JACOBS CONSULTANCY

AIRPORT FUTURES
CHARTING A COURSE FOR PDX

PORTLAND INTERNATIONAL AIRPORT MASTER PLAN UPDATE

Sustainability Report

Prepared for
Port of Portland

July 2010

PORT OF PORTLAND
Possibility. In every direction.™

City of Portland Bureau of
Planning and Sustainability

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Airport Futures was a collaborative process involving the Port of Portland, City of Portland, and the Portland-Vancouver metropolitan community. Beginning in fall 2007 and concluding in spring 2010, the Port updated its 2000 Airport master plan and the City developed a land use plan for Portland International Airport (PDX).

The Portland City Council and the Port of Portland Commission agreed that both the City land use plan and Airport master plan were to incorporate the principles of sustainability.

A key part of the Airport Futures process was to engage the public in the development of the land use plan and Airport master plan. To this end, an extensive public involvement program was developed centered on a 30-member Airport Futures Planning Advisory Group (PAG). The PAG worked in partnership, to support the core team, comprised of Port, City, and consultant staff.

In addition to the PAG and focused PAG subcommittee work, Airport Futures staff were engaged in a significant outreach effort to key stakeholders through meetings, open houses, electronic project updates, website, surveys, and other tools. The goal of the public involvement program was to provide a mechanism for open, honest, and transparent communication.

The Vision for a Sustainable Airport

Early on in the process, the PAG adopted a sustainability Vision for the master plan update and City land use plan for PDX. In addition to this, the PAG articulated a set of Values to be used to guide planning efforts and establish a set of benchmarks that could be used to compare alternatives. The Vision established that sustainability was an overarching goal of Airport Futures and that it was important to meet the region's aviation needs without compromising the livability and quality of life for future generations. The Vision and Values recognize the long-term, critical interconnection between economic development, environmental stewardship and social equity.

The PAG also produced a set of sustainability guiding principles. The purpose of these principles is long-term and is intended to help measure and track progress towards meeting the overall sustainability Vision.

Producing a Sustainable Master Plan and Land Use Plan

Sustainability was integrated at every stage of the planning process and resulted in numerous contributions to the quality of the master plan update and City land use plan, including:

- An inventory of existing conditions emphasizing natural resources and multiple study areas that exceeded the bounds of airport properties to promote understanding of the influence of airport operations both within and beyond the airport boundaries.

- Probabilistic forecasts of aviation demand involving the identification of key issues and trends affecting future demand, as well as a logical structure to incorporate stakeholder input to the forecasts.

- Anticipated new technology, changing processes, common use facilities, and other means to maximizing the utility of existing facilities will delay or preclude the construction of new facilities.

- Evaluating development alternatives against sustainability criteria, to determine the most favorable option for development. For example: Terminal Expansion East (an initial phase of a centralized terminal concept) was selected as the long-range development concept because it best meets the sustainability criteria:

    - *Preserve future development options* – The plan provides flexibility to change the long-term terminal development concept to address unanticipated future conditions.

    - *Minimize environmental impacts* – The amount of demolition and construction, and the area of impervious surface required is minimized.

    - *Use land resources efficiently/maximize operational efficiency* – Related functions will be clustered within the core development area, contributing to the efficient use of land and maximizing operational efficiency.

    - *Ensure development can be effectively phased* – Facilities can be implemented in an incremental manner with minimum inconvenience to customers and the public.

- A long-range development plan that will meet the region's aviation needs, is flexible, enhances capacity by increasing operational efficiency, and favors reuse and redevelopment over development.

- An implementation strategy for the Master Plan that is affordable and based on demand.

The major sustainability outcomes of the land use plan included:

1. Recognizing the importance of PDX to the bistate regional economy, the plan provides the Port with certainty that PDX will continue to operate as an allowed

use in its current location along with the flexibility to configure Airport facilities to be responsive to future needs.

2. Recognizing the potential impacts of growth (e.g., impacts related to natural resources, traffic, and noise), the plan provides mitigation of impacts and assurances to the community that significant new Airport development (e.g., a third parallel runway, decentralized terminal configuration) will involve a significant planning process and Portland City Council approval.

3. Recognizing that planning is a continuous process, the plan provides for an ongoing and highly collaborative public involvement process to address future issues associated with operating an airport in an urban area.

Conclusions

The successful integration of sustainability into the various Airport Futures products is due in large part to the PAG and core team's open communication, willingness to learn and willingness to allow new information and understanding to shape the process.

The integration of sustainability has without a doubt made a difference in the end product and created a shift in the way the Port will tackle airport planning in the future. Future efforts will include engaging the PDX Community Advisory Committee (PDX CAC) in an ongoing conversation about the planning, development and operation of the airport.

Measuring performance and progress against the guiding principles and sustainability goals is an important next step in the ongoing process of Airport Futures. Recognizing that sustainability is an adaptive process which should result in continuous improvements in performance, it is essential that a method for monitoring is established; a means of reporting performance is agreed to, and the Port remains accountable for progress.

The PAG's work informed the development of the master plan, PDX Community Advisory Committee, Follow-on Noise Work Group and the Port's recently approved Sustainability Natural Resource Policy. The work of the PAG, represented in the Sustainability Guiding Principles and Goals, will continue to inform future decisions. Those decisions will continue to reflect the partnerships of Airport Futures and be informed by input from the community.

1.0 INTRODUCTION

1.1 Airport Futures

Airport Futures was a collaborative process involving the Port of Portland, the City of Portland, and the Portland-Vancouver metropolitan community. Beginning in fall 2007 and concluding in spring 2010, the Port updated its 2000 master plan for Portland International Airport (PDX). Concurrently, the City developed a land use plan recognizing the Airport's role in the regional economy while managing the City's infrastructure and livability. The 3-year process reinforced Portland's planning legacy and the Airport's reputation as one of the premier airports in the country, and incorporated principles of sustainability and livability.

Before Airport Futures, the Port operated the Airport under a Conditional Use Master Plan approved by the City of Portland. The approval had to be renewed every 8 to 10 years. The current approval expires in 2011. During that approval process, the City would evaluate specific Airport development projects based on criteria in the City's zoning code, with the intent to mitigate the impacts of development. This process was problematic from the perspectives of the Port, the City, and the community for the following reasons:

- The Port must justify the Airport's existence at its current location and complete a burdensome amendment process even if development proposed in the current Airport master plan is relatively minor.

- The City does not have adequate staff or expertise to properly examine the complex issues of Airport growth.

- The community is frustrated that the conditional use permit process provides limited opportunities for public and City involvement in planning Airport development.

In 2001, the Portland City Council and the Port of Portland Commission jointly resolved to replace the current conditional use permit process with a legislative land use process to address the complex issues of Airport growth. What followed was a series of intergovernmental agreements (agreement) between the City and the Port that defined an integrated planning process, subsequently referred to as "Airport Futures," in which the City was to complete the legislative land use process at the same time the Port would update its 2000 Airport master plan.

Recognizing the importance of the Airport to the bistate (Oregon and Washington) regional economies, the land use plan provides the Port with certainty that the Airport will continue to operate as an allowed use in its current location along with the flexibility to configure Airport facilities to respond to future needs, recognizing the potential

impacts of growth in Airport operations (e.g., natural resources, traffic, and noise). The plan provides assurances to the community that significant new Airport development (e.g., a third parallel runway, decentralized terminal configuration) will involve a significant planning process and Portland City Council approval. Recognizing that planning is a continuous process, the plan provides an ongoing and collaborative public involvement process to address future issues associated with operating an airport in an urban area.

A key part of the Airport Futures planning process was to engage the community in development of the land use plan and the update of the 2000 master plan (2010 Master Plan Update). To this end, an extensive public involvement program was developed which was organized around a 30-member Airport Futures Planning Advisory Group (PAG). The PAG worked in partnership, to support the core team, which consisted of Port, City, and consultant staff.

1.2 The Emergence of Sustainability as a Core Planning Principle

Sustainability for Airport Futures was defined as, "meeting the region's air transportation needs without compromising the livability and quality of life for future generations". The Airport Futures process involved exploring requirements, alternatives, and solutions that fairly, realistically, and optimally balanced economic, environmental, and social objectives.

The 2000 master plan was completed during a time of steady economic growth. Growth in population and employment drove steady increases in passenger traffic at the Airport. That growth spurred the need for the future expansion of existing facilities to accommodate demand. Recommended expansion included major additions and improvements to the terminal building, concourses, and terminal access and repair and upgrade of the airfield. The concept of a third parallel runway and alternative concepts for a new passenger terminal, now known as the Centralized and Decentralized concept alternatives, were first proposed in the 2000 master plan. These circumstances caused the emergence of sustainability as an important feature during preparation of the 2000 master plan and led to it being a core planning principle for the 2010 Master Plan Update.

Preparation of the 2000 master plan began a process of evaluating strategies to maintain the Airport's viability, preserve capacity, and evaluate the environmental impacts of Airport expansion. With the creation of the Regional Air Transportation Demand Task Force, an expanded effort to involve the public in the Airport planning process began. The 2000 master plan brought to light many of the principle issues discussed during the Airport Futures planning process. In addition to providing a source of debate about growth and expansion, the 2000 master plan identified a number of follow on studies that were key influences in Airport Futures. Those studies include the *PDX Noise Abatement Plan* (Federal Aviation Regulations [FAR] Part 150 Plan), the

Federal Aviation Administration (FAA) *Airspace Capacity Study and Capacity Enhancement Plan*, the *Military Siting Study,* and the *Strategic Environmental Evaluation*.

1.3 Purpose of this Report

The purpose of this report is to summarize how the concepts of sustainability shaped the Airport Futures process and results, and to reinforce the widely held belief that these concepts can make a difference and result in positive changes in the future operation, planning and development of the airport.

1.4 The Role of Sustainability in Airport Futures

The commitment to sustainability in the Airport Futures process was captured in an intergovernmental agreement between the City and the Port in September 2004, which reads "One of the major themes of the planning process will be sustainability…the project team will evaluate how PDX will meet the region's aviation transportation needs without compromising the ability of future generations to meet their own needs."

The agreement, a product of significant public input, captured many of the core agreements that initiated the commitment to sustainability in Airport Futures. Those core agreements included the following:

- As PDX grows, so does the potential for noise, transportation, and environmental impacts on surrounding areas. The Port and the City recognize the impact that growth may create on the community and are committed to using reasonable efforts to avoid, reduce, or mitigate those impacts. The Port and the City also recognize that the impacts need to be assessed comprehensively to identify their cumulative effects on the community and the natural environment.

- The City and the Port agreed to work together to initiate a legislative process to better address appropriate land use regulations for an international airport.

- The agreement clarified the process and associated costs for development of an integrated airport planning effort between the City and the Port. Specifically, it defined the work tasks associated with the objective of beginning a City legislative process concurrently with a Port master planning process.

- In the agreement, the parties envisioned a collaborative process between the City, the Port, and citizens of the region. The purposes of the process were to acknowledge the important role of the Airport in the bistate regional economies and to examine creative approaches to addressing potential impacts of operating a commercial airport in an urban environment.

- The PAG was created to help guide the planning process, and sustainability was identified as one of the major themes of the process.

In summary, it was determined that the Airport Futures planning process would be organized around the following three principles:

- Allow the City to address the complex issues associated with PDX and their potential impacts;

- Provide the community with a greater opportunity to influence Airport planning and development; and

- Provide the Port with the flexibility to respond to changing circumstances in airport development.

2.0 VISION FOR A SUSTAINABLE AIRPORT

2.1 Involving the Public

Public involvement was a key feature of the Airport Futures planning process. The goal of the public involvement program was to provide a mechanism for open, honest, and transparent communication, and for Port and City accountability to the community. Airport Futures' staff engaged in extensive outreach to key stakeholders through meetings, open houses, electronic project updates, the website, surveys, and other tools. The core team designed interactive formats for all meetings to ensure a balanced and fair discussion of issues, during which all perspectives would be heard.

Public involvement was sought to inform decision-making at milestones coinciding with the following elements of Airport Futures:

- Scope of work development and project initiation
- PAG kickoff, issues identification, and goal setting
- Preparation of aviation demand forecasts
- Development of the City's early land use proposal and PDX facility requirements
- Review of PDX follow on studies
- Analysis of Airport alternatives and the City's land use plan
- Adoption of the 2010 Airport Master Plan Update and the City's land use plan

A key component of the public involvement process was a broad-based Planning Advisory Group (PAG) consisting of 30 members. A list of PAG members is provided in Appendix I. Over the course of the 3-year planning process which began in September 2007, the PAG met 24 times. The PAG's work was supplemented by the work of five special focus subcommittees: Forecast, Master Plan, Sustainability, Public Involvement, and Land Use/Transportation. These subcommittees met a total of 63 times. The responsibilities of these subcommittees are provided in Appendix II. The public was invited to attend and offer comment at all meetings; participation in subcommittees was open to the public. Subcommittees helped inform the planning process on specific topics requiring more detailed analysis and discussion.

As one of the five PAG subcommittees, the Sustainability Subcommittee had the important role of ensuring the consideration of sustainability throughout the planning process. This role also involved applying a set of Vision and Values statements, developed by the PAG to provide guidance and a reference for the work that would ensue.

The Subcommittee Charter, developed by the PAG in December 2007, included the following four objectives:

1. Work will be informed by the PAG Vision and Values and the issues and goals captured in the *Stakeholder Outreach Summary*.

2. Develop a sustainability framework for evaluating alternatives and a list of sustainability policies and recommendations.

3. Evaluate the Airport development alternatives and the City's land use plan using a sustainability framework and make recommendations to the PAG.

4. Recommend sustainability goals and policies for the PDX 2010 Master Plan Update and the City's land use plan.

The Sustainability Subcommittee was unique: not only did it meet separately, but it also met and worked jointly with all of the other subcommittees in an effort to ensure that all conversations were informed by the ongoing sustainability discussion.

In addition to the PAG and subcommittee work, Port and City staff engaged in significant outreach to key stakeholders. A total of 131 stakeholder outreach meetings were held over the 3-year master planning period with 3,051 stakeholder contacts. At each phase of the planning process, public meetings/open houses were held on both sides of the Columbia River. A total of 13 public meetings/open houses were held with a total of 681 conversations with the public taking place at these forums. These public meetings included an overview of Airport Futures as well as updates on other ongoing Airport and neighborhood developments. Feedback from this outreach was shared with the PAG in advance of decision-making. To solicit input and address questions on technical issues at key milestones and at any point in the planning process, the City-Port project team convened a Technical Advisory Pool (TAP). The TAP consisted of a pool of organizations and agencies with specialized expertise available to the PAG, subcommittees, core team, and the community. The TAP addressed specific technical questions and did not deliberate on broader policy issues.

2.2 Understanding and Defining *Sustainability*

The first task of the PAG and the Sustainability Subcommittee was to understand how sustainability should be incorporated into Airport Futures as an integral part of the planning process. To address this task, the core team and the PAG undertook detailed research into the subject of sustainability. The core team and the PAG examined what is understood about sustainability at all levels, including globally, at the state level, and at PDX. The research provided a greater understanding of the issues relating to sustainability, as well as a few challenges and helped inform the core team and the PAG going forward.

The core team's and the PAG's understanding of and the challenges related to sustainability are discussed in the following subsections.

2.2.1 The Global Issue of Sustainability

The idea of sustainable development grew from numerous environmental movements in earlier decades and was defined in 1987 by the World Commission on Environment and Development (The report of the Brundtland Commission*, Our Common Future 1987*) as "Development that meets the needs of the present without compromising the ability of future generations to meet their own needs."

This definition contributed to the understanding that sustainable development encompasses a number of areas and highlights sustainability as the concept of environmental, economic, and social progress and equity, all within the limits of the world's natural resources. As global issues, such as water scarcity and climate change, have become more commonplace in the media, the awareness of the importance of sustainability has increased. In response, governments and businesses all over the world have directed significant effort towards improving their sustainability performance. In the past 10 years, businesses are increasingly identifying environmental, social, and financial impacts and risks and seeking to minimize and manage them. There is also an onus on governments and businesses to disclose their impacts and risks to the public to address stakeholder concerns. Where reporting metrics are involved, environmental and financial data are readily available, but less progress has been made in developing quantifiable measures for social impacts. This finding is reflected widely across business and governmental organizations internationally.

A number of presentations on sustainability were made at PAG, subcommittee, and special information meetings to help inform the process. It was important to the PAG members to review the latest sustainability practices internationally and across different industries so that they could build on those best practices and seek to be innovative in their approach.

As such, the PAG learned about numerous sustainable design and green building projects and best practices. The PAG studied the work of the U.S. Green Building Council and the Leadership in Energy and Environmental Design (LEED®) rating system, but also focused on how sustainability is being addressed in the operation and maintenance of large facilities. A number of case studies were presented to the PAG, featuring new and emerging sustainable technology and innovations. These case studies identified concepts that would prove useful in the alternatives analysis.

2.2.2 Airport Industry Sustainability Overview

An issues paper was prepared by the consultant team in September 2008, titled *Review of Airport Sustainability Practices and Goals*. This paper provided further background

research on the state of sustainability in the airport sector. The following airports were reviewed as part of this issues paper: Seattle-Tacoma (SEA), San Francisco (SFO), San Diego (SAN), Tampa (TPA), and Vancouver (YVR) international airports. The following observations were made in the issues paper:

- The operators of all airports reviewed identified sustainability goals and objectives before embarking on their master plans.
- Some master plans included goals that reflect facets of sustainability.
- Sustainability policies, goals, metrics, and targets are designed to address local issues and, therefore, they are different for each airport.
- Few of the master plans for the airports reviewed contain policy statements, coupled with sustainability goals/targets and metrics.
- Sustainability planning is relatively new to the airport sector. While many airport operators identify a broad objective of being sustainable, few have translated those broad goals into policies and metrics to measure progress or establish targets, such as levels of service, indicators, and benchmarks. The *LAX Sustainability Plan* contained the most thorough documentation of policies, metrics, and targets. However, that plan notes that it is the beginning of a living process for Los Angeles World Airports.

In addition to benchmarking findings, the issues paper also helped the PAG understand the definition of sustainability in an airport context.

The most common definition of sustainability among airport operators involves conducting planning in recognition of economic, environmental, and social consequences. The second definition involves a holistic approach to managing an airport to ensure the integrity of the economic viability, operational efficiency, natural resource conservation, and social responsibility (referred to as EONS) of the airport.

2.2.3 Sustainability at the State Level

At the state level, Oregon has made sustainability a statewide priority based on the following understanding:

"The concept of sustainability means using, developing and protecting resources at a rate and in a manner that enables people to meet their current needs and also provides that future generations can meet their own needs. Sustainability requires simultaneously meeting environmental, economic and community needs. Implementing sustainable practices means improving our quality of life without depleting the resources of future generations."

2.2.4 Sustainability at the Port of Portland

An important component of the sustainability discussion was an overview of the current efforts under way at the Port of Portland. The Port's vision is that to be sustainable it needs to be financially viable, environmentally responsible, and responsive to its stakeholders and the community it serves. The Port's success depends on moving goods and people through clean air, healthy waters, and productive landscapes. The Port is a public agency, with a mandate to serve a specific, enduring role in the community it serves. A few of the key strategies within the Port's *2007 Strategic Plan* include:

- Manage airline operating and capital costs and develop future cost targets that keep PDX cost-competitive and positioned to retain and attract existing and new airline service.

- Implement a long-term approach to balance facility expansion and asset preservation designed to continue the high-quality function of PDX.

- Develop through Airport Futures an updated PDX Master Plan Update and City of Portland land use designation that balances the needs of airline passenger and cargo transportation with the environmental and community impacts of the Airport.

- Strengthen the Port's efforts to minimize its environmental impacts, including the construction of an enhanced deicing system at PDX.

- Seek to understand the implications of climate change for the Port's operations and facilities, pursue pre-emptive measures to reduce the Port's contributions to climate change, and develop proactive mitigation and adaptation strategies.

