PORTLAND PLAN

Comprehensive Plan Evaluation

An introductory research paper to assist in the Portland Plan Work Program development

ENVIRONMENT Technical Working Group

> DRAFT REPORT <

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Introduction

Portland has a long and successful tradition of shaping its future through thoughtful planning. Much of what the community values about Portland is, at least in part, the legacy of the 1972 Downtown Plan, the 1980 Comprehensive Plan and the 1988 Central City Plan. However, these plans, which were intended to guide the city's growth over a 20-year period, are largely outdated. They no longer adequately prepare the community for the challenges and opportunities that lie ahead or provide guidance regarding how and where to make the next round of major investments in infrastructure and programs.

On November 13, 2007, the City received a letter from the state Department of Land Conservation and Development (DLCD) directing Portland to undertake Periodic Review of its Comprehensive Plan. The DLCD letter calls on Portland to evaluate the comprehensive plan provisions on economic development, housing, public facilities, transportation and urbanization to determine whether they are consistent with state law. The City will also evaluate supporting documents (e.g., forecasts, inventories, analyses and facilities plans) and implementing regulations (e.g., zoning). If the plan, supporting information or regulations are deficient, the City must prepare a Work Program to bring them into compliance with state law, and include a public outreach strategy that effectively involves the community in the planning effort.

Merely updating the comprehensive plan per state law will not provide the City with the coordinated, comprehensive guidance document needed to prepare for the opportunities and challenges that the community will likely face (e.g., global warming, a changing economy and projected population and job growth) or achieve the community's aspirations for the future.

Consequently, the City has launched a planning process to prepare a new over-arching plan for the City of Portland, the "Portland Plan." The Portland Plan will satisfy the state's Periodic Review requirements and address other issues and opportunities to prudently guide the City's physical, economic, social, and cultural development in a manner that meets community needs and aspirations.

To evaluate the current Comprehensive Plan and scope the Portland Plan, the City formed six Technical Working Groups (TWGs) to address the following topics: Economic Development, Environment, Housing, Infrastructure, Sustainability and Urban Form. Each topic had it own approach. Some existing committees, such as the Citywide Asset Managers Group that prepares the annual City Asset Report, were tapped to participate on the TWG. The groups began meeting in October 2007 and completed their discussions in February 2008. The number of meeting varied widely by topics. Generally, groups met at least monthly.

The TWGs were composed of staff from the Planning, Environmental Services, Housing and Community Development, Office of Sustainable Development and Transportation bureaus. In addition, staff from Parks and Recreation, Building and Development Services, Management and Finance, Water Bureau, Portland Development Commission, Port of Portland and the Housing Authority participated.

A transportation expert served on several TWGs because transportation concerns are woven into all the other topics. Transportation is also specifically addressed in the Comprehensive Plan Evaluation Report. This separate report summarizes the individual TWG reports.

Additional input was also considered from the Portland-Multnomah Food Policy Council, community health advocates, Portland Peak Oil Task Force, ReCode Portland, a project facilitated through Tryon Life Community Farm to promote regulations that support grassroots sustainability, and visionPDX. This input loop will be continued in future community meetings and at public hearings before the Planning Commission and City Council.

The TWGs were asked to examine at the Comprehensive Plan, other plans and regulations to help define the initial focus issues and identify the known goals, policies, needs, challenges and opportunities that the Portland Plan should address. Specifically, the TWGs were asked to do the following:

- 1. Summarize and assess the existing policy frameworks, including the Comprehensive Plan, 1988 Central City Plan, and other current policy statements to identify the following:
 - a. Which policies remain relevant,
 - b. Which do not, and
 - c. What is missing.
- 2. Prepare draft assessments of conditions and trends that they believe are most relevant and critical to understanding the issues to be addressed by the Portland Plan.
- 3. Identify additional research or analysis that should be undertaken to develop the policies for the Portland Plan and the Central Portland Plan.
- 4. Suggest particular planning projects for the Work Program, the complete list of planning projects/tasks that will need to be done, and set forward any specific staff or resources needed to accomplish those projects.

Some groups also responded to a draft "Suggested Approach" to the Portland Plan process that offered "5 Framing Ideas" that represent the big issues facing the community including: (1) Global Climate Change, (2) World Economy, (3) Affordable Living, (4) Investment in Green Infrastructure and (5) Character of Place. Over time, these five ideas evolved and included other ideas. Each TWG considered the ideas that seemed most relevant to their topic.

As the TWGs held discussions on the topics listed above, they were asked to always consider the community values expressed in visionPDX: community connectedness and distinctiveness; equity and accessibility; sustainability, accountability and leadership; inclusion and diversity; innovation and creativity; and safety.

This report is the TWGs summary of their group discussions. It is intended to help to start a citywide conversation on the issues, challenges and opportunities. It is hoped that individuals and groups will add to the conversation started by these reports.

The Environment Technical Work Group (ETWG) conducted a problems and policy analysis in order to identify environmentally-related issues or problems that should be addressed by the Portland Plan and to assess the relevancy of existing policy frameworks to a number of conditions and trends that the Portland Plan should consider. This report discusses the results of the ETWG's work and contains the following sections:

- *Trends*: identified environmental conditions and anticipated trends
- Policy: an assessment of existing environmental policy and policy gaps
- Strategies: a list of possible strategies to address identified problems and policy gaps

In addition, attached to this report is a memorandum detailing the group's process and the complete results of their policy evaluation exercise.

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The Situation

Located at the confluence of two major rivers, Portland contains a wealth of natural resources that provide valuable ecosystem services and habitat for people, fish, and wildlife. However, natural resources in the city have been degraded by urbanization. Too often, planning and development practices treat natural conditions as problems to overcome rather than as the foundation for designing distinctive and healthy communities. This approach manifests itself in piped streams, increased impervious areas, lost trees, spreading invasive species, soil erosion, and hardened riverbanks. The resulting breakdown of ecological processes degrades air and water quality, deteriorates soil health, and threatens aquatic and terrestrial species.

Portlanders suffer as a result. Low-income residents are threatened by floods, neighborhoods lose their appeal, landslides block roads, the river is unsafe for children to play or fish in, and environmental hazards hamper economic investment. Without a new way of planning, these conditions will worsen. As our population grows, so does increased pressure to develop on sensitive lands. Global warming will change rainfall patterns and habitat types, which will affect where and how Portland residents, human and otherwise, can live.

Unfortunately, the Comprehensive Plan lacks current policies that can focus and direct City action and investment to address these problems. In fact, the environmental chapter of the Comprehensive Plan has not been significantly updated since the Comp Plan was adopted in 1980. To fill in the policy gaps left by an outdated Comprehensive Plan, a body of environmental policy was developed by various City bureaus to address individual issues as they arose. Today, a more holistic, integrated set of environmental policies is needed to direct current and future City decision-making in a manner that recognizes the interrelated environmental challenges Portland's communities face and opportunities for interdisciplinary approaches that promote environmental protection, restoration, and enhancement and healthier, more vital communities.

Challenges

Given the challenges associated with Portland's current environmental conditions, the trends that may present themselves over the next 30 years, and the state of our environmental policy, several questions must be addressed:

- How can we improve the health of Portland watersheds, while accommodating population growth and creating compact urban communities?
- How do we plan for and adapt to changing conditions that we cannot predict, such as global warming?
- How do we move from planning approaches that "balance" environmental goals against other goals, to approaches that recognize our dependence on healthy natural systems and are informed and guided by the characteristics of natural systems?

¹ City of Portland Watershed Assessment Summary, 2004. p.8.

Comp Plan Evaluation - Environment Technical Working Group Draft Report

Suggested Direction

As a result of their discussion of Portland's environmental issues and trends, the ETWG identified the following four "big ideas" to consider in developing new environmental policy:

- Plan with Nature. Use Portland's distinct watershed characteristics forests, hills, soils
 and streams as the framework for planning land use, transportation, parks, and
 infrastructure. Shape the built environment to complement and sustain the function of
 natural features of Portland's communities.
- **Protect and Invest in Green Infrastructure.** Protect and restore forests, wetlands, waterways, and habitat. Adopt naturalistic approaches, such as eco-roofs, rain gardens, and green streets. Plan and invest in them as City infrastructure.
- **Ensure access to nature for all Portland residents.** Promote environmental justice and provide respite from urban life and everyday stressors by ensuring that all Portlanders can enjoy healthy street trees, natural and recreation areas, naturalistic views, and opportunities to garden. Access to nature is especially important for children to instill an environmental ethic in our next generation.
- **Reduce the by-products of urban life**, including solid and chemical waste, artificial light and sound, limited access to the sunlight, and unseen elements such as radio frequency waves.

Furthermore, the ETWG recommends that these principles be considered for evaluating and prioritizing City actions:

- **Precaution.** Adopt a "do-no-harm" approach. Ensure that actions prevent deterioration of natural systems. Where the science is inconclusive about a potential environmental impact, the benefit of doubt falls to the environment.
- **Resiliency.** Changing conditions require adaptable, integrated approaches and systemic redundancies. Favor actions that protect, enhance, and mimic natural systems and allow for dynamic conditions.
- Systems approach. Consider the interrelation of natural systems on several levels –
 physical, chemical, and biological and on varying scales neighborhood, watershed,
 City, and region.

Conditions and Trends

The ETWG identified a number of environmental conditions and trends to consider within the Portland Plan process:

Growth and Development

- Significant increased population in the Portland metropolitan area will bring with it a need to accommodate growth, and result in more development that could stress the surrounding environment.
- Development spurred by population growth will increase the need to simultaneously meet goals for urban form <u>and</u> watershed health/environmental protection.
- Limited availability of new lands, including for industrial uses, is creating associated demand to build on environmentally-sensitive lands.

- Increased development and density can result in increased air pollution, noise and light pollution, radio frequency emissions.
- Development to accommodate growth should not disproportionately expose low-income residents to environmental hazards.
- Climate change may result in increased migration to Portland as people leave droughtstricken areas.
- Population growth and climate change create uncertainty about long-term water availability. Increased reliance on groundwater is likely as rainfall patterns and the amount of mountain snowpack and the timing of snowmelts change.
- Increased development and density will affect the scenery and skyline of Portland, and has the potential to interfere with views of the area's natural features.
- As density and building heights increase, access to sunlight will become more of an issue.

Natural Systems

- Site development is not currently planned with full consideration of the site and surrounding area's natural features, ecological functions and ecosystem services.
- The cumulative affect of past development practices including filled and piped streams, increased impervious areas, lost tree canopy and vegetation, establishment of invasive non-native plant species, erosion and sedimentation, culverts, and hardened riverbanks² has broken down ecological processes, with an associated problems with air and water quality, deteriorated soil health and loss of aquatic and terrestrial species and their habitat (as evidenced by ESA listings and the state listings of species of concern).
- Stream and terrestrial habitat connectivity is being lost. This further threatens sensitive species and risks undermining current efforts at species recovery.
- Current protection and preservation strategies do not adequately protect natural systems and the eco-system services they provide, including groundwater recharge, stormwater infiltration, water quality, erosion control, air purification, carbon sequestration, and temperature modification.
- Portland's water quality is affected by development and urban activity, including contributions from household chemicals. In areas without piped stormwater systems, increased runoff is degrading the hydrologic function (volume, flow) and water quality of local streams and other water bodies. All of Portland's major water bodies (except Balch Creek) are currently on the state's water quality limited list because they do not meet water quality standards for bacteria, temperature, toxics, and dissolved oxygen.³
- Climate change may result in widespread ecological change, including higher in-stream water temperatures during key rearing seasons for threatened and endangered fish species, higher water levels in the major rivers, more intense storms, and greater erosion.
- In hilly areas and areas with significant water bodies, street patterns and connectivity standards do not correspond to the natural features of the land. This conflicts with the connectivity needs of natural resources and has implications for the effectiveness of street and stormwater improvements, as well as the cost of construction and maintenance.

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² City of Portland Watershed Assessment Summary, 2004. p.8.

³ Portland Watershed Management Plan, p. 24.

