



2011

PORT OF PORTLAND  
NOISE MANAGEMENT  
ANNUAL REPORT



### **Noise Management Vision**

The Port of Portland Noise Management Department will be recognized regionally, nationally and globally for our commitment to aviation noise management, for helping enhance the livability of the region through programs that balance the needs of all stakeholders, and for encouraging trust and open communication.

### **Noise Management Mission**

Minimize, to the extent possible, the noise impacts from aircraft utilizing airports operated by the Port of Portland. Encourage cooperation and collaboration with internal and external partners.

## A Message From The Noise Manager

In 2011, the Noise Management Team focused our efforts on stakeholder engagement. The launch of the PDX Fly Quiet Program reflects our goal to establish and strengthen our relationships with industry partners including aircraft operators and the Federal Aviation Administration (FAA). Their support is critical to the success of the noise management program.

We also expanded air traffic controller briefings that detail the noise management program elements and the community impacts associated with aircraft operations. We developed a pilot training program that provides flight students and flight instructors with information about the importance of minimizing community noise impacts whenever possible. The Portland Police's aerial support unit invited us to provide training materials for them regarding noise impact reduction procedures, which we are now developing.

In an effort to expand our community engagement, we began the development of a strategic community outreach plan intended to help us reach residents within the four-county area (Clark, Clackamas, Multnomah, and Washington counties). We compiled contact lists for neighborhoods, neighborhood coalitions, and homeowner associations as a first step in expanding our community outreach efforts. Then, we contacted more than 170 groups via email and/or telephone making them aware of the noise management department and offering our services should their neighborhood or individual residents have concerns related to aircraft noise or operations. We presented at neighborhood association meetings, participated in community events and picnics, and provided content for a number of community websites and newsletters.

Working together with our community and industry partners, we were successful in 2011. As we move into 2012, stakeholder engagement remains a top priority. And, as the Federal Aviation Administration moves forward with the implementation of the Next Generation Air Transportation System (NextGen), collaboration with airlines, airports, and their surrounding communities will be important. We will continue our efforts to be accessible and available to stakeholders from both industry and our community in an effort to help the Port provide convenient access to air transportation while, at the same time, minimizing community noise impacts.

Should you have questions about our work or the noise program in general, please let us know.

Sincerely,  
Jason L. Schwartz  
Manager, Aviation Noise Management



Port of Portland Noise Management Team left to right:  
Chris Blair, Jerry Gerspach, Jason Schwartz and  
Gregg Maxwell.





## STATISTICS

## 2011 PDX AIRLINE OPERATIONS AND PASSENGER STATISTICS

Airline	Operations	Percent Change 10-11*	Passengers
Horizon Air	42,194	-10.2%	2,433,888
Southwest Airlines	26,674	1.0%	2,597,749
SkyWest Airlines	22,535	-7.5%	793,497
Alaska Airlines	20,087	10.3%	2,377,659
United Airlines**	12,458	45.6%	1,707,025
Delta Air Lines	10,165	-3.1%	1,505,091
U.S. Airways	4,403	2.2%	548,322
Frontier Airlines	3,353	4.5%	443,652
American Airlines	3,139	-4.9%	404,785
Air Canada Jazz	3,093	-20.4%	106,296
All other carriers	39,658	—	757,960

\*Percentage change is a comparison of 2010 to 2011 operations for each respective carrier.

\*\*United and Continental are now operating under a single combined operating certificate.

