



Environmental Quality

*“Managing the effects of human impacts on air,
water, and land resources.”*





ADOPTED AMENDMENTS

| EFFECTIVE DATE | CPA# | CHANGES |
|---------------------------|-------------|--|
| 01-10-08 | 2007-00001 | Entire chapter updated by Ordinance 07-22. |

SECTION COVER PHOTO: DOUG VORWALLER
Tigard sunrise.



Environmental Quality addresses the quality of air we breathe, water in aquifers, wetlands, streams and lakes, and the responsible management and disposal of waste. Environmental quality is essential for a high quality of life, including a strong and sustainable economy. Therefore, Portland metropolitan area governments and agencies, in cooperation with state and federal governments, have developed systems to address urban development’s impacts on air, water, and land resource quality. This includes measures to prevent environmental degradation and the need for conservation. Statewide Planning Goal 6 requires Oregon jurisdictions to adopt Comprehensive Plans that provide goals and policies as the basis to manage the impact of developments on air, water, and land resources.

GOAL 6: Air, Water and Land Resources Quality

“To maintain and improve the quality of the air, water, and land resources of the state.”

The community’s vision is for a future where the character and livability of Tigard is enhanced by the quality of the surrounding environment. The citizens know the importance of participating in regional partnerships, of ensuring the natural resource systems function to provide clean air and water, and of developing land use patterns and a multi-modal transportation system that reduces the dependency on the automobile. Furthermore, it is recognized that expected population growth in the region will require further effort and innovation to protect environmental quality.

At the local level, Tigard can protect environmental quality by ensuring its land use policies, codes, and standards are up-to-date with contemporary best management practices; that it is compliant with state and federal environmental laws and administrative rules; and that it leads by example in employing environmentally sound and sustainable practices in its municipal operations. The City also has an opportunity to inform its citizens on how changes in daily life can improve environmental quality.

Section 1: Air Resources Quality

Clean air is essential for human well-being. Furthermore, if a region violates federal and state clean air rules, there can be significant negative impacts on the economy as a result of mandated actions to improve air quality. To ensure access to clean air, the federal Clean Air Act was created as the primary regulatory framework for national, state, and local efforts to protect air quality. Under the Clean Air Act, the Environmental Protection Agency (EPA) is responsible for



setting standards, known as National Ambient Air Quality Standards (NAAQS), for pollutants considered harmful to people and the environment. Air quality planning is focused on meeting the NAAQS and setting deadlines for meeting these standards.

The Oregon Department of Environmental Quality (DEQ) is responsible for protecting Oregon’s air quality by issuing permits, developing programs, and monitoring air pollution to ensure communities meet the NAAQS, and to protect Oregon’s pristine views. Air pollutants identified in the 2005 DEQ *Air Quality Report* as the greatest concern in Oregon are:

- Ground-level ozone, commonly known as smog;
- Fine particulate matter (mostly from wood smoke, other combustion sources, cars, and dust);
- Hazardous air pollutants (also called Air Toxics); and
- Carbon monoxide (mostly from motor vehicles).

As air quality does not know political boundaries, regional efforts were established to monitor and plan for pollutants. The City of Tigard is part of the Portland Area Airshed (PAA), which is defined by the Metro service boundary.

The DEQ is responsible for ensuring the PAA meets the national standards, and developing the necessary plans to continue compliance. Currently, the PAA meets all NAAQS standards (three-year averages are used to determine attainment/non-attainment of the standards: eight-hour ozone, particulate matter, and carbon monoxide). However, DEQ is required to develop maintenance plans for carbon monoxide and ozone to ensure continued compliance.

At the local level, the City can have a positive impact on air quality. Land use, transportation, and public facility planning can promote land development patterns and transportation systems that reduce dependence on the automobile. The City can coordinate with the Oregon Department of Environmental Quality to ensure that industries requiring DEQ permits comply with state and federal regulations. Also, the City can protect existing natural

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areas and mature trees, and promote and participate in tree planting efforts. Vegetation has the natural ability to convert and sequester carbon dioxide, and produce oxygen. Trees and shrubs can also serve to screen and buffer dissimilar land uses, and lessen noise pollution. The City can also ensure its codes and regulations prevent and mitigate other negative air quality impacts associated with urban development such as visible emissions, odors, glare, and heat.

