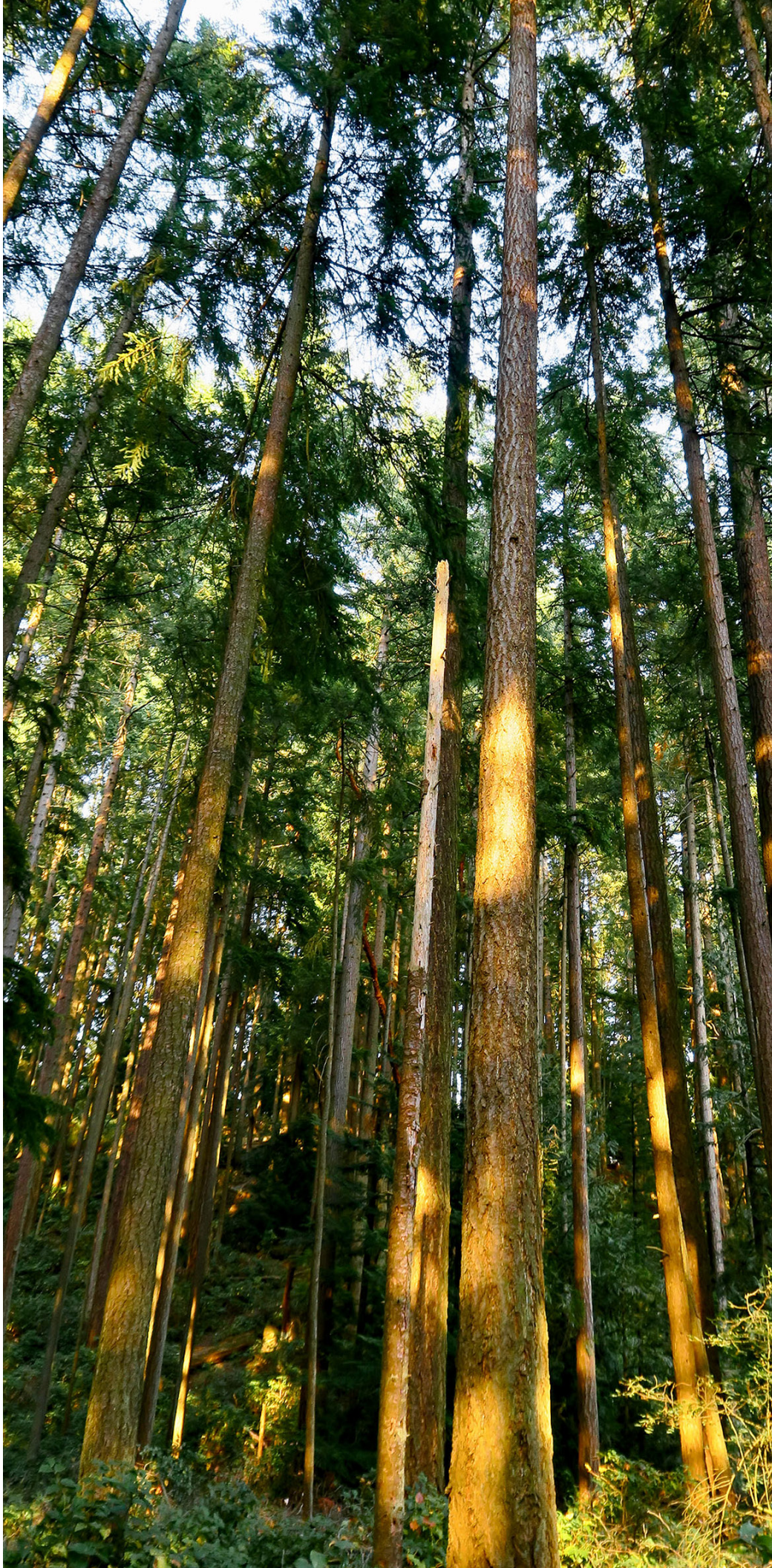
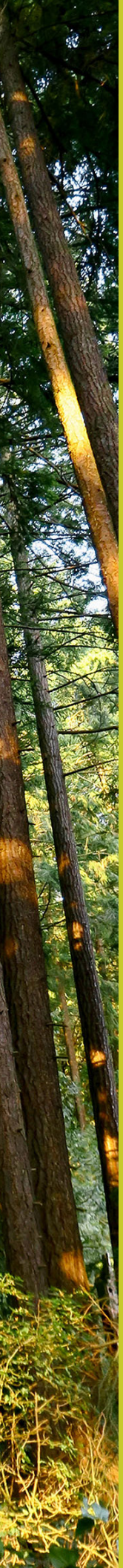
State of the Airshed

March 2022

PUGET SOUND
Clean Air Agency





Introduction + Overview

The Puget Sound Clean Air Agency (Agency) is embarking on its next strategic planning cycle. A key component is first reflecting on and evaluating of progress made and lessons learned from the Agency's current 2014-2020 strategic plan. This report summarizes the body of work delivered under the current plan. It also tees up initial issues and challenges the Agency will need to address in its next plan. These initial issues will be further defined, evaluated, and added to as we conduct strategic planning in 2022. This planning will include a robust mechanism for communities to share their input on these issues and identify additional ones.

Over the course of the Puget Sound Clean Air Agency's 2014-20 Strategic Plan, regional air quality improved despite large population growth in our four-county jurisdiction of King, Kitsap, Pierce and Snohomish counties. Most of the improvements came from shifts to newer technology that prevent and reduce air pollution emissions. For example, heavy-duty diesel trucks with 2007 or newer engines are over 50 times cleaner than older diesel trucks. Better air quality led to fewer air quality related adverse health outcomes and improved public health.

Although air quality has improved by most measures, the region still faces many challenges. In recent years, wildfire smoke presented a new set of challenges, causing unprecedented levels of fine particle pollution in the summers of 2017, 2018, and 2020. Unfortunately, with a changing climate we anticipate that we will continue to see wildfire smoke in the future.[1,2]

The Puget Sound region also continues to see disparities in air pollution exposure within our communities. Although the Agency has focused many efforts on communities within our jurisdiction that face higher levels of air pollution, inequities persist. Our analysis shows the difference in air pollution exposure between Black, Indigenous, and People of Color (BIPOC) communities and white communities, and between lower- and upper-income communities, has narrowed during the Strategic Plan's implementation, but more work is needed to close the gap.

Last, climate change continues to worsen. Recent scientific reports continue to provide evidence of the urgency of this crisis, while events across our region, state, nation, and world increasingly show the devastation of climate-related events. Despite this urgency, we have not collectively reduced our greenhouse gas (GHG) emissions close to the level required. In 2017, the Agency strengthened our science-based climate target to chart a path to 50% GHG emission reduction from 1990 levels by 2030, with a focus on transportation. While recent Legislative actions are expected to result in substantial progress over time GHG emissions remain approximately 20% above 1990 levels in 2020. This makes the GHG emissions reductions needed in the next decade even more challenging and crucial.

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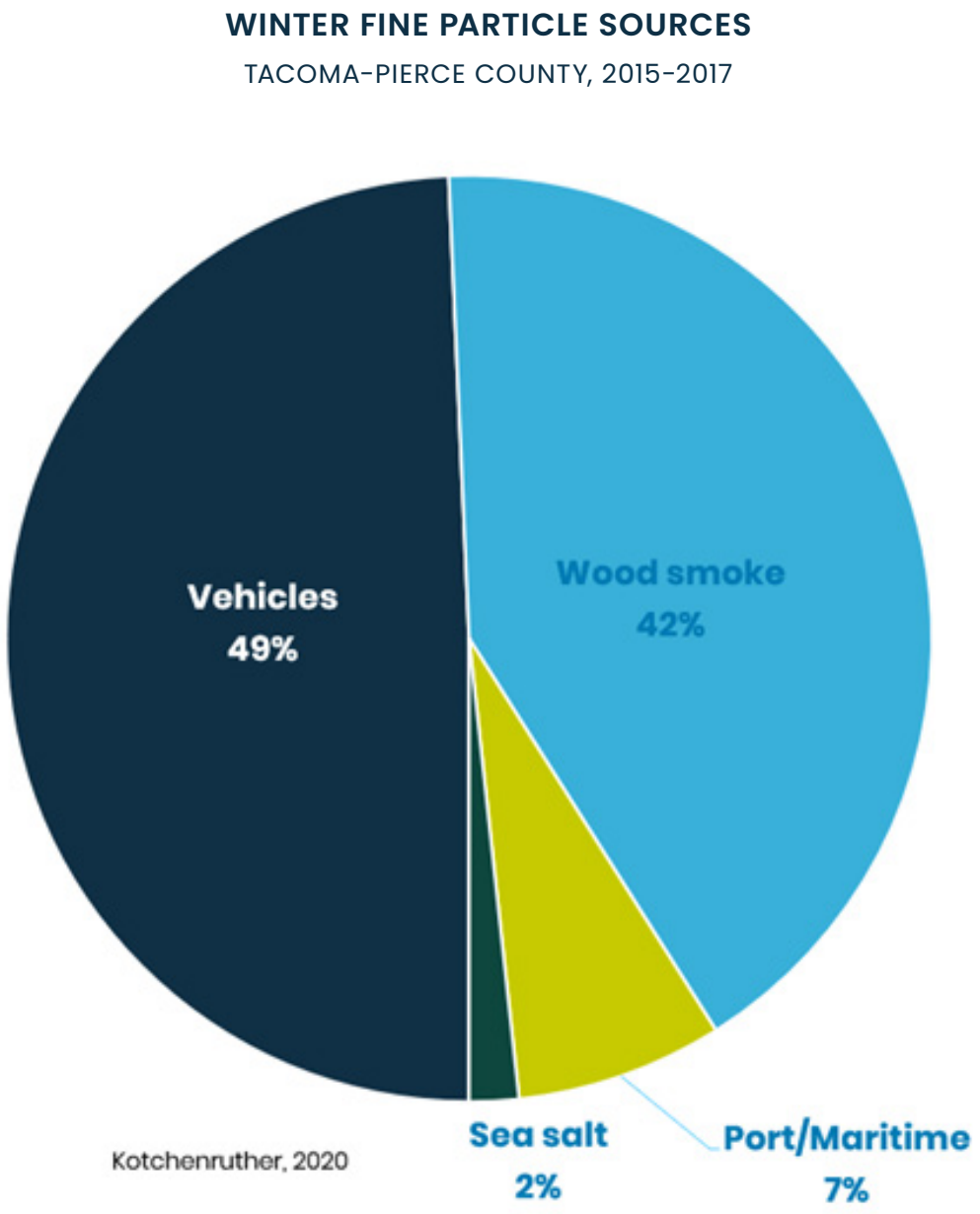
1 https://nca2018.globalchange.gov/downloads/NCA4_Ch13_Air-Quality_Full.pdf
2 https://nca2018.globalchange.gov/downloads/NCA4_Ch06_Forests_Full.pdf

State of Airshed 2021 Table of Contents

Background – Sources of Air Pollution in our Region

In our region, fine particle pollution (PM2.5 – particles less than 2.5 µm in diameter), makes up most of the health burden from air pollution in our region, because of its substantial heart and lung impacts (like heart attacks, strokes, and chronic bronchitis). They can come from many sources, like cars, trucks, and other modes of transportation, as well as industrial sources. In our residential and rural areas, wood smoke is a major contributor. The figure below shows an example of the contributions during the winter months at a residential monitoring site in Tacoma.



In industrial areas, we see a different pattern. The figure below illustrates that vehicles still make up a large portion of the contribution, wood smoke is still a contributor, along with industrial, and natural or background pollutants.

SOURCES OF FINE PARTICLES IN THE SEATTLE DUWAMISH VALLEY

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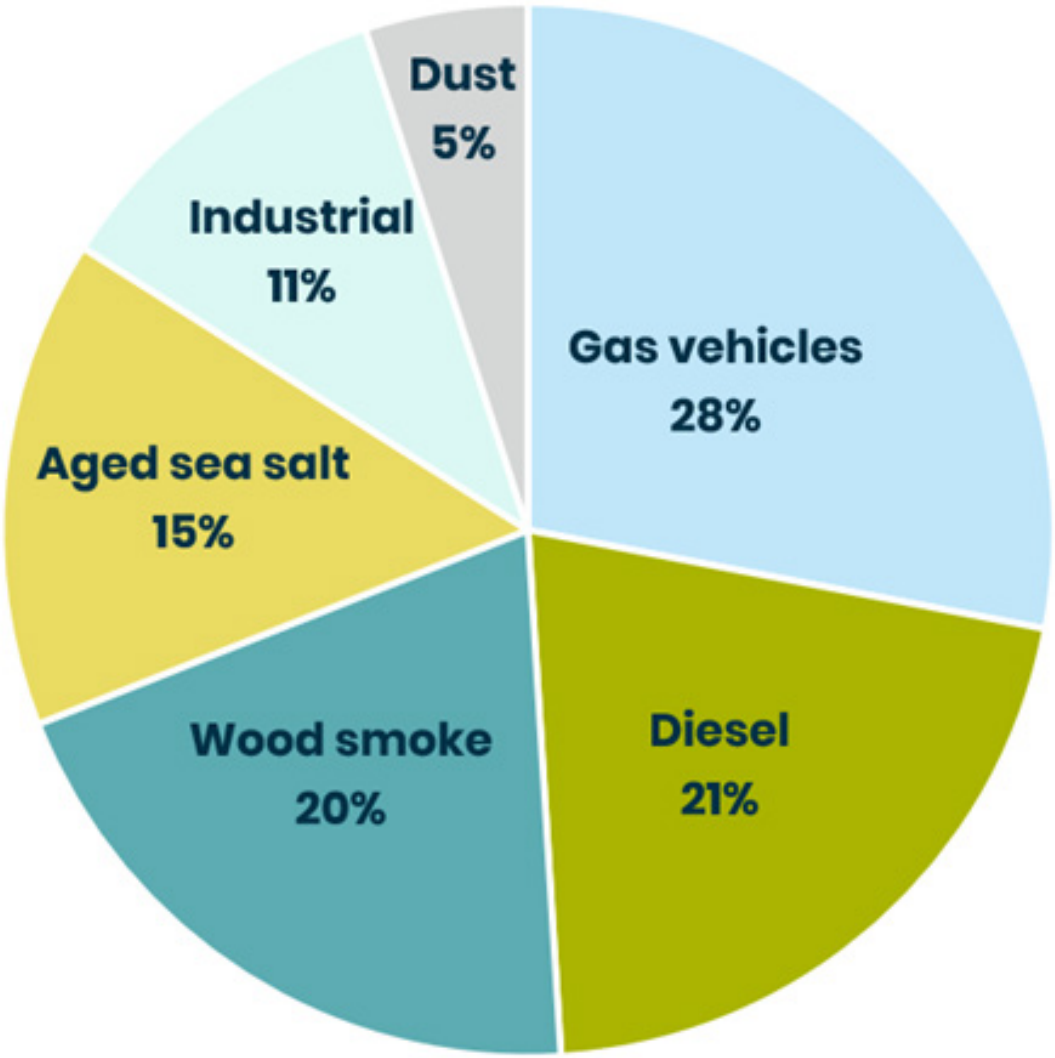
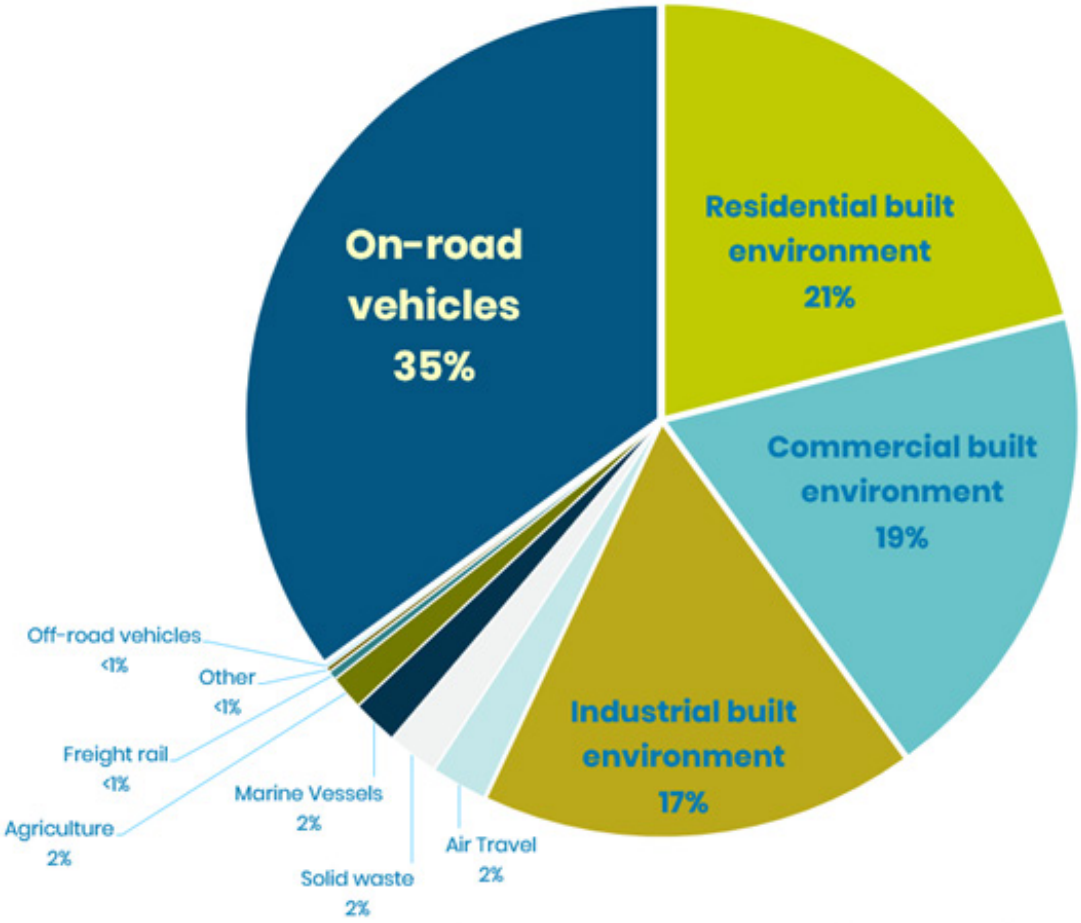


Adapted from Kotchenruther (2013)

Greenhouse gases contribute to climate change. The following pie chart shows the main sources of greenhouse gases in our region—with transportation-related emissions contributing the most.

SOURCES OF GREENHOUSE GASES IN KING, KITSAP, PIERCE, AND SNOHOMISH COUNTIES (2015).



Source: Puget Sound Clean Air Agency, Greenhouse Gas Emissions Inventory for Year 2015, June 2018, https://pscleanair.gov/DocumentCenter/View/3328/PSCAA-GHG-Emissions-Inventory

Goal One – Protect Public Health and the Environment from Air Pollution

Studies consistently show that pollutants such as fine particle pollution (and especially diesel pollution) and air toxics contribute to heart attacks, strokes, chronic obstructive pulmonary disease, and other health impacts in our region. These impacts are even greater for sensitive populations that include those who have preexisting health conditions, the elderly, and the young. Pollution impacts not only our direct health, but our quality of life and our economy, for example with lost workdays. In addition, cleaner air protects our natural systems by reducing deposition of pollution to our waterways and improving visibility of our many mountain ranges.

