space. National best practices from the Trust for Public Land ParkServe ²⁴ website suggest measuring the percent of residents who live within a 10-minute walk, which TPL considers to be a ½ mile.” Given Bellevue’s topography, the Parks Department considers a 1/3 of a mile access as a better indicator of walkable access to a park.
▶ Maintain and improve the health of Bellevue’s streams	▶ The Utilities Department is currently developing a Watershed Management plan which is reviewing the health of Bellevue’s streams and watersheds and developing recommendations for improving stream health. This plan will also review the existing approaches for measuring stream health, and recommend a metrics and targets for including in the Environmental Stewardship Plan.
Municipal Operations	
▶ Achieve a 10% reduction in water use in municipal operation	▶ In Bellevue’s municipal operations, water is used in city facilities and primarily for irrigation in Bellevue’s parks and along roadways. In order to maintain the health and aesthetics of Bellevue’s parks and open spaces, a water reduction goal of 10% is recommended. This goal accounts for the likelihood of warmer summers, which will likely

²⁴ The Trust for Public Land ParkServe: <https://www.tpl.org/parkserve>.



Natural Systems	
Recommended Targets	Rationale
<ul style="list-style-type: none"> ▶ Achieve 80% of forest in healthy condition (class 1 or 2) 	<p>increase the demands on Bellevue's park system and natural environment.</p> <ul style="list-style-type: none"> ▶ Bellevue's existing forest health goal is considered best practice amongst cities in the Puget Sound region. This target will be reviewed and likely updated as part of the forest health assessment being performed in 2020, which will utilize the latest methodology for measuring forest health.

ENERGY

Comprehensive Plan Policy

Promote and invest in energy efficiency and renewable energy resources as an alternative to non-renewable resources. (EN-4)

Recommended Goal & Targets

Ensure long-term access to clean energy while reducing the fiscal and environmental impacts of consumption.

Scope	Target
Communitywide	<ul style="list-style-type: none"> ▶ Achieve 100% renewable energy by 2045 ▶ Reduce energy use by 30% by 2050, compared to a 2011 baseline.
Municipal Operations	<ul style="list-style-type: none"> ▶ Achieve 100% renewable energy by 2030 for municipal operations. ▶ Reduce energy use from municipal operations by 40% by 2040.

Context

Leading cities, businesses, and organizations around the country are establishing goals and targets to transition to **100% renewable energy**. Nationally, over 90 cities²⁵ and hundreds of companies have made commitments to using 100% renewable energy. Local organizations such as T-Mobile, REI, Salesforce, Bellevue College, Starbucks, Amazon, and Microsoft have all made similar commitments and have participated in Puget Sound Energy's (PSE) Green Direct²⁶ program for large customers or are sourcing renewable energy through other channels.

²⁵ Sierra Club 100% Renewable Energy Commitments in Cities, Counties, and States: <https://www.sierraclub.org/ready-for-100/commitments>.

²⁶ PSE Green Direct program: <https://www.pse.com/green-options/Renewable-Energy-Programs/green-direct>.



The context for clean energy in Washington State has just changed significantly with the recent passage of **Senate Bill 5116**. This bill establishes the Washington clean energy transformation act “to support the clean energy economy and to transition to a clean, affordable, and reliable energy future.” The bill requires that utilities phase out all coal fired electricity generation by 2025, by 2030 be carbon neutral, and by 2045 utilities must self-generate 100 percent clean energy. The implications of this new legislation on utilities and their integrated resource planning process and other green power and energy efficiency programs is currently being evaluated.