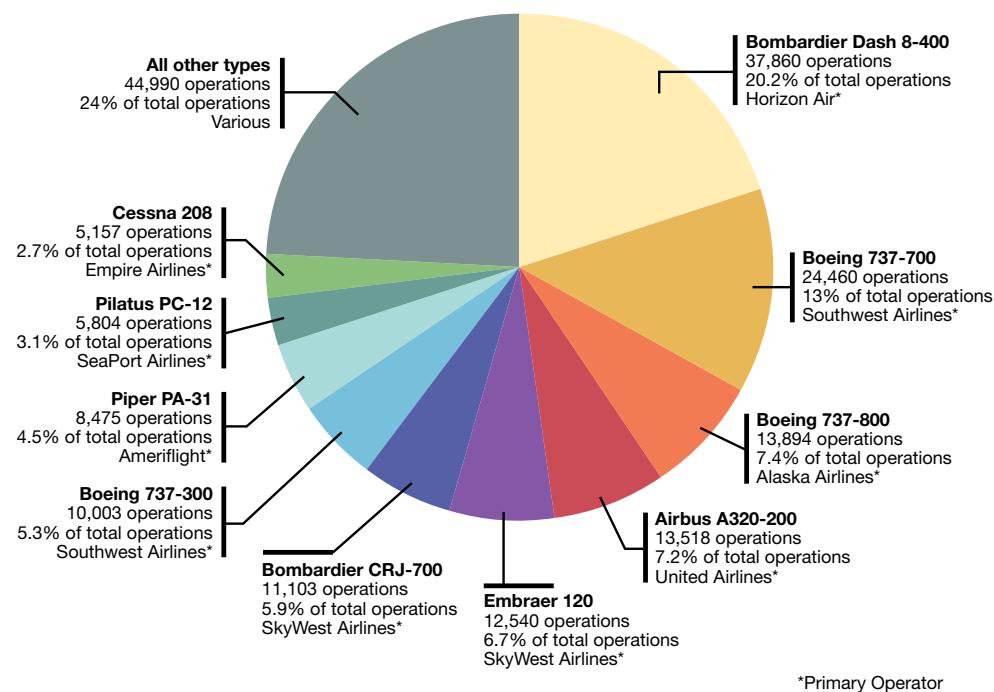
## PDX Operations

Portland International Airport experienced a slight decline in total operations (arrivals and departures) in 2011 as compared to 2010. Fewer planes, however, doesn't mean fewer travelers. Despite the drop in operations, total passengers increased for the second year in a row from 13.1 million in 2010 to 13.6 million in 2011.

Alaska Airlines, which continues to expand service at PDX, saw a 10.3 percent increase in operations and carried 16% more passengers than in 2010.

Thanks primarily to the restoration of nonstop freight service to Asia by Asiana Cargo, which began thrice-weekly 747-400 freighter service to Incheon, Korea this past September, the cargo sector showed a 2.5 percent growth in 2011.

## PDX AIRCRAFT FLEET MIX IN 2011



## PDX Fleet Mix

For the second consecutive year, the Bombardier Q400 was the most-used aircraft type at PDX accounting for 20.2 percent of all operations in 2011. Led by PDX-based carrier Horizon Airlines, total operations of the Q400 increased by more than 43 percent from 2010. The substantial increase in Q400 operations was the product of Horizon's planned phase-out of the company's CRJ-700 regional jet fleet which was completed this past summer. With the CRJ-700 phase-out, total operations of that aircraft type fell by 57 percent, from 25,987 CRJ-700 operations in 2010 to 11,103 in 2011. SkyWest continues to use CRJ-700 aircraft in their fleet mix.

Alaska Airline's continued service expansion was one of the driving factors in the 10.8 percent increase in the use of the Boeing 737-800 aircraft at PDX. The Airbus A320-200 aircraft, aided primarily by Delta's reallocation of its domestic fleet, flew to PDX 20.2 percent more in 2011.