Goal 1 has four targets:

"The annual economic impact of air pollution health effects drops $300 million from 2014 to 2020."

"Annual air pollution-related lost workdays drop by 6,000 from 2014 to 2020."

"Potential cancer risk from air pollution drops 50 percent from 2014 to 2020."

"Socioeconomic disparities in air pollution exposure decrease from 2014 to 2020."

Three of four targets were met. Over the course of the plan, monitoring sites across the Agency's region reflect an annual average fine particle pollution reduction of roughly 1 microgram per cubic meter, slightly more than a 15% reduction (this analysis does not include data from wildfire smoke events). Using EPA's established methodology, we estimate that the economic impact of that improvement is over $500 million annually.[1,2] Using the same methodology and improvement in measured air quality, we estimate air pollution-related lost workdays dropped by 10,000 annually over the course of the plan.

While potential cancer risk from air toxics reduced substantially (well over 30 percent) in multiple areas, we fell short of the second target to drop 50 percent over the course of the plan. These overall risk reductions in potential cancer risk from air toxics were driven primarily by reductions in diesel exhaust and diesel particle pollution.

To assess air pollution exposure and socioeconomic disparities, we used proximity to air pollution sources such as wood smoke, major roadways, and industrial (stationary) sources as a proxy for exposure (see the figures below that shows the change in percent BIPOC [black indigenous and people of color] communities in top 5% impacted areas by pollution source for 2012 and 2018). When we look at population makeup and proximity to these sources, it shows that the portions of our population with socioeconomic barriers typically lived in closer proximity to sources such as major roadways and industrial sources. This was not the case for wood smoke as a source of pollution. This pattern held across race, income level, education level, and English as a second language.

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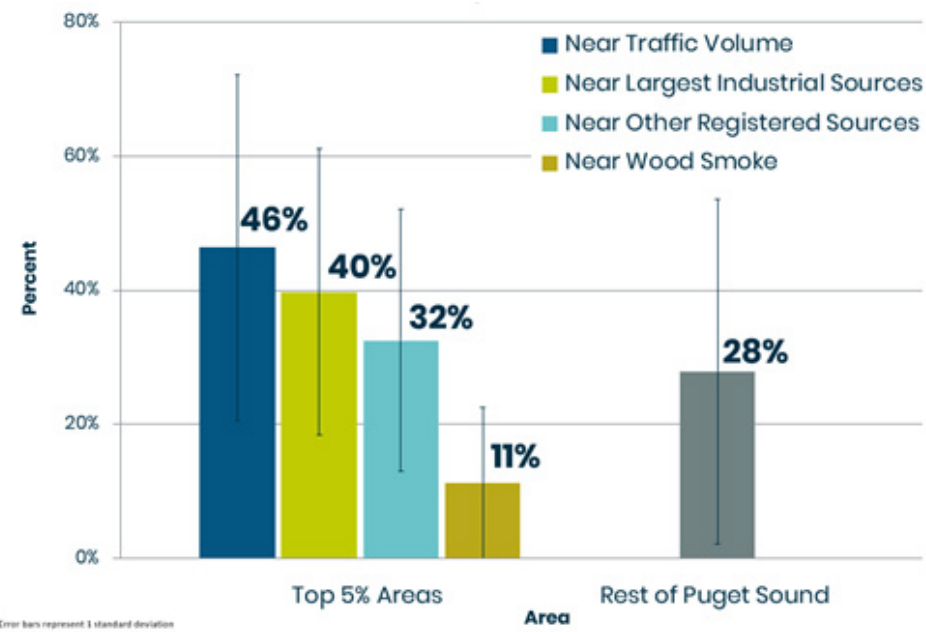
1 Environmental Protection Agency. Environmental Benefits Mapping and Analysis Program – Community Edition (BenMAP-CE). www.epa.gov/benmap

2 Environmental Protection Agency. CO-Benefits Risk Assessment Health Impacts Screening and Mapping Tool (COBRA). www.epa.gov/cobra

Our analysis over the course of the plan (comparing proximity to these same sources with populations according to 2012 and 2018 census data) show that the gap in disparities in proximity/exposure are narrowing. This is likely due to many changes in neighborhoods and land values, including gentrification of some areas.

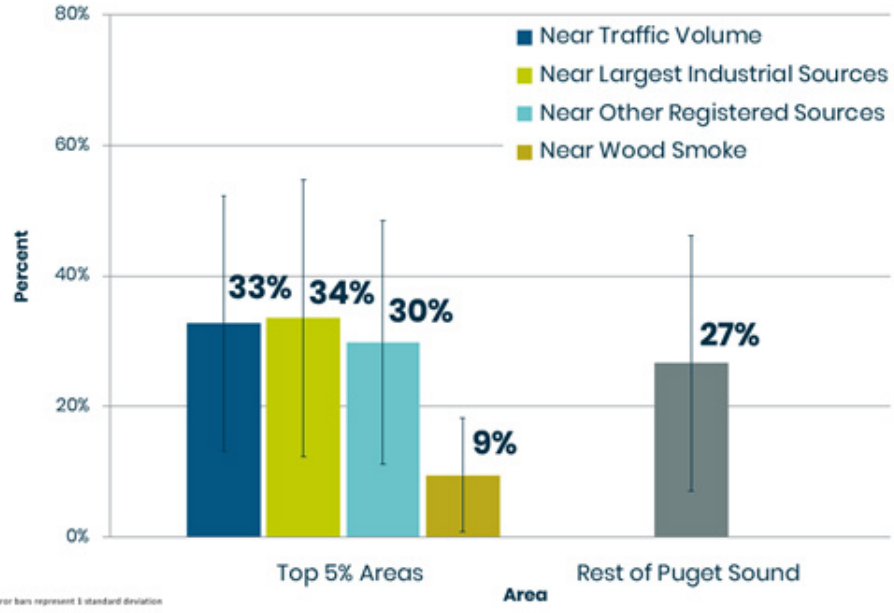
2012

PERCENT BIPOC COMMUNITIES OF TOP 5% IMPACTED AREAS BY POLLUTION SOURCE



2018

PERCENT BIPOC COMMUNITIES OF TOP 5% IMPACTED AREAS BY POLLUTION SOURCE



OBJECTIVE 1.1 – MEET NATIONAL AMBIENT AIR QUALITY STANDARDS (NAAQS)

1. Background + Why It's Important

Under the federal Clean Air Act, the U.S. Environmental Protection Agency (EPA) sets health-based National Ambient Air Quality Standards (NAAQS) for six air pollutants (particulate matter or "fine particle pollution," ozone, nitrogen dioxide, carbon monoxide, sulfur dioxide, and lead). The EPA has a robust process to evaluate and update these standards roughly every five years based on the latest available health research and air quality science. This process often leads EPA to strengthen standards when the health research and data show that previous standards do not protect public health with an adequate margin of safety.

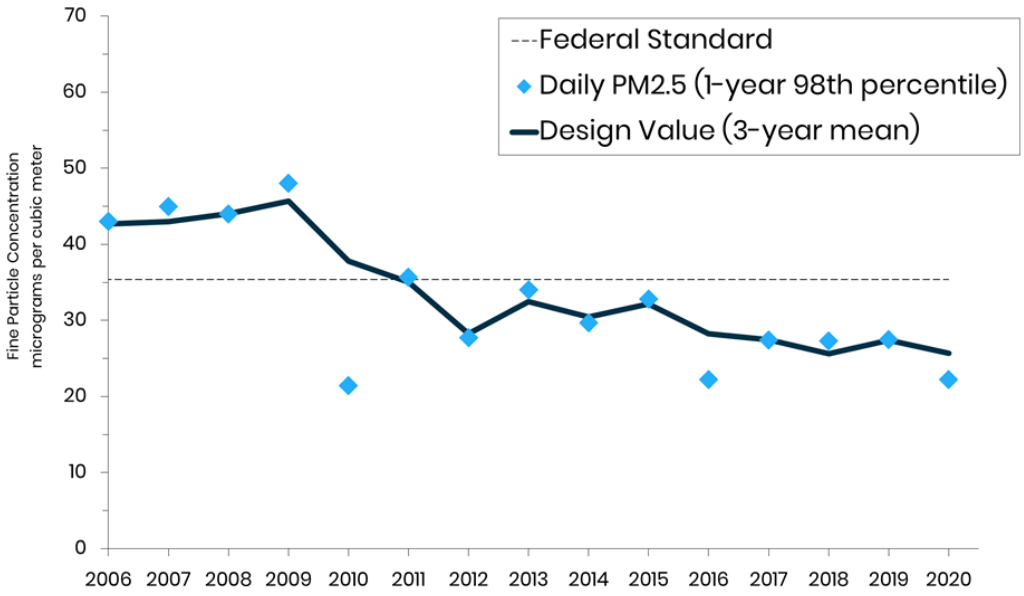
These health-based standards are foundational tools for air quality agencies to improve air quality. If an area has air pollution levels above these standards (known as being in "nonattainment" with the standard), it must develop and implement a plan to reduce pollution emissions and improve air quality. If an area does not address its air pollution levels, the EPA has the ability under the Clean Air Act to reduce the area's federal transportation funding in order to spur action.

2. Key Progress

The Agency began its 2014-20 Strategic Plan with a portion of Pierce County (also known as the Tacoma Smoke Reduction Zone, or SRZ) in nonattainment for the daily fine particle pollution (PM2.5) standard. In early 2015, EPA redesignated the area after air quality in the area substantially improved and met the daily fine particle standard. The figure below shows steady improvement in fine particles within the SRZ and that we have been within EPA standards in recent years. These air quality improvements largely stemmed from our efforts to reduce wood smoke emissions in the Smoke Reduction Zone. We focused on wood smoke because data showed that it was the main contributor to the elevated PM2.5 levels. These efforts are highlighted in the callout box.

FINE PARTICLE LEVELS IN TACOMA AND FEDERAL DAILY STANDARD

DAILY $PM_{2.5}$ (1-YEAR 98TH PERCENTILE) AND DESIGN VALUE (3-YEAR MEAN OF DAILY), WILDFIRE SMOKE IMPACTED DAYS REMOVED



Tacoma-Pierce Attainment Success Story

Although much of the work occurred in the years prior to the plan's 2014 inception, the actions of the Agency in the years preceding the Strategic Plan enabled EPA to return the region to attainment status in 2015. Our efforts included removing old uncertified wood stoves, burn ban enforcement, and a substantial outreach and education campaign

To develop these efforts, the Agency conducted robust engagement, including: the creation of a local stakeholder group; multiple public workshops within the SRZ; an online survey; partner engagement that included outreach to more than 30 community and neighborhood councils; and a direct mailing to every household in the area (220,000 households) inviting them to participate in the process. The input received through these multiple channels heavily informed and in some cases changed the tactics the Agency used to reduce wood smoke pollution, while still meeting the overall need to address the problem.

The Agency implemented multiple emission reduction actions, including obtaining from the Washington State Legislature the authority needed to create and implement rules to reduce wood smoke pollution. This included enforcing a strengthened burn ban trigger –partnering with local jurisdictions to substantially enhance enforcement with more "boots on the ground." This led to thousands of interactions through notices of violation, with a resolution process designed to result in behavior change. We also implemented a new requirement to remove old, uncertified devices. We provided state-funded incentives to reduce barriers to upgrade to cleaner sources of heat, and addressed equity by enabling the most economically-burdened households to upgrade at no cost. We continued extensive outreach to successfully implement these programs.

3. Targets

The target for this objective is:

"Entire region attains National Ambient Air Quality Standards from 2015 forward."

This target was met. As of March 2015, the Agency's four-county jurisdiction is in attainment with all national ambient air quality standards.

4. Key Challenges

Recently, the region's greatest NAAQS challenge has been the daily standard for PM2.5. The primary cause of high 24-hour levels of fine particles in our region continues to be residential wood burning. Returning the Tacoma-Pierce County nonattainment area to attainment was resource-intensive and required extensive public outreach, enforcement, contracting through local partner jurisdictions, millions of dollars in state support, and Legislative changes to burn ban triggers and uncertified stove prohibitions. Although nonattainment presents a large resource challenge, it is also motivating for all local partners involved to return an area to attainment status and enables substantial pollution reduction.

5. Looking forward - Initial Issue Identification

Although we are in attainment with all air quality standards, we have areas (namely Tacoma, Marysville, and Darrington) where wood-burning is common and that continue to have elevated daily levels of PM2.5. And we have near-road and port/industrial areas with elevated annual levels of PM2.5. As of fall 2021, the EPA has initiated a review of the fine particle standard, which could result in a strengthened annual average and/or daily standard. If these are strengthened substantially, we could be at risk of future nonattainment for either or both standards.

Wildfire smoke is a growing challenge, with 2020 having the highest PM2.5 levels the Agency has observed in more than 30 years of monitoring. The EPA currently considers wildfire smoke an "exceptional event" and has a robust process to determine if pollution levels that violate a NAAQS are the result of an exceptional event. If demonstrated to be the result of an exceptional event, these elevated levels are not included within NAAQS calculations. An increasing number of exceptional event determinations potentially presents a resource challenge for Agency staff. And unfortunately, of course, our Puget Sound region communities are exposed to poor air quality during wildfire smoke events regardless of whether they are included in an attainment determination.

Another potential NAAQS challenge for the region is ozone. Ozone is a summertime pollutant that typically becomes elevated on hot, sunny days. Ozone levels have declined since 2014, however if the EPA strengthens its ozone standard in a future review, we could face nonattainment. We remain well below the current NAAQS for the other four criteria pollutants.

While the NAAQS are designed to be protective of public health, studies show that there are adverse health impacts at levels of pollution below the NAAQS. If we continue to be in attainment for all pollutants, we will need to examine which pollutant (and averaging time) to prioritize to reduce public health risk.

An example is grappling with fine particle pollution – and how we prioritize resources to reduce the peak daily levels vs. annual average. The peak values are highly influenced by meteorology (cold, still winter days) and are highest in our wood smoke communities. The annual average fine particle pollution levels are highest in our communities near roadways and industrial areas. Exploring ways to reduce cumulative risk and address the harm from pollution levels below the NAAQS will require creative thinking and potentially different state and federal legal frameworks.

For More Information...

EPA's NAAQS and Criteria Pollutants

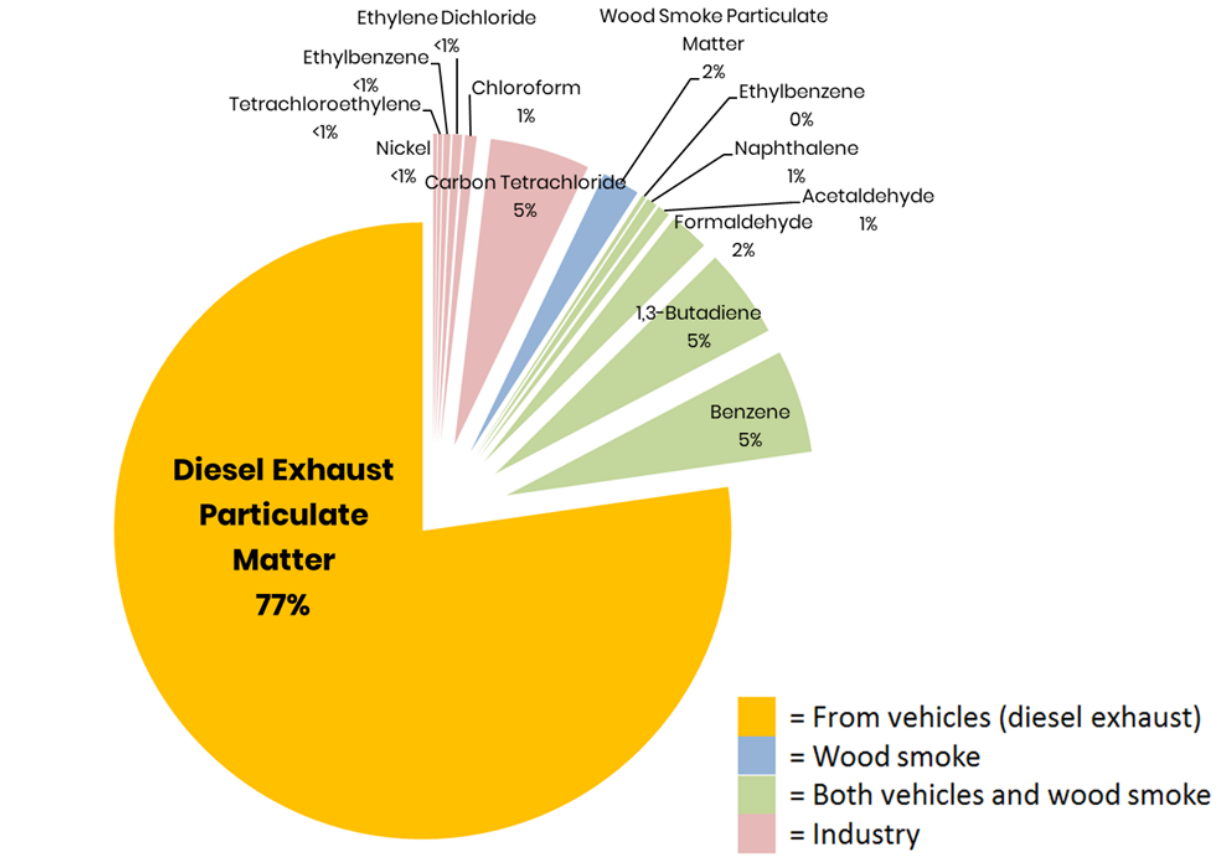
2020 Air Quality Data Summary

EPA nonattainment areas (Green Book)

OBJECTIVE 1.2 - REDUCE TRANSPORTATION EMISSIONS, ESPECIALLY DIESEL PARTICULATE, IN HIGHLY IMPACTED LOCATIONS

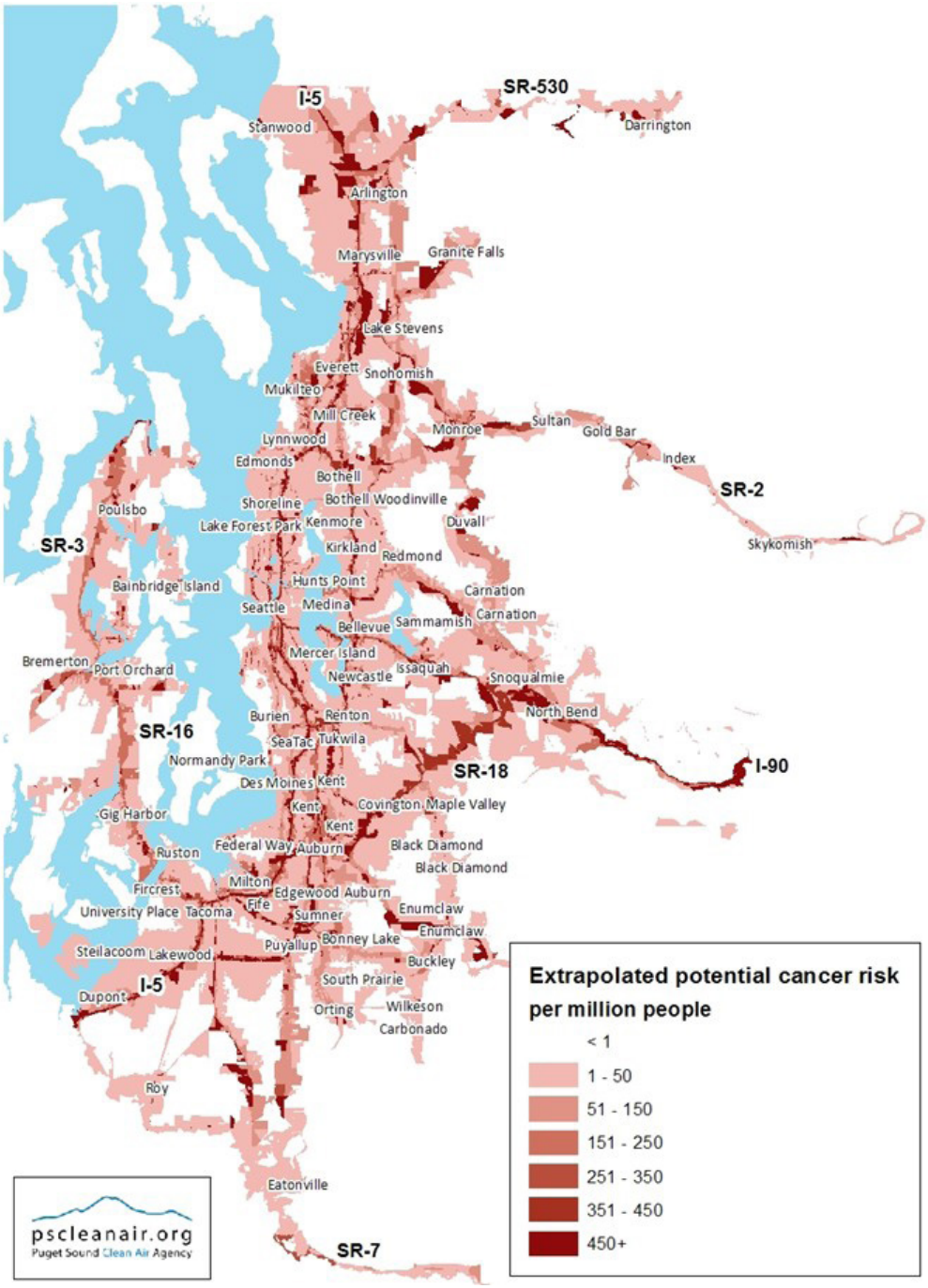
1. Background + Why It's Important

Multiple studies confirm that diesel pollution, and specifically diesel particulate matter (DPM), is highly toxic and contributes to most of our potential cancer risk from all air toxics in our region. The pie chart in the figure below shows diesel exhaust from a near-road site in the Chinatown-International District contributes as much as 77% of the risk. Communities located near major roadways, ports, and major goods movement facilities like railyards and distribution centers are disproportionately exposed to diesel pollution and its impacts. The figure below shows a map of our region with our estimates of the potential cancer risk per million people from a lifetime exposure to on-road diesel exhaust.