- Increased development has the potential to cause topsoil erosion and surface water pollution, if not properly controlled. Soil is a resource and the loss of topsoil leads to lower plant survivability and greater water pollution as soil is less able to absorb horticultural chemical applications.
- Soils at contaminated sites pose a threat to the health of the environment and reduce the availability of developable land.

Infrastructure

- Additional development will increase need for additional infrastructure built and natural.
- Built infrastructure is aging or missing in many neighborhoods. Currently 46% of Portland's capital assets are considered to be in good condition, 37% are in fair condition, and 17% are in poor condition. At current spending levels, in the next ten years there will be a significant shift out of good condition and a rise in poor condition. There is currently insufficient funding for replacement of this infrastructure in-kind. Without intensive efforts to integrate naturalistic approaches into the built environment, population growth will outstrip current investments in the Big Pipe.
- There is a need to provide affordable basic level of service for infrastructure elements and a corresponding need to redefine the desired 'basic level of service'.
- Degraded natural and built conditions impact public safety, private property, and infrastructure by contributing to flooding, landslides and other hazards.
- Increased reliance on groundwater as a source of potable water may have implications for development in the wellhead protection area (within the Columbia Slough industrial area).
- A lack of affordable public transit in all areas of the City means that some Portlanders may be forced to drive in single occupancy vehicle use, creating associated environmental impacts.
- Transportation and land use patterns affect air quality and CO2 emissions.
- Natural and recreational resources, parks and open spaces are one of the most important reasons people and businesses choose to locate in a particular place – economic development depends on maintaining the quality of these resources.
- Good parks, which are an essential part of a healthy and vibrant neighborhood, are lacking in many parts of the City.
- Policies to increase density are making it difficult to increase tree cover, affecting natural functions such as stormwater infiltration. Increased density in the city results in more impervious surfaces and less tree and vegetation cover. The need to accommodate increased density puts pressure to develop on hillsides and in stream corridors — areas that are often treed.⁵
- Lack of sufficient land for active recreation pushes more people into natural areas resulting in continuing degradation.

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⁴ Portland Present, p. 37.

⁵ Ibid.

Public Health

- Access to nature contributes to public health and mental well-being. Residents of low-income residential communities are more likely to suffer from health problems related to environmental problems. Examples include asthma from living in areas with poor air quality near highways and freeways, and illnesses contracted by fishing or swimming in contaminated waters.
- Children have fewer opportunities to learn from and enjoy nature than previous generations.
- Parks, open spaces, and natural areas are not distributed equitably throughout the City.
- Low-income communities often have limited access to nature, including larger open spaces and urban street trees. Policies to increase density are making it difficult to increase tree cover, affecting neighborhood identity and access to nature.
- The urban forest is unevenly distributed. Economically disadvantaged neighborhoods often have fewer trees than more wealthy areas. People in poorer areas have fewer resources to care for trees and vegetation. This often results in fewer street and yard trees or trees that are in poor condition in certain areas.⁶
- Increased densities can affect Portlander's access to nature in their neighborhoods and result in increased noise and light pollution, and radio frequency emissions, for which the City lacks clear policies to reduce associated impacts. Furthermore, telecommunications innovations raise questions about the potential health affects of radio frequency emissions.
- Degraded air quality is the result of increased urban activity. While air quality has generally improved, Portland exceeded the National Ambient Air Quality Standard for ozone in 2006⁷. The long term exposure effects of ozone cause significant breathing problems, such as loss of lung capacity and increased severity of both childhood and adult asthma.
- Food insecurity is a significant problem for low-income residents, including the availability, accessibility, and affordability of healthy foods.
- Climate change, high-density urban development, the removal of vegetated cover, and heat waste from urban activities can all contribute to elevated temperatures that can impact communities by increasing peak energy demand, air conditioning costs, air pollution levels, and heat-related illness and mortality.⁸

Coordination

- Improved coordination amongst bureaus would increase opportunities to leverage finite resources to improve the City's environmental conditions.
- Widespread public involvement and education is needed to actively engage Portland's communities in solutions to environmental problems.

⁶ Urban Forestry Management Plan, p 3-2.

⁷ OR DEQ 2006 Air Quality Annual Report.

⁸ US EPA. Heat Island Effect. http://www.epa.gov/hiri/index.html (visited January 14, 2008)

Policy Gaps Analysis

ETWG members undertook a comprehensive evaluation of existing environmental policies to identify the relevancy of these policies, as well as the gaps in these policies relative to the conditions and trends they identified. Complete results of the ETWG policy evaluation effort are attached to this report.

The following section describes the ETWG policy evaluation findings in terms of the gaps in the existing Comprehensive Plan, gaps in other City environmental policies, and City environmental policy that remains relevant.

Gaps in the Comprehensive Plan

Many of the Comprehensive Plan policies that relate to the environment are dated, and do not reflect the City's current 'best practices,' and the latest scientific thinking and processes. This is partly due to new understanding about environmental issues, concerns, and methods since the Comprehensive Plan was written in 1980. Some examples include:

- System-wide organizational and geographic thinking (i.e. planning by watersheds)
- Global warming
- Salmon listed as Endangered Species
- Innovative strategies for dealing with stormwater
- Contemporary understanding of 'nature in the city' what that is, its value and how it can be enhanced
- Role of the urban forest in improving public health and the environment
- Reducing impacts from noise pollution, light pollution and radio frequency emissions
- Connecting the needs of people with the environment's needs
- Cell towers and more recent communications technology
- Multiple regulatory requirements

The Comprehensive Plan does not adequately address the following environmental issues:

- Climate change, including its connection to the availability of water resources; the role of the urban forest; health of native vegetation; affects on stream flow; heat island effect and the City's energy and transportation policies.
- Cumulative impacts of development over time and place (e.g. communities and watersheds)
- Land availability and increasing pressure on port/industrial lands
- Planning on a systems-wide and regional basis
- Endangered species recovery
- Impacts of household chemicals on water supply
- Funding and prioritization of improvements to aging or missing infrastructure
- Urban forest and tree canopy
- Innovative strategies for managing stormwater, including eco-roofs, green streets, swales and stormwater planters
- Water supply (availability, storage, reuse)
- Parks and open space current practices. For example, the "mixed use" definition does not include open space.

- Natural hazard reduction through planning with natural conditions
- Light pollution
- Solar access
- Environmental justice
- Health effects of density near pollution
- Connecting the environment to public/mental health
- Radio Frequency Emissions

In addition, the Comprehensive Plan update should consider the following:

- Scientific research, goals and policies that exist in other plan documents may need to be integrated into or reflected in the Comp Plan.
- The Comprehensive Plan is missing policy guidance based on a current knowledge of Portland's natural resource conditions or the City's watershed health goals, as outlined in the *Portland Watershed Management Plan*.
- The plan should emphasize the role of current science in guiding policy choices.
- To remain current and vital, the plan needs to have mechanisms for regular update.
- There is no policy guidance on how to prioritize and fund city's efforts towards improving the environment.
- The current Comprehensive Plan uses verbs that are aspirational and passive, such as "ensure," "promote," and "foster," and may provide more flexibility than is intended. Instead, active verbs such as "protect," "implement," and "increase" should be used.
- The Comprehensive Plan does not adequately relate environmental issues to other issue areas.

Gaps in other Environmental Policies

City policy is currently lacking or limited in these areas, most of which are not addressed or only minimally addressed in the *Comprehensive Plan:*

- Existing environmental policies call for "balancing "natural resources, economic and development goals. Guidance is needed for promoting multi-disciplinary approaches and prioritizing goals, when there are unavoidable conflicts.
- The Global Warming Action Plan was adopted in 1993, but will need significant updates to address today's climate conditions.
- The *Portland Watershed Management Plan* does not specifically address climate change and its relationship to groundwater and stream flows.
- A contemporary understanding of "nature in the city", what that is and how it can be enhanced.
- Integrating environmental considerations to the Central City (activities that could affect the river, connection to natural systems, threatened fish, and tree canopy).
- Goals related to habitat or natural system connectivity; this creates problems when considered with the growth management objectives and transportation connectivity goals.
- The variety of habitat types e.g. riparian areas, wetlands, evergreen forests, meadows, oak savannah.

- Threatened species, the Migratory Bird Treaty or related local, state and federal species protection policies and regulations.
- Control or eradication of invasive plant or animal species, both within and outside of sensitive areas.
- Urban forestry or preserving tree canopy.
- How to fund and prioritize improvements to aging or missing infrastructure.
- Groundwater/spill protection in the public rights of way.
- Toxics reduction and pollution prevention policy does not extend beyond government operations.
- Connection between public health, mental health and the environment.
- Missing linkages to newer plans that promoted 'best practices' and latest environmental thinking and processes.
- Prioritizing or focusing environmental action.

Environmental Policies that Remain Relevant

- The *Portland Watershed Management Plan* speaks to the need for actions to be costeffective and equitable, and for actions to take into consideration economic goals, indirect costs, externalities, and eco-system services
- The *Portland Watershed Management Plan* (PWMP) represents a new direction for watershed health management and provides a model for environmental policies in that entails:
 - o A system-wide organizational and geographic scope
 - A scientific yet adaptive approach
 - A policy approach that addresses multiple regulatory requirements and community interests through the activities of all the City's bureaus
 - A framework for the inter-bureau coordination of operations and activities to enhance watershed health across the City.
- The *Portland Watershed Management Plan* discusses the needs for habitat preservation, enhancement, and connectivity, both in open spaces and in and amongst the urban landscape.
- Total Maximum Daily Loads for temperature are in-place for Columbia Slough, Johnson Creek, Tryon Creek, and the Willamette River.
- The Lower Columbia Steelhead Recovery Plan and Portland Recovery Plan for Salmon and Trout both link human quality of life to the health of salmon.
- The *Urban Forestry Action Plan (2007)* provides guidance by linking the health of the urban forest to reducing global warming, heat island effects and air quality problems.
- The *Urban Forestry Management Plan (2004)* sets tree canopy targets for residential, commercial, developed parks, transportation corridors and right-of-way, and open space and natural areas as well as a comprehensive overview of the roles and responsibilities of various agencies and bureaus in maintaining Portland's urban forest.

- The Columbia Southshore Well Field Program maintains an annual seasonal contingency plan for use of the aquifer drinking water supply. This policy accounts for short-term seasonal adjustment, but is not part of a longer-term plan that accounts for increased reliance on groundwater.
- The 2007 Urban Forest Canopy Report acknowledges the value of the eco-system services provided by Portland's trees (\$27 million annually, with a replacement value of nearly \$5 billion).
- *Urban Forestry Action Plan:* Suggests prioritizing City tree planting efforts to low-income neighborhoods and areas with less street tree canopy.
- The Natural Area Acquisition Strategy addresses access to nature and the need to protect existing natural areas and the connectivity between them; it also prioritizes areas for acquisition.
- Parks 2020 Vision Plan also addresses park deficiency, need to connect natural areas, need for trail connectivity that provides access to community resources, healthy exercise and non-polluting transportation.
- 2020 Vision Plan addresses quality of life issues.
- Several existing policies discuss creating access to nature for Portland's citizens: Portland Watershed Management Plan, Natural Areas Acquisition Strategy, River Renaissance Strategy, Trails Strategy, Parks 2020, the Southwest Community Plan and South Waterfront Plan.
- The *Portland Watershed Management Plan* speaks to the protection of public health and safety through watershed actions that improve water quality and reduce flooding.
- The *Pleasant Valley Concept Plan* recognizes that natural resources play a role in protecting public health and safety (e.g. flood protection, erosion control).
- The CSO Facilities Plan provides direction on protecting public health by controlling and minimizing sewer overflows.
- The *Toxics Reduction Strategy* promotes a healthy community and environment by eliminating the purchase, release and use of toxic substances that present potential negative health or environmental impacts. The policy is limited, however, to government purchases.
- The *River Renaissance Vision* and *the River Renaissance Strategy* speak to improving ecologic and economic conditions in and around Willamette River using an integrated, multi-objective approach.
- The Portland Watershed Management Plan, Urban Forestry Management Plan, Southwest Community Plan, South Shore Well Field Program, and River Renaissance Strategy all directly address the need for public education.