- Develop and integrate sustainability principles into Port operations, facilities, and properties.

- Integrate the Port's commitment to sustainability into interactions with its tenants and customers.

To meet that vision and commitment at each level of the Port's organizational structure, the Port uses a variety of management systems. The Port systematically plans and sets goals, takes actions, measures performance and shares the results, and adjusts its plans and actions to meet its financial, environmental, and community commitments and continuously improve its performance.

The Port Commission adopted a Port Environmental Policy in 2000 (Appendix III). To integrate the policy commitments into day-to-day planning, decisions, and actions, the

Port developed an Environmental Management System (EMS), which consists of policies, environmental programs, objectives and targets, operating procedures, work instructions, and guidance for staff and management. Port environmental program managers focus on air quality and climate change, water, natural resources, waste and hazardous materials, and energy. Each year, Port Directors review and adopt strategic priorities and goals; environmental program managers then develop and recommend specific environmental program action plans to Port management. Based on financial capacity and other priorities, management adopts action plans and allocates resources, which are then integrated into annual operating business plans and budgets at the department level, and within staff member goals and objectives. Airport Futures is consistent with the Port's adaptive management approach and commitment to continuous improvement. Airport Futures and its focus on public involvement and sustainability is one example of many means and methods the Port is using to demonstrate and recommit itself to adaptive management and continuous improvement going forward.

As part of the research for Airport Futures, Port staff provided a brief review of the Airport's regional economic impact, hiring and purchasing practices, contributions to research and development, finance and capital management, and facility asset management. The Port's commitment to social responsibility is incorporated in programs related to public awareness and education, stakeholder relationships employee relationships and well being, and programs showcasing local culture and heritage and the accessibility of Port facilities.

During the course of developing Airport Futures, the Port's understanding and approach to sustainability continued to evolve. That understanding was informed by the parallel Airport Futures discussions and is reflected in Port actions undertaken during the planning process. In an effort to facilitate the flow of information, a number of progress reports were provided to the PAG and PAG subcommittees on the Port's Environmental Objectives and Targets and Sustainable Natural Resources Policy.

For the Port's 2009/2010 Environmental Objectives and Targets, see Appendix IV. For the Port's 2009 Sustainability Natural Resources Policy, see Appendix V.

2.2.5 Sustainability at the City of Portland

The City of Portland is committed to clean air and water, livable neighborhoods, parks and open spaces for all, economic development that is sustainable for the environment, transportation that makes sense, and more. An overview of the City's sustainability initiatives was presented to the PAG and contributed to the research and understanding of common sustainability themes across the region.

The City began addressing sustainability concerns as early as 1979, when it produced its first energy policy to promote awareness on the importance of conservation of

natural resources, unaware at the time that this was the beginning of an ongoing journey to address energy across the region. In 2007, a Peak Oil Task Force was created by the City to develop recommendations on ways to respond to the rising costs and eventual decline in the supplies of oil and natural gas. At the same time, the City Council directed that the City's climate protection plan be revised to achieve emissions reductions of 80% below 1990 levels by 2050.

The City of Portland and Multnomah County adopted a joint Climate Action Plan adopted in 2009 - 30 years after this first energy policy was adopted. This plan consisted of a major revision to past climate policies, which seeks to reduce emissions 40% below 1990 levels by 2030 and 80% below 1990 levels by 2050. The new plan addresses the goals of reducing greenhouse gas emissions and adapting to a changing climate and identifies actions that will achieve these climate goals while strengthening the local economy and improving equity. The Climate Action Plan reinforced the importance of setting mutual goals, sharing information, and the need for partnership and coordination.

During the development of Airport Futures, the City combined the City Bureau of Planning and the Office of Sustainability as it recognized clear synergies in the ongoing work of both entities. The City continues to be involved in numerous sustainability programs and the Sustainability Guiding Principles and Goals included in Airport Futures reflect the City's ongoing work. For a comprehensive list of the City's sustainability achievements, see Appendix VI.

2.2.6 Research Conclusions

Overall, the research provided the core team and the PAG with direction and purpose regarding sustainability. The research increased an understanding of sustainability through knowledge of methods and initiatives already occurring throughout the region and across the country. The research did not provide a definitive solution to the approach that should be taken during the planning process, but it initiated the flow of good ideas going forward and gave the PAG a wider appreciation of the application of sustainability in the planning context. All of these good ideas were recorded during the process and will be used whenever appropriate to help the Port plan for continual improvement in its sustainability performance.

2.3 PAG Vision and Values

One of the first actions by the PAG was to unanimously adopt a sustainability Vision for the master plan update and City land use plan. In addition, the PAG articulated a set of Values to be used to guide planning efforts and established benchmarks that could be used to compare alternatives.

The PAG's Vision established that sustainability was an overarching goal of Airport Futures and that it was important to meet the region's aviation needs without compromising the livability and quality of life for future generations. The Vision states that the objective of both the Master Plan Update and the City's land use plan is to determine the optimal balance between economic development, environmental stewardship, and social equity values and goals.

The following are the Vision and Values adopted by the PAG on November 20, 2007:

PLANNING ADVISORY GROUP VISION AND VALUES

*Our **vision** is a PDX master plan and a City of Portland land use plan that:*

1) *Allows the **City** to address the complex issues associated with PDX and their potential impacts,*
2) *Provides the **Community** with a greater opportunity to influence airport planning and development, and*
3) *Provides the **Port** with flexibility to respond to changing circumstances in airport development.*

Sustainability is an overarching goal of this project. Sustainability means meeting the Region's air transportation needs without compromising the livability and quality of life for future generations. In this planning process, we will transparently explore and make recommendations that **fairly, realistically, and optimally balance** the following **values and goals**:

Economic	Environmental	Social
Ensure PDX meets passenger and cargo transportation needs of the region	Avoid/minimize/mitigate* aircraft noise on surrounding residential neighborhoods	Address community impacts and concerns about PDX growth
Ensure economic feasibility of Master Plan Update and land use plan	Avoid/minimize/mitigate* greenhouse gas emissions and prepare to adapt to climate change	Avoid/minimize/mitigate* PDX impacts on neighborhood livability
Integrate PDX better into regional transportation system	Avoid/minimize/mitigate* impacts on local and regional air quality	Avoid/minimize/mitigate* traffic impacts in and around airport
Maintain and enhance reputation of PDX as a premier airport	Avoid/minimize/mitigate* water quality impacts to adjacent water bodies and wetlands	Consider regional growth in broader context of Oregon and Washington
Minimize congestion in and around Airport	Protect and restore resources, wildlife habitat, and wildlife populations	Protect human health
Support role of PDX in bi-state regional economy		Provide jobs for local residents
		Provide safe flying experience
		Support goals and economic viability of the neighborhoods

*In doing so, **our recommendations** will:*

1) Balance and sustain economic, environmental, and social interests;
2) Provide long-term public involvement process with opportunities for meaningful public engagement and a voice in aviation development; and
3) Provide system to measure and track success and share results with public.

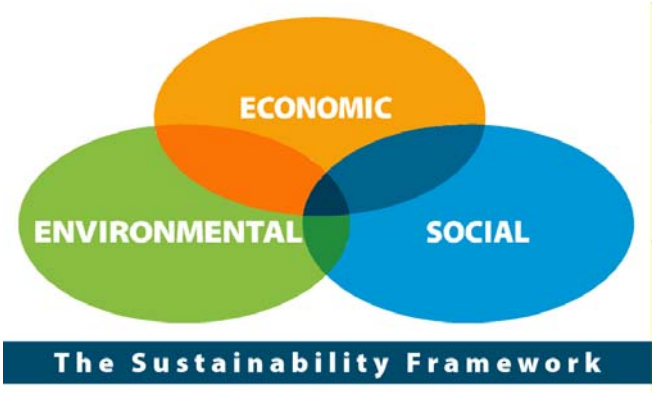
*Avoid/minimize/mitigate means: first, avoid if possible; if not, minimize and mitigate impacts.

Consistent with PAG's Vision and Values, the Sustainability Subcommittee continued to test the definition of sustainability, debate ways it should be incorporated as a key part of the process in the context of Airport Futures, and weigh the scope of the work that must be completed in the Airport Futures planning process versus the work that should follow. This discussion evolved as both the core team and subcommittee's knowledge base grew. An important principle that was confirmed by the Sustainability Subcommittee was that sustainability should not be viewed as a final product or deliverable, but should be regarded as an ongoing process that embraces public involvement going forward.

Another key concept, derived directly from the Vision and Values and confirmed early in the Sustainability Subcommittee process was the basic framework for sustainability. That framework is commonly presented as three interlinking circles, each representing one of the three sustainability impact areas: Environmental, Social, and Economic. Figure 2-1 shows this framework.

Figure 2-1

THE SUSTAINABILITY FRAMEWORK



Basic Framework for Sustainability

1. Minimize the use of natural resources and impacts on the environment
2. Ensure the economic viability of the Airport
3. Engage and contribute to the community

Objective: Strive to achieve an optimal balance among economic, environmental, and social values.

To provide increased clarity to the PAG on its role in this process, it was agreed that the volume of work that needed to be undertaken as part of the planning process should be divided into two broad categories, described as "strategic" and "tactical." Strategic work was defined as the broad or high level strategies or principles that determine the direction for "where we want to go," while the tactical work was defined as the more detailed, specific, and measurable work to be undertaken by the Port and the City to articulate "how we get there."

The Sustainability Subcommittee believed it was important for its work to be at a higher "big picture" level, allowing staff to perform the technical work of defining measurable objectives and targets, and enabling those engaged in future efforts to take ownership of the work. Consistent with the focus on recommending strategic direction to the Port and the City, the Sustainability Subcommittee decided that it was important to recommend "guiding principles" and "key goals" that would set forth the subcommittee's most important priorities and inform future efforts.

The "Sustainability Pyramid," as shown on Figure 2-2, resulted from this direction.

Figure 2-2

SUSTAINABILITY PYRAMID

CAC = Community Advisory Committee

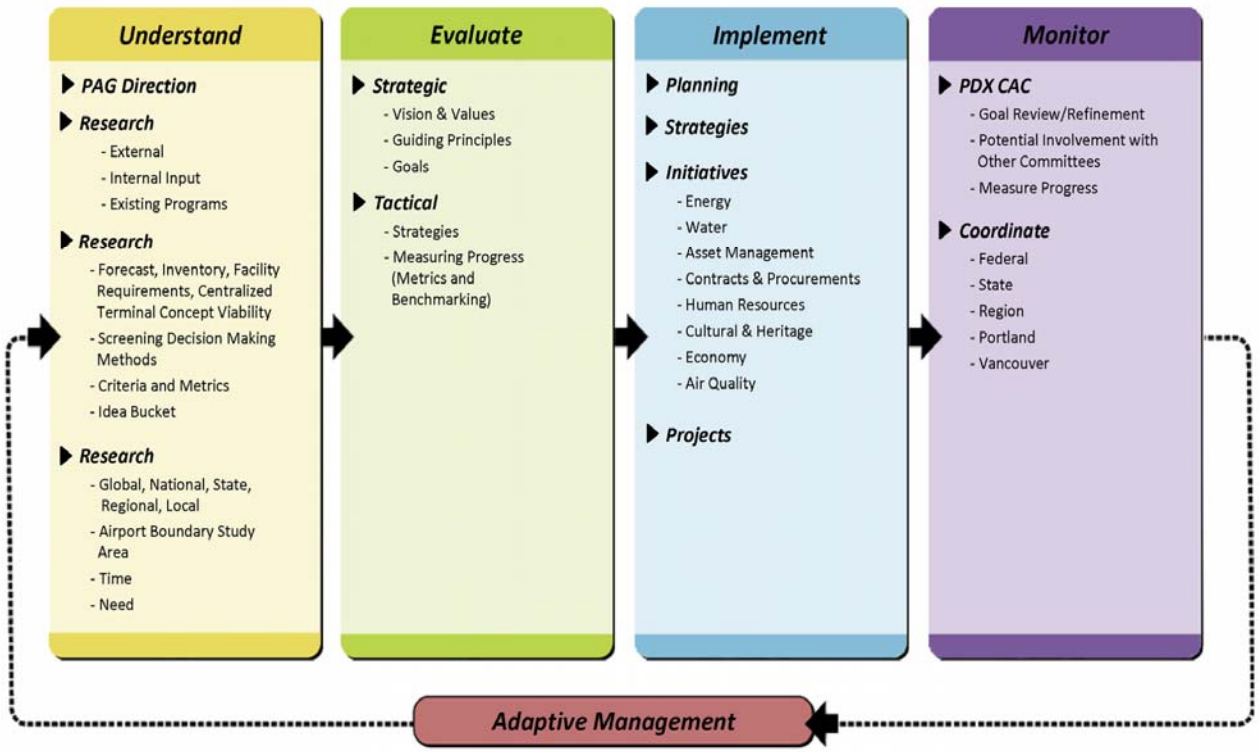
This pyramid was used as a means to set forth the scope and scale of sustainability and explain where the Sustainability Subcommittee and the PAG would focus their efforts. The tip of the pyramid represents the initial work that was undertaken by the PAG to define its Vision and Values. The Sustainability Guiding Principles and Goals, developed through numerous Sustainability Subcommittee meetings and adopted by the PAG, were intended to provide ongoing direction for Airport Futures and inform future work to be undertaken by the Port, the City, and the ongoing PDX Community

Advisory Committee (PDX CAC). The bottom half of the pyramid references the detailed tactical work that occurs at PDX at the operations level, day to day throughout the year, evolving through adaptive management. This portion of the pyramid relates to the ongoing efforts undertaken at PDX and includes the projects, programs, and policies that are implemented and improved upon every day. Adaptive management is the ongoing process recommended to ensure that the Airport is developed sustainably. It consists of the following steps: understand, evaluate, implement, and monitor (or the more recognizable Total Quality Management/Environmental Management System phrase: "plan, do, check, act.")

The adaptive management process used in developing Airport Futures is described in more detail on Figure 2-3.

Figure 2-3

MANAGEMENT PROCESS USED IN AIRPORT FUTURES



This process is based on coordination and continuous learning, and reflects many of the PAG's Guiding Principles and Goals. It is this process, generally consistent with the Port's current adaptive management approach that will be applied by the Port in the future as it works collaboratively with the City, the PDX CAC, and other stakeholders to

continue incorporating sustainability. Future work will transition to the tactical or project level to ensure that development or operations are undertaken with consideration given to sustainability. This interactive process will evolve over time and demonstrate a commitment to continuous improvement.

2.4 Sustainability Guiding Principles and Sustainability goals

A number of strategic recommendations were drafted by the Sustainability Subcommittee as part of the Airport Futures planning process. They reflect a continued commitment to a collaborative approach among the City, the Port, and the Portland-Vancouver metropolitan community to create an integrated long-range development plan for PDX.

As part of its strategic work, the PAG developed a set of guiding principles. The purpose of these principles is long-term and intended to help facilitate the Port's work in the future.

These principles should be read in conjunction with the adopted Vision and Values, and considered alongside the sustainability pyramid (Figure 2-2) and process diagram (Figure 2-3).

PLANNING ADVISORY GROUP GUIDING PRINCIPLES

Airport Futures Vision and Values recognize the long-term, critical interconnection between economic development, environmental stewardship, and social responsibility. The Port of Portland and City of Portland will use the following Guiding Principles as they work towards assuring PDX and the Airport Plan District become the most sustainable in the world.

Generational Fairness and the Triple Bottom Line	Sustainability is not a choice because the world's resources are finite, calling for their most prudent and conservative consumption. The essence of sustainability is to find a balance between the economic, environmental, and social equity of current and future generations. As the world shifts its emphasis from quantity to quality growth, we need to ensure the resources we consume and the pollution we generate are understood, considered, and balanced with future quality of life needs when making community planning, development, and governance decisions.
Community	Engage and involve our entire community and encourage our citizens to take responsibility for their individual actions to reduce resource use, production of pollution and waste. This requires collaboratively developing solutions that remove barriers and build upon existing private and public efforts to ensure efficient, timely, and complementary results.
Measure Progress	Establish and track clear, measurable goals, both short and long term, that are linked to those of our governmental partners (e.g., 2009 City of Portland and Multnomah County Climate Action Plan), do not default to regulatory minimums, and take responsibility for our proportional share of the problems and solutions without regulatory prompting.
Stay Ahead of the Curve	Supplement traditional regulatory approaches by taking voluntary actions with incentive-based and performance-oriented systems.
Balance	Explore alternative strategies to achieve objectives when current goals cannot be reconciled with future needs. Decisions should be made in consideration of their individual and cumulative economic, environmental and social impacts, and whether they substantially benefit or harm the health of the region for future generations.
Economy	Maintain and enhance PDX as a world class airport that meets the passenger and cargo transportation needs of the region and supports the role of PDX and the surrounding area in the bi-state regional economy.
Reduce, Re-use and Recycle	Use resources (e.g., fossil fuel-derived energy) efficiently and reduce demand, rather than first looking to expand capacity. Commit to the maximum use of existing facilities. Consider alternative methods of managing demand, including the application of emerging technologies, before building new facilities. Prefer options that reduce pollution and waste.
Avoid, Minimize, Mitigate and Restore Impacts to Natural Resources	Where natural resources in special habitat areas or protection areas will be adversely impacted, apply the principles of avoid, minimize, mitigate and restore to ensure we fully mitigate for impacts and contribute to the overall net improvement of wildlife habitat quality, quantity and connectivity within the Columbia Slough Watershed.
Continuous Learning and Education	Emphasize ongoing learning and adaptive management to inform and improve the process continually, consider future generations, and educate the public about goals and what was learned.
Equity	Ensure commitment to equity so impacts and the costs of protecting our resources do not burden unfairly any one geographic, socioeconomic, ethnic, or generational group, particularly those that are disadvantaged.
Leadership	Accelerate, support, and implement innovative programs, projects, and initiatives to maintain and increase our collective leadership in sustainability, including encouraging our partners to use sustainability practices.
Accountability	Using a project management approach, report annually on our results, lessons learned, plan adjustments, and future endeavors to our stakeholders, including the PDX Community Advisory Committee.

In addition to the guiding principles, the PAG adopted a set of key sustainability goals. These goals are not an all-inclusive list. Instead, they reflect the PAG's collective highest priority issues and interests, and are intended as a starting point, setting the direction for the detailed tactical work that is expected to generate goals, objectives, and targets that are specific, time-based, and measurable. For an explanation of the technical terms used in describing the goals below, please refer to Appendix VII.