PSCAA, 2016 Chinatown-International District Air Toxics Study, https://pscleanair.gov/DocumentCenter/View/3399

POTENTIAL CANCER RISK FROM ESTIMATED ON-ROAD DIESEL EXHAUST
(NOT INCLUDING "BACKGROUND" LEVELS OR OTHER AREA SOURCES OF DIESEL)



Source: Puget Sound Clean Air Agency, Chinatown-International District Air Toxics Study, 2016:

www.pscleanair.gov/DocumentCenter/View/3398/Air-Toxics-Study-in-the-Chinatown-International-District-Full-Report

2. Key Progress

The Agency identified and prioritized highly impacted locations (our focus areas) based on our Clean Air Tool, which includes sources of air pollution, health outcomes, race, education, income, languages spoken, and other demographic factors. We began and continued building relationships with community leaders and organizations to better understand their needs and priorities related to reducing diesel emissions and impacts on their residents.

Over the course of the 2014-20 Strategic Plan, we sought and received millions of dollars in federal, state, and local grant funds to reduce diesel emissions from trucks, cargo-handling equipment, school buses, harbor vessels, and locomotives and targeted those grants to areas with disproportionate exposure to diesel emissions. Typically, these projects involved retrofitting a diesel engine or replacing an old engine with a newer, cleaner engine. Some projects scrapped the old vehicle or equipment and replaced it with a cleaner version. Collectively, these efforts resulted in an estimated annual reduction of 20 tons of DPM per year by the end of the plan.

The Agency also worked with local ports and other regulatory agencies to achieve goals set under the Northwest Ports Clean Air Strategy (NWPCAS) – a first-of-its-kind international agreement to reduce diesel pollution (and in subsequent updates, greenhouse gases) from port-related activities across all sectors. The ports and partners worked to achieve significant emissions reductions across sources including ships, trucks, rail, and cargo-handling equipment. In particular, the clean truck rule has substantially reduced DPM emissions from the drayage truck sector. In addition, the Agency influenced the 2020 update of the Strategy, which sets the goal of phasing out emissions of DPM (and GHG) from all seaport activities by 2050 or sooner. The Strategy is a pivotal collaborative effort that enables the Agency and the ports to successfully obtain grant funds for port-related emissions reduction programs.

Although included in more detail under Objective 2.1 (reducing emissions of greenhouse gases from transportation), the legislative wins the Agency helped to obtain (Clean Fuel Standard and Zero-Emissions Vehicle mandate) will substantially reduce diesel emissions well into the future once they are implemented.

3. Targets

The target for this objective is:

"Diesel particulate in the air at select highly impacted locations drops 60 percent from 2014 to 2020."

This target was not met, with substantial progress over the course of the plan. Three of our most diesel-impacted communities –Seattle's Duwamish Valley, Tacoma Tideflats, and Kent, saw reductions of black carbon/fine particle pollution ratios (an indicator for diesel pollution) of 45%. However, the Seattle Chinatown-International District, located near major roadways, recorded no change.

4. Key Challenges

Reducing and eliminating DPM emissions has been challenging for many reasons. DPM emissions come from vehicles and equipment owned and operated by private companies over which the Agency and partners do not have direct control, and federal and state funding opportunities to incentivize DPM emission reductions have been very limited. In addition, the complexity of DPM sources and available technologies to address them, combined with the multiple partners in the Northwest Ports Clean Air Strategy can create compromises on strategy goals and implementation deadlines as well as differences in implementation approach. A combination of these challenges contributed to the delay of the cleaner diesel drayage trucks by one year (from January 2018 to January 2019) over the objections of the Agency and other stakeholders. More recently, the Agency advocated for accelerated timelines for achieving zero-emission drayage trucks and cargo-handling equipment at Puget Sound ports during the development of the 2020 update to the NWPCAS. We continue to both work closely with the ports as well as press them to pursue emission reductions at a faster pace than outlined in the 2020 Strategy update.

Passing grant funds through to subrecipients that implement emissions-reduction projects can pose unique challenges. The subrecipients are required to contribute matching funds to receive grant funding for a project, which can lead to delays or even cancelled projects when funding isn't available on time or at all. COVID-19 also has posed challenges for partnerships and created labor gaps and supply chain delays.

5. Looking forward - Initial Issue Identification

For the next strategic plan, the Agency will need to grapple with the fact that many communities are disproportionately exposed to diesel pollution and the grant and other funding opportunities to reduce emissions are uncertain. Further, the technology to reduce or even eliminate emissions across various diesel engine types and sizes is changing rapidly for some types and more slowly for others. For some sectors, such as tugboats or locomotives, zero-emissions technology is further out than for on-road uses. Nonetheless, replacing these old diesel engines with ones that meet current standards can achieve significant emission reduction benefits to impacted communities now. Working collaboratively with partners to collectively address DPM emissions will likely be even more imperative.

For More Information...

Agency diesel exhaust page

Seattle/Tacoma air toxics study

Seattle Chinatown air toxics study

Northwest Ports Clean Air Strategy

West Coast Collaborative

OBJECTIVE 1.3 - REDUCE EMISSIONS AND EXPOSURES FROM WOOD SMOKE AND OUTDOOR BURNING

1. Background + Why It's Important

During colder months, reliance on wood burning for home heat in our region drives up short-term fine particle pollution (PM2.5) levels and causes harmful health effects. As described earlier, indoor wood burning was a major contributor to Tacoma-Pierce County PM2.5 nonattainment and was a focus of our efforts to reduce wood smoke pollution. Different types of wood-burning devices emit different amounts of PM2.5 to produce the same amount of heat so replacing older, higher-polluting devices can reduce PM2.5 levels.

Smoke from outdoor fires burning yard debris or recreational fires can also lead to unhealthy air in certain communities and can be a neighborhood nuisance.

2. Key Progress

The Agency continued incentives to remove and replace nearly 5,000 uncertified wood stoves using primarily Washington State Department of Ecology grants and some Agency civil penalty funds. Over 3,400 of those were in the former Tacoma-Pierce County nonattainment area (Smoke Reduction Zone or SRZ) and their removal was key to reducing wood smoke pollution and returning the area to attainment. Collectively, these removals reduced PM2.5 in our four counties by approximately 120 tons per year. We also actively participated in the national effort to update the EPA's New Source Performance Standards for wood stoves to ensure that PM2.5 is further reduced in new wood- and pellet-fueled devices.

We developed and conducted wood smoke outreach to promote our wood stove removal and replacement programs, cleaner burning practices, and compliance with burn bans. We used social media, print and digital advertising, and radio ads, in addition to local jurisdictions sharing our messages through their own outreach efforts. Our newer "Clean Burn Challenge" program provides online education and a quiz on cleaner burning practices; participants who pass the quiz receive a kit with a moisture meter, plans and construction instructions for a simple woodshed, and other educational materials.

We actively enforced burn bans at county and sub-county levels, calling 25 separate heating season burn bans over the course of the plan.

We completed several monitoring studies to identify potential communities with elevated daily wood smoke levels. These studies are summarized in Objective 1.5, and consistently showed that Tacoma, Darrington, and Marysville have the most elevated daily wood smoke and PM2.5 levels in the Puget Sound region.

In 2016, we evaluated reasonable alternatives to residential yard waste burning for areas where such burning was not already prohibited (typically outside the urban growth area, and areas with population <10,000, or 5,000 for areas adjacent to nonattainment areas). We researched other options available to residents, such as nearby landfills and other facilities that accept wood waste or curbside services, chippers, etc. As part of the analysis (and as described

in Washington Administrative Code 173-425), we considered the cost of these services as well as the travel distance required. We also attempted to quantify the short-term air quality impact of residential yard waste burning through monitoring, which was unsuccessful.

3. Targets

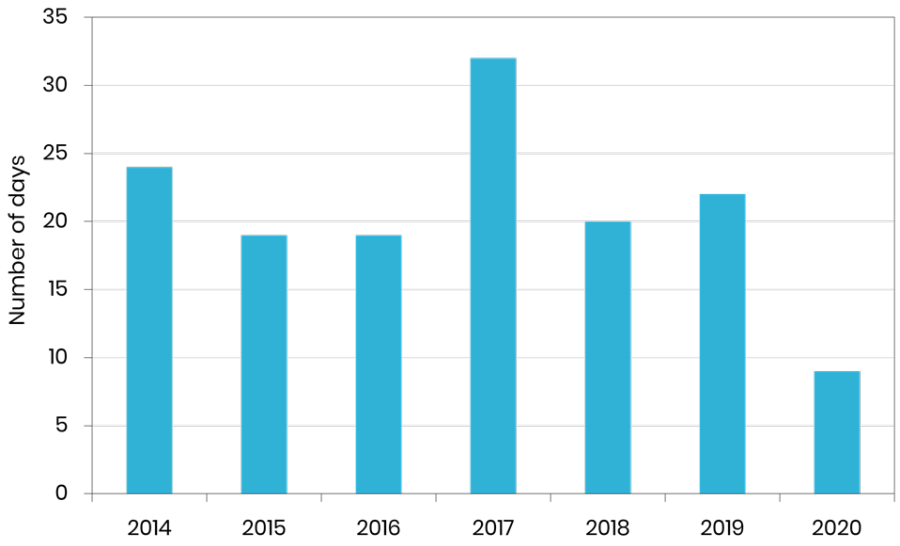
The target for this objective is:

"There are no days with 24-hour fine particle levels over 25 micrograms per cubic meter in high-wood-smoke communities by 2020."

This target was not met, with some progress. Our highest wood smoke communities are South End Tacoma, Darrington, and Marysville. Over the course of the plan, South End Tacoma was over the health goal during each annual heating season from three to 13 days; Darrington from three to 22 days, and Marysville from one to 13 days. Although we did not meet the target (as shown in the figure below), on the days we exceeded the health goal, the measured values above 25 µg/m3, declined over the course of the Strategic Plan. In other words, despite exceeding the health goal, we eliminated the prior highest fine particle pollution levels.

DAYS OVER HEALTH GOAL DURING THE HEATING SEASON

(OCT-MAR)



4. Key Challenges

Wood stove removal and replacement programs are effective at reducing wood smoke emissions, but such programs are labor-intensive despite our efforts to automate many of the processes. In some areas (especially Tacoma-Pierce) we have already tapped into the early adopters, and it's becoming more challenging to find program participants. However, with real estate turnovers come new owners and new potential target audiences so we will continue reaching out to find customers. To maximize our success rate, we are currently launching a research effort to better understand what messages and messaging strategies will motivate behavior change related to woodstoves.

5. Looking forward - Initial Issue Identification

Although newer wood stoves are cleaner (and future standards and versions will likely be even more so), we still have many old, uncertified wood stoves in our region that contribute to unhealthy air quality in the winter months. If the EPA strengthens PM2.5 daily standards, we could be at risk for nonattainment again. In the interim, we will need to explore whether our current health goal is still the correct level and form, or if we should consider updating it.

We will also need to grapple with how we address residential yard waste burning, including what the scale of the problem is and what factors drive it.

For More Information...

Agency's wood heating page

OBJECTIVE 1.4 - STATIONARY SOURCES

1. Background + Why It's Important

Emissions from stationary sources, also referred to as industrial or point sources, affect regional air quality and have localized impacts. Stationary sources include a variety of businesses, such as gas stations, dry cleaners, industrial manufacturing & processing facilities, composting, autobody shops and spray coaters, and marijuana producers. Overall, there are more than 3,000 stationary sources in our jurisdiction. Some of the largest stationary sources are in areas adjacent to our most impacted communities that are also exposed to other air pollution sources (e.g. major roadways) and also experience greater health disparities and socioeconomic barriers

The Agency also has a regulatory program that focuses on properly identifying and disposing of asbestos, a common building material that can present harmful exposures in demolition and construction activities.

2. Key Progress

The Agency's compliance program focuses on preventing adverse air quality impacts to the public before they occur. New or modified stationary sources are subject to the Agency's engineering review to both identify the best emission control strategy that current technology supports and evaluate potential impacts. Existing sources must comply with the existing regulations and permit conditions that apply to their operations. Although we register and respond to complaints, the Agency's engineers and inspectors focus mostly on preventing air pollution before it occurs.

We continually adjust our compliance efforts based on the issue identified, the urgency of the need to address it, and the resources and timelines necessary to effect change. One example is the way the Agency approaches nuisance complaints. Review of received complaints has resulted in specific inspection and enforcement actions. However, when patterns and evidence indicate that the issue may be addressed more effectively through direct evaluation of a sources for compliance with other regulations and requirements, the Agency pursues that option to prevent or reduce further complaints. A different example of prevention included our proactive work to identify legal marijuana producers as a likely source of odor emissions and to require permitting of these stationary sources to ensure they would be using the appropriate emission control technology before they became a large odor complaint issue.

3. Targets

The targets for this objective are:

"Compliance rates of regulated businesses increase, reducing environmental harms."

"Meet all requirements of the compliance assurance agreement and EPA-delegated programs."

"Public participation in agency permitting processes and knowledge of agency permit actions increases."

All targets were met. Although a target for compliance rates overall can't be quantified in a direct way, the Agency has conducted a number of complicated permit application reviews, taken serious enforcement action, and provided compliance assistance in sectors where it was deemed the most effective means to achieve compliance at the source. Collectively, these actions meet the intent of this target to reduce environmental harm.

The Agency met its target to meet all requirements of the compliance assurance agreement and EPA-delegated programs. The Agency often exceeds the expectations of this agreement by completing inspections at a higher frequency than that required by the EPA.

The Agency met its target to increase public participation and knowledge of Agency permitting actions. These efforts include increasing the number of pre-comment informational meetings for complex permit applications, and refining our models for collecting comments (both written and at hearings) in response to intense interest and COVID-19-related operational limitations.

4. Key Challenges

A chronic and perennial challenge with overlapping identity and authority regarding air quality requirements and regulations continued under this plan – the public and regulated entities sometimes confuse our role with those of the Washington State Department of Ecology or the EPA.

Changing technologies, EPA rulemaking, and a changing industrial base present shifting priorities and conditions to which we must adapt. Staff recruitment and the workload required to meet these shifting priorities are additional challenges.

5. Looking forward - Initial Issue Identification

Many of our compliance challenges are not "quick fixes" – they require multiple, consistent actions to effect change. Further, our sources and our communities have growing expectations for more timely and useful information.

Another challenge is incorporating equity into our compliance work. There are some areas where we have made more progress. An example includes our extensive work to reach day laborers and other communities most impacted by asbestos exposure to raise awareness of the harm and the steps they can take to protect public health and their own health. In other areas, we need to follow our mandated obligations and regulations, even if unpopular.

Last, how to consider cumulative impacts from multiple sources (including stationary sources) is an ongoing issue. Addressing this may require legislative action at the state and federal level.

For More Information...

Agency Permits & Registration

OBJECTIVE 1.5 - CHARACTERIZE AND COMMUNICATE AIR QUALITY

1. Background + Why It's Important

The Agency believes it is important for people to understand what is in the air they're breathing. The Agency maintains a network of ambient (outside) air pollution monitors across our jurisdiction. We use data from these monitors to track compliance with national ambient air quality standards and evaluate trends. These data also support our air quality forecasting for burn ban events and general air quality forecasting. Increasingly, with significant advancements in monitoring and mapping technology, we are able to use monitoring as an outreach and engagement tool.

In addition to our monitoring tools and participating in several technical workgroups and forums, our technical staff use modeling and meteorological tools to continue to advance our collective understanding of air pollution. We share air quality information with the public across our jurisdiction, particularly with community partners. We also use demographic and health data to help us identify potential areas of inequity in our jurisdiction.

