

Sustainability Inventory Memorandum

To: Amanda Balzer, City of Redmond

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Re: Redmond Environmental Sustainability Action Plan – Sustainability Inventory

Contents

Overview	2
Document Roadmap	2
Key Findings	3
Climate Change	4
Transportation and Land Use	5
Building and Energy	6
Materials Management and Waste	7
Natural Systems	8
Water Management	9
Methodology	10
Literature Review	10
Interviews	11
City Staff Workshops	11
Focus Area Summary and Metrics	12
Climate Change	13
Transportation and Land Use	16
Buildings and Energy	19
Materials Management and Waste	22
Natural Systems	25
Water Management	29
Cross-Cutting Topics	32
Appendix: Activity Detail	33
Climate Change	33
Transportation and Land Use	36
Buildings and Energy	39
Materials Management and Waste	42
Natural Systems	45
Water Management	51

Overview

This memorandum summarizes findings from an inventory of Redmond’s past, current, and potential future sustainability-related activities and context. The goal of this document is to compile what Redmond has already accomplished, has not yet accomplished, and could accomplish—as well as challenges that may contribute to these outcomes. Understanding this background and context will help inform and guide an effective Environmental Sustainability Action Plan (ESAP) that reflects Redmond’s strengths, challenges, and opportunities.

The inventory includes findings from the following research activities, described in more detail in the *Methodology* section of this memorandum:

- A **literature review** of City plans, policies, progress reports, and other available documentation.
- One-on-one **interviews** with key City staff to gather insights and reflections.
- Two half-day interdepartmental **City staff workshops**.
- A **quantitative assessment** of Redmond’s baseline conditions, including charting historical and likely future trends for key sustainability indicators.

Document Roadmap

Findings in this memorandum are generally organized (and color-coded) by the following six proposed focus areas for the ESAP:

Focus Area	What’s Included
Climate change	Opportunities for reducing GHG emissions and building resilience to climate change impacts
Transportation & land use	Strategies for reducing transportation emissions and enhancing community mobility
Building & energy	Options for increasing renewable energy use and energy efficiency
Materials management & waste	Pathways toward sustainable consumption, zero waste, and increased recycling
Natural systems	Enhancing green space and natural drainage systems through low impact development and enhanced urban tree canopy cover
Water management	Protecting and conserving water resources, including water quality and quantity

Sections of the memorandum are as follows:

- A **Key Findings** section that presents in 11x17 table form a compendium of the relevant City policies, plans, and programs; current City activities; metrics; progress to date; challenges and gaps; and potential strategies and actions for each focus/goal area of the ESAP.
- A **Focus Area Summary and Metrics** section that presents a summary of findings organized by focus area, including quantitative analysis outcomes for key sustainability metrics/indicators.
- An **Activity Detail** appendix that provides summaries of all relevant City programs, policies, and plans, organized by focus area.

Key Findings

The following pages provide summary tables of inventory findings, organized into the following topics for each focus/goal area of the Environmental Sustainability Action Plan:

- **Relevant Plans, Programs, and Policies** that inform current or future direction of sustainability-related activities in the City.
- **City Progress to Date**, including sustainability achievements that City has already made and notable sustainability activities within the City.
- **Identified Challenges and Gaps** that could hinder progress towards sustainability goals.
- **Potential Strategies, Actions, and Opportunities**—as identified through City staff engagement and review of City documentation—to consider when developing strategies and actions for the ESAP. Final strategies and actions will be developed through internal and external workshops and included in the final ESAP.

Focus areas of the ESAP are as follows:

Focus Area	What's Included
Climate change	Opportunities for reducing GHG emissions and building resilience to climate change impacts
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Goal areas within each focus area were identified through consideration of other City goals (e.g., in the Community Strategic Plan), goal areas present in other city sustainability plans, and feedback from City staff.

Climate Change

Goal	Relevant City Policies/Plans/Programs	Current City Activities	Current Metrics	Key Achievements/Progress to Date	Challenges/Gaps	Potential Actions for ESAP
<p>Reduce municipal and communitywide greenhouse gas emissions.</p>	<ul style="list-style-type: none"> Climate Action Implementation Plan Community Strategic Plan 2019 - Environmental Sustainability section King County-Cities Climate Collaboration (K4C) Resolution 1387 – GHG & Energy Consumption Reduction Strategies Resolution 1416- K4C Joint Commitment Letter Resolution 1436- Adopting Government Operations Greenhouse Gas Emissions Reduction Targets Resolution 1476- Commitment to Climate Action Through Support of the Paris Climate Agreement 	<ul style="list-style-type: none"> Conduct regular reporting on factors that contribute to Redmond’s carbon footprint. Capital energy efficiency projects Greening of city fleet K4C participation Participation in PSE Green Direct Program 	<ul style="list-style-type: none"> Annual city operation greenhouse gas emissions Annual communitywide greenhouse gas emissions % reduction in greenhouse gas from city operations % reduction in greenhouse gas from community operations # of catalytic actions implemented 	<ul style="list-style-type: none"> K4C won a 2016 Climate Leadership Award from the U.S. EPA Meeting 2020 target for Government operations GHG emissions reduction Meeting 2020 target for Community GHG emissions reduction 	<ul style="list-style-type: none"> Difficulty capturing all the emissions produced by the city and community. Not enough people, funding, and resources to implement sustainable actions that reduce emissions. Climate action typically lacks comprehensive social and equity components. Lack of resources to analyze data for current baseline information. Not enough corporate engagement. Redmond is typically more conservative than other area cities. 	<ul style="list-style-type: none"> Energy efficiency upgrades and conservation in community and municipal buildings and equipment. Generation and use of renewable energy. Reduce emissions from transportation. Increase access and use of alternative transportation. Reduce waste generation and increase waste diversion. Maintain a public-facing dashboard for tracking and reporting progress. <p><i>*Several actions overlap with the other focus areas*</i></p>
<p>Increase resiliency to climate change impacts.</p>	<ul style="list-style-type: none"> Climate Action Implementation Plan Community Strategic Plan 2019 - Environmental Sustainability section K4C Geological hazards protection/code Final Comprehensive Flood Hazard Management Plan Comprehensive Emergency Management Plan Natural Environment elements of Comprehensive Management Plan 	<ul style="list-style-type: none"> Electric code updates for new construction (e.g., electric charging equipment requirements). Community-wide education and outreach activities about climate change. Plans have been created to address drainage, flooding, and areas susceptible to erosion and earthquakes. 	<ul style="list-style-type: none"> Status of the Public Works emergency plan and utility-specific plans 	<ul style="list-style-type: none"> None identified 	<ul style="list-style-type: none"> Lack of current baseline information. Difficult to plan for climate change uncertainties. Identification and proper engagement with vulnerable populations is needed. Not enough corporate engagement. Resistance to climate action strategies that require significant change. 	<ul style="list-style-type: none"> Strengthen ecosystem resilience to climate change by protecting and restoring forests, watersheds, and open spaces. Ensure a secure and reliable water supply that is accessible and affordable. Diversify and expand Redmond’s energy portfolio. Encourage land use planning that minimizes travel distance and increases community resilience. Improve local food generation through various policies and partnerships.

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Transportation and Land Use

Goal	Relevant City Policies/Plans/Programs	Current City Activities	Current Metrics	Key Achievements/Progress To Date	Challenges/Gaps	Potential Actions for ESAP
Support, promote, and incentivize alternative transportation, including biking, walking, and transit	<ul style="list-style-type: none"> Greening of City Fleet Goal Plan Transportation Demand Management/Commute Trip Reduction Program (Go Redmond Program) Bus Pass Program (Commuter Assistance Office) Redmond School Pool Program Transportation Master Plan 	<ul style="list-style-type: none"> Implementing a “10-minute community” pilot program. Redmond is exploring to decrease required parking at sites near future light rail stations. Citywide Go Redmond program provides resources, subsidies, and incentives to those who live or work in Redmond. The City issues bus passes to regular and supplemental employees for commuting and attending meetings. School pool 	<ul style="list-style-type: none"> % of employees in Redmond who have access to formal transportation programs. # of active users in Go Redmond. # of employees commuting by bus/ bike/carpool. # of trips taken by alternative transportation. 	<ul style="list-style-type: none"> Go Redmond won the 2018 ACT (Association for Commuter Transportation) award for Redmond’s work in alternative commuting options. Silver-Level Bicycle Friendly Community. Over 4,500 student participants in Redmond School Pool Program. On Walk to School Day, nearly 1,000 students saved over 2,000 lbs. of emissions. The website GoRedmond.com provides the community resources on alternative transportation. Between 2008-2018, the percentage of commuters that did not drive alone increased 8%. 	<ul style="list-style-type: none"> Purchasing requirements for a government agency somewhat limits what Redmond can buy. Driving can be more comfortable, and alternatives are limited, which may discourage people from using alternatives. \$30 car tab (I-976) limits significant funding for transportation. 	<ul style="list-style-type: none"> Expand and promote innovative travel demand management programs. Improve alternative transportation options with local schools beyond school pools. Improve biking infrastructure. Complete streets non-motorized trails.
Improve land-use planning that encourages affordable, mixed-use development	<ul style="list-style-type: none"> Downtown Parking Strategic Management Plan Redmond Comprehensive Plan and Zoning code 	<ul style="list-style-type: none"> Redmond is currently identifying publicly-owned land that be offered at a discounted price to support development of deeply affordable housing. 	<ul style="list-style-type: none"> # of and % of land use applications using the Green Building Zoning Code provision. # of vehicles on propane auto-gas. #affordable units/ #total units 		<ul style="list-style-type: none"> Spread-out land use encourages driving. Cost of land. 	<ul style="list-style-type: none"> Subsidize affordable housing in denser areas to reduce commuting distances. Adjust land use policies to allow for denser development and increase supply. Maintain and enhance multimodal transit services and related facilities. Expand incentives for transit-oriented development near future light rail stations.
Encourage use of clean, energy-efficient vehicles	<ul style="list-style-type: none"> Anti-Idling Campaign Program 	<ul style="list-style-type: none"> Purchase of electric vehicles and hybrid electrics Provides education and outreach to employees and trained inspectors to recognize excessive idling. Anti-idling campaign resulted in the addition to standard city contracts to require contractors to minimize idling on city construction sites. Parks & Recreation staff reminds fleet users to reduce the time spent defrosting a vehicle to reduce idling. The City currently has 43 electric/hybrid vehicles (approximately 12% of the entire fleet). The City is converting fleet vehicles to propane. 	<ul style="list-style-type: none"> # of city fleet vehicles on propane auto-gas. # of electric vehicles registered within the City. # of dollars in fuel cost savings due to City fleet conversion % GHG emissions reductions. 	<ul style="list-style-type: none"> Redmond currently operates and maintains 28 hybrid vehicles. The City was awarded the Annual Best Achievement in Propane Autogas from Western Washington Clean Cities. The City reduced their fleet carbon footprint significantly and saved thousands of dollars in fuel expenses. 	<ul style="list-style-type: none"> Limited transition of heavy-duty vehicles to electric (technological constraints). The City workforce typically drives inefficient vehicles or must drive long distances.¹ \$30 car tab (I-976) limits significant funding for transportation. 	<ul style="list-style-type: none"> Increase anti-idling campaign. Build more public EV charging infrastructure.

¹ Note that the SWOT outcomes and staff interview responses have not undergone a formal fact checking or vetting process.

Building and Energy

Goal	Relevant City Policies/Plans/Programs	Current City Activities	Current Metrics	Key Achievements/ Progress To Date	Challenges/Gaps	Potential Actions for ESAP
<p>Increase energy efficiency and encourage reductions in building energy consumption</p>	<ul style="list-style-type: none"> • Energy Efficiency projects • Green Building Program • “Green” City Facilities Project • ClearPath Benchmarking Platform • EPA’s ENERGY STAR Portfolio Manager for energy consumption tracking for city facilities • EnviroStars Certification • Puget Sound Energy’s Green Direct Program • Energy Efficiency subsection of utilities element in Comprehensive Plan • Environmental Stewardship subsection of Natural Environment element in Comprehensive Plan 	<ul style="list-style-type: none"> • Hartman Park and Lawn Park energy efficiency lighting installation. • Energy-efficient heat pumps and lighting installation. • LED street light retrofits and controls installation. • Systematic update of Farrel- McWhirter park facility or energy conservation. • Create residential energy use outreach partnership with PSE and C-7 cities group. • The Green Building Program Plan provides incentives to implement green building development. • Redmond was awarded an energy efficiency and solar grant worth \$350,000 from Washington Department of Commerce for solar panels and LED street light retrofits. 	<ul style="list-style-type: none"> • Trends and % reduction of consumption data (kWh, natural gas, solar, etc.). • Total # of green certified structures in the City. • # of LEED, ENERGY STAR, and other green building certifications of city facilities. • Total # of green certified structures in the City. • Annual city operations energy consumption. • Annual community energy consumption. 	<ul style="list-style-type: none"> • City Hall has LEED and ENERGY STAR certifications. • Replaced all City owned traffic lights with LED lights, saving 1.8 million kWh per year. • Allocated \$272,000 towards facility upgrades and energy retrofits. • Energy-related emissions increased 12% between 2011-2017. • Despite population growth, community-wide energy use decreased 5% since 2011--a reduction of over 300,000 MMBTU. 	<ul style="list-style-type: none"> • The City of Redmond has several municipal buildings that have HVAC systems in need of repair; however, there is little funding to invest in repair and upgrades. • City environmental team does not have the resources to complete projects; stronger leadership is needed to make an impact on environmental issues. • Limited information on the return on investment (ROI) or business case can make promoting energy efficiency in buildings difficult. • The dynamics between tenants and landlords can cause entities to not take responsibility for making buildings more energy efficient. 	<ul style="list-style-type: none"> • Create business case for energy efficiency. • Assess various options for financing and grants to energy efficiency projects for municipal buildings. • Implement technology solutions to reduce energy demand across City facilities. • Expand training for building code staff on energy efficiency requirements. • Create infrastructure for district energy in urban centers. • Introduce behavior change programs for using less energy in businesses and households. • Promote green energy certification. • Provide incentives to switch from natural gas to electric appliances. • Provide financial incentives for promoting and accrediting green buildings. • Introduce a policy/program to address embodied and operational carbon. • Renegotiate Puget Sound Energy flat rate contract. • Continue reducing the impact of athletic field lighting. • Required efficiency upgrades with redevelopment or tenant improvement thresholds. • Adopt IRC additional sustainable building codes. • Create a revolving energy efficiency fund.
<p>Increase the generation and use of renewable energy</p>	<ul style="list-style-type: none"> • “Green” City Facilities Project • Puget Sound Energy’s Green Direct Program • PSE’s Green Power Program • Environmental Stewardship subsection of Natural Environment element in Comprehensive Plan 	<ul style="list-style-type: none"> • Solar panel installation at City Hall. 	<ul style="list-style-type: none"> • % Energy produced from renewable sources. • kWh of renewable energy generation. • Composition of electricity fuel mix. 	<ul style="list-style-type: none"> • Since 2011, Redmond has increased the amount of renewable electricity purchased from PSE’s Green Power Purchasing Program by 129%--an increase of over 11,000,000 kWh. • City signed on to PSE’s Green Direct program. • Natural gas usage has increased 6% since 2011— an increase of over 1,000,000 therms. • The carbon intensity, or the amount of carbon pollution per unit of energy, has increased since 2011 due to increased natural gas use and fluctuations in PSE’s electricity fuel mix. 	<ul style="list-style-type: none"> • The upfront cost of renewable energy infrastructure can be expensive. • The natural variability of wind and solar power introduces challenges for balancing energy supply and demand. • Renewable energy storage technology is still growing and can be expensive. 	<ul style="list-style-type: none"> • Incentivize the installation of on-site renewable energy. • Require “Systems Ready” infrastructure for alternative/renewable energy systems.