PLANNING ADVISORY GROUP KEY SUSTAINABILITY GOALS

1. PDX-controlled airport operations will achieve carbon neutrality by 2035. As part of this, PDX will adopt a Climate Action Plan in coordination with the City of Portland by 2011.
2. Consistent with the Wildlife Hazard Management Plan, airport master plan, and City land use plan, the Port will fully mitigate for impacts and contribute to overall net improvement of wildlife habitat quality, quantity and connectivity within the Columbia Slough Watershed.
3. Consistent with the Wildlife Hazard Management Plan, the Port will achieve the equivalent of the City of Portland's target of 15% canopy cover on industrial lands either by on-site tree plantings or support for compensatory offsite tree plantings where onsite planting is not practicable.
4. PDX will achieve net zero waste by 2035.
5. PDX will eliminate or minimize toxic substances used and hazardous waste generated in the operation of the airport.
6. The City of Portland, City of Vancouver and Port of Portland will appoint an advisory group to help PDX achieve continuous improvement in its public involvement and sustainability efforts. Stakeholders in PDX planning, operations and improvements will be valued participants in Port and City decision-making.
7. PDX will expand and diversify passenger and employee transportation options, achieve the highest transit mode split in the nation and manage transportation demand to preserve mobility for all modes within the airport area.
8. By 2035, PDX will achieve indoor air quality measurements 30% better than current ASHRAE 62.1-2004 standards.
9. PDX will obtain 100% of operating power for PDX-controlled facilities from renewable sources and will achieve in-building energy efficiency levels of 45 W/M^2 by 2035.
10. PDX will give preference to doing business with firms that have implemented Health Safety Environmental Management Systems under ISO 14001, with the goal of having 75% of them compliant by 2035.
11. PDX will participate in the US Dark Sky initiative to limit light pollution to the extent that this is allowed by FAA regulations.
12. By 2010, PDX will provide 5 hours of sustainability education and awareness training annually to its employees and will encourage all companies operating at the airport to do the same, and will provide sustainability education and awareness information to passengers.
13. PDX will maintain its viability and its part in the regional economy by:
    a. Maintaining an airport master plan that can be effectively phased to balance operating and capital costs in a way that keeps PDX cost competitive and maximizes the use of existing infrastructure.
    b. Making PDX investment decisions based on achieving lowest life-cycle costs.
    c. Preserving and enhancing opportunities for airport-dependent and airport-related businesses in and around PDX.
    d. Preserving the significant transport and warehousing job base in the vicinity of PDX.
14. PDX will adopt an environmental management system, underpinned by measurable sustainability goals, and subject them to annual or biennial public reporting and auditing by an independent third party beginning in 2011.
15. The Port will comply with all local, state and federal air quality mandates and will continue to measure impacts on the local environment and develop annual goals and benchmarks for continuous improvement, above-and-beyond regulatory requirements.
16. The Port will comply with all local, state and federal water quality mandates and will continue to measure impacts on the local environment and develop annual goals and benchmarks for continuous improvement, above-and-beyond regulatory requirements.

3.0 PRODUCING A SUSTAINABLE MASTER PLAN

3.1 What Is a Master Plan?

According to FAA Advisory Circular 150/5070-6B, *Airport Master Plans*, an airport master plan presents a concept of the long-term development of an airport. The master plan displays this concept graphically and documents the data and logic upon which the plan is based.

The goal of a master plan is to provide guidelines for future airport development that will accommodate aviation demand in a cost-effective manner while considering the environmental and socio-economic impacts of airport operations on a community.

The FAA recommends that a master plan be completed or updated approximately every 5 years or when activity at the airport grows at a faster than projected rate.

3.2 Overview of the Master Planning Process

The airport master planning process consists of a number of elements, including the following:

1. **Inventory** – A record of current airside, landside, and roadway facilities data.

2. **Forecasts** – Forecasts of aviation demand (i.e., enplaned passengers, aircraft operations, landed weight, cargo tonnage) throughout the planning period.

3. **Requirements** – An assessment to determine if the capacity of various facilities will accommodate forecast demand.

4. **Alternatives** – An identification of alternatives (e.g., constructing new facilities or improving existing operational efficiency) for accommodating major airport facility requirements and an analysis to determine the preferred alternatives with respect to economic, environmental, and social criteria.

5. **Implementation Plan** – A description of the recommended improvements and a summary of their estimated costs and the activity level at which they would be required.

6. **Financial Feasibility** – An analysis to demonstrate the feasibility of financing the recommended improvements.

7. **Airport Layout Plans** – A set of drawings depicting the long-range plan for airport development.

Although all stakeholders agreed about the need to address sustainability in the master plan, it was also accepted that the related steps and solutions would evolve during the planning process. The core team resolved to consider sustainability at every step of the master planning process whether or not there was a shared understanding of how it would be accomplished. This effort resulted in numerous contributions to the quality of the 2010 Master Plan Update, including:

- An inventory of existing conditions emphasizing natural resources and multiple study areas, which exceeded the bounds of Airport properties.

- Probabilistic forecasts of aviation demand, identification of key issues and trends affecting future demand, a logical structure to incorporate stakeholder input in the forecasts, and sensitivity tests to measure the effects of alternative assumptions.

- Anticipated new technology, changing processes, common use facilities, and other means to maximizing the utility of existing facilities will delay or preclude the construction of new facilities.

- Development alternatives conceived, evaluated, and recommended based on sustainability criteria.

- A long-range development plan that will meet the region's aviation needs, is flexible, enhances capacity by increasing operational efficiency, and favors reuse and redevelopment over development.

- An implementation strategy that is affordable and based on demand as it occurs.

3.3 Exploring Evaluation Methods

The core team and the Sustainability Subcommittee invested considerable time and effort in developing a decision-making tool to enable quantitative analysis during the planning process. Having decided that a transparent analytical process would be an important part of the master plan alternatives analysis, the core team worked with the subcommittee and the PAG to explore and evaluate numerous decision-making models.

Consistent with a subcommittee recommendation, the PAG requested that the core team evaluate the use of the Analytic Hierarchy Process (AHP) developed by Professor Thomas L. Saaty of the Wharton School of Business "as a framework for comparing alternatives using both objective and subjective criteria". AHP was considered a promising sustainability framework because it provides a structured technique for dealing with complex decisions and is able to demonstrate the relationships among goals, criteria, and alternatives. The core team developed a number of AHP test cases to provide the PAG a direct understanding of the tool. After much deliberation, the PAG

decided that AHP was too complex for its intended purpose and that a simpler decision-making method based on sustainability planning criteria would better serve the process.

This research provided a valuable opportunity for subcommittee discussion of key sustainability topics, including local, regional, and global population growth; economic growth; the importance of local, regional, national, and global actions; and coordination regarding sustainability. The research also led to appraisal of other efforts, such as those by the State of Oregon's Climate Change and Global Warming Commission, Metro's urban reserve discussion, the City's Portland Plan, and existing sustainability policies and programs in the region.

3.4 Forecasts

Forecast passenger, air cargo, and aircraft operation demand at PDX was a key element of the long-range plan and, therefore, of great importance to the PAG. Given the considerable uncertainty associated with the aviation industry and the economy, an innovative forecasting approach referred to as probabilistic forecasting was used. The approach bridged the gap between complex statistical modeling techniques and the need for stakeholders to influence key model inputs and understand the resulting outputs. The probabilistic forecasting approach enabled the core team to test the viability of scenarios and produce a flexible plan that keeps options open.

The aviation demand forecasts were highly influenced by a collaborative discussion of sustainability. That discussion was directly reflected in the forecasting process by implementing a probabilistic rather than a traditional approach to forecasting and by carefully considering the potential effects of future oil prices and carbon emissions costs. The probabilistic forecasts expressed the likelihood of attaining a specific future demand in a given year. While the probabilistic forecasts of passengers, cargo, and aircraft operations define a wide range of potential demand, it is important to understand that the long-range plan is based on the 50th percentile forecasts, but has the flexibility to accommodate the 90th percentile forecasts. The 50th percentile forecasts were selected by the PAG as the most likely future demand scenario.

Sensitivity analyses were conducted to measure the potential effect on passenger demand of alternative assumptions related to key issues and trends. Sensitivity analyses were conducted for 25 key issues and trends, including:

- Leakage to other transportation modes (e.g., high-speed rail)
- Congestion at other airports
- Population in-migration
- Alternative fuels (e.g., biofuels, solar)
- Videoconferencing
- Other new technologies
- Terrorist events

- Biological events
- Global economic crises
- Oil shocks
- Requirements

Recognizing the uncertainties associated with long-range aviation demand forecasting, five planning activity levels (PALs) were identified to represent future levels of activity at which key airport improvements would be necessary.

3.5 Facility Requirements

Consistent with its commitment to the PAG's Vision and Values, the core team carefully considered sustainability in determining the facility requirements for each functional area of the Airport. The application of new technologies, changes in passenger behavior, and changes in the airline industry are among the many uncertain factors that will influence the capacity, design, use, and reuse of the Airport's facilities in the future. While the effects of these factors cannot be known with certainty, as discussed at numerous PAG and subcommittee meetings, future changes have the potential to significantly increase the use of existing facilities and the efficiency of operations, thus extending the life of Airport facilities and ultimately postponing the need to develop new facilities.

Significant effort was dedicated to identifying pending technological innovations or procedural changes that promise significant capacity increases. An example is the future air traffic control system and navigation technologies being studied by the FAA. Although these technologies will require major investments by the FAA and the airlines, and the timing is uncertain, it is believed that they can provide significant capacity increases for the existing airfield and also may enable the development of new noise abatement departure procedures.

In other functional areas of the Airport, such as aircraft gates, a 40% increase in gate use was assumed based on current industry trends (e.g., common use facilities) and input from airline representatives. Increased gate use, when combined with the continued trend toward the use of larger aircraft, would result in a significant reduction in the number of gates required to accommodate future demand.

The recognition of how technology has changed, and continues to change, the relationship between the demand for and capacity of ticketing facilities resulted in an understanding of how productivity could be increased significantly. These increases in productivity will result in a considerably greater useful life of the passenger terminal than would be the case otherwise.

With some facilities, such as ground transportation and parking, a more conservative approach was taken, in which facility requirements were assessed by modeling

requirements based on today's use characteristics. Explained in greater detail in Section 4 of *Technical Memorandum No. 3,* it was assumed that no significant changes in passenger mode choice would occur and that the demand for all travel modes would increase in direct proportion to growth in passenger activity. It is acknowledged that mode choices may change as passengers adapt to changes in the regional transportation system (e.g., new or expanded mode choices, changes in pricing, and the elimination of services) and that such changes could reduce demand for parking, terminal curbside, or access roadways. This approach was intended to simplify the assessment of ground transportation requirements and provide a valid baseline for considering alternative approaches to accommodating forecast demand. In future studies, sensitivity testing of the facilities will be required to make specific assumptions related to ground transportation, such as a reduced level of service (LOS) standard, reduced pickup/dropoff capability, elimination of at-grade pedestrian crossings of the terminal roadway, reduced parking supply, or changes in the use of the terminal roadway system.

3.6 Alternatives

3.6.1 The Centralized Concept

The combined Master Plan, Sustainability, and Land Use/Transportation Subcommittees, and the core team recommended that plans for facilities improvements in PALs 1 through 5 should be based on the assumption that the Airport will be developed consistent with the Centralized Concept. This recommendation was based on the following considerations.

- **Cost** – The cost differential between the Centralized and Decentralized development concepts has widened since completion of the 2000 Airport master plan, in which the Decentralized Concept was estimated to cost at least $1 billion more than the Centralized Concept in 1997 dollars (of this amount, approximately $400 million was the estimated cost to relocate the military facilities).

- **Phasing** – Construction of the Decentralized Concept would require relocation of the military facilities to build access roadways, parking facilities, and the terminal building. The complexity of construction phasing contributes to the high cost and the long lead time for development.

- **Environmental impact** – The Centralized Concept would result in a less impervious surface, fewer associated air pollutant emissions, and less impact on natural resources than the Decentralized Concept.

- **Operational efficiency** – The Centralized Concept could be operated more efficiently with the existing two parallel runway configuration than the Decentralized Concept.

- **Viability** – The Centralized Concept is sufficiently flexible to accommodate the 90th percentile demand, should it occur. The challenges of accommodating this level of demand are understood and manageable and potential solutions have been identified. Moreover, the ability to switch to the Decentralized Concept will be maintained for years.

While the Decentralized Concept is acknowledged to offer some long-term capacity advantages over the Centralized Concept, its advantages are not sufficient enough to warrant its significant cost differential, phasing difficulties, and greater environmental impacts.

3.6.2 Airfield

Third Parallel Runway. At the outset of Airport Futures, the general understanding was that a third parallel runway would likely be needed beyond the planning period (i.e., beyond 2035). However, it was also generally acknowledged that 2035 demand would likely reach a level at which preparations for a third parallel runway would be appropriate. During the forecast and requirements phases of 2010 Master Plan Update planning, it was realized that perhaps the third parallel runway would not be required to accommodate forecast demand, and this assumption was tested throughout the planning process. The advantages and disadvantages of doing nothing, either on- or off-Airport, to either obligate or preclude the future consideration of a third parallel runway were considered. Although the third parallel runway will not be needed during the planning period for the 2010 Master Plan Update (through 2035), the core team evaluated the functionality of such a runway if its planned length were reduced from approximately 12,000 feet to 8,500 feet and its width were reduced from 200 feet to 150 feet. This reduced length was hypothesized based on the PAG's sustainability criteria—in particular, the desire to minimize the potential environmental impact of the runway and to maximize land use efficiency.

As a result of this preliminary analysis, the revised concept, shown on the Airport Layout Plan (ALP), is for a third parallel runway that is 8,500 feet long, 150 feet wide, and located 3,250 feet south of existing Runway 10R-28L (centerline-to-centerline separation).

During the planning process, the ways that a future decision on the third parallel runway could be made within the context of the City's land use approval process were explored, even though the runway may not be implemented for a very long time and may never be required. This exploration included a discussion of noise, natural resource, and height impacts, among others, on and off the Airport, and a discussion of strategies as to how these impacts might be avoided, minimized, or mitigated. The National Environmental Policy Act (NEPA) process that would be undertaken by the FAA for a third parallel runway was also discussed, as well as how the NEPA process would be coordinated with the City's land use approval process. By deferring a decision to approve or

disapprove the third parallel runway, the sustainability principle of preserving options for future decision-makers was implemented, resulting in a placeholder footprint on the ALP for a third parallel runway. Planning now to consider the process and potential impacts of a potential third runway enhances the options for future decision-makers.

Crossfield Taxiways. The number of aircraft operations that would warrant an improved crossfield taxiway system is not anticipated to be realized within the planning period. However, the planned location and geometry of the crossfield taxiways will influence the potential size of certain facilities (e.g., the P3 garage) that will be constructed in the core development area during the planning period. Therefore, the location and geometry of the crossfield taxiways were considered at a conceptual level and resulted in a recommendation to shift the crossfield taxiways east of the locations shown on the current ALP. This shift would result in two primary benefits.

- **Greater operational efficiency** – The new location and geometry of the cross-field taxiways were discussed with Portland Airport Traffic Control Tower (ATCT) staff, who expressed the belief that shifting the taxiways to the east would increase operational efficiency.

- **Greater area for core development** – Shifting the taxiways to the east would increase the area available for Airport development within the central core of the terminal area. Shifting the taxiways would also allow the more efficient use of land resources, maximize operational efficiency, and preserve a greater range of future development options.

3.6.3 Passenger Terminal

Long-Range Terminal Development Concept. Terminal Expansion East (TEE) was selected as the long-range development concept because it best meets the PAG's sustainability criteria:

- **Preserve future development options** – The flexibility to change the long-term terminal development concept will be maintained for many years.

- **Minimize environmental impacts** – The amount of demolition and construction, and the area of impervious surface required, would be minimized.

- **Use land resources efficiently** – Related functions would be clustered within the core development area, contributing to the efficient use of land and maximizing operational efficiency.

- **Maximize operational efficiency** – Related functions would be clustered within the core development area, contributing to the efficient use of land and maximizing operational efficiency.

- **Ensure that development can be effectively phased** – Facilities could be implemented in an incremental manner with minimum inconvenience to customers.

Remain Overnight Aircraft Parking. Remain overnight (RON) aircraft parking, combined with greater common use of the facilities, would allow the aircraft parking positions located on the terminal concourses to be more productive. As a result, the current number of terminal parking positions would be able to accommodate forecast demand through PAL 5 (2035). The locations for RON aircraft parking were selected to maximize operational efficiency (minimize taxiing distance, prioritize redevelopment/reuse) and would accommodate demand in the short term, delaying the need to construct new RON parking.

3.6.4 Parking and Ground Transportation

Parking. The best physical plan for accommodating future public parking needs at PDX was identified, consistent with (1) the PAG's sustainability criteria, and (2) the Port's current policies and assumptions related to the use of private vehicles vs. public transportation. This plan has the flexibility to meet parking needs for the full range of policy options, including a shift toward greater reliance on public transportation. Should a shift toward greater reliance on public transportation occur, the plan for future parking facilities would be scaled back accordingly. The plan is to minimize the area of impervious surface needed for automobile parking by constructing garages, thus reducing related environmental impacts. The parking garages would be clustered with related functions within the core development area, contributing to the efficient use of land and maximizing operational efficiency. This strategy also includes the clustering of bus routes and consolidation of stops, which would result in reduced air pollutant emissions. Forward planning means that designated corridors of space need to remain undeveloped to provide flexibility for future transportation planning.

Rental Cars. The plan for rental car facilities is to implement relatively low-cost improvements to the existing service facilities, which will allow the highly efficient customer service center and automobile ready and return facilities to remain in their current locations (in the P1 and P2 garages) until PAL 4 (2027). This solution would minimize cost, minimize environmental impact, and maximize the use of land resources and operational efficiency.

Enplaning and Deplaning Curbside Roadways. The plan to satisfy enplaning curbside roadway and unloading area requirements is to implement management strategies rather than construction (by reducing the outer roadway area reserved for non-curbside functions and encouraging drivers to use the outer roadway for passenger unloading). The plan to meet deplaning curbside roadway and loading area requirements is to reconfigure the existing commercial vehicle area to provide the required additional capacity. The plan for both the enplaning and deplaning curbside

roadways involves avoiding construction and its associated environmental impacts by making better use of existing resources and increasing operational efficiency.

Terminal Area Roadway Roadways and Intersections. The primary criteria resulting in the identification of terminal area roadway improvements (i.e., additional roadway lanes) were operational efficiency and the desire to maintain the current level of service. The plan is to continue monitoring traffic and level of service and postpone the roadway lane additions as long as possible.

With the exception of the intersection of NE Airport Way and NE 82nd Avenue, the required improvements are minor (e.g., a signalized intersection). The opportunity to apply the PAG's sustainability criteria to the needed grade-separated interchange at NE Airport Way and NE 82nd Avenue will occur during design, which will be the subject of a follow-on study.

3.6.5 Air Cargo

Belly-Cargo Facilities. The plan for belly-cargo facilities meets the PAG's sustainability criteria because it (1) acknowledges the current oversupply of belly-cargo facilities, (2) recognizes how these facilities will be displaced in the future by higher priority functions, and (3) recommends a strategy that will result in the efficient use of land resources and maximize the operational efficiency of the existing belly-cargo facilities throughout the planning period.

All-Cargo Facilities. The plan for all-cargo facilities meets the PAG's sustainability criteria because it (1) identifies options for meeting all-cargo facilities needs within the AirTrans Center through PAL 2, thus capitalizing on this highly efficient cargo development, and (2) recommends a cargo development strategy that prioritizes infill and redevelopment opportunities over development of new sites, such as the Southwest Quadrant.

3.6.6 General Aviation

The plan for general aviation meets the PAG's sustainability criteria because it identifies logical choices that preserve future development options, minimize environmental impacts, use land resources efficiently, can be effectively phased, and allow the Port to satisfy FAA grant assurances were identified to meet the long-term general aviation requirements at the Airport.

3.7 Sustainability Outcomes

Table 3-1 summarizes the major outcomes relating to sustainability from the master planning process. It is evident that the 2010 Airport Master Plan Update and all its technical elements are substantively different because sustainability was considered at every step compared with previous planning processes.

The sustainability outcomes are categorized in terms of economic viability, operational efficiency, natural resource conservation, and social responsibility (EONS). This approach is recommended by the Airports Council International-North America's (ACI-NA's) Airport Sustainability Committee, as described in Section 2.2.2 of this report.