Potential Strategies

The following brainstormed ideas emerged during the TWG's work and are provided here in the interest of reporting group process. Some ideas reflect current City policy or action. Others are preliminary in nature and lack the benefit of public or technical input.

Growth and Development

- Balance the need for development to accommodate growth with watershed health considerations.
- Develop land use plans based on analyses of natural conditions, including soils, groundwater, habitat, slopes and water bodies, and promote site-sensitive development strategies that respond to natural features.
- Reduce, reuse and maximize use of resources e.g. potable and stormwater, building materials.
- Create development standards that are protective of the local environment and consider the energy-efficiency of the structure and impacts of building materials used in construction.
- In high-density areas, use building form standards, similar to South Waterfront, that limit tower width and specify tower orientation, modifying the approach to promote solar access.
- Address energy efficiency in building standards and migrate public and private sources of electricity to cleaner, renewable sources.
- Hold government buildings to a high standard for energy efficiency and environmentallysensitive design.
- Support brownfield redevelopment to increase the supply of available industrial land, limit impact on environmentally-sensitive sites, and improve environmental conditions.
- Develop neighborhoods that are pedestrian-oriented and provide a full suite of amenities within a 20-minute walking distance.
- Continue to preserve scenic resources while accommodating growth.
- Place a high value on a strong parks system in maintaining livability.
- Encourage development strategies that will reduce the heat island effect, including ecoroofs and other best practices.
- Integrate bioclimatic design into design standards.

Natural Systems

- Incorporate accounting of the value of ecosystem services into a broad range of development activities. Protecting existing natural infrastructure is far more efficient and cost-effective than restoring lost ecosystem functionality.
- Study the eco-system services provided by natural systems so that current and future residents understand what is being protecting and why.
- Prevent damage to watersheds by protecting existing vegetation, stream channels, wetlands, vegetated meadows, forests, and stream corridors.⁹
- Reduce in-stream water temperatures through stream-side shading and other best management practices.

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⁹ Ibid.

- Enhance aquatic and terrestrial habitat to restore natural hydrologic function, water quality, and habitat function and connectivity.¹⁰
- Protect and increase natural resource connectivity to preserve its functionality (as is done with transportation systems). Acquire and protect additional habitat areas to improve connectivity of habitats.
- Implement the sustainable expansion of the urban forest canopy and parks or green zones to provide numerous environmental benefits, including stormwater storage, erosion control, reduction of the heat island effect, and creation of terrestrial habitat. Preserve existing biodiversity in habitat areas. Promote habitat and species conservation in other areas of the city, including urban areas (e.g. raptor nesting on bridges).
- Plant native vegetation and remove non-native, invasive species to increase stormwater interception and storage, enhance terrestrial habitat, improve soil function, and ensure the health of Portland's urban forests.
- Ensure that erosion control practices are protective of watershed health, floodplain function, and endangered species.
- Continue to remediate contaminated sites and develop strategies to prevent industrial and household pollutants from release to the environment.

Infrastructure

- Redevelop infrastructure to promote and enhance watershed health and neighborhood beautification.
- Institute effective operations and maintenance practices for storm and sanitary infrastructure, industrial permitting, street sweeping, and greenspace enhancement and revegetation projects.¹²
- Implement stormwater management controls to treat stormwater as a resource, not a waste product. Manage stormwater as close to the source as possible and integrate green infrastructure into the urban fabric (buildings, open spaces, streets). 13 Replenish groundwater through infiltration. Mitigate the negative impacts of stormwater on water quality, habitat, and biological communities.
- Use green streets to create attractive streetscapes that enhance neighborhood livability, improve the pedestrian environment, introduce park-like elements into neighborhoods, and serve as an urban greenway segment that connects neighborhoods, parks, recreation facilities, schools, main streets, and wildlife habitats.
- Ensure access to nature for all Portland residents, facilitated by a coordinated regional effort.
- Increase in tree canopy cover (to 33%, per Urban Forest Canopy Assessment and Evaluation) by planting in underutilized and non-traditional areas.
- Recognize that parks and natural areas protect ecosystem functions and reduce impacts of urban development.
- Develop alternative drinking water strategies, such as active system recovery (direct aquifer injection) and conservation programs, to provide for increased demand and potential decreased availability of water supply. Possibly separate sources of water for industrial and drinking uses.

¹⁰ Ibid., p. 43.

¹¹ Ibid.

¹² Ibid., p.44

¹³ Portland Watershed Management Plan, p. 42.

- Identify aquifer storage and recovery at sites other than the Columbia South Shore Well Field.
- Develop a water reuse policy.
- Identify affordable housing locations that have access to nature and are not disproportionately affected by the byproducts of urban activity.
- Require more bike facilities or other non-polluting transportation facilities.
- Improve the proximity of housing to work.
- Make affordable public transit available in all areas of the city.
- Provide opportunities for access to healthy, affordable food in all neighborhoods through food policy that supports: siting grocery stores in areas of poor availability, food gardens in all neighborhoods and local farmers markets, CSAs, etc.

Public Health

- Ensure equal access to the natural amenities of neighborhoods.
- Ensure access to nature for all Portland residents, with particular emphasis on children.
- Use stormwater controls and floodplain restoration projects that reduce flooding in neighborhoods and urban pollutants from contaminating streams. Big Pipe and other projects control runoff and reduce E. Coli and other human pathogens in our waterways.
- Increase use of appropriate plant materials (both native and appropriate non-native).
 Vegetation (such as in parks) can improve urban microclimate (i.e. reduce high temperatures) and mitigate the heat island effect. The effect extends beyond the park (or green zone) particularly on the leeward side. Big green swaths are good for creatures and for people, water quality, stream temperatures, nature deficit disorder, etc.
- Develop policies to reduce impacts from noise pollution, light pollution, and radio frequency emissions.
- Ensure availability, accessibility, and affordability of adequate food resources; provide opportunities for food gardens in all neighborhoods; promote farmers markets, CSAs, etc.
- Implement strategies to counter the heat island effect, including eco-roofs, trees and vegetation, and other best practices.
- Ensure that low-income communities are not disproportionately burdened with exposure to environmental hazards.
- Ensure access to active outdoor recreation structured sports programs and opportunities for 'free' play.

Coordination

- Focus on a universal set of principles to guide policy development and implementation across the bureaus: the precautionary principle, resiliency, and systems approach.
- Integrate watershed management strategies into the work of all bureaus across the city to leverage their role and authority in planning, implementing, and maintaining Portland's land resources and infrastructure.

- Continue to coordinate inter-bureau *Portland Watershed Management Plan* implementation to integrate the goals, objectives, strategies, and actions outlined in the plan to the operations of all City Bureaus.
- Continue the Citywide Asset Management Group's efforts in developing common methods of reporting on city's assets for all infrastructure bureaus to better understand costs and benefits.
- Promote community education, involvement, and stewardship with City employees and Portland residents.¹⁴ Provide environmental education opportunities to increase awareness of public health and safety issues.
- The City should lead by example on implementing Portland Plan policies when acting on its own assets.

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¹⁴ Ibid.

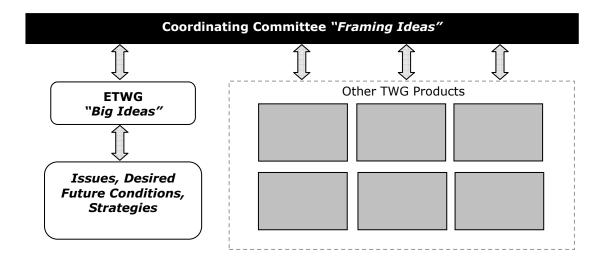
Attachments

- 1. ETWG Process Summary Report
- 2. Policy Evaluation Assignment Policy Relevancy Matrix/Issues Key and Summary of Policy Themes, Innovation, and Gaps

Environment Technical Work Group Process Summary Report

Introduction

The Environment Technical Work Group (ETWG) conducted a problems and policy analysis to identify issues/problems relative to the environment that should be addressed by an updated Portland Plan and to assess the status of existing policy frameworks and their relevancy to a number of conditions and trends that will be important for the Portland Plan to consider. This document summarizes the work of the ETWG, using the terms and structure of its process, and relates the ETWG's products to the emerging analysis framework provided by the Portland Plan Coordinating Committee. The following diagram illustrates the basic interactions between these analytical elements, with both the Coordinating Committee's "Framing Ideas" and the ETWG document and conditions analyses correlated to four overarching policy concepts. These relationships are described by several tables throughout the memorandum.



Existing Policy Frameworks

Description of group process

ETWG members first identified a number of environmental issues (henceforth referred to as "problems") that would guide their selection of policy documents to evaluate and provide an analytical foundation for the evaluation of Portland's environmental policy frameworks. ETWG members then developed an inventory of policy documents related to a range of environmental issues across the City of Portland's area typologies. These documents were later categorized into several tiers of relevance, separating those that contained the most significant overarching and/or innovative environmental policy statements from those that addressed specific issues, as well as those documents of a more implementation-related or technical nature. From this categorized list of 40 documents, ETWG members conducted an evaluation with citywide, area-specific (neighborhood, district, etc.) and issue-specific emphasis. The ETWG then evaluated against a number of critical environmental issues to determine each policy's relevancy, strength, and gaps. (A more complete description of the issues analysis can be found in the section on Conditions and Trends, below.) Note that each of these policies was developed after the current Comprehensive Plan, save the Comprehensive Plan itself. Policies considered by the group include the following:

Tier One - Most relevant overarching environmental policy analysis

Document	Date	Bureau
Comprehensive Plan	1980;	Planning
	updated	
	2006	
Portland Watershed Management Plan	2006	BES
Endangered Species Act Vision statement		ESA
Sustainable City Principles	1994	OSD
River Renaissance Vision	2001	RR/Planning
River Renaissance Strategy	2004	RR/Planning
Urban Forestry Management Plan	2004	Parks
Parks 2020	2001	Parks
Southwest Community Plan Vision, Policies & Objectives	2000	Planning
South Waterfront Plan	2002	Planning
Division Green Street Plan/Main Street Plan	2006	Planning
Pleasant Valley Plan District	2004	Planning
Central City Plan	2003	Planning
Bureau mission statements and value statements*	Various	Various

Tier Two - Relevant to specific environmental issues

Document Document	Date	Bureau
Lower Columbia Steelhead Recovery Plan	1998	ESA
Portland Recovery Plan for Salmon and Trout	2000	ESA
Lower Columbia Recovery Plan (under development)	2008	
Framework for Integrated Management for Watershed Health	2004	ESA
Stormwater Management Manual	1999/2004	BES
Erosion Control Manual	2000	BES
Natural Area Acquisition Strategy	2006	Parks
Native Plant List	2004	Planning
Columbia South Shore Well field Wellhead Protection Program	2003	Water
Urban Services Policy	1983	
Source Water Protection Policy	2001	Water
Transportation Systems Plan	2002	PDOT
Stormwater Management Plan	2006	BES
Underground Injection Control Management Plan	2006	BES
CSO Facilities Plan/ASFO	1995/1994	BES
Willamette Riverbank Design Notebook	2001	BES and PDC
Portland Clean River Plan	2000	BES
Recreational Trails Strategy	2006	Parks
Metro Greenspaces Master Plan/Connecting Green*	2002/	Metro
	underway	
Toxics Reduction Strategy	2004	OSD
Diggable City Project	2005	OSD/PSU
Cultural Resource Protection Plan	1996	Planning
Zoning Code Purpose Statements	Various	Planning
TMDLs	Various	BES
Brownfields policy	Underway	OSD/BES

^{*} Policies that were identified as priorities but were not assigned for evaluation

Policies that Remain Relevant

ETWG members evaluated policy documents using relevancy criteria. Documents were rated against relevant problems by meeting one of the following four conditions:

- The policy is recent, reflective of current conditions, and requires little or no update.
- There are some terminology-related problems or other small issues, but overall the policy is relevant.
- There are some relevant areas, but also significant inconsistencies, areas of conflict, or major gaps.
- The policy is outdated and will require nearly complete overhaul.