Materials Management and Waste

Goal	Relevant City Policies/Plans/Programs	Current City Activities	Current Metrics	Progress To Date	Challenges/Gaps	Potential Actions for ESAP
<p>Reduce waste generation and increase waste diversion.</p>	<ul style="list-style-type: none"> King County Comprehensive Solid Waste Management Plan Community Strategic Plan 2019 - Environmental Sustainability section, Waste and Materials Management Recycled materials green purchasing program Food waste program expansion Solid waste and recycling programs EnerGov and Electronic Plans Submittal Composting, yard, and food waste program Environmental Stewardship subsection of Natural Environment Element of the Comprehensive Plan Solid Waste subsection of utilities element of the Comprehensive Plan 	<ul style="list-style-type: none"> Support the E-Cycle (electronic waste) Washington recycling program. Implemented curbside organic waste disposal service for single-family homes and has commercial and multi-family complexes participating in organics service. Made recycling collection bins available at public buildings for residents to safely dispose of batteries. Manages a comprehensive contract with Waste Management for the collection and disposal of garbage, recycling, and organics. Offers up to three 64-gallon food recycling carts at no additional charge for residential curbside collection. Three community solid waste and recycling collection events provided per year. Electronic Plan review 	<ul style="list-style-type: none"> # of commercial and multi-family complexes participating in organics service. Tons of organics diverted from waste stream as a result of participation. Pounds of garbage generated per commercial employee. The average weight (lbs.) of garbage collected per single family account per week. Tons of greenhouse gas emissions reduced from solid waste stream. 	<ul style="list-style-type: none"> 99% of King County single-families with curbside garbage collection use organic waste disposal and 186 commercial and multi-family complexes participate in organics service. Adopted a 10% price premium for recycled materials (can buy recycled even if it costs up to 10% more). Increased the tons of organics diverted from the waste stream by 33% between 2013-2018. Community diversion rate has increased from 40% to 45% from 2011 to 2017. Participation in organics service in commercial and multi-family sectors has increased 16% from 2011 to 2018. 	<ul style="list-style-type: none"> The pounds of garbage generated per commercial employee is worsening, including a 10% increase from 2013 to 2018. Recycling and/or composting can be perceived as inconvenient. No way to track city operations waste, recycling and compost generation due to the Waste Management contract language (includes City's waste generation but doesn't quantify). 	<ul style="list-style-type: none"> Establish benchmarks to increase recycling rates. Create a committee to establish service and capacity needs. Have the committee work together to decide which transfer capacity option is best for Redmond's portion of the solid waste system service area. Implement innovative technologies to reduce impacts from trash generation. Build community outreach and education plan around waste reduction. Create a construction and demolition waste recycling program. The City can encourage the use of the E-Cycle Washington program, rather than hosting its own collection events.
<p>Support sustainable material production and consumption.</p>	<ul style="list-style-type: none"> King County Comprehensive Solid Waste Management Plan Community Strategic Plan 2019 - Environmental Sustainability section, Waste and Materials Management Recycled materials green purchasing program EnerGov and Electronic Plans Submittal 	<ul style="list-style-type: none"> All employees can submit documents to city staff electronically without the need to submit multiple hard copies to various departments. Staff have the ability to review plans electronically. Funding established to purchase recycled materials for capital improvement projects. Purchasing of electric blowers, mowers, and other small equipment. 	<ul style="list-style-type: none"> Provide a minimum # of community outreach and education programs. Reduce # of in person plan submittals and hard copy prints. 	<ul style="list-style-type: none"> The City's purchasing policy for recycled materials includes a 10% price premium. Provided waste education and outreach during 2019 with plans to continue through 2020. Commercial garbage production increased 11% on a per employee basis since 2011. Single family residents have reduced garbage production 10% since 2011. 	<ul style="list-style-type: none"> Waste management plans and programs generally lack social or equity considerations/components. Purchasing requirements and vendor contracts for a government agency limits what Redmond can do. 	<ul style="list-style-type: none"> Encourage the use of zero or low volatile organic compound (VOC) cleaning products. Implement a gasoline lawn mower exchange program. Promote the circular economy (e.g., bike share, tool libraries, used furniture and clothing stores) Require compostable and paper disposables in municipal, commercial and industrial facilities. Partner with Amazon on packaging alternatives. Support a food donation program for grocery stores to send surplus food.

Goal	Relevant City Policies/Plans/Programs	Current City Activities	Current Metrics	Progress To Date	Challenges/Gaps	Potential Actions for ESAP
<p>Protect existing open spaces, forests, and resources.</p>	<ul style="list-style-type: none"> • Tree Canopy Strategic Plan • Citywide Watershed Management Plan • Street Trees program • Tree Protection Ordinance • Tree Fund • Tree City USA participation • Tosh, Bear, and Evans Creek Restoration Projects • Wildlife Certification for Parks • Water Resources Strategic Plan • Natural Environment element in Comprehensive Plan 	<ul style="list-style-type: none"> • Green Redmond Day. • Has begun restoration projects at Bear, Tosh and Evans Creek. • A Tree Removal Permit is mandatory for the removal of any significant tree within the City. • Develop, implement and evaluate a Watershed Effectiveness Monitoring Plan. • Develop and implement a Watershed Adaptive Management Strategy. • Manage parks to maintain wildlife certification. • Conducts regular maintenance and timely inspections for of playground areas. 	<ul style="list-style-type: none"> • # of active volunteer forest stewards. • Annual # of volunteer hours performed for stewardship opportunities. • % of citizens surveyed, satisfied with maintenance of parks, trails and green spaces. • Acres of tree plantings and maintenance by WCC Crew. 	<ul style="list-style-type: none"> • 11,000+ volunteers have contributed over 30,00 hours for Green Redmond Day. • Green Redmond Day has resulted in almost 12,00 trees, 23,550 shrubs and small plants planted. • Tree City USA Certification • 22 parks certified as wildlife friendly spaces. • A 37% increase in annual # of volunteer hours performed for stewardship efforts (2013-2018). • 100% City-owned fields are composed of artificial turf. • Reduced herbicide use by approximately 33%. 	<ul style="list-style-type: none"> • Private property requirement needed to meet overall Wildlife Habitat Certification. • Urban encroachment in natural areas. 	<ul style="list-style-type: none"> • Protect and increase forested areas in the watershed. • Require sustainable landscaping at city parks and facilities. • Acquire and preserve the remaining forest land in Redmond.
<p>Protect and restore stream corridors, buffers, and wetland and riparian habitats.</p>	<ul style="list-style-type: none"> • Citywide Watershed Management Plan • Tosh, Bear, and Evans Creek Restoration Projects • Wildlife Certification for Parks • Water Resources Strategic Plan • Natural Environment element in Comprehensive Plan • Critical areas registrations 	<ul style="list-style-type: none"> • Maintain the # of acres enrolled in active management for restoration, focusing more effort on maintaining acres already enrolled versus enrolling new acres. • Maintain the % of stream length with good in-stream habitat. 	<ul style="list-style-type: none"> • # of acres enrolled in active management for restoration. 	<ul style="list-style-type: none"> • A 36% increase in acres enrolled in active management (2013-2018). • A 1% increase in stream length with “good” in-stream habitat (2013-2018). • Maintained the % of streams that are considered healthy in an urban setting. 	<ul style="list-style-type: none"> • Tribal members cannot exercise subsistence-level fishing rights due to declining fish species. • Growth Management Act (GMA) planning has placed the main responsibility for mitigating stormwater impacts related to development on developers. This has resulted in construction of stormwater infrastructure generally unaligned with watershed needs. • Design and install side channels that can be used by fish for foraging and for refuge during storm events. 	<ul style="list-style-type: none"> • Require Salmon Safe Certification for City parks and facilities/properties. • Introduce drought- and heat-tolerant vegetation species; wildlife corridors, land acquisition, buffers. • Increase funding for stream/habitat projects. • Increase stream length with “good” in-stream habitat.
<p>Increase citywide tree canopy.</p>	<ul style="list-style-type: none"> • Tree Canopy Strategic Plan • Street Trees program • Tree Protection Ordinance • Tree Fund • Tree City USA participation 	<ul style="list-style-type: none"> • Over 8,000 trees are managed and maintained by City. • Planting of trees throughout the City in city-owned property funded by fees collected from the Tree Fund. 	<ul style="list-style-type: none"> • Annual # and % of approved developments achieving at least 35% tree retention. • The # and % of landmark trees approved for removal. • The annual # of replacement trees planted. • The annual # of tree removal permits issued. • % of total Redmond land area covered by tree foliage. 	<ul style="list-style-type: none"> • Tree canopy cover declined from 38.7% to 38.1% since 2011—likely due to development of forested areas and increases in urban density. This is equivalent to a rate of at a rate of approximately 12-13 acres per year. 	<ul style="list-style-type: none"> • Tree canopy coverage is declining in Redmond due to continuous development and redevelopment of vacant or underutilized areas. • Urban encroachment in natural areas. • Tree regulations are out of date. Current regulations were developed around 20 years ago. 	<ul style="list-style-type: none"> • Increase education and awareness regarding the diverse benefits trees bring to the community. • Increase City-led tree planting and restoration efforts on public properties. • Develop incentives for voluntarily planting trees on private property. • Create tree planting programs that provide discounted trees to plant in neighborhoods or yards. • Reevaluate tree regulations. • Cap tree loss per parcel at 35%. Do not allow each redevelopment to only retain 35% trees.

Goal	Relevant City Policies/Plans/Programs	Current City Activities	Current Metrics	Progress To Date	Challenges/Gaps	Potential Actions for ESAP
Improve surface and drinking water quality.	<ul style="list-style-type: none"> Water Resources Strategic Plan Community Strategic Plan 2019 IDDE Program Wellhead Protection Program Water System Plan Water subsection of utilities element in Comprehensive Plan 	<ul style="list-style-type: none"> Completes quality testing and water level measurements for groundwater monitor wells semi-annually. 	<ul style="list-style-type: none"> % monitoring wells meeting water quality standard % groundwater samples with negative changes in condition The # of annual water quality incidents or reports investigated or responded to Benthic Index of Biotic Integrity (BIBI) scores Amount of water delivered from City water wells compared to Cascade Water Alliance water supply # of investigations taken to address potential issues at the monitoring or supply wells 	<ul style="list-style-type: none"> Completed quality testing and water level measurements for approximately 90 monitor wells in 2019. Finished the groundwater model development and established updated Critical Aquifer Area (CARA) boundaries for effective water management. Pollution prevention efforts continue to reduce pollution risks to our aquifer. The number of high-risk sites visited and provided technical assistance rose sharply in 2013-2015 to 100% in the last four years. Temporary construction dewatering activities affected groundwater flow patterns and source areas through mid-2019 causing locations not typically sampled under normal flow conditions to be monitored during TCD. A subset of wells that were sampled each year from 2016 showed a higher % of compliance. Monitoring wells above groundwater quality standards were impacted by metals. Primary drinking water standards are consistently met at most monitoring wells. Typical impacts at some locations are metals. Less typical impacts have included total coliforms. 	<ul style="list-style-type: none"> Land acquisition may be required in certain areas and may be difficult if located on private property. Funding and permitting for water management improvements can be difficult to obtain/secure. Stormwater pipe infrastructure such as flow splitters, stream inlets, and pond controls were identified as not functioning as designed. 	<ul style="list-style-type: none"> Reduce the risk of surface water and groundwater, contamination. Monitor surface water, and groundwater conditions. Construct or retrofit stormwater flow control and infiltration facilities.
Improve stormwater management.	<ul style="list-style-type: none"> Water Resources Strategic Plan Community Strategic Plan 2019 Stormwater Maintenance Program Individual Basin Plans (Monticello, Tosh) Stormwater subsection of Utilities Element in Comprehensive Plan 	<ul style="list-style-type: none"> Conducted the first year of a 2-year basin inspection cycle. Cleans catch basins within 6 months of inspection. Improving stormwater flow control (vaults, ponds, infiltration facilities, etc.) to protect urban streams from excessive erosion from high speed flows and improving drainage capacity to prevent drainage systems from excessive flooding. Creation of a City "Spill Hotline" to receive internal and external pollution incident reports or concerns within Redmond. 	<ul style="list-style-type: none"> % of city with adequate stormwater flow control % of the City that has adequate runoff treatment % stormwater treated by green infrastructure # of responses that prevented or significantly minimized pollutant discharges to stormwater systems. # of road closures due to storm-related flooding # of water main breaks per mile of pipe and average repair time # of sanitary sewer overflows from the public sewer systems 	<ul style="list-style-type: none"> 80% of stormwater assets meet service standards and are in "fair" or "better" condition In 2018, all NPDES stormwater catch basins that contained were filled with debris were cleaned. Catch basin inspection and cleaning has increased 174% between 2013-2018. This is primarily due to regulatory requirements and operational efficiency. Between 2013-2018, the City increased stormwater flow control by 5%. The City improved quality of infrastructure (e.g., vaults, ponds, infiltration facilities) being provided across the City to protect our urban streams and drainage systems from excessive erosion and flooding. Between 2011 and 2019, the percentage of the city having adequate runoff treatment increased from 32.63% to 38.88%. 	<ul style="list-style-type: none"> Regional stormwater facilities may be difficult and costly to site, particularly for large facilities or in areas with existing development. Funding and permitting for stormwater management improvements can be difficult to obtain/secure. Climate change will affect how the City delivers utility services and impact water supply and stormwater management practices. Building stormwater facilities to manage future rainfall events due to changes in precipitation patterns. 	<ul style="list-style-type: none"> Reduce the risk of stormwater contamination. Monitor stormwater conditions. Manage flooding and adverse impact to floodplains. Plan for resiliency/ climate change.
Expand and improve infrastructure that enables and expands water conservation.	<ul style="list-style-type: none"> Water Resources Strategic Plan Community Strategic Plan 2019 Cascade Water Alliance Water Conservation Program Water subsection of utilities element in Comprehensive Plan 	<ul style="list-style-type: none"> Offers toilet, showerhead, and irrigation retrofits and rebates, residential water audits, classes and consultants for professional landscapers, and incentive-based water pricing to promote water conservation through Cascade Water Alliance. Partners with Cascade Water Alliance and the Department of Ecology to do outreach and education on the benefits of grey water systems. Utilizes a centralized water control system called Maxicom which controls the irrigation of landscapes for city facilities. Replaced annual planting beds with drought-tolerant perennials and transitioned to manually turning on irrigation systems, when needed. 	<ul style="list-style-type: none"> Water usage (gallons) Number of high-priority septic systems remaining in City limits 		<ul style="list-style-type: none"> Funding for water conservation improvements can be difficult to obtain/secure. 	<ul style="list-style-type: none"> Encourage the use of on-site rainwater harvesting with rain barrels or large cisterns. Find ways to reduce water usage and using recycled water for some of the operations. Partner with the Department of Ecology to do outreach on the benefits of grey water systems. Partner with King County and Cascade Water Alliance to develop framework to incorporate reclaimed water infrastructure in future water planning. Remove barriers in City policy for rainwater harvesting, grey water and reclaimed water use.

Methodology

The inventory includes findings from the following research activities, described in more detail below:

- A **literature review** of City plans, policies, progress reports, and other available documentation.
- One-on-one **interviews** with key City staff to gather insights and reflections.
- Two half-day interdepartmental **City staff workshops**.
- A **quantitative assessment** of Redmond's baseline conditions, including charting historical and likely future trends for key sustainability indicators.

Literature Review

Background research included review of available information and documentation related to City activities. Redmond City staff provided a spreadsheet outlining many existing City activities, programs, and plans, including links to the following documentation:

General
Community Strategic Plan Comprehensive Plan (including elements from Natural Environment, Land Use, Transportation, Utilities, and Capital Facilities)
Climate Change
Climate Action Implementation Plan Final Comprehensive Flood Hazard Management Plan
Transportation and Land Use
Downtown Parking Strategic Management Plan – Existing Conditions Report
Materials Management and Waste
Collaborative King County Solid Waste and Recycling Plan
Natural Systems
Tree Canopy Strategic Plan Citywide Watershed Management Plan Tosh Creek Watershed Restoration Plan Monticello Basin Plan Tree Preservation Ordinance
Water Management
Water Resources Strategic Plan Regional Stormwater Facilities Plan

Interviews²

The project team also conducted one-on-one interviews with key City staff. Interviews included questions related to existing City activities, potential opportunities, and challenges and concerns. Interviewees included:

- Cathy Beam, Principal Planner
- Erik Scairpon, Police Captain
- Gary Schimek, Environmental and Utilities Services Manager
- Jonny Chambers, Technology and Information Services Director
- LeeAnn Skipton, Facilities Manager
- Ernie Fix, Maintenance and Operations Supervisor
- Carol Helland, Deputy Director Planning
- Yuri Bergeron, Maintenance Technician
- Brian Donnelly, Maintenance Technician
- Jason Harnasch, Source Control Administrator

City Staff Workshops

We also consulted outcomes from two half-day workshops with City staff. Workshops included the following activities:

- A **SWOT analysis** to characterize Redmond’s unique strengths, weaknesses, opportunities, and threats.
- Review of existing and proposed sustainability-related **progress, goals, and targets**.
- Review and refinement of **conceptual diagrams** that characterize the threats and factors in Redmond that affect progress toward various sustainability goals, and potential strategies to address those factors.

Attendees at the City staff workshops are listed below.

Workshop #1: Internal Operations Focus	Workshop #2: Community Focus
Meg Angevine, Parks Maintenance Peter Holte, Watershed Planning, Stormwater Scott McQuary, Spill Response Lucas Cometto, Purchasing Stacey Auer, Solid Waste & Recycling Tereasa Kluver, Parks Operations Tom Hardy, Stream Habitat Jeff Aken, Parks Planning Eric O'Neal, Parks Projects Jason Alexander, Fire Aaron Moldver, Solid Waste, Stormwater, Groundwater Aila Macri, Stormwater, O&M	Lee Ann Skipton, Facilities Jon Spangler, Construction Cathy Beam, Planning Jozanne Moe, Building Steve Hitch, Stormwater Management Anne Dettlebach, Stormwater Management Emily Flannigan, Streams, Habitat, Stormwater Aaron Moldver, Solid Waste, Stormwater, Groundwater Jill Smith, Communications Caroline Chapman, Trip Reduction Carolyn Hope, Parks Planning Angie Venturato, Groundwater Protection Tally Young, Source Control Inspection Teresa Jennings, Water Utility and Reclaimed Water Jessica Atlakson, Groundwater/Surface Water Gary Schimek, Environment and Utilities

² Note that the SWOT outcomes and staff interview responses have not undergone a formal fact checking or vetting process.

Focus Area Summary and Metrics

The following sections present a detailed compilation of inventory findings for each of the six focus areas, including quantitative analysis outcomes for key sustainability metrics/indicators. Findings are organized as follows:

- **Relevant Plans, Programs, and Policies** that inform current or future direction of sustainability-related activities.
- **City Progress to Date**, including sustainability achievements that City has already made and notable sustainability activities within the City.
- **Identified Challenges and Gaps** that could hinder progress towards sustainability goals.
- **Potential Strategies, Actions, and Opportunities**, as identified through City staff engagement and review of City documentation, to consider when developing strategies and actions for the ESAP.
- **Metrics Snapshot** that illustrates **Past Trends** and **Projected Future Trends** for relevant sustainability metrics. Projected future trends are provided for three scenarios:
 - A **Business-As-Usual** scenario that assumes the City takes no further action to further sustainability goals.
 - An **Adjusted Business-As-Usual** scenario that takes into account existing and anticipated external policies and activities.
 - A **Target** scenario that can be used to compare projected future trends to relevant adopted targets, such as those set by Washington State or King County (K4C, PSRC).