Table 3-1

MAJOR OUTCOMES RELATING TO SUSTAINABILITY FROM THE MASTER PLANNING PROCESS

MASTER PLAN ELEMENT	FOCUS AREA	OBJECTIVE/RECOMMENDATION	SUSTAINABILITY OUTCOMES: BENEFITS TO THE ECONOMY	OPERATIONAL EFFICIENCY	PROMOTES NATURAL RESOURCE CONSERVATION	SOCIAL/COMMUNITY BENEFITS
Inventory	Socio-economic and environmental review of all land use areas	• Baseline the socio-economic impacts of the airport.	■		■	■
Inventory	Urban Renewal Area	• To facilitate development in the district that generates significant new employment opportunities for new and existing business. • To support development of public infrastructure and transit, and to protect the district's natural resources. • To encourage employers to provide quality job opportunities to residents of economically disadvantaged communities. • To use the land near PDX for a major mixed-use development, consisting of retail, office and hotel usese, capitilizing on the Metropolitan Airport Express (MAX) light rail line.	■	■	■	■
Inventory	Cultural resources	• State of Oregon protects areas of historical significance through State Land • Use Goal 5 "Natural Resources, Scenic and Historic Areas, and Open Spaces".			■	■
Inventory	Recreation and Open Space	• Existing open space on the Columbia South Shore area with educational and recreational opportunities.			■	■
Inventory	Natural resources Inventory	• Conducted an extensive inventory of the properties within the study area as part of the strategic environmental evaluation.			■	
Inventory	Riparian Corridors	• Includes river and stream channels, adjacent vegetation and off-channel areas, including wetlands.			■	
Inventory	Wildelife habitat	• Native vegetation are scattered throughout the watershed. More than 150 species of birds roost, feed, nest and/or migrate throught the Columbia Slough watershed in an average year.			■	
Inventory	Water Quality	• The Columbia Slough has experienced severe water qualty problems and contaminated sediment. Conditions are improving and measures have been taken to reduce pollution and improve the quality of natural resources. Industrial discharges have been regulated and combined sewer overflows have been controlled.			■	
Inventory	OR & WA Airports within PDX catchment area	• Understand airport locations and capabilities in order to consider: - Potential shift of cargo activity to other area airports (leakage). - Potential shift of GA activity to other area airports. - Potential for commercial air service at other area airports (leakage). - Statewide airport systems for Oregon and Washington and strive to capture how that extended system of airports may influence aviation demand. - Coordination with Oregon and Washington State Aviation Departments and other commercial airport operators to better understand and coordinate air service.	■			
Inventory	Economic Development	• Complete economic development inventory of the area surrounding the airport. • Assess current and prospective business needs and evaluate strengths, opportunities, weaknesses, and threats associated with future development in the airport area. • Provide a better understanding of economic development issues around the airport to inform discussion of potential Land Use Plan actions related to industrial and employment areas around the airport.	■			
Inventory	Primary and Secondary Study Areas	• Define primary and secondary study area boundaries to assist in the collection of data. Primary areas are those of greatest interest for study and possible actions as part of the planning process. Data was also collected for secondary study areas but not at the same level of detail. The different study areas provided for a comprehensive inventory of the existing characteristics of PDX and also informed the discussion regarding the area around the airport and how it is influenced by the operation of PDX. • Study areas were defined for Land Use, Natural Resources and Water Quality and Transportation. • Provide good baseline information that can be applied to master plan and land use plan processes to understand the impacts associated with different actions.			■	

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Table 3-1 *(page 2 of 2)*
MAJOR OUTCOMES RELATING TO SUSTAINABILITY FROM THE MASTER PLANNING PROCESS

MASTER PLAN ELEMENT	FOCUS AREA	OBJECTIVE/RECOMMENDATION	SUSTAINABILITY OUTCOMES: BENEFITS TO THE ECONOMY	OPERATIONAL EFFICIENCY	PROMOTES NATURAL RESOURCE CONSERVATION	SOCIAL/COMMUNITY BENEFITS
Alternatives/ Plan	Remain Overnight Aircraft Parking	• Recommended the development of additional remain overnight aircraft parking that will allow the terminal aircraft parking positions to be more productive. This will maximize operational efficiency and, when combined with increased gate utilization, allow future demand to be accommodated with the existing number of gates.	■	■	■	■
Alternatives/ Plan	Parking	• Garages to be clustered with related functions within the core development area, contributing to efficient use of land and maximizing operational efficiency.		■		
Alternatives/ Plan	Rental Cars	• Recommended low cost improvements to existing facilities that will permit existing facilities to remain in their existing location until PAL 4 (2027), thus maximizing of land use and operational efficiency and minimizing cost and environmental impacts.		■	■	
Alternatives/ Plan	Enplaning and Deplaning Curbside Roadways	• Recommended management strategies over construction, thus better utilizing existing resources, increasing operational efficiency, and reducing cost and environmental impacts.	■	■	■	
Alternatives/ Plan	Terminal Area Roadway and Intersections	• Recommended the continued monitoring of traffic and level of service while postponing roadway lane additions as long as possible. • Provided waiting area for vehicles picking up passengers, thus increasing operational efficiency. • Continued encouraging bicycle use by providing bicycle lanes/paths and central storage and changing areas.	■	■	■	■
Alternatives/ Plan	Belly Cargo Facilities	• The recommended plan (1) acknowledges the current oversupply of belly-cargo facilities, (2) recognizes how these facilities will be displaced in the future by higher priority functions, and (3) recommends a strategy that will result in the efficient use of land resources and maximize the operational efficiency of the existing belly-cargo facilities.	■	■		
Alternatives/ Plan	All Cargo Facilities	• The plan recommends (1) the reuse and redevelopment of land and facilities within AirTrans Center through PAL 2, thus capitalizing on this highly efficient cargo development, and (2) development beyond PAL 2 in the adjacent military area, should that area be available—reuse of the military area would minimize the potential environmental impact.	■	■	■	
Alternatives/ Plan	General Aviation	• The plan for general aviation meets the PAG's sustainability criteria because it identifies logical choices for meeting the long-term needs of general aviation that preserve future development options, minimize environmental impacts, use land resources efficiently, can be effectively phased, and allow the Port to satisfy FAA grant assurances.	■	■	■	
Alternatives/ Plan	Support	• The plan is to (1) continue implementing strategies for reducing the number of operations by conventionally fueled ground service equipment, thereby reducing vehicle-related emissions, and (2) encourage the installation of preconditioned air and 400 Hz ground power, thus reducing the operation of aircraft auxiliary power units.	■	■	■	

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4.0 PRODUCING A SUSTAINABLE LAND USE PLAN

4.1 What Is a Land Use Plan?

Portland International Airport currently operates as a conditional use in an industrial zone. This zoning designation requires the Port to submit an application to the City every 8 to 10 years for a permit to operate the Airport. This process is cumbersome from the perspectives of the Port, the City, and the community. The Port must justify the existence of the Airport in its current location every 8 years and endure a burdensome amendment process to make minor changes to the conditional use master plan for the Airport. The City does not have adequate staff or expertise to properly examine the complex issues of Airport growth; and the community is frustrated that the conditional use process provides limited opportunities for public and City involvement in Port aviation planning.

In 2001, the Port and the City jointly agreed to engage the community in a broad discussion on the future of long-range planning and land use approvals at PDX. Through a 3-year process, a plan emerged, guided by the following three principles:

1. Allow the City to address the complex issues associated with PDX and their potential impacts.

2. Provide the community with a greater opportunity to influence Airport planning and development.

3. Provide the Port with the flexibility to respond to changing circumstances in airport development.

The primary outcomes of the process are summarized below:

1. Recognizing the importance of PDX to the bistate regional economy, the plan provides the Port with certainty that PDX will continue to operate as an allowed use in its current location along with the flexibility to configure Airport facilities to be responsive to future needs.

2. Recognizing the potential impacts of growth (e.g., impacts related to natural resources, traffic, and noise), the plan provides mitigation of impacts and assurances to the community that significant new Airport development (e.g., a third parallel runway, decentralized terminal configuration) will involve a significant planning process and Portland City Council approval.

3. Recognizing that planning is a continuous process, the plan provides for an ongoing and highly collaborative public involvement process to address future issues associated with operating an airport in an urban area.

The Airport Futures land use plan consists of three major parts: amendments to the **City's *Comprehensive Plan***, amendments to the **City's *Zoning Code***, and **intergovernmental agreements** between the City and the Port. The City's Zoning Code (Title 33, Planning and Zoning) regulates the development and use of land and water within the City. Through these regulations, the Zoning Code implements the Comprehensive Plan, which is the City's primary policy document. The Comprehensive Plan and the Zoning Code fit within a Statewide planning structure. (For more information about that structure, please refer to the City's land use plan.) Finally, the City-Port agreements provide a necessary bridge between the Port's Airport master plan and the City's land use plan. The agreements memorialize the City-Port partnership and discussion regarding the Airport Futures planning process, as well as issues not appropriate for City code.

The City's land use plan is available at http://www.pdxairportfutures.com.

4.2 Highlights of the City's New Land Use Plan

Comprehensive Plan Amendments

- Emphasizes the importance of partnerships, investments, and regulations to achieve City goals and objectives.
- Adopts a City goal to partner with the Port to make PDX the "most sustainable airport in the world."

Plan District and Other Zoning Code Amendments

- Changes the Airport to an allowed use in an industrial zone.
- Prohibits a third parallel runway and a decentralized terminal without a legislative review.
- Specifies reviews based on the potential impacts to the community, rather than a rigid timeframe.

Height Zoning Amendments

- Clarifies regulations to improve safety and coordination.

Noise Overlay Amendments

- Retains the current noise overlay.
- Expands the requirement for noise disclosure out to the 2035 day-night average sound level (DNL) 55 noise exposure contour.

- Created a noise working group to explore creative solutions to noise impacts outside the DNL 65 noise exposure contour.

Natural Resources

- Updates the City's natural resources program for the Airport area by analyzing the economic, social, environmental, and energy consequences of limiting development to protect natural resources. The final recommendations for the land use plan balances the protection of significant natural resources with the economic importance of industrial and aviation related lands.

- Identifies mitigation required for future impacts to natural resources.

- Allows for conversion of habitats to promote safe aviation operations by addressing wildlife hazards.

- Outlines an overall watershed enhancement strategy that includes funding for increasing watershed tree canopy and improvements to habitat along the Columbia Slough over the next 25 years.

Transportation Impact Analysis

- Identifies transportation mitigation projects based on Airport growth.

- Creates a City review for all future transportation impact analyses based on growth in numbers of passengers rather than a rigid timeline.

- Tests numerous strategies to increase transit ridership.

- Addresses community concerns regarding cut-through traffic.

Economic Development Inventory

- Inventories what exists today, market potential, and site and infrastructure needs.

- Identifies strategic opportunities today and in the future.

5.0 CONCLUSIONS OF AIRPORT FUTURES

The successful integration of sustainability into the various Airport Futures products results, in large part, from the PAG's and core team's open communication, willingness to learn, and openness to allow new information and understanding to shape the process.

It was agreed early in the planning process that the community would be involved in the process. The level of public involvement in the planning is a significant component of the social element of sustainability. This process was seen by all as a learning curve; as such, the complexities involved were not fully understood or appreciated until later in the process. The result was a process that required significantly more time and resources than anticipated. If repeated, it is agreed by all involved parties that the process could be refined based on the lessons learned, and a more efficient and cost-effective process could be designed. Consistent with the adaptive management approach used by the PAG, the understanding achieved during this process is regarded as an investment in future planning.

Airport Futures itself is a result of the Port's adaptive management approach and commitment to continuous improvement. Airport Futures and its focus on public involvement and sustainability is just one example of many means and methods the Port is using to demonstrate and recommit itself to adaptive management and continuous improvement going forward.

The integration of sustainability has made a difference to the end result and created a shift in the way the Port will approach planning in the future. Future efforts will include engaging the PDX Community Advisory Committee in ongoing discussions about the planning, development, and operation of the Airport. Similar to the master plan itself, future projects will be based on a strategic investment philosophy, which entails prioritizing investments that leverage the value and capacity of existing facilities, preserve capacity, and maintain flexibility. This philosophy is consistent with the Port's broader approach to sustainability, which promotes conducting business in a manner that contributes to the long-term economic, environmental, and social health of the region.

6.0 DELIVERING A SUSTAINABLE FUTURE – THE WAY FORWARD

6.1 Tracking Progress – Monitoring and Reporting

Monitoring performance and progress against the guiding principles and sustainability goals is an important next step in the ongoing process of Airport Futures. Recognizing that sustainability is an adaptive process that should result in continuous improvements in performance, it is essential that a method for monitoring is established, a means of reporting performance is agreed upon, and that the Port remains accountable for progress.

Therefore, the Port will develop a sustainability plan for PDX that builds on the progress made with the Port's Environmental Management System, Environmental Objectives and Targets, the Natural Resources Policy, Port financial strategic plan, and community and employee program goals. A sustainability plan for PDX will broaden the Port's focus to include a balancing of the social, economic, and environmental aspects of the Airport. In particular, a sustainability plan for PDX will serve to integrate many of the ideas discussed during Airport Futures into Airport policies, programs, planning, design, development, operation, and maintenance activities. The Guiding Principles and Goals recommended by the PAG will be a starting point for a PDX sustainability plan. A focus of future work will be on reviewing the PAG recommendations and refining them to make them SMART (specific, measurable, achievable, relevant, and time related).

It is intended that the PDX CAC will continue the collaborative process of Airport Futures with a balance of information-sharing and opportunities for input and discussion from the community in advance of Port decision-making. A key focus of the PDX CAC will be on reviewing the progress of the Port and activities across the region to assure an airport gateway for the region that supports environmental and economic vitality and neighborhood livability. Consistent with this focus, the Port will provide progress reports to the PDX CAC on sustainability at PDX, including:

- The development of a PDX sustainability plan
- Sustainability reporting
- Sustainability goals
- Sustainability objectives and targets
- How sustainability is being address in future plans and projects
- Sustainability programs (e.g., parking management, wildlife management, recycling)

Adaptive management was a term adopted as part of the Airport Futures process. Monitoring and reporting performance in meeting the established goals will allow management to reconsider how it is acting to meet those goals, and then to revise and adapt its plans and actions to achieve improvements in performance. Monitoring will show where adjustments need to be made in areas of weaker performance. Reporting

key metrics against targets will enable the Port's management to adjust processes to allow for changes and improvements. Reporting progress to the PDX CAC and other stakeholders on a regular basis will ensure transparency and accountability going forward.

6.2 Sustainability Roadmap

The discussion of evaluation methods and decision criteria early in the process began the development of a list of sustainability ideas that were subsequently referred to as the sustainability "Good Ideas Bucket." This list of good ideas evolved into a matrix organized by Airport functional area and the PAG's adaptive management approach to sustainability. The "Good Ideas Bucket," included as Appendix VIII to this report, contains dozens of ideas for actions that could be undertaken at the Airport. The ideas relate to increasing the efficiency of aircraft movements, increasing recycled content in pavements, generating electric energy onsite, providing sustainability education and outreach in the terminal, analyzing life-cycle costs, implementing local arts and culture programs, building stakeholder relationships, and implementing green purchasing programs. The Good Ideas Bucket is now envisioned as a living document that will continue to be updated by staff to track existing initiatives and identify future ideas related to sustainability. This list of ideas adds a level of formality to an ongoing Port effort to maintain opportunities, means, and methods for citizens and staff to make specific suggestions to improve the Port's environmental, financial, and community involvement performance. The Good Ideas Bucket is another opportunity for the Port to affirm its commitment to engaging and listening to the community.

The Port's commitment to sustainable practices, including many of the ideas incorporated in the sustainability roadmap or the PAG's Guiding Principles and Goals, is showcased in its new Headquarters Building which includes the parking garage. This building was constructed in a timeframe that was concurrent with Airport Futures. Similar to Airport Futures, sustainability was a key driver in the design, construction, operation, and maintenance of the Headquarters building. At the conclusion of Airport Futures, the Port will have consolidated most of its workforce in the new Headquarters Building. This consolidation will create numerous operating efficiencies, provide space in the terminal building for other Airport-related uses, and continue to promote compact development within the central terminal area. Designed to be LEED® Gold Certified, the new building incorporates numerous sustainability strategies, including:

- Ground source heating and cooling with approximately 200 wells.
- Active radiant ceiling panel heating and cooling.
- Daylighting with integrated lighting controls.

- Glazing and fixed exterior shading and interior automated shades on the southern exposure.

- A "living machine," an organic wastewater treatment system.

- One intensive green roof and one extensive eco-roof. Native and adapted plants for landscape and pervious paving at entry and other areas as applicable.

- Water efficient fixtures.

- Low volatile organic compounds (VOC) paints and materials.

- Recycled content and regionally manufactured materials.

The Port Headquarters building will serve as a daily reminder of the importance of sustainability and the importance of managing the Airport in a manner that contributes to the long-term economic, environmental, and social health of the region.

6.3 Follow-on Noise Studies

The 2010 Master Plan Update resulted in the identification of alternatives, strategies, and recommended projects for development through 2035. Equally important, it resulted in the identification of follow-on studies necessary to address issues raised by members of the PAG and to develop the technical details required to finalize key development decisions. The follow-on studies encompass specific facilities and issues ranging from aircraft parking to connectivity between PDX and a future regional high-speed rail system. In all follow-on studies, sustainability will need to be considered during the planning process.

The FAA, U.S. Environmental Protection Agency, and Oregon Department of Environmental Quality define the threshold of noise significance as DNL 65. Accordingly, the Port has identified those residences around PDX that are affected by aircraft noise equaling or exceeding the DNL 65 threshold and taken appropriate steps to mitigate the effects of that noise.

The PAG Sustainability Subcommittee, the Port, and the City recognize that people may be affected by aircraft noise less than DNL 65. Accordingly, the Port and the City have committed to explore ideas to mitigate the effects of noise less than DNL 65.

6.4 Continued Commitment and Ongoing Partnership

The agreement between the City and the Port provided an opportunity for the Port to affirm its commitment to sustainability in general and sustainability's influence on the future development of the Airport in particular.

As evidenced by the Port's updated *Strategic Plan*, *Sustainable Natural Resources Policy*, *Environmental Policy*, *Environmental Objectives and Targets* and completion of the new Port Headquarters, the Port's approach to sustainability aligns well with the PAG's approach. Both emphasize the importance of balancing economic development, environmental stewardship, and social responsibility. Both also recognize sustainability as a process that will require continuous learning and adaptation as better ways of doing business are researched.

Just as the PAG's work has informed the development of the 2010 Master Plan Update, the work of the PDX Community Advisory Committee and the Follow-on Noise Work Group, and the Port's recently approved *Strategic Plan* and *Sustainable Natural Resources Policy*, the PAG's work, represented in the Guiding Principles and Goals, will continue to inform future decisions. Those decisions will reflect the consensus and results of Airport Futures and will continue to be informed by input from the community.

Appendices

Appendix I

Public Advisory Group (PAG) Members

Chair / Vice Chair

Bill Blosser

Bill Blosser is a consultant on land use and other public policy issues. He is one of five members of the Oregon Environmental Quality Commission. He previously served as chair of the state Water Resources Commission, chair of the Land Conservation and Development Commission, interim director of the Oregon Department of Land Conservation and Development, and member of the Oregon Sustainability Board. In addition, Bill helped create Oregon's innovative Transportation Planning Rule.

Dave Smith

Dave Smith has been a Vancouver resident since 1998 and currently lives in the Hough Neighborhood. Dave has had an accomplished career in aviation including service as a Naval Officer and Aviator from 1963-1969 where he flew carrier based reconnaissance aircraft (RF-8) including the Vietnam conflict. From 1969-2003, Dave worked for Delta Air Lines as flight engineer, pilot, captain, and line check airman. He is a past member of the Vancouver Aviation Advisory Committee, member of the Vancouver Rotary Club, board member of the Vancouver School District Foundation, and vice chair of the PDX Citizen Noise Advisory Committee. In the course of the past few years, Dave has served the City of Vancouver through participation in numerous PDX planning initiatives.

Government

Lai-Lani Ovalles

City of Portland Planning Commission

Lai-Lani Ovalles was appointed to the Portland Planning Commission by Portland City Council in July 2008. As a Commission member, she is responsible for advising City Council on comprehensive policies and plans affecting future land use development, transportation options, economic and environmental vitality and livability of neighborhoods in the Portland community. Lai-Lani works with the Native American Youth and Family Center as the Indigenous Community Engagement Coordinator. She coordinates Native professional development, leadership initiatives and community engagement efforts, as well as the Portland Indian Leaders Roundtable. Lai-Lani believes in the power of culture, creativity and indigenous knowledge to guide in the creation of a just and peaceful world.