One purpose of this exercise was to identify those policies that need updating as well as to better understand how certain policies remain relevant. Most policies evaluated remain relevant in one or more problem areas. While some of the more recent comprehensive and issue-specific documents showed higher relevancy to all related problems, other documents, some recent and others longer-standing, showed high relevancy in some issue areas while showing less or poor relevancy in others. ETWG members also provided descriptions of where the documents both fell short and contained forward-thinking or innovative policy statements.

Another outcome of the document evaluation exercise was the identification of documents that can serve as a model for future policy development and themselves are important implementing and integrating mechanisms for the Portland Plan. Of the documents evaluated, the Portland Watershed Management Plan (PWMP) and the associated Framework for the Integration of Watershed Health proved to be an outstanding example. The PWMP takes a systems approach to the environment and in doing so considers a comprehensive range of environmental elements, has a firm scientific basis for prioritization of strategies and actions, a strategy for bureau collaboration, and uses adaptive management to address evolving environmental conditions.

Irrelevant Policies

The group found several policies that were either far out of date or otherwise did not adequately address the related problem sets used in the analysis. As expected, the Comprehensive Plan and Central City Plan had the most out of date policies relative to the problems explored by the group. Other plans and policies that appeared to have significant areas of inconsistency, gaps, or were completely out of date in several of the relevant problem areas included the Transportation Systems Plan, the Urban Services Policy, and the Lower Columbia Recovery Plan.

Policy Gaps

Policy gaps relative to specific problems were identified through the policy document evaluation. From the results of this exercise, there was only one problem that did not have one or more relevant policies. This issue, radio frequency emissions, was identified from the existing Comprehensive Plan. The results also showed several problems that had fewer relevant policies, including:

- Cumulative impacts
- Light pollution/solar access
- Environmental Justice
- Water supply (availability, storage, reuse)
- Impacts of household chemicals on water supply
- Health effects of density near pollution
- Public safety/landscape hazard
- Increasing pressure on port/industrial lands

The group did not explore the overall complement of the various policies and their cumulative capacity to address citywide issues. A more intensive analysis may yield more conclusive results with respect to the gaps in existing policies. ETWG members did make specific notes about the shortcomings of the specific policy documents. The complete results of the ETWG's document relevancy evaluation, including notes on gaps and innovative practices, are attached to this report.

Conditions and Trends

Description of group process

The group agreed that five conditions identified by the visionPDX process were central to the environment assessment, and should be assumed as "background" for the other conditions/trends analysis. As described in the policy framework process, ETWG members drew upon their professional experience to identify additional conditions/trends (problems), both current and anticipated; that they felt should be addressed in the Portland Plan update. Because these problems identified environmental issues from differing scales and perspectives, the group re-organized them into three categories: problems, desired future conditions to address the problems, and strategies for achieving desired future conditions. Several overarching ideas were then identified by the group to translate their analysis into themes for future policy development.

Major Conditions and Trends

ETWG members arrived at the following four "big ideas" to address the problems they identified:

- Plan with Nature. Use Portland's distinct watershed characteristics forests, hills, soils and streams as the framework for planning land use, transportation, parks, and infrastructure to avoid development that is ill suited to natural conditions. Shape the built environment to complement the function of natural features of Portland's communities.
- Protect and Invest in Portland's Green Infrastructure. Protect natural areas, such as
 forests, wetlands, waterways, and habitat, and adopt naturalistic approaches,
 including eco-roofs, rain gardens, bio-swales, and green streets. Plan and invest in
 these elements as cost-effective, multi-objective elements of the city's public and
 private infrastructure, which provide needed public services, while enhancing the
 environmental health, urban form, and beauty of our communities.
- Ensure access to nature for all Portland residents. Promote environmental justice and provide a respite from urban life and everyday stressors by ensuring that all Portlanders can enjoy healthy street trees, natural and open areas, naturalistic views, and opportunities to garden. Access to nature for children is especially important to instill an environmental ethic in our next generation.
- Reduce the by-products of urban life, including solid and chemical waste, artificial light and sound, reduced access to the sun, and unseen elements such as radio frequency waves.

In addition, the group identified several overarching principles that relate to each of the problems. These included

 Precaution. The City should adopt a "do-no-harm" approach. Every effort should be made to ensure that actions in one part of a natural system prevent direct and indirect deterioration elsewhere. In cases where scientific information is inconclusive about a potential environmental impact, the benefit of doubt falls in favor of the environment.

- Resiliency. Ever- and rapidly-changing environmental systems require adaptable approaches and systemic redundancies. Resiliency is at the heart of nature's ability to respond to changing conditions, such as those that could occur with climate change while, while still providing functions that the City depends on. In addition, policies should encourage actions and practices that are proven to enhance rather than compete with nature and allow room for nature's dynamic conditions.
- Bioregion/systems approach. Policies should consider the larger context of systems that relate on several levels – physical, chemical, and biological – and scales – neighborhood, district, City, region - within and beyond the City limits.

The "big ideas" were the result of grouping and synthesis of several individual problems brainstormed by the group throughout their process. Table 1 shows this list of problems and displays their relationship to the four big ideas.

To address the individual problems, a series of desired future conditions and strategies were also developed. Table 2 lists the strategies and describes their relationships to and overlaps with specific problems.

Additional Research and Analysis

Additional research tasks flow from the group's work in identifying policy gaps and strategies to address specific problems. Gaps were assessed through the relevancy analysis and additional direct assessment of the documents' shortcomings. Each issue has also undergone additional brainstorming around tests and concepts that could be explored that relate back to the problem-specific strategies. Several tasks could follow the findings of the group's gaps analysis and would be dependent upon any reorganization or reframing of the problems after Planning's review of the Technical Working Group submissions. In general, the group could provide additional recommendations on policy development through the following activities:

- a "drill-down" into those problems that displayed less relevant policy to determine whether existing policy could be revised, or if new policy is needed
- an assessment of the complement of the policies per issue to address specific gaps
- a survey of gap-specific example policies from other cities across the US and internationally

Table 1: Relationship of ETWG "Big Ideas" to Problems

•		ETWG "B	ig Ideas"	
	Plan with Nature	Protect and Invest in Portland's Green Infrastructure	Connecting to Nature for Healthy Communities	Improving and Maintaining Quality of Life
Cumulative impacts of development on watershed health	X	X	X	X
Degraded water quality	Х	Х		
Impacts of household chemicals on water quality	X			
The breakdown of ecological processes (e.g. species loss).	Х	X	X	
Poor soil health (nutrients/microbial community depleted or distorted; topsoil erosion; soil contamination)	x	х		
Tree canopy loss	Х	X	X	X
Degraded air quality	X	X		
Heat island effect	X	X		
Health implications of high density occupancy near pollution (air pollution; water quality; soil contamination)/Environmental Justice	x	X	x	
Water supply (availability, storage, reuse)		X		
Land resources- site constraints (limited amount of land for desired development and poor/bad/inappropriate use of land we have). Inconsistency and gaps in existing comprehensive plan/zoning code Degraded views/scenic Proceure on industrial lands	x	X		
Inconsistency and gaps in existing comprehensive plan/zoning code	X	X		
Degraded views/scenic	X		X	
Pressure on muustilai lahus	X	X		X
Initial development in an area drives future development.		X		
Aging infrastructure		X		
Public safety / watershed health (landscape hazard and natural disaster)		X		x
Public/mental health	X		X	X
RF Emissions				X
Light pollution			X	X
Limited solar access			X	X
Noise pollution			X	X

Table 2: Relationship of Problems to Strategies

												Str	ategi	ies											
	Site-sensitive development	Precautionary principle	anup/brownfields	Balancing compact urban form and watershed health	Ecosystem services valuation	Regional identity	Reuse/maximum use of resources	Mitigate negative impacts to stormwater quality, habitat, bio communities	it" part of infr	Update policy gaps between code and comprehensive plan	Manage stormwater for multiple benefits	Manage stormwater as close to the source as possible	Integrate stormwater into the urban fabric	Groundwater protection	Pollution prevention	Stewardship/education	Protect existing high value habitat/species	Creating access to nature	Environmental justice	Bike facilities	Car free zones	Jrban agriculture	Housing/work proximity	Place-making	Energy Efficiency
Cumulative impacts of development on watershed health	X	X		X	ш	X	X	2 1		0		2 11	Π	X	X	X	X		ш	ш					
Degraded water quality			X					X	X		Х	Х	X	Х	Х										
Impacts of household chemicals on water quality							Х	х							Х	Х									
The breakdown of ecological processes (e.g. species loss)					X			X	Х				X				Х								
Poor soil health (nutrients/microbial community depleted or distorted; topsoil erosion; soil contamination)	x	x	x		71		x						7	X	х										
Tree canopy loss	X			Х	Х						X						Х	Х	X			Х		Х	X
Degraded air quality									X						X	X				X	X				X
Heat island effect									X											Х	Х		Х		X
Health implications of high density occupancy near pollution (air pollution; water quality; soil contamination)	X	х																	X						
Water supply (availability, storage, reuse) Land resources- site constraints (limited amount of land for desired development and		X			X	X	X				X			X	X										
Land resources- site constraints (limited amount of land for desired development and poor/bad/inappropriate use of land we have).	X	X		x			X				X	x													
Inconsistency and gaps in existing comprehensive plan/zoning code										Х															
Views/scenic	1				X	X			X							X	Х	X						х	
Pressure on industrial lands						=	Х									_	-	-							
Initial development in an area drives future development.	Х		X	X																					
Aging infrastructure				X		X					X												Х		
Public safety / watershed health (landscape hazard and natural disaster)	X	X							X			X						X							
Public/mental health																X	X	X	X	X	X	X			X
RF Emissions	X																					+		X	_
Light pollution	X																X	X						X	_
Limited solar access Noise pollution	X																_	~							X
Noise politition	X																X	X						X	

Framing Issues

The document "Portland Plan – Suggested Approach and Major Issues" (provided at the December 14, 2007 meeting of the Technical Working Group chairs) was reviewed and evaluated in the context of the work that had been completed by the ETWG. As previously noted, all of the Working Groups had been asked by the Bureau of Planning in October 2007 to develop "Big Ideas", which were generalized vision statements, specific to each Working Group, of how issues specific to each Working Group would be addressed in an updated Comprehensive Plan. The ETWG developed two original "Big Ideas" that were submitted to Bureau of Planning in October. These original two "Big Ideas" have been further refined, and two additional ideas added, to completely capture all of the issues/problems identified by the ETWG and articulate how they should be addressed in an updated Comprehensive Plan. Again, the four "Big Ideas" are:

- Plan With Nature
- Protect & Invest in Portland's Green Infrastructure
- Connecting Nature & Communities
- Improving & Maintaining Quality of Life

See "Major Conditions & Trends", above for further description of each of these ideas

The ETWG Big Ideas are related to and are critical components of seven Framing Ideas developed by the Bureau of Planning. This relationship is shown in Table 3. None of the Big Ideas fall outside the Framing Ideas, which are very broad and obviously also cover Big Ideas developed by the other working groups. Essentially, the ETWG's Big Ideas are specific articulations of the environmental components of three of these Framing Ideas.

Table 3: Relationship of ETWG" Big Ideas" to Portland Plan Coordinating Committee "Framing Ideas"

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			Portland	Plan "F	raming Id	eas"		
		A city designed to reduce global warming	Position Portland in the World Economy To Build on Local Strengths and Equity	A city designed to preserve Affordable Living	A City that Integrates Watersheds and Natural Systems	A City designed to reflect the existing Character of Place and to Grow	Human Health & Safety	Ways & Means
	Plan with Nature	X	X		X		X	X
FTWC	Protect and Invest in Portland's Green Infrastructure	x	x		x		X	x
ETWG "Big Ideas"	Connecting to Nature for Healthy Communities	x			x	x	X	x
	Improving and Maintaining Quality of Life	x		x	x	x	x	x

The ETWG responded to an assignment to relate its identified issues and strategies to the seven framing ideas. The results of this assignment are attached to this report. *Identified Issues* refers to the number of problems identified by the group that relate directly to the

Framing Idea. *Ideas/Opportunities* refer to those strategies that may help to address the problems. The issues and strategies in this assignment provide more of a narrative description and, where available, include data on existing conditions to support the characterization of the problem. In addition, the framing ideas assignment includes a brief analysis of current policy and policy gaps related to each of the Framing Idea areas.