Climate Change

Relevant Plans, Programs, and Policies

- The **Climate Action Implementation Plan (2014)** is a framework for addressing climate change and recommends strategies to mitigate carbon emissions within city operations and the community. The goal is to reduce their greenhouse gas emissions by 25% of their 2008 amount by 2020.
- The **Community Strategic Plan (2019)** focuses on decreasing carbon footprint and providing access for businesses and community programs to reduce carbon footprint. It aims to have a City with two vibrant urban centers in Downtown and Overlake with connected neighborhoods and quality services.
- The **King County-Cities Climate Collaboration (K4C)** is a partnership between various local governments in Washington to collectively reduce greenhouse gas emissions in King County through the achievement of the joint county-city climate commitments.
- The City has created plans such as the **Geological Hazards Protection, Final Comprehensive Flood Hazard Management Plan** and **Comprehensive Emergency Management Plan** to ensure the safety of community members in the event of a natural disaster. Actions in the Natural Resources section of the Climate Action Implementation Plan also aim to make Redmond more resilient to climate change.

City Progress to Date

- Current emission-reducing activities include anti-idling campaigns, green purchasing policies, bus pass program, energy efficiency practices.
- Between 2011-2017 municipal GHG emissions declined 5%. The decline in emissions is largely driven by energy-efficient upgrades and reductions in fleet fuel consumption.
- As a part of the K4C partnership, Redmond is supporting 2019 policy and legislative advocacy that include: comprehensive science-based limits, market-based price on carbon pollution, expansion of funding for public transit, green buildings, and renewable energy.³
- Several of Redmond's current programs and plans address climate change issues (e.g., stormwater management, energy conservation). These plans are detailed in their respective focus area sections.
- The City uses ClearPath platform to track GHG emissions over time.

Identified Challenges and Gaps

- Limited funding compared to other initiatives such as stormwater management, solid waste management, and open space (as indicated by the 2019-2020 Clean and Green budget).⁴
- Limited ability to mobilize hard-to-reach and vulnerable populations.
- Difficult to bring the right City staff/leadership to the table.
- Lack of funding, personnel, and other resources.
- Large project backlog.
- Uncertainty around climate change science.
- Limited corporate engagement.
- Resistance to change.
- City does not encourage reuse of materials or resources.

³ K4C State Policy and Legislative Interests for 2019. <https://your.kingcounty.gov/dnrp/climate/documents/2019-K4C-Legislative-Interests.pdf>

⁴ City of Redmond Clean & Green Results. <https://www.redmond.gov/DocumentCenter/View/4577/CLEAN-AND-G.REEN-PDF>

Potential Strategies, Actions, and Opportunities

- Increase funding and capacity for the City of Redmond to make progress on climate action goals.
- Emphasize the return on investment for municipal energy efficiency initiatives.
- Build awareness of climate change and provide clear direction on how to address it.
- Encourage and formalize employee schedules to expand participation among City staff.

Metrics Snapshot

Past Trends

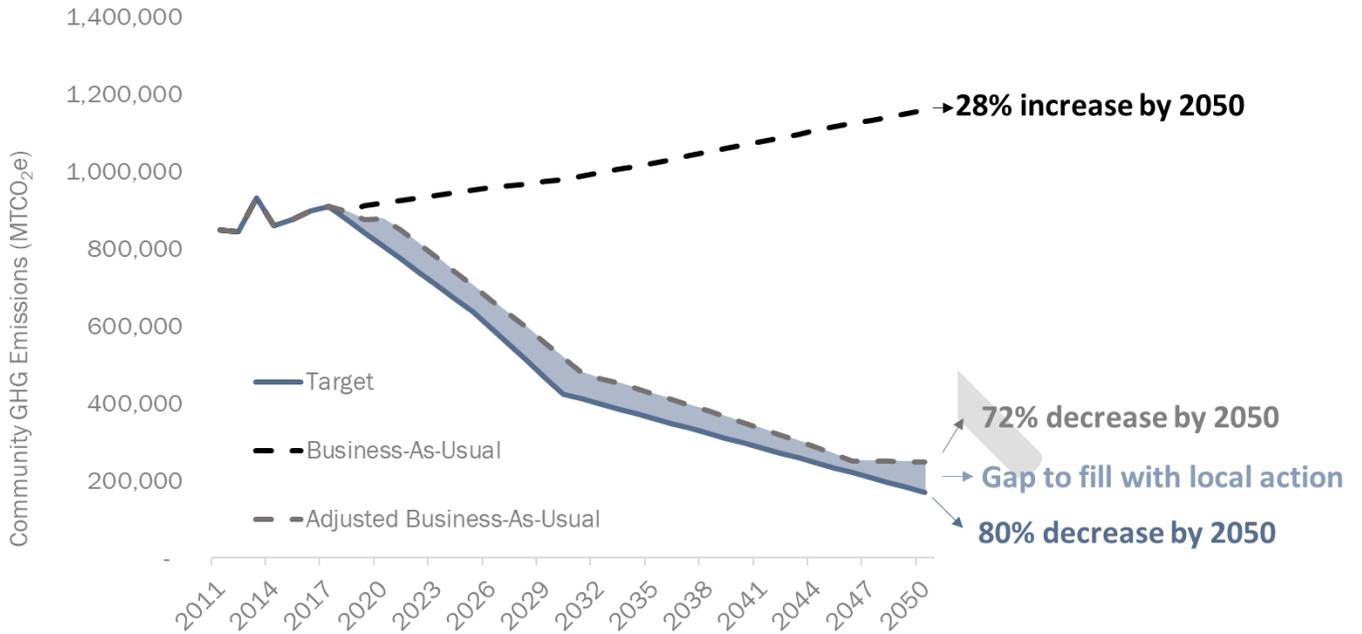
- Community GHG emissions have increased 7% from 2011 to 2017.⁵ This trend is largely driven by population growth and building energy-related emissions, highlighting the need to focus on energy-related emission sources.
- Between 2011-2017, per-capita emissions have declined 4%. This trend indicates that overall community GHG emission increases may be largely driven by population and economic growth in the city.
- Between 2011-2017 municipal GHG emissions declined 5%. The decline in emissions is largely driven by energy-efficient upgrades and reductions in fleet fuel consumption.

Performance Measure	Actual							Rating	Trend
	2011	2012	2013	2014	2015	2016	2017		
Community GHG Emissions (MTCO ₂ e)	848,793	844,811	930,953	860,653	874,752	897,352	909,748	Worsening	
Energy-Related GHG Emissions (MTCO ₂ e)	586,468	584,950	678,525	604,484	621,431	644,384	656,202	Worsening	
Transportation-Related GHG Emissions (MTCO ₂ e)	242,486	240,395	233,451	236,383	237,448	233,784	233,698	Improving	
Solid Waste-Related GHG Emissions (MTCO ₂ e)	14,876	14,483	13,952	14,592	10,547	13,734	14,061	Maintaining	
Per-Capita Community GHG Emissions	16	15	17	15	15	15	15	Maintaining	
Municipal GHG Emissions	8,162	8,190	7,321	8,170	8,126	8,074	7,743	Improving	

⁵ Although Redmond has been tracking GHG emissions since 2008, 2011 was chosen as the base year for emissions trends forecasting and target setting due to disparities in transportation modeling approaches prior to 2010. The prior VMT model (prior to 2011) produced VMT estimates that are inconsistent with the per-capita VMT that would be expected for the King County region.

Projected Future Trends in Community GHG Emissions (MTCO₂e)

Despite projected population and economic growth in King County and the Puget Sound region (“Business-As-Usual” scenario), there will be an anticipated net decrease of GHG emissions, due largely to state requirements for electric utilities to phase out fossil fuel sources by 2045 and anticipated federal vehicle fuel economy standards (“Adjusted Business-As-Usual Scenario”). Local action will still be critical to meeting long-term greenhouse gas emission reduction goals.



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Transportation and Land Use

Relevant Plans, Program, and Policies

- The **Greening of City Fleet Goal Plan** focused on transitioning the municipal fleet towards hybrids and electric cars.
- **Go Redmond Program** is a comprehensive program that provides incentives, alternatives, and various resources to help both residents and workers use non-single rider transportation. This program started as R-TRIP back in the 1990s but has evolved into a multifaceted program.
- The **Redmond School Pool Program** (a part of Go Redmond Program) focuses on schools. This program has implemented events to encourage walking to school and track school community successes through data collection.
- The **Anti-Idling Campaign Program** was introduced under the Climate Action Implementation Plan to bring awareness about the negative impact of idling.
- The **Downtown Parking Strategic Management Plan** - Existing Conditions Report Plan is currently being conducted to understand parking patterns, which will inform the future construction of downtown and promote walkability.
- The **Green Redmond Partnership** preserves land in the City.
- **The City of Redmond Transportation Master Plan** was first completed in 2005 and has since been updated due to new ordinances such as complete streets and approval of the East Link Light rail.

City Progress to Date

- Redmond purchased its first hybrid in 2005, and currently operates and maintains 28 hybrid vehicles.
- The City currently tracks fleet fuel use, miles driven, and vehicle type.
- The City was awarded the Annual Best Achievement in Propane Autogas from Western Washington Clean Cities.
- The City reduced its fleet's carbon footprint significantly and saved thousands of dollars in fuel expenses.
- Redmond is currently identifying publicly owned land that is offered at a discounted price to support the development of deeply affordable housing.⁶
- As part of the transportation demand management program refresh, a study will be implemented to evaluate a 10-minute community pilot program that reduces vehicle reliance.
- A downtown Redmond parking study is in progress inform revisions to parking standards, including decreasing the required parking at sites proximate to light rail stations.
- The Department of Public Works installed two electric vehicle chargers in the MOC yards, explored building a sustainable campus, and researched alternative fuels.
- Redmond has installed electric vehicle charging stations in parking lots, utilizes drought-resistant landscaping, and grass composting on City Hall Campus.
- There is irrigation monitoring and low flow fixtures in restrooms for water conservation.
- The Transportation Master Plan's three-year action plan is 40% complete and 45% is in progress, signaling advancement in the past few years.
- The City constructed a sidewalk and bicycle lane on the west side of Red-Wood Road near 109th Street.⁷
- Redmond Fire Department Training's 8 (of 9) vehicles are hybrid electric.
- City Hall's Motor Pool vehicles are electric or hybrid except for one.

Identified Challenges and Gaps

- Limited transition of heavy-duty vehicles to electric.
- Purchasing requirements for a government agency somewhat limits what Redmond can buy – the affordable option is not always the most sustainable one.
- Inefficient vehicles driven by the community. Often must drive due to circumstances (long distances).⁸
- Driving is more comfortable, and alternatives are limited, so this discourages people from using alternatives.⁸
- \$30 car-tab (I-976) limits significant funding for transportation.

⁶ City of Redmond Community Strategic Plan. <https://www.redmond.gov/DocumentCenter/View/9277/Community-Strategic-Plan-2019?bidId=>

⁷ City of Redmond Three-Year Action Plan Status. <https://www.redmond.gov/DocumentCenter/View/7570/Three-Year-Action-Plan-2016-to-2018-Update-PDF?bidId=>

⁸ Redmond ESAP SWOT Analysis- Workshop 2. <https://maps.groupmap.com/maps/wiLQbMrZgyk1/participants/w25W60MPCiaY>. Note that the SWOT outcomes have not undergone a formal fact checking or vetting process.

- Need to move towards transit-oriented development, much of the City is still car oriented.
- Affordability to live in Redmond.

Potential Strategies, Actions, and Opportunities

- Subsidize affordable housing in denser areas to limit commuting distances.
- Adjust land-use policies to allow denser development and increase housing supply.
- Create a structure to support telecommuting schedules and encourage Skype meetings for City employees.
- Expand and promote innovative travel demand management programs.
- Increase the anti-idling campaign.
- Focus on maintaining and enhancing multimodal transit services and related facilities.
- Improve alternative transportation options with local schools.
- Build more EV charging infrastructure.
- Improve E-bike infrastructure.
- Upcoming light rail expansion presents an opportunity for transit-oriented development.
- Research solar powered emergency light bars to prevent truck idling without compromising safety.⁹
- Purchase recycled asphalt, versus hydro-excavating cold mix.⁹

Metrics Snapshot

Past Trends

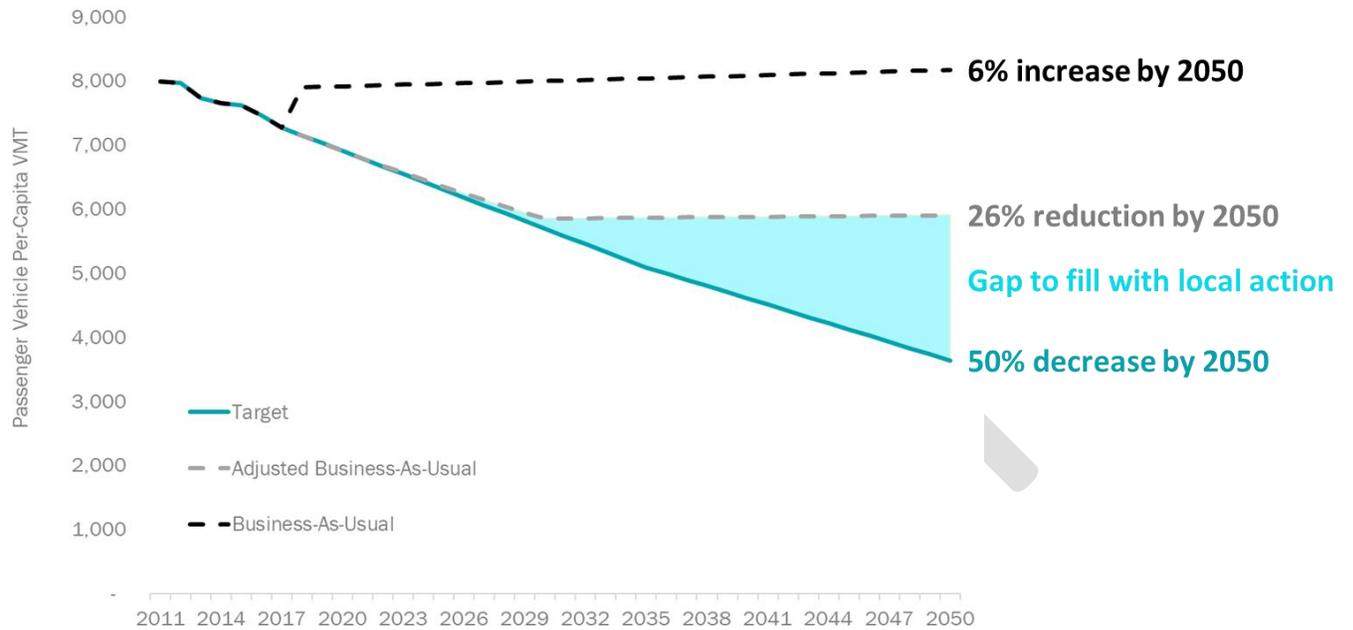
- There has been a 2.1% overall increase in community vehicle miles traveled (VMT) from 2011 to 2017. This increase is largely driven by passenger vehicles—medium and heavy truck usage has declined over the same period.
- There has been a 9.4% decrease from 2011-2017. This decline could be due to shifts to transit, walking, and biking.
- Community transportation emissions decreased 4% from 2011-2017. This trend is primarily driven by increases in vehicle fuel efficiency.
- Between 2008-2018, the percentage of commuters that did not drive alone increased 8%. Increases in mode share may reflect changes to infrastructure, policies, and land-use patterns that support different types of travel.
- Redmond vehicle fleet emissions have decreased 14% since 2011.

Performance Measure	Actual							Rating	Trend
	2011	2012	2013	2014	2015	2016	2017		
Community VMT	480,000,000	480,000,000	470,047,000	480,048,000	490,000,000	490,000,000	490,000,001	Worsening	
Per Capita VMT	8,704	8,671	8,418	8,320	8,280	8,091	7,889	Improving	
Transportation GHG Emissions	242,486	240,395	233,451	236,383	237,448	233,784	233,698	Improving	
Mode Share (% of commuters that do not drive alone to work)	NA	37%	37%	38%	38%	40%	43%	Improving	
Vehicle fleet emissions	1,637	1,512	1,481	1,422	1,450	1,492	1,406	Improving	

⁹ Redmond Staff Interview.

Projected Future Trends in Community Vehicle Miles Traveled (VMT)

Overall, we anticipate that community VMT will continue to steadily increase with continued economic growth in King County and the Puget Sound region. On a per-capita basis, we anticipate VMT to increase slightly to total a 6% increase by 2050. In the adjusted business-as-usual scenario, Redmond's per-capita VMT will reduce 26% by 2050—primarily due to the anticipated East Link light rail extension.



Buildings and Energy

Relevant Plans, Program, and Policies

- The **Green Building Program** provides incentives to implement green building and green infrastructure development techniques. This program fosters the sound development of new buildings to minimize environmental impacts.
- The **Energy Efficiency Conservation Block Grant Program** is funded by the federal government to support mayors across the US in accelerating local energy and climate initiatives. Redmond was awarded \$272,000 and used it to implement the Impact Redmond website and other outreach and education materials.
- The **EnviroStars Certification Program** recognizes businesses on their green practices.
- Redmond is a part of the **Puget Sound Energy Green Direct** program, which allows the City to buy their electricity from local and renewable sources,¹⁰ lowering electricity costs and reduce greenhouse gas emissions.