Andy Cotugno

Metro Regional Government

Andy Cotugno has more than 25 years of professional experience in the transportation and planning fields. He is manager of Metro's Planning Department, which is charged with travel forecasting, light rail planning, transportation planning and financing, transit oriented development, Metro's map center, and the Regional Land Information System, as well as the urban growth boundary, urban growth management and natural resource planning functions. Andy is chair of Metro's Transportation Policy Alternative Committee and Metropolitan Technical Advisory Committee. Prior to his current position, he worked as a transportation planner for both Metro and the Mid-Ohio Regional Planning Commission.

Cam Gilmour

Clackamas County

Cam Gilmour is Director of the Department of Transportation and Development for Clackamas County. He began his career with the Oregon Highway Division (now known as the Oregon Department of Transportation - ODOT) in 1972. His experience includes being ODOT's Environmental Program Manager, Manager of Program Services (State Transportation Improvement Program, federal-aid and local government programs) and ODOT's Deputy Director of Finance and Administration. As Clackamas County's Director of Transportation and Development, Cam administers transportation maintenance, engineering, land use, building codes, urban renewal and several other divisions.

Laura Hudson

City of Vancouver staff

Laura Hudson is the City of Vancouver's Community Planning Manager. She has been with the City of Vancouver for four and a half years. Prior to working with City, Laura served as vice president of Professional Services with David Evans and Associates in their Portland off ice. She has over 25 years of land use and environmental planning experience.

Bruce Fisher

Federal Aviation Administration

Bruce Fisher is the Federal Aviation Administration's (FAA) new Airport Planner for the states of Oregon and Idaho. He was hired by the FAA Seattle Airports District Office (ADO) in December 2008. Bruce came to the ADO from the FAA's Northwest Mountain Region Office of Runway Safety as the senior pilot analyst and flight operations specialist. From 2004 until 2007, Bruce served as the Assistant Manager of Renton Airport in Washington. Bruce retired from the U.S. Coast Guard in 2004 and holds a Commercial Pilot's certificate with Instrument rating. He has a Bachelor's Degree in Political Science from Carleton University in Ottawa, Ontario, Canada, and a Masters Degree in Aeronautical Science from Embry-Riddle Aeronautical University in Daytona Beach, Florida.

Dennis Mulvihill

Washington County

Since 1988, Dennis Mulvihill has been the government relations manager for Washington County Board of Commissioners. Prior to his work at the county, Dennis worked for Metro as a waste reduction manager, for the state Oregon Commission on Indian Services, and for the Oregon legislature. He has a master's degree in Public Administration from Portland State University.

Mary Olson

Port of Portland Commission

Mary Olson has been a Port of Portland Commissioner since June 2001. She is a principal of Norris, Olson & Associates, a financial services firm. Prior to joining this firm, Mary served as the vice president for corporate banking at US National Bank of Oregon from 1971-1990. She served on the Finance Committee for Northwest Electrical Light and Power Association and as corporate co-chair of the U.S. Bancorp United Way Campaign. She is also the past president of the Clackamas County Community Planning Organization. Mary's second term with the Port Commission expires in March 2011.

Hector Roche

Multnomah County

Hector Roche is currently Community Liaison for Multnomah County chair Ted Wheeler. In that role he is responsible for enhancing the engagement of community members in the policy deliberations and work of the County. In addition to his work with internal and external community stakeholders, Hector is the chair's liaison to the County's Land Use Planning Department. Prior to joining the chair's staff, Hector was the manager of Staff and Organizational Development for Multnomah County Health Department. He has served as Land Use Planning Chair for the Concordia Neighborhood Association, and was a board member of the Northeast Coalition of Neighborhoods.

PDX User / Business

Tom Gerharter

Airline Industry

Tom Gerharter, Senior Vice President for Operations at Horizon Airlines was appointed to his position in August 1995. He is responsible for guiding the maintenance and flight operations divisions at Horizon. In this position, his responsibilities include the operation and maintenance of about 75 jet and turboprop aircraft. Prior to this appointment, he served Horizon as vice president, Flight Operations. Tom joined Horizon Air in 1983 as a pilot and maintained his flight currency as a Fokker F-28 captain until that aircraft was retired in 2002.

Lieutenant Colonel Stuart K. Mathew

Military

Lieutenant Colonel Stuart K. Mathew entered the air force in 1986 and is now the 142d Civil Engineer Squadron Commander, Base Civil Engineer and Assistant United States Property and Fiscal Officer for Real Property at the Portland Air Base. As the Commander of the Civil Engineer Squadron, he is responsible for the training, preparation, and employment of 103 military personnel for world-wide contingencies. In his other capacities, he is responsible for all construction, maintenance, and operation of the real property at Portland Air Base and at one geographically separated unit on the Oregon Coast. Additionally, he is responsible for Fire Protection and Rescue, Airbase Readiness, and Explosive Ordnance Disposal.

John Mohlis

Business Association or Labor Group

John Mohlis is the executive secretary-treasurer of the Columbia Pacific Building Trades Council. Recently appointed as a PDC commissioner. Mr. Mohlis has served as a trustee on the Northwest Bricklayers Pension Trust since 1990, overseeing a $75 million trust. He is a member of the Oregon State Apprenticeship and Training Council, which is responsible for overseeing apprenticeship programs, especially for those in the building and construction trades.

John has also served as a member of the Portland South Waterfront Apprenticeship Oversight Committee, the Eastside CSO Oversight Committee and the Construction Apprenticeship Workforces Solutions board.

Brian Nelson

Large Business that Uses PDX Freight and Passenger Services

As the Corporate Services Finance Manager for Intel Corporation, Brian Nelson leads the financial budgeting, planning and strategic decision making for all infrastructures related activities. His finance team provides analysis and financial support for real estate investments, building maintenance, utility consumption, and projects designed to optimize Intel's environmental imprint. He is located at Intel's Hillsboro, Oregon site but has management scope for Intel sites located through out the United States. He completed the Executive MBA program from Wake Forest University and upon graduation accepted a job at Intel's Chandler, Arizona site. He spent fours years in Arizona and transferred to the Oregon site two years ago to accept his current Finance Manager role.

John Frevola

Tenant at PDX

John Frevola is the Vice President and General Manager of Flightcraft, Inc. a Fixed Base Operator (FBO) with locations in Portland and Eugene. John represents PDX tenant interests on the Airport Futures Planning Advisory Group. John has more than 30 years experience is all aspects of FBO operations. Previously, he was President of Corporate Jets, Inc. in Scottsdale, Arizona. He graduated with a bachelor's degree in liberal arts from Niagara University and is a former U.S. Navy pilot. John also serves as an advisor to the Corporate Aircraft Association.

Veronica Rinard

Tourism Industry

Veronica Rinard is the Director of Community Relations for the Portland Oregon Visitors Association. Veronica works with POVA leadership to bring the voice of the Tourism/Hospitality industry to issues that impact Portland's viability as a travel destination. In addition to serving on many committees and task forces herself, Veronica staffs POVA's board-level Community Action Committee. In 2005, Veronica joined POVA as the Cultural Tourism manager; she was promoted in 2006 to her current position.

Community

Mark Clark

East County area

Mark Clark represents the four East County cities of Fairview, Gresham,Troutdale and Wood Village on the Airport Futures Planning Advisory Group. He is a Councilor for the City of Wood Village. Mark is currently employed as an engineer/electrician for Providence St. Vincent Hospital. Mark currently serves on the Wood Village Personnel Committee and Budget Committee, East Multnomah County Transportation Committee, Natural Resource and Sustainability Committee for Wood Village and Gresham, and Fairview/Wood Village Sewer Review Board. Mark has previously served on the Wood Village Planning Commission.

Prior to moving to Oregon in 2002, Mark worked as a city public works director in Texas for 13 years, owned a bed and breakfast inn, and served 10 years active duty with the U.S. Air Force. Over his lifetime, Mark has participated in numerous boards and committees and earned several honorary awards for his devotion to protecting waterways and airsheds.

Erwin Bergman

Central Northeast Neighborhoods

Erwin Bergman is now retired from the Department of Energy where he worked for 31 years as an Environmental Specialist. There he was the author or team member of assorted National Environmental Policy Act agency documents through the environmental impact statement level. Since 1993, Erwin has been the Portland representative on CNAC and its predecessor the Noise Abatement Advisory Committee. He served as a member of the 2000 PDX Master Plan planning advisory group, Conditional Use Permit advisory committee, and been involved in many other PDX planning efforts. Erwin is a Charter member of Airport Issues Roundtable and the Columbia Slough Watershed Council as well as the Cully Neighborhood Association and serves as its Quality of Life Chair.

Alan Hargrave

Clark County Neighborhoods

Alan Hargrave, has been involved in the business community the past 35 years in Clark County, WA and is currently self-employed consultant for individuals, developers and excavation/underground utility companies for site work projects. Prior experience includes all aspects of the excavation/underground utilities industry, the last fifteen years his specific duties were as Estimator/Project Manager and General Manager for George Schmid & Sons, Inc. Alan serves as a board member of the National Utility Contractors Association (NUCA), teaches part-time at the Northwest College of Construction and currently sits on the Columbia Economic Development Committee Board (CREDC) while serving his third elected term as Port Commissioner for the Port of Camas/Washougal.

Chris Hathaway

Environmental Interests

Chris Hathaway is Director of Stewardship and Technical Programs for the Lower Columbia River Estuary Partnership. He oversees all Estuary Partnership environmental education and volunteer and community involvement programs as well as the Estuary Partnership's restoration and ecosystem monitoring programs. Since 1998, he has worked on a variety of different Estuary Partnership programs including the Estuary Partnership's stormwater management projects, public outreach materials, web site, and as the coordinator of the Estuary Partnership's Lower Columbia River Water Trail. A native of Portland, he holds degrees in English and Political Science from the University of Oregon and a Master's of Science in Water Resources Management from the University of Wisconsin-Madison. He grew up swimming, sailing, and skiing on the lower Columbia River and continues to enjoy those activities today.

Maryhelen Kincaid

North Portland Neighborhood Services

A native Oregonian, Maryhelen Kincaid attended Gonzaga University, University of Oregon and San Francisco State University. A diverse background, Maryhelen worked for 16 years in Senior Citizen programs in both California and Oregon as a manager/administrator. She also worked for Pacific Southwest Airlines and US Airways in various capacities. She has been employed at AAA Oregon/Idaho since 1989, currently working in the Information Technology Department. Maryhelen is currently land use chairperson, interim chairperson for the East Columbia Neighborhood Association and chairperson for the Citizen Noise Advisory Committee.

Patrick Metzger

Northeast Coalition of Neighborhoods

Patrick Metzger has been a Portland resident since 1997 and lived in the Concordia Neighborhood since 2002. He is employed with the City of Beaverton in their Urban Forestry and Landscape section. He has been an active member of the Concordia Neighborhood Association for the past four years and became involved in airport issues due to the concern he had regarding airport noise over his neighborhood.

Alesia Reese

East Portland Neighborhood Office

Alesia Reese represents the 13 Portland neighborhoods of East Multnomah County. As chair of Woodland Park, Alesia has supported the neighborhood in its clean-up and Neighbor Night Out events. Alesia is a member of the Board of Directors of Parkrose School District, chair of the Facilities and Finance Committee, and a member of the Wellness Committee of the school district. Having co-founded the City Wide Parks Team, Alesia established the East Portland Parks Coalition. Alesia is an employee of the United States Postal Service and has extensive experience in workplace safety and health initiatives. As an East Portland resident for more than 30 years, Alesia has been involved in several organizations and is a member of the Gateway Urban Renewal Advisory Committee.

Lawrence Russell

Environmental Interests

Lawrence Russell has been a Portland resident since 1990 and currently lives in the Wilkes Neighborhood of East Portland (on the border of Gresham). Originally born and raised in Chicago, Illinois, he served in the U.S. Army for two tours in the U.S. and two tours overseas. Lawrence came to Portland to assist in growing a janitorial business for two years as a co-owner. He worked in the financial industry for over ten years for US Bank, Bank of America and Louisiana Pacific. His volunteer work for the community began in North Portland with Environmental Justice issues. Some of the projects he has worked on include: Delta Park I-5 Task Force and Columbia River Crossing Environmental Justice Work Action Group. Lawrence currently works for Metro as a procurement specialist and is enrolled at Portland Community College. His field of study is business.

Bob Sallinger

Environmental Interests

Bob Sallinger is the Conservation Director for the Audubon Society of Portland. He has over 15 years experience working on urban conservation issues in the Portland Metropolitan Region. Bob has served on numerous city committees and task forces including the City of Portland Watershed Science Advisory Group, the Willamette North Reach River Health and Mitigation Working Groups, and the River Renaissance Strategy Citizens Advisory Group. Bob has also served on several Port of Portland Committees including the West Hayden Island Citizen's Advisory Committee and the PDX Wildlife Advisory Committee (on which he has served since its inception in 1996.) Bob has a strong background in urban natural resource management, urban wildlife issues and natural resource policy.

Michael Sloan

Vancouver Neighborhoods

Michael Sloan has been a resident of Vancouver since 1998. He currently lives in the Dubois Park Neighborhood directly across from PDX. Michael has a bachelor's degree in Business Administration from the University of Akron and worked in corporate marketing for 12 years prior to engaging in his current career as a self-employed Landscape Designer. Mike is the recently retired chair of the DuBois Park Neighborhood Association and has been a member of the association board since 2003. Michael represented Vancouver neighborhoods in the 2006 PDX Cargo Feeder Study. he Vancouver Office of Neighborhoods recommended Mike Sloan for this appointment.

Dennis Stoecklin

Portland Office of Neighborhood Involvement

Dennis "Denny" Stoecklin is a Certified Public Accountant and has served as the Chief Financial Officer at Concordia University since 1984. He has been in the Not-for-Profit financial services area for over 30 years and is a member of the American Institute of Certified Professional Accountant's (CPA) and the Oregon Society of CPA's. He has been involved with the Concordia Neighborhood Association during his entire tenure at the University and currently serves on the Concordia Neighborhood Association Board. Recently he participated in the Port of Portland's Part 150 study and was involved in resolving issues relating to excess noise from turbo prop cargo aircraft.

Fred Stovel

Portland Office of Neighborhood Involvement

Fred Stovel graduated from Loyola University in Chicago. He joined the Air Force in 1967. He served on active duty until 1973 and then joined the Reserve in Portland, attending PSU until 1975 when he accepted a full time job flying for the 304th Rescue Squadron at PDX. He holds a bachelors degree in Philosophy and a master's degree in business management. After he retired in 1996, he became interested in airport issues because of airport noise over his neighborhood. In 1998, he was a founding member of an advisory group, Airport Issues Roundtable, to Commissioner Dan Saltzman. This group seeks to inform the Portland city government about airport issues that could damage neighborhood livability.

Vicki Thompson

Aircraft Noise Interest

Vicki Thompson served eight years on the City of Gresham Planning Commission and four years as an elected city councilor for the City of Gresham. In that capacity, she served on the Citizen Involvement Committee, City Transportation Committee, and various other committees. Vicki was an active participant in Gresham's master plan for the Downtown Plan. She also reviewed and approved the master plan for the Mt Hood Hospital campus and LSI campus. She has served five years on the Citizen Noise Advisory Committee to the Port of Portland and was a Legislative Assistant for four years.

John Weigant

Airport Issues Roundtable

John Weigant was the founding chair of AIR, a City of Portland advisory group and forum which was formed by several neighborhoods near PDX that found themselves all working to reduce excessive noise and planned growth by PDX. John was a late-comer to the 1997 (2000) Airport Master Plan Planning Advisory Committee and gave presentations to the Regional Air Transportation Demand Task Force that reexamined the projections of future growth at PDX. He was an AIR delegate to the Conditional Use Master Plan Permit (CUMP) Advisory Committee. John also was a member of the negotiating team that crafted the two intergovernmental agreements between the City and Port which provided the foundation for the current planning processes.

John is a native Portlander and has a Bachelor of Science from Oregon State University and a Bachelor of Education and Master of Urban Planning from the University of Oregon. His Masters of Urban Planning thesis project was computer programs to project population growth. This background led him to question the growth projections for PDX traffic. The urban planning was followed by a career in computer consulting, where he taught software development, systems analysis, and project management to professional software engineers in North America, Europe, and India. Now retired, he advocates Systems Thinking for urban and airport planning in the region.

PAG Facilitator

Sam Imperati

Sam Imperati, JD, is the executive director of the Institute *for* Conflict Management, Inc. (ICM). ICM is a Northwest-based, national provider of mediation, facilitation and training services. ICM has provided services to a diverse array of private and public organizations including state and federal courts, bar associations, trade associations, law schools, the National Association of Securities Dealers Dispute Resolution Program, and others. Sam has been an attorney for over twenty-eight years, and has managed more than 2,500 disputes. He has lectured nationally on mediation, negotiation, ethics, and conflict resolution. Sam has been highly effective in resolving complex disputes, public policy issues, multi-party cases, and matters where emotions run high. His background includes plaintiff and defense work, management and labor, along with litigation and appeals. He was formerly assistant corporate counsel with Nike, worked in private practice, and has handled a broad range of litigation and mediation. Sam has served as a judge pro tem and as chair of the Oregon State Bar Alternate Dispute Resolution Section. His peers recently selected him for inclusion in the 2008 edition of *The Best Lawyers in America* for mediation. Sam is a recipient of the 2007 Oregon Mediation Association, Sid Lezak Award of Excellence for Outstanding Service to the Profession of Mediation in Oregon.

Appendix II
PAG Subcommittee Charter

REVISED DRAFT

Subcommittee Topic: *Sustainability and Environment*

Subcommittee Chairperson: Cam Gilmour

Start Date: PAG meeting #3

Anticipated End Date: PAG meeting #16

Required Representative Membership:

Community: Erwin Bergman, Maryhelen Kincaid, Lawrence Russell, Bob Sallinger, John Weigant
Business: John Mohlis, Veronica Rinard
Government: Cam Gilmour, Laura Hudson

Other PAG Members: Bill Blosser

Non-PAG Members: Judy Crockett, Portland Office of Sustainable Development, Nancy Hendrickson, Bureau of Environmental Services
Jim Edelson

Port-City Staff Liaison: Sean Loughran/Rene Dowlin, Port of Portland
Jay Sugnet, City of Portland

Subcommittee Charge:
The Sustainability and Environment Subcommittee's work will be informed by the PAG Vision and Values Statement and the Issues and Goals identified in the Stakeholder Outreach Summary. The subcommittee will work with Airport Futures staff and the Aviation Consultant to develop and refine the sustainability framework for the Airport Futures project.

The subcommittee will:

- Review and provide feedback on the Aviation Consultant's airport sustainability literature search and proposed sustainability framework;
- Consider the work of the Multnomah County/City of Portland Sustainable Development Commission, Governor Kulongoski's Sustainability Initiative, and the Port's Sustainability Initiative;
- Develop a sustainability framework for evaluating alternatives and a list of sustainability policies and recommendations;
- Evaluate the airport development alternatives and land use plan using this framework and make recommendations to the PAG; and
- Create sustainability goals and policies for the PDX master plan and land use plan.

Subcommittee Deliverables:
PAG Meeting #7: Report out to PAG on suggested framework for evaluating alternatives using sustainability criteria. Also report on policies and or recommendations for future airport development or operational programs that incorporate sustainability principles.

Public Meeting #7 and #8: Participate in public meetings to solicit input on the sustainability framework, City land use alternatives, and forecasted facility requirements.

PAG Meetings #11-13: Provide sustainability analysis of airport alternatives and land use plan (date of presentation to be determined based on PAG schedule).

PAG Meetings #14-16: Provide additional sustainability analysis of above (date of presentation to PAG to be determined based on PAG schedule).