Policy Document Evaluation Assignment

1. In the provided table, please briefly list the document's relevant policy themes (i.e. purpose).

Example: Portland Watershed Management Plan

- Improving citywide watershed health
- Use of science-based goals, objectives, and strategies
- Integrated approach to meeting regulatory requirements
- **2. Critical Issue Identification/Relevancy Rating** (Please enter responses in the provided matrix.)
- a. Which critical issues(s) identified by the group does the document address? (Refer to the Critical Issues Inventory)
- b. Does the policy remain relevant? (rate using the scale below)
 - 1= The policy is recent, reflective of current conditions, and requires little or no update.
 - 2= There are some terminology or other small issues, but overall the policy is relevant.
 - 3= There are some relevant areas, but also significant inconsistencies, areas of conflict, or major gaps.
 - 4= The policy is outdated and will require nearly complete overhaul.

Example:

	Issue A	Issue B	Issue C	Issue D
Document A	2	1		4

In this example, Document A addresses Critical Issues A, B, and D. Relative to Issue A, the document remains relevant, with some small issues; for issue B, the document is "up-to-date"; and for Issue D the document is outdated.

- c. Are there any additional critical issues addressed by the document, not already identified by the group? (If so, please describe issues and rate documents in the spaces at the end of the matrix.)
- 3. In the provided table, please describe the extent to which the document includes "forward-thinking" or innovative policies relative to the critical issue(s) it addresses?
- 4. In the provided table, please describe any policy shortcomings or gaps.

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ETWG Policy Document Evaluation

1= The policy is recent, reflective of current conditions, and requires little or no update.
2= There are some terminology or other small issues, but overall the policy is relevant.
3= There are some relevant areas, but also significant inconsistencies, areas of conflict, or major gaps.
4= The policy is outdated and will require nearly complete overhaul.

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ETWG Policy Document Evaluation

Policy Relevancy Matrix Issues Key

ID	Issue
V1	Population growth, decreased household size (including as a result of climate migration)
V2	Growing diversity
V3	Continued importance of the port and related industry
V4	Peak oil
V5	Climate change
1	Aging or missing infrastructure
2	Cumulative impacts of growth and development on watershed health.
3a	Proximity of housing to work
3b	Support for mixed use/light industrial
3c	Car free zones
3d	More bike facilities- needs for non-polluting transportation
3e	Health implications of high density occupancy near pollution / EJ
3f	Water storage, reuse
3g	Water availability, reliance on groundwater
3h	Water supply: streamflows, groundwater levels, and snowpack
4	Site-sensitive development.
5	Balancing compact urban form and watershed health.
6	Increasing understanding of natural systems/connectivity.
7	Changing relationship to environment/ Understanding future population values
8	Preservation of biodiversity
9	Loss of tree canopy.
10	Initial development in an area drives future development.
11	Redevelopment, reuse
12	Consumption, conservation, and reuse/ Wise use, maximum use of resources
13	Making "environment" part of our infrastructure
14	Valuation of ecosystem services.
15	Bioregional approach
16	Public health/mental health
17	Noise pollution*
18	Light pollution; also solar access
19	Archeological/historical resources
20	Views/scenic
21	Access to nature - "Last child in the woods"
22	Precautionary principle

ID	Issue
23	Air quality*
24	Water quality* (refers to in-stream conditions)
25	Land resources*
26	Radio Frequency emissions*
27	Heat island effect
28	Environmental Justice
29	Soil health
30	Urban agriculture, CSA, proximity of food to population
31	Impacts of household chemicals on water quality
32	Increasing pressure on port/industrial lands
33	Increasing awareness of regional identity
34	Manage stormwater for multiple benefits (category header)
34a	Stormwater- Integrate stormwater into the urban fabric
34b	Stormwater- Manage stormwater as close to the source as possible
34c	Stormwater- Mitigate negative impacts to water qual., habitat, bio communities
34d	Stormwater- View stormwater as a resource, not a waste product
35	Pollution Prevention
36	Public safety / watershed health (landscape hazard and natural disaster)
37	Energy Efficiency
38	Community stewardship/education role in protecting and restoring natural resources
39	"Place-making"
40	The breakdown of ecological processes (e.g. species loss).
41	Toxics- cleanup and brownfields
42	Groundwater protection

V= identified in visionPDX process

*= found in current Comprehensive Plan

Policy Themes, Innovation and Gaps

ID	Document	Identified Policy Themes (Question #1)	Identified "forward- thinking" policies (Question #3)	Identified Gaps (Question #4)
1	Comprehensive Plan (review Transport Section Goal 6 only)	 Right-of-way system stewardship Alternative transportation choices Environmental sustainability Comprehensive, systematic approach 	This is the Comp Plan goal that was used to create the TSP. It discusses some of the ETWG issues, but defers solutions to the TSP/supporting implementation. There is some discussion regarding greenscape streets and goals for their creation.	This policy is newer, but still does not go into much detail regarding the ETWG issues. It does discuss items (primarily those listed in #1, as well as some stormwater concerns), but leaves much to the implementation documents.
1	Comprehensive Plan - NOT TRANSPORTATION OR COMMUNITY/ NEIGHBORHOOD PLANS	Physical setting as contributing to the City's unique livability – regional context and local characteristics Emphasizes wise use of land, infrastructure; growth management, compact urban form, access to many transportation modes, preserving and enhancing environmental quality • Energy – 2-year action plan and long-term goals o Energy reduction targets by 2000 o Reduce greenhouse gases – 20% reduction in emissions by 2005 o Support research institute for energy. o Improve efficiency in municipal buildings o Prioritize capital spending to support energy efficiency o Assist low-income and elderly households o Promote mixed use for energy efficiency o Promote tree planting for cooling o Consider solar access standards, solar energy and daylighting, district heating and cooling o Telecommunications as energy-saving strategy o Energy recapture at landfills o Energy contingency plan for shortages	Climate Change Reduce greenhouse gases – 20% reduction in emissions by 2005 Support research institute for energy efficiency Consider solar access standards, solar energy and daylighting, district heating and cooling Telecommunications as energy-saving strategy Energy recapture at landfills Energy contingency plan for shortages Promote tree planting for cooling Social Equity O Prioritize capital spending to support energy efficiency Assist low-income and elderly households	 policies are vague about how to fund and prioritize improvements to aging or missing infrastructure environmental policies exist but only call for "balancing" natural resource, economic and development goals addresses water need, but doesn't speak to potential impacts of climate change little mention of stream flow no mention of climate change addresses need for protecting natural resources and speaks to "balancing" that with other goals minimal mention of habitat types; no reference to threatened species, Migratory Birds, etc. no real mention of preserving tree canopy almost no mention of public/mental health, except air quality; "Livability" may serve as a proxy

ID Document Identified Policy Themes (Question #1) Identified "forward-thinking" policies (Question #3)	Identified Gaps (Question #4)
Nillamette River for economy, recreation O Willamette River for economy, recreation O Alir, water and land O Refers to waterways – creeks, streams – as drainageways O Recognition of special areas – e.g. buttes, creeks, hills O Vegetation to improve water quality, provide wildlife corridors O Conserve resources through land use controls O Balance conservation with need for other uses (ESEE) (reads as a summary of the ESEE process) O Promote acquisition of significant natural areas O Control erosion O Conserve significant water bodies, wetlands and riparian areas for multiple benefits O Maintain Balch Creek trout run O Conserve uplands for wildlife, slope protection, groundwater recharge; encourage increased vegetation and habitat areas, wildlife corridors O Conserve and encourage creation of habitat areas throughout the city; incorporate into parks * Scenic resources O Prune to maintain and enhance designated scenic views O Provide turnouts O Bike/ped routes Cenhance scenic corridors, create new views of rivers, mountains, hills * Infrastructure/public facilities O Sanitary and Stormwater S Drainageways as conveyance for stormwater S "Where necessary, limit the increase of Portland's impervious surfaces without unduly limiting development in accordance wit the Comprehensive Plan."	way, including vegetated corridors along waterways Land resources mentioned extensively but lacks guidance based on current knowledge of conditions RF emissions addressed, but doesn't respond to cell towers or other current technology Heat island effect not

ID	Document	Identified Policy Themes (Question #1)	Identified "forward- thinking" policies (Question #3)	Identified Gaps (Question #4)
		 Transportation § Environmental sustainability in transportation – design, product § Minimize impacts on natural environment – e.g. stream crossings § Reduce VMT, promote walking, cycling, etc. § Consider environmental protection when addressing area-wide needs § Design in conjunction with the Urban Forestry Program § Street connectivity standards consistent w/ Metro standards; exceptions in "p" zones § Consider lifecycle costs § Transportation management, reduced auto use as air quality strategy Water § Maintain quality § Bull Run as primary, provide back up § No conservation strategies Parks – no natural resource mention Fire service – no reference to connection to natural resources Urban Design o Preserve public access to light and air o Enhance sense of living close to nature o Establish connected trails o Increase natural areas and public open spaces o Extend forest and water corridors, joined into a network of fish and wildlife habitat areas o Celebrate natural linear features, including rivers, creeks, ridgelines o Protect historic resources; create historic districts o 40-mile loop and Willamette Greenway Trails, with links to residential neighborhoods, parks, and metropolitan greenspaces 	(Question #3)	mention. Does not reflect current practices or priorities; does not provide sufficient or appropriate guidance for the OS zone. • E-efficiency research? • "Mixed-use" definition does not include open space

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ID	Document	Identified Policy Themes (Question #1)	Identified "forward- thinking" policies (Question #3)	Identified Gaps (Question #4)
		Other o References flood insurance and natural hazard reduction o Noise abatement – construction, airport o Aggregate – manage mining to minimize impacts; reclaim sites o Radio/Television emissions – protect health and safety of citizens; visual impacts	(Question #3)	

ID	Document	Identified Policy Themes (Question #1)	Identified "forward- thinking" policies (Question #3)	Identified Gaps (Question #4)
2	Portland Watershed Management Plan (TEES Goals)			The following are potential "gaps" in the goals and objectives of the Portland Watershed Plan based on work completed as part of Terrestrial Ecology Enhancement Strategy development process underway currently. From this work has emanated the following general objectives which are also being further specified for each of the watersheds: • Protect and restore anchor habitats • Protect and restore corridors between anchor habitats and between habitats and streams • Coordinate with adjacent jurisdictions to maintain anchor habitats and other important areas and to maintain linkages and corridors between them • Protect and create key urban habitat features, and creating additional features where appropriate • Protect and restore sites of importance to Special Status species, other identified priority species, and assemblages of species • Address significant wildlife management issues, including attractive nuisances, hazards and invasive plant and animal species • Create opportunities where people can make connections with nature where they do not negatively impact wildlife or their habitats