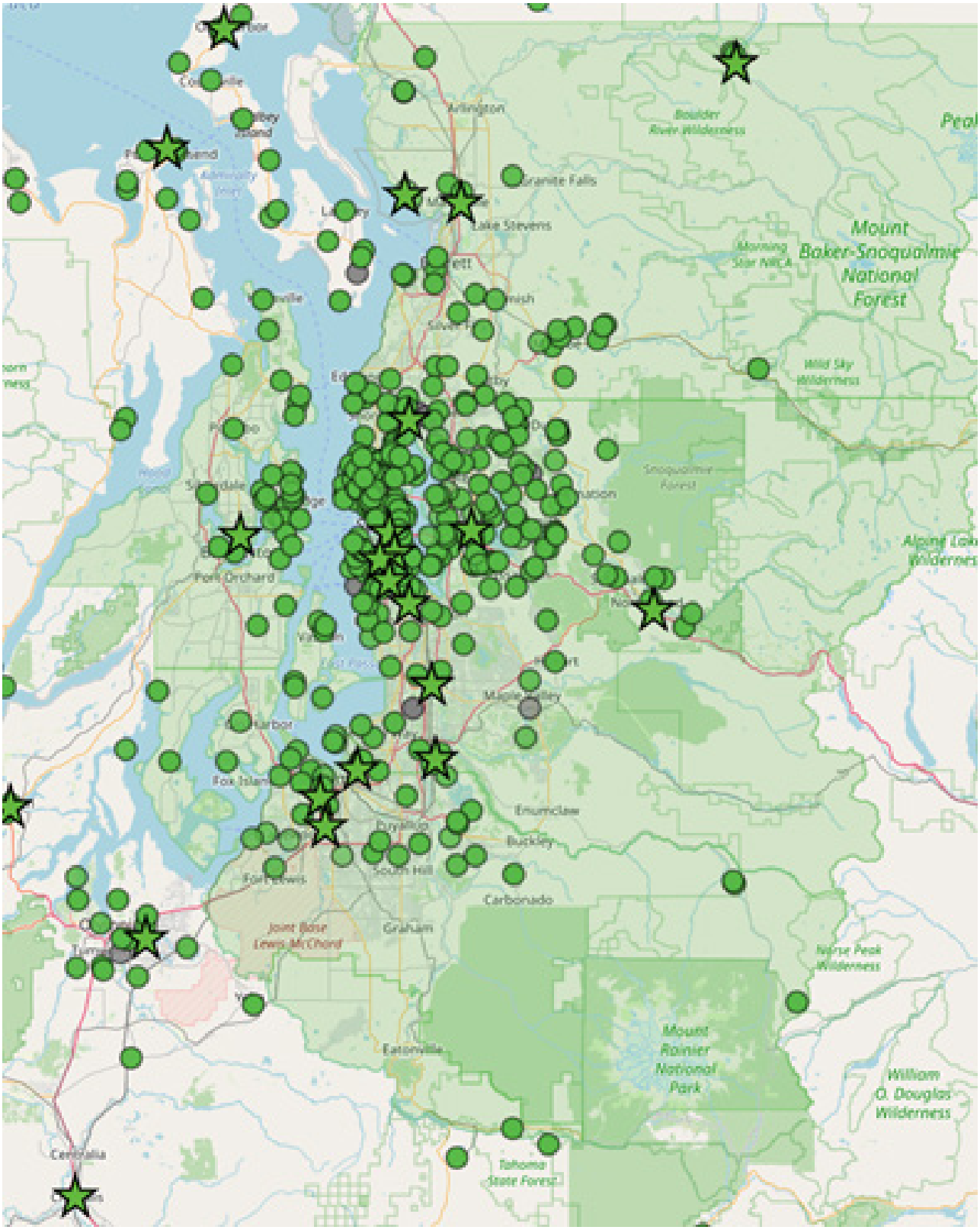
2. Key Progress

Over the course of the Strategic Plan, we maintained and fine-tuned our regulatory network, which focuses on fine particle pollution as our main concern for cardiac and respiratory health risk. We also applied for and received two grants from the EPA to monitor air toxics to better understand the potential cancer risk from over 100 different chemicals like benzene and formaldehyde.

The Agency has been a local and national leader in the use of low-cost air pollution sensors. These sensors are much more affordable, smaller, and accessible than regulatory level air pollution monitors.

In addition to using sensors in studies, the Agency developed a sensor "lending library" for community members to borrow sensors and obtain data on their own. To supplement the lending library, we created a "Community Reporter" software platform to help community members interpret their own data. To better display sensor readings, we developed the Sensor Map (see figure below that includes a screenshot of the map), which compiles all the small sensors in the Puget Sound region to show real-time results calibrated to our regulatory monitors for the most accurate readings. This tool is especially useful for interpreting wildfire smoke in real-time. Moreover, we brought our air graphing tool up to date, which has been a consistent resource for academic researchers, consultants, the general public, and our staff to access our monitoring data back to the late 1960s.

EXAMPLE IMAGE OF THE SENSOR MAP



3. Targets

The targets for this objective are:

"Fine particle levels are characterized for at least two additional communities in each of our counties by 2020."

"In these communities, public engagement in air quality issues is high."

These targets were met. The Agency characterized air pollution for multiple additional communities in each of our counties over the course of the plan, far exceeding the target of two per county. These studies – highlighted in the callout box – characterized air quality across multiple environments, such as wintertime woodsmoke in previously unmonitored areas, dust levels in an industrial area, and multiple smaller studies utilizing new sensors. Several of these community studies included outreach and engagement components.

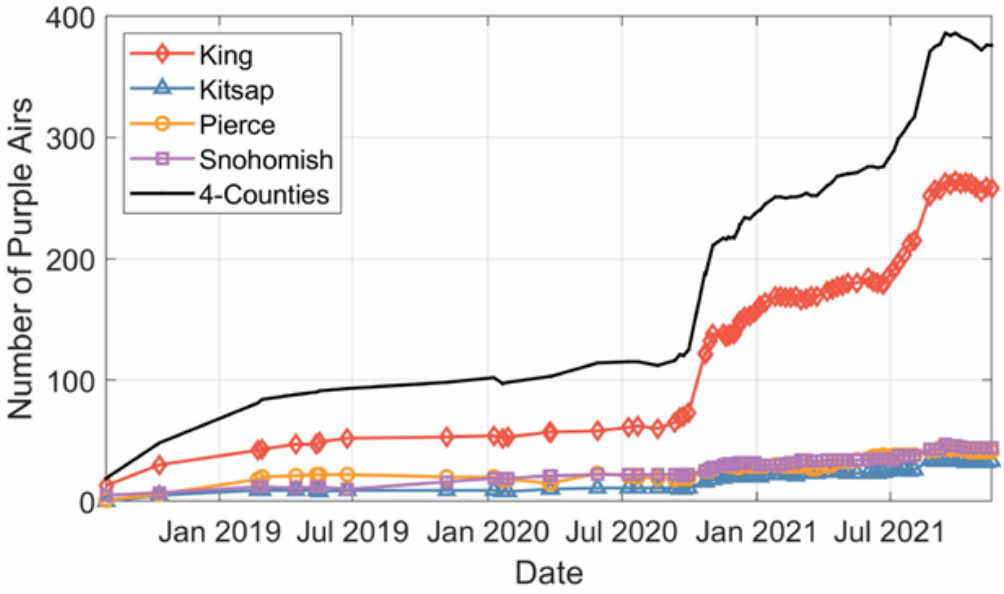
Air Monitoring Studies 2014-2020

- 2014 Winter study of wood smoke in Auburn/Algona
- 2014 Winter study of wood smoke in Shoreline/Lynnwood/Lake Forest Park
- 2014 Preliminary Chinatown-International District Study
- 2014 Summer ozone in South King County and Pierce County
- 2015 Bike-to-Work Month study of pollution on biking routes
- 2015 Seattle Georgetown dust
- 2016 Chinatown – International District EPA Near-Road Toxics
- 2017 Allentown Ultrafine and Portable Sensors
- 2018 North Kitsap winter PM
- 2019 Darrington winter PM

4. Key Challenges

Technologies to monitor air quality continue to evolve rapidly. We didn't anticipate the demand for and advancement of smaller, fine particle sensors in the last strategic plan. Fine particles are now well characterized by small sensors although some other pollutants are not.

With more available data came the challenge of managing interpretations of those data. Several newer websites for sensor data mis-represent pollution levels. Managing these misinterpretations and resulting confusion from the public will continue to be challenging as our communities have more options to find information about their air quality. The graph below shows the significant growth in the number of personal air sensors online over time by county.



5. Looking forward - Initial Issue Identification

Sensor limitations and public expectations

Although monitoring sensor technology is rapidly shifting, it still has many limitations. One key limitation is that most of the time-resolved sensors available are just for fine particle pollution. Viable sensors aren't available for many pollutants, such as benzene or nitrogen dioxide. Unfortunately, there are sensors on the market today that claim exaggerated accuracy which can lead to confusion.

New frameworks for monitoring

New monitoring opportunities are coming. In 2021, the Washington State Legislature passed a Cap and Invest Bill (SB 5126) that includes a provision for monitoring. Additionally, the American Rescue Plan will make potential funding available to air agencies to support community monitoring efforts and further fine particle monitoring, respectively.

Higher-resolution modeling tools

With the ever-growing risk from wildfire smoke in our region, predicting levels accurately and more quickly has become increasingly important. The Agency already uses computer models to explain air pollution levels from other source types, including major roadways or from wood stoves. We will leverage improved modelling tools to make models more local, and to better communicate air quality to technical forecasters as well as the public.

For More Information...

Agency air monitoring

Air quality sensors

Air quality data summary

OBJECTIVE 1.6 - REDUCE INEQUITIES IN AIR POLLUTION EXPOSURE

1. Background + Why It's Important

The Agency believes that no community in our region should bear disproportionate burdens and exposure from air pollution. In our region, the communities that bear the highest impact of air pollution also tend to be those with greater socioeconomic challenges. In part, this is the result of discriminatory historic practices such as 'redlining' and locating pollution sources near communities which had less economic or political power.

2. Key Progress

Over the course of the Strategic Plan, the Agency identified four focus communities which include Auburn-Algona-Pacific, Chinatown-International District, the Duwamish Valley, and Lakewood by examining data from our community air tool, an environmental mapping tool that screens for disproportionately impacted communities. We created multi-disciplinary engagement teams for each focus community and created key objectives to guide our environmental justice and community engagement work. The key objectives include awareness, access, empowerment, action, and improvement.

We have also hosted many workshops with community-based organizations and youth groups throughout the focus communities. Each workshop is crafted alongside a partner organization to meet their needs and create more awareness of air quality, environmental justice, and resources needed to advocate for positive community change.

In recent years we have partnered with community-based organizations to distribute box fan filter kits in all our focus communities as a pollution exposure mitigation resource for residents. We sponsored two small-scale, community-driven grants in the Auburn-Algona-Pacific community. In total, we have distributed 1,700 filter fan kits and 700 additional filters, along with our partners.

While Objective 1.6 explicitly addresses environmental justice, it is embedded across several other strategic plan objectives. For example, over the course of the Strategic Plan, the Agency directed millions of dollars in competitive grants to improve and characterize air quality in focus communities (e.g., diesel projects in the Duwamish Valley and air toxics studies in the Chinatown-International District and the Duwamish Valley).

3. Targets

The targets for this objective are:

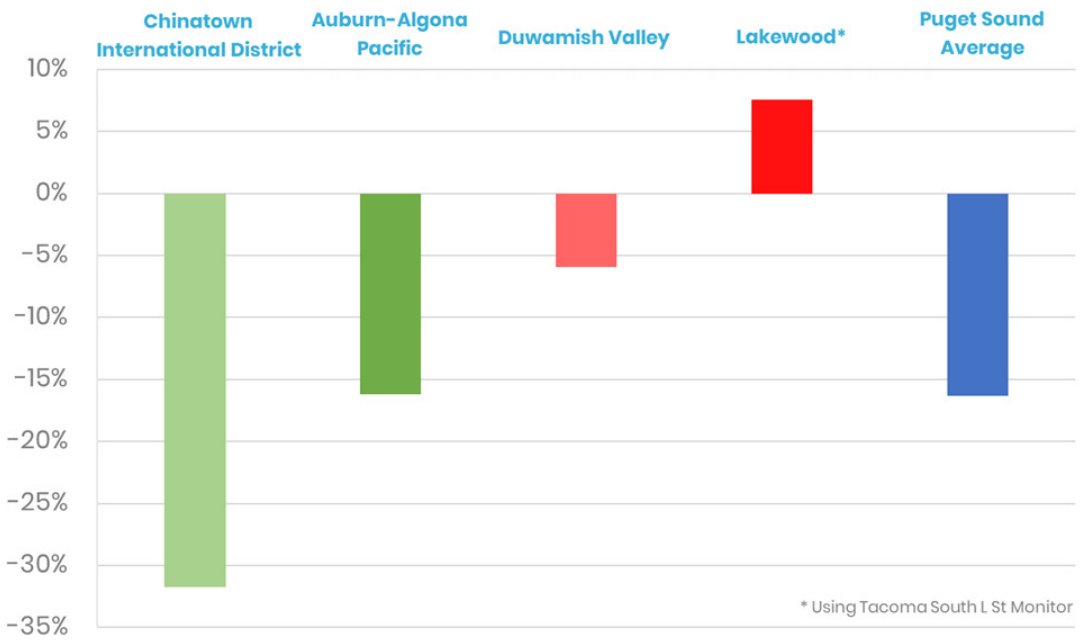
"New initiatives are launched in at least four communities by 2020, designed and implemented in partnership with community-based organizations."

"Air quality in highly impacted communities improves by 2020 as much as, or more than, air quality I the rest of the region."

The Agency exceeded the first target to launch new initiatives in at least four communities, designed and implemented in partnership with community-based organizations. We identified four focus communities and in 2019 merged Tukwila-Allentown with the Duwamish Valley team. That allowed us to identify an additional focus community – Lakewood. Initiatives undertaken with community-based organizations include, but are not limited to, coordination with Duwamish River Cleanup Coalition, Environmental Coalition of South Seattle, and Just Health Action in the Duwamish Valley; Seattle Chinatown International District Preservation and Development Authority, InterimCDA, and the Service Board in the Seattle Chinatown International District; Springbrook Connections and the Tillicum Community Center in Lakewood; and a variety of community groups coordinated through the Auburn Blue Ribbon Committee.

The Agency partially met the second target of improving air quality in highly-impacted communities by 2020 as much as, or more than, air quality in the region. The results are in the figure below. Using the metric of annual average fine particle levels, we met the target in the Seattle Chinatown-International District and Auburn-Algona-Pacific, which experienced annual fine particle pollution level improvements as much as or more than the rest of the region. Although annual average levels of fine particle pollution improved at the Duwamish Valley monitor, they did not improve as much as air quality in the rest of the region. The monitor in South End Tacoma, used to represent Lakewood in this exercise, also did not meet this target.

FINE PARTICLE ANNUAL AVERAGE PERCENT CHANGE FROM 2014 TO 2020



4. Key Challenges

Hearing community feedback, concerns, and needs, and being able to implement meaningful changes that are within the Agency's purview in a timely manner is a challenge. Basic needs are the priority for most of the focus communities and balancing community priorities and advancing air quality takes time. We do not seek to over-burden communities and community-based organizations who chose not to push air quality to the forefront. This has been especially important during the COVID 19 pandemic, as priorities in these communities were dominated by the pandemic and its cascading effects.

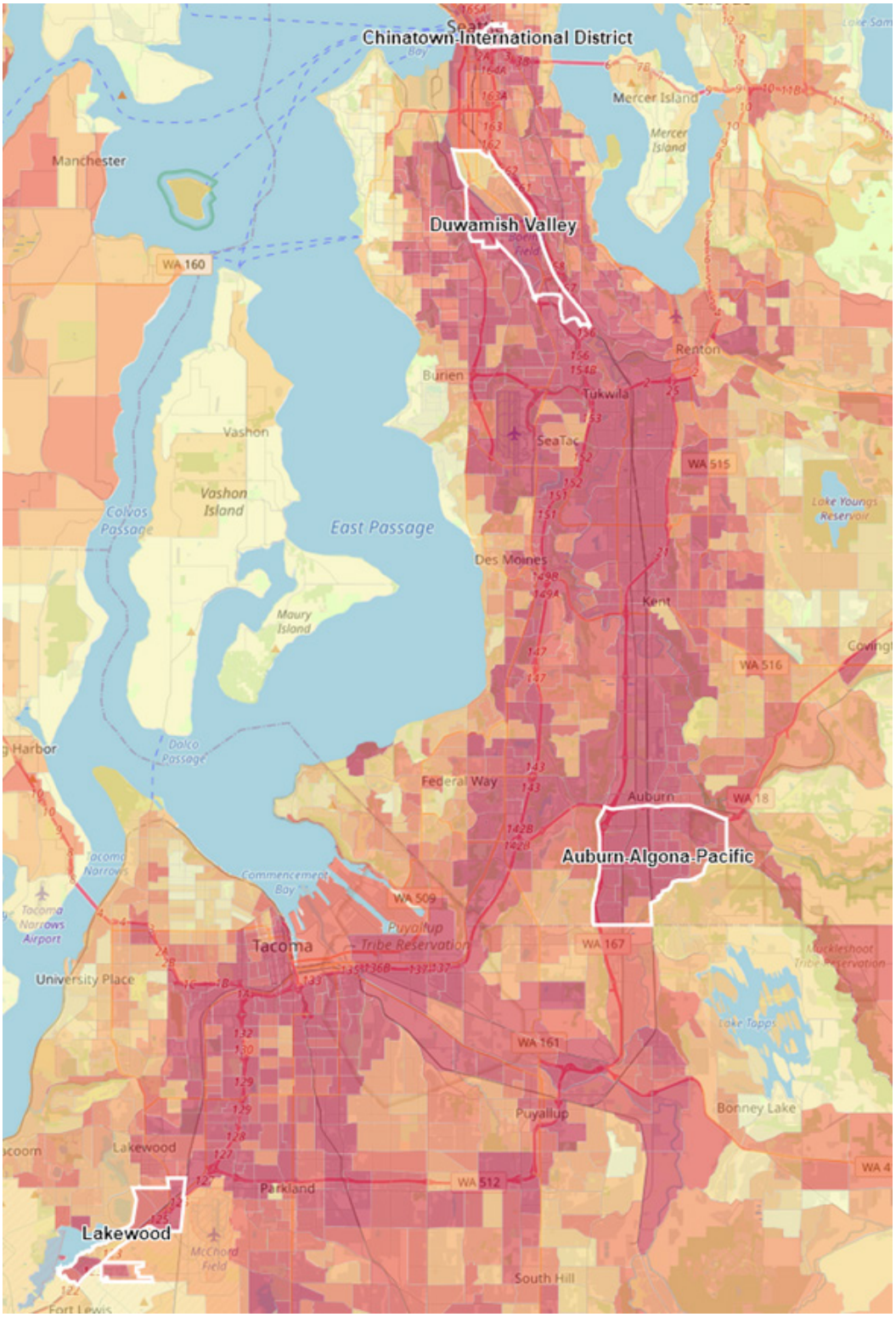
Internally, the focus community engagement teams use a multidisciplinary team-approach, which can be a challenge with staff capacity.

5. Looking forward - Initial Issue Identification

Over the course of seven years, the Agency has been able to work in four communities with the current model. We have many more communities in the top percentiles of air pollution and health risk. The figure below shows there are many other areas that are also impacted. We will need to evaluate and potentially adopt a different approach to effectively reduce inequities in air pollution exposure across our jurisdiction. Approaches will undoubtedly include leveraging and collaborating with other local governments since many are working in the same communities. As part of this work, we will need to ensure we are identifying the correct indicators to collect the data needed to make meaningful change in disproportionately impacted communities.

This figure is a Map of our focus communities outlined in white overlaying the Agency's Community Air Tool, which includes air pollution information, health information, and socio-economic factors to help us identify those communities most disparately impacted.

AGENCY FOCUS COMMUNITIES WITH COMMUNITY AIR TOOL SHADING



For More Information...

Community Air Tool

Goal Two – Become the Most Climate-Friendly Region in the United States

It is imperative to dramatically reduce greenhouse gases to minimize catastrophic climate change. Multiple studies show the impact that climate change is already having in the Pacific Northwest.[1,2]

Goal 2 has two targets, updated in 2017:

"Greenhouse gas emission in 2020 return to 1990 levels."