Ongoing: At the first subcommittee meeting, the subcommittee will develop a work plan to achieve the charge of the subcommittee. For all meetings, the subcommittee will provide meeting agendas in at least one week in advance of all meetings. These agendas and meeting locations will be posted on the project website. The subcommittee will provide meeting notes or summaries of the discussion points, including points of agreement and disagreement within the subcommittee.

PAG Subcommittee Charter*

*Subject to change based on PAG schedule.

REVISED DRAFT

Subcommittee Topic: *Aviation Demand Forecast*

Subcommittee Chairperson:

Anticipated Start Date: PAG meeting #1

End Date: PAG meeting #6

Required Representative Membership:

Community: Erwin Bergman, Alan Hargrave, Maryhelen Kincaid, Bob Salinger, Michael Sloan, John Weigant, Travis Williams
Business: Tom Gerharter, Stuart Mathews, Brian Nelson
Government: Dennis Mulvihill, Mary Olson

Other PAG Members:

Non-PAG Members: Robin Denburg, NE Neighborhood Coalition
Bob Eaton, Multnomah County Drainage District
Jim Edelson
Pia Welch, Portland Air Cargo Association
Dennis Yee, Metro Economist

Port-City Staff Liaisons: Chris Corich, Port of Portland
Jay Sugnet, City of Portland

Subcommittee Charge:
Informed by the PAG Vision and Values and the Issues and Goals identified in the Stakeholder Outreach Summary, the subcommittee is charged with assisting the Aviation Consultant and City Peer Review Consultant in reviewing the methodology, assumptions, and scenarios which will form the basis of the aviation forecasts. As described in the City's and aviation consultant's scopes of work, the development of the forecasts will be a cooperative process between the aviation consultant, city peer review consultant, and City and Port staff.

Subcommittee Deliverables:
Two weeks prior to PAG meeting #4: Recommendations to Aviation Consultant on forecast methodology, assumptions and scenarios.

PAG Meeting #4: Clarification of comments to Aviation Consultant.

PAG Meeting #5: Comments on Aviation Consultant forecast.

PAG Meeting #6: Comments on the Peer Review Consultant's analysis of the forecast.
Ongoing: At the first subcommittee meeting, the subcommittee will develop a work plan to achieve the charge of the subcommittee. For all meetings, the subcommittee will provide meeting agendas in at least one week in advance of all meetings. These agendas and meeting locations will be posted on the project website. The subcommittee will provide meeting notes or summaries of the discussion points, including points of agreement and disagreement within the subcommittee.

LAND USE / TRANSPORTATION SUBCOMMITTEE CHARTER*

*Subject to change based on PAG schedule.

REVISED DRAFT

Subcommittee Chairperson: Fred Stovel

Start Date: PAG meeting #6

Anticipated End Date: PAG meeting #19

Required Representative Membership:

Community: Lawrence Russell, Coalition for a Livable Future; Bob Salinger, Audubon; Fred Stovel, Office of Neighborhood Involvement; Vicki Thompson, East Multnomah County

Business: Mitchell Berck, Flightcraft

Government: Catherine Ciarlo, Portland Planning Commission; Andy Cotugno, Metro; Laura Hudson, City of Vancouver

Non-PAG Members: Linda Robinson, East Portland resident; Sylvia Cate, Bureau of Development Services; Nancy Hendrickson, Bureau of Environmental Services; Mindy Brooks, Bureau of Planning; Jeri Williams, Office of Neighborhood Involvement; Paul Van Orden, City Noise Officer; John Griffiths, Trimet; Andy Johnson, ODOT; Bob Eaton, Multnomah County Drainage District; Kelly Sweeney

Port-City Staff Liaison: Scott King, Port of Portland
Jay Sugnet, City of Portland

Subcommittee Charge:
Informed by the PAG Vision and Values and the Issues and Goals identified in the Stakeholder Outreach Summary, the subcommittee will provide input info and feedback on the following items:

- City's early land use regulatory alternatives;
- Transportation model and transportation impact analysis; and
- Discussion draft of the airport and environs land use plan.

Subcommittee Deliverables:
PAG Meeting #7: Report out to PAG on City early land use regulatory alternatives discussion (i.e., airport zone, plan district).

PAG Meeting #8: Recommend to PAG regulatory structure for developing City Land Use Plan. Also review existing conditions materials related to land use and transportation.

PAG Meeting #11-13: Report out to PAG on City Land Use Plan, Transportation Impact Analysis, and the Transportation Model. Included will be early coordination with the Public Involvement Subcommittee on the goals of the Ongoing Public Involvement Strategy (OPIS).

PAG Meeting #14 - 16: Report out to PAG on City discussion draft of land use plan.

Ongoing: At the first subcommittee meeting, the subcommittee will develop a work plan to achieve the charge of the subcommittee. For all meetings, the subcommittee will provide

meeting agendas in at least one week in advance of all meetings. These agendas and meeting locations will be posted on the project website. The subcommittee will provide meeting notes or summaries of the discussion points, including points of agreement and disagreement within the subcommittee.

PUBLIC INVOLVEMENT SUBCOMMITTEE CHARTER*

* Subject to change based on PAG schedule.

REVISED DRAFT

Subcommittee Chairperson: Hector Roche

Start Date: PAG Meeting #6

Anticipated End Date: PAG meeting #19

Required Representative Membership:

Community: Maryhelen Kincaid, Community - North Portland Neighborhood Services
Alesia Reese, Community - East Portland Neighborhood Office
Patrick Metzger, Community - Northeast Coalition of Neighbors
Lawrence Russell. Community - Environmental Justice
Mike Sloan, Community - Vancouver Neighborhoods
Denny Stoecklin, Community - Office of Neighborhood Involvement - Northeast Coalition of Neighborhoods
Fred Stovel, Community - Office of Neighborhood Involvement - Central Northeast Neighbors
Eric Meyer – Community – Airport Issues Roundtable

Business: Jill Eiland, Business - Intel

Government: Hector Roche, Government - Multnomah County

PAG members who participated in Telephone Survey Only: *Tom Gerharter (Business, Horizon Airlines), John Mohlis (Business, Columbia Pacific Building Trades Council)), Veronica Rinard (Business, Portland Oregon Visitors Association)*

The Subcommittee was formally established in April 2008. An Ad Hoc Group was convened briefly in the fall of 2007 to provide input to the Airport Futures project team and statistical survey consultant on the questions to be answered in the telephone survey scheduled for release in the fall of 2007.

Non-PAG Members: Linda Robinson, East Portland resident
Kelly Sweeney, Northeast Portland resident

Port-City Staff Liaison: Lise Glancy, Port of Portland
Bronwyn Buckle, City of Portland

Subcommittee Charge:
The Public Involvement Subcommittee's work will be informed by the PAG Vision and Values Statement and the Issues and Goals identified in the Stakeholder Outreach Summary. The subcommittee has three primary tasks:

1) Implementation of Public Involvement Plan. The subcommittee will work closely with Airport Futures staff to help implement the Public Involvement Plan. Specifically, the subcommittee will provide recommendations on:

- How to make the public meetings and outreach interactive, balanced and inclusive.

- How best to communicate with, and seek input from, the key stakeholders and how to reach under-represented communities and minorities.

Responsibilities may include scheduling presentations to other stakeholder groups on the status of the joint planning process and participation in these and other public meetings/open houses.

2) PAG and Public Engagement Process Evaluation. The subcommittee will work with the project facilitator, chair and vice chair to evaluate the PAG and engagement process on a semiannual basis. There will be an initial six month evaluation in February 2008, annual evaluation in February 2009, and a final evaluation at the conclusion of the planning process in March 2010.

3) Recommendation on Ongoing Public Involvement Process. The subcommittee will develop a recommendation on an ongoing public involvement process regarding future development at PDX related to the master plan and land use plan. This task will need to occur when there are more details on the framework for the City land use plan and airport master plan (Summer 2009).

Subcommittee Deliverables:

1) Feedback on structure of public meetings one month prior to each public meeting. Report out dates include:
   - PAG meeting #7 (prior to public meetings #7 and #8);
   - PAG meeting # 9 (prior to public meetings #9 and #10);
   - PAG meeting #12 (prior to public meetings #11 and #12); and
   - PAG meeting #15 (prior to public meetings #13 and #14).
2) Ongoing input on public involvement outreach and engagement tools (e.g., website, PowerPoints, public surveys, meeting materials).
3) Debrief on six month evaluation from February 2008 and assist with development of a web survey to solicit input on broader outreach:
   - PAG meeting #7 (May/June 2008);
   - PAG meeting #13 (annual evaluation – February 2009); and
   - PAG meeting #19 (final evaluation – March 2010).
4) Recommendation on an ongoing public involvement process regarding future development at PDX related to the master plan and land use plan**.**

Ongoing: The subcommittee will develop a work plan by July 2008 to achieve the charge of the subcommittee. For all meetings, the subcommittee will provide meeting agendas at least one week in advance of all meetings. These agendas and meeting locations will be posted on the project website. The subcommittee will provide meeting notes or summaries of the discussion points, including points of agreement and disagreement within the subcommittee.

Environmental Policy

The Port Commission adopted the Port of Portland Environmental Policy in February of 2000 as the cornerstone of the Port's Environmental Management System. The Port of Portland will achieve its mission through responsible environmental stewardship and the implementation of proactive environmental programs. The Port will integrate environmental considerations into all aspects of its strategic planning and business decision-making. The Port will actively seek resolutions to environmental issues by endeavoring to achieve the following goals:

Compliance
Comply fully and promptly with all applicable environmental laws, regulations, and Port policies.

Planning
Integrate environmental costs, risks, impacts, and public concerns into operating decisions and facility development planning processes.

Natural Resources
Minimize impacts and seek opportunities to enhance natural resources while carrying out Port projects.

Pollution Prevention
Minimize pollution and waste through source reduction, reuse, or recycling.

Management Commitment
Communicate this policy and its requirements and deliver the training, tools, and resources required to implement this policy.

Government Relations
Develop cooperative working relationships with agencies and promotes development of sound environmental legislation and regulation.

Community Relations
Provide community outreach and leadership on environmental issues and respond in a timely fashion to inquiries or expressions of concern regarding environmental issues related to Port and tenant activities.

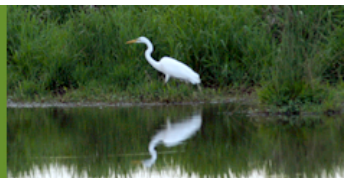
Performance
Improve the Port's environmental performance through regular monitoring and evaluations.

Quality
Achieve superior environmental performance and work product.

Continuous Improvement
Continuously improve the effectiveness of the Port's environmental program.

Implementation of this policy is the responsibility of all employees.

2009-10 Objectives and Targets



Reduce Energy Consumption and Purchase Renewable Energy

FY 2009-10 Targets:

- Reduce energy consumption across all Port facilities by at least 500,000 kilowatt-hours per year.
- Evaluate the feasibility of purchasing 100 percent of all Port electric energy from renewable sources by using cost-effective options in the energy market by July 2010.

Minimize Impacts to Water Resources

FY 2009-10 Targets:

- Reduce water consumption at Portland International Airport by retrofitting an additional 30 toilets with dual-flush, low-flow toilet valves, which reduce water usage by one to three gallons per flush.
- Reduce water use from irrigation by purchasing and installing four Evapotranspiration Managers at Marine and Industrial Development Facilities by July 2010.

Reduce Waste Generation and Hazardous Materials Use

FY 2009-10 Targets:

- Develop and implement a mixed plastics (rigid and vinyl plastics) recycling program for Port facilities by June 30, 2010.
- Expand program that encourages Port employee reuse of office supplies and minimizes the purchase of new supplies in order to reduce costs and promote a culture of conservation.
- Develop a Sustainable Purchasing Program to identify, evaluate and recommend alternative sources of products to replace purchases not currently obtained from sustainable sources (continuation of 2007-08 target).

Minimize Impacts to Air Quality

FY 2009-10 Targets:

- Reduce Port direct and indirect greenhouse gas emissions 15 percent below 1990 levels by 2020.
- Reduce diesel particulate matter from Port-controlled operations by 25 percent from 2000 baseline levels by 2015.

Minimize Impacts and Seek Opportunities to Enhance Natural Resources

FY 2009-10 Targets:

- Extend partnership through July 2010 with Friends of Trees by sponsoring additional tree plantings in neighborhoods adjacent to or near Port facilities to help offset impacts from Port operations. Include partnership opportunities for pilot Port employee service/team-building project. Develop appropriate public information messaging.
- Create a public information and education display focusing on invasive species control/reduction strategies on Port-owned properties by July 1, 2010.
- At the Smith and Bybee Wetlands Natural Area, conduct two seasons of invasive species control, with regular monitoring and native seeding and plantings, by July 2011.
- Participate in a City of Portland effort to enhance the south bank of the Columbia Slough at the confluence of the Willamette River by providing funding for in-water and riparian habitat improvements on Port-owned property by July 2010.

PORT OF PORTLAND

Sustainable Natural Resources Policy

The Port recognizes that our actions today affect and influence the lives of future generations and the environment where we live and work. The Port is operating sustainably when we when make business decisions that support long-term economic health, integrate community concerns into our work, and reflect a deep and broad commitment to environmental stewardship.

The Port of Portland is committed to protecting the environment for the benefit of future generations. This means that as we pursue our mandate from the Oregon Legislature to meet the trade and transportation needs of our customers and community, we respect the natural resources that make our work possible. As a public agency, we have a specific and enduring role in the community; we recognize that clean air, healthy waters, and productive landscapes help to facilitate our mission to move goods and people efficiently.

The principles below establish the overarching guidance we will consider as we operate an efficient port now and into the future. They acknowledge the environmental challenges facing the Port, and the ethic and culture we will promote in order to ensure that we conduct our business lines in a manner that contributes to the long-term economic, environmental, and social health of the region in which we live and operate.

As part of the Port decision-making process, **we will**:

- **Apply our Environmental Policy**; use our Environmental Management System to understand the environmental impacts of our work; and seek out least-impact approaches that balance nature and commerce when developing and managing aviation and marine facilities and industrial parks.
- **Promote continuous improvement** when it comes to enhancing and sustaining native vegetation, fish and wildlife; conserving and protecting water resources; minimizing air pollution; conserving energy while promoting use of renewable sources; and reducing waste streams.
- **Foster a Port-wide culture** where efficiency is actively encouraged and waste is continuously reduced.
- **Exhibit leadership** within the port industry by implementing innovative approaches based on sound science and informed decision-making.
- **Pursue pre-emptive measures** to reduce the Port's contributions to global climate change and develop proactive mitigation and adaptation strategies.
- **Encourage partnerships** to achieve integration of the above concepts within the Port and with other stakeholders.

Appendix VI

City of Portland Environmental Sustainability Policies and Milestones

1974 Replacement of Harbor Drive with Waterfront Park

Harbor Drive, a six-lane road running along the west bank of the Willamette River, is removed and replaced with a city park.

1977 Opening of Downtown Transit Mall

The Transit Mall helps revitalize downtown Portland by improving bus access and connections and catalyzing investment in the central city.

1979 Energy Policy

Portland's first energy policy emphasizes energy efficiency and renewable energy.

1980 Comprehensive Plan

Portland's comprehensive land-use plan addresses 14 goals established by the State of Oregon, including transportation, economic development, neighborhoods, housing, water quality, air quality, energy, and citizen involvement. The resulting land-use policies provide a written framework for future program and funding decisions related to urban development, as well as addressing a broad range of urban issues.

1986 First Light-Rail Line Opens

The initial light-rail line, the first element of what is now a 44-mile system, connects Gresham, 15 miles east of downtown Portland, to the Portland central city.

1992 Recycling Plan

Curbside recycling service is provided to all residences.

1993 Carbon Dioxide Reduction Strategy

Portland becomes the first local government in the U.S. to adopt a plan to address global climate change.

1993 First BEST Awards

City of Portland makes inaugural BEST (Businesses for an Environmentally Sustainable Tomorrow) Awards to businesses with significant and unique

achievements in sustainability. Held as an awards breakfast each year since, the intent of the BEST Awards is to showcase innovation and commitment to sustainability.

1994 Sustainable City Principles

City Council formally establishes its intention to promote a sustainable future that meets today's needs without compromising the ability of future generations to meet their needs. Specifically, it commits to:

- Support a stable, diverse and equitable economy
- Protect the quality of the air, water, land and other natural resources
- Conserve native vegetation, fish, wildlife habitat and other ecosystems
- Minimize human impacts on local and worldwide ecosystems

1996 Commercial Recycling Requirement

All businesses in Portland are required to recycle at least 50 percent of their solid waste.

1996 Bicycle Master Plan

Created by Portland residents and City of Portland Bicycle Program staff, the Bicycle Master Plan seeks to ensure that Portland is a bicycle-friendly city and includes a recommended bikeway network, end-of-trip facilities, links to transit, and educational efforts.

2000 Green Building Policy

Portland's initial green building policy required all new City construction and major renovation projects to meet the U.S. Green Building Council's LEED Silver standard. In 2005, the requirement was raised to LEED Gold. In addition, private-sector projects that receive public funding must meet LEED Silver.

2000 Green Investment Fund

Since 2000, the Green Investment Fund has provided financial support to more than 80 innovative building projects in Portland that exemplify comprehensive green building practices. Since 2005, annual competitive grant rounds of $450,000 have been conducted in a partnership including Environmental Services, Water, Sustainable Development, and the Energy Trust of Oregon.

2001 Local Action Plan on Global Warming (major revision to CO_2 Reduction Strategy)

With a goal of reducing greenhouse gas emissions to 10 percent below 1990 levels by 2010, Portland's updated climate-protection plan identifies 150 actions to reduce carbon emissions while supporting livability and economic growth. As of 2005, local greenhouse gas emissions were 1 percent below 1990 levels.

2001 Portland Streetcar begins serving downtown

The Portland Streetcar becomes the first new streetcar in the U.S. in 50 years. More than $1 billion in development has followed the streetcar line. Ridership has consistently exceeded projections.

2003 ReThink green building training series

The City of Portland launches a green building training series for commercial and residential building design and construction professionals. In subsequent years, the workshops expand to address a home-owner audience as well.

2005 Commercial Food Waste Composting

Portland garbage haulers begin collecting food waste from commercial customers. The food waste is composted and used as a soil amendment.

2006 Renewable Fuel Standard

Beginning in August 2007, all diesel sold in Portland was required to be 5 percent biodiesel; beginning in November 2007, all gasoline was required to contain 10 percent ethanol.

2007 Peak Oil Task Force Report

A City-appointed citizen commission, the Peak Oil Task Force developed recommendations for how Portland should respond to the rising costs and eventual decline in supply of oil and natural gas.

2007 Reduce Carbon Emissions 80 Percent by 2050

City Council directs bureaus to revise the City's existing climate-protection plan to achieve emissions reductions of 80 percent below 1990 levels by 2050. In 2007, local emissions were about one percent below 1990 levels.

2008 "Platinum" Bicycling City

Portland becomes the first city of its size to earn the League of American Bicyclists' "Platinum" designation. Portlanders commute by bicycle at a rate eight

times the national average, and bicycle traffic across Portland's bridges has increased fivefold since 1990 and more than doubled since 2000.

2009 Bureau of Planning and Sustainability Established

City Council combined the Bureau of Planning and Office of Sustainable Development into a new agency, the Bureau of Planning and Sustainability, charged with integrating sustainability into all strategic planning and land-use actions.

2009 Light Rail on Downtown Transit Mall and New Line to Southern Suburbs

Portland's newest light-rail lines, on the downtown transit mall and connecting the central city to the southern edge of the urban area, opened in September 2009, adding another eight miles to the light rail system and eventually expected to carry nearly 50,000 riders per day.

2009 Climate Action Plan

The City of Portland and Multnomah County adopted a joint Climate Action Plan, a major revision to past climate policies that seeks to reduce emissions 40 percent below 1990 levels by 2030 and 80 percent by 2050. The new plan addresses both reducing greenhouse gas emissions and adapting to a changing climate and identifies actions that will achieve climate goals while strengthening the local economy and improving equity.

In addition, below are a few highlights of City of Portland efforts to reduce energy and water consumption, reduce waste and keep Portland's air and water clean.

The City saved over **$18 million in energy bill savings** since 1992 by implementing energy efficiency measures. The lighting upgrades in the Portland Building alone have resulted in $80,000 in annual savings

The City **upgraded countless traffic lights, reducing energy use by about 85%** -- enough to power over 400 homes each year. The City also re-timed many traffic lights to improve traffic flow, saving motorists nearly 17-million gallons of gas a year - the same as taking 27,000 cars off the road.
The Portland Building now has an ecoroof with over 14,000 plants that will help reduce stormwater runoff and increase the building's insulation.

The City **uses the excess methane produced at the wastewater treatment plant** to generate electricity.

The City **recycles and then reuses thousands of yards of concrete and asphalt**, and makes compost out of the leaves picked up by our street-sweepers -- Saving nearly $3 million a year.

The City has over **30 electric-hybrid vehicles and 50 "flex-fuel vehicles"** (which can run on fuel containing 85% ethanol). All the diesel vehicles and equipment run on 20% **biodiesel** and some vehicles use even higher blends of biodiesel.

The City's integrated pest management programs reduces the use of pesticides, and is the **only designated "Salmon Safe" parks system in the country**.

A majority of the decorative fountains in the city re-circulate the water, **saving millions of gallons of water every year**.

All City employees are making efforts to reduce waste, recycle more, minimize paper consumption and buy products containing recycled materials.

Appendix VII

Airport Futures Key Sustainability Goals Technical Terms

Carbon Neutrality.
By "carbon neutrality" we mean achieving net zero carbon emissions by balancing a measured amount of carbon released with an equivalent amount sequestered or offset. The term carbon neutrality is used to reflect the fact that it is not just carbon dioxide (CO_2) that is driving climate change, but also encompasses other greenhouse gases, namely: methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFC), perfluorocarbons (PFC), and sulphur hexafluoride (SF_6). It is not assumed that PDX would have zero carbon emissions. The State Goal is to reduce greenhouse gases to 75% below 1990 levels by 2050, arrest growth by 2010, and be 10% below 1990 levels by 2020. The Port's 2009-10 Target is to reduce Port direct and indirect greenhouse gas emissions 15% below 1990 levels by 2020. The Port has identified an additional target of reducing diesel particulate matter from Port-controlled operations by 25% from 2000 baseline levels by 2015.

PDX will adopt a Climate Action Plan in coordination with the City of Portland by 2011.
As part of this plan, PDX will develop a Sustainable Choices website by 2012 to guide passengers on how they can participate in reducing their air travel carbon footprint, including providing carbon offsets to passengers.

PDX will achieve net zero waste by 2035.
PDX uses the One Planet Living definition of "zero waste" to mean no more than 2% of construction or normal operational wastes would go to landfills.

PDX will eliminate or minimize toxic substances used and hazardous waste generated in the operation of the airport.
Details on how this will be accomplished will be worked out during implementation of the master plan. In general, implementing will involve developing a plan to annually:

- Evaluate current and new technologies that can achieve further reductions of toxic chemicals and hazardous waste;
- Review and updating process and personnel procedures involving hazardous materials use and hazardous waste generation; and
- Train employees about how they can help the facility reduce its toxics use and hazardous waste generated.

The City of Portland, City of Vancouver and Port of Portland will appoint an advisory group to help PDX achieve continuous improvement in its public involvement and sustainability efforts. Stakeholders in PDX planning, operations and improvements will be valued participants in Port and City decision making.
A key focus of the ongoing PDX Community Advisory Committee is sustainability and that group will consider creating subcommittees in the future on a case by case basis.

PDX will expand and diversify passenger and employee transportation options, achieve the highest transit mode split in the nation and manage transportation demand to preserve mobility for all modes within the airport area.
Traffic count for the airport area is currently collected on a regular basis as is light rail ridership for passengers and employees. In addition the Port conducts annual terminal user surveys that provide information on passenger transportation choices. The 2007 base year passenger LRT ridership is approximately 6.5%. PDX would need to double that number to be in the range of the best transit mode split in the nation. The Port does not have complete control over numerous aspects of the transportation system and will need to work cooperatively with other transportation service providers, airport tenants and are businesses to achieve these goals.

By 2035, PDX will achieve indoor air quality measurements 30% better than current ASHRAE 62.1-2004 standards.
ASHRAE 62.1-2004 are standards for ventilation for acceptable indoor air quality promulgated by the American Society of Heating, Refrigerating and Air-Conditioning Engineers.

PDX will obtain 100% of operating power for PDX-controlled facilities from renewable sources and will achieve in-building energy efficiency levels of 45 W/M^2 by 2035.
45 W/M^2 is a metric for energy consumption in a building in watts per square meter.

PDX will give preference to doing business with firms that have implemented Health Safety Environmental Management Systems under ISO 14001, with the goal of having 75% of them compliant by 2035.
ISO14001 is a standard developed by the International Standards Organization (ISO) for environmental management systems applicable to any business, regardless of size, location, or income. The aim of the standard is to reduce the environmental footprint of a business and to decrease the pollution and waste a business produces.

PDX will participate in the US Dark Sky initiative to limit light pollution to the extent that this is allowed by FAA regulations.
U.S. and International Dark Sky Initiatives seek to reduce light pollution by promoting more efficient lighting systems that reduce glare and protect nighttime darkness.

Appendix VIII
Good Ideas Bucket

	Understand				Evaluate		Implement		
	Functional Area	**Sub area**	**Current Conditions**	**Forecasted Conditions**	**Sustainable Approach**	**Actions**	**Level of Control**	**Barriers**	**Solutions to Barriers**
Airport	**Airfield**	Runway Pavement	Adequate capacity.	Adequate capacity at 50th percentile, other than minor modifications (e.g., high speed exit); need new runway at 90th percentile.	Provide adequate capacity to prevent excessive delay or find a way to manage demand through demand management. Design runways & taxiways to reduce taxi time and distance. If additional pavement is required explore use of recycled materials. Continue pavement management program to prolong life of pavement and minimize lifecycle cost.	When demand exceeds 375,000, begin to explore dual strategy of adding capacity (new runway) and determining the applicability of managing capacity needs through demand management. Include dual departure as a strategy. Consider high speed rail as part of transportation network. Evaluate lifecycle cost for all new pavement or pavement reconstruction projects. Continue to invest in pavement management program to maximize the life of runway pavement.	Addition of runway capacity will require City of Portland approval and a full FAA sponsored EIS. Demand management is subject to congressional action to make it a legal strategy.	Cost and time to implement will be factors for adding a new runway. Managing demand through demand management strategies are not presently (2009) completely understood nor have they been successfully implemented as a means to manage existing capacity. Continental location is a barrier (e.g. West Coast location is cause of PDX peaking activity as an origin/designation airport). Public reaction and agency approval are also barriers to changes in flight paths, adding capacity or add a new runway.	Begin the process of attaining City of Portland approvals and beginning an FAA Sponsored EIS process when the airfield reaches 375,000 operations. Monitor other high volume airports as they attempt to use demand management strategies to manage demand.
		Taxiways	There is adequate taxiway capacity.	Adequate capacity exists at the 50th percentile. Routine maintenance will require short term (3-6 months) closures for maintenance.	Provide adequate capacity to prevent excessive delay or find a way to manage demand through demand management. Design taxiways to reduce taxi time and distance and minimize runway incursions.	When demand exceeds 375,000, begin to explore dual strategy of adding capacity and determine applicability managing capacity needs through demand management. Interim improvements could be made to improve the efficiency of aircraft movement. Projects could range from high speed exits to the proposed crossover taxiway. Explore towing of aircraft to reduce emissions.	The Port would have control to implement modifications to the existing taxiway system such as new alignments or high speed exits. A major improvement like the crossover taxiway would likely require an FAA sponsored EA or EIS.	Public perception of capacity projects may be negative.	Inform the public of the benefits and impacts of capacity adding project.
		Airfield Lighting	Systems are in good repair.		When replacement lighting is needed, consider replacing existing lighting systems with LED lighting. Develop a formula or a rule of thumb which will help determine the cost benefit of replacement of airfield lighting systems based upon the cost of energy and the cost of replacement lights.	Monitor the technology, cost, and funding options for replacement of existing airfield lighting to more energy efficient LED lighting. Explore use of solar over battery for construction or airfield lighting.	This is within control of the Port.	Cost/benefit of the system may make it non-economic. FAA sets standards for lighting systems.	Monitor economics and track changes in FAA lighting standards. Attempt to influence FAA standards where appropriate.
		De-icing for Aircraft and Runways	Deicing system currently in place to monitor, treat and control release of glycol to Columbia Slough. System does not collect from all operating areas. Permit exceedences have occurred.	Area subject to deicing will not change with the 50th percentile forecast but will as we approach the 90th percentile forecast as more pavement would be needed to accommodate the demand.	Minimize use of hazardous materials and support aggressive capture, treatment and if possible recycling of runoff.	Use lower Biological Oxygen Demand (BOD) de-icing materials; develop a de-icing reclamation and reprocessing facility; anaerobic reactor for stormwater treatment that generates energy; use anti-freeze with high recycled content	Oregon DEQ issues permits for stormwater discharge. Major deicing system improvements will likely require an EA. Volume of deicing material used may limit recycling opportunities.	Availability and cost of low BOD chemicals.	
		Aircraft Parking	Reaching capacity for Aircraft Overnight parking	Exceed capacity for Aircraft Overnight Parking	Locate overnight parking areas as close as possible to concourse gates in order to minimize delay, fuel use, emissions and maximize safety by avoiding runway crossings.	Location and phased development of overnight parking to minimize costs, create common/shared use, maximize efficiency. Consider opportunities for recycled materials and life cycle costs of pavement options. Ground power for RON parking to minimize movement of aircraft. Consider flexible use of this paved space (e.g., cargo)	Port control.	Strict pavement standards for airfield may be a barrier to some pavement types and use of recycled materials. Biggest barriers will be space and cost.	

	Understand				Evaluate		Implement		
	Functional Area	**Sub area**	**Current Conditions**	**Forecasted Conditions**	**Sustainable Approach**	**Actions**	**Level of Control**	**Barriers**	**Solutions to Barriers**
Airport		Aircraft Support Infrastructure Systems	Aircraft Rescue & Firefighting facility Reaching Capacity	Aircraft Rescue & Firefighting Facility may not meet requirements for response times as standards change and airport develops without second facility.	Locate second ARFF facility to minimize response times, minimize runway crossings, efficiently distribute personnel and equipment, maximize response capability to non-airfield emergencies including terminal emergencies, off-airport, and inspections. Employ green building technology (e.g., LEED).	Conduct siting study to identify location to most efficiently meeting multiple ARFF objectives. Evaluate the potential for investing in sustainable technologies in design and construction.	FAA specifications for response times, equipment requirements, etc. must be satisfied. Port responsibility for location, design and construction.		
			Currently over 700 pieces of Ground Service Equipment in use at PDX. Most of that equipment is either gasoline or diesel. While most aircraft gates provide ground power, few gates provide precondition air to allow aircraft to shut down at gate.	Generally speaking, Ground Service Equipment will increase in proportion to operations.	Support coordinated development of airside infrastructure and equipment (alternative fuel/recharging stations, preconditioned air at gates) to support conversion to greener Ground Service Equipment and lower aircraft emissions.	Work with airlines, other tenants, and regulatory agencies to convert all Ground Support Equipment to electricity or alternative fuels; use alternative fuels for shuttles and engines; Install recharging stations for electric GSE or CNG fueling stations; install particle filters on airport vehicles; work with airlines (voluntary, leases, incentives) to install power and pre-conditioned air at all gates; ultra-low sulfur diesel for stationary equipment; hydrant fueling for aircraft; consider age limit on equipment	Port control is limited to providing key infrastructure such as CNG fueling station or electric recharge facility. Airlines have responsibility for using their own GSE or contracting for those services. Port may be able to create incentives as leases come up for renewal. Both the Port and the Airlines share control of aircraft gate improvements.	Cost for infrastructure including CNG station, Electric Charging Station, aircraft ground power and preconditioned air.	Seek partnerships with federal, state and private partners. Efficiency improvements pays off in relatively short period. Seek outside grant funding opportunities.
	Terminal Facilities	Ticket Counters	Ticket counters are somewhat dated in their design but are otherwise in good repair.	Ticket lobby sufficient size to meet 50% forecast requirements.	Encourage common-use facilities where possible to optimize space devoted to ticket counter. Employ new technologies (self-service kiosks, baggage check) to speed processing. Consider alternative check-in locations such as off-airport or in parking facilities.	Undertake ticket lobby plan to maximize the utility of the space, take advantage of space vacated by the removal of CTX machines, and take full advantage of new baggage processing facilities, new technologies and promote well balanced use of space.	Airlines have significant control on decisions related to common use and employing new technologies for passenger processing. TSA has control related to screening of passengers and baggage. Port has control for planning and leasing space.	Passenger/baggage screening requirements may create some constraints. Not all passengers are able to take advantage of emerging technologies (skills, resources, etc.). Cost to plan and redesign ticket lobby to embrace new technologies.	
		Baggage Check-in				Explore remote terminal check-in at hotels and parking garage.			
		Baggage Claim	Adequate capacity.	Sufficient capacity through 2035 50% forecast.	Area dedicated to baggage claim is sufficient. When time to update luggage belt systems, explore more energy-efficient systems.	Manage asset to extend useful life. Interim improvements to motors should match load requirements to improve efficiency.	Port	Cost to replace baggage claim devices.	
		General Passenger Circulation	Adequate capacity.	Sufficient capacity through 2035 50% forecast.	Provide a circulation system that is easy-to-navigate, comfortable, safe and has quick access to gates. Consider shared use of spaces (holdrooms, concessions) as a means to balance use of limited concourse space.	Consider technology improvements that facilitate way finding from ground transportation facility to gates.	Port and airlines share control through airline agreement.	Some airlines prefer dedicated/branded facilities rather than common use. The technology of common use is not yet perfected.	Technology improvements may assist with branding and getting records/checking in
		Terminal Building	Currently PDX is considered one of the best airports in the country, including a top ranking by Conde Nast. Features that contribute to this include the Oregon Market, wi-fi access, and good design in the terminal.	Existing terminal facility should meet most 50% passenger forecast requirements. Exceptions include concourses A and Lower E regional airlines gates.	Design terminal spaces to maximize natural light, reduce resource demand and provide state-of-the-art passenger amenities. Maximize the life of existing terminal through Asset Management programs that include green maintenance and replacement practices. Port Capital Asset Management Program will be critical to extending life of terminal building systems.	Optimize existing buildings; use reused, recycled-content or locally sourced materials; double-glazed windows to reduce noise and improve energy efficiency; computerized programs for temperature and ventilation; low-VOC paints; high-efficiency air; filters; recirculating air quality programs; acoustical insulation; use green certified cleaning products; include "green" storytelling in terminal (signage); LEED buildings; develop airport-specific green building standards or manual.	Port	Airfield requirements limit building orientation options to maximize solar.	

	Understand				Evaluate		Implement		
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Airport		Water Systems	Existing water systems meet today's needs.	System expansion/modification will be needed consistent with terminal and other facility development.	Reduce the amount of water used in facilities through conservation, reuse or rainwater capture. Include state of the art water system technology in new facilities. Set goal of water use per passenger?	Continue to install low-flow fixtures and toilets; monitor and track water use; consider capture of rainwater for non-potable uses; use greywater for irrigation or car washes; water-efficient central heating and cooling systems; use reclaimed water for cooling tower makeup	Port, City		
		Energy Systems	Port has conducted energy audits, currently purchases 20 percent of energy needs from renewable sources, has a goal of total energy reduction of at least 500,000 kwh.	Central Utility Plant (CUP) has adequate capacity through planning period at 50%; certain expansion options will likely require expansion of existing CUP or development of new independent systems.	Reduce energy consumption; purchase electric energy from renewable sources; conserve energy in facilities; explore opportunities for electric energy generation on site. Set goal of energy use per passenger?	Regular review of energy use; meet increasing percentage of power needs through renewables; address energy needs through state of the art building design; lighting system upgrades to meeting occupancy needs (uncouple strip lights, use efficient ballasts, computer-operated lighting systems); automatic HVAC controls; airflow return systems; install carbon monoxide meters; energy efficient (Energy Star) equipment; escalator sleep mode; motor controls/sizing to match loads; install solar photovoltaic panels; combined heat and power systems; invest energy savings into other energy programs; continue to participate in Energy Trust of Oregon and other similar programs; cogeneration for electrical power and thermal energy.	Port, FAA on airfield siting of solar arrays or similar energy systems and equipment.	Cost, technology	Advances in technology, efficiency of systems and new funding sources.
		Waste	PDX currently has well established solid and food waste recycling programs that are monitored are refined on an annual basis.	The waste recycling programs can be expanded with the expansion of the airport. Deplaned waste recycling programs have opportunity for expansion.	Provide appropriately designed space in new facilities and retrofit existing facilities to facilitate waste and recycling separation facilities. Support staffing needed to maintain, monitor and where reasonable expand programs.	Continue to implement recycling and composting programs with airport tenants and partners; coordinate recycling collection infrastructure with hauler capability; specify recycling technologies (e.g. balers) for in space size; price waste higher than recycling for tenants; Include clear signage for recycling in dining areas; divert construction waste for recycling or reuse.	Shared by Port and tenants.	Cost can be an impediment including market for recyclables. Space on aircraft for waste/recycling can be a limiting factor.	Support cost beneficial expansion of all elements of the program. Work with airlines to find solutions to space issues on aircraft that will allow waste/recyclable sorting.
		Airport Safety and Security	Adequate Capacity	Additional checkpoint lane needed by 2017, five additional lanes needed by 2035	Consider checkpoint improvements that incorporate new TSA technologies and processes that are expected in the near future that will improve flow through existing checkpoints.	Monitor emerging TSA technologies for use at PDX.	TSA has primary responsibility for passenger security. Port works closely with TSA to meet screening requirements.	Testing process for new technologies can be slow and equipment/system upgrades are high cost improvements.	TSA funding and pilot programs. Seek to participate as a test airport or early adopter of new more efficient processes and technology.
	Ground Transportation	On-Airport Roadways	Adequate capacity.	A series of improvements including additional lanes and improvements to key intersections will be required to maintain level of service.	Minimize roadway congestion and reduce vehicle miles traveled per capita/enplanement.	Design roads for increased longevity and with low-impact materials. Employ Transportation Demand Management and Intelligent Transportation System technology to manage demand. Use re-used, recycled-content or locally sourced materials (e.g. recycled glass or concrete for road base)	Although the Port is largely responsible for on airport roadways, the connectivity of that system to City/State transportation facilities requires close coordination. Port has limited control with regard to Metro VMT requirements		
		Off-Airport Roadways				Employ Transportation Demand Management strategies. Consider tolling.			