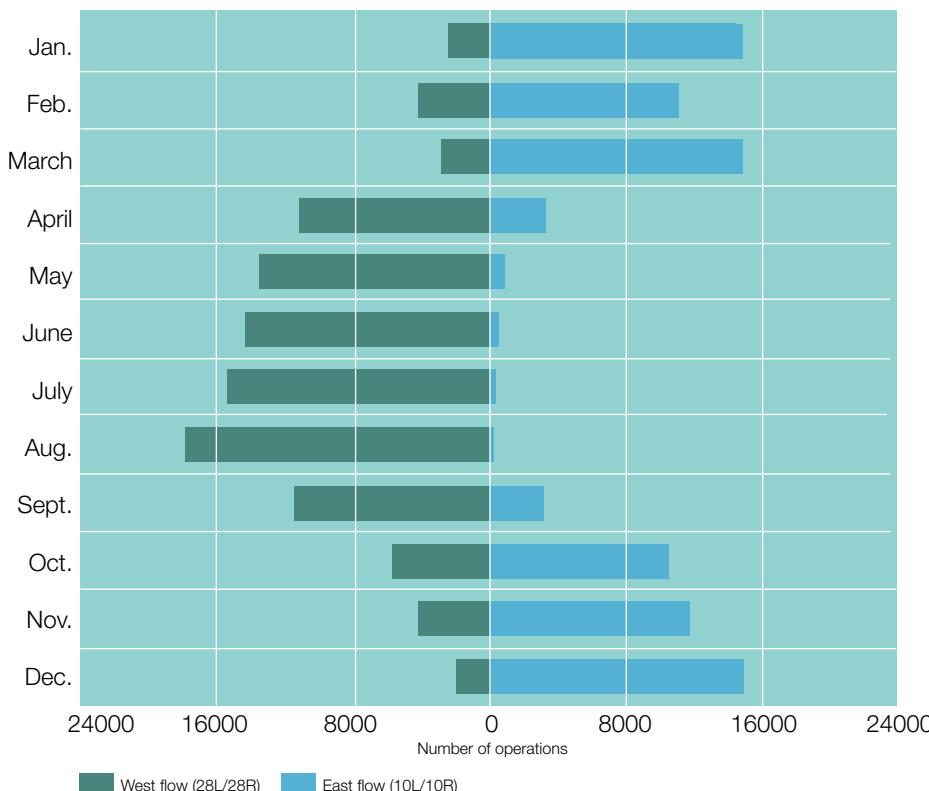
## PDX Traffic Flows

PDX has two main parallel runways which are orientated to the east-west and a shorter crosswind runway, which is aligned north-south. Aircraft must take off and land into the wind; PDX experiences seasonal changes in wind direction resulting in air traffic changes. In the spring and summer months when the winds are predominately out of the west, aircraft take off and land to the west, resulting in a west-flow pattern. In the fall and winter months, the wind patterns reverse and aircraft take off and land to the east, resulting in an east-flow when the winds predominately blow out of the Gorge.

The chart at right illustrates the seasonal relationship between east and west flows at PDX. It also reveals the daily fluctuations in the wind patterns. Not a single month's operations occur in only east or west flow. Even with the daily fluctuations in wind patterns, the split between east and west flows is somewhat even. The airport operated in a west-flow pattern for 203 days (56 percent) and in an east-flow pattern for 162 days (44 percent) in 2011.

