

## Planning Advisory Group Meeting #5B

Tuesday, March 11, 2008 6:00 – 7:45 pm

Portland International Airport, St. Helens A and B Conference Rooms

### Draft Notes

#### **Announcements and Agenda Review – Bill Blosser and Sam Imperati**

Bill welcomed everyone to the meeting. The main event will be the forecast presentation by Linda Perry of Jacobs Consultancy. Alesia Reese, who is the alternate for Ross Monn, briefly introduced herself. She is a very active community member, serving on several boards and commissions, including the Parkrose Board of Education, the Gateway Urban Renewal Committee, Chair of the Woodland Park Neighborhood Association, the East Portland Neighborhood Organization, and Chair of the East Portland Parks Coalition.

The Collaboration Principles were passed around again to get the few remaining signatures.

Sam asked if anyone has any comments before approving the February 19, 2008 meeting notes, noting one clerical error re: moving some sentences that were out of place. Stan Alison, the FAA alternate for Gloria Ibarra, emailed Sam with clarification of statements that were incorrectly attributed to him. Debbie Deetz Silva wanted to correct a statement noting she is not a business owner. The notes were approved with these changes.

Bill announced that the military lease issue would not be on the agenda at the Port Commission meeting tomorrow. It will likely be moved to the April meeting. An email will go out to confirm this. The big topic for the Port Commission meeting on Wednesday is the Noise Program, so it will still be worth attending, especially if noise is of particular concern to you.

Members	Affiliation	Present
Lisa <b>Barton-Mullins</b>	E. County/City of Fairview	
Erwin <b>Bergman</b>	Central NE Neighborhoods	
Bill <b>Blosser</b>	Chair	√
Catherine <b>Ciarlo</b>	Planning Commissioner	√
Andy <b>Cotugno</b>	Metro	√
Tom <b>Gerharter</b>	Horizon Airlines <b>Alternate Gene Hahn in attendance</b>	√
Cam <b>Gilmour</b>	Clackamas County	
Alan <b>Hargrave</b>	Port of Camas/Washougal	√
Laura <b>Hudson</b>	City of Vancouver	√
Gloria <b>Ibarra</b>	FAA <b>Alternate Stan Allison in attendance</b>	√
Maryhelen <b>Kincaid</b>	N. Portland Neighborhood Services <b>Alternate Debbie Deetz Silva in attendance</b>	√
Lt Col. <b>Stuart Mathew</b>	ORANG	√
Patrick <b>Metzger</b>	NE Coalition of Neighborhoods	√
John <b>Mohlis</b>	Columbia Pacific Building Trades	

Ross <b>Monn</b>	E. Portland Neighborhood Office	<b>Alternate Alesia Reese in attendance</b>	√
Dennis <b>Mulvihill</b>	Washington County		√
Brian <b>Nelson</b>	Intel		√
Mary <b>Olson</b>	Port Commissioner		√
Jordan <b>Papé'</b>	Flightcraft		√
Veronica <b>Rinard</b>	Portland OR Visitors Association.		√
Hector <b>Roche</b>	Multnomah Co. Community Liaison		
Lawrence <b>Russell</b>	Coalition for a Livable Future		√
Bob <b>Sallinger</b>	Audubon Society of Portland		
Michael <b>Sloan</b>	Vancouver Neighborhoods		√
Dave <b>Smith</b>	Vice Chair		
Denny <b>Stoecklin</b>	Portland Office of Neighborhood Involvement		
Fred <b>Stovel</b>	ONI		√
Vicki <b>Thompson</b>	PDX Citizen Noise Advisory Committee		√
John <b>Weigant</b>	AIR		√
Travis <b>Williams</b>	Willamette Riverkeeper	<b>Resigned</b>	

<b>Staff &amp; Consultants</b>	<b>Affiliation</b>	<b>Present</b>
Joe Barden	Port's Aviation Consultant (HNTB)	
Debbie Bishop	Port	√
Ben Blessing	Port	√
C.F. Booth	Port's Aviation Consultant (Jacobs Consultancy)	√
Mindy Brooks	City	
Bronwyn Buckle	City Planning Bureau	√
Chris Corich	Port Project Manager	√
Renee Dowlin	Port	√
Melissa Egan	Assistant Facilitator, ICM	√
Jason Gately	Port	
Lise Glancy	Port	√
Geoffrey D. Gosling	City's Consultant (Principal, Aviation System Consulting)	
John Gray	City	√
Bob Hillier	PDOT	
Nancy Hendrickson	BES	
Sam Imperati	Facilitator (ICM)	√
Scott King	Port	√
Sean Loughran	Port	√
Mary Maxwell	Port	
Linda Perry	Jacobs Consultancy	√
Kama Simonds	Port	√
Jay Sugnet	City's Project Manager	√
Chris White	Port	√
Joe Zehnder	Planning Bureau	

**Public Present:** Jim Edelson (Oregon Interfaith Global Warming Campaign), Lee Vander Voo (media), and Bryan Watt.

## **AVIATION DEMAND FORECAST**

### **Forecast Subcommittee Report – Dennis Mulvihill**

Dennis reported that the subcommittee worked hard and asked tough questions. He feels the staff and consultants responded well every time and thinks the PAG will be pleasantly surprised about the results to be presented this evening.