Peer Cities

Communitywide Targets	Municipal Operations Targets
<p>A growing number of cities and counties²⁷ have announced renewable electricity and energy reduction goals for their communities, including:</p> <ul style="list-style-type: none"> ▶ 5% reduction in energy use in buildings each year through 2020 <ul style="list-style-type: none"> • Austin, TX ▶ 90% renewable energy use by 2030 <ul style="list-style-type: none"> • King County, WA ▶ 100% renewable energy by 2022 <ul style="list-style-type: none"> • San Jose, CA ▶ 100% renewable energy by 2030 <ul style="list-style-type: none"> • Spokane, WA • Atlanta, GA • Boulder, CO • Minneapolis, MN ▶ 100% renewable energy by 2032 <ul style="list-style-type: none"> • Salt Lake City, UT ▶ 100% renewable energy by 2035 <ul style="list-style-type: none"> • San Diego, CA 	<p>Some cities which have adopted communitywide renewable energy goals have also adopted goals for the municipal operations, which sometimes have a more aggressive timeline:</p> <ul style="list-style-type: none"> ▶ 2% annual reduction in energy use through 2030 <ul style="list-style-type: none"> • Portland, OR (2006-07 Baseline) ▶ 5% annual reduction in energy use through 2020 <ul style="list-style-type: none"> • Austin, TX ▶ 20% energy use reduction within five years <ul style="list-style-type: none"> • Boston, MA ▶ 20% energy use reduction by 2020 <ul style="list-style-type: none"> • Atlanta, GA (2009 Baseline) • Seattle, WA (2008 Baseline) ▶ 25% energy use reduction by 2030 <ul style="list-style-type: none"> • Sacramento, CA (2005 Baseline) ▶ 40% energy use reduction by 2025 <ul style="list-style-type: none"> • Seattle, WA (2008 Baseline) ▶ 100% renewable energy by 2022 <ul style="list-style-type: none"> • Minneapolis, MN ▶ 100% renewable energy by 2025 <ul style="list-style-type: none"> • Atlanta, GA ▶ 100% renewable energy currently, continue <ul style="list-style-type: none"> • Seattle, WA • Portland, OR • Austin, TX

²⁷ U.S. Conference of Mayors report on Cities with 100% Renewable Energy Goals: <http://www.usmayors.org/wp-content/uploads/2018/10/City-Wide-Goals.pdf>.

Target Options

Progress	Stretch	Bold	Leading Edge
Communitywide Targets			
40% renewable energy as of 2018	▶ 90% renewable energy use by 2050	▶ 100% renewable energy use by 2045	▶ 100% renewable energy use by 2040
5% energy use reduction since 2011	▶ 20% energy use reduction by 2050	▶ 30% energy use reduction by 2050	▶ 50% energy use reduction by 2050
Municipal Operations Targets			
32% energy use reduction since 2011	▶ 30% energy use reduction by 2040	▶ 40% energy use reduction by 2040	▶ 50% energy use reduction by 2040
70% renewable energy as of 2021	▶ 90% renewable energy use by 2030	▶ 100% renewable energy use by 2030	▶ 100% renewable energy use by 2025

Potential Strategies

Communitywide Strategies	Municipal Operations Strategies
<ul style="list-style-type: none"> Promote and/or incentivize onsite solar installations, such as through a Solarize campaign Advocate for state-level incentives for renewable energy, such as through net-metering Support state-level legislation for transitioning to renewable energy Support efforts to allow for PSE to provide voluntary programs for purchasing green power, such as through PSE's Green Direct program and Green Power program, to accelerate the transition to clean energy 	<ul style="list-style-type: none"> Install solar panels on City facilities Purchase renewable energy through PSE's Green Direct program Reduce energy use in City facilities and operations through building energy efficiency upgrades Promote energy conservation in City facilities through education and outreach

Progress To-Date

The City of Bellevue will purchase 70% renewable energy for municipal operations starting in 2020 through Puget Sound Energy's (PSE) "Green Direct" program. This initiative allows local governments and major commercial customers to reduce greenhouse gas emissions by purchasing electricity directly from clean, renewable sources. Through this program, PSE will build the first wind farm in western Washington and a new solar installation in south-central Washington.

A cross-department agreement has enabled Fire, Parks, Utilities, and Finance Departments to purchase 10.6 million kilowatt hours at a fixed rate for a 20 year period. Combined, this is close to 70% of all electricity consumed for municipal operations. PSE is planning Phase III of the Green Direct program in which the Transportation Department will have an opportunity to participate and help achieve 100% renewable energy for municipal operations.



The City has already benefited from a renewable rate decrease for PSE program participants while conventional rates have been increasing. This program offers rate stability in the long-term and will help to reduce overall emissions communitywide and in municipal operations. In addition to Bellevue, several government agencies have signed up for the program to cover all or part of their operations including King County, Sound Transit, multiple State of Washington departments, Port of Seattle, and thirteen cities. Western Washington University and Bellevue College have also signed up, along with major private customers which include Target, Starbucks, Walmart, T-Mobile, Kaiser Permanente, and REI.

The City of Bellevue's Resource Conservation Management (RCM) Program has focused on efficiency of municipal operations since 2011 and has saved the City about \$374,000 per year. The RCM program is partially funded by PSE who works closely with the Program Manager to maximize incentive opportunities and reduce greenhouse gas emissions. Since 2011, municipal electricity use was reduced by 35% and natural gas consumption was reduced by 27% in municipal buildings.