## COMPARISON OF EAST AND WEST FLOW

Monthly for 2011



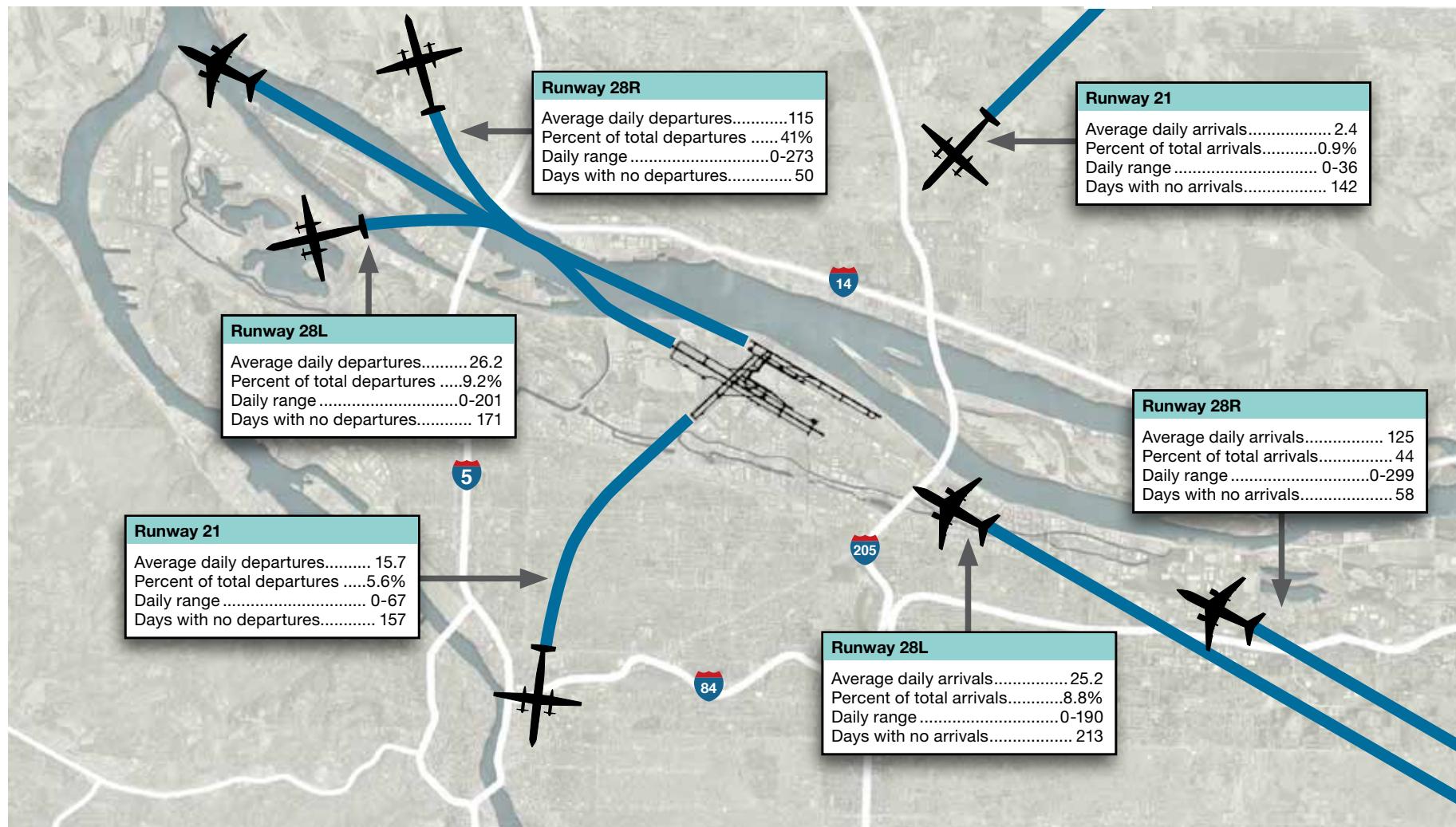


## PDX Runway Utilization

The South Runway Rehabilitation project was a driving force behind both the volume and distribution of complaints in 2011. Thirty-seven percent (130 of 353 PDX complaints) were related to the project. As in the previous two years, neighborhoods directly north and south of the airport (under the approach and departure paths of the crosswind runway) witnessed the greatest change in flight patterns.

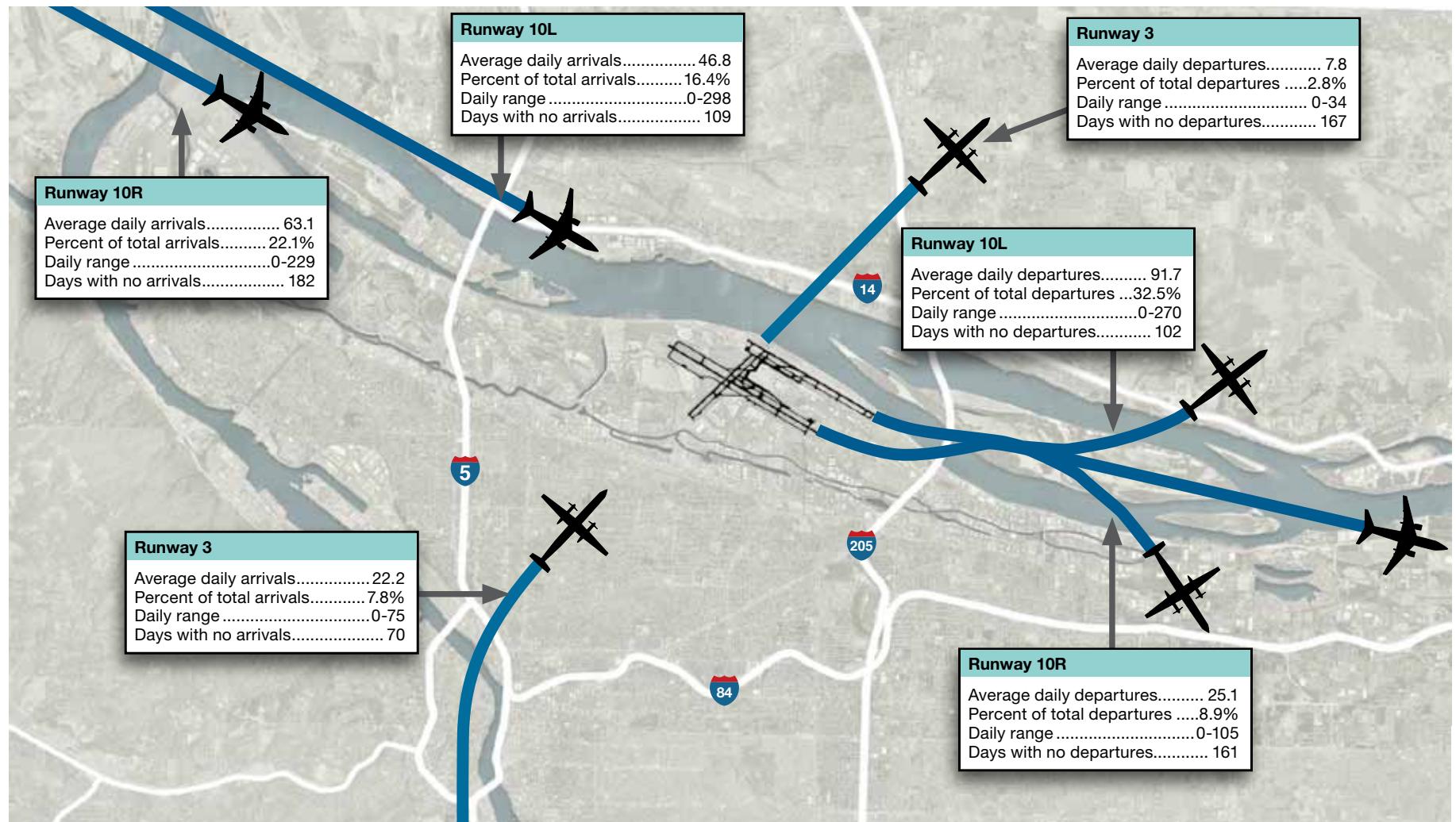
Concordia neighborhood residents called 36 times; nearly 70 percent of their complaints tied directly to the increased use of the crosswind runway. Of the top ten neighborhoods registering complaints, nine were neighborhoods impacted by the temporary change in flight paths as a result of the airport's runway rehabilitation project. Residents in the affected neighborhoods witnessed an increase in the number of over flights, and also noted the increase in the size of aircraft flying overhead.