ID	Document	Identified Policy Themes (Question #1)	Identified "forward- thinking" policies (Question #3)	Identified Gaps (Question #4)
2	Portland Watershed Management Plan	Return Portland watersheds to conditions that protect human health, maintain ecological functions and support self-sustaining populations of native fish and wildlife. • Hydrology – "Move toward normative stream flow conditions to protect and improve watershed and stream health, channel functions, and public health and safety." o Intercept and infiltrate rainfall o Normalize stream flows o Reduce stormwater into sewers o Reduce basement flooding o Protect and restore function and connectivity of streams, wetlands, floodplains and riparian areas • Physical Habitat – "Protect, enhance and restore aquatic and terrestrial habitat conditions and support ecological functions, improve productivity, diversity, capacity and distribution of native fish and wildlife populations and geological communities." o Improve aquatic, riparian and floodplain habitat extent, quality and connectivity o Support the persistence of native fish and wildlife communities • Water Quality – "Protect and improve surface water and groundwater quality to protect public health and support native fish and wildlife populations and biological communities." o Improve stream temperatures, dissolved oxygen and pH levels o Limit sewer overflow o Limit pathogens in waterways o Manage stormwater to limit pollutants in surface water, groundwater, soil and sediment • Biological Communities – "Protect, enhance, manage and restore native aquatic and terrestrial species and biological communities to improve and maintain biodiversity in Portland's watersheds." o Assist in fish species recovery	Importance of natural resource connectivity Emphasis on a variety of habitat communities o Restore native terrestrial species to self-sustaining populations o Reduce populations of nonnative plants o Reduce competition of nonnative animals with native species Connecting watershed health and public health and safety	 addresses watershed health, but not direct connection to land use, growth impacts doesn't directly address climate change and water supply, but does speak to groundwater quality doesn't directly address climate change relationship to stream flows, but does speak to stream flows speaks to redevelopment only briefly as a potential for improved conditions doesn't specifically address environmental justice, but implementation would provide benefits. Missing substantial emphasis on brownfields, industrial, air pollution increasing pressure on port and industrial lands due to land scarcity is mentioned in narrative, but not policies

ID	Document	Identified Policy Themes (Question #1)	Identified "forward- thinking" policies (Question #3)	Identified Gaps (Question #4)
		o Restore native terrestrial species to self-sustaining populations o Reduce populations of non-native plants o Reduce competition by non-native animals • Protect Human Health and Safety through watershed actions, education and outreach		
		 Sustainability – implement actions that are sustainable in the long term Livability – Enhance access to nature, livability and aesthetics Economics – Actions should be cost-effective and equitable Take into consideration economic goals, indirect costs, externalities and eco-system services Foster community partnerships Educate the public 		
3	Endangered Species Act Vision statement	 Links urban form, thriving economy, and livability to healthy ecosystems and properly functioning habitat. Supports self-sustaining populations of wild, native fish and wildlife Commits to meeting the obligations of the Clean Water Act, the ESA, Superfund, Safe Drinking Water Act and other laws. 	Yes. Although just a vision statement, it sets a high bar on desired status for native fish and wildlife and makes the often overlooked connection between healthy ecosystems and a healthy, vibrant, economically bustling city.	Does not specifically address urban impacts that impede Vision, such as stormwater, toxics, loss of riparian area, or groundwater, only tangentially through "ecosystem process".
4	Sustainable City Principles	 Minimize the human impact on a diverse range of issues related to both the local and global ecosystems Conserve/protect natural habitats and species Support a stable, inclusive and equitable economy Focus on the future; utilize proactive measures to ensure a high quality environment for the entire community 	 The principles identified the importance of acknowledging the connections/linkages between the natural and built environment when creating policy. They cited the connection between local action and global impact. They were also inclusive and preventative in nature: 	

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			 Engage citizen/business involvement through education, partnered solution formulation and annual reporting. Ensure long-term sustainability by focusing on proactive measures, such as increased efficiency and reduced demand. 	
4	Natural Areas Acquisition Strategy			
4	Urban Forestry Management Plan			
5	River Renaissance Vision	River Renaissance Vision (as described in City Council Resolution 35978 and in River Renaissance Vision (April 2003)) • Improving ecologic and economic conditions in and around Willamette River • Integrated, multi-objective approach to achieving ecologic and economic progress • Identifies goals: clean, healthy river system; prosperous working harbor; vibrant waterfront neighborhoods; river as city's front yard; more partnerships, leadership, education. • Requires "integrated (or, at a minimum, coordinated) work plans" for City river efforts		Method for making tradeoffs needed

ID	Document	Identified Policy Themes (Question #1)	Identified "forward- thinking" policies (Question #3)	Identified Gaps (Question #4)
6	River Renaissance Strategy	River Renaissance Strategy (as described in City Council Resolution 36276 and in River Renaissance Strategy (December 2004)) A. In general, provides principles to guide City leaders in river programs and investments: o Consider the interrelated nature of the city and region's economic, natural, social and cultural systems, striving to optimize benefits in each of these areas. o Allocate the responsibility for the costs and impacts of accomplishing the River Renaissance Vision among public and private stakeholders in an equitable way. o Develop meaningful measures to monitor progress and success; o Consider the effects of current decisions on future generations, to preserve their choices and opportunities, and to reduce future costs and liabilities;. o Rely on civic leadership to demonstrate the River Renaissance approach through words, actions, and public investments. o Target investment to maximize benefits and spur innovation. B. Provides specific policy guidance for each vision theme (themes relevant to critical issues displayed below in abbreviated form): Clean and Healthy River 1. Recognize the relationship between upland watershed conditions and river and stream health [during development]. 2transform redevelopment and infrastructure projects into opportunities to improve watershed conditions 3. Promote low impact development principles that emulate natural water flow, minimize land disturbance, and incorporate natural landscape features into the built environment 4. Capture and clean stormwater through landscape design, downspout disconnection, and other techniques. 5. Address pollution at its source 6. Establish ecologically viable corridors for migratory fish and birds	The River Renaissance Strategy is forward-thinking and innovative not so much by virtue of any single, bold policy or directive, but by its seamless weaving of diverse economic and ecological interests, its support of new approaches to marrying urban form and watershed health, and the specificity with which it targets keystone projects.	Because it was formulated prior to the Watershed Management Plan and the Urban Forest Action Plan, the RR Strategy does not explicitly recognize these efforts, nor integrate the various implementation strategies in each. In addition, the growing concern about and understanding of climate change is not well-reflected in the Strategy. Need to review mechanism for implementing trail connections

ID	Document	Identified Policy Themes (Question #1)	Identified "forward- thinking" policies (Question #3)	Identified Gaps (Question #4)
		and other wildlife through habitat protection and restoration. 7. Protect and restore a healthy and diverse tree canopy in Portland		
		Prosperous Working Harbor 1. Stimulate Portland's competitiveness and growth as a major West Coast marine port 2. Invest in maritime, rail, air, and truck infrastructure improvements and demand management measures that improve freight mobility 3. Protect and enhance the industrial land supply, economic health and distribution-hub functions of the working harbor and Columbia Corridor industrial districts 4. Maintain and enhance buffers[for] industrial districts [that] separate them from other land uses 5. Facilitate industrial redevelopment, particularly on brownfield sites 6. Improve the transparency, predictability, and timeliness of regulatory systems 7. Promote environmentally beneficial industrial operations and		
		Fortland's Front Yard 1. Expand, preserve, and enhance an interconnected system of parks, trails, and open spaces along the Willamette and Columbia Rivers and in the Fanno, Johnson, Tryon, and the Columbia Slough watersheds. 2. Provide ample, safe connections for pedestrians and bicyclists between neighborhoods and the water's edge. 3. Create a variety of settings to accommodate a diverse range of river-related recreational opportunities. 4. Expand opportunities for boating, fishing, swimming, and other in-water recreational activities. 5. Incorporate public art, viewpoints, and educational displays		

ID	Document	Identified Policy Themes (Question #1)	Identified "forward- thinking" policies (Question #3)	Identified Gaps (Question #4)
		about Portland's history, natural environment, and harbor economy into the design of the trail and open space system. 6 develop a continuous trail over time along both sides of the Willamette River		
		Vibrant Waterfront Neighborhoods 1enhance the Willamette River as Portland's centerpiece by shaping the city's urban form, industrial development, environmental health, public spaces, river communities, and neighborhoods.		
		2. Consider the history and special qualities of the Willamette and Columbia Rivers when designing buildings, landscaping, streets, parks, and public art in waterfront districts. 3. Create and enhance community gathering places near the Willamette and Columbia Rivers		
		4. Ensure that any future reconfiguration of Interstate 5 through the Central City enables improved access between neighborhoods and the river and addresses the needs of freight, rail, and automobile traffic5. Consider the urban and economic development implications of		
		individual I-5/405 freeway loop concepts. 6. Acknowledge and support the important role that existing floating home moorages, marinas, water-related business, and recreation play in the vitality of Portland's waterscape.		
7	Urban Forestry Management Plan	 The overall goal of the plan is to improve the coordination of the agencies managing the forest and provide direction and maintenance of the forest. Relevant policy themes: Integration of grey and green infrastructure assists in meeting relevant local, state and federal mandates. Use of scientific and coordinated monitoring to ensure proper management and continued improvement of the forest. 	A focus on partnerships between bureaus in order to produce an efficient management of the forest and pool resources (information and expertise, as well as funding). Encouraging public	
		o Promotion of stewardship improves care of the urban forest. o A focus on equity in order to provide benefits for all residents.	participation through education/stewardship.	

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			 Quantifying the costs and benefits of the forest in order to promote a more engaged participation. Identification of opportunities specific to citywide land uses, rather than neighborhoods (example: residential, industrial, etc.). 	
8	Parks 2020			

ID	Document	Identified Policy Themes (Question #1)	Identified "forward- thinking" policies (Question #3)	Identified Gaps (Question #4)
9	Southwest Community Plan	 Parks as a way to protect biodiversity, habitat, access to nature (via trails) and scenic areas Remove invasives Encourage community stewardship Protect streams – reduce volume, velocity and pollutant load, Improve dry-season flows, protect stream stability Support recovery of sensitive species Maintain and enhance urban forest canopy and native vegetation in headwaters, uplands, habitat areas Integrate watershed planning into land use planning to prevent degradation of habitat Correct infrastructure deficiencies; fund and plan for infrastructure Integrate stormwater management into design for mixed use areas, transportation facilities and residential sites Encourage innovation and multi-objective approaches in stormwater management Protect special areas – Tryon Creek, Terwilliger Boulevard, Willamette Greenway Consider public safety and avoid private property damage by protecting natural resources and through stormwater management Promote bicycling and walking; improve safety Provide a mix of jobs and goods within the area 	 Calls for integrating natural resource protection into design in mixed use areas, transportation and individual properties Recognizes multiple benefits of natural resources – e.g. public safety, aesthetics, stormwater management, water quality, etc. Calls for watershed perspective in land use planning Calls for protecting urban forest canopy in uplands and headwaters Emphasizes protecting biodiversity; calls for recovery of threatened species, removing invasives, providing a variety of habitat types 	 some acknowledgement of need to respond to growth pressures provides little guidance/ability to accommodate additional growth implies but does not state integration of environment and infrastructure by stating multiple benefits of environment, including public safety, recreation, etc. provides a foundation for the valuation of ecosystem services, but doesn't state it Public/mental health considerations are not stated, but are implied in livability, public safety, access to recreation. doesn't address heat island effect, but does speak to urban forest and natural area protection, which would mitigate heat island effect doesn't address the impacts of household chemicals directly, but does call for citizen education about natural resource protection
10	South Waterfront Plan	"Integrate natural resource values related to water quality, stormwater and fish and wildlife habitat into the district's infrastructure and urban form."	Calls for integrating stormwater management into	 building orientation emphasizes east/west views. Result could be blocking of sunlight from the

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		Habitat O Develop parks and greenway for recreational and ecological benefits "Within the greenway, build communities of native vegetation that offer visual variety and functional and enhanced habitat for wildlife." Upland and riparian habitat in the greenway Ensure bank stability, prevent erosion Work to recovery of threatened fish species; Improve fish habitat through bank and in-water work Infrastructure/Stormwater management Water quality friendly streets and parking lots Emphasize low-impact development, reduce impervious surface, multi-objective stormwater management Encourage eco-roofs and other landscaped, on-site approaches Climate Change/Peak Oil Provide for day-to-day needs of residents – jobs, goods, services, recreation Maximize housing close to jobs at OHSU and in downtown Sets mode splits of 30% total and 40% work non-auto trips by 2019 Emphasis on peds, bikes, streetcar, bus and tram Greenway for transportation Encourage LEED certification Land Use and Urban Form Orient buildings and regulate building forms to maximize views of the river from the district and of Mt Hood from Terwilliger Boulevard	all aspects of the area's infrastructure and parks system • Recognizes the greenway trail as a transportation facility • Calls for a variety of native plants for habitat benefits • Integrates natural resource issues into highly urban environment	south. Contamination: needs policies re: appropriate methods and reuse; should guide away from rip rap

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		Soil contaminationFreeway noise		
11	Division Green Street Plan/Main Street Plan	The plan is intended to guide the Division Streetscape project which as of this date has not been taken beyond this conceptual planning point. The project study area was between SE 11th and 60th Ave along SE Division. Its stated policy themes are: Improving access to transit Improving safety for pedestrians, bicyclists, and drivers Improving traffic signalization Examining alternative vehicle lane and on-street parking configurations Examining innovative rainwater management techniques Examining land use patterns in relation to existing zoning Proposing zoning changes consistent with project goals (zoning changes do not result in major changes in development density) Examining "green" building techniques	Very much so at a conceptual level	
12	Pleasant Valley Concept Plan and Plan District	 Pleasant Valley Concept Plan- Goals Preserve, protect and restore natural resources – stream corridors, forested areas, buttes. Identified resource areas provide basis for identifying buildable and non-buildable areas, and will serve as community open space amenities. Resource protection will include strategies to protect endangered species, water quality and the aquifer. Resource protection and enhancement will be a shared responsibility and partnership of property owners, governments and developers. 		No real mechanism for natural areas acquisition Resource "balancing" needs to be based on ecosystem stressors.