KEY FINDINGS:

- Within urban areas, air quality is often much worse along major roadways.
- DEQ has issued six active Air Contaminant Discharge Permits (ACDP) within the City to regulate minor sources of contaminant emissions.



PHOTO: CITY STAFF

Mt. Hood over SW Gaarde Street.

- Motor vehicles are now the primary source of air pollution in Oregon and, due to population increases, the number of miles driven daily by Tigard residents has increased 67% since 1990.
- The primary sources of household pollutants in Tigard include wood burning fireplaces, and lawn and garden equipment.
- The Oregon Legislature adopted a number of specific measures to address air quality in the region.
- The citizens of Tigard value trees and natural resources and feel that protecting these resources will benefit the community.

GOAL:

6.1 Reduce air pollution and improve air quality in the community and region.



POLICIES:

1. The City shall require that all development complies with or exceeds regional, state, and federal standards for air quality.
2. The City shall support regional and state plans and programs to attain regional, state, and federal standards for air quality.
3. The City shall promote land use patterns which reduce dependency on the automobile, are compatible with existing neighborhoods, and increase opportunities for walking, biking, and/or public transit.
4. The City shall continue to investigate and implement practices that reduce air pollution associated with municipal operations.
5. The City shall cooperate with other public agencies to minimize localized transportation impacts to air quality through intersection improvements, access management, intelligent transportation systems, etc.
6. The City shall encourage the maintenance and improvement of open spaces, natural resources, and the City's tree canopy to sustain their positive contribution to air quality.
7. The City shall improve the Environmental Performance Standards to minimize impacts from noise and light pollution.
8. The City shall encourage citizens to reduce air quality impacts associated with household activities.

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RECOMMENDED ACTION MEASURES:

- i. Perform a land use analysis to identify residential zones that could potentially accommodate mixed use or neighborhood commercial development.



- ii. Adopt and implement development regulations that include provisions or incentives for alternative transportation use, particularly in Metro designated corridors and centers.
- iii. Perform a sidewalk inventory that results in a Citywide GIS layer to be used for gap analysis, and the creation of a sidewalk improvement plan.
- iv. Identify neighborhoods underserved by public transit and seek improvement to service in these areas.
- v. Pursue funding for transportation related projects that would reduce congestion by improving flow, but not by increasing capacity.
- vi. Expand the Free Street Tree Program by actively engaging neighborhoods and creating a pool of community volunteers to help with the plantings.
- vii. Place educational materials in the schools, Tigard Public Library, and City Hall that demonstrate actions individuals can implement to help improve air quality in the community.
- viii. Research light trespass regulations from other municipalities and consider developing standards for Tigard.

Section 2: Water Resources Quality

The quality of the water in our aquifers, streams, rivers, lakes, and wetlands is important to the health and welfare of the community, as well as the fish and wildlife that rely on clean water for habitat. To limit harmful impacts from human activities on water quality, the Clean Water Act (CWA) was enacted. It regulates the discharge of pollutants into waterways through National Pollutant Discharge Elimination System (NPDES) permits. In the State of Oregon, the Department of Environmental Quality (DEQ) has been charged with establishing standards, regulating, and monitoring Oregon's waters for compliance with the CWA and NPDES.

Large municipalities typically have NPDES permits for their wastewater treatment facilities and for stormwater runoff, called a Municipal Separate Storm



Sewer System (MS4) permit. In urban Washington County, which includes the City of Tigard, the permits have been combined and are held by Clean Water Services (CWS). The combined permit was issued for the entire Tualatin River watershed to guide a basin-wide effort to improve water quality. It requires CWS to submit a Stormwater Management Plan and a Wastewater Management Plan to DEQ. These two plans outline the best management practices that CWS, its member cities, and Washington County commit to employ to reduce pollutant discharges, regulate temperature, and comply with any Total Maximum Daily Load (TMDL) levels that have been established.

The City of Tigard is a co-implementer of the permits and associated plans through an Intergovernmental Agreement (IGA) with CWS. The IGA outlines the functions the City must perform that are critical to the operation, maintenance, and management of stormwater and wastewater facilities, and to ensure compliance with the CWA.



PHOTO: ZEN DUTSON, PHOTO CONTEST ENTRANT
Friendly deer near the Tigard Public Library.

Separate from the NPDES permit process, Clean Water Services has developed a Surface Water Management Program to manage non-point source pollution impacts on water quality. The *Healthy Streams Plan*, a public education program, and watershed restoration projects are among the several activities undertaken to improve the water quality of streams and wetlands within the Tualatin River basin.