## PDX WEST FLOW RUNWAY UTILIZATION – 2011



Operations data includes days during which one or more runways were closed.

## PDX EAST FLOW RUNWAY UTILIZATION – 2011



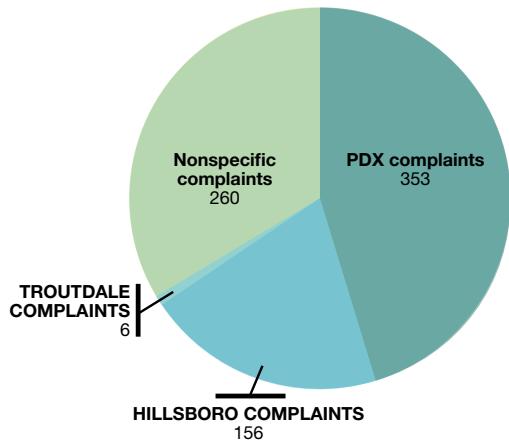
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## PDX Complaint Statistics

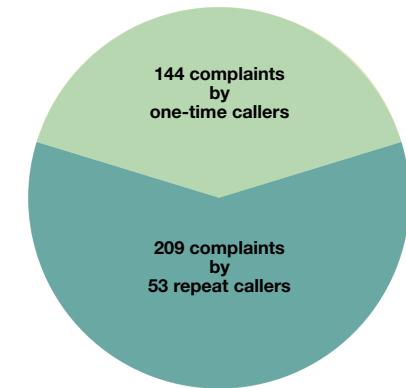
The noise management department received a total of 3,049 complaints in 2011. Included in this number are 2,274 complaint calls from two individuals. Of the remaining 775 complaints, 45 percent (353) were attributed to PDX operations, 20 percent (156) were attributed to Hillsboro Airport operations, six complaints were about Troutdale Airport operations and the remaining 260 complaints were not associated directly with activity originating from one of the three Port-owned airports.