"Greenhouse gas emissions drop 50% from 1990 to 2030."

OBJECTIVE 2.1 REDUCE EMISSION OF GREENHOUSE GASES (GHG) FROM TRANSPORTATION

1. Background + Why It's Important

We focus on the transportation sector because it is the largest single contributing sector to greenhouse gas (GHG) emissions in our region, at almost 40 percent. Many of the actions to reduce GHG from transportation also substantially reduce criteria and toxic pollutants that impact health, particularly for communities living near major roadways.

2. Key Progress

In 2017, the Agency strengthened its climate targets to reduce regional greenhouse gases (GHG) emissions to 50% below 1990 levels by 2030, and 80% below 1990 levels by 2050, with an emphasis on reducing transportation emissions. The Agency's Board of Directors further directed staff to pursue a goal of returning to 1990 levels by 2020.

In support of this objective, and to achieve reductions in line with the updated climate targets, we analyzed how best to reduce GHGs in the transportation sector as a local agency and launched or continued policies and programs based on that analysis. The biggest progress in reducing transportation emissions is yet to come from two major legislative bills that passed in 2020 and 2021: a Zero-Emission Vehicle (ZEV) Mandate and a Clean Fuel Standard. The Agency also hosted the Western Washington Clean Cities Coalition for over a decade, handing it over to a new host toward the end of the Strategic Plan's term. From 2014 through 2020, Coalition members eliminated nearly 700,000 tons of GHG emissions.

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1 U.S. Global Change Research Program (USGCRP), Fourth National Climate Assessment, 2018, https://nca2018.globalchange.gov/chapter/24/

2 University of Washington Climate Impacts Group, State of Knowledge: Climate Change in Puget Sound, 2015, https://data.cig.uw.edu/picea/mauger/ps-sok/PS-SoK_2015.pdf

3. Targets

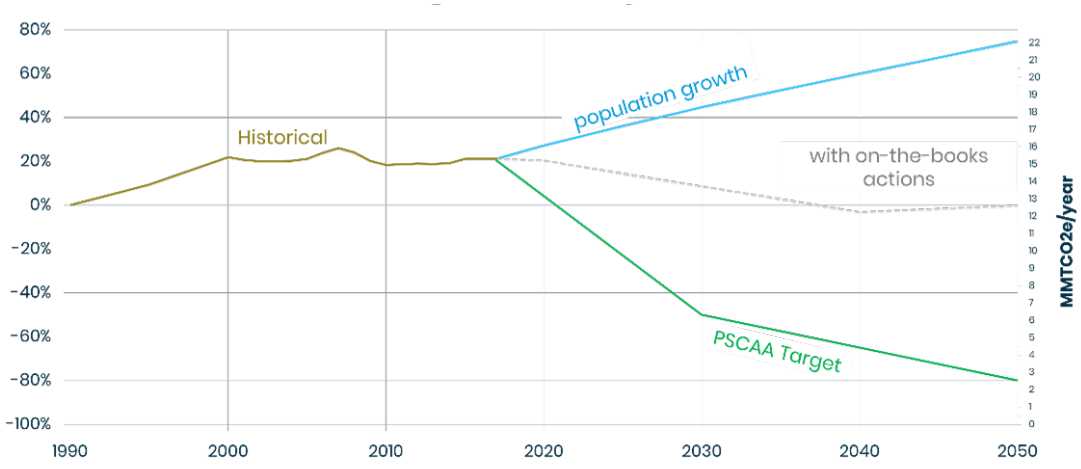
The targets for this objective are:

"Transportation greenhouse gas emission in 2020 return to 1990 levels." (updated in 2017)

"Zero-emission vehicles comprise 10 percent of public and private fleets' new vehicle purchases by 2016."

Neither target was met. As with economywide, the Agency did not meet the target to reduce GHGs to 1990 levels by 2020 in the transportation sector. Instead, we remain about 20% above 1990 levels for this sector. Additionally, less than 10 percent of new vehicle purchases in our region are ZEVs in 2020. The figure below shows our historical levels of greenhouse gas emissions (labeled 'historical), as well as a future blue line that shows projected population growth for context, a future dashed line that projects federal standards and local transportation plan activities ('on the books'), and our projected Agency target (in green, 50% and 80% below 1990 levels in 2030 and 2050, respectively).

PUGET SOUND TRANSPORTATION GREENHOUSE GAS EMISSIONS: HISTORY AND PROJECTIONS



4. Key Challenges

It was a major challenge to work collectively with partners and coalitions to pass meaningful climate legislation. For example, it took six years in the State Legislature to pass a statewide Clean Fuel Standard (it was initially introduced in 2015) with many efforts and conversations throughout those years, including a proposed regional Clean Fuel Standard in 2019.

With a continued focus on climate, the Agency faces a challenge defining our role as a small regional government agency and fulfilling our commitment to provide scientifically-based information and evaluation. This was at times difficult as entities with a range of different approaches (e.g., a variety of carbon pricing approaches) sought our support.

5. Looking forward - Initial Issue Identification

For the next strategic plan, we will need to determine how best to support, and the appropriate scale of support, for recent legislative bills for the Clean Fuel Standard, the ZEV Mandate, and the cap-and-invest pricing program. Washington State will establish the framework to implement these rules. We will need to evaluate and ascertain how we can add the greatest value to their efforts. Knowing that our analysis of the impacts of various potential transportation-related policies and programs doesn't reach the economy-wide 2030 and 2050 targets, we must also ask whether other Agency actions will accelerate reductions of GHGs to help reach economy-wide targets. This could include roles to influence GHG emissions from non-transportation sources. Finally, with new state GHG targets in place that are more-stringent than our own, and with the ever-evolving understanding of the risks from climate change, including the 2021 International Panel on Climate Change (IPCC) report, the Agency's Board may want to consider revisiting our 2017 targets.

Excellence in Action – Employ the best people, policies, and practices to achieve our work

OBJECTIVE 3.1 – ATTRACT AND RETAIN EXCEPTIONAL STAFF

1. Background + Why It's Important

The Agency is a dedicated but small organization with a unique mission. No other organization in the Puget Sound region possesses the science-based experience, skills, and infrastructure to achieve our vision and mission.

To serve our region to our maximum ability and effectively meet our air quality and climate goals, we must be able to attract and retain qualified, motivated, and diverse employees.

2. Key Progress

Over the course of the Strategic Plan, the Agency has consistently attracted qualified and skilled candidates in recruitments across Agency disciplines. Newer recruitment practices, such as posting job openings on more job boards, particularly for diverse candidates, led to wider and more diverse applicant pools. Competitive rewards – namely benefits and total compensation – along with an active support of work-life balance have made the Agency an organization of interest to a new set of candidates.

In recent years, the Agency has placed a greater emphasis on professional growth of current staff, both through training and individual development plans each year. The Agency continues to recognize employee contributions and accomplishments through formal and informal venues. Finally, an interdepartmental team embarked on a process to redefine the Agency's values to better align our behaviors and choices with values such as transparency, equity and inclusion, innovation, integrity, excellence, leadership, and collaboration.

3. Targets

The target for this Objective is:

"90 percent of employees recommend the Agency as a great place to work."

This target was not met – responses from employee surveys (the most recent being from 2017) and exit interviews reflect that less than 90% of staff recommend the Agency as a great place to work.

4. Key Challenges

A competitive labor market in the Puget Sound region has presented substantial recruitment challenges for some fields of expertise, particularly IT. This has required us to consider different ways to recruit and retain talented individuals, and we are currently struggling to fill some open IT positions. Our small size has also been a challenge, presenting limited advancement opportunities within the Agency. Some staff have sought advancement positions outside the Agency.

The perennial challenges that are ubiquitous for human resource also impact the Agency – these include continuously maintaining our benefits packages, coordinating payroll, etc. and navigating changes in HR-related laws, systems and processes. Most recently, the Agency's human resources department has had the added challenge of playing a key role to help the Agency respond to a global pandemic in a way that allows us to accomplish our mission while keeping our employees and our public safe.

5. Looking forward - Initial Issue Identification

A competitive Puget Sound region labor market will likely continue, with the recruitment challenges it presents. The Agency also faces a potential challenging loss of institutional knowledge with several key departures taking place in a short time span. Last, further emphasis will be needed to engage employees and continue the Agency's journey as a values-driven organization.

OBJECTIVE 3.2 – INTERNAL EQUITY CULTURE

1. Background + Why It's Important

The Agency is increasingly focused on reducing inequities in air pollution exposure within Puget Sound communities. To fully realize this, we must ensure Agency staff are equipped with the tools and resources to embed equity and environmental justice principles into their daily work. Doing this internal work is critical to our overall success.

2. Key Progress

The Agency made substantial progress on this objective. Over the course of the Strategic Plan, the Agency grew equity-focused staff from a term coordinator position to a management position with two permanent staff members dedicated solely to equity and engagement. Similarly, the Agency's equity-focused budget grew tenfold, from $20,000 to nearly $250,000.

In 2015, the Agency adopted its Title VI Plan to ensure compliance with the Civil Rights Act of 1964. We also developed a Limited English Proficiency Plan that provides a framework for accessing the Agency's services for native-English speakers.

The Agency has supported many staff-led equity projects including the development of a racial equity toolkit that when implemented will help address our impact on racial equity through actions, policies, initiatives, and programs. We have developed and hosted a variety of professional development and training opportunities that explore a range of topics including environmental justice, equity in the workplace, interpersonal racism to structural racism, implicit bias, and more. We continue to host racial affinity groups, equity workshop series, an internal equity newsletter, and more for staff to engage, learn, and participate in the Agency's goal of embedding equity in the organization.

3. Targets

The targets for this objective are:

"Use of equitable practices and community engagement increases from 2014 to 2020."

"All employees engage in ongoing professional development and education in environmental justice."

Both targets were met. The Agency's use of equitable practices and community engagement increased from 2014 to 2020 and the vast majority of Agency staff engage in ongoing professional development and education in environmental justice training or educational opportunities. There are many ways to get involved and the Agency continues to provide more opportunities. While we met the targets, there is room for more progress as an organization in striving to eliminate inequities.

4. Key Challenges

It is a resource challenge to achieve our public health and climate strategic plan targets, meet mandated responsibilities, and expand our equity work at the same time. It is also a challenge to craft and implement operational solutions in a timely manner - institutional change takes time and patience, which is in tension with the urgency of this work. Finally, it is an ongoing challenge to balance the different levels of understanding and lived experience among staff regarding inequity, disproportional impacts, and structural racism.

5. Looking forward - Initial Issue Identification

Heading into the next strategic plan the Agency needs to ensure that we are embedding equity in our day-to-day work. We need to consistently evaluate our actions to ensure we are making true progress and avoid the potential risk of highlighting performative actions. Finally, continuing our equity priorities will require working with diversity, equity, and inclusion (DEI) consultants, who are often in high demand.

For More Information...

Title VI and Limited English Proficiency Plan

OBJECTIVE 3.3 – MEANINGFUL PUBLIC DIALOGUE AND OUTREACH

1. Background + Why It's Important

Individual choices and behavior impact our air quality and climate change. Engaging meaningfully with the public can educate residents in helping us achieve the Agency's vision of clean, healthy air for everyone, all the time. The people that we serve can also help inform the Agency's work, as they bring valuable information and lived experience from their communities.

2. Key Progress

In order to better serve the public, we updated the Agency website to a more user-friendly and intuitive design that included many new sections of the website for more public resources. We updated our brand to strengthen our identity, trust, and authority; which included the transition of our public domain. We increased the use of multi-media tools in order to reach a wider audience. We dedicated more time and attention to our social media channels which led to significant social media growth.

In the second half of the Strategic Plan timeframe, the Puget Sound Region began to experience more severe impacts of summer wildfire smoke. The Agency partnered with local health departments and other government agencies to create joint air quality health alerts and create a standard protocol during wildfire smoke season to better serve the public. We experienced an increase in local and national media which also allowed us to further our relationships with them. Our expertise is on air quality and health is routinely sought and has resulted in earned media. We also regularly appeared on the local Univision affiliate – reaching 500,000 Spanish-speaking residents in our region.

3. Targets

The targets for this objective are:

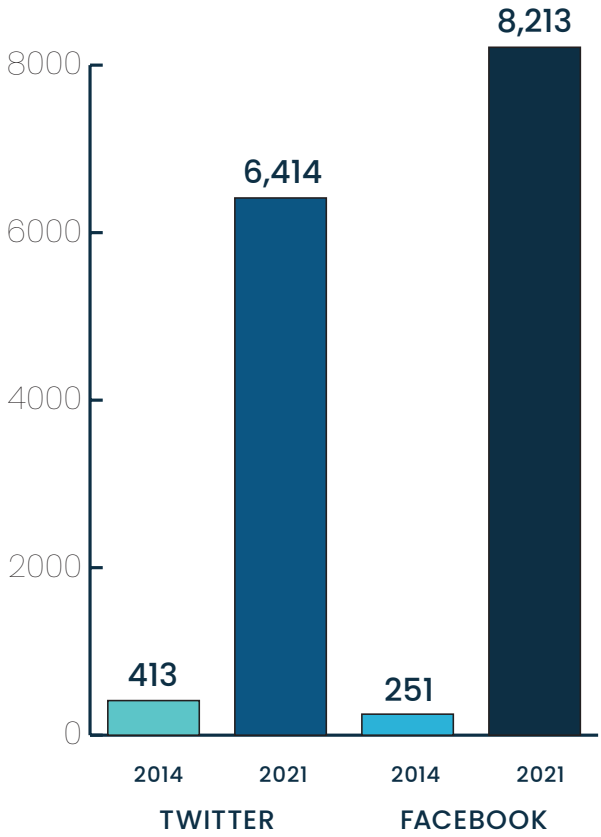
"Public awareness of air quality issues increases 25 percent from 2014 to 2020."

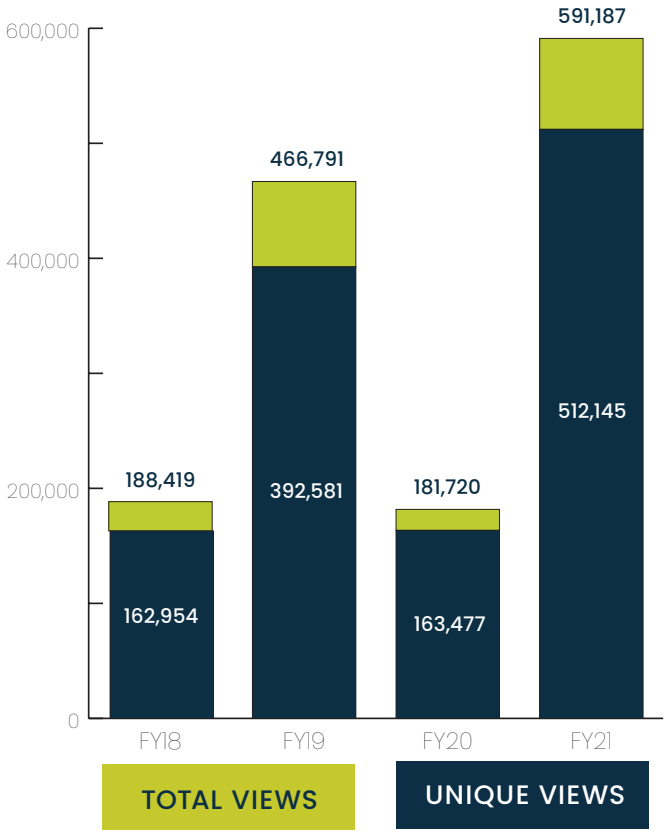
"Three new organizations identified annually for partnership emphasis."

"Our technology platforms provide infrastructure availability 99.5 percent of the time."

All three targets were met. Public awareness of air quality issues increased. Metrics from our social media, website, and other accounts, such as text or email subscribers, all grew significantly over the course of the plan. The figure below on the left shows the growth in social media subscribers over the course of the plan. The figure on the right shows website views in recent years, and illustrates the public interest in wildfire smoke information (we typically observe highest interest in years with substantial wildfire smoke events). We formed many partnerships over the course of the plan, particularly within our focus communities, exceeding the annual target of three. Last, our technology platforms provided consistent and stable infrastructure availability more than the target of 99.5 percent of the time.

SOCIAL MEDIA AND AGENCY WEBSITE METRICS – SUBSCRIBERS AND VIEWS





4. Key Challenges

Air quality challenges like more severe and widespread wildfire smoke events present a communications challenge. Although we now have the ability to reach more people in our region, the health impacts of wildfire smoke demand clear and helpful communication so that residents can protect themselves and their families.

In recent years, the COVID-19 pandemic has made it a challenge to initiate and develop new partnerships. At the same time, the Agency adapted quickly to virtual platforms. This has made connecting with some communities easier logistically; for others, the opposite is true.

5. Looking forward - Initial Issue Identification

A challenge communicating with the public is the rapid change of technology and communications platforms, making it difficult at times to stay current. Likewise, changing media trends means that people receive information very differently – from TikTok and Instagram to traditional print advertisements and mailers. Choosing where and how we invest our limited communications resources to maximize awareness will be something to explore for the next Strategic Plan.

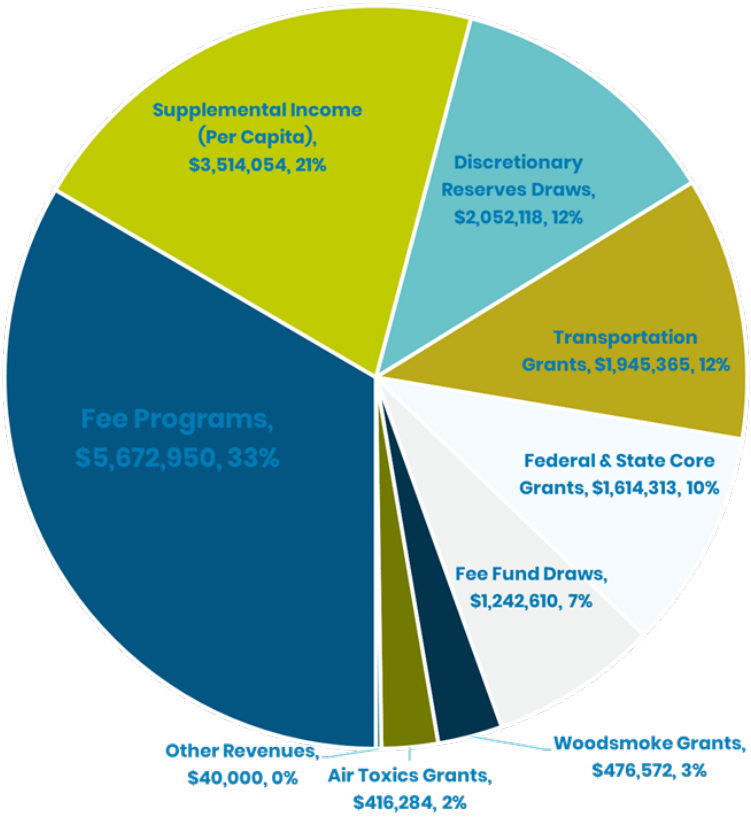
Also, as mentioned previously, the scale and urgency of wildfire smoke events and their impact on residents will continue to be a challenge, particularly as we anticipate more such events due to climate change.