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		Use "green" development practicesto produce minimal impacts on the environment, including flooding and water quality in Johnson Creek. The plan will incorporate guidelines for stormwater and resource management by subwatershed, and will enhance natural hydrologic systemswill incorporate green street designswill integrate green infrastructure with land use design and natural resource protectionenergy savings measures. (Italics added) Locate and develop parks and open spaces throughout the community. Parks and open spaces will be within a short walk of all homes – network of bicycle and pedestrian routes and paths. Parks and trail system to be connected to Springwater Trail, Powell Butte and other regional trails and greenspaces. Pleasant Valley Plan NR goal and policies – summary Goal: Urbanization of PV shall preserve, enhance, and restore natural resources. Policies address the following issues more specifically: urbanization shall be balanced with resource protection design road crossings for least impact impervious area and tree protection and reforestation flood management – protection for wetlands and floodplains for improved hydrology and flood management; flow management in Kelley Creek increase quantity and diversity of upland habitats; more connected habitats maintain and restore connections between upland and riparian habitats maintain and restore connections to surrounding areas fish passage and wildlife barriers erosion control and green development practices		

ID	Document	Identified Policy Themes (Question #1)	Identified "forward- thinking" policies (Question #3)	Identified Gaps (Question #4)
		Pleasant Valley Plan Green Development Practices goal and policies - summary • Goal: PV shall be a "green" community where green infrastructure is integrated with land use and street design and natural resource protection • Policies address the following issues more specifically: - Tree planting and preservation throughout watershed - Green streets design - Community design and infrastructure plans should minimize environmental impacts, enhance natural hydrologic system, incorporate energy savings, and guidelines for resource management by subwatershed - Avoid utility placement in resource areas where practicable		
		NOTES: Goals provide focus on how resource areas are intended to shape the form of the district (basis for identifying buildable and non-buildable areas). Focus on prevention of impacts. Important recognition of joint public and private responsibility and partnership in resource protection and enhancement. Recognition of habitat connections to other areas. Direction to use green development processes and establish guidelines by subwatershed.		
		Pleasant Valley Plan District – Purpose (33.564.10) • Pleasant Valley plan district implements the Comprehensive Plan's goals, policies and action measures for Pleasant Valley; creates an urban communityand furthers the Pleasant Valley vision to integrate land use, transportation and natural resourcesextensive protection, restoration and enhancement of natural resources.		
		PV Plan District - Transfer of Development Rights (33.564.070) • Preserves development opportunities for new housing and reduces development pressure in environmentally sensitive areas.		

ID	Document	Identified Policy Themes (Question #1)	Identified "forward- thinking" policies (Question #3)	Identified Gaps (Question #4)
		• Can transfer number of allowed units on properties with certain percentage of NR overlay zone to other properties within PV District or JC Plan District with some restrictions.		
		NOTES: Calls for integration of land use, transportation and natural resources.		
		Pleasant Valley Natural Resources Overlay Zone – Purpose (33.465.10) • Protect and conserve significant natural resources in Pleasant Valley, recognizing that existing houses and other existing uses will continue and limited new development will occur in the zone. • Facilitate restoration and enhancement of stream corridors, wetlands, and forests within Pleasant Valley. • Maintain streams and riparian areas as a natural area amenity for the community of PV • Protect existing floodplains and wetlands, and restore these areas for improved hydrology, flood protection, aquifer recharge, and habitat functions. • Protect upland habitats and enhance connections between upland and riparian habitats within Pleasant Valley and between Pleasant Valley and the nearby habitats of Powell and Clatsop Buttes and Butler Ridge. (Italics added) • Maintain and enhance water quality and control erosion and sedimentation through revegetation of disturbed sites and through limits on construction, impervious surfaces and pollutant discharges in the zone.		
		• Conserve the scenic, recreational, and educational values of significant natural resources in the zone.		
		NOTES: Recognition that the overlay zone will continue to accommodate existing uses and some limited new development (not a "no touch" zone). Focus on restoration and enhancement. Commitment to protect existing riparian AND upland features AND		

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		the diverse functions they provide. Recognition of natural resources in protecting public health and safety (flood protection, erosion control). Calls for revegetation and limits on construction and impervious area.		
		Development Standards – Purpose – (33.465.10) • Encourage sensitive development while minimizing impact on resources • Provide clear limitations on disturbance within resource areas • Ensure that new development and alterations to existing development are compatible with and preserve the resources and functional values protected by the Pleasant Valley Natural Resources overlay zone; • Provide clear planting and erosion control requirements • Limit the impacts on resources and functional values resulting from construction of certain types of utility facilities.		
		NOTES:		
		Pleasant Valley Resource Review – Purpose (33.465.210) • Prevent harm to identified resource and functional values, compensate for unavoidable harm, and ensure the success of mitigation and enhancement activities note: chapter provides mitigation standards and criteria for alternative mitigation approaches.; • Provide a mechanism to modify the development standards of this chapter if the proposed development can meet the purpose of these regulations; • Provide flexibility for unusual situationsalterative designs for development that have the least impact on protected resources, and more exacting control over development in the PV NR overlay zone; • Allow for more accurate maps and more certainty for property		
		 zone; Allow for more accurate maps and more certainty for property owners by allowingthe zone boundary to be modified when 		

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ID	Document	Identified Policy Themes (Question #1)	Identified "forward- thinking" policies (Question #3)	Identified Gaps (Question #4)
		permitted change a resource occur or when the boundary location is determined more precisely on a specific site through a more detailed study; and • Provide for replacement of resource values and functionslost through violations of this chapter. NOTES: Recognition that development reviews can provide flexibility AND certainty. Recognition that resource maps are subject to change based on more current and/or detailed information. In other words, the maps are used as planning tools		
13	Bureau Mission Statements	but are not expected to be perfect.		
14	Lower Columbia Steelhead Recovery Plan	 Linking quality of life to health of salmon Commitment of the City to cooperate with state, federal and local entities to protect and recover Lower Col. River steelhead, listed as threatened in 1998. Approaches must support both recovery and livability, such as Portland Future Focus Created ESA Steering Committee with appropriate Bureau representation to make city-wide recommendations. Establishes Commissioner of Public Works to direct a programmatic response developed in partnership with feds with all approaches – regulation, incentives and otherwise, on the table. Public involvement Shared cost across bureaus 	At the time, yes, because most municipalities were fighting the listings. Portland acknowledged the problem and committed to solving it. Because of the lack of details and the lack of improvement in the City's populations of salmon, it is no longer valid to consider this policy forward thinking.	More of a process based document, lacks specifics of problems and solutions. Does not specifically call out issues within the urban environment or how the city is responding.
15	Portland Recovery Plan for Salmon and Trout	 Linking quality of life to health of salmon Commitment of the City to cooperate with state, federal and local entities to protect and recover listed salmon and steelhead. Approaches must support both recovery and livability, such as 	At the time, yes. No one was developing recovery plans at the time. The Framework itself – see other document review –	More of a process based document, lacks specifics of problems and solutions. Does not specifically call out issues within the urban environment or

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		Portland Future Focus Adopted Framework as basis for a city-wide recovery plan Directed development of a city-wide recovery plan linking federal and state objectives and obligations as well as requiring all bureaus to work on it based on existing actions. Public involvement	is very forward thinking and continues to form the basis of the recovery plan. However, the Framework remains very relevant and formed the basis for the Portland Watershed Management Plan. Following the call of this ordinance, Portland has engaged in the federal-state efforts to write a comprehensive Lower Columbia River Recovery Plan, which would supersede, to the extent there are any inconsistencies, the City's recovery plan. We are currently working in that process to develop a robust federal recovery plan and a companion city plan.	how the city is responding.
16	Lower Columbia Recovery Plan (under development)	 Recovery of all salmon and steelhead in the Lower Columbia River to healthy, sustainable, fishable levels by 2050. Should include specific actions for local, state and federal entities. Includes benchmarks and metrics to measure success Not binding regulation, but will inform ESA consultation on activities that trigger the ESA. 	Not yet. Still in development. Does not do an adequate job of evaluating future threats (i.e. climate change, population growth projections etc.). The current draft does not include enough credible actions to achieve the recovery goal. The City of Portland's activities have not yet been included in this federal recovery plan.	Until very recently, failed to acknowledge any significant impact from the urban setting such as toxics, hydrology, land conversion, stormwater or groundwater. Fails to acknowledge future threats.

ID	Document	Identified Policy Themes (Question #1)	Identified "forward- thinking" policies (Question #3)	Identified Gaps (Question #4)
17	Framework for Integrated Management for Watershed Health	 A holistic, scientific basis for moving from broad, watershed goals to site-specific actions intended to benefit watershed health and function, and form the first step in creating a city-wide ESA recovery plan for listed salmon and steelhead. Establishes City's 4 overarching, categorical goals for watershed health: Hydrology, Physical Habitat, Water quality, Biological Communities; and establishes the health of salmonids as the measure of success in meeting those goals by establishing objectives and benchmarks. Establishes a standardized process to meet the goals: 1) Describe conditions; 2) Diagnose the problem; 3) Identify and prioritize actions; 4) Monitor results. 	YES! It not only led to the development of the Watershed Management Plan, but continues to inform the City in the development of the local and federal salmon and steelhead recovery plan. The science behind it is robust and sound, and the goals, objectives and process approach are being repeated in other contexts. Furthermore, it is currently being implemented effectively.	Science based document, not a policy document. Creates a process and identifies problems generally but not specifically. The individual watershed management plans take this one step further to get at the specifics in each system. In order to cover the gaps, this document should be considered the overarching document to the PWMP and watershed management plans.
18	Stormwater Management Manual	 To implement onsite stormwater management policy for all development requiring maximum use of surface vegetated facilities for both water quality, and flow control Provide technical guidance for the design and sizing of stormwater management facilities Provide decision making criteria for discharge of treated stormwater 	The SWMM is forward thinking in the technologies it approves and proposes. It has gaps in what it could be if it were a regionally accepted document instead of only City of Portland. In addition, it should be modified to tie into water reuse approaches.	
19	Erosion Control Manual	 Prevent erosion not just contain sediment Control all pollution, not just dirt Preserve plants and provide vegetative cover ASAP Need additional controls for sensitive sites 	Mostly on the concept of pollution prevention and use of naturalized systems.	Limited watershed health context. Not fully protective of ESA. Issues with enforcement

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20	Natural Area Acquisition Strategy			
21	Portland Plant List	 PPL's an "integral component of City of Portland's natural resource protection program." "Portland's native plant policy is designed to ensure that the continued viability and diversity of indigenous plant and animal communities, promote the use of plants naturally adapted to local conditions, and educate citizens about the region's natural heritage and the values and uses of native plants." A healthy native plant community serves many important functions: habitat; air and water quality, stabilizes stream banks and hillside slopes (public health and safety); dissipates erosive forces; ameliorates the local microclimate, and reduces water and energy needs (sustainability and climate change); and provides scenic, recreational and educational values which, in turn enhance Portland's' livability. Native plants are part of Portland's heritage. 		 Nuisance Plants are allowed to be planted in the City (outside environmental zone resource areas) unless required in a landscape plan. Effects ability to meet policy objectives. Policy gaps include attention to watershed systems and cumulative impacts – Portland Plant list is used to address development site-by-site – generally and doesn't recognize proliferation of nuisance plants between resource areas and other areas in the City.
22	Columbia South Shore Well field Wellhead Protection Program	 Regulates use, storage, transportation and handling of hazardous materials of affected businesses to reduce risk of spills and subsequent groundwater contamination. Establishes wellhead protection area boundary Provides education, outreach and technical assistance to business, industry, agriculture and residents to support implementation of the groundwater protection program 	 Program developed collaboratively with affected stakeholders Uses multiple approaches for program compliance. Integrates existing requirements and procedures to reduce duplicate and overlapping regulations and inspections. 	Groundwater/spill protection in public rights of way not well addressed in this and other policy documents.