### COMPLAINT BY AIRPORT

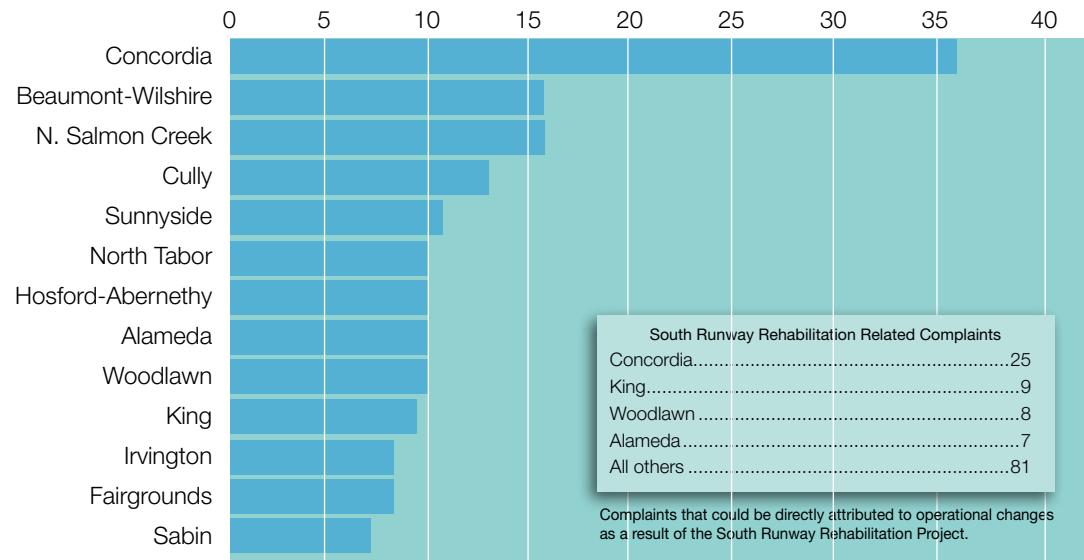


### CALLER BREAKDOWN

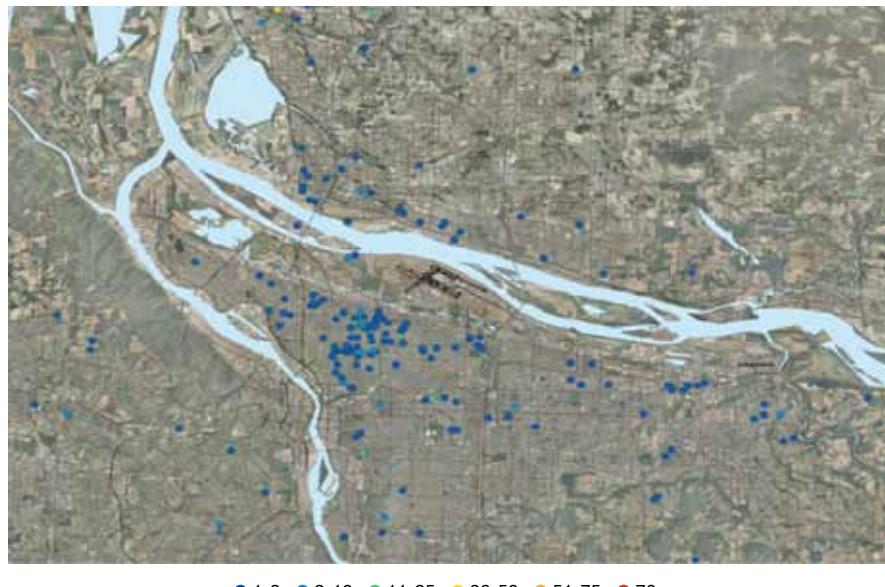


Total complaints for 2011: 3,049

## 2011 HIGHEST VOLUME COMPLAINT AREAS



## 2011 COMPLAINTS PER HOUSEHOLD

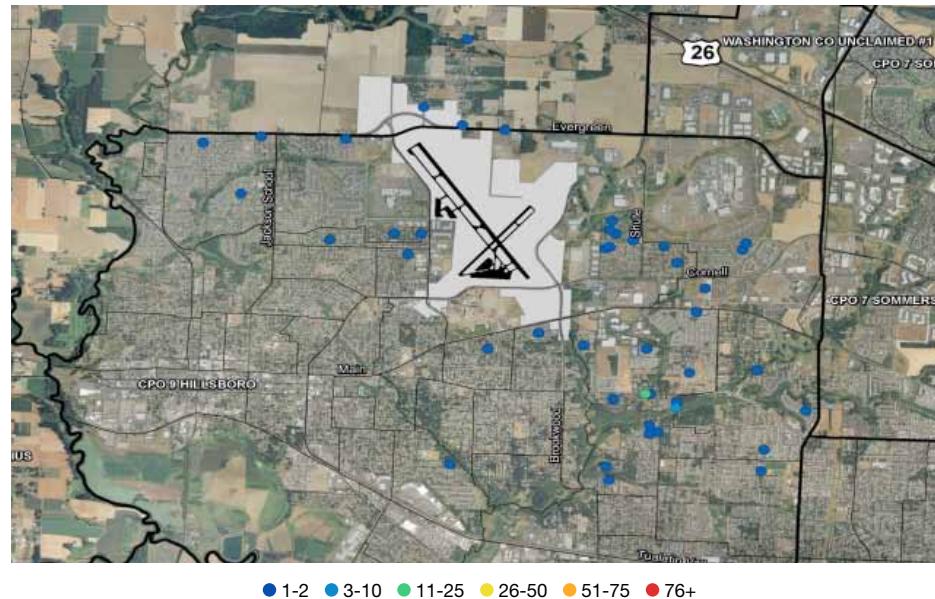


## PDX Complaint Map

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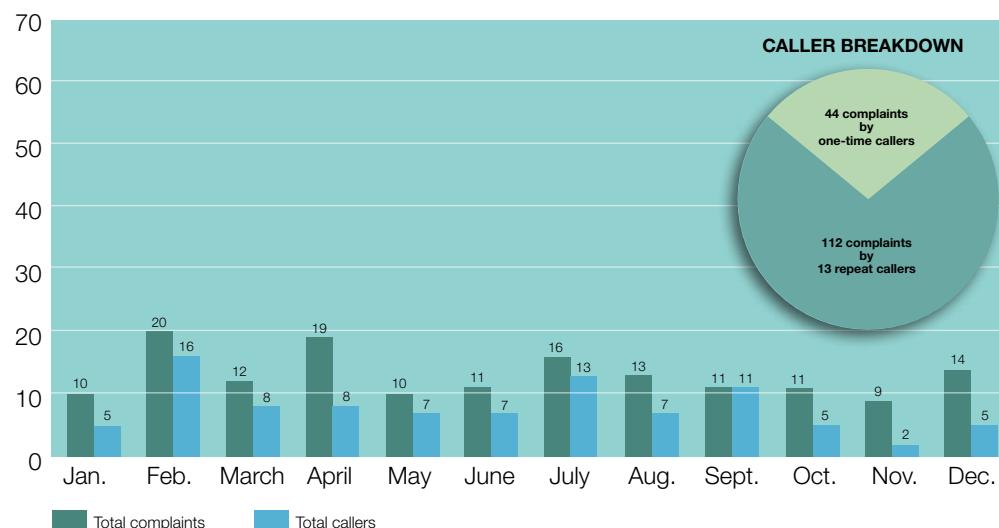
## 2011 HIO COMPLAINTS PER HOUSEHOLD