OBJECTIVE 3.4 – FINANCIAL STRENGTH AND ACCOUNTABILITY

1. Background + Why It's Important

The Agency's day-to-day spending decisions, financial policies, financial planning, and annual budgets are the foundation of our strategies and actions to fulfill the Agency's vision, credibility, and long-term sustainability. As stewards of public funds, the Agency must demonstrate accountability for all of our financial and budgetary decisions. The figure below for our most recent completed fiscal year illustrates our different funding sources.

FY22 FUNDING SOURCES



2. Key Progress

Over the course of the Strategic Plan, the Agency strengthened its reserves and financial policies. This included establishment of a general fund reserve set aside as a "rainy day reserve." We also added reserves for the Compliance Division, legal team, and unemployment reserve, which is used to cover the risk of Agency-funded unemployment claims. We changed the interest income reserve to accumulate interest earned on reserves in the King County Investment Pool and set up guidance in the Financial Policies for the use of these funds. The Agency continued to intentionally examine and refine the acceptable uses of previously collected civil penalties through its financial

policies.

The Agency made significant progress to improve our annual budget development. Revised budget documents provide more meaningful information and apply standards recommended by the Government Finance Officers' Association. A new budget calendar ensures increased manager and staff involvement. Annual budgets now include added out-year projections beyond the current budget year as part of a budget risk analysis. Overall, the Agency has maintained a balanced budget every year.

The Agency improved its financial reporting, accountability, and grant financial management mechanisms. We achieved annual clean audit reports from Washington State Auditor for all years except one (which was a result of not implementing a standard for measuring post-employment benefits on a timely basis). We implemented all applicable Government Accounting Standards Board pronouncements. We also strengthened our grants' financial management systems including implementing a "grants manual," subrecipient oversight, and new grant award review processes.

3. Targets

The targets for this objective are:

"Deliver a balanced and sustainable annual agency budget."

"Assure financial reserve sufficiency."

"Achieve a clean audit each year."

All three targets were met. We delivered a balanced and sustainable budget each year, assured financial reserve sufficiency, and achieved a clean audit six of seven years. The one exception was a specific, technical finding and not related to the Agency's financial controls.

4. Key Challenges

The Agency has multiple funding sources, including: federal and state recurring and competitive grants, per capita assessments from jurisdictions, registration and permit fees, civil penalties, and interest income. These multiple revenue streams make for a very complex annual budgeting process that requires substantial effort.

5. Looking forward - Initial Issue Identification

An ongoing challenge moving forward will be ensuring the Agency's long-term financial sustainability. We will need to develop a plan to update the Agency's outdated software and systems, strengthen cybersecurity, and address current IT constraints. Lastly, the Agency will need to plan for succession of key roles within the Finance team.

For More Information...

FY22 Agency Budget

OBJECTIVE 3.5 – MODEL OF ENVIRONMENTAL SUSTAINABILITY

1. Background + Why It's Important

As the Agency encourages action to address climate change and reduce air pollution, it is important for us to "walk the talk" and conduct business in a way that is consistent with our vision and minimizes environmental harm.

2. Key Progress

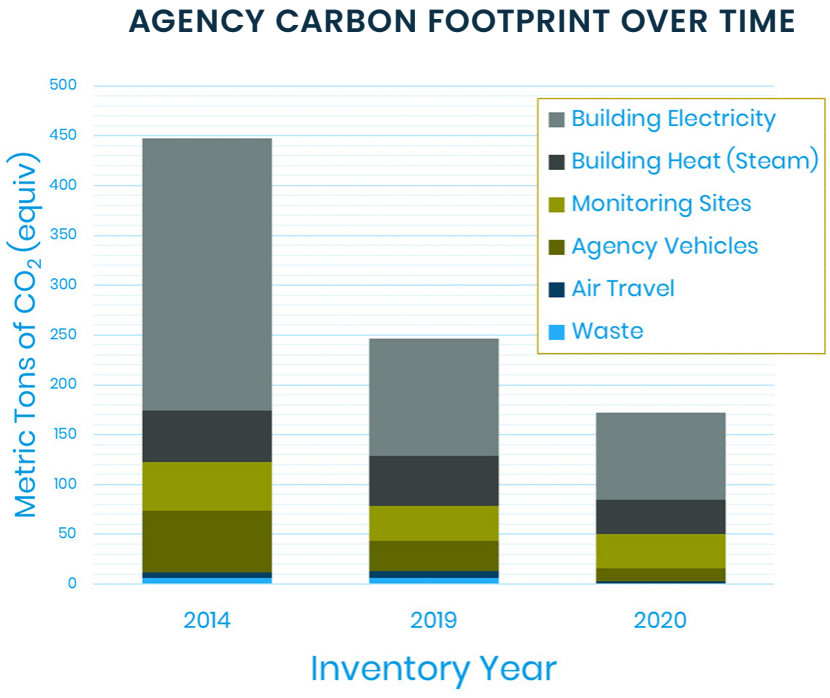
The Agency continued to provide employees with ORCA transit cards to encourage transit use and reduce single-occupancy vehicle trips. We electrified an initial subset of vehicles in the Agency's small fleet, with plans acquire more as our current fleet reaches replacement thresholds. Our staff-led "green team" conducted a waste survey at the Agency's office and implemented recommendations for staff behavior change to reduce waste. The team implemented low-flow faucets and LED light bulbs in the Agency's office space. Our updated purchasing policy encourages staff to buy "safe and environmentally-friendly" products to the extent practicable.

3. Targets

The target for this objective is:

"Achieve carbon-neutrality by 2020."

This target was not met, and the Agency made substantial progress toward carbon neutrality. The figure below shows our progress since 2014. We reduced our carbon footprint from nearly 450 metric tons of carbon dioxide in 2014 to 170 metric tons in 2020 (250 tons in 2019, a more 'typical' year pre-pandemic).



4. Key Challenges

While we've made substantial progress, offsets will likely be required to reach the last carbon emissions associated with Agency activities.

5. Looking forward - Initial Issue Identification

The Agency will look to continue to reduce its carbon footprint by further electrifying its vehicle fleet and finding additional ways to "green" its office operations. We will also further explore carbon offset projects in the Puget Sound region to balance the remaining sum of our carbon footprint.

2014-2020 Strategic Plan Progress and Accountability Report Appendix

2014-2020 Strategic Plan Progress and Accountability Report Table of Contents

Goal One – Protect Public Health and the Environment from Air Pollution

OBJECTIVE 1.1 – MEET NATIONAL AMBIENT AIR QUALITY STANDARDS (NAAQS)

Target: Entire region attains National Ambient Air Quality Standards from 2015 forward.

Target met. As of March 2015, the Agency's four-county jurisdiction is in attainment with all national ambient air quality standards.

Strategies pursued:

A. With the Washington State Department of Ecology, secure re-designation of the Tacoma-Pierce fine particle nonattainment area to attainment status.

- Secured re-designation of Tacoma-Pierce County fine particle nonattainment area to attainment status in March 2015. This was made possible through development of wood stove reduction strategies with community input, and implementation of those strategies.
- For more information, please see the Tacoma-Pierce County PM2.5 Redesignation Request and Maintenance Plan.

B. Track the periodic revisions to the NAAQS to understand the potential for new nonattainment areas in our region.

- Tracked and reviewed EPA's NAAQS proposals and supporting technical documents.
- Frequently submitted comments in support of strengthening the NAAQS to be more protective of public health, consistent with scientific review. The Agency submitted separate letters of support to EPA and also signed on/supported letters through the National Association of Clean Air Agencies (NACAA).

C. If new nonattainment areas are designated in our region (e.g., ozone) develop effective attainment plans promptly, with the participation of regional stakeholders.

- Not applicable – EPA did not designate new nonattainment areas in our region.

D. Make sure gasoline vapor recovery requirements support ozone maintenance.

- Continued to analyze implications of emissions from Stage II vapor recovery systems in light of EPA's analysis of onboard vapor recovery (OVR) systems.
- Participated in Joint Legislative Audit & Review Committee study of gasoline vapor regulation.

E. Meet requirements of legacy maintenance plans from former nonattainment areas, including transportation conformity requirements.

- Met requirements of our legacy maintenance plans (PM10 and PM2.5).
- Submitted required design values and warning letters as described in our PM10 and PM2.5 maintenance plans.
- Continue to track exceptional events guidance and work with Ecology to flag days that could be considered for future exceptional events demonstrations.

OBJECTIVE 1.2 - REDUCE TRANSPORTATION EMISSIONS, ESPECIALLY DIESEL PARTICULATE, IN HIGHLY IMPACTED LOCATIONS

Target: Diesel particulate in the air at select highly impacted locations drops 60 percent from 2014 to 2020.

Target not met; substantial progress. Three of our most diesel-impacted communities–Seattle's Duwamish Valley, Tacoma's Tideflats, and Kent–saw reductions of black carbon/fine particle pollution ratios (an indicator for diesel pollution) of 45%. However, the Seattle Chinatown/International District, located near major roadways, recorded no change. Interstate 5 had a 14% increase in truck traffic volumes, which may partially account for the flat readings in the Chinatown/International District.

Strategies pursued:

A. Assess harmful emissions from transportation activities and identify highly impacted locations.

1. Inventory transportation emissions at fine geographic scale.
   - Secured re-designation of Tacoma-Pierce County fine particle nonattainment area to attainment status in March 2015. This was made possible through development of wood stove reduction strategies with community input, and implementation of those strategies.
   - For more information, please see the Tacoma-Pierce County PM2.5 Redesignation Request and Maintenance Plan.

2. Analyze opportunities and threats to reducing diesel fine particle pollution.
   - Focused on large heavy-duty engines. Large engines produce significantly more emissions, so it is important to address these engines.
   - As part of our port truck replacement program, we identified the need to do training for 2007 and newer diesel engines based on feedback from truck owners regarding very high maintenance costs with their new trucks. We heard numerous anecdotes of truck owners disabling the emission control systems on those new trucks in order to avoid maintenance costs; a newer truck with disabled emission control systems can be dirtier than the older truck it replaced.

3. Identify communities highly impacted by transportation emissions in our region.
   - Identified Focus Communities impacted by transportation pollution: Seattle Duwamish, Seattle Chinatown/International District, Tukwila Allentown, Auburn/Algona/Pacific, and Lakewood.

B. Partner with highly impacted communities to reduce emissions and exposures.

1. Engage with highly impacted communities to learn about their air quality priorities and apply their concerns in decision-making processes; help drive understanding of the health risks and what can be done to minimize exposure; and share resources to help communities play an active role in reducing air pollution.

   - The Agency has participated in and supported the Clean Air Program group led by the Duwamish River Community Coalition (formerly known as the Duwamish River Cleanup Coalition) and Just Health Action. This community-led group has identified key actions, including addressing drayage truck-related impacts to air quality in the Duwamish Valley.

2. Implement neighborhood-based projects that reduce risk from high-emitting vehicles.

   The Agency did not initiate any projects that were neighborhood-based, but we did complete projects that benefited sensitive populations and highly impacted areas.

   - Ecology Grants 2011-2015: Installed idle-reduction retrofits on 93 emergency vehicles operated by fire districts in our jurisdiction. Approximately half (45 of the 93) were installed in 2014-2015. The program was open to all fire districts in our jurisdiction and will benefit sensitive populations who are at high risk.
   - EPA Grant 2013-2015: Replaced 10 heavy-duty diesel trucks with 10 liquified natural gas trucks. The trucks typically spend 75 percent of their time traveling between the Port of Tacoma and the company's distribution centers in either Kent or Auburn, which are considered highly impacted areas.
   - See also the results below under 1.2.C(2).

C. Reduce emissions from maritime activities.

1. Fulfill our commitments under the Northwest Ports Clean Air Strategy.

   - Contributed to the Northwest Ports Clean Air Strategy updates, including the latest update finalized in April 2021. Reviewed the implementation plans for the 2021 strategy that were subsequently approved by the Northwest Seaport Alliance and the Port of Seattle. Assisted with gathering data and drafting annual progress reports.

2. Reduce emissions in highly impacted communities (e.g., dray truck emissions).

   The Agency put significant resources into replacing old, pre-2007 drayage trucks with trucks that had cleaner, 2007 and newer engines. We also provided training videos in multiple languages for drayage truck owners on how to maintain the newer trucks to help sustain the emission reductions. Finally, we piloted a program to replace ground support equipment at SeaTac Airport.

- 2014-2017 Ecology/EPA/DOT/POS grants. Replaced 412 pre-2007 drayage trucks with 2007 and newer, cleaner diesel trucks under the Scrappage and Replacements for Air in Puget Sound (ScRAPS) program. (17.3 tpy PM2.5 reduced).
- 2014-2016 EPA and Ecology grants: Developed online training for Clean Diesel Trucks (seven videos in seven languages and knowledge tests in all seven languages).
- 2017-2019 Ecology grant: Provided incentives for completing online training; 156 participants successfully completed trainings.
- 2015-2017 Ecology grant: Replaced three diesel baggage tugs with three electric baggage tugs (0.15 tpy PM2.5 reduced).

3. Reduce emissions from high-emitting sources over which ports and other agencies have less influence (e.g., locomotives and harbor vessels).

   The Agency put significant effort in to cleaning the region's harbor vessels. We held a workshop to share information on operational efficiencies and emission reductions. We administered three grants focused on marine engine replacements and two grants to install shore power for tugboats.

   - 2014: Hosted a harbor vessel workshop on increasing efficiencies and reducing emissions.
   - 2014-2016 Ecology grant: Replaced 16 marine engines on ten harbor vessels (0.5 tpy PM2.5 reduced).
   - 2017-present EPA grant: Replaced 14 marine engines on eight harbor vessels and plan for three more engine replacements in 2021-22 (0.6 tpy PM2.5 reduced).
   - 2019-present Ecology/EPA grant: Replace at least six engines (two auxiliary engines, four propulsion engines (0.8 tpy PM2.5 reduced).
   - 2018 Ecology grant: Crowley Shore Power - two connections (0.1 tpy PM2.5 reduced).
   - 2019 Ecology grant: Harley Shore Power - three connections (0.2 tpy PM2.5 reduced).

   The agency also started connecting with Class 1 Rail Companies. We applied for two grants with BNSF and were awarded one to replace nine diesel yard trucks with all-electric yard trucks. Work will begin in 2022.

D. Influence and advocate for policy and regulatory improvements.

1. Evaluate potential for legislative, rule, or policy improvements (federal, state, or local) that would benefit highly impacted communities.
   - Provided feedback to EPA, Ecology, and the NWSA regarding barriers to truck owners to maintain their clean diesel trucks and the high costs of maintenance repairs that most truck owners are facing.
   - Provided feedback to EPA regarding how current DERA criteria prevent locomotive repower projects; rail switching yards are frequently located near highly impacted communities.

- Supported HEAL Act, Zero Emission Vehicle (ZEV) mandate, and Low-Carbon Fuel Standard (clean fuel standard) state legislation.

2. Provide information to local government and community partners on the health risks of traffic-related air pollution and near-roadway disparities to help guide their decision-making.
   - Produced accessible summary of health risks of traffic-related air pollution and near-roadway disparities and shared with health partners.

OBJECTIVE 1.3 - REDUCE EMISSIONS AND EXPOSURES FROM WOOD SMOKE AND OUTDOOR BURNING

Target: There are no days with 24-hour fine particle levels over 25 micrograms per cubic meter [the Agency's health goal] in high-wood-smoke communities by 2020.

Target not met; some progress. Our highest wood smoke communities are South End Tacoma, Darrington, and Marysville. Over the course of the plan, South End Tacoma was over the health goal (25 µg/m3) during each annual heating season from three to 13 days; Darrington from three to 22 days; and Marysville from one to 13 days. Although we did not meet the target, on the days that we exceeded the health goal, the measured values above 25 µg/m3 declined over the course of the Strategic Plan. In other words, despite exceeding the health goal, we eliminated the prior highest fine particle pollution levels.

Strategies pursued:

A. Restore healthy air to the Tacoma-Pierce County nonattainment area.

1. Actively enforce air quality burn bans.
   - Forecasted and called burn bans according to strengthened RCW criteria.
   - Deployed smoke observers during burn bans.
   - Issued 669 Notices of Violation and 433 Civil Penalties related to burn bans.
   - Processed 857 applications for a No Other Adequate Source of Heat (NOASH) exemption and approved 611.

2. Continue incentives for the removal or replacement of uncertified, high-polluting wood stoves, including the 2015 removal requirement in the Smoke Reduction Zone.
   - Removed more than 3,400 old or uncertified wood stoves under the wood stove program, including low-income and regular replacements, and in-home and drop-off removals.
   - Raised public awareness in advance of the 2015 uncertified stove removal rule.
   - Conducted a crowdsourcing challenge to solicit viable wood stove retrofit technology that could be used on existing uncertified wood stoves.

3. Raise awareness, participation, and compliance through outreach and education.
   - Conducted timely outreach for all burn bans.
   - Created and began to publicize a burn ban text messaging service for Smoke Reduction Zone residents, as well as South Pierce and Pierce Peninsula residents outside the Smoke Reduction Zone (SRZ).

- Delivered "Air On the Safe Side" campaign and other SRZ collateral, materials, videos, etc. Initially we worked with a consultant, and then significantly reduced advertising and creative costs by bringing the planning, design, production, and placement of campaign advertisements in-house.
- Negotiated and placed media advertising throughout the SRZ.
- Expanded our social media presence and dialogue.

4. With Ecology, secure re-designation of the nonattainment area to attainment status.
   - Secured re-designation to attainment status in March 2015.

B. Reduce wood smoke pollution in other highly impacted communities that experience unhealthy levels.

1. Call and enforce air quality burn bans throughout our region, using enhanced techniques piloted in Tacoma/Pierce County. Make sure gasoline vapor recovery requirements support ozone maintenance.
   - Called burn bans on 4 days in King County, 26 days in Snohomish County, and 41 days in Darrington, with sub-county burn bans in Pierce County; conducted timely outreach.
   - Expanded ways to increase awareness of burn bans – e.g., created and publicized burn ban text messaging for Darrington residents, as well as Tacoma-Pierce County SRZ, South Pierce, and Pierce Peninsula residents.

2. Identify communities with high 24-hour wood smoke levels using monitoring, modeling, or complaint analysis.
   - Conducted multiple temporary fine particle monitoring studies (see Objective 1.5)
   - Auburn/Algona/Pacific was flagged with potentially elevated wood smoke levels based on temporary monitoring. Installment of a permanent monitor showed that, while PM2.5 levels were elevated, they were not as high as initially indicated in the temporary study.
   - Using our analysis of wood-smoke-impacted communities, the Agency applied for and received funding from the WA State Dept of Ecology to do wood stove removals and in some cases replacements in Pierce, Snohomish, and King counties.
   - Meet requirements of legacy maintenance plans from former nonattainment areas, including transportation conformity requirements.

3. Engage with highly impacted communities to learn about their air quality priorities; help drive understanding of the health risks and what they can do to minimize exposure; and share resources to help them to play an active role in improving air quality.
   - Began engaging with residents and stakeholders in our Focus Communities. Brought contextual knowledge to the conversations while continually listening for concern about other air quality issues from the community.

4. Secure incentives to encourage the removal or replacement of old and uncertified, high-polluting wood stoves in these communities.
    - Consistently secured biennium funding for wood stove programs in state capital budget, and successfully obtained state grant funding to incentivize the removal of over 1500 stoves (in addition to the 3400 stoves removed from the SRZ.
    - Extended partial wood stove program (drop-off recycling only) to Pierce County outside SRZ, as well as to King, Kitsap, and Snohomish counties, using Ecology grant funds that were designed to reduce emissions of polycyclic aromatic hydrocarbons (PAHs) that deposit in Puget Sound.
    - After the attainment designation for the SRZ, expanded the wood stove program (using state capital funds) to all of Pierce, King, and Snohomish counties, considered "at-risk communities" for state grant funding. Monitors in Snohomish County measured the highest levels of wintertime woodsmoke so our program there offered both drop-off recycling incentives as well as replacement incentives for non-wood heating replacements.
    - Also expanded the wood stove program, using agency funding, to include Kitsap County; this area was not considered an "at-risk community" so was ineligible for state grant funding.
    - All told, we incentivized the removal or replacement of nearly 5000 stoves since 2014, nearly all of which were funded by grants from Ecology:
        - Tacoma-Pierce County SRZ: 3410
        - Rest of Pierce County: 196
        - Snohomish County: 557
        - King County: 518
        - Kitsap County: 261 (Agency funded)
5. Influence and implement cleaner federal, state, or local wood heater emission standards.
    - Commented on and played a critical technical and legal role to force EPA to pass stronger wood heater New Source Performance Standards. Step 1 of the new standard went into effect in 2015; Step 2 (which is more protective than WA state's standard) went into effect nationally in 2020. Washington will need to adopt the new federal standard through revisions to the relevant chapter of the Administrative Code.

C. Minimize pollution from outdoor fires.

1. Evaluate alternatives to outdoor burning. If warranted, develop rulemaking to reduce residential yard waste burning.
    - Briefed elected officials about reasonable alternatives to residential outdoor burning outside the Urban Growth Area.

- In 2015, the Agency evaluated reasonable alternatives using WAC guidance, as well as information gathered on distances to alternatives, availability of alternatives, and tipping fees. This 2015 exercise demonstrated that different geographic areas of the Agency's jurisdiction have differing levels of access to alternatives to burning and did not result in rulemaking.

2. Minimize illegal outdoor burning through education, partnering with fire districts, and enforcement.
   - Partnered with over 40 fire districts on activities including joint inspections, enforcement issues, updating agreements, and communications.
   - Delivered outdoor burning outreach support and materials to partners as needed.
   - Issued 558 notices of violation and 218 civil penalties related to outdoor burning activities.

OBJECTIVE 1.4 - PREVENT, REDUCE AND CONTROL EMISSIONS AND EXPOSURE FROM SIGNIFICANT STATIONARY SOURCES OF AIR POLLUTION

Targets:

- **Compliance rates of regulated businesses increase, reducing environmental harms.**
- **Meet all requirements of the compliance assurance agreement and EPA-delegated programs.**
- **Public participation in agency permitting processes and knowledge of agency permit actions increases.**

Targets met. Although a target for compliance rates overall can't be quantified in a direct way, the Agency has conducted several complicated permit application reviews, taken serious enforcement action, and provided compliance assistance in sectors where that was deemed the most effective means to achieve compliance at the source. Collectively, these actions met the intent of this target to reduce environmental harm.

The Agency met all requirements of the compliance assurance agreement and EPA-delegated programs. The Agency often exceeded the expectations of this agreement by completing inspections at a higher frequency than that required by EPA.

The Agency met its target to increase public participation and knowledge of Agency permitting actions. These efforts included increasing the number of pre-comment informational meetings for complex permit applications and refining our models for collecting comments (both written and at hearings) in response to intense interest and COVID-19-related operational limitations.

Strategies pursued:

A. Prevent, reduce, and control emissions and exposure by using our problem-solving approach, inspections and enforcement tools, permit reviews and conditions, and education.

- Completed transition to new EPA emissions reporting system, ICIS Air.
- Continued to implement new EPA policies on High Priority Violations (HPV) and Federally Reportable Violations (FRV).
- Completed updates to the agency's compliance database.
- Developed and improved compliance tools to provide compatibility across departments and increased accessibility to information for personnel working in the field (e.g., using the new database resources and capabilities to enhance the work effectiveness).
- Defended regulatory actions and authority through various legal appeal processes.
- Completed an assessment of lead exposure and lead control measures/ programs to check our past assumptions regarding this environmental hazard.

B. Use appropriate tools to prevent, reduce and control emissions and exposure in a manner that is transparent and fact based, creates a level playing field, provides appropriate customer service, employs principled decision-making, engages highly impacted communities, and incorporates new information.

- Continued to consider Focus Communities information in making annual inspection assignments, and in other compliance work.
- Updated agency Compliance Manual.
- Partnered with Northwest Clean Air Agency and learned how to use infrared camera for compliance purposes, per EPA grant.
- Implemented new multi-language phone menu with real-time translation options for six languages other than English.
- Updated enforcement documents to use more accessible language and integrate more clearly with the new language services available on our phone system (see above).

C. Limit asbestos emissions and exposure from projects, renovations and demolitions through education, enforcement, and partnerships.

- Developed communications strategies and policies to reduce harmful emissions after disasters.
- Conducted asbestos outreach to Spanish-speaking day laborers.
- Produced and distributed outreach materials in Spanish that are easy to understand and provide necessary information about asbestos and agency contact information for workers with questions.
- Continued ongoing efforts to limit asbestos emissions and exposure.

D. Control and reduce pollution from business activities through our registration program.

- Developed emission factors for commercial compost operations and communicated this information to affected facilities and others.
- Received delegation for federal dry cleaners rule from EPA, and developed and continued to implement compliance assistance program and training for dry cleaners.
- Inspected facilities that may have reciprocating internal combustion engines (RICE) and determined further compliance approaches to implement federal rule.
- Developed communications tools to better equip staff to respond to inquiries related to wood-fired commercial cooking.
- Continued to locate unregistered sources.
- Continued to evaluate and ensure compliance by gas stations.

E. Identify and require appropriate emission control technologies through the new source review process.

- Identified and communicated regulatory requirements for marijuana facilities, to include Notice of Construction (NOC) application reviews to ensure odor-control measures are included in operations.
- Issued 136 auto body general regulatory orders.
- Issued 1,057 NOC orders of approval and processed 634 Notifications.

F. Implement the federal air operating permit program to regulate larger, more complex stationary sources of air pollution.

- Continued ongoing efforts to implement the air operating permit program.
- Completed all EPA commitment inspections (Full Compliance Inspections for all Air Operating Permit and synthetic minor sources).

G. Prevent or reduce odors through permitting for control technology requirements, responding to complaints, enforcing regulations and permit conditions, and conducting studies and research to advance the understanding of odor issues.

- Developed, implemented, and enforced standards for controlling odors created by the marijuana industry.
- Continued complaint response and enforcement for various odor issues throughout the region.

H. .Build relationships, educate, and engage with communities about the health risks of air quality issues of interest.

- Presented auto body regulatory workshops at two community colleges, and extended training offer to others. Posted training materials on web site.
- Continued current efforts to build relationships and engage with communities, including Casa Latina/big box stores, Mexican Consulate, and Spanish radio show.
- Continued partnership with Korean American Grocer's Association (KAGRO) to provide information and raise awareness of requirements and pathways to compliance for gas station owners and operators.
- Used alternative enforcement approaches and compliance assistance means for community issues which are not conducive to standard enforcement practices.
- Engaged with Seattle Georgetown residents about emissions and dust issues. Efforts included frequent inspections, working with other local agencies, and setting up monitors at three residents' homes.

I. Encourage communities to meaningfully participate in, and share feedback about, agency permitting processes.

- Increased the number of informational meetings held on larger projects prior to public comment period.
- Continued to post descriptions of all new construction projects on agency website for 15 days prior to review, during which time the public is able to request a project-specific comment period.

OBJECTIVE 1.5 - CHARACTERIZE AND COMMUNICATE AIR QUALITY THROUGHOUT THE REGION, WITH THE ACTIVE PARTICIPATION OF THE PUBLIC

Targets:

- **Fine particle levels are characterized for at least two additional communities in each of our counties by 2020.**
- **In these communities, public engagement in air quality issues is high.**

Targets met. The Agency characterized air pollution for multiple additional communities in each of our counties over the course of the plan, exceeding the target of two per county. These studies characterized air quality across multiple environments, such as wintertime woodsmoke in previously unmonitored areas, dust levels in an industrial area, and multiple smaller studies utilizing new sensors. Several of these community studies included outreach and engagement components.

Strategies pursued:

A. Employ a variety of tools to characterize and improve our understanding of air pollution, its sources, and impacts across our four counties.

1. Review and optimize our long-term monitoring network, which measures compliance with health-based National Ambient Air Quality Standards.
   - Monitored fine particle concentrations, and other parameters, across the region.
   - Optimized our network through network review, decommissioning lower-value sites, and adding higher value sites.
   - Worked closely with Department of Ecology and EPA to make changes to the state-approved monitoring network.
   - Conducted multiple studies to identify redundancies within our PM2.5 network.
   - Moved to more economical sensors where possible.
   - Moved monitoring sites to higher priority Focus Communities.

2. Use emissions inventories and models to map air pollution, estimate health effects and public health economic impact, and predict future changes.
   - Provided several analyses to estimate impacts and predict future scenarios.
   - In tandem with climate projections, produced future air quality health estimates.
   - Initiated comprehensive transportation emissions inventory & scenario forecasting project (with Ecology and PSRC).
   - Built expertise in health effects analysis.

3. Broaden our knowledge of environmental impacts of air pollution (e.g., air deposition).
    - Developed staff understanding of environmental impacts of air pollution, and in particular provided comprehensive review for King County's supplemental bulk deposition report.
    - Participated in the Green/Duwamish Watershed Strategy.
    - Engaged in a metals-in-moss study in the Duwamish Valley sponsored by the US Forest Service.
    - Monitored for polycyclic aromatic hydrocarbons and metals in air toxics studies that are useful for better understanding deposition concerns.

4. Identify and prioritize highly impacted communities of combined high air pollution exposure and socio-economically disadvantaged populations for additional characterization.
    - Identified candidate "highly impacted communities," now called Focus Communities: Seattle Duwamish, Seattle Chinatown/International District, Tukwila-Allentown, Auburn/Algona/Pacific, Lakewood.
    - Prioritized Seattle Chinatown/International District for our air toxics grant work.

5. Monitor in more places beyond our long-term trend network, using new technologies and focusing on highly impacted communities.
    - Conducted Seattle Chinatown/International District "near-roadway" temporary and mobile monitoring study. Ensured residents and businesses were aware of results and potential next steps.
    - Conducted ozone "mini" study in Auburn, Enumclaw, Graham, Kent, Maple Valley, Orting, Puyallup, Seattle, and Tacoma, that explored ozone and precursor levels using new sensor technology.
    - Conducted temporary winter wood smoke monitoring studies in Algona, Auburn, Shoreline, Lake Forest Park, Lynnwood, Monroe, Sultan, Index, and Skykomish, using new sensor technology.
    - Conducted a Bike-to-Work month mobile air monitoring study along bike routes
    - Designed community monitoring project in conjunction with UW and applied for EPA Communities STAR grant in consultation with Tukwila Allentown community. Although we were not successful with the grant application, we delivered a scaled-down version of the monitoring proposal that included mobile (bike) monitoring as well as monitoring at residents' homes.
    - Completed air toxics monitoring in consultation with the Seattle Chinatown/International District community.
    - Conducted a small-particle study in Georgetown in response to residents' concerns.
    - Completed installation of eight air sensors in north Kitsap County to provide better coverage for education and wildfire smoke forecasting.

- Conducted a study in Darrington to better understand the behavior of wood smoke in the valley for burn ban forecasting and better understand how representative of local air quality the fixed monitor's location was.
- Developed a lending library program that offers area residents the opportunity to borrow small air sensors to explore their concerns, learn about their own air quality, and see their data in real time.
- Deployed more than 20 sensors in Focus Communities and through the lending library program.

B. Share and communicate air quality information.

1. Forecast and communicate daily air quality, with the goal of tailoring forecasts to progressively smaller areas of our region to increase their relevancy.
   - Reported fine particle concentrations, and other parameters, across the region in annual data summary and on website.
   - Forecasted air quality at current spatial and temporal resolution.
   - Updated forecasting and public air quality display tools.
   - Became experts in wildfire smoke forecasting and improved upon available tools.
   - Offered clearer forecast messaging using "thumbs" on the front page of the website.
   - Developed an air sensor map to provide more-accurate readings to the public in higher resolution.
   - Developed sub-county burn ban areas.
   - Shared sensors through the lending library.
2. Build relationships with highly impacted communities to learn about their air quality concerns and priorities.
   - Through outreach described below, we created multiple opportunities for communities to provide input on their air quality concerns (e.g., providing maps in multiple formats in Allentown, Chinatown/International District, and South Park and Georgetown and encouraging residents to identify areas of concern)
3. Work with highly impacted communities to increase their understanding of the health risks and sources of air pollution and what they can do to minimize their risk. Facilitate community participation and feedback in air quality monitoring.
   - Engaged with residents and stakeholders in Focus Communities. Brought contextual knowledge to the conversations while continually listening for concern about other air quality issues from the community.
   - Met with International District leaders to discuss air quality concerns and ran monthly air quality reports in the local newspaper.

- Provided "train-the-trainer" sensor workshops in the Duwamish Valley for community members to sample their own air and create their own studies.
- Worked to help first develop the filter-fan concept through monitoring in homes in Seattle's South Park and Georgetown neighborhoods to demonstrate their efficacy at reducing diesel exhaust.
- Solicited input into the air toxics monitoring from the community in the Seattle Chinatown/International District.
- Engaged with the Duwamish Valley community to identify their biggest priorities and concerns about air quality.
- Provided monthly air quality summary information to Seattle Duwamish (South Park and Georgetown) and Chinatown/International District communities.
- Engaged through filter-fan demonstrations in all the Focus Communities.

C. Build and leverage partnerships to pool collective knowledge and resources to deliver the strategies above.

- Continued to engage with AIRQUEST, UW, and others, including while developing project and grant proposals.

OBJECTIVE 1.6 - REDUCE INEQUITIES IN AIR POLLUTION EXPOSURE

Targets:

- **New initiatives are launched in at least four communities by 2020, designed and implemented in partnership with community-based organizations.**
- **Air quality in highly impacted communities improves by 2020 as much as, or more than, air quality in the rest of the region.**

First target met. The Agency identified four "highly impacted communities," later renamed "Focus Communities," and in 2019 merged Tukwila-Allentown with the Duwamish Valley community. That allowed us to identify an additional Focus Community – Lakewood. Initiatives undertaken with community-based organizations include, but are not limited to, coordination with Duwamish River Cleanup Coalition (now the Duwamish River Community Coalition), Environmental Coalition of South Seattle, and Just Health Action in the Duwamish Valley; Seattle Chinatown/International District Preservation and Development Authority, Interim CDA, and the Service Board in the Seattle Chinatown/International District; Springbrook Connections and the Tillicum Community Center in Lakewood; and a variety of community groups coordinated through the Auburn Blue Ribbon Committee.

Second target partially met, with progress. The Agency partially met the second target of improving air quality in highly impacted communities by 2020 as much as, or more than, air quality in the region. Using the metric of annual average fine particle levels, we met the target in the Seattle Chinatown/International District and Auburn-Algona-Pacific, which experienced annual fine particle pollution level improvements as much as or more than the rest of the region. Although annual average levels of fine particle pollution improved at the Duwamish Valley monitor, they did not improve as much as air quality in the rest of the region. The monitor in South End Tacoma, used to represent Lakewood in this exercise, also did not meet this target.

Strategies pursued:

A. Identify locations of greatest disparity ("highly impacted communities") where we can address relevant air quality concerns.

- Identified candidate highly impacted communities: Seattle Duwamish, Seattle Chinatown/International District, Tukwila-Allentown, Auburn/Algona/Pacific, and Lakewood

B. Develop equity guidelines for prioritizing where we should focus our efforts.

- Developed the Community Air Tool and applied it to prioritize efforts. The Community Air Tool draws on information from air pollution sources, health outcomes, and socioeconomic barriers.
- Developed subsequent versions of Community Air Tool to support deeper community analyses and update it with more-recent information.

- Deployed cross-disciplinary staff teams for each Focus Community to lead engagement efforts in the community.
- Established an Environmental Justice Steering Committee to help guide this work.

C. Engage with communities in the prioritized locations so that they are aware of the risk and can be involved with the design of programs and policies.

- Began engaging with residents and stakeholders in Focus Communities. Brought contextual knowledge to the conversations while listening for concerns about other air quality issues from the community.
- Developed collaborative problem-solving agreement with the Duwamish River Cleanup Coalition (under EPA grant) and developed subsequent agreements to support their clean air coalition.
- Implemented a community engagement and communications plan in the Chinatown/International District to share the results of EPA toxic studies grant in 2017.
- Led community-directed air toxics sampling in Seattle Chinatown/ International District.
- Partnered with The Service Board (tSB), a youth leadership cohort, to create air quality and environmental justice trainings.
- Partnered with Interim CDA and Chinatown/International District's Wilderness Inner-City Leadership Development group to create air quality, environmental justice, and citizen science-based curriculum.
- Partnered with Washington Green Schools (now EarthGen) in Auburn/ Algona/Pacific to develop grade school curriculum about air quality issues. This curriculum can also be applied more broadly.
- Worked with Springbrook Connections, Tillicum Community Center, and the City of Lakewood's community collaboration meetings in Lakewood to create awareness of air quality, health risks, and resources.

D. Building on community engagement, design and implement programs to reduce exposure and disparity.

- Actively participated/partnered with the Duwamish River Cleanup Coalition through an EPA collaborative problem-solving agreement.
- Assisted Duwamish River Cleanup Coalition in designing indoor air filtration project
- Hosted two small-scale grant programs in the Auburn/Algona/Pacific focus community that were driven by the community. These programs funded ductless heat pumps for a Habitat for Humanity Veterans community and an asthma prevention program with Mary Bridge Children's Hospital.
- Hosted filter fan workshops in all four focus communities to create awareness about air quality and offer mitigation resources for community residents.
- Actively participated in the second phase of the Clean Air Coalition hosted by the Duwamish River Clean-up Coalition to develop the Clean Air Action Plan.

- Partnered with Tacoma Pierce County Health Department and Seattle King County Health Department to leverage efforts on filter fan kits and to provide the most resources for community-based organizations.
- Implemented community engagement in the Duwamish Valley with short-haul drayage truck drivers on cleaner diesel trucks.

Goal Two – Become the Most Climate-Friendly Region in the United States

OBJECTIVE 2.1 – REDUCE EMISSIONS OF GREENHOUSE FROM TRANSPORTATION

Targets:

- **Transportation greenhouse gas emission in 2020 return to 1990 levels. (updated in 2017)**
- **Zero-emission vehicles comprise 10 percent of public and private fleets' new vehicle purchases by 2016.**

Targets not met. The Agency and region did not meet the target to reduce GHGs to 1990 levels by 2020 in the transportation sector. Instead, we remain about 20% above 1990 levels for this sector. Additionally, less than 10 percent of new vehicle purchases in our region were ZEVs in 2020.

Strategies pursued:

A. Secure the adoption of state and local carbon-reducing policies.

1. Influence and achieve the implementation of a clean fuel standard in Washington.
   - Advocated for a statewide clean fuel in every Legislative session during the plan.
   - Proposed a regional clean fuel standard in 2019 (was paused in 2020).
   - 2021 Legislature successfully passed a bill to establish a Clean Fuel Standard in Washington; Department of Ecology has initiated the rulemaking process.

2. Influence and achieve other policies and incentives that support investment in electric vehicles and renewable fuels.
   - Successfully advocated for the Washington ZEV mandate, passed by the WA State Legislature in 2020; Ecology has completed rulemaking to establish a ZEV mandate.
   - Successfully advocated for the extension of electric/alternative-fuel vehicle sales tax exemption, tax credit for commercial alternative-fuel vehicles, and Electric Vehicle Infrastructure Bank.
   - Contributed to development of local government fleet alternative fuel vehicle rule.
   - Contributed to Joint Transportation Committee sustainable EV infrastructure study.
   - Contributed to WSDOT development of action plan to advance electric vehicle use.
   - Contributed to Ecology review of clean car law.

- Assisted King County-Cities Climate Collaborative's strategy to reduce greenhouse gases from transportation.
- Provided objective technical information on a variety of Climate initiatives and bills.

B. Target vehicle and infrastructure projects that accelerate regional uptake of electric vehicles and renewable fuels.

1. Support investment in electric vehicles and renewable fuels, increase acceptance and eliminate barriers to adoption.
   - The Agency hosted the Western Washington Clean Cities Coalition for the duration of the strategic plan. Coalition stakeholders helped avoid use of an average of 18.15 million gallons of gasoline and emission reduction of 100,000 tons of greenhouse gases in the years 2014-2019.
   - Assisted fleets in bidding biodiesel contracts. Two successful contracts have demonstrated improved market conditions.
   - Reported against, and closed, American Reinvestment and Recovery Act grant.
   - Applied for funding for electric vehicle infrastructure at Olympic National Park.
   - Sought and received funding for EV ground-support equipment at SeaTac Airport to replace diesel-fueled equipment.
   - Establishing an EV car-share program in the South Park neighborhood of Seattle. Expected launch in 2022.

2. Educate public and private sector fleets about electric vehicles and renewable fuels in our region, sharing information and lessons learned, as appropriate.
   - Provided technical assistance to fleets through Clean Cities Coalition.
   - Initiated development of local government roadmap to prepare for 2018 vehicle biofuel/electricity requirements.
   - Held annual ride-and-drive events, listening sessions, site tours, and webinars to promote alternative fuels and transportation electrification.
   - Co-hosted an Electric Vehicle Supply Equipment expo with King County.
   - Participated and hosted booths at regional conferences including the Green Transportation Summit and Expo and EV Roadmap.

3. Gather consumer input and facilitate public education about electric vehicles and cleaner fuels through partnerships and community collaboration.
   - Participated in the DOE funded Shared Mobility project to reach out to Transportation Network Company Drivers, educating drivers about the benefits of electrification.
   - Participating in the DOE funded VCI-MUD project assessing the barriers to EV charging in multi-unit buildings.

C. Inventory regional transportation greenhouse gas emissions to guide efforts and measure success.

- Estimated the air pollutant co-benefits of a clean fuel standard.
- Initiated comprehensive transportation emissions inventory & scenario forecasting project (with Ecology & PSRC).
- Completed a 2015 regional GHG inventory, in coordination with King County.

D. Motivate people to make more climate-friendly choices through education and outreach.

- Produced outreach materials including EV webpage, EV video, and information sheets.

E. Host and strengthen our support of the Western Washington Clean Cities Coalition.

- Met or exceeded contracted deliverables with the DOE.
- Launched new Coalition web site.
- Finalized Coalition strategic plan, annual operating plan.
- Delivered several Clean Cities events, including EV charging policy at work event and recognition dinners.
- Successfully transitioned the coalition hosting to the Columbia-Willamette Clean Cities in February 2021.

F. Influence regional transportation planning to advance low-carbon transportation infrastructure and policies.

1. Advocate a climate-friendly regional growth strategy.
   - Engaged in 2018 Transportation 2040 update process.
   - Partnered with the Puget Sound Regional Council and established the REV (regional electric vehicle) Collaborative supporting local jurisdictions as they prepare for transportation electrification and update their comprehensive plans.
   - Hosted twice yearly meetings on relevant topics relating to transportation electrification.
   - Initiated planning 'Transportation Electrification Clearinghouse' website to support local jurisdictions.

2. Advocate strong multi-passenger vehicle, transit, bicycle, and pedestrian infrastructure.
   - Engaged in 2018 Transportation 2040 update process.

3. Work with Puget Sound Regional Council and countywide forums to improve decision-making tools, models, and criteria, particularly for use in selecting transportation infrastructure projects for federal funding.
   - Worked with PSRC to improve CMAQ project emissions estimation tools.
   - Worked with PSRC to strengthen CMAQ project selection criteria.
   - Engaged in current task force to address project selection.

Excellence in Action – Employ the best people, policies, and practices to achieve our work

OBJECTIVE 3.1 – ATTRACT AND RETAIN EXCEPTIONAL STAFF

Target: 90 percent of employees recommend the Agency as a great place to work.

Target not met. Responses from employee surveys (the most recent being from 2017) and exit interviews reflect that less than 90 percent of staff recommend the Agency as a great place to work.

Strategies pursued:

A. Promote the Agency as an employer of choice in the Puget Sound region.

- Conducted multiple recruitments over the course of the plan, expanding and diversifying networks where Agency job listings are posted.
- Initiated partnerships with colleges, Human Resources associations, as well as other networks.

B. Use the full range of financial and workplace motivators to attract and retain quality staff.

- At the Board's direction, conducted salary surveys for Executive Director and managers.
- Conducted a job classification review and compensation survey for all positions.

C. Support continuous development for every staff member, ensuring high performance and satisfaction.

- Continued to offer Career Development Tuition and Training Reimbursement Program.
- Developed and adopted staff "individual development plans" to help staff to identify and pursue opportunities to achieve their career goals.
- Increased recognition of employee contributions and accomplishments (formally and informally).

D. Continue Agency policies, processes, and practices that instill a culture of respect and inclusiveness for all efforts and viewpoints.

- Provided a range of regular equity workshops for staff development.
- Conducted a process to define values and aligned behaviors, continuous steps towards a values-driven organization.

E. Ensure our staff at all levels increasingly reflects the diversity of our region.

- Continued awareness of implicit bias in hiring processes and actively working to reduce, e.g., implicit bias for all interviews and interview panels; redacting names of applicants, etc.
- Advertised recruitments broadly.

F. Develop program partnerships, fellowship and internship opportunities with institutions and organizations throughout our region.

- Developed internships and other engagement opportunities such as Visit Your Future for BIPOC youth, especially from our focus communities, to increase exposure to the Agency and the work we do.
- Initiated multiple partnerships with colleges, Human Resources associations, and other professional networks.

OBJECTIVE 3.2 – DEVELOP A CULTURE THAT INTEGRATES ENVIRONMENTAL JUSTICE AND EQUITY PRINCIPLES INTO OUR DAY-TO-DAY WORK AND DECISIONS

Targets:

- **Use of equitable practices and community engagement increases from 2014 to 2020.**
- **All employees engage in ongoing professional development and education in environmental justice.**

Targets met. The Agency's use of equitable practices and community engagement increased from 2014 to 2020 and the vast majority of Agency staff engage in ongoing professional development and education in environmental justice training or educational opportunities. There are many ways to get involved and the Agency continues to provide more opportunities. Although we met the targets, there is room for more progress as an organization in striving to eliminate inequities.

Strategies pursued:

A. Establish an equity review process for agency decisions, including potential for disparate impacts or unintended consequences.

- In 2020, launched an Agency-wide equity review process to examine internal processes that may either have unintended consequences for low-income and BIPOC communities, or processes that could be improved to ensure that equitable considerations are made up-front to avoid or minimize disproportionate impacts.
- First phase was completed in July of 2021, with projects including:
    - Mandatory implicit bias training and/or cultural learning training.
    - Review and revise the civil penalty cover letter.
    - Preferred name and spelling and pronunciation of staff.
    - Legal team racial equity training
    - Compliance assistance
    - Website translation
    - Enhance access to Minority owned and Women owned vendors
- Second phase was completed in December of 2021 with the conclusion of an effort by the Department of Clean Air Initiatives to develop a racial equity toolkit that they will use on future programs and projects. The toolkit will now be adapted and adopted across the Agency.

B. Develop and maintain the internal infrastructure, processes, and staff development necessary to support an environmental justice and equity culture.

- Launched and completed multiple management workshop series exploring equity, cultural competence, and practical applications.
- Provided a range of monthly equity workshops for staff development.
- Established cross-functional engagement teams dedicated to collaborative work around our Focus Communities.
- Included equity and environmental justice goals in all employee planning documents.
- Incorporated equity prompts and discussion during departmental meetings.
- Launched regular all staff equity workshop series that explores interpersonal, intrapersonal, institutional, and structural racism.
- Launched first phase of an Agency-wide racial equity toolkit in 2015. Relaunched initiative in 2020 using the past learnings from the first phase to help guide the development of actions, policies, initiatives, and programs to address their impact on racial equity.
- Developed Limited English Proficiency Plan that offers a framework for language access.
- Established racial caucusing for staff to explore issues of equity and race based on racially identified affinity groups.
- Developed internal monthly newsletter to create a learning platform for staff on topics of environmental justice, equity, racism, and more.
- Provided workshops for staff to participate with topics that include but not limited to race, equity, diversity, inclusion, allyship, bias, etc.

OBJECTIVE 3.3 – ENGAGE IN MEANINGFUL DIALOGUE AND OUTREACH WITH ALL SECTORS OF THE PUBLIC

Targets:

- **Public awareness of air quality issues increases 25 percent from 2014 to 2020.**
- **Three new organizations identified annually for partnership emphasis.**
- **Our technology platforms provide infrastructure availability 99.5 percent of the time.**

Targets met. Public awareness of air quality issues increased. Metrics from our social media, website, and other accounts, such as text or email subscribers, all grew significantly over the course of the plan. We formed many partnerships over the course of the plan, particularly within our focus communities, exceeding the annual target of three. Last, our technology platforms provided consistent and stable infrastructure availability more than the target of 99.5 percent of the time.

Strategies pursued:

A. Develop and continually enhance outreach tools (e.g., website, social media) to improve user interface and information accessibility and transparency, for the public and staff.

- Launched redesigned agency website.
- Technology platforms provided infrastructure availability well over 99.5 percent of the time.
- Significantly expanded social media presence and engagement.
- Launched the Burn Ban 411 app to the entire jurisdiction with major focus on wood smoke emissions reduction (no longer supported).
- Chaired NACAA Public Education & Outreach Committee.
- Updated Agency brand and visual interface.

B. Broaden our community connections by building new and strengthening existing relationships with partner organizations and involving them in our outreach.

- Began developing partnerships with several organizations in Focus Communities to involve in our outreach and community engagement.

C. Proactively reach out to communities by scheduling at least two presentations per county per year to schools, chambers of commerce, service clubs or other organizations.

- Delivered multiple presentations in Pierce, King, Kitsap, and Snohomish Counties.
- Participated in community-based events, both related to health & climate objectives and to raise visibility and awareness of agency.

D. Actively seek out local media coverage of air quality issues.

- Worked with media on several air quality issues, including regional wildfire smoke events, burn bans/wood smoke, and specific projects such as sensors, dust concerns, and monitors on bike-to-work participants, etc.

E. Engage and solicit input from community members and stakeholders in active dialogue on regional air quality and pollution prevention. Use tools that allow ease of stakeholder input and facilitate information incorporation into Agency decision making as appropriate.

- Used and developed appropriate tools to enhance dialogue with public. Looked for non-traditional ways to reach public, including expanding the burn ban 411 app, and increased use of text messaging.
- Evaluated potential best practices to engage the public in permitting processes. Decided to focus on internal recommendations to develop and solidify shared understandings and values regarding community engagement and environmental justice.

F. Identify highly impacted communities and develop effective mechanisms to mutually engage with them on air quality education and issues.

- Identified candidate Focus Communities and selected four to approach first: Seattle Duwamish, Seattle Chinatown/International District, Tukwila-Allentown, and Auburn/Algona/Pacific. Added Lakewood after merging Tukwila-Allentown into the Seattle Duwamish Focus Community.

G. Respond to our public's questions and concerns with exemplary customer service.

- Regularly responded to inquiries from our public.

H. Provide the public and our staff with better access to agency records by completing the transition to an online, electronic storage system.

- Transitioned to providing records to the public in electronic format primarily (instead of paper), which also improved efficiency of record access for staff.

OBJECTIVE 3.4 – BUILD THE AGENCY'S LONG-TERM FINANCIAL STRENGTH AND ENSURE ACCOUNTABILITY

Targets:

- **Deliver a balanced and sustainable annual agency budget.**
- **Assure financial reserve sufficiency.**
- **Achieve a clean audit each year.**

Targets met. The Agency delivered a balanced and sustainable budget each year, assured financial reserve sufficiency, and achieved a clean audit six of seven years. The one exception was a specific, technical finding and not related to the Agency's financial controls.

Strategies pursued:

A. Maintain and expand diverse funding sources matched to priorities.

- Revised budget documents to provide more meaningful information – applied standards recommended by the Government Finance Officers' Association (GFOA).
- Added a budget calendar, increased manager & staff involvement.
- Added out-year projections beyond the budget year as part of the budget risk analysis.
- Maintained a balanced budget each year.

B. Maintain an appropriate level of discretionary funds to ensure flexibility, manage risks, and provide for contingencies.

- Added, for the first time, a General Fund Reserve as a "Rainy Day Reserve."
- Added department reserves for the Compliance Division and a legal reserve.
- Enumerated the acceptable uses of previously collected civil penalties.
- Increased the unemployment reserve to cover the risks of agency-funded unemployment claims.
- Changed the interest income reserve to accumulate interest earned on reserves in the King County Investment Pool and set up guidance in the Financial Policies for the use of these funds.

C. Manage cash flows (liquidity and receivable collections).

- Established provision in Financial Policies to use civil penalty account balances to cover seasonal inter-month cash deficits.

D. **Maximize efficiency by continually seeking creative ways to provide the highest level of service per dollar.**

- Developed new time tracking system.
- Implemented electronic invoice scanning and retrieval, as well as online payments for some transactions.
- Converted to paperless paystubs.

E. **Maintain credibility and confidence of the public, Board, fee payers, partners, grantors, Advisory Council, auditors, and others by being accountable and transparent and by managing expenditures well.**

- Achieved annual clean audit reports from the State Auditor except for one year – did not implement GASB 75 (Post-Employment Benefits other than Pensions) on a timely basis.
- Implemented all applicable Government Accounting Standards Board pronouncements.
- Strengthened grant financial management – Grants Manual, contract training, subrecipient oversight, new grant award review processes.
- Improved financial controls through internal audits of contracts, purchasing activities and grant subrecipients.
- Prepared risk analysis for audit reporting.
- Provided consistent, timely, and meaningful financial performance reporting.
- Increased participation in government finance associations.

F. **Ensure fee-based programs cover the costs of administering them.**

- Strengthened long-term financial forecasting for the fee programs.
- Provided consistent, timely, and meaningful financial performance reporting.

OBJECTIVE 3.5 – BE A MODEL OF ENVIRONMENTAL SUSTAINABILITY

Target: Achieve carbon-neutrality by 2020.

Target not met; substantial progress. The Agency reduced its carbon footprint from nearly 450 metric tons of carbon dioxide in 2014 to 170 metric tons in 2020 (250 tons in 2019, a more 'typical' year pre-pandemic).

Strategies pursued:

A. Optimize our transportation choices to reduce emissions.

- Have replaced three of four monitoring vehicles with ZEV.
- Agencywide vehicle "Sparky" is ZEV.
- All inspection vehicles are hybrids; with more slated to transition to ZEV.
- Continued to provide transit pass to staff to encourage use of transit/ reduce single-occupancy vehicle trips.

B. Reduce our use of resources such as paper, water and electricity through conservation and efficiency measures.

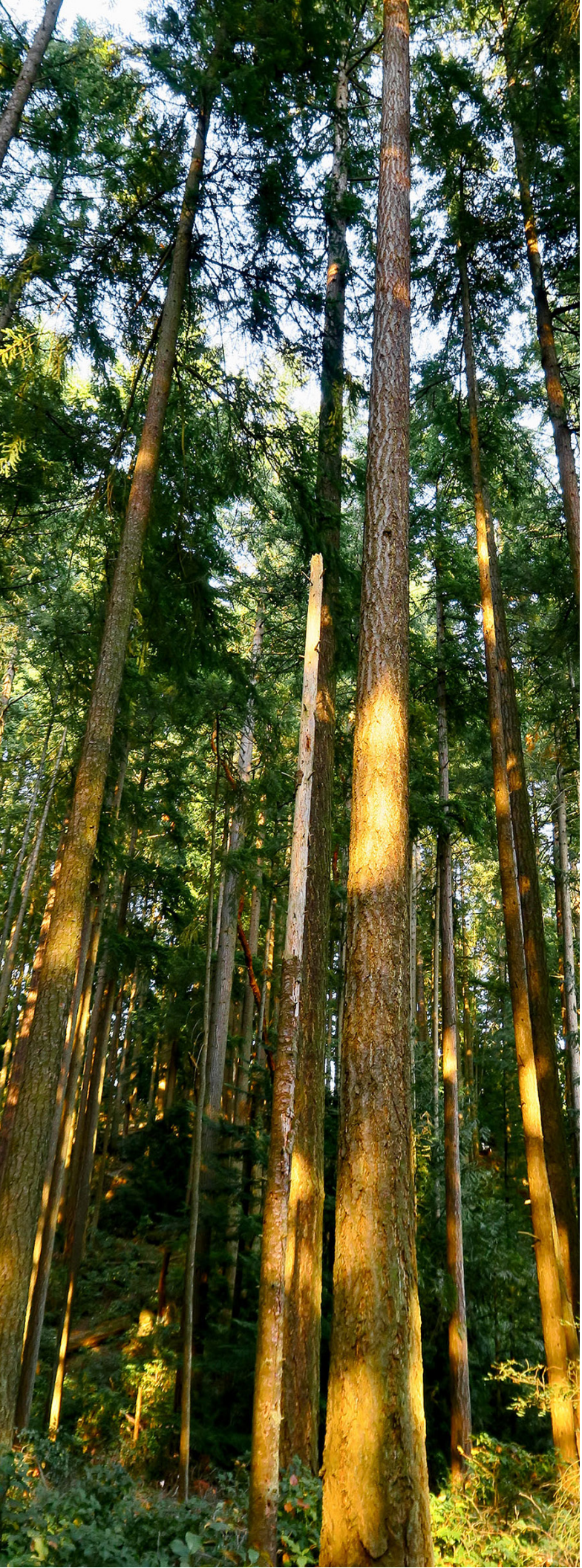
- Implemented hazardous waste collection.
- Conducted a waste audit and shared results with staff to encourage even greater recycling, reduction, and re-use.
- Converted to paperless paystubs.
- Reduced electrical consumption via LED lights, timers, etc.
- Implemented low-flow faucets.

C. Procure safe and environmentally friendly products.

- Reviewed office supply purchasing practices for greening opportunities.

D. Find offset projects within the region to bring agency operations' net climate impact to zero.

- The Agency reduced its GHG footprint from nearly 450 tons CO2 equivalent in 2014 to 170 tons in 2020. We will explore local offset projects to balance the remaining sum of our carbon footprint.



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