City Progress to Date

- The City of Redmond's previous Mayor (John Marchione) stated that the City of Redmond will partner with Puget Sound Energy to purchase 100% of its electricity for government operations from local renewable energy resources.
- City Hall has LEED and ENERGY STAR Certifications, providing an example to the community that Redmond is taking steps towards a more sustainable future.
- Through the Green Building Program plan, there are incentives to implement green building development techniques in all types of buildings within the City.
- The City has conducted various Energy Service Company (ESCO) projects to offer comprehensive energy solutions to improve efficiency and reduce consumption. Projects include LED lighting, replacing heat pumps, energy efficient windows at the pool, water filtration systems at the pool, heat systems for the pool.
- The City has had PSE at community events to sell energy efficiency lightbulbs at a highly reduced price. Further, PSE has implemented outreach to small businesses to offer retrofit services for energy efficiency.
- Redmond is working on building automation controls in municipal entities to reduce energy waste.
- The **ClearPath** platform tracks greenhouse gas inventories, forecasts, and monitoring at the community-wide or government-operations scales.
- Redmond has an **ENERGY STAR Portfolio Manager** account where they can record and track their consumption data of its municipal buildings, water and sewer facilities.

Identified Challenges and Gaps

- Several municipal buildings have HVAC upgrades or repair needs (75 units); however, limited funding and more energy efficient models can be more expensive.
- Need to demonstrate ROI and business case for sustainability projects.
- Limited ability to retrofit or improve energy efficiency when renting/leasing buildings.
- No formal process/tool/policy to include climate resilience considerations in capital projects.
- Limited staff dedicated to sustainability.
- Need for strong leadership around sustainability issues.
- Need for SMART targets and goals for sustainability.
- Shifting mindset to use less energy is challenging.

Potential Strategies, Actions, and Opportunities

- Implement technology solutions to reduce energy demand in the Technology and Information Services Department.¹¹
- Expand training for building code staff on energy efficiency requirements.¹¹
- Create infrastructure for district energy in urban centers.¹¹
- Incentivize the installation of on-site renewable energy.¹¹
- Introduce behavior change programs for using less energy in businesses and households.¹¹
- Promote green energy certification.¹¹

¹⁰ PSE's Green Direct program is fully subscribed. <https://www.pse.com/press-release/details/green-direct-announcement>

¹¹ Redmond Staff Interview.

- Pass City policies such as offering incentives for solar-ready roofs to encourage renewables (this is already in place for single-family residential buildings).¹¹
- Adopt additional sustainability IRC building codes.¹¹
- Require energy efficiency improvements with tenant improvements and/or re-development thresholds.¹¹
- Introduce a policy/ program to address embodied and operational carbon.
- Provide incentives to switch from natural gas to electric appliances.
- Provide financial incentives for promoting and accrediting green buildings.

Metrics Snapshot

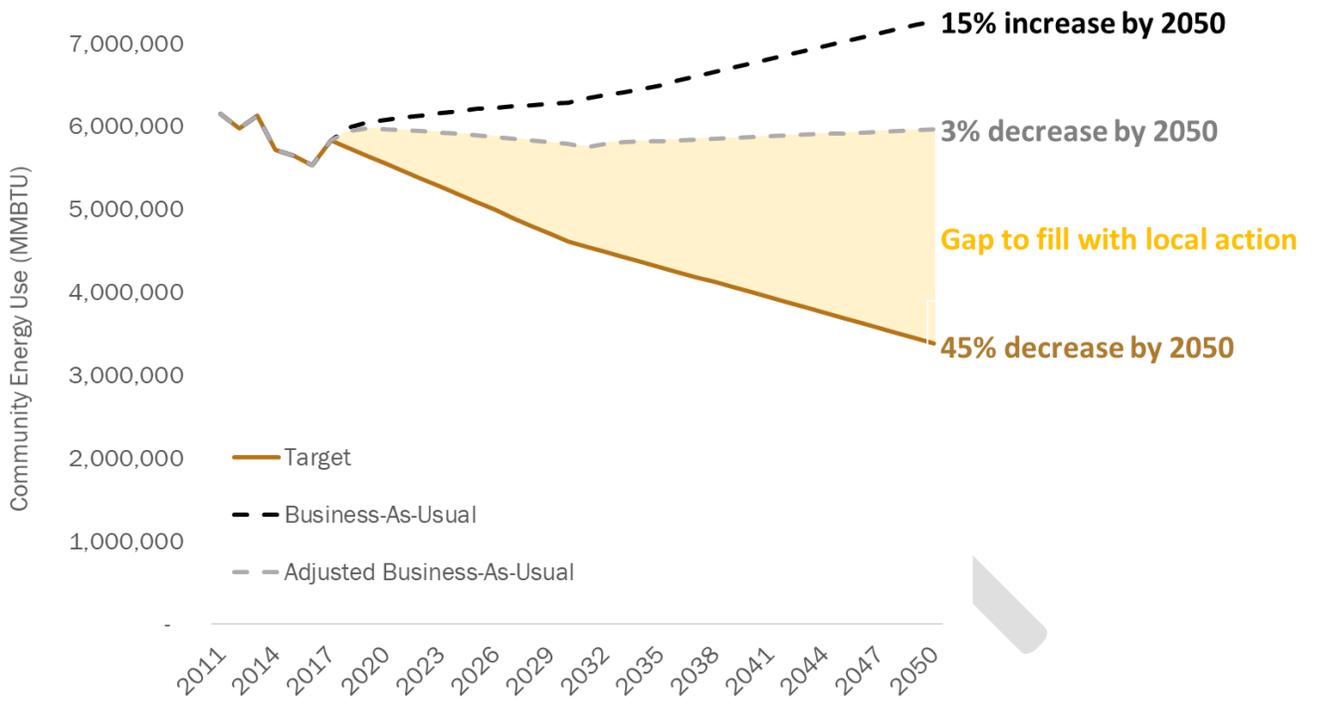
Past Trends

- Despite population growth, community-wide energy use decreased 5% since 2011--a reduction of over 300,000 MMBTU.
- Since 2011, Redmond has increased the amount of renewable electricity purchased from PSE's Green Power Purchasing Program by 129%--an increase of over 11,000,000 kWh.
- Natural gas usage has increased 6% since 2011—an increase of over 1,000,000 therms.
- The carbon intensity, or the amount of carbon pollution per unit of energy, has increased since 2011 due to increased natural gas use and fluctuations in PSE's electricity fuel mix.
- Energy-related emissions increased 12% between 2011-2017.

Performance Measure	Actual							Rating	Trend
	2011	2012	2013	2014	2015	2016	2017		
Community Energy Use (MMBtu)	6,149,141	5,975,911	6,129,845	5,718,379	5,647,249	5,526,547	5,831,673	Improving	
Carbon Intensity of Energy (MTCO2e/MMBtu)	0.10	0.10	0.11	0.11	0.11	0.12	0.11	Worsening	
Natural Gas Use (therms)	19,998,834	18,780,738	15,617,379	18,916,109	18,161,796	18,161,380	21,153,894	Worsening	
Electricity Use (kWh)	1,216,965,826	1,201,884,354	1,339,813,134	1,122,380,533	1,123,642,040	1,088,252,516	1,089,975,618	Improving	
PSE Green Power Purchases (kWh)	9,255,190	10,148,312	11,171,525	13,875,955	17,612,479	17,859,485	21,232,687	Improving	
Energy GHG Emissions (MTCO2e)	586,468	584,950	678,525	604,484	621,431	644,384	656,202	Improving	

Projected Future Trends: Community Energy Use

Population and economic growth drives community energy consumption upward under a Business-As-Usual scenario. However, technological advancements made in energy efficiency and implementation of the state building energy code will counter this affect; in the adjusted business-as-usual scenario, Redmond's community energy consumption is projected to decrease by 3% by 2050 compared to 2011 levels—leaving approximately 42% of additional reductions needed by local action to meet the regional target.



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Materials Management and Waste

Relevant Plans, Program, and Policies

- The **King County Solid Waste Management Plan (2019)** identifies strategies for managing King County's solid waste over the next six to 20 years.
- The **Community Strategic Plan (2019)** includes objectives, strategies, and measures for increased waste diversion.
- The **Recycled Materials Green Purchasing** program aims to reduce the amount of waste that is produced through purchasing and utilizing new technology.
- The **Food Waste Program Expansion** program increased food waste recycling in City facilities.
- The **Solid Waste and Recycling** program aims to minimize the solid waste stream through maximizing waste reduction and recycling.
- The **EnerGov and Electronic Plans Submittal** program improves the efficiency of the plan submittal process and minimizes paper waste.
- The **Composting, Yard, and Food Waste** program encourages the re-use and recycling of green waste products.

City Progress to Date

- The City participates in the E-Cycle (electronic waste) Washington recycling program.
- King County implemented organic waste disposal service for 99% of single-families with curbside garbage collection and has 186 commercial and multi-family complexes participating in organics service.
- The City adopted a 10% price premium for recycled materials.
- The City has recycling collection bins available at public buildings for residents to safely dispose of batteries.
- The City manages a comprehensive contract with Waste Management for the collection and disposal of garbage, recycling, and organics.
- Community diversion rate has increased from 40% to 45% from 2011 to 2017.
- The City offers up to three 64-gallon food recycling carts at no charge (collected 2x/week by Waste Management).
- Tons of organics diverted from the waste stream increased by 33% between 2013-2018.¹²

Identified Challenges and Gaps

- Recycling and composting can be perceived as inconvenient.
- Waste management plans and programs generally lack social or equity considerations/components.
- Waste diversion may be challenged due to the reliance on China's recycling facilities and potential future restrictions on what is accepted.
- The pounds of garbage generated per commercial employee is worsening (10% increase between 2013-2018).¹²
- City does not encourage reuse of materials or resources.¹³

Potential Strategies, Actions, and Opportunities

- Create a community lot for recycling firewood like Factoria's hazardous waste center.¹³
- Support King County Goal of diverting 70% of garbage through recycling.¹⁴
- Convene a committee to establish service and capacity needs. Have the committee work together to decide which transfer capacity option is best for our portion of the solid waste system service area.
- Build community outreach and education plan around waste reduction.¹⁵
- Implement Innovative Technologies to Reduce Impacts from Trash Generation.¹⁵
- Encourage the use of zero or low volatile organic compound cleaning products.¹⁵
- Create a construction and demolition waste recycling program.¹⁵
- Encourage the use of e-cycle Washington rather than hosting events.¹⁶
- Promote the circular economy (e.g., car and bike share, tool libraries, used furniture and clothing stores).¹⁶
- Require compostable and paper disposables in restaurants and stores.¹⁶
- Support a food donation program for grocery stores to send surplus food.¹⁶

¹² 2018 Clean and Green Performance Measures.

¹³ Redmond Staff Interview.

¹⁴ 2019 Comprehensive Solid Waste Management Plan.

¹⁵ Environmental Initiative Spreadsheet.

¹⁶ Redmond Conceptual Model on Materials Management and Waste.

Metrics Snapshot

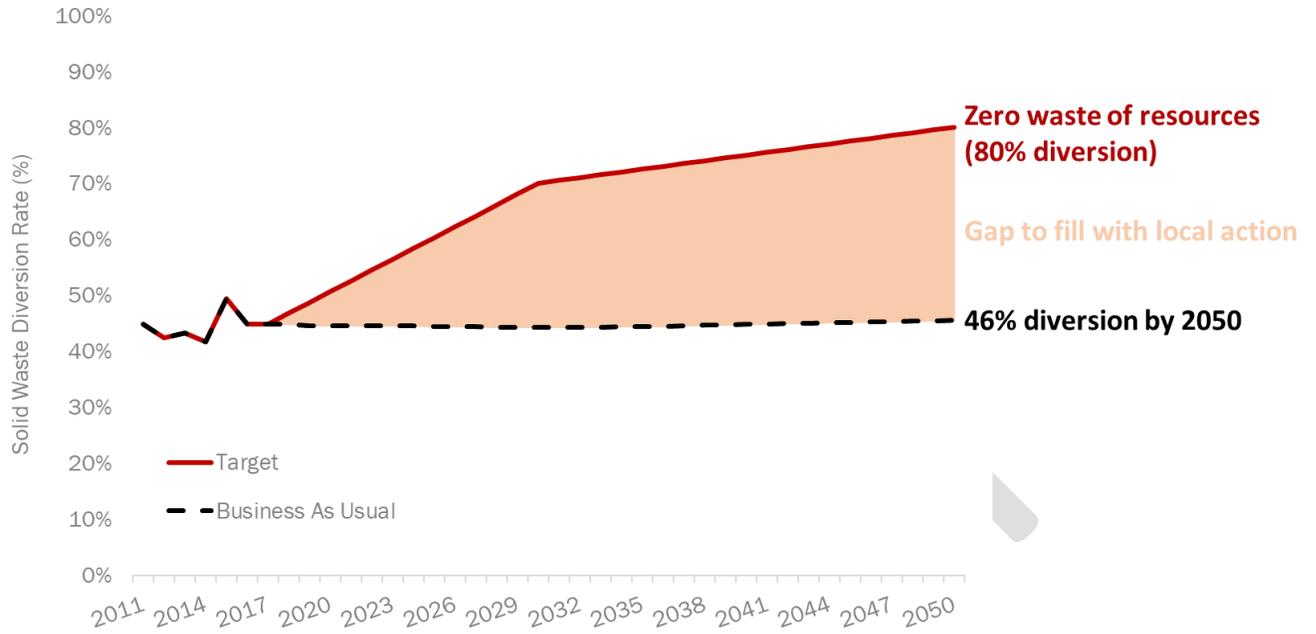
Past Trends

- Community diversion rate has increased from 40% to 45% from 2011 to 2017.
- Solid waste GHG emissions have declined 5% between 2011-2017. Increases in community waste diversion may have contributed to this trend.
- Participation in organics service in commercial and multi-family sectors has increased 16% from 2011 to 2018.
- Organics waste diversion increased 50% from 2011 to 2018. Much of this increase is likely due to expanded outreach and offerings for customers.
- Commercial garbage production increased 11% on a per employee basis since 2011.
- Single family residents have reduced garbage production 10% since 2011.

Performance Measure	Actual							Rating	Trend
	2011	2012	2013	2014	2015	2016	2017		
Community Diversion Rate (%)	40%	42%	43%	42%	49%	45%	45%	Improving	
Solid Waste-Related GHG Emissions (MTCO2e)	14,876	14,483	13,952	14,592	10,547	13,734	14,061	Improving	
Commercial and multi-family complexes participation in organics service (# of complexes)	117	150	160	190	169	173	235	Improving	
Organic waste diversion (tons diverted)	263	326	448	495	600	690	698	Improving	
Commercial garbage production (weight of garbage generated per commercial employee)	470	438	408	424	387	394	381	Worsening	
Residential garbage production (Average weight of garbage collected per single family account per week)	20	20	20	20	19	19	18	Maintaining	

Projected Future Trends: Waste Diversion

The community waste diversion rate is anticipated to remain fairly constant at 46% under the Business-As-Usual scenario. Due to a lack of policies at the state and federal level, the Redmond community will rely on local actions to achieve short- and long-term waste diversion goals.



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Natural Systems

Relevant Plans, Program, and Policies

- The **Tree Canopy Strategic Plan** is an inter-departmental strategic plan to increase tree canopy across the city that includes a canopy coverage goal, proposed timeline, and methods for achieving the goal. (2019)
- The **Citywide Watershed Management Plan** identifies the target restoration conditions and provides a framework for addressing multiple regulatory drivers and development opportunities to support and restore healthy surface waters. (2015)
- The **Tosh Creek Restoration Plan** identifies projects to fully restore Tosh Creek to make it healthy for aquatic life and a valuable natural asset for the residents of Redmond. (2013)
- The **Bear Creek Restoration Plan** identifies improvements to instream habitat complexity, floodplain connection, and riparian buffer planting. (2014)
- The **Monticello Basin Plan** identifies projects to fully restore Monticello Creek to make it healthy for aquatic life and a valuable natural asset for the residents of Redmond. (2013)
- The **Tree Preservation Ordinance** avoids the removal of trees, landmark trees, protected trees, and critical areas in order to maintain the quality of the city's urban environment.
- The **Green Redmond Partnership** is a volunteer-based program to bring forested parkland into active management through the removal of non-native, invasive plants and the addition of native trees and shrubs.
- The **Street Trees** program proactively manages and maintains nearly 8,000 trees along major arterials and downtown to promote long-term health and address visibility and safety.
- The **Tree Fund** plants trees throughout the City in city-owned property, NGPEs and NGPAs funded by fees collected in the fee-in-lieu program for tree removal/replacement.
- The **Keller Farm Wetland Mitigation Bank** provides environmental restoration to Keller Farm Wetland and establishes a state-certified wetland mitigation bank.

City Progress to Date

- Developed Green Redmond Day where 11,000+ volunteers have contributed over 30,00 hours. This program has resulted in almost 12,00 trees, 23,550 shrubs and small plants planted and spanned across 15 parks.
- Has been continuously certified by the Washington State Department of Natural Resources as a Tree City USA.
- The City has 22 parks sites certified as wildlife-friendly spaces (Wildlife Habitat Certification).
- Artificial Turf has been installed at 100% of City-owned fields.
- Between 2013 and 2018, the annual number of volunteer hours performed for stewardship efforts increased 37% to 3,932.¹⁷
- Between 2013 and 2018, the City had 36% more acres enrolled in active management for restoration and is currently focusing more effort on maintaining acres already enrolled versus enrolling new acres.¹⁷
- The City conducts regular maintenance and timely inspections for 100% of playground areas.¹⁷
- The City saw a 1% increase in % of stream length with good in-stream habitat between 2013-2018.¹⁷
- The City tracks the % of streams that are considered healthy in an urban setting.¹⁷
- The City switched from sand to salt for snow and ice response and recalibrated the Climate, Community and Biodiversity Standard (CCB) application to meet national highway standards.¹⁸

Identified Challenges and Gaps

- Current conditions of Redmond creeks have caused Tribal members not to be able to exercise subsistence-level fishing rights due to declining fish species.
- The life expectancy of stormwater pipe and infrastructure is highly dependent upon the pipe material.
- Currently, tree canopy coverage is declining in Redmond, at a rate of approximately 12-13 acres per year due to continuous development and redevelopment of vacant or underutilized areas.¹⁷
- Land acquisition or restoration projects may be challenged due to natural systems and certain areas of land being located on privately owned land.
- Target for % of total Redmond land area covered by tree foliage needs to be updated.

¹⁷ 2018 Clean and Green Performance Measures Excel Spreadsheet.

¹⁸ Redmond Staff Interview.

- Stormwater pipe infrastructure such as flow splitters, stream inlets, and pond controls were identified as not functioning as designed.
- The potential for redevelopment is a significant driver in watershed restoration project selection by the City.
- Private property requirement needed to meet overall Wildlife Habitat Certification.
- Reevaluation of tree regulations- they were developed around 20 years ago.¹⁹
- Insufficient pollution regulations.²⁰
- Urban encroachment in natural areas.¹⁹

Potential Strategies, Actions, and Opportunities

- Educate the public on moss on handrails and island, which could decrease daily maintenance.¹⁹
- Educate the public on dumping yard waste into natural areas. Specifically, educate people on picking up after pet's waste and leaving bags around.¹⁹
- Increase Redmond's tree canopy coverage to 40% over a period of 30 years.¹⁹
- Provide education and outreach to improve community-wide understanding of the diverse benefits natural systems bring to the community.¹⁹
- Increase City led tree planting and restoration efforts on public properties.¹⁹
- Incentivize voluntary tree planting on private property.¹⁹
- Develop a Tree planting program that would provide discounted trees to plant in your neighborhood or yard.¹⁹
- Require sustainable landscaping at all city parks and facilities.²¹
- Acquire and maintain Salmon Safe Certification for all City Parks and facilities.¹⁹
- Implement the Sammamish River Compensatory Floodplain Storage Project (NE-55) to increase flood storage areas and reduce runoff volumes and peak flows.²¹
- Encourage local food production.²¹
- Construct or retrofit stormwater flow control and infiltration facilities.²²
- Protect and increase forested areas near local watersheds.²²
- Design and install side channels that can be used by fish for foraging and for refuge during storm events.²²
- Construct or retrofit stormwater runoff treatment facilities.²²
- Develop educational material and perform outreach efforts, such as presentations at community meetings, to educate residents about water quality, habitat, and stormwater issues within their home watersheds.²²
- Enhance buffers through weed removal and light planting.²²
- Increase Runoff Treatment Facility Inspections.²²
- Acquire and preserve the remaining forest land in Redmond.²³
- Incentivize businesses and developments to participate in restoration efforts, such as creating a recognition program that protects/restores natural orca sites.²⁰
- Develop a program that allows for private sponsorship of restoration projects.¹⁹
- Introduce drought- and heat-tolerant species; wildlife corridors, land acquisition, and buffers throughout the City.¹⁹
- Improve land use policy to minimize natural habitat loss.¹⁹

¹⁹ Redmond Staff Interview.

²⁰ Redmond Conceptual Models from Natural Systems.

²¹ Environmental Initiative Spreadsheet.

²² City of Redmond Watershed Management Plan. <https://www.wastormwatercenter.org/files/library/redmond-watershed-plan.pdf>

²³ Redmond ESAP SWOT Analysis- Workshop 2. <https://maps.groupmap.com/maps/wiLQbMrZgyk1/participants/w25W60MPCiaY>. Note that the SWOT outcomes have not undergone a formal fact checking or vetting process.

Metrics Snapshot

Past Trends

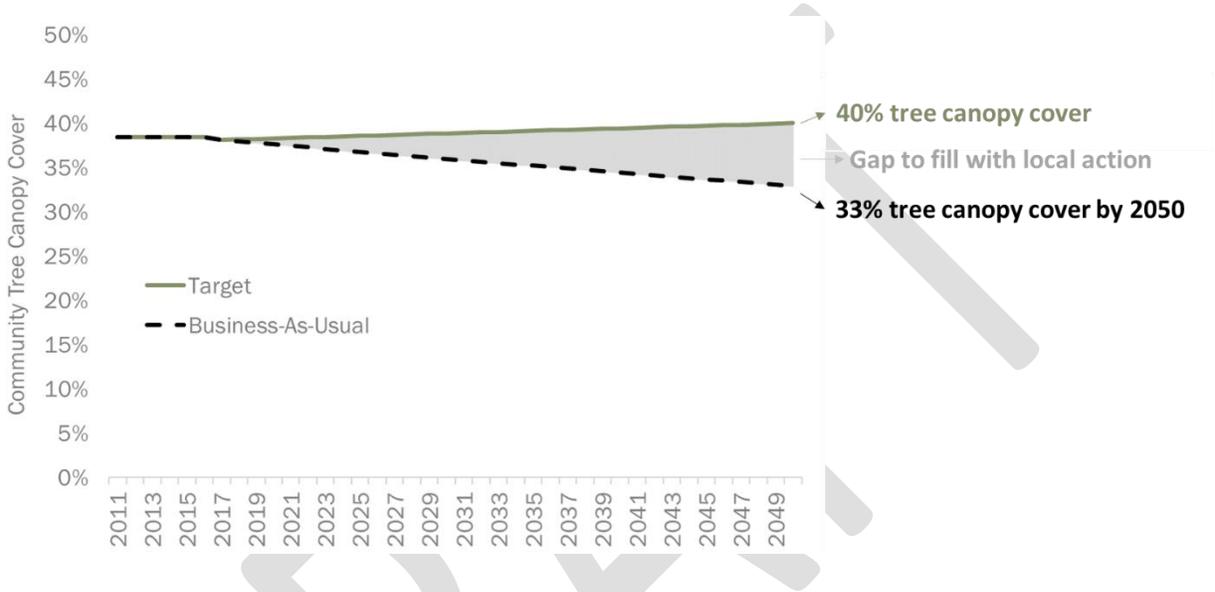
- Tree canopy cover declined from 38.7% to 38.1% since 2011—likely due to development of forested areas and increases in urban density. This is equivalent to a rate of at a rate of approximately 12-13 acres per year.
- In 2018, all NPDES stormwater catch basins that contained were filled with debris were cleaned.
- Between 2013-2018, the City increased stormwater flow control by 5%. The City improved quality of infrastructure (e.g., vaults, ponds, infiltration facilities) being provided across the City to protect our urban streams and drainage systems from excessive erosion and flooding.
- Between 2011 and 2019, the percentage of the city having adequate runoff treatment increased from 32.63% to 38.88%.
- Catch basin inspection and cleaning has increased 174% between 2013-2018. This is primarily due to regulatory requirements and operational efficiency.
- There has been a slight decrease (<2%) in the quality of in-stream habitat between 2013-2018.
- There has been a 7% increase between 2013-2016. The percentage of streams considered healthy rose from 10% to 17% and has remained constant since.

Performance Measure	Actual							Rating	Trend
	2011	2012	2013	2014	2015	2016	2017		
Tree canopy cover (%)	38.7%	38.7%	38.7%	38.7%	38.4%	38.4%	38.1%	Improving	
Catch basins inspection (# inspected)	2,186	1,617	2,471	3,569	958	825	2,988	Improving	
Catch basin cleaning (% of catch basins cleaned within six months of inspection)	N/A	N/A	N/A	N/A	97%	74%	99%	Improving	
Stormwater flow control (% of area with adequate stormwater flow control)	N/A	N/A	0.179	0.182	20%	22%	22%	Improving	
Stormwater flow water quality treatment (% of area with adequate stormwater quality treatment)	32.6%	33%	33%	33%	33%	32.6%	38.8%	Improving	
Stream habitat quality (% of stream length with good in-stream habitat)	24%	20%	20%	20%	10%	17%	17%	Maintaining	
Stream health (% of streams that are considered healthy in an urban setting)	32.6%	33%	33%	33%	33%	32.6%	38.8%	Improving	

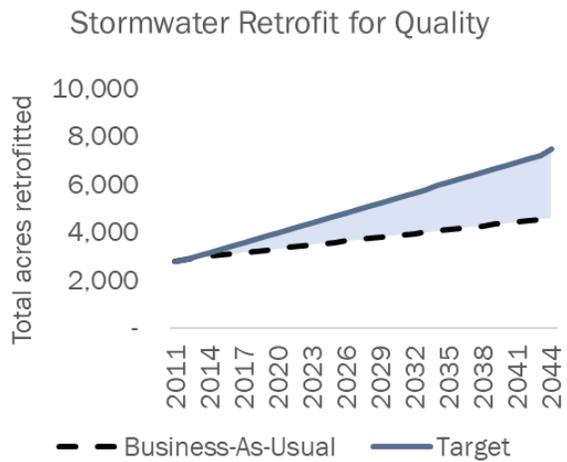
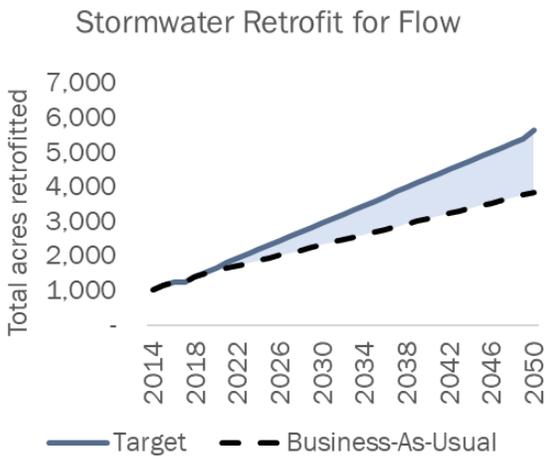
Projected Future Trends: Tree Canopy Cover

Tree canopy cover is projected to steadily decrease in the Business-As-Usual scenario due to continued development and urban density.

For the last few year, the City has been implementing stormwater projects that increase proportion of stormwater runoff in the city that receives flow control and water quality treatment prior to flowing into surface water bodies. The trend over the past few years is slightly below where it needs to be to achieve the target of providing flow control and water quality treatment to 100% of the areas that need it by 2050. To reach the targets outlined in this plan, stormwater flow and quality need to increase the number of acres retrofitted by over 1,800 and 2,800, respectively.



Projected Future Trends: Stormwater Management



Water Management

Relevant Plans, Program, and Policies

- The **Water Resources Strategic Plan** outlines missions, goals, objectives, strategies, and tactics for water resources efforts in Redmond and how they align with the overall City vision and other City functional areas. (2015)
- The **Redmond Community Strategic Plan** is the work plan for the City and guides its work. The plan includes objectives, strategies, measures, and action regarding infrastructure, environmental sustainability, housing, technology, increase waste diversion, and cultural inclusion. (2019)
- The **Regional Stormwater Facilities Plan** coordinates the development of the City's urban areas with stormwater management improvements that provide water quality benefits for receiving waters while taking advantage of cost-effective strategies for capital construction. (2010)
- The **Illicit Discharge Detection and Elimination (IDDE)** program prevents contamination and/or degradation of storm, surface, groundwater, and eliminates improper or illicit connections to stormwater drainage systems that discharge unauthorized non-stormwater.
- The **Groundwater Wellhead Protection** program identifies, prevents, and manages threats to maintain groundwater quality and quantity. (2003)
- **Cascade Water Alliance** offers water saving retrofits and rebates, residential water audits, and incentive-based water pricing to promote the efficient use of potable water.
- The **Water Conservation** program aims to reduce water in park facilities through technology and landscaping practices.
- The **Stormwater Maintenance** program proactively maintains water infrastructure including, pipes, catch basins, vaults, ponds, and swales.

City Progress to Date

- The City recently conducted groundwater modeling and established updated Critical Aquifer Area (CARA) boundaries for effective water management.
- The City conducts quality testing and water level measurements for approximately 100 monitor wells, including testing of 1/3 of monitor wells for groundwater quality and measures all wells for depth-to-water semi-annually.
- The City offers water conservation information and rebates through Cascade Water Alliance, including toilet, showerhead, and irrigation retrofits and rebates, residential water audits, classes and consultants for professional landscapers, and incentive-based water pricing to promote water conservation.
- The City partners with Cascade Water Alliance and the Department of Ecology to conduct outreach and education on the benefits of grey water systems.
- The City utilizes a centralized water control system called Maxicom that controls landscape irrigation.
- The City replaced annual planting beds with drought-tolerant perennials and transitioned to as-needed irrigation.
- The City conducted the first year of a two-year inspection cycle in which approximately 11,434 catch basins are inspected- 63% increase between 2013-2018.²⁴
- The City currently has 80% of stormwater assets that meet the level of service standards and are in fair or better condition.
- The City cleaned 100% of catch basins within six months of inspection.²⁴
- The City increased the % of City with adequate stormwater flow control by 5% between 2013-2018.²⁴
- The City recently improved efforts to reduce pollution risks to the City's aquifer. In 2018, Inspection staff issued 21 spill kits, and 6 drainage maps, 2,366 gallons of hazardous materials were moved to secondary containment and removed 1,360 gallons of hazardous materials from sites.²⁴

²⁴ 2018 Clean and Green Performance Measures.

Identified Challenges and Gaps

- The City currently has no true decant facility.²⁵
- Regional stormwater facilities may be difficult and costly to site, particularly for large facilities or in areas with existing development.²⁶
- The execution of regional stormwater controls requires substantial planning, financing, and permitting. Land acquisition must be in place ahead of future projected growth.²⁶
- Negative stigma of reuse.²⁷
- High cost of reuse systems.²⁵
- Inefficient behaviors.²⁵
- More summer droughts.²⁵
- Higher intensity rainfall events.²⁵
- Reclaimed water infrastructure impacts water infrastructure and revenue projections, which impacts ability to plan.
- The life expectancy of stormwater pipe is highly dependent upon the pipe material.²⁵
- The City needs a secondary decant facility in the south end to address the increase in development. Multiple campuses are needed to increase processing of solid waste, in addition having a satellite office would increase incident response times.²⁵

Potential Strategies, Actions, and Opportunities

- Create a dewatering facility specific to hydro-digging to reduce the impact on the decant facility.²⁵
- Enclose the mineral bins to prevent runoff into the storm system and to keep materials covered and dry.²⁵
- Focus on addressing the crossover between public and private water and wastewater systems.
- Retire/Eliminate lift stations to increase efficiency and reduce land-use (e.g. Kirkland 132nd Boarder).²⁵
- Use reclaimed water from the Purple Pipes for certain utility projects. ²⁵
- Reduce the risk of surface water, groundwater, and stormwater contamination.²⁸
- Monitor surface water, groundwater and stormwater conditions to ensure quality and quantity.²⁵
- Manage existing (subsurface) contamination.²⁵
- Protect and restore aquifer recharge.²⁵
- Proactively maintain water resources infrastructures.²⁵
- Manage flooding and adverse impact to floodplains.²⁵
- Plan for future development and retrofit developed areas that flood or have degraded water quality and habitat.
- Protect and restore stream corridors, buffers, wetlands, and riparian habitat.²⁵
- Develop a public outreach campaign to educate the community on water resource protection and recovery.
- Encourage the use of on-site rainwater harvesting with rain barrels or large cisterns.²⁹
- Partner with the Department of Ecology to do outreach on the benefits of gray water systems.²⁵
- Find ways to reduce water usage, such as using recycled water for various City operations. For example, the Maintenance and Operations Center is aging and currently, there are no plans in place to reduce its impact or improve sustainability.²⁵
- Provide educational materials on reuse options & benefits.²⁵
- Expand education & rebates for efficient irrigation.³⁰

²⁵ Redmond Staff Interview.

²⁶ Regional Stormwater Facilities. <https://www.redmond.gov/497/Regional-Stormwater-Facilities> and <https://www.redmond.gov/DocumentCenter/View/1066/Regional-Water-Facilities-Plan--Feb2010-PDF>

²⁷ Redmond Conceptual Models from Water Management.

²⁸ Water Resources Strategic Plan. <http://www1.redmond.gov/common/pages/UserFile.aspx?fileId=161330>

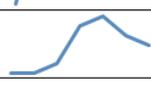
²⁹ Environmental Initiatives Spreadsheet.

³⁰ Redmond Conceptual Models from Water Management.

Metrics Snapshot

Past Trends

- Pollution prevention efforts continue to reduce pollution risks to our aquifer. The number of high-risk sites visited and provided technical assistance rose sharply in 2013-2015 to 100% in the last four years. Increased awareness of risks to polluting water resources has resulted in an improved focus on implementation of pollution prevention BMPs.
- Temporary construction dewatering activities affected groundwater flow patterns and source areas through mid-2019 causing locations not typically sampled under normal flow conditions to be monitored during TCD. A subset of wells that were sampled each year from 2016 showed a higher % of compliance. Monitoring wells above groundwater quality standards were impacted by metals.
- Primary drinking water standards are consistently met at most monitoring wells. Typical impacts at some locations are metals. Less typical impacts have included total coliforms.
- Recharging the City’s aquifers is important to maintaining water supply. Additions of impervious area since 2013 has reduced recharge to our aquifer. Increasing use of pervious pavement and retrofits for infiltration of runoff are starting to slow the trend. Where feasible, the City promotes the use of infiltration systems to preserve and restore recharge.

Performance Measure	Actual									Rating	Trend
	2011	2012	2013	2014	2015	2016	2017	2018	2019		
Pollution prevention site visits (% of high-risk sites visited and provided technical assistance)	N/A	54%	12%	45%	70%	100%	100%	N/A	N/A	Improving	
Groundwater quality (% of groundwater quality samples that meet Groundwater Quality Standards)	N/A	N/A	N/A	60.0%	51.0%	51.0%	44.0%	45.0%	65.0%	Maintaining	
Groundwater quality (% of groundwater quality samples that meet Primary Drinking Water Standards)	N/A	N/A	N/A	N/A	86.0%	92.0%	88.0%	87.5%	87.5%	Maintaining	
Aquifer recharge (change in Aquifer Recharge Area)	N/A	N/A	256,800	1,262,136	1,522,780	996,400	754,202	N/A	N/A	Worsening	

Cross-Cutting Topics

Relevant Plans, Program, and Policies
<ul style="list-style-type: none">• Climate Action and Implementation Plan (CAIP)• Community Strategic Plan (2019)
Identified Challenges and Gaps
<ul style="list-style-type: none">• The City of Redmond is behind on current climate action commitments.^{31*}• Many of the City plans fail to be actionable and scalable.³¹• Redmond should look to be a leader in environmental sustainability.³¹• Sustainable growth or degrowth can be challenging to achieve or implement.³¹• Difficulty to adapt to climate impacts due to the various uncertainties.³¹• Implementing climate action may be challenged during elections and administration changes.³¹• Implementing local climate action may be restricted by NIMBYism or public resistance.³¹• Uncertainty in public health impacts like vector borne diseases, heat-illnesses, and influenzas.³¹• Redmond needs to improve external communication with diverse and underrepresented communities.³¹• The City has long-term contracts with vendors that limits flexibility.³¹• Redmond will need to consider its influence on the population of people who work in Redmond do not live in Redmond.³¹• Redmond needs to improve sustainability messaging from leaders- integrating a top-down approach is beneficial.³²• Improve translation and alternative language options- Currently, the City does not have the best alternatives to offer if English is not the first language.• Part of the community does not have a voter or taxpayer voice because they are on a visa, but they are still are an important stakeholder. The City should look to improve engagement opportunities with these community members.³²
Potential Strategies, Actions, and Opportunities
<ul style="list-style-type: none">• The City should work with and highlight business within the city who are sustainability leaders.³¹• Develop and continuously host climate education events within the community to improve support and communication.³¹• Create a PTA sustainability chair to improve climate outreach and action within Redmond school districts.³¹• Adopt a policy where a sustainability criteria or checklist is required for all contracts and vendors.³¹• Utilize public-private partnerships for sustainability actions to reduce financial or development barriers.³¹• Ensure allocation of funds and staff-time for climate and sustainability related projects, policies, and programs.³¹

³¹ Redmond Stakeholder Workshop SWOT Analysis. <https://maps.groupmap.com/maps/DFxf3XSZAxKE/participants/w6HgaPsC2Z0J>. Note that the SWOT outcomes have not undergone a formal fact checking or vetting process.

³² Redmond Staff Interview.

Appendix: Activity Detail

Climate Change

City of Redmond - Climate Action Implementation Plan
<p>Primary Goal: The Climate Action Implementation Plan focuses on reducing greenhouse gas emissions for the City of Redmond. This plan is a framework for addressing climate change and recommends strategies to mitigate carbon emissions within city operations and the community. The goal is to reduce their greenhouse gas emissions by 25% of their 2008 amount by 2020.</p>
<p>Who's Involved: Planning Department</p>
<p>Timeline: Adopted on September 2, 2014. Data collection began in 2008; plan implementation began in 2014. Implementation is ongoing.</p>
<p>Pertinent Activities/Elements:</p> <ul style="list-style-type: none">• Mobility: <i>City-focused</i> actions include anti-idling campaign; diesel vehicle retrofits; hybrid fleet vehicles; fleet green purchasing policy; commute trip reduction incentives including bus pass program; workday adjustments (Fire department transitioned from 24 to 48-hour shifts); Complete Streets ordinance; Transportation Master Plan; bike parking requirements for new development. <i>Community-focused</i> actions include Go Redmond, formerly known as R-TRIP, (offers information, programs, and incentives to help residents and commuters to avoid drive alone options); installation of electric vehicle infrastructure; enhanced car share options.• Buildings and energy: <i>City-focused</i> actions include LED lights for traffic signals and crosswalks; higher density, mixed-use development in downtown cores; LEED silver and ENERGY STAR certified buildings (including City Hall). <i>Community-focused</i> actions include Puget Sound Energy Green Power Purchasing program; home energy reports; energy section of the Comprehensive Plan; electric code changes for new construction (electric charging equipment requirements).• Waste and recycling: <i>City-focused</i> actions include reducing paper use through technology; recycled materials purchasing policy; food waste recycling expansion; styrofoam recycling. <i>Community-focused</i> actions include residential and commercial recycling programs; yard and food waste recycling; SIRE (information management system allows for the entire City Council agenda process to be automated, which reduces processing time, materials, and money associated with paper printing costs).• Natural resources: <i>City-focused</i> actions include water-saving parks practices; low impact development; artificial field surfacing; tree preservation policies, and Maxicom. <i>Community-focused</i> actions include water conservation programs; Green Redmond Partnership; safe yard care practices; Tree City USA designation; street tree program; Citywide Watershed Plan. <i>Community-focused</i> actions include education and outreach activities about sustainability; climate change; and ways to reduce environmental impact.
<p>Metrics:</p> <ul style="list-style-type: none">• # of strategies implemented• Annual city operations GHG emissions• Annual communitywide GHG emissions• % reduction in GHG emissions

Community Strategic Plan - Environmental Sustainability Section ³³
Primary Goals: Vision statement is “a Redmond that creates a healthy, sustainable environment for all generations and conserves our natural resources, affords a high quality of life, and draws from scientific evidence-based data.”
Who’s Involved: City of Redmond Parks & Recreation, Public Works, Planning
Timeline: Adopted October 2019; implementation from 2019 to 2024.
Pertinent Activities/Elements: <ul style="list-style-type: none"> • Establish systematic program operations and reporting on our factors that contribute to our carbon footprint • Mobility: <i>City-focused</i> actions provide housing choices that fosters a walkable city and accessible to all income levels. <i>Community-focused</i> actions include evaluating options to pilot a 10-minute community; assessing parking in studies to decrease required parking near light rail stations; and completing park improvements. Implementing the fleet greening strategy – complete policy and fostering infrastructure that makes Redmond safe, multi-modal, smart, green, and has high value for long-term infrastructure investments that support the future needs. • Buildings and energy: <i>City-focused</i> actions are Conducting an audit for the best opportunities; developing and implementing standard for creating project specific return on investment determination; and organizing staff for ongoing Environmental Sustainability Program. <i>Community-focused</i> actions will include exploring infill housing options and retrofits to increase dwelling units within existing building envelope.
Metrics: <ul style="list-style-type: none"> • # of vehicle trips • % reduction in greenhouse gas emissions from city operations in alignment with the City’s Climate Action Implementation Plan • Increase the tree canopy to 40% • Increase the # of healthy streams (BIBI Index over 35 for 12 streams) • % of water quality tests that meet compliance regulations Establish benchmarks to decrease the waste stream and increase recycling rates <ul style="list-style-type: none"> • % of community responding they feel safe and welcome in their neighborhood during the day and at night • # of total residents participating in community events and activities • % of Redmond residents that rate Redmond’s different modes of transportation as excellent or good • Walkability: % of population with convenient access to parks and trails (ability to walk less than 1/4 mile to a park or trail from home or office)

Community Strategic Plan
Primary Goal: Complete city facility projects (lights, etc.)
Who’s Involved: Council, Community, and all City Departments
Timeline: Adopted October 15, 2019. ³⁴ Actions are being implemented from 2019 to 2024.
Pertinent Activities/Elements: <ul style="list-style-type: none"> • Plan and implement the 6-year Capital Investment program on Energy Efficiency (retrofitting additional city buildings with energy efficient lighting; City Hall solar project – PSE grant, monitored usage and savings)
Metrics/Accomplishments: <ul style="list-style-type: none"> • % reduction in greenhouse gas emissions from city buildings and operations • Track if reduction is in alignment with City’s Climate Action Implementation Plan

³³ City of Redmond Community Strategic Plan. <https://www.redmond.gov/DocumentCenter/View/9277/Community-Strategic-Plan-2019?bidid=>

³⁴ City of Redmond Community Strategic Plan. <https://www.redmond.gov/DocumentCenter/View/9277/Community-Strategic-Plan-2019?bidid=>

King County-Cities Climate Collaboration (K4C) ³⁵

Primary Goal:

The City is a founding member of K4C, the collaboration has adopted joint county-city commitments, to collectively reduce greenhouse gas emissions in King County.

Who's Involved: Planning Department; King County; Regional cities

Timeline: Established in 2014 and deadlines for goals are set for 2030 and 2050.

Pertinent Activities/Elements:

- Participate on Steering Committee to identify common projects and approve spending.
- Representation at Mayoral summits.
- Implementation of pathways, policy commitments, and catalytic projects/programs for: shared goals; climate policy; transportation and land use; energy supply; green buildings and energy efficiency; consumption and materials management; forests and farming; government operations; and collaboration.
- **Climate Adaptation:** *City-focused* actions. *Community-focused* actions include Establishing a public facing dashboard for tracking progress and using the information to inform regional climate action.
- **Mobility:** *City-focused* actions. *Community-focused* actions include.
- **Buildings and energy:** *City-focused* actions are Building on existing state renewable energy commitments including the Washington State Renewable Portfolio Standard (RPS) to partner with local utilities, state regulators and other stakeholders on a countywide commitment to renewable energy resources. In partnership with utilities, developing a package of county and city commitments that support increasingly renewable energy sources. *Community-focused* actions Building on existing state renewable energy commitments including the Washington State Renewable Portfolio Standard (RPS) to partner with local utilities, state regulators and other stakeholders on a countywide commitment to renewable energy resources.

Metrics and Accomplishments:

- # of catalytic actions implemented
- Won national recognition for its work - a 2016 Climate Leadership Award from the U.S. Environmental Protection Agency (EPA)³⁶

Other Activities and Information

Pertinent Activities/Elements:

- Examples include:
 - Relative to a 2007 baseline, King County set targets for a reduction in countywide sources of GHG emissions of 25% by 2020, 50% by 2030, and 80% by 2050. King County is accountable for emissions inventorying and reporting.
 - Redmond is part of the Regional Code Collaboration and work to adopt code pathways that build on the Washington State Energy Code, leading the way to “net-zero carbon” buildings.
 - Developing a multi-city partnership to help build a regional energy efficiency retrofit economy.

³⁵ King County-Cities Climate Collaboration. <https://kingcounty.gov/services/environment/climate/actions-strategies/climate-strategies/partnerships-collaborations/k4c.aspx>

³⁶ King County-Cities Climate Collaboration wins national 2016 Climate Leadership Award.

<https://www.kingcounty.gov/depts/dnrp/newsroom/newsreleases/2016/March/09-Climate-Leadership-Award.aspx>

Transportation and Land Use

Go Redmond (Commute Trip Reduction, Bus Pass Program)
<p>Primary Goal: This program reduces single occupancy vehicle trips to improve traffic and air quality. Its aim is to eliminate single-occupancy commutes, greenhouse gas emissions, and vehicle trips.</p>
<p>Who's Involved: Planning Department</p>
<p>Timeline: Go Redmond is originally known as R-TRIP which started back in 1998. This program is ongoing.</p>
<p>Pertinent Activities/Elements: ^{37, 38}</p> <ul style="list-style-type: none"> Go Redmond program offers resources, subsidies, and incentives to those who live or work in Redmond. All relevant information can be found on this site. Mobility: <i>City-focused</i> actions include developing Innovative Outreach Materials and Events, City issues bus passes to regular and supplemental employees for commuting and attending meetings, and fund the incentives and subsidies provided to those who live or work in Redmond. <i>Community-focused</i> actions include implementing Commute Trip Reduction State Law; City Transportation Management Programs, and piloting trip reduction initiatives such as app-based carpooling, adult bike education classes, and first/last mile options. Incentives for the community include one-month ORCA bus passes, vanpool incentives, monthly drawings to incentive non-drive along trips, employers may also provide awards on top of these ones provided by the City of Redmond.
<p>Metrics/Accomplishments:</p> <p><i>Metrics</i></p> <ul style="list-style-type: none"> % of Redmond commute trips using alternatives to single occupancy vehicles among Redmond residents % of employees in Redmond who have access to formal transportation programs # of active users in Go Redmond Increase in employees commuting by bus passes # of trips taken by transit/year <p><i>Accomplishments</i></p> <ul style="list-style-type: none"> Go Redmond won the Bike Award at the 2018 ACT (Association for Commuter Transportation) conference for work in commuting options under the bicycling category.³⁹ The League of American Bicyclists has named the City of Redmond a silver-level Bicycle Friendly Community.⁴⁰
Go Redmond School Program
<p>Primary Goal: Encourage students at Redmond schools to walk, bike, carpool and take transit to reduce neighborhood traffic congestion, lower local air pollution, and foster walking culture.</p>
<p>Who's Involved: Department of Planning and School Districts</p>
<p>Timeline: Established in 2014. This program is ongoing.</p>
<p>Pertinent Activities/Elements:</p> <ul style="list-style-type: none"> Through the online website, Redmond School Districts offer safety tips for families with children who walk to school, promote events such as walk to school days, and provide education outreach resources to encourage walking.
<p>Metrics/Accomplishments:</p> <p><i>Metrics</i></p> <ul style="list-style-type: none"> # of participants

³⁷ EIS spreadsheet and Chapter 4.5: Transportation Demand Management.

³⁸ https://www.redmond.gov/DocumentCenter/View/835/TMPChapter4_7PDF?bidId=

³⁹ Chapter 4.7: Transportation Demand Management. <https://www.goredmond.com/go-redmond-wins-award>

⁴⁰ League of American Bicyclists names Redmond a silver-level Bicycle Friendly Community. <http://www.redmond-reporter.com/news/league-of-american-bicyclists-names-redmond-a-silver-level-bicycle-friendly-community/?amp>

- # of trips reduced

Accomplishments

- The program already had over 4,500 students participate and have seen increase in participation.
- An average of \$2200 was awarded per school for their efforts to promote alternative transportation to students.⁴¹
- A “Walk to School Day” event had 997 students participants saving over 2,000 lbs. of pollutants from entering our environment.
- Walkable Washington used Redmond’s School Pool Program as a successful example for a case study.⁴²

Anti-Idling Campaign Program

Primary Goal: Reduce emissions from municipal and community vehicles (Implemented under the Climate Action Implementation Plan).

Who’s Involved: Parks and Recreation

Timeline: Established in 2014. This program is ongoing.

Pertinent Activities/Elements:⁴³

- Provide education and outreach to employees and trained inspectors to recognize excessive idling.
- A statement has been added to standard City contracts requiring contractors to minimize idling on city construction sites.
- Parks & Recreation reminds fleet users to reduce the time spent defrosting a vehicle, which reduces idling.

Metrics/Accomplishments:

- Reduction in time spent idling
- Increased awareness among city employees

Downtown Parking Strategic Management Plan – Existing Conditions Report Plan⁴⁴

Primary Goal: Provide planning and policy context for parking in Downtown Redmond by identifying past planning efforts and existing policies and regulations that influence the management and creation of parking today.

Who’s Involved: Planning Department

Timeline: Community Strategic Plan is ongoing, and this specific study is in progress as of October 2019.

Pertinent Activities/Elements: ^{45, 44}

- Survey and inventory existing parking resources and the management of those resources.
- Data collection, potential strategies, open house, council briefings, refine strategies, implementation plan.
- The Existing Conditions Report will be the foundation on which subsequent phases are based upon and would be made up of two primary components: 1) Identifying past planning efforts and existing policies and regulations that influence the management and creation of parking today. 2) Survey and inventory existing parking resources and the management of those resources.

Metrics/Accomplishments:

- Incorporated survey results into Downtown Parking Strategic Management
- 74% of respondents say there is not enough parking in downtown Redmond

⁴¹ SchoolPool - the Results Are In! <https://www.goredmond.com/blog/june-13-2019-325pm/schoolpool-results-are>

⁴² Redmond School Pool Case Study. <http://www.feetfirst.org/wp-content/uploads/2016/04/FF-Walkable-WA-Redmond-Schoolpool.pdf>

⁴³ Climate Action Implementation Plan <https://www.redmond.gov/DocumentCenter/View/1675/Climate-Action-Implementation-Plan-PDF>

⁴⁴ Redmond Downtown Parking Management Strategic Plan. <https://www.redmond.gov/985/Downtown-Parking-Management-Strategic-Pl>

⁴⁵ Redmond Downtown Parking Management Strategic Plan PPT. <https://www.redmond.gov/DocumentCenter/View/8264/Presentation---52919>

6 Year Transportation Improvement Program

Primary Goal: Represent Redmond’s current complete list of needed projects and programs for the next six years, identifying secured or reasonably expected revenues and expenditures for projects.

Who’s Involved: Planning Departments

Timeline: Ongoing

Pertinent Activities/Elements: ^{46,47}

- Continue updating with added transportation programs and projects.

Metrics/Accomplishments:

- Final comprehensive collection of transportation improvement projects.

Transportation Master Plan

Primary Goal: The Transportation Master Plan is a framework approach highlighting strategies to shape the development of transportation within the city.