The City also has an important role in improving water quality. For example, it has committed staff and resources to implement the *Healthy Streams Plan*. This involves ongoing efforts to restore stream health and associated riparian areas, educating the public about how individual actions can improve water quality, and coordinating policies and actions with other jurisdictions and agencies. These actions help maintain compliance with Metro's *Urban Growth Management Functional Plan Title 13* and implement the *Nature in Neighborhoods Program*.



Tigard also seeks to improve water quality by adopting land use policies and regulations to prevent erosion and protect floodplains and other sensitive lands including tree groves, wetlands, and stream corridors. Land use regulations can also help reduce water pollution by reducing impervious surfaces, and requiring storm water retention and treatment on-site. In addition, the City can provide education about how low-impact development and green building techniques can conserve water and protect water quality. Furthermore, the City maintains a sewer extension program to connect properties to the City sewer system that rely on septic tanks and drain fields.



PHOTO: GRETCHEN BUEHNER

Water fountain at Elizabeth Price Park.

KEY FINDINGS:

- Water quality in the Tualatin River basin has been generally improving since the 1970s, despite continued urbanization in the watershed.
- In 2006, Oregon DEQ characterized both Fanno Creek and the Tualatin River as having “poor” water quality within the City of Tigard. However, this is an improvement from the “very poor” ranking received in 1995.
- Non-point sources are the largest contributors to water pollution in both Oregon and the Tualatin River basin.
- Within Tigard, run-off from impervious surfaces, pet waste, and erosion/sedimentation are the most problematic non-point sources of pollution.
- To enhance water quality, the City has an active program of tree planting, water quality facility construction (vegetated swales and retention basins), and stream corridor and wetland enhancements.
- The citizens of Tigard are concerned about the impact of growth on the community’s natural resources.



GOAL:

- 6.2 Ensure land use activities protect and enhance the community's water quality.

POLICIES:

1. The City shall require that all development complies with or exceeds regional, state, and federal standards for water quality.
2. The City shall continue cooperation with federal, state, and regional agencies in the management of Tigard's water resources and the implementation of plans and programs.
3. The City shall encourage the use of low impact development practices that reduce stormwater impacts from new and existing development.
4. The City shall protect, restore, and enhance, to the extent practical, the natural functions of stream corridors, trees, and water resources for their positive contribution to water quality.
5. The City shall require measures to minimize erosion and storm run-off from development sites during and after construction.
6. The City shall continue to collaborate on informing the public of techniques and practices private individuals can employ to help correct water quality issues.
7. The City shall investigate and use, to the extent practical, measures that limit the community's effective impervious area.
8. The City shall lead by example and develop green concepts for stormwater management at City facilities.
9. The City shall encourage the Oregon Department of Transportation and Washington County to improve the quality of stormwater run-off from their facilities.
10. The City shall continue to facilitate the extension of the City's



wastewater system to neighborhoods without service within the Tigard Urban Service Area, provided:

- A. properties benefiting from the extension pay their fair share of the cost; and
- B. annexation occurs prior to any property receiving service.

RECOMMENDED ACTION MEASURES:

- i. Research and implement incentives that encourage development to minimize impervious surface coverage.
- ii. Continue to implement the CWS Healthy Streams Plan.
- iii. Work with the Tree Board to develop an urban tree management and preservation program that increases the canopy cover in Tigard.
- iv. Continue to inventory outfalls from non-treated stormwater systems, and identify alternatives for improving the water quality released from them.
- v. Encourage owners of property located in the 100-year floodplain to develop a management plan that will allow for their natural function in removing pollutants from the stream system.
- vi. Develop baseline measures of effectiveness for erosion control during construction.
- vii. Continue a grant program that would provide funds to organizations to develop educational programs.
- viii. Research the need and feasibility of public restrooms to provide sanitary facilities for the City's homeless population.

“The City shall continue to implement the CWS Healthy Streams Plan.”



- ix. Install signage and doggie waste bags to encourage the clean up of dog waste in public parks.
- x. Evaluate the City’s street cleaning practices to ensure they are performing up to their intended results.
- xi. Research the feasibility of a commercial parking lot cleaning program.
- xii. Inform the public about effects of flushing pharmaceuticals and develop a program to collect and properly dispose of them so they do not reach and contaminate our streams.
- xiii. Research the feasibility of incentives for new development and retrofits to use green concepts during parking lot construction.