### **Forecast Presentation with PAG/Subcommittee Results – Linda Perry**

Linda began with the topics for discussion today:

- Process & Schedule – Forecast Approach and Methodology
- Follow up items - PDX cargo; Passenger market models; Alternative passenger models
- Recommendation for Final Passenger Model
- Passenger Forecast Scenarios
- Preliminary Probabilistic Passenger Forecasts

Slide 3 is the forecast process diagram. It shows the basic steps in this complicated process: data collection, model development, supplemental analyses, select a final model, define forecast scenarios, probabilistic forecasts, obtain input, finalize forecast scenarios for Port of Portland, and FAA approval. Many of these steps have been completed. The decisions we need to make to go forward include:

- select final model
- define forecast scenarios

The decisions are interrelated. Ideally, the Forecast Subcommittee will be able to present a recommendation to the PAG at our next meeting in April.

“There are no facts about the future.” This statement captures an inherent dilemma in any forecasting model: there are sources of uncertainty. There may be model predictive error, coefficient estimation error, and/or independent variable forecast error. There is no way to create a perfect model.

After the probabilistic forecasts are developed, sensitivity tests of the forecast will be done. (Slide 7) Sensitivity tests conduct separate evaluations of factors or events that could impact passenger and cargo demand and are used to estimate the percent change in passenger and/or cargo activity. An example of a sensitivity test is to look at how the growth in videoconferencing will affect travel.

Slides 19-22 show the recommendation for final passenger model. All coefficients are significant and provide a basis for moving forward. Slide 22 shows the key factors – price of oil, non-fuel costs, and the load factor. It is important to remember that national data is used for several of the independent variables because there was no Portland-specific data for a long enough period.

From the viewpoint of Jacobs Consultancy, the strengths of this model are:

- it reflects regional socioeconomic conditions
- a 31-year period (a strength relative to 17-year models)

- fare elasticity is slightly elastic (more than -1.0) and within generally accepted parameters
- model coefficients significant
- combined models (passenger and yield) provides for testing of regional, national and aviation industry variables

The weaknesses are:

- does not include PDX specific yield for 31 years
- differences in yield coefficients for two periods

At the February 19, 2008 PAG meeting, PAG members were asked to fill out a Forecast Scenario worksheet. Slides 26 - 29 show the results of that exercise. The Forecast Subcommittee line is blue, PAG line is red, the combined group's line, which is entire PAG membership, is green. Note that any forecasted dollar values we see are in 2006 dollars.

Linda mentioned there might have been confusion when completing the survey. For example, you cannot have a high growth in passengers with high growth in the price of oil – the two are inversely related. This also happened with carbon costs. Linda had to do some translation, but the results are still useful to illustrate that the PAG members are quite close in their assumptions. These do not represent the actual probability; they represent our current assumptions, understandings, and what those lead to.

Beginning with Slide 33, there is a more in-depth look at how the Monte Carlo method is used. Linda explained that utilizing Monte Carlo Simulation takes the bias out of the process of generating probabilistic forecasts. Monte Carlo Simulation randomly picks values within the identified ranges and outputs the results. This is repeated 10,000 times to give us the curve of the range of what could happen in the identified timeframe. That is how a probabilistic forecast is generated. Again, it takes the bias out of the process.

*Sam Imperati:* wondered how the consultant's preliminary work corresponds to the PAG most likely scenarios?

*Linda Perry:* this is displayed in slide 39. It shows that the PAG, the consultants, and the FAA are not far apart.

*Dennis Mulvihill:* from the graph, it seems like the FAA looks at things a lot more conservatively than we do.

*Linda Perry:* we had no way of knowing that before we conducted the analysis. The 50% line is pretty consistent.

*Bill Blosser:* so there is only a 10% chance that we would get to that 22.9 million or above.

*Linda Perry:* to highlight Sam's question, comparing the two (slide 39), the lower end of the forecast scenario results are below the 10% level.

*Chris Corich:* the 50% level shows us doubling in 26 years. That is a key take-away.

*Linda Perry:* it does not take into account several things that may lower the slope of the line in the future, such as high-speed rail, alternative fuels, and other sensitivities.

*John Weigant:* were the probability distributions all normal?

*Linda Perry:* they are triangulated with high, normal, and low distributions.

*John Weigant:* can you tell us today what personal income is?

*Linda Perry:* not sure, \$49 or \$50K per capita?

*John Weigant:* so one of the scenarios is a per capita personal income decrease. He is curious as to how they compare to today. He is concerned that it is over-estimated.

*Linda Perry:* this can be looked at with sensitivity tests and she will contact Metro for the answer to John's question.

In summary:

1. The PDX passenger forecast growth scenarios incorporate assumptions about regional, national, industry, and climate change variables.
2. The preliminary probabilistic forecasts of total PDX enplaned passengers indicate that 15.8 million enplaned passengers is at the 50% probability level.
3. The primary drivers of PDX cargo are regional socioeconomic variables although fuel costs play a consistent role in explaining the trends in cargo at PDX and in the industry.

Next steps

1. Obtain recommendation from Forