

# Senate Bill 5520-A (2013)

## Budget Note:

### Air Quality Standards

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DEQ is a leader in restoring, maintaining and enhancing the quality of Oregon's air, land and water.



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# Executive Summary – SB 5520-A Budget Note (2013) Air Quality Standards

This report responds to the budget note included in 2013 Senate Bill 5520-A, the Oregon Department of Environmental Quality budget bill. The budget note requested that DEQ report to an appropriate committee of the Seventy-Eighth Legislative Assembly on: The status of any national ambient air quality standards for ozone, a plan and timetable for a new or update of the current Portland ozone plan and how DEQ will analyze a number of factors that are part of an ozone plan including the Vehicle Inspection and Maintenance program also known as VIP. VIP is the cornerstone of the current ozone plan and the updated plan will evaluate the effectiveness of the program including reviewing how many newer model years to exempt from testing. The state's vehicle registration process must be taken into account when exempting model years so DEQ worked closely with the Driver and Motor Vehicle Division of the Oregon Department of Transportation in developing part of the report.

The federal health standard for ozone is currently set at a level that fails to provide adequate protection for human health. Following the five-year review cycle, EPA was expected to revisit the standard in 2013 however the EPA review was extended into 2014. In November 2014, EPA proposed to strengthen the ozone standard based on extensive scientific evidence about ozone's effects on public health and welfare. A significantly expanded body of scientific evidence, including more than 1,000 new medical studies since the last review of the standard, shows that ozone causes a number of harmful effects on health and environment. The current standard is 75 parts per billion (ppb) and EPA is proposing a new, more protective health standard within a range of 65 to 70 (ppb). However, EPA is also seeking comment on levels for the health standard as low as 60 ppb. EPA is expected to adopt the new standard by October of 2015.

Children and people with respiratory problems are most vulnerable, but breathing ground-level ozone can be harmful even for healthy people and can cause decreased lung function and inflammation of airways. In addition to these effects, medical evidence strongly indicates that for sensitive populations like children, the elderly, and those with existing medical conditions, higher daily ozone concentrations are associated with increased asthma attacks, respiratory distress, increased hospital admissions, and an increased risk of heart attacks and premature death.

Ground level ozone is a colorless gas that is formed in the atmosphere in the presence of sunlight by a chemical reaction of air pollutants such as oxides of nitrogen (NO<sub>x</sub>), carbon monoxide (CO) and volatile organic compounds (VOC). The reaction is most intense on hot summer days with poor ventilation. Cars and trucks contribute the most to emissions of NO<sub>x</sub> and CO emissions. Cars and trucks are also a significant source of VOC emissions. Other sources of NO<sub>x</sub>, CO, and VOC emissions include a wide range of activities and sources such as, solvent use, paints, industrial and commercial activity, and small engine use.

All monitored areas in the state comply with the current 75 ppb ozone standard; however, Oregon may experience compliance problems in the future depending on where EPA sets the final new ozone standard. For example, ozone levels in Medford, Hermiston, and Portland have recently averaged about 62 - 64 ppb. Variations in weather conditions from year to year play an important role in determining ozone levels and one stretch of hot and stagnant summer days could shift any of these communities into violation of a new, more protective ozone standard.

In the past, Portland violated the ozone standard and DEQ worked with the community to develop a plan, known as an attainment plan, to bring the community back into compliance with the standard. That initial plan was successful in meeting standards, allowing DEQ to develop an on-going "maintenance" plan that ensures the Portland area remains in compliance with health standards and the Clean Air Act, and avoids

a return of nonattainment status, despite continued growth pressures. Strategies in the Portland ozone plan also help maintain better visibility and public health in communities as far south as Salem and as far east as the Columbia River Gorge National Scenic Area. The last Portland ozone maintenance plan was submitted to EPA in 2007 and DEQ is due to submit a second plan update in 2017.

Over the years, Portland has successfully reduced ozone levels by implementing strategies to control emissions from motor vehicles, industry, and a variety of other sources. These existing strategies play a vital role in preventing future violations of the standard and avoiding a return to nonattainment, which has significant adverse public health and economic consequences for the community.

When EPA promulgates the new standard in late 2015, DEQ will evaluate ozone measurements to determine Oregon's compliance status. If ozone levels in Portland exceed the new standard, DEQ will need to consider adding new emission reduction strategies to restore healthy air quality and bring the area back into compliance by the applicable Clean Air Act deadline. This plan would be due in 2018 and would replace the 2017 maintenance plan update. If ozone levels are below the new standard, DEQ will evaluate the existing suite of emission reduction strategies to ensure they are adequate to maintain compliance and avoid a return of nonattainment over the next decade despite forecasted growth in population, regional motor vehicle travel, and changes in economic activity. This evaluation would be incorporated into the Portland 2017 maintenance plan submittal.

The current suite of ozone reduction strategies in the Portland plan also reduces other types of air pollution, such as toxic air pollution and greenhouse gases. For example, the Portland ozone plan includes measures that reduce industrial air pollution, which is also a source of both ozone and toxic pollutants such as cadmium, manganese and nickel. Car and truck emissions are collectively the single greatest contributor to ozone pollution in Portland and they are also significant sources of toxic air pollutants. VIP is an example of a strategy that provides multiple pollution reduction benefits for ozone, carbon monoxide, fine particulate, greenhouse gases, and air toxics. If ozone strategies are evaluated for elimination, DEQ will consider the extent to which those lost emission reductions must be made up by different strategies affecting different sectors of the economy. DEQ would also consider the extent those strategies help reduce pollutants besides ozone. If changes to the Portland ozone plan are warranted, they would be developed using DEQ's public rulemaking process, which includes input from stakeholder groups, elected officials, state and federal agencies, and the public.

Over the years, Portland has successfully reduced ozone levels by controlling emissions from motor vehicles, industry, and a variety of other sources. These existing strategies play a vital role in preventing future violations of the standard and avoiding a return to nonattainment, which has significant public health and economic consequences for the community. The existing strategies act as an insurance policy against a return to nonattainment. DEQ's next maintenance plan will evaluate expected growth in local and regional air pollution as well as account for the variations in meteorology that affect ozone levels to ensure the area remains in compliance.

# 1. Introduction

## 1.1 Budget Note

The 2013 Natural Resources Ways and Means sub-committee approved SB 5520-A which included the following budget note:

*The Department of Environmental Quality shall report to the appropriate committee of the Seventy-Eighth Legislative Assembly on: The status of any national ambient air quality standards proposed, under consideration for proposal, or adopted by the US EPA pertaining to ozone; and the department's plan and timetable for developing and implementing a comprehensive strategy to meet the revised national ambient air quality standards for ozone upon adoption by the US EPA. The plan shall describe how the department will analyze: current ozone levels and trends as compared to the ozone standard; air pollution sources contributing to ozone pollution; emission reduction strategies needed to achieve and maintain compliance with the ozone standard; impacts on human health and the environment; compliance with state and federal law; impacts on affected economic sectors; and other information determined to be relevant by the department.*

*The plan shall also describe how the department will assess the Vehicle Inspection Program, including but not limited to : what, if any, modifications to the program are needed to meet the ozone standard and reduce other pollutants such as air toxics; the impact on affected economic sectors of any changes to the Vehicle Inspection Program; options for exempting vehicles from the inspection requirement and the impact on the vehicle registration process of any changes to the Vehicle Inspection Program. The exemption options and impact analysis would be done in consultation with the Driver and Motor Vehicle Division of the Department of Transportation.*

## 1.2 Status of Ozone Standard

The federal Clean Air Act requires the U.S. Environmental Protection Agency to set National Ambient Air Quality Standards for pollutants such as ozone that are considered harmful to public health and the environment. The Clean Air Act also requires EPA to review and update the standards every five years to ensure that they provide adequate protection. The current ozone standard was enacted in 2008 when EPA established an 8-hour ozone standard at a level of 75 parts per billion (ppb). EPA was expected to revisit this standard again in 2013; however that work was delayed for a year.

On November 25, 2014, EPA proposed to strengthen the standards for ozone based on extensive scientific evidence about ozone's effects on public health and welfare. A significantly expanded body of scientific evidence, including more than 1,000 new medical studies since the last EPA review, shows that ozone levels even lower than 75ppb can cause harmful effects on human health and the environment.

The Clean Air Act requires EPA to set two types of outdoor air quality standards for ozone: a primary standard, to protect public health with an "adequate margin of safety," including the health of at-risk groups; and a secondary standard, to protect the public welfare, such as protecting agricultural crops and ecosystems. EPA is proposing to set more protective values for both the primary and secondary ozone standards within a range of 65 to 70 parts per billion (ppb). However, EPA is also seeking comment on levels for the health standard as low as 60 ppb.

EPA staff experts and the agency's independent science advisors, the Clean Air Scientific Advisory Committee (CASAC), concluded that scientific evidence supports a standard within a range of 60 to 70 ppb. CASAC advised that, based on the scientific evidence, a level of 70 ppb provides small margin of

safety for the protection of public health, particularly for sensitive populations and it may not meet the statutory requirements to protect public health with an adequate margin of safety. Thus, CASAC advised EPA to set the level of the standard lower than 70 ppb within a range down to 60 ppb.

The final decision on the adequacy of the current standard and consideration of potential alternative standards is a public health judgment yet to be made by the EPA Administrator. EPA will seek public comment on the proposal for 90 days following publication in the Federal Register, hold three public hearings and will issue the final ozone standards by October 1, 2015.

### 1.3 Ozone Health Effects

In urban areas such as Portland, ground level ozone mixes with other pollutants to create an air pollution condition known as smog. Ground level ozone is harmful because it damages living cells, such as those present in the linings of the human lungs. It can impair visibility and damage crops, trees, and other vegetation.

There is comprehensive evidence showing the harmful effects of ozone on our health. When inhaled, ozone can irritate and inflame the lining of the lungs, much like sunburn damage on skin. Children and people with respiratory problems are most vulnerable, but breathing ground-level ozone can be harmful even for healthy people and can cause a decrease in lung function and inflammation of airways. Children are more sensitive to ozone because they often play outdoors in the summer when ozone levels are higher. Their lungs are still developing and they are more likely to have asthma. Older adults may be more affected because they are more likely to have pre-existing lung disease. Active people of all ages who exercise or work vigorously outdoors also have a higher exposure to ozone.



**Figure 1. Ozone or “smog” pollution is particularly harmful to sensitive people like the elderly and children. People who suffer from heart disease or lung-related illnesses are also more sensitive to smog.**

In addition to these effects, medical evidence strongly indicates that higher daily ozone concentrations are associated with increased asthma attacks, increased hospital admissions and increased incidents of death.

### 1.4 Ozone National Ambient Air Quality Standard in Oregon

Historically, there are three communities in Oregon that violated the national ambient air quality standard for ground level ozone: Portland, Salem, and Medford. All three communities exceeded the 1-hour ozone standard in the 1970s and 1980s. The 1-hour standard was replaced by the more health-protective 8-hour ozone standard established in 1997.

The Medford – Ashland Air Quality Maintenance Area was designated as a nonattainment area for ozone in 1978. The Environmental Quality Commission adopted an ozone control strategy for Medford-Ashland AQMA in 1979 that relied on federal motor vehicle emission controls and industrial source emissions controls. The ozone levels in the Medford-Ashland area improved significantly with the controls and the area has been in continuous compliance with the 1-hour ambient ozone standard since 1979. The maintenance plan was developed in 1985 and the EPA re-designated the area as an attainment area for the 1-hour standard in 1986. There have been no violations of the 8-hour standard in Medford however; the current ozone levels (64 ppb) are very close to the proposed standard.

The Portland-Vancouver Air Quality Maintenance Area (AQMA) was also designated nonattainment for the 1-hour ozone standard in 1978. The first Portland-Vancouver AQMA Ozone Attainment Plan was adopted in 1982 and approved by EPA the same year. Control strategies included the Vehicle Inspection Program, vehicle trip reduction and traffic flow improvements, industrial emissions controls, and area source controls on gasoline station vapors were added in 1991. Although the ozone levels in Portland had decreased due to the control measures, ozone was still above the standard and the Portland-Vancouver AQMA was designated a “marginal” ozone nonattainment area under the 1990 Clean Air Act Amendments. The reduction strategies continued to bring improvements to the Portland’s air and in 1996, Portland attained compliance with the 1-hr ozone standard, allowing the first maintenance plan to be developed and was adopted. In 2005, EPA revoked the 1-hr ozone standard and DEQ was required to develop a new maintenance plan for Portland based on the new, 8-hr ozone standard. That maintenance plan was adopted and submitted to EPA in 2007. DEQ plans to update that plan in 2017 to ensure continued compliance with ozone standards.

The Salem-Keizer area was the third community in Oregon to be designated as nonattainment for the 1-hour ozone standard in 1978. Their Ozone Attainment Plan was developed by DEQ and approved by EPA in 1982. Emissions reduction strategies included controls on industry in the area. The plan also relied on the emission reductions in the Portland area since Salem is downwind from Portland and the pollution from Portland is transported to the Willamette Valley. In 2007, DEQ developed and submitted to EPA the Salem Keizer area maintenance plan. Ozone levels in Salem are currently at 60 ppb and there is no immediate risk of violating a new ozone standard in the 65-70 ppb range proposed by EPA.

## **1.5 Sources of Ozone Pollution**

Ground level ozone is a colorless gas that is formed in the atmosphere in the presence of sunlight by a chemical reaction of oxides of nitrogen (NO<sub>x</sub>), carbon monoxide (CO) and volatile organic compounds (VOC). The reaction is most intense on hot summer days with stagnant air conditions. The last maintenance plan for Portland identified sources of these pollutants and their respective contribution to the total emissions. Figure 2 shows that cars and trucks contribute the most to emissions of NO<sub>x</sub> and CO, while the VOC emissions come predominantly from other sources including solvent use and paints. Cars and truck are also a significant source of VOC pollution.

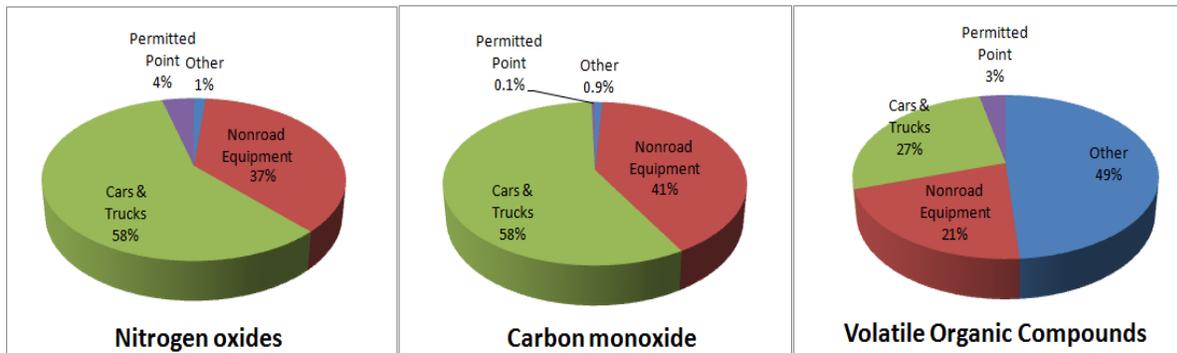


Figure 2. 2006 SIP base-year emission inventory, typical ozone season day emissions.

## 1.6 Ozone Levels and Trends

A key measure for assessment of whether an area meets or exceeds the NAAQS is ambient air quality monitoring data. DEQ operates five monitors within and near the Portland area, continuously measuring ambient ozone levels. The measurements collected by these monitors are used to define the nature and severity of ozone pollution, identify ozone pollution trends and determine compliance with the ozone standard. Figure 3 shows the location of the ozone monitors in the Portland area.

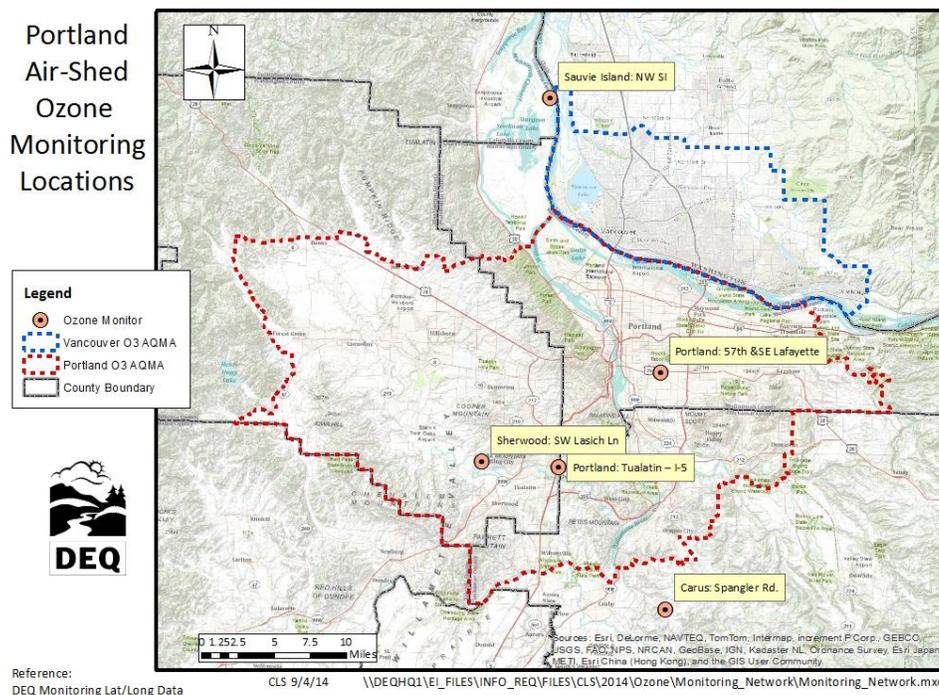
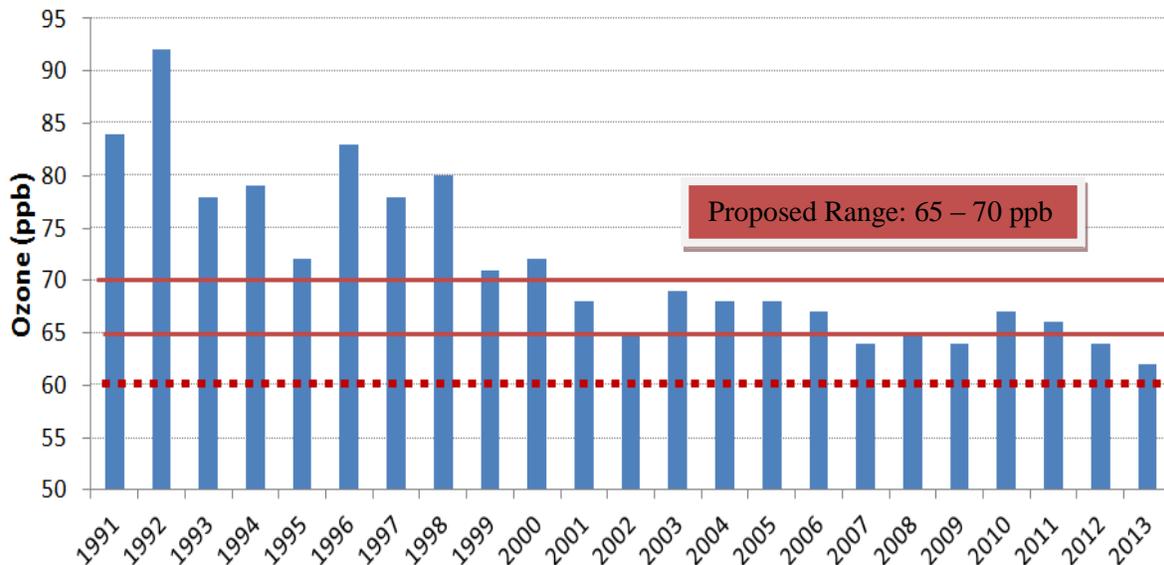


Figure 3. Ozone monitoring locations in the Portland area

Ozone levels generally are higher in urban areas where there are more vehicles, industrial sources and other emissions sources. However, winds can carry ozone from the urban core to surrounding suburban and rural areas and even to neighboring states. The chart in Figure 4 shows the ozone for the Carus monitoring site. The Carus monitor is located south of Portland, where ozone measurements are traditionally the highest. The range for the new ozone standard EPA is proposing 65 – 70 ppb is shown

between the two red lines. However, EPA is also taking comments on the standard being as low as 60 ppb which is shown by the dashed red line.



**Figure 4. 3-year average of 4<sup>th</sup> highest annual eight hour ozone value, the statistical value that is compared to the proposed ozone standard, 1991-2013: Carus Monitoring Site. Source: DEQ Monitoring Data**

EPA uses a statistical method of comparison for the ozone standard. The procedure identifies daily maximum eight-hour averages of ozone concentrations and selects the fourth highest value averaged over three years to be compared to the standard.

The average ozone levels in Portland have declined since the 1990s due to effective emission reduction strategies. Variations in weather conditions from year to year play an important role in determining ozone levels. As recently as 2010 and 2011, ozone at the Carus monitor was above 65 ppb. Realizing the complex nature of ozone formation that is dependent both on emissions and weather, it is difficult to predict whether ozone at Carus will stay below the proposed range for the new standard in the future. DEQ’s next ozone plan will evaluate expected growth in local and regional air pollution as well as account for the variations in meteorology that affect ozone levels.

## 1.7 Current Air Protection Measures

Over the years, Portland has successfully reduced ozone levels by controlling emissions from motor vehicles, industry, and a variety of other sources. These existing strategies play a vital role in preventing future violations of the standard and avoiding a return to nonattainment, which has significant public health and economic consequences for the community. The existing strategies act as an insurance policy against a return to nonattainment. The following strategies currently apply to sources in the Portland area:

- **Motor Vehicle Inspection and Maintenance Program** (OAR 340-256-0300 through 0470). All new cars and trucks must meet stringent pollution standards but they continue to meet these standards only if the emission controls and the engine are both functioning properly. Vehicles that are not maintained properly or that have malfunctioning emission controls emit pollution at levels exceeding these standards. Even minor malfunctions can cause increased emissions. The Vehicle Inspection program is one of the most significant control measures in place. VIP ensures that

vehicles are properly maintained by either measuring exhaust from tailpipes or checking that the emission control system is working properly.

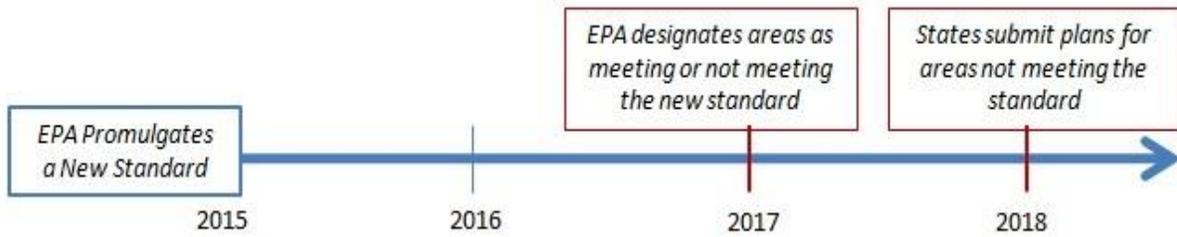
- **Emission Standards for VOC Point Sources** (OAR 340-232-0010 through 0230): Existing regulated major industrial sources must meet the Reasonably Available Control Technology (RACT) for VOC. This is the least stringent standard set forth by the EPA.
- **New Source Review Program** (OAR 340-224-0010 through 0100 and 340-225-0010 through 0090): Within a designated maintenance area, proposed new or expanding major sources must meet the Best Available Control Technology (BACT) requirements.
- **Industrial Emission Management Program** (OAR 340-242-0400 through 0440): Establishes the industrial growth allowance for new and modified major industrial sources. All new or expanding major industrial sources within 100 km of the Portland ozone maintenance area are required to evaluate, and if necessary reduce, their impact on ozone levels in Portland.
- **Voluntary Parking Ratio Rules** (OAR 340-242-0300 through 0390): This program encourages property owners to voluntarily locate and design facilities that need less parking by building in a more pedestrian, bicycle and transit-friendly manner.
- **Employee Commute Options Program** (OAR 340-242-0010 through 0290): Portland area employers with more than 100 employees are required to implement programs that would reduce single-occupancy commute travel by 10%. Programs include, among others, transit and vanpool subsidies, compressed work weeks, telecommuting and bike/walk incentives.
- **Barge Loading Rules** (included within OAR 340-232): Control VOC emissions from gasoline delivery operations.
- **Aerosol Paint Rules** (OAR 340-242-0700 through 0750): Apply to any manufacturer, distributor, retailer or commercial applicator of spray paint for sale or use in the Portland area and require spray paints to comply with the VOC content limits.
- **Motor Vehicle Refinishing Rules** (OAR 340-242-0600 through 0630): Require low-emitting painting methods at auto body shops.
- **Public Education and Outreach**. Encourages people to voluntarily reduce emissions such as not mowing lawns and driving less on Clean Air Action Days (now called Air Pollution Advisories).
- **Gasoline Station Stage I and II Vapor Recovery** (OAR 340-242-0500 through 0520): Stage I controls require the gasoline dispensing facilities to install vapor tight recovery systems to prevent vapor loss from underground storage tanks when being refilled by tank trucks. Stage II requires gasoline stations to install systems that capture vapors during the fueling of motor vehicles.

## 2. Plan Development

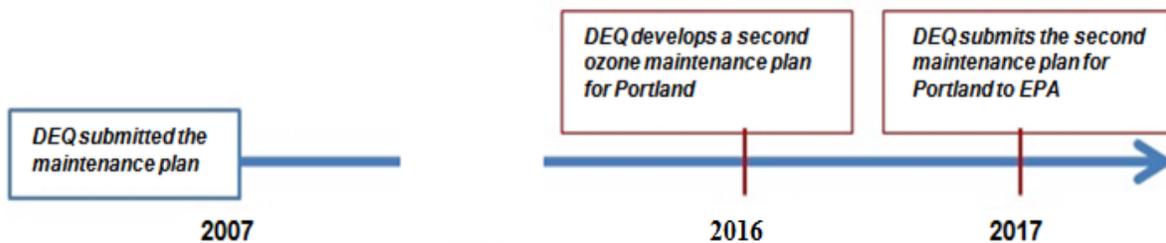
### 2.1 Ozone Plan Timeline

When EPA revises the national ambient air quality standards, states and EPA must undertake specific obligations to ensure the standards are met. Within two years after promulgation, with input from the states and tribes, EPA must identify areas as meeting or not meeting the standard based on the air monitoring data. EPA will select a 3-year period of monitoring data to be used for determination at the time when the new standard is adopted. Within three years after promulgation, the states must submit plans for each violating community, known as State Implementation Plans to show they have the basic air quality management program components in place to implement a new or revised standard, as specified in Clean Air Act section 110. If any Oregon community is found to be violating the new ozone standard, the Clean Air Act requires a new attainment plan with new emission reduction strategies to restore healthy air

quality. The following timeline illustrates the major events assuming the new standard is promulgated in 2015 and ozone levels in one or more Oregon community is above that standard.



Even if ozone levels in Portland are below the new standard, it is time for DEQ to update the current ozone maintenance plan, propose rules for any plan changes and submit the plan approved by the Environmental Quality Commission to EPA for their review. The update is required 10 years after the first maintenance plan in order to show to EPA that the community continues implementing reduction measures necessary to keep the area in attainment with the standard. In 2007, DEQ submitted the latest maintenance plan for Portland that relied on strategies focusing on emission reductions from vehicles, industry, paints and household products (strategies are listed in Section 1.7). Therefore the next ozone maintenance plan for Portland is due in 2017. The chart below shows the timeline for an update.



## 2.2 Determining Air Pollution Sources

### 2.2.1 Emission Inventory

To assess air quality for the next plan, DEQ will develop a baseline air pollutant emission inventory (EI) to determine the primary sources of air pollution. A baseline EI provides the most current and comprehensive data on emissions within an air-shed. The inventory also serves as a foundation for measuring progress in emissions reductions.

For ozone emission inventories, current EPA guidance recommends that the EPA National Emission Inventory (NEI) be used as a starting point for the baseline EI and that the inventory be as comprehensive as possible. The inventory focuses primarily on the three air pollutants that contribute most to ozone formation: volatile organic compounds (VOC), oxides of nitrogen (NO<sub>x</sub>) and carbon monoxide (CO). DEQ will gather emissions estimates for industry, on-road vehicles, non-road vehicles and equipment, stationary area sources and natural sources. As in past baseline inventories when there are data gaps, DEQ will also rely on custom calculations, expert judgment, survey results, emissions modeling and consultation with EPA staff to generate emissions estimates. Once the inventory is as comprehensive and accurate as possible, DEQ will input the data into an air quality model in order to estimate pollutant levels.

### 2.2.2 Estimating Pollutant Levels: Modeling

Air quality modeling uses a set of tools to simulate what future air pollution monitoring would be. It is often used to demonstrate the effectiveness of various control strategies. The process includes the calculation of a base year design value, which is a measure of air quality at the present time using monitoring data, and the modeling of a future year design value, which is an estimate of expected future air quality conditions.

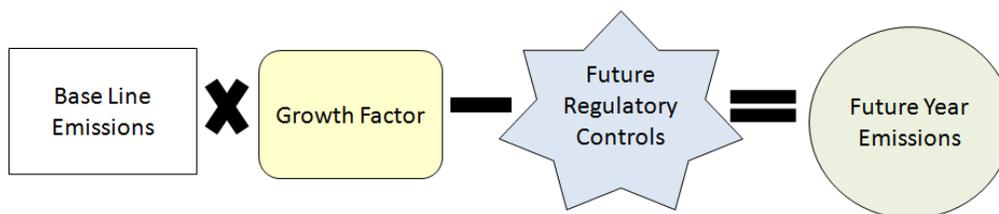
The use of air-quality models requires substantial effort and time. Modeling efforts are often preceded by analysis of all available air quality, emissions and meteorological data. Close work with EPA during the analysis increases the likelihood that DEQ's air quality analysis will be approved by EPA. Some of the significant issues regarding air quality modeling as part of the attainment demonstration can include:

1. selecting appropriate model(s)
2. determining the geographic area to be covered by the modeling
3. selecting the meteorology and set of days that are optimal for ozone formation, including such factors as wind direction, air stability, temperature, and solar radiation
4. validating the model to determine how well the model compares to DEQ ozone monitoring data.

Initial model results usually inform further modeling efforts. It is an iterative process that leads to the goal of an accurate prediction of future pollutant levels. DEQ will use model outputs, as well as other supporting analyses, to provide corroborative evidence concerning the effectiveness of different proposed strategies.

### 2.2.3 Projection of Emissions Estimates

To evaluate future air quality conditions, DEQ will investigate the impact of current strategies and existing rules on projected future emissions. DEQ will project emissions estimates by applying growth factors to baseline emissions data and will subtract any emissions controlled by federal and state regulations. Figure 5 shows the elements of emissions inventory projection.



**Figure 5. Emissions projection process**

For population-based emissions, DEQ will project base year emissions using growth factors developed by the Portland State University Population Research Center. To project emissions from other source categories in the Portland air-shed, DEQ will likely use economic and employment forecast data developed by Metro, the federally designated metropolitan planning organization for the Portland metropolitan area. As part of the projection process, DEQ will assess the effect of existing and future ozone controls and strategies. In addition to the current controls discussed in Section 1.7, DEQ will account for the impact of these existing programs that have been implemented since the last ozone plan:

- National Emission Standards for Hazardous Air Pollutants
- Oregon's Heat smart rules
- Requirements for canisters in car fuel systems that capture benzene and other vapors (i.e. Stage-II vapor recovery)

DEQ will work with Metro to develop future on-road vehicle emissions estimates. Future year vehicle activity will account for predicted changes in land use, traffic networks and other factors. Activity will also reflect applicable policy mandated by the Oregon Sustainable Transportation Initiative (OSTI). Additionally, Metro will employ the most recent EPA mobile emission rate model to forecast vehicle emissions. The model allows for assessment of impacts from the following existing rules:

- State rules
  - DEQ Vehicle Inspection and Maintenance Program
  - Federal and local renewable fuels standards
  - Low-Emission Vehicle rules (including zero emission vehicles)
- Federal rules
  - EPA Tier 3 Vehicle Emission and Fuel Standards
  - EPA and National Highway Traffic Safety Administration Greenhouse Gas and Corporate Average Fuel Economy Standards

#### **2.2.4 Ensuring Continued Compliance**

Portland is currently in compliance with federal ozone standards because of the emission reduction controls listed in Section 1.7. After the new ozone standard is promulgated in 2015, DEQ will evaluate the adequacy of the current air quality plan to ensure the Portland metro area remains in compliance with federal health standards. The current suite of ozone strategies also improves visibility and reduces other types of harmful air pollution, such as toxic air pollution and greenhouse gases. In plan development, DEQ will evaluate the Portland ozone plan through this multi-pollutant lens to better describe the complete benefit the plan provides for public health.