Section 3: Land Resources Quality

Modern life inevitably leads to the production of waste. From the point in time when cities are first developed, and continuing throughout their occupancy, by-products of human activity must be collected and properly disposed of to protect the health of both people and the natural environment. To accomplish this, the state of Oregon and Metro has partnered to create laws, rules, and programs to direct reduction and efficient removal of waste. The Oregon Department of Environmental Quality (DEQ) is responsible for ensuring

“Modern life inevitably leads to the production of waste.”

compliance with state rules and statutes. DEQ is also responsible for preparing the *Oregon State Integrated Resource and Solid Waste Management Plan*.

Within the Portland Metropolitan Region, Metro has the responsibility for oversight and management of solid waste collection and disposal. This includes the responsibility to prepare and update the *Regional Solid Waste Management Plan*. The Regional Plan establishes the framework for coordinating most solid waste collection and disposal programs, directing waste reduction and recovery

efforts, identifying roles and responsibilities, and fulfilling DEQ’s requirement that the region have an overall waste reduction plan. The Regional Plan is also responsible for recommending ways to address the solid waste management impacts of future population and employment growth.



Tigard participates in Metro’s plan update process and implements the plan through the Washington County Cooperative, which includes a number of cities in Washington County. This regional collaboration is important to reducing the amount of waste generated and entering landfills.

At the local level, the City is responsible for regulating and managing solid waste and recycling collection services within the City limits, and reviewing collection rates and service standards. Garbage and recycling collection services are provided by private haulers who operate within established franchise boundaries. The City enters into franchise agreements with the private haulers for the removal of solid waste generated from residential, commercial, and industrial customers.

“Tigard’s residential recycling rate was 53.5% in 2005, while the commercial recycling rate was 22.7%.”

KEY FINDINGS:

- Per capita, generation of solid waste has increased annually by 3.2% over the last ten years in the Portland metropolitan region.
- The region had a 59% waste reduction rate in 2005, and has set a target of 64% by 2009.
- Tigard’s residential recycling rate was 53.5% in 2005, while the commercial recycling rate was 22.7%.
- Regionwide, there are significant opportunities for waste reduction improvements in the construction and business sectors.
- Oregon DEQ regulates hazardous waste collection, disposal, and cleanup programs. DEQ also provides education and technical programs to reduce risks associated with hazardous wastes.
- Metro maintains its own household hazardous waste recovery program in cooperation with DEQ.
- The citizens of Tigard are concerned about population increases and the impact upon the community.



GOAL:

- 6.3 Reduce the amount of solid waste entering landfills.

POLICIES:

1. The City shall continue collaborating with federal, state, and regional agencies in the development and implementation of solid waste management plans and programs.
2. The City shall regulate and manage solid waste and recycling collection services through franchise agreements that:
 - A. ensure recycling opportunities are accessible to all households, businesses, and institutions;
 - B. implement waste reduction measures through prevention and recovery efforts;
 - C. remain cost effective and environmentally sensitive; and
 - D. comply with applicable plans, policies, and laws.
3. The City shall collaborate with the appropriate agencies to ensure proper permitting, collection, disposal, and cleanup of hazardous wastes.
4. The City shall use public education to promote:
 - A. opportunities for recycling, composting, and reuse;
 - B. reduction of household hazardous waste and its proper disposal; and
 - C. reduction of solid waste generated from construction and business activities.
5. The City shall reduce the amount of solid waste associated with municipal operations.

RECOMMENDED ACTION MEASURES:

- i. Find long-term partners and plan a yearly E-Waste Collection Event, similar to the one in September 2006.
- ii. Start a composting program (including education) for City



employees, including the purchasing of compostable plates, utensils, and cups.

- iii. Research commercial and construction recycling programs that could be implemented in Tigard.
- iv. Develop and maintain a GIS database of DEQ hazardous waste permit sites and hazardous cleanup sites.
- v. Work with franchise haulers to adjust yard debris pick-up schedules to correspond with the demand during different seasons.
- vi. Research the possibility of expanding the number of items that can be recycled curbside.
- vii. Work with local businesses to act as collection points for household hazardous waste. For example, home centers would collect fluorescent light bulbs while paint stores would collect old, unused paint.
- viii. Work with other jurisdictions to consider the creation of a countywide Office of Sustainability.

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