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23	Urban Services Policy	The Urban Services Policy was intended to prevent retailing of urban services. Its intent is to limit the use of City resources outside the City of Portland, and to require that anyone needing City Services become part of the City. It also intended to limit annexations to those the City can serve appropriately. Quality of life and environmental impacts are not addressed by this policy. It only refers to urban services in the limited context of Fire, sewer, transportation.	No. There is no discussion that would address regional approaches to the environment.	
24	Source Water Protection Policy	 Bull Run water system will continue to be managed to provide a highly protected water supply for PDX area. Work with U.S. Forest Service to ensure that raw water quality from Bull Run watershed remains as good or better than currently existing. 		
25	City Council resolution adopting the Stormwater Management Manual	This document does not substantially add to the body of policy. See entry for Stormwater Management Manual, document #18.		

ID	Document	Identified Policy Themes (Question #1)	Identified "forward- thinking" policies (Question #3)	Identified Gaps (Question #4)
26	Transportation Systems Plan	 Right-of-way system stewardship Alternative transportation choices Environmental sustainability Comprehensive, systematic approach 	The TSP does very peripherally address multiple ETWG issues, with some forward thinking regarding Critical Issue V1 (specifically with regards to mixed-use development ideas and increased density effects on the comprehensive right-ofway system). There is not a large volume of detail regarding how to address these issues; that seems to have been left to the implementation documents.	Due to the age of the document, there are significant gaps in most policies, outside of comprehensive ROW system development.
27	Stormwater Management Plan	 Enhance water quality to maximum extent practicable Onsite pollution prevention and control Multi-objective approaches Vegetation Preservation and enhancement Restoring watershed health by controlling system discharges City-wide efforts Strong emphasis on citizen education and participation 	Mostly on the concept of pollution prevention and use of naturalized systems.	Intentionally avoids compliance items beyond minimum required (attorney direction). Needs to address climate change more.
28	Underground Injection Control Management Plan	 Protect drinking water resources Onsite pollution prevention and control Multi-objective approaches Retrofitting of sub-standard facilities Restoring watershed health by controlling system discharges 		Intentionally avoids compliance items beyond minimum required (attorney direction). Identifies gaps in enforceability of threat tot the City drainage system.
29	CSO Facilities Plan/ASFO	 Protect public health by controlling and minimizing sewer overflows. Onsite volume controls Separating / daylighting clean water flows (streams, discos) Assuring limited impacts from newly separated stormwater Multi-objective designs for all surface facilities. 	Need to address future flow issues with use of surface facilities, not just pipes. All solutions should enhance multiple watershed health objectives.	Fairly comprehensive in issues, but limited coverage area. Still struggling with adjusting plans based on benefits of natural vegetation.

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30	Willamette Riverbank Design Notebook	Willamette Riverbank Design Notebook (May 2001) Re-iterates City Council decision to not "limit itself to the Endangered Species Act's minimum legal requirements[but] to promote recovery of listed species through the restoration of healthy local watersheds." provides guidance for repair and modification of the river's edge integrates cultural, physical, biological and economic opportunities and constraints to redevelopment of the river's edge.		
31	Portland Clean River Plan**	The Plan describes ten actions for success: 1. Aggressively control combined sewer overflows 2. Plant trees, native vegetation, and create buffers along streams 3. Reduce stormwater flow and pollutants reaching our streams 4. Upgrade Portland's eastside sewer system 5. Control erosion from construction and development 6. Increase pollution prevention and source control 7. Education and stewardship 8. Floodplain restoration 9.Watershed assessment and monitoring 10. Coordination and partnerships		
32	Trails Strategy			

ID	Document	Identified Policy Themes (Question #1)	Identified "forward- thinking" policies (Question #3)	Identified Gaps (Question #4)
32	Recreational Trails Strategy**			
33	Metro Greenspaces Master Plan/Connecting Green**			

ID	Document	Identified Policy Themes (Question #1)	Identified "forward- thinking" policies (Question #3)	Identified Gaps (Question #4)
34	Toxics Reduction Strategy**	"Toxics Reduction Strategy: A plan for minimizing use of toxic substances of concern in government operations by using the Precautionary Principle." Adopted by City Council and the County Board of Commissioners in May 2006 (Resolution No. 36408). More information: http://www.portlandonline.com/osd/index.cfm?c=42398& The long-term vision of the Strategy is to promote a healthy community and environment by eliminating the governmental purchase, release and use of toxic substances that present potential negative health or environmental impacts. Specifically, the Strategy establishes the goal of using the Precautionary Principle as a framework for replacing toxic substances, materials or products of concern with viable least-toxic alternatives by 2020. These efforts will be guided by the following principles: Use products and substances that do not contain or generate persistent bioaccumulative and toxic chemicals, heavy metals of concern, or known, probable or suspected carcinogens, mutagens, teratogens, endocrine disrupters, organ toxics or respiratory irritants. Use effective and progressive integrated pest management strategies to minimize reliance on pesticides of concern and to ensure careful screening of products and application to minimize adverse impacts. Effectively utilize procurement tools that support toxics reduction in the purchase of all goods and services. Implement best management practices that support toxics reduction and proper waste management in all operations. The vision, goal and guiding principles outline the overarching intent of the Strategy to minimize the use of toxics at the City and County. The Strategy contains 40 specific action recommendations to begin achieving these goals. The recommendations include, but	The Strategy is innovative because it incorporates the "Precautionary Principle" as a decision-making framework, which builds upon traditional risk-assessment based decision-making. Very few governments in the US have explicitly incorporated the Precautionary Principle into their efforts to date (San Francisco and Seattle have). The Strategy is also innovative because it seeks to work up the supply chain (in terms of future government procurement activities) to influence the design of products and the practices of vendors and suppliers (these are long-term actions that are planned).	It is important to note that the Strategy is primarily focused on internal government operations and does not cover external programs that the City or County might deliver related to pollution prevention or toxics reduction. The focus of the Strategy is to lead by example and share our best practices with the public, but the Strategy does not contain externally focused recommendations.

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ID	Document	Identified Policy Themes (Question #1)	Identified "forward- thinking" policies (Question #3)	Identified Gaps (Question #4)
		 are not limited to: Establish a purchasing policy, product specifications and boilerplate procurement language to specifically support the reduction of toxics. Completion of a comprehensive chemical inventory and development of a chemical management system. Evaluate alternative cleaning products, disinfectant practices, laundering services, light tubes, electronics, industrial paints, wheel weights, fuels, medical supplies, office supplies and building materials. Implement best management practices that support toxics reduction and proper waste management, such as the recycling of heavy metals and electronic wastes, and a comprehensive idle reduction program. Review, modify and update the Strategy on a regular basis. An inter-bureau and inter-agency Toxics Reduction Strategy Steering Committee has been established and they are currently overseeing the implementation of the Strategy. This Steering Committee has selected 3 of the recommended actions to get started with, including developing procurement and disposal specifications for low-mercury light tubes, prioritizing the mercury reduction efforts in the Strategy, as well as designing a citywide chemical inventory. 		

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35	Diggable City Project**	The Diggable City Project explores the potential for urban agricultural development in the City of Portland.		The Diggable City Project recommends the following actions:
				1: Develop an Inventory Management Plan The Office of Sustainable Development, Office of Neighborhood Involvement, and the Food Policy Council should develop a plan for administering the use of these sites that is just, equitable and sensitive to the needs and characteristics of surrounding communities. The inventory data should also be made accessible to community groups, educators, farmers and citizens who are interested in using these lands. 2: Expand the Inventory and Develop Evaluation Criteria To fully realize the potential of urban agriculture, the City should expand the inventory further and more completely develop the criteria using the collaborative efforts of City bureaus for reviewing parcel suitability. 3: Create An Urban Agriculture Commission Create an Urban Agriculture Commission similar to the Urban Forestry Commission. This commission would consist of citizens and a City

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				representative, and would review plans and policies and makes recommendations on urban agricultural issues. 4: Adopt a Formal Policy on Urban Agriculture Given stakeholder awareness of the inventory and support for urban agricultural activities, the City should craft a comprehensive urban agriculture policy that addresses the environmental, health, and social benefits of urban agriculture and provides a vision for the future of urban agriculture in Portland. 5: Conduct a Comprehensive Review of Policy and Zoning Obstacles To fully realize the benefits of urban agriculture, the City should conduct a detailed review of Portland's current policy and zoning to identify obstacles that could be mitigated to improve the opportunities to realize urban agriculture. In general, needs more analysis and
				evaluation.

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ID	Document	Identified Policy Themes (Question #1)	Identified "forward- thinking" policies (Question #3)	Identified Gaps (Question #4)
36	Cultural Resource Protection Plan			
37	Zoning Code Purpose Statements			

ID	Document	Identified Policy Themes (Question #1)	Identified "forward- thinking" policies (Question #3)	Identified Gaps (Question #4)
38	TMDLs	 Minimize loads of pollutants to surface waters. Onsite controls preferred Implement through other mechanisms (permits, watershed plans, etc) Measure at stream system levels. 	These policies demonstrate the absolute need to think of all impacting issues and to do multi-objective work. This is the one location the bureau delved into other environmental issues outside its mission such as air quality, solar radiation, etc.	Issues with international air quality affects – need to address more than local issues. Many sources of environmental concerns are on privately held land and therefore more difficult to address.
39	Central City Plan	Reduce pollution Reduce air pollution Reduce air pollution Improve water quality in the Willamette River Keep the Central City clean and green Discourage littering Provide opportunities to enjoy nature Enhance urban wildlife habitat areas Reduce noise and have quiet areas Willamette River Provide riverfront trail Celebrate the river's importance Provide opportunities to see and enter the river Parks and Open Spaces Provide greenbelts with trees that connect parks and open spaces	Alternative fuels for transit	 strong emphasis on growth management, though housing targets are dated some discussion of diversity in some sub districts no recognition that Central City activities could affect river or watershed health no recognition of the connection between compact urban form and watershed health no recognition of the connection of natural systems no recognition of threatened fish species. Habitat is mentioned as an aesthetic benefit for people Loss of tree canopy is not addressed Making environment part of infrastructure is not addressed only relevant mention of bioregion relates to the Willamette River and views mentions noise pollution, but no

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40	Brownfields Policy	The Portland Brownfield Program is currently drafting a guidance document. The scores in the matrix reflect general program activity and goals.		clear action on how to address Water quality is mentioned but no strategy to address no mention of riverfront and inwater habitat for threatened fish species, migratory or resident birds Serious omission of heat island effect given the amount of imperious surfaces Environmental justice only addressed in relation to air pollution and access to nature The City does not currently have a policy document for brownfields.