For example, gasoline and diesel engines are collectively the single greatest contributor to ozone pollution in Portland and also a significant source of toxic air pollutants. DEQ's VIP program is an example of a strategy that provides multiple pollution reduction benefits for ozone, carbon monoxide, fine particulate, greenhouse gases, and air toxics. The Portland ozone plan also includes measures that reduce industrial air pollution, which are a source of both ozone and toxic pollutants such as cadmium, manganese and nickel. The suite of air pollution reduction strategies in the Portland ozone plan also reduce smog and other air pollutants across a regional scale, including as far south as Salem and as far east as the Columbia River Gorge National Scenic Area.

As part of the next plan evaluation, DEQ will look at the comprehensive effectiveness of the plan including the adequacy of the current Portland-Vancouver Ozone Maintenance Area boundaries, the VIP boundary, the number of model years exempted in the VIP program, as well as the costs and benefits of strategies across different sectors of the economy, including impacts to local and state government, businesses, and the public. DEQ will carefully evaluate the risks of future noncompliance, including the risk of backsliding if strategies are considered for elimination. The main objective in DEQ's evaluation will be to prevent any return of federal nonattainment status, which has both serious negative public health and economic consequences for any area. Relaxing or eliminating existing ozone strategies would need to be evaluated carefully along with considering the extent to which those lost emission reductions must be made up by different strategies affecting different sectors of the economy. If changes to the Portland ozone plan are warranted, they would be developed using DEQ's public rulemaking process, which includes input from stakeholder groups, elected officials, state and federal agencies, and the public.

## 2.3 DEQ and DMV Coordination Regarding Current Model Year Exemptions

Ensuring compliance with emissions testing in Oregon takes close coordination between DEQ and the Driver and Motor Vehicle Services Division (DMV) of Oregon's Department of Transportation. The timing of the emissions test must align with DMV's registration cycle. When a vehicle is due for DMV registration renewal, or initial registration if new to the state, it must comply with pollution control equipment requirements if registered within a DEQ boundary. Until a vehicle passes the test, registration cannot occur. Oregon provides a one-stop-shopping experience for motorists visiting testing stations. In addition to issuing Certificates of Compliance for vehicles, DEQ can renew vehicle registration and issue registration stickers to the same compliant vehicles. This coordination of vehicle registration is authorized by, and done on behalf of, DMV.

As a part of the 2007 amendment to Oregon's ozone State Implementation Plan (SIP), the Environmental Quality Commission (EQC) exempted the four most current model year vehicles from emissions testing. The EQC's selection of a four year exemption was based on a comprehensive set of data available at that time; including the ozone standard, vehicle emission control technology, technical work and public input. The amount of current model years to exempt in the upcoming ozone SIP would be determined using the most up-to-date similar set of data. Regardless of how many current model years would be exempt, both DEQ and DMV would take into account the following:

- The timing of DEQ's emissions test must continue to align with DMV's statutorily prescribed four-year registration cycle for brand new vehicles and the two-year standard registration renewal cycle. A vehicle's first emissions test would occur when the vehicle's model year exemption has ended, which must correspond with the DMV registration renewal cycle for the vehicle. If the DEQ model year exemption period is longer than four years, then DMV would need new business processes and computer programming to not require emissions testing as a prerequisite for vehicle registration renewal for those model year vehicles. The Proof of Compliance with pollution control equipment requirements (ORS 815.310) would be the factual proof that the vehicle's model year is within the exemption period of Oregon's ozone SIP.
- Both agencies would need to modify their computer systems to ensure that motorists of appropriate vehicles do not receive notification to be tested and are not tested during their period of model year exemption. To help minimize system changes, the agencies would continue to align the DEQ testing requirement with DMV's registration cycle. Model year exemptions must not interfere with DMV's existing registration cycle for vehicles.
- The agencies would propose any necessary administrative rule or interagency agreement changes.
- Both agencies utilize policies, procedures and forms to consistently and clearly implement transactions for the motoring public. These would be updated or additional ones would be created to reflect any change in the amount of model years exempted.
- The agencies would use various communication methods such as the internet, factsheets, mailings, radio, newsprint and possibly TV news to reach the general public, fleet owners and dealerships about any change in the amount of model years exempted.

There would be a fiscal impact on both agencies from exempting additional model years. The estimated fiscal impact on workload/expense and revenue would depend upon the number of model years exempted from testing. Suffice it to say that the fewer vehicles that require testing means less workload and less revenue for DEQ. The fewer vehicles renewing registration via DEQ means more workload and costs for DMV, especially if vehicle owners choose to renew in DMV field offices instead of less expensive modes like mail or online.