## Hillsboro Airport Complaint Map

As in previous years, the majority of the 156 complaints received by the department regarding Hillsboro Airport (HIO) were associated with training flights by both fixed wing and helicopter operators. Complaints were clustered in areas under the traffic patterns for the primary runway (13/31) as well as the three helicopter training patterns: Alpha, Bravo and Charlie. Pilots fly patterns around the airport to build proficiency and improve their skills. The repetitiveness of these operations can be disturbing to individuals and contributes to the frequency and nature of complaints around the airport. Of the 156 complaints the Port received in 2011 about HIO operations, 72 percent (112) were submitted by 13 callers.

## 2011 HIO COMPLAINT STATISTICS





COMMUNICATION,  
COLLABORATION,  
COMMITMENT

## **Community Collaboration and Outreach**

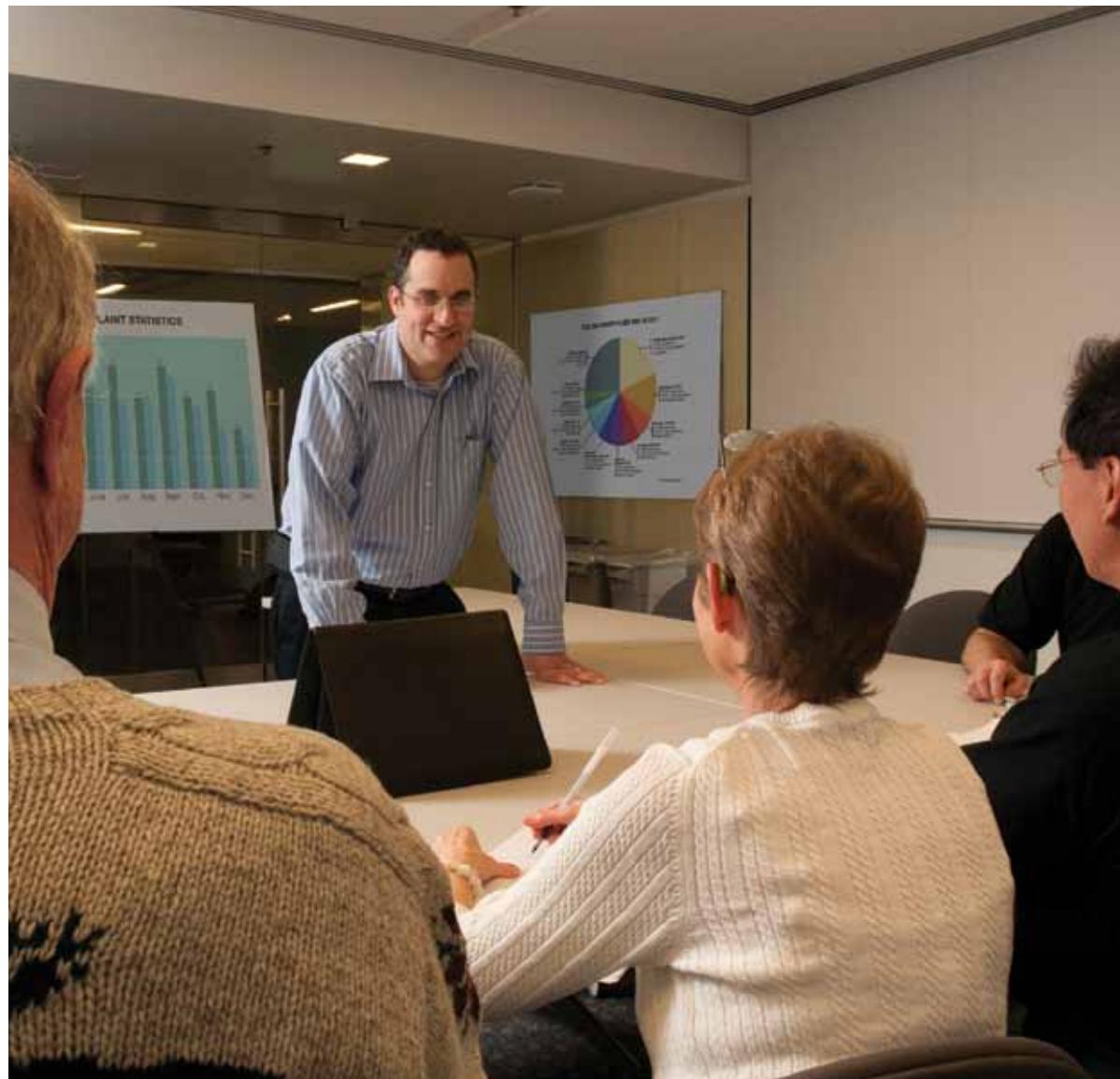
A department priority for 2011 was expanding community outreach. Members of the Noise Team contacted 170 individuals representing different neighborhood associations and community groups in an effort to expand awareness about and accessibility to the noise office services.