Timeline: Ongoing

Pertinent Activities/Elements:

- The 5 strategies are preparing for the light rail, ensuring strong support for urban centers, improving travel choices and mobility, increasing neighborhood connections, and enhancing freight mobility.
- A three-year action plan was created to implement the Transportation Master Plan.
- The plan’s council actions, studies and plans, major capital projects, and related policies have been completed or in progress.

Metrics/Accomplishments:

- 45 % of the three-year action plan is in progress, 40% is complete, 9% has not started, and 6 % has been deferred.⁴⁸
- Percentage of all travel on an average weekday taken by means other than single-occupancy vehicles.
- Peak hour average travel delay per mile.
- Rate of transportation infrastructure development relative to the rate of land use development.

⁴⁶ City of Redmond Downtown Parking Management Strategic Plan PPT.

<https://www.redmond.gov/DocumentCenter/View/8264/Presentation---52919>

⁴⁷ City of Redmond Downtown Parking Management Strategic Plan. <https://www.redmond.gov/985/Downtown-Parking-Management-Strategic-Pl>

⁴⁸ City of Redmond Redmond Three Year Action Plan. <https://www.redmond.gov/706/Three-Year-Action-Plan>

Buildings and Energy

Green Building Program
<p>Primary Goal: The Green Building Program is a plan that provides incentives to implement green building and green infrastructure development techniques. The aim is to reduce carbon footprint by promoting energy efficient design and construction of existing and proposed developments and minimize the negative impacts on the natural environment.</p>
<p>Who's Involved: Planning Department</p>
<p>Timeline: April 16, 2011 (program has ended)</p>
<p>Pertinent Activities/Elements:</p> <ul style="list-style-type: none"> <p>Building and energy: <i>City-focused</i> actions include review Green Infrastructure and Incentive Program (Green Building Program) regulations for updates. Identification of most used incentives. Green Building and Green Infrastructure Incentive Program⁴⁹: provides incentives to implement green building development techniques in all types of development within the City; reduces the carbon footprint of existing and proposed developments by promoting energy efficient design and construction methods; implements green development techniques; and lowers development costs related to construction and the provision of utilities.</p>
<p>Metrics/Accomplishments:</p> <ul style="list-style-type: none"> # of and % of land use applications using this Zoning Code provision Total # of green certified structures in the City

Energy Efficiency Conservation Block Grant Program ⁵⁰
<p>Primary Goal: Reduce energy consumption through allocations to municipal facility upgrades and energy retrofits.</p>
<p>Who's Involved: Department of Public Works and Funding provided by Federal American Recovery and Reinvestment Act (ARRA)</p>
<p>Timeline: 2009 (program ended)</p>
<p>Pertinent Activities/Elements:</p> <ul style="list-style-type: none"> Received a grant worth \$272,000 for facility upgrades and energy retrofits. Create residential energy use outreach partnership with PSE and C-7.
<p>Metrics/Accomplishments:</p> <ul style="list-style-type: none"> # of kWh saved

⁴⁹ City of Redmond Zoning Code. <https://www.redmond.gov/DocumentCenter/View/7543/Redmond-Zoning-Code-effective-2019-03-16-PDF>

⁵⁰ Energy Efficiency and Conservation Block Grant Program. <https://www.energy.gov/eere/wipo/energy-efficiency-and-conservation-block-grant-program>

“Green” City Facilities Projects
Primary Goal: Implement and certify city facilities to show leadership.
Who’s Involved: Planning Department
Timeline: Ongoing
Pertinent Activities/Elements: <ul style="list-style-type: none"> • City Hall LEED and ENERGY STAR Certifications. • Green Power purchase for City Hall. • Solar panels on City Hall. • Grass Lawn building green roof. • On-going utility conservation. • LCD monitors installed.
Metrics/Accomplishments: <ul style="list-style-type: none"> • # of LEED, ENERGY STAR, and other green building certifications of city facilities

ENERGY STAR Portfolio Manager
Primary Goal: The ENERGY STAR Portfolio Manager account tracks and assesses the City facilities’ energy consumption and qualify buildings for ENERGY STAR certification.
Who’s Involved: Parks Department
Timeline: Ongoing
Pertinent Activities/Elements: <ul style="list-style-type: none"> • Create spreadsheet the City facilities’ data for energy consultant. • Establish ENERGY STAR Portfolio Manager account for tracking and monitoring energy consumption. • Processes include reviewing energy data for accuracy.
Metrics/Accomplishments: <i>Metrics</i> <ul style="list-style-type: none"> • % completion of database • # of city facilities qualified for ENERY STAR certification

EnviroStar Certification Programs
Primary Goal: A program that recognizes businesses on their green practices and establishes routine, ongoing systems in place to reclaim and/or properly manage all materials and wastes and go beyond compliance.
Who’s Involved: Public Works Department
Timeline: Certification began in 2013. This program is ongoing.
Pertinent Activities/Elements: <ul style="list-style-type: none"> • City Hall certified since 2018. • Public Works Staff is an auditor for local businesses.
Metrics/Accomplishments: <i>Metrics</i> <ul style="list-style-type: none"> • Annual usage data for fertilizers and pesticides. • Annual usage data for compost and other soil amendments. • # of staff training records. <i>Accomplishments</i> <ul style="list-style-type: none"> • Redmond City Hall received distinction of a Champion Level EnviroStars participant.

Comprehensive Plan Energy Section

Primary Goal: The City works with energy provider, Puget Sound Energy, to increase the development and use of renewable and transition away from carbon-intensive energy sources.

Who's Involved: PSE, Planning Department

Timeline: Ongoing

Pertinent Activities/Elements:

- Partner with PSE to allow residents to purchase solar, wind, and biomass generated energy.
- Participated in green challenges with PSE.⁵¹
- Renegotiate Puget Sound Energy flat rate contract.
- Implement energy efficiency programs for city facilities.
- Reduce the impact of athletic field lighting.
- Implement technology solutions to reduce energy demand in the Information Services Division.
- Expand training for building code staff on energy efficiency requirements.
- Expand green purchasing and procurement policies.
- Require the development and redevelopment of city facilities to incorporate green features.
- Require "Systems Ready" infrastructure for alternative energy systems.
- Create infrastructure for district energy in urban centers.

Metrics/Accomplishments:

- % of renewable energy the Redmond – city and community wide- uses.
- The trends of this % of renewable energy.

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⁵¹ City of Redmond participates in Puget Sound Energy's Take Charge Green Power Challenge. <http://www.redmond-reporter.com/news/city-of-redmond-participates-in-puget-sound-energys-take-charge-green-power-challenge/>

Materials Management and Waste

<p>King County Comprehensive Solid Waste Management Plan ⁵²</p> <p>Primary Goal: This comprehensive plan identifies strategies to manage King County’s solid waste for the next six years with consideration of the next 20 years. The plan continuously updates to guide actions across King county. The plan addresses the regional landfill facilities, transfer facilities, landfills and recycling and waste programs/services.</p> <p>Who’s Involved: Public Works (lead City department; engages with public and private entities)</p> <p>Timeline: Adopted in 2108 by King County Council; includes long-term (20-year) desired outcomes with short-term (6-year) goals.</p> <p>Pertinent Activities/Elements:</p> <ul style="list-style-type: none"> • Implement actions to divert 70% of garbage through recycling. • Convene a committee of Northeast Cities to establish service and capacity needs in Northeast King County. Have the committee work together to decide which transfer capacity option is best for the solid waste system service area. • Expand the Cedar Hills landfill to create additional solid waste disposal capacity at least through 2040. • Explore solid waste disposal options to prepare for post-2040, in addition to expanding Cedar Hills. <p>Metrics/Accomplishments:</p> <ul style="list-style-type: none"> • Formation of the E-Cycle Washington program, which implements e-waste recycling service at no cost for Washington residents, small businesses, small governments, nonprofit organizations, and school districts. • 99% of King County single-family customers with curbside garbage collection have access to organics (yard waste and food scraps) collection service. • New recycling and transfer stations built, which include a flat tipping floor, areas for the collection of a wide array of recyclables, design features that reduce water and energy use, and solid waste compactors.
<p>Community Strategic Plan - Environmental Sustainability, Waste and Materials Management ⁵³</p> <p>Primary Goals:</p> <ul style="list-style-type: none"> • Decrease waste and increase recycling rates. • Increase community awareness and education level. • Establish benchmarks to increase recycling rates. <p>Who’s Involved: Public Works Department</p> <p>Timeline: Began in 2019, quarterly progress reports, annual plan updates.</p> <p>Pertinent Activities/Elements:</p> <ul style="list-style-type: none"> • Community outreach and education around waste reduction. <p>Metrics/Accomplishments:</p> <ul style="list-style-type: none"> • Community recycling rate • # of outreach and education programs

⁵² King County Comprehensive Solid Waste Management Plan. <https://your.kingcounty.gov/dnrp/library/solid-waste/about/planning/2019-comp-plan.pdf>

⁵³ City of Redmond Community Strategic Plan. <https://www.redmond.gov/DocumentCenter/View/167/2018-Council-Strategic-Plan?bidId=>

Recycled Materials Green Purchasing Program

Primary Goal: Reduce the amount of waste that is produced through purchasing and utilizing new technology.

Who's Involved: Public Works Department and Finance Department

Timeline: Ongoing

Pertinent Activities/Elements:

- The city's purchasing policy is to prefer recycled materials up to a 10% price premium
- Set aside money to purchase recycled materials for capital improvement projects.

Metrics/Accomplishments:

- Follow City's purchasing policy where recycled materials are preferred up to a 10% price premium.

City Facility Food Waste Program Expansion

Primary Goal: Expand food waste recycling.

Who's Involved: Public Works Department

Timeline: Completed

Pertinent Activities/Elements:

- Expand food waste recycling to City Hall, the Maintenance and Operations Center, Public Safety Building, Senior Center, Teen Center, and all city fire stations.

Metrics/Accomplishments

- The City expanded food waste recycling to City Hall, the Maintenance and Operations Center (MOC), Public Safety Building, Senior Center, Teen Center, and all city fire stations

Redmond Community Solid Waste and Recycling Programs

Primary Goals:

- Minimize the solid waste stream.
- Maximize waste reduction and recycling.
- Dispose of the remaining waste in a manner that is safe and practical.
- Provide cost effective and efficient customer service to ratepayers.

Who's Involved: Public Works Department

Timeline: Ongoing—The City's ten-year contract with Waste Management to collect garbage, recycling (paper, plastics, glass, metal, etc.) and organics continues through 2026.

Pertinent Activities/Elements:

- Management of the comprehensive contract with Waste Management for the collection and disposal of garbage, recycling, and organics.
- Three community collection events provided per year.
- Outreach, education, and technical assistance provided to individuals and businesses.
- Regional coordination with King County.
- Litter pick-up service.
- Block Styrofoam recycling is available at the City Hall loading dock.
- Recycling collection bins are available at Redmond public buildings to provide safe disposal of batteries to residents.
- Assistance is provided to businesses on what they can recycle, and free tools are available on how to recycle more and reduce waste.

Metrics/Accomplishments:

- Single family waste stream and recycling rates.
- Tons of organics diverted from waste stream as a result of participation.
- Pounds of garbage generated per commercial employee.
- Single-family residential recycling rate is 62%
- In 2012, Redmond residents recycled approximately 12,000 tons of materials.

Composting, Yard, and Food Waste Program

Primary Goal: Increase the re-use and/or recycling of green waste products.

Who's Involved: Parks Department and Public Works Department

Timeline: Ongoing

Pertinent Activities/Elements:

- Recycle/compost community green waste, including reuse of wood chips.
- Create a manure recycling program from Farrel-McWhirter Farm.
- Businesses can request up to three 64-gallon food recycling carts that are picked up two times a week by Waste Management at no additional charge.
- The City offers free kitchen compost containers.

Metrics/Accomplishments:

- # of businesses/multi-family complexes participating in organic services.
- In 2017, 1.4 million pounds of food scrap waste was diverted from the landfill.⁵⁴
- Currently, 195 businesses, 28 multi-family developments, 9 City facilities, and 11 schools participate in the commercial organics composting program.⁵⁴

EnerGov and Electronic Plans Submittal

Primary Goal: Increase efficiency of the plan submittal process and minimize paper waste.

Who's Involved: All City departments

Timeline: Ongoing

Pertinent Activities/Elements:

- All employees, developers, applicants, etc. to submit plans to City staff electronically without the need to submit multiple hard copies to various departments.
- Staff have the ability to review plans electronically.

Metrics/Accomplishments

- Reduce # of in person plan submittals and hard copy prints.
- The Parks and Recreation Department's Recreation Guides are only available online and registration is 100% electronic.
- Fire Department medical incident reports are generated by tablet and aid cars basic life support reports are also generated electronically which saves over 8,000 printed reports per year.

⁵⁴ Commercial Organics Composting Factsheet. <https://www.redmond.gov/DocumentCenter/View/1608/Commercial-Composting-Fact-Sheet-PDF?bidId=>

Natural Systems

Green Redmond Partnership ⁵⁵
Primary Goal: A volunteer program with a goal of actively managing 1,035 acres of forested parkland through restorative practices such as adding native trees and shrubs, while removing invasive or non-native species.
Who's Involved: Parks Department, Green Cities Network, and local residents/volunteers.
Timeline: The volunteer program began in 2009 and spans over 20 years.
Pertinent Activities/Elements: <ul style="list-style-type: none"> Green Redmond Day— A large scale volunteer planting event that occurs in three Redmond parks (Hartman Park, Perrigo Park, and Viewpoint Open Space).
Metrics/Accomplishments: <ul style="list-style-type: none"> More than 11,124 volunteers have contributed over 30,00 hours. This resulted in almost 12,00 trees, 23,550 shrubs and small plants planted, and the project covered 15 parks. Annual # of volunteer hours performed for environmental stewardship events. Total acres of forested parkland brought into active management.
Street Trees Program ⁵⁶
Primary Goal: Continuous and proactive maintenance and management of trees along common street arterials and downtown to encourage long-term tree health and address visibility and safety.
Who's Involved: Planning and Parks Department
Timeline: This program will occur indefinitely, with the maintenance of trees occurring annually.
Pertinent Activities/Elements: <ul style="list-style-type: none"> Over 8,000 trees are managed and maintained.
Metrics/Accomplishments: <ul style="list-style-type: none"> % of street trees evaluated and pruned annually.
Tree Protection Ordinance ⁵⁷
Primary Goal: Avoid the removal of trees, landmark trees, protected trees, and critical areas in order to maintain the quality of the city's urban environment. Preserve the aesthetic, ecological, and economic benefits of forests and tree covered areas
Who's Involved: Planning Department, Residents, Commercial sector, and the Industrial sector.
Timeline: The ordinance is indefinite. However, a Tree Removal Permit is only valid for 60 days after being issued.
Pertinent Activities/Elements: <ul style="list-style-type: none"> The ordinance involves reviewing development requests and tree cutting permits to ensure tree protection goals are met. A Tree Removal Permit is mandatory for the removal of any significant tree within the City of Redmond.
Metrics/Accomplishments: <ul style="list-style-type: none"> Annual # and % of approved developments achieving at least 35% tree retention. The # and % of landmark trees approved for removal. The annual # of replacement trees planted. The annual # of tree removal permits issued. The # of trees that a property is allowed to remove is dependent on unit type (i.e. single family, multi-family, commercial, etc.) and the size of the lot.

⁵⁵ Green Redmond Partnership. <https://forterra.org/subpage/green-redmond-partnership>

⁵⁶ Street Trees Zoning Code. <http://online.encodeplus.com/regs/redmond-wa/doc-viewer.aspx?secid=3669#secid-3669>

⁵⁷ Tree Removal Factsheet. <https://www.redmond.gov/DocumentCenter/View/7500/Tree-Removal-Handout-PDF>

Tree Canopy Strategic Plan ⁵⁸

Primary Goal: An inter-departmental plan to increase tree canopy to achieve a variety of environmental benefits, including water and air quality, aesthetics and increased property values, mitigating climate change and improving wildlife habitat.

Who's Involved: Planning and Parks Department

Timeline: The planning process began in 2017 during the Park, Arts, Recreation, Culture and Conservation (PARCC) Plan update. The plan was completed in 2019, with the goal of increasing tree canopy coverage over the next 30 years.

Pertinent Activities/Elements:

- Implementation of the various goals are divided into three, 10-year phases.
 - Years 1-10 focus primarily on public education, data collection, and achieving no net loss in tree canopy cover.
 - Years 11-20 focus on specific strategies aimed at increasing tree canopy on public and private lands.
 - Years 21-30 continue to focus on strategies to increase tree canopy while also ensuring proper maintenance of the trees.

Metrics/Accomplishments:

- The estimated cost to achieve the 40% tree canopy goal is roughly \$80,000 per acre. Over the 30-year timeline, the estimated costs of implementation are \$600,000 to \$1,400,000 per year (relative to 2018 dollars).
- % of total Redmond land area covered by tree foliage.

Tree Fund

Primary Goal: Planting of trees throughout the City in city-owned property, NGPEs and NGPAs funded by fees collected in the fee-in-lieu program for tree removal/replacement.

Who's Involved: Planning Department

Timeline: Ongoing

Pertinent Activities/Elements:

- Annual or bi-annual plantings using tree fund dollars.

Metrics/Accomplishments:

- Annual # of trees planted
- Annual # of trees represented in tree fund contributions

Tree City USA

Primary Goal: A nationwide program that provides the framework necessary for communities to manage and expand their public trees.

Who's Involved: Parks Department

Timeline: Ongoing

Pertinent Activities/Elements:

- Maintain certification as a Tree City USA
- Annual application process demonstrating fulfillment of criteria.

Metrics/Accomplishments:

- Maintenance of Tree City USA certification.