	Understand				Evaluate		Implement		
	Functional Area	**Sub area**	**Current Conditions**	**Forecasted Conditions**	**Sustainable Approach**	**Actions**	**Level of Control**	**Barriers**	**Solutions to Barriers**
Airport		Public Transportation	Terminal served by LRT. Adequate Capacity. Single track section between south cargo area and terminal limits future frequency.	Future expansion of the terminal east (beyond 50% forecast may require second station.)	Maintain high quality public transportation access to airport terminal. Increased Public Transit access to the region through LRT system expansion, bus connections and new transit service.	Maintain same level of access and proximity of light rail to airport terminal; Expand service schedule to meet increased demand; Advocate for bus service to airport (Tri-Met and C-Tran); Provide education and outreach to encourage transit ridership; measure, track and report mode split.	Port provides terminal facilities and provides land for LRT alignment on Port property. Tri-met or C-Tran are responsible for provide public transit service.	Service schedule current barrier to greater employee use. System size and structure current barrier to higher ridership (regional coverage limits easy access in some parts of the Portland/ Vancouver area). Transit agencies have capital and operating responsibilities. Federal limitations on use of airport revenue.	Continued system expansion. Port could contract with transit agencies for change in service.
		Curbside Facilities	Adequate capacity	Additional capacity required at 50th percentile forecast by 2017 ((PAL 2) for deplaning and 2022 (PAL 3) enplaning.	Assume 90 second dwell time and support by providing additional staffing to insure vehicle turnover at curbside. Prioritize parking and transit use over curbside facilities. Employ transportation demand management to better balance use of upper and lower roadways.	Offer cell phone lot to minimize circling; incentives for transit and parking use; increase staffing to lower dwell times; explore options for reducing pedestrian crossing of terminal roadways; explore options for relocating existing terminal roadway functions to garage; consider additional terminal curb; Consider remote bag check-in	Port has control for planning, design and management of terminal roadway facilities.	Pick-up/Drop-off behavior difficult to affect, airport trips viewed differently from other area trips; construction impacts can be highly disruptive.	
		Public Parking	Present level of Service is good and adequate capacity exists for near future. Passenger drop-off generates more emissions than parking or transit use.	Under 50th percentile forecast additional capacity is needed by 2017 (PAL 2)	Capture parking on-airport to reduce VMT and support financial feasibility for PDX; provide parking in multi-story garages rather than surface lots, use green building practices and do not increase physical footprint; look to consolidate parking	Install electric car plug-ins; priority parking for carpools or "green cars"; explore technology to improve efficiencies in parking lots;	Airport parking is spilt with on-airport provided by Port and off-airport provided by private companies and hotels.	Pick-up drop-off is difficult to influence through parking, pricing and public transportation policies. Structured parking is costly.	Provide convenient alternatives to pick-up/drop-off. Seek external funding for parking structures.
		Rental Car Facilities	Rental car facilities currently meet the needs of 80% of market within the terminal core area. The close in location provides a high level of customer service. The co-location of the wash and service facility, rental car offices and ready/return make for an efficient/compact operation.	Rental cars facilities should be able to continue to meet an 80% market share through 21 MAP.	Retain rental car facilities in the central terminal core as long as practically possible. Maintain a balanced configuration that reduces staffing costs. Use recycled water for vehicle washing and promote use of green cleaning products and recycling. Have "green vehicles" account for a growing percentage of the total rental car fleet.	Conduct follow-on study that phases improvements to rental car facilities with goal of prolonging the existing of rental cars within the terminal core and defines the long-term future for rental cars. Plan should consider facilities necessary to accommodate a transition to alternative fuel vehicles. As leases allow, consider incentives to encourage increased use of alternative fuel vehicles.	Port/rental car companies share control through lease/operating agreements.	The cost to make changes and provide facilities is often a barrier.	
		Employee Parking/ Transportation	Employee parking is adequate currently. Employee parking is provided as part of tenant agreements.	Employee parking is adequate for planning period.	Employee parking shall be minimized and priced appropriately consistent with a larger transportation management strategy.	Promote access to car-share/rideshare through computerized 'match' program; commuter rebate program for non-SOV travel; subsidize vanpools; offer free transit pass to employees; employees are charged for parking; offer telecommuting and alternative work hours where possible.	Port has control for Port employees but limited for other tenants.		
		Bicycle/ Pedestrian Facilities	PDX has a bicycle/pedestrian master plan, had a multi-use path to terminal, bicycle parking in multiple locations at terminal, connection to nearby regional trail, LRT station at terminal with bicycle accommodations.	Although not a capacity issue, additional bicycle improvements will include a bicycle facility on the south side of Airport Way between 82nd and the Terminal, and better connection to City bicycle facilities is needed.	Provide safe and convenient bicycle/ pedestrian access and related facilities to airport employees and passengers	Establish/maintain secure bicycle parking; bicycle assembly facilities; provide showers and lockers; improve visibility of bicyclists; provide bicycle/ pedestrian education and awareness; implement a "work bikes" program for job assignments at non-airfield locations; consider development of a bicycle rental concession.	Port for on airport system, City and State own/control for off airport system. Metro	Some challenging intersections need to be modified to provide safe bicycle routing.	

	Understand				Evaluate		Implement		
	Functional Area	**Sub area**	**Current Conditions**	**Forecasted Conditions**	**Sustainable Approach**	**Actions**	**Level of Control**	**Barriers**	**Solutions to Barriers**
Airport	**Other Airport**	Airlines				Work with airlines to encourage quiet and clean engines; track CO2 associated with flights from airport; offer offsets with flights (tree-planting).			
		Air Cargo	Adequate capacity. Some existing cargo facilities not configured to efficiently meet current cargo needs.	An addition 167 acres needed to accommodate 50% forecast demand.	Facilities located to provide good access to freight routes, minimize traffic on neighborhood streets, design of new facilities incorporate green building technologies; design should be flexible and promote higher space utilization rates.	Reconfigure existing cargo space to meet needs of existing and future tenants. Trickle ventilators in cargo facilities; use relief vents or operable skylights in cargo facilities; provide separation of ventilation and disposal where there are known hazardous products, encourage green building technologies.	Port manages some existing cargo buildings that house multiple tenants. Port leases land to tenants that develop facilities to serve specific needs (FedEx)		
		General Aviation	In 2007 there were 27,600 GA operations at PDX, 98% of which were itinerant. 60-70% of GA aircraft at PDX are jet and turbo prop as an increasing percentage of GA operations are business aviation.	GA is forecast to grow at 0.5% to 32,500 operations. Facilities will need to reflect the changing mix of aircraft to business aviation jet and turboprop. Beyond the 50th percentile forecast GA will probably need to be relocated to accommodate facilities critical to meeting passenger needs.	Facilities should be tailored to meet emerging business aviation needs. Existing GA facilities should be maintained/modified to extend useful life through the planning period and until relocation is required by passenger terminal development. Consider ultimate long-term location if investing in major new facilities.	Port owned GA buildings should be subject to an asset management program that maximizes their practical life. Redevelopment of existing GA site should be evaluated before developing a new site (period of time before site may be needed for terminal expansion); consider green building practices for any new facilities.	Port and GA tenants.		
		Military	ORANG leases 246 acres of land at PDX and has existing sustainability program. Participates in noise abatement program.	ORANG is currently reviewing their long-term facility requirements.	Prolong existence at current site for as long as practicable. ORANG should continue to actively participate the noise program and CNAC. ORANG should be required to provide a ground runup enclosure designed specifically for any new aircraft as have done before.		Port and ORANG will negotiate a new long term agreement in the future.		
		Fuel Storage	Jet fuel is stored in three above ground tanks with a gross capacity of 3,360,000 gallons.	Additional storage capacity will be required within the planning period.	Provide a hydrant fuel system at parking gates with jet bridges		Fueling system is owned by consortium composed of airlines.		
		Chemical and Hazardous Waste Management				State-of-the-art fuel storage system; Capture runoff from ARFF training exercises. Use non-toxic paints.			
		Security	Most security facilities including baggage screening and passenger security screening have adequate capacity.	Baggage screening improvements currently underway will provide adequate capacity through the planning period and serve future expansion of the terminal building. The Federal Inspection Station for international flights may have significant capacity constraints if an additional international flight is added, dependent on the scheduled arrival time.	Continue to work with the TSA to implement new security technologies and processes to increase efficiencies for both baggage and passenger processing. If possible, encourage international carriers to schedule arrival times when there is capacity at the facility.		TSA has primary responsibility for passenger security. Port works closely with TSA to meet screening requirements.	Airlines may be unable or unwilling to schedule flights to better utilize existing staffing and facility capacity.	

	Understand				Evaluate		Implement		
	Functional Area	**Sub area**	**Current Conditions**	**Forecasted Conditions**	**Sustainable Approach**	**Actions**	**Level of Control**	**Barriers**	**Solutions to Barriers**
Airport		Utilities, Buildings and Pavement	The Central Utility Plant currently has excess capacity.	A new plan would be needed to serve any satellite concourse but such a facility is outside the plan period and is not limited by actions taken in this plan.	Use existing buildings and infrastructure and support infill development to minimize impacts to undeveloped areas. Provide an updated utility plan that incorporates sustainability practices.	Centralize facilities when possible; renovate for energy-efficiency; orient buildings for passive solar; use recycled glass or concrete for new road base; develop photovoltaic solar for electricity demand; a Utilities Master Plan should be undertaken to understand the capability of the existing CUP, understand when additional capacity is needed, and reconsider the maintenance, operation and improvement of all utilities in light of sustainability.	Port	Cost of the CUP and major heating and cooling systems within it.	Seek out funding from utilities and state and federal programs for energy efficient upgrades.
		Landscaped Areas				Use computer-controlled irrigation systems; xeriscape; separate drought-tolerant plants from ornamental plants; eliminate or reduce use of pesticides and fertilizers; improve soil organic matter content with compost;		Wildlife management issues may limit certain storm water management techniques and landscape materials	Work with City to develop alternative methods of stormwater management that achieve water quality and wildlife management objectives.
		Stormwater Management on Airport Grounds				Build green roofs to minimize stormwater (and conserve energy); evaluate capital projects against City's Grey to Green objectives for reducing storm water runoff.		Wildlife management issues may limit certain storm water management techniques and landscape materials	Work with City to develop alternative methods of stormwater management that achieve water quality and wildlife management objectives.
		Air Quality/Greenhouse Gasses	The Port currently has an air quality program and maintains an annual emissions inventory/greenhouse gas emissions inventory. Air quality program insures compliance with state and federal regulations and strives to reduce emissions and fuel use.	Air quality programs will need to achieve greater reductions in emissions to keep pace with growth to maintain existing or reduce greenhouse gas emissions.	Establish short and long-term goals to reduce GHG emissions for emitters under Port control. Establish short and long-term goals to reduce GHG for emitters that can be influenced by Port policy or programs.	Many actions listed under other subareas (airfield, ground transportation, utilities). A potential action not included in the other areas is the idea of a carbon offset surcharge that could be used to fund local natural resource initiatives intended to off-set the effect of carbon emissions. The Port should consider setting a target for greenhouse gas emission reductions.	The Port has direct control of emissions related to facilities, Port fleet, shuttle buses, employee commuting as well as the ability to influence generators of emissions including aircraft operations and ground access vehicles, ground service equipment.	Although considerable progress has been made to improve fuel efficiency, aircraft operations still account for the majority of airport greenhouse gas emissions.	Continued efforts to improve aircraft engine technology, alternative fuels, air traffic control and aircraft navigation. Alternative long distance transportation such as high speed rail.
Land Use	**Residential**	Noise	The Port has a Noise Management Department and works closely with a Citizen Noise Management Advisory Committee (CNAC) to minimize noise impacts, educate, inform and improve awareness. PDX has a GRE that is used for majority of airline engine run-ups; noise abatement route, preferential runway use policy	Port will continue to have a Noise Management Department for the foreseeable future and will continue its efforts in education, outreach, monitoring and action.	Port and City will partner to maintain and improve the compatibility of land use in the areas most impacted by aircraft noise; noise certification program; construction standards; noise disclosure and easements.	Maintain noise monitoring system; monitor airlines to insure continued use of GRE to greatest extent practical; review noise overlay on a periodic basis to insure it accurately reflects noise exposure analysis; implement fly quiet program; track % of military, cargo, and airlines using quiet engines or using noise minimization protocols; develop sound insulation program for residences under airport noise contour ; test continuous descent arrivals (CDA) to reduce noise.	FAA, Airlines, Military all have different roles related to the operation of aircraft; City of Portland has land use authority; Port has control over outreach, monitoring, GRE and other programs. Noise is a issue that requires a collaborative approach.	Cost and complexity of new technologies require long lead times to implement. Quieter aircraft take time to come into service to high cost, older aircraft can stay in-service as cargo aircraft for extended period of time.	Improved flight navigation systems, quieter aircraft fleet mix, compatible land use/zoning; complete and accurate information on noise impacts can help people make informed decisions.
		Traffic							

	Understand				Evaluate		Implement		
	Functional Area	**Sub area**	**Current Conditions**	**Forecasted Conditions**	**Sustainable Approach**	**Actions**	**Level of Control**	**Barriers**	**Solutions to Barriers**
Land Use	**Natural Areas**	Wildlife Management	Port has an FAA approved Wildlife Hazard Management Plan which is implemented under federal mandate (14CFR 139.337). The Port uses the plan to implement a proactive and adaptive management approach to reduce the risk to aviation safety.	Port will continue to maintain and refine the Wildlife Management Plan as needed while applying innovative management strategies.	The Port will maintain and improve its wildlife management strategies to manage the risk of aircraft/wildlife collisions and minimize impacts to wildlife.	Engage federal, state and local wildlife experts in an ongoing discussion of best management practices for aviation wildlife management. Update wildlife management plan every five years or as needed.	FAA, USF&W, USDA, COP, Metro, ODFW, and Audubon all work with the Port on issues related to wildlife management. Port has final responsibility.	Location of the airport's 1700 acres of open grass habitat being on a floodplain, between two major rivers and within the Pacific Flyway will permanently challenge wildlife management efforts.	Continued monitoring and research other best management practices.
		Landscape Management and Habitat	Port has landscaping standards in the Wildlife Hazard Management Plan which are implemented to reduce the attractiveness of landscaping to wildlife species of concern. Port monitors habitat on and around the airport for wildlife attractant concerns. City code amended to reflect airport specific landscape standards.	Port will continue to implement the landscaping standards on and around the airport and monitor wildlife habitat. Refine standards over time based on ongoing research and monitoring.	Port will look for wildlife habitat enhancement opportunities that are appropriate and compatible with aviation safety. Continue to be proactive in developing and maintaining landscaping that minimizes wildlife attraction to airport operating areas.	Fund conservation programs for endangered species; integrated vegetation/ wildlife management plan; vegetated areas planted with diverse native species; eliminate or reduce use of pesticides and fertilizers; improve soil organic matter content with compost; tree inventory on PDX and non-PDX properties where appropriate and compatible with aviation safety.			
		Wetlands and Riparian Areas	Port monitors wetlands and riparian areas on aviation property for wildlife attractant concerns.	Port will continue monitoring wetlands and riparian areas on aviation properties for wildlife attractants and modify habitat as appropriate to minimize attracting hazardous wildlife.	Port will look for opportunities to enhance wetlands are riparian areas that are appropriate and compatible with aviation safety.	Increase the opportunity for buffer distances and increased shading for waterways; plant landscaped area with diverse native species where appropriate and compatible with aviation safety			
Social	**Public Awareness and Education**		Existing Noise Management Department, Education/Outreach programs; Project specific outreach (NREX, Deicing, Airport Futures)	As airport grows ongoing public awareness and education related to Noise, Wildlife Management, stormwater management/ deicing and other airport issues will be important. The airport will need to conduct outreach/education associated will all major capital projects.	Maintain and expand public awareness and education efforts consistent with growth and new projects.	Implement Ongoing Public Involvement Strategy developed through Airport Futures. Provide information in terminal building that explains airport sustainability issues, what is being done to make the airport more sustainability and what airport users and employers can do to contribute (recycling, commuting, carbon offsets, etc.); employee recognition for environmental activities	Port	Cost to staff and maintain.	
	Stakeholder Relationships	Airport Advisory Committees	CNAC, Wildlife Advisory Committee, Land Use Advisory Committee, International Air Service Committee, Airport Futures PAG; Port website; bi-annual customer surveys	A new committee will be created though the Ongoing Public Involvement Strategy. The relationship to existing committees is yet to be defined.	Regular communication with federal, state and local stakeholders; advisory committees that provide opportunities for meaningful input on issues related to the planning, development and operation of the airport; opportunities for public to access information about the airport and to submit feedback.	Implement an Ongoing Public Involvement Strategy. Record number of complaints and resolved complaints.	Port	Keeping people engaged is a challenge.	Take steps to ensure that there are not too many meetings. Ensure that committees do not overlap each other.

	Understand				Evaluate		Implement		
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Social	**Accessibility**		Meet or exceed ADA requirements	Meet or exceed ADA requirements; as terminal develops distances between ground transportation services, ticketing and aircraft gates will increase creating new challengers for maintaining high standards of accessibility.	Meet or exceed all ADA requirements and strive to provide barrier free access throughout the airport.	Consider accessibility early in all project planning and development.	Port, Airlines, concessions		
	Local Culture and Heritage		Local Music Program, Partner with Metropolitan Arts Council, Art Incorporated in to major public facilities, Exhibit space in terminal, maintain inventory and manage archaeological resources	PDX will continue to serve as a major gateway to the region	As a major gateway to the region, the airport will continue to showcase the culture and heritage of the region through architecture; incorporation of art into major capital projects; exhibit space in terminal building	Partner with the Regional Arts and Culture Council to identify and prioritize airport exhibits and consider integration of public are into future airport projects; work with local music community to expand the PDX music program. Consider WA and OR cultural heritage.	Port		
	Employee Relationships and Well Being		Existing Port programs include: Transportation Options; diversity program; employee health and wellness program; occupational health and safety management system; employee development/continuing education	Port employee programs will continue and improve. Total employment in the immediate airport area will grow.	Continue existing Port programs and explore opportunities for improvement. Considering that approximately 10,000 employees work within the airport environment, look for ways to improve well being of all employees that work in the airport environment.		Port, Airport Tenants	Although the passenger terminal represents a major employment node other employees are spread throughout the larger airport area.	
Economic	**Regional Economic Contribution**		PDX economic impact includes 19,000 jobs, $893,000,000 income, $3,420,000 business revenue, $90,000,000 taxes	PDX will continue to make a significant economic contribution to the regional economy.	Port continues to make positive, long-term contribution to the economic well being of the region.	Retain and recruit air service that meets the business and leisure needs of the region. Maintain air cargo service consistent with regional needs.	Airlines and cargo carriers have control, Port and other regional partners have influence (International Air Service Committee)		
	Hiring and Purchasing		Disadvantaged Business Enterprise Program goal for 2009 is $30.2 Million, Small Business Development Program, Mentor Protégé Program; Portland Habilitation Program consistent with State requirements includes 100 disabled employees with health care and fair wages	DBE program will continue and vary consistent with volume of airport activity. Small Business Development and Mentor Protégé programs will continue to grow the number of local businesses that have airport related experience and qualify for Port contracts.	Continue existing programs; continue to source local materials and support local business.		Port, State		
	Contributions to Research and Development		Participant in Global Reporting Initiative, Transportation Research Board (noise metrics, land use compatibility), Wildlife Management, Solar development	Port will continue to participate in national and international research and development programs on topics related to the operation of the airport.	Port will show leadership through participation in local, state, national and international research and development efforts aimed and improving the quality and efficiency of airport operations and reducing impacts.		Port		
	Community Contributions		Employee participation in giving campaigns, food drives, volunteer programs (SMART), Charitable and community organization support (CCA, CSWC, Friends of Trees, Environmental Grant Program)	Continue participation in giving campaigns and other programs that support the local community			Port, employees		

	Understand				Evaluate		Implement		
	Functional Area	**Sub area**	**Current Conditions**	**Forecasted Conditions**	**Sustainable Approach**	**Actions**	**Level of Control**	**Barriers**	**Solutions to Barriers**
Economic	**Finance and Capital Management**		Airport sustained on user fee system (no local property tax dollars), AA- bond rating, cost per enplaned passenger competitive	Maintain strong fiscal management, maintain bond rating and continue to operate the airport based on a user fee system	Develop capital projects based on demand and consistent with the airports ability to generate revenue to finance such projects. Continue to be competitive in terms of cost per enplaned passenger.	Negotiate airline agreement on periodic basis, study and adjust rates and charges to insure all airport related fees (lease rates, parking rates, landing fees, etc.) are competitive. Pursue public and private grant funding opportunities.			
	Asset Management Program		Comprehensive asset management program aims to extend the life of facilities, apply best management practices						