As a result of this effort, staff attended close to 20 community events including Neighborhood Association meetings, community picnics and Farmer's Markets. Additionally, staff provided content for community newsletters and websites.

The South Runway Rehabilitation project, representing the third and final year of a three-year airfield project at PDX shaped much of the department's outreach in 2011. In advance of the project kickoff on April 1st, Port staff participated in numerous community forums, answering questions from residents and providing information about the project and expected impacts. The Port focused outreach efforts to communities which would be most impacted by the closure of the South Runway and the increased use of the crosswind runway 3/21. As in previous years, the Port staff encouraged the FAA to minimize use of the crosswind runway during overnight hours when operational demand was lower.

In addition to these traditional outreach efforts, Alaska/Horizon invited the Port to participate in the first annual Boy Scout Aviation Day in which scouts and their parents were exposed to different aspects of aviation. Building on this educational outreach, the noise department also participated in two school science fairs, discussing noise abatement and its role in helping sustain aviation and give voice to community concerns.





## Industry Collaboration and Outreach

In 2011, the Port was heavily involved in cornerstone projects with numerous industry organizations. As a member of the Helicopter Association International's Fly Neighborly and Environmental committees, the Port worked with other committee members to develop training materials which will help operators respond more effectively to community noise concerns and identify ways to reduce community noise impacts.

Conference organizers invited department staff members to present at a number of conferences throughout the year including the UC Davis Noise Symposium and the Global Performance Based Navigation Summit. At these events, staff discussed the importance of stakeholder collaboration and community engagement, especially when implementing advanced satellite navigation procedures which are a focus of the FAA's Next Generation Air Traffic Control System (NextGen) program. Noise Management staff contributions received press in two trade publications: the *Airport Noise Report* and the *GE Performance Based Navigation Services Newsletter*.



## FAA Air Traffic Control Briefings

Through a partnership with the local FAA Air Traffic Control staff, the noise department added a noise management briefing to the controllers' yearly recurrent training curriculum. Noise department staff conducts the briefings in an effort to educate new and current ATC staff about noise abatement procedures, an air traffic controller's role in noise management, and the importance of minimizing community noise impacts. Above all, noise management staff uses these sessions to connect with the controllers and strengthen the Port's working relationship with the FAA. In 2011, the Port's noise department conducted more than a dozen FAA controller briefings. Based on the positive feedback received from the FAA, noise staff has expanded the program and plans to retain it as part of the department's training program.





### Pilot Outreach

The Port understands that reaching current and future aviators is key to developing a culture that encourages pilots to operate their aircraft as quietly as possible. In an effort to reach student pilots, the Port's noise department cultivated a partnership with Portland Community College's aviation program. Port staff briefs student pilots on existing noise abatement procedures at Port-owned airports and seeks their collaboration to help ensure a vibrant future for aviation through responsible community friendly aircraft operation. In addition to PCC, the Port also works directly with Embry-Riddle's PDX Campus to educate aviation management graduate students about the importance of developing robust noise abatement programs at airports across the United States.

## PDX Noise Abatement Information Page

As a component of the PDX Fly Quiet program, the Port developed a noise abatement information sheet intended for jet operators. The document describes noise abatement departure and arrival procedures at PDX and is modeled after a similar information sheet developed by San Francisco International Airport. The PDX noise department plans to distribute the information electronically to airlines and business jet operators in an effort to expand awareness of noise program elements including the suggested use of PDX's new satellite-based (RNAV) noise abatement procedures which can reduce community noise exposure for those living in proximity to PDX.





## **Tools for You**

Port of Portland's online flight tracking system, WebTrak, allows users to view aircraft activity in the greater Portland/Vancouver area, including most flights at Portland International Airport. WebTrak can be accessed via the noise management tab at [www.pdx.com](http://www.pdx.com).

If you have a question or a concern about aircraft noise, please call or e-mail the noise department.

**Noise Hotline:** Oregon: 503.460.4100 Washington: 800.938.6647 [pdxnoise@portofportland.com](mailto:pdxnoise@portofportland.com)

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Visit us online and sign up for noise alerts, or submit a question or complaint at [www.portofportland.com](http://www.portofportland.com).



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