⁵⁸ Tree Canopy Strategic Plan. <https://www.redmond.gov/DocumentCenter/View/9576/Tree-Canopy-Strategic-Plan>

Citywide Watershed Management Plan⁵⁹

Primary Goal: Generate a base of scientific information that can be used for evaluating the relative potential of the City's Watershed. Identify a subset of watersheds where there is the greatest potential to restore beneficial uses in the associated waterbodies as the highest priority for rehabilitation

Who's Involved: Public Works Department

Timeline: Began in 2013 and has a target of restoring all waterbodies in Redmond by 2110.

Pertinent Activities/Elements:

- Identify specific tools to rehabilitate the watersheds ranked as highest priority and complete the rehabilitation measures by 2060, Guide City activities that do not focus on the environment but nevertheless affect it, to ensure that activities foster healthier watersheds.
- Further align City actions with a regional planning framework, City policies, sustainability practices, and state and federal environmental regulations.
- Guide the use of City financial resources to achieve the greatest environmental benefits.
- Develop, implement and evaluate Effectiveness Monitoring Plan.
- Develop and implement an Adaptive Management Strategy.
- Identify and review all major capital projects and land use planning decisions (referenced in WMP) each year.
- Identify specific tools to rehabilitate the watersheds ranked as highest priority and complete the rehabilitation measures by 2060.
- Annual assessment and summary of activities in each priority watershed.
- Update of WMP every 5 years.

Metrics/Accomplishments:

Metrics:

(Metrics are provided as available below and reflect the data values available at the time of original inquiry in 2019.)

- Surface water quality index score
 - 62 points (no trend determined)
- Surface water biology index score
 - 19 points and 0%, both determined to be steady.
- Stream buffer coverage
 - 52% covered (no trend determined) and 14 acres planted (positive trend).
- Fish migration barriers and accessible stream length
 - 29% of stream length fully accessible (positive trend) and 9 barriers removed (positive trend).
- In-stream habitat complexity
 - 22% of stream length rated "good" (no trend) and 1,470 ft of stream increased to "good" (steady trend).

Accomplishments:

- Monticello Creek Watershed Improvements
 - 2nd year of street sweeping pilot in progress.
 - Draft scope of work for basin plan completed.
 - Basin plan - with recommended list of capital projects - to be complete in 2020.

⁵⁹ City of Redmond Watershed Management Plan. <https://www.redmond.gov/DocumentCenter/View/11707/Watershed-Management-Plan-2013-PDF>

Artificial Field Surfacing

Primary Goal: All city-owned soccer, softball, and baseball fields will have artificial turf to ensure an ecologically friendly, year-round place for residents to enjoy. The fields will also conserve water and limit greenhouse gas emissions from maintenance vehicles.

Who's Involved: Parks Department

Timeline: Ongoing

Pertinent Activities/Elements:

- Artificial turf installations.

Metrics/Accomplishments:

- 100% of City-owned fields are composed of artificial turf.

Landscape Management

Primary Goal: Pesticide use reduction, water conservation, and successful plant establishment.

Who's Involved: Parks Department

Timeline: Ongoing

Pertinent Activities/Elements:

- Use of alternate weed control methods (burners, etc.).
- Use of woody mulch = fewer weeds and greater water conservation.
- Utilizes a centralized water control system called Maxicom which controls the irrigation of landscapes.

Tosh Creek Watershed Restoration Plan ⁶⁰

Primary Goal: Identify projects to fully restore Tosh Creek to make it healthy for aquatic life and a valuable natural asset for the people who live, work and play in Redmond.

Who's Involved: Public Works Department

Timeline: Began in 2013.

Pertinent Activities/Elements:

- Conduct existing conditions assessment.
- Conduct watershed modeling.
- Conduct stream and watershed needs assessment.
- Develop list of potential retrofit projects.
- Develop list of prioritized projects.
- Develop and implement capital project list.
- Develop and implement adaptive management strategy.

Metrics/Accomplishments:

Metrics:

- B-IBI measurements
- In-stream water quality measurements

Accomplishments (by date completed):

- 2015 – 2016: Stopped flooding of the 50th Way stream.
- 2016 – 2017: Repaired broken pipes, control structures, and swales.
- 2017: 159th Vault and 156th Flow Splitter constructed.
- 2017: 2019 Stream stabilization and buffer restoration.
- 2019: Onyx Pond and Prescott Vault expansion.

⁶⁰ Tosh Creek Watershed Restoration Plan. <http://www1.redmond.gov/common/pages/UserFile.aspx?fileId=159601>

Bear Creek Restoration ⁶¹
Primary Goal: Improve instream habitat complexity, floodplain connection, and riparian buffer planting.
Who's Involved: Public Works Department
Timeline: Construction began in 2013 and concluded at the end of 2014.
Pertinent Activities/Elements: <ul style="list-style-type: none"> • Bear Creek side channel restoration and instream LWD at Fairwinds NGPE with King County. • Bear Creek restoration adjacent to the Keller farm. • 83-acre Wetland mitigation bank at the Keller farm. • 500-ft of LWD and off-channel restoration and mitigation downstream of NE 95th Street on Bear Creek.
Metrics/Accomplishments: <ul style="list-style-type: none"> • Completed: 12-acres of Lower Bear Creek channel relocation; 2,500 logs, 3,500-ft of new channel; 1,300-ft of off-channel habitat; and 2-acres of riparian planting in Bear Creek Park.

Evans Creek Restoration Project
Primary Goal: Improve instream habitat complexity, floodplain connection, and riparian buffer.
Who's Involved: Public Works Department
Timeline: Construction start is anticipated in 2023 with completion in 2024.
Pertinent Activities/Elements: <ul style="list-style-type: none"> • Evans creek channel relocation. • Wetland enhancement. • 12 acres of riparian planting.

Stream and Habitat Restoration Program
Primary Goal: Protect and restore stream corridors, buffers, and wetland and riparian habitats.
Who's Involved: Public Works Department
Timeline: Ongoing
Pertinent Activities/Elements: <ul style="list-style-type: none"> • Use watershed approach for habitat restoration planning and activities. • Lead and seek regional support on habitat restoration efforts for Sammamish River, Bear Creek and Evans Creek. • Consider addressing causes of degradation such as excessive flows prior to conducting direct habitat restoration. • Remove barriers to fish migration and prevent the creation of new barriers. • Encourage private development to address restoration issues onsite. • Enhance the long-term protection of riparian habitats through land use protections, community education and outreach, and encouraging stewardship. • Provide maintenance of habitat restoration areas to ensure long term success. • Focus mitigation efforts onsite where feasible. Where onsite mitigation is unlikely to be successful, creative opportunities to restore and maintain habitat through offsite mitigation and partnerships are explored, for example, mitigation banking. • Actively plant buffers and address invasive species.
Metrics/Accomplishments: <ul style="list-style-type: none"> • % of surface water buffers covered with tree foliage • % of total Redmond land area covered by tree foliage • % of streams that are considered healthy in an urban setting • % of stream length with good stream habitat

⁶¹ Lower Bear Creek Rehabilitation Project.
https://www.govlink.org/watersheds/8/pdf/1409_4364_WRIA8factSHT_BEAR_CREEK_WEB.pdf

- Average stream health score

Keller Farm Wetland Mitigation Bank ⁶²
Primary Goal: Establish a state-certified wetland mitigation bank.
Who's Involved: Planning Department
Timeline: Began in 2015
Pertinent Activities/Elements: <ul style="list-style-type: none"> • Actively participate in the Inter Agency Review Team. • Process appropriate city permits.
Metrics/Accomplishments: <ul style="list-style-type: none"> • % completion towards bank construction • MBI certification

Wildlife Habitat Certification for Parks
Primary Goal: Certification of City of Redmond as wildlife habitat friendly community.
Who's Involved: Parks Department
Timeline: Ongoing
Pertinent Activities/Elements: <ul style="list-style-type: none"> • Manage parks to maintain wildlife certification.
Metrics/Accomplishments: <ul style="list-style-type: none"> • 22 parks sites certified and maintained as wildlife friendly spaces.

Monticello Basin Plan
Primary Goal: Identify and plan for projects to fully restore Monticello Creek to make it healthy for aquatic life and a valuable natural asset for the people who live, work, and play in Redmond.
Who's Involved: Public Works Department
Timeline: Began in 2013
Pertinent Activities/Elements: <ul style="list-style-type: none"> • Conduct existing conditions assessment. • Conduct watershed modeling. • Conduct stream and watershed needs assessment. • Develop list of potential retrofit projects. • Develop list of prioritized projects. • Develop and implement capital project list. • Develop and implement adaptive management strategy.
Metrics/Accomplishments: <ul style="list-style-type: none"> • B-IBI measurements • In-Stream Water Quality measurements

⁶² Keller Farm Wetland Mitigation Bank. <https://www.redmond.gov/DocumentCenter/View/4668/Keller-Farm-Wetland-Mitigation-Bank-Notice-of-Application-Project-Details-PDF>

Water Management

Water Resources Strategic Plan ⁶³
Primary Goal: This strategic plan outlines strategies and actions for water resource efforts, including policy decisions, prioritization and effectively budget water resource funds. The main goals of the plain were to maintain the groundwater supply as a safe, cost effective and ready supply of drinking water, and water for ecosystem services.
Who's Involved: Public Works Department
Timeline: The Water Resources Strategic Plan started in 2015 and runs through 2020, with an additional 3-year action plan that spans from 2015-2017.
Pertinent Activities/Elements: <ul style="list-style-type: none">• Protect the quality of surface waters and groundwater.• Maintain adequate quantity of surface waters and groundwater.• Manage stormwater to prevent flooding and erosion.• Restore stream habitats.
Metrics/Accomplishments: <i>(Metrics are provided as available below and reflect the data values available at the time of original inquiry in 2019.)</i> <ul style="list-style-type: none">• Surface Water Quality: Average Water Quality Index Score.<ul style="list-style-type: none">○ 62 points (no trend determined)• Surface Water Biology: Average Benthic Index of Biologic Integrity (BIBI) score and % of Class II streams considered healthy.<ul style="list-style-type: none">○ 19 points and 0%, both determined to be steady.• Stream Buffer Canopy Coverage: % of regulatory stream buffer area covered by tree canopy and acres of riparian buffer planted/year.<ul style="list-style-type: none">○ 52% covered (no trend determined) and 14 acres planted (positive trend).• Stream Accessibility: % of Class II stream length fully accessible by fish and # of Class II stream fish barriers removed/year.<ul style="list-style-type: none">○ 29% of stream length fully accessible (positive trend) and 9 barriers removed (positive trend).• In-Stream Habitat Complexity: % of stream length with “good” in-stream habitat and length of stream increased to at least “good” complexity/year.<ul style="list-style-type: none">○ 22% of stream length rated “good” (no trend) and 1,470 ft of stream increased to “good” (steady trend).• Runoff Flow Control: % of City with adequate stormwater flow control.<ul style="list-style-type: none">○ 18% of city (steady trend).• Stormwater System Capacity: # of times a street travel lane is closed due to flooding (new measure), % of the pipe network having adequate capacity, and % of culverts with adequate capacity.<ul style="list-style-type: none">○ 99.5% of pipe network has adequate capacity (steady trend) and 91% of culverts analyzed had adequate capacity (most culverts were not analyzed).• Runoff Treatment: % of City with adequate stormwater water quality treatment.<ul style="list-style-type: none">○ 33% of city (steady trend).• Groundwater Recharge: Change in recharge area.• Site Inspection: Site compliance rate at re-inspection and % of high-risk sites visited.• Groundwater Quality: % of monitoring wells meeting water quality standard and % of groundwater samples with adverse changes in condition<ul style="list-style-type: none">○ Maintaining. Primary drinking water standards are consistently met at most monitoring wells. Typical impacts at some locations are metals. Less typical impacts have included total coliforms. Additionally, a subset of wells that were sampled each year from 2016 showed a higher % of compliance. Monitoring wells above groundwater quality standards were impacted by metals.

⁶³ Water Resources Strategic Plan. <http://www1.redmond.gov/common/pages/UserFile.aspx?fileId=161330>

Redmond Community Strategic Plan ⁶⁴
Primary Goal: Improving water quality.
Who's Involved: Public Works and Parks Department
Timeline: This plan was implemented in 2018 and will continue throughout the next two years.
Pertinent Activities/Elements: <ul style="list-style-type: none"> • Complete wellhead code updates for Critical Aquifer Area (CARA) and reclaimed water for City Council adoption.
Metrics/Accomplishments: <ul style="list-style-type: none"> • % of groundwater wells that meet groundwater standards. • Groundwater model finished and CARA boundaries established.

Illicit Discharge Detection and Elimination (IDDE) Program and Environmental Quality Incident Response Program ⁶⁵
Primary Goal: To reduce the amount of stormwater pollution reaching streams, groundwater, Lake Sammamish, and any of Redmond's creeks from stormwater drainage systems.
Who's Involved: Public Works Department
Timeline: Ongoing
Pertinent Activities/Elements: <ul style="list-style-type: none"> • The program focuses on the removal of improper connections to storm drainage systems, elimination of illegal dumping into storm drains, and elimination of discharge into the stormwater system from the sanitary and private septic/sewer systems. • Maintaining a City "Spill Hotline" to receive internal and external pollution incident reports or concerns within Redmond. • Educating City employees, businesses, and the general public about the problems associated with illegal dumping and their effect on local water systems. • Developing a storm system map showing outfalls, adopting laws prohibiting illicit dumping into to storm systems. • Developing a plan to detect and address non-stormwater discharges.
Metrics/Accomplishments: <ul style="list-style-type: none"> • The # of annual water quality incidents or reports investigated and/or responded to. • # of responses that prevented or significantly minimized pollutant discharges to stormwater systems.

⁶⁴ City Redmond Community Strategic Plan. <https://www.redmond.gov/DocumentCenter/View/167/2018-Council-Strategic-Plan?bidId=>

⁶⁵ City of Redmond IDDE. <https://www.redmond.gov/411/Spill-Response-IDDE>

Groundwater Wellhead Protection Program⁶⁶

Primary Goal: Sustain quality and quantity of Redmond's groundwater resources through identification, prevention and management of threats to our aquifer and environment.

Who's Involved: Public Works

Timeline: Approved in 2003 and ongoing.

Pertinent Activities/Elements:

- Identifying groundwater resources at risk.
- Identifying impacts to groundwater.
- Developing a plan to prevent contamination.
- Creating and implementing a monitoring program.
- Managing existing contamination.
- If/when a potential impact or groundwater supply risk is identified, Wellhead Protection Program staff work with Redmond's Water/Wastewater Division to meet Source Water Protection regulations before a municipal supply well can be negatively impacted.

Metrics/Accomplishments:

- Site compliance rate.
- % of high-risk sites visited and provided assistance.
- % of groundwater wells that meet water quality and drinking water standards.
- Change in recharge area.
- Quality testing and water level measurements completed for approximately 90 monitor wells.
- Twice a year, approximately one third of monitor wells are tested for groundwater quality and all of the wells are measured for depth-to-water.

Regional Stormwater Facilities Plan⁶⁷

Primary Goal: Coordinate development of the City's urban centers with stormwater management improvements to meet the City's water quality goals, support new development that is required by the Growth Management Act, and do so in a cost-effective way.

Who's Involved: Public Works.

Timeline: Began in 2010.

Pertinent Activities/Elements:

- Construct six regional facilities in the City Center, construct two regional facilities in the Overlake Urban Center and complete additional facilities City-wide.

Metrics/Accomplishments:

- % of the city that has adequate flow control
- % of the City that has adequate runoff treatment
- % of pipe infrastructure having adequate capacity

⁶⁶ Groundwater Wellhead Protection Program. <https://www.redmond.gov/831/GroundwaterWellhead-Protection>

⁶⁷ Regional Stormwater Facilities. <https://www.redmond.gov/497/Regional-Stormwater-Facilities> and <https://www.redmond.gov/DocumentCenter/View/1066/Regional-Water-Facilities-Plan--Feb2010-PDF>

Cascade Water Alliance ⁶⁸

Primary Goal: Promote the efficient use of potable water by customers.

Who's Involved: Cascade Water Alliance is a municipal corporation comprised of seven municipalities (five cities and two water and sewer districts) in the Puget Sound region.

Timeline: Ongoing

Pertinent Activities/Elements:

- Offers toilet, showerhead, and irrigation retrofits and rebates, residential water audits, classes and consultants for professional landscapers, and incentive-based water pricing.
- Partner with Cascade Water Alliance and the Department of Ecology to provide outreach on the benefits of grey water systems.

Water Conservation Program

Primary Goal: Reduce use of water in both park facilities and municipal landscapes.

Who's Involved: Parks Department.

Timeline: Ongoing

Pertinent Activities/Elements:

- Use of Maxicom, a centralized water control system for irrigation of landscapes.
- Installation of water-efficient fixtures in city facilities.
- Encourage the use of on-site rainwater harvesting with rain barrels.
- Replace annual planting beds with drought-tolerant perennials and turn on irrigation systems only when needed.

Metrics/Accomplishments:

- Water consumption (gallons) maintained or reduced as area of responsibility expands

Stormwater Maintenance Program

Primary Goal: Manage stormwater runoff to protect people, property and the environment—including private stormwater systems.

Who's Involved: Public Works Department and Private Stormwater Systems.

Timeline: Ongoing

Pertinent Activities/Elements:

- Proactively maintain water resources infrastructure including pipes, catch basins, vaults, ponds, swales, etc.

Metrics/Accomplishments:

- # of catch basins inspected for maintenance needs
 - 2018 Target: 5,717 (6,759 current)
- % of catch basins cleaned within four months of inspection
 - 2018 Target: 100% (100% current)

⁶⁸ Cascade Water Alliance. <https://cascadewater.org/>