Analysis and Recommendations

The recommended Communitywide targets are aligned with the "Bold" category of action, peer communities, and best practices. Washington State is undergoing a significant transformation in the energy space, and through statewide legislation Bellevue can achieve the "Bold" targets for renewable energy. The municipal operations targets are based on past performance, best practices, and position the lead by example by exceeding the recommended communitywide targets for both 100% renewable energy and reducing energy use.

Energy	
Recommended Targets	Rationale
Communitywide	
▶ Achieve 100% renewable energy by 2045	▶ The recommended communitywide target for Bellevue aligns with the statewide goal the Washington Clean Energy Transformation Act of achieving 100% renewable energy generated in-state by 2045. This target can be achieved through the full implementation of the state legislation.
▶ Reduce energy use by 30% by 2050 , compared to a 2011 baseline.	▶ Despite a growing population and increased job growth, energy use in Bellevue has declined 5% since 2011. As new buildings are more efficient and appliances and other devices become more efficient, energy use has slowly declined. Reducing energy use is a key component of achieving the recommended greenhouse gas emissions reduction goal, and also saves money for residents and businesses.
Municipal Operations	
▶ Achieve 100% renewable energy by 2030 for municipal operations.	▶ For municipal operations, 100% renewable energy can be achieved much faster than at the community scale, through participation in PSE's Green Direct program. Bellevue is already committed to purchase green power for approximately 70% of the city's electrical load through



Energy	
Recommended Targets	Rationale
	PSE's Green Direct program. This commitment is not only good for the environment, but will also result in cost savings after about eight years. Through future phases of Green Direct, Bellevue's can achieve 100% green power by 2030, if not sooner.
▶ Reduce energy use from municipal operations by 40% by 2040.	▶ Bellevue has already reduced energy use in city facilities by 32% from the baseline year of 2011. Additional opportunities continue to exist to reduce energy use through LED streetlight retrofits, building retrofits, and energy conservation.

SUMMARY

Establishing goals and targets for the *Sustainable Bellevue: Environmental Stewardship Plan* aligns with the City of Bellevue's the Comprehensive Plan policy to "establish an achievable citywide target and take corrective actions to reduce greenhouse gas emissions."²⁸ Although some goals are not new to the City, the recommended targets provide a robust approach to improving communitywide sustainability and efficiency in municipal operations. The benefits of achieving these goals and targets reach beyond healthier ecosystems, improving human health and productivity, job creation, community engagement, monetary savings, and the development of a sustainable and resilient communities.

The five focus areas are consistent with the previous Environmental Stewardship Plans and support the City Council Vision Priorities (2018-2020). City staff recommends at least one goal for each of the focus areas to support the adoption of sustainability best practices and facilitate systemic change to reduce global warming pollution while enhancing human well-being and protecting community resources. The recommended goals and targets reflect the culmination of an iterative research and outreach process that included extensive research and analysis on historic progress, industry and peer city best practices, forecasted trends, input from city staff experts, and local context considerations. Formalizing these goals and targets positions the City of Bellevue as a leader in environmental stewardship and greenhouse gas reductions.

NEXT STEPS

In Phase II of the planning process (November - March), the staff and the consultant team will develop objectives and strategies for achieving the recommended goals and targets in parallel with an outreach and engagement process. Stakeholder meetings will be held for each focus area providing forums for discussion of past and current projects, new opportunities, barriers, and priorities for future action. All written and verbal feedback will be recorded for further analysis and shared with City leadership. During the planning process and strategy analysis, minor adjustments may need to be made to goals and targets to align with parallel planning efforts at the City, such as the development of the Utilities' Watershed Management Plan. Any

²⁸ City of Bellevue Comprehensive Plan, Environment Chapter, Policy EN-6, page 257.



changes to recommended goals and targets will be presented to the City Council for discussion and endorsement.

As strategies are developed in Phase II of the planning process, the strategies will be analyzed with a set of criteria. Some sample criteria are provided below:

Effectiveness & Impact:

- ▶ Is this a proven strategy? What degree of impact does the action have toward achieving the goal?
- ▶ Is this addressing a major sustainability need (e.g., high GHG emissions source)?

Cost:

- ▶ What are the costs and benefits of the action, and is there a short or long-term cost savings associated with the action?

Feasibility:

- ▶ Is it possible to implement the action with current capacities within the City? Are there regulatory or political constraints?

Equity:

- ▶ Does the action address the needs of historically underserved and underrepresented communities?
- ▶ Does the action reduce vulnerability for all populations?

Co-benefits:

- ▶ Does the action address multiple goals, or other City or community objectives?

Community Support:

- ▶ How much community support is there for this strategy?

Speed & Urgency:

- ▶ How quickly will the impact be achieved? Does the action leverage a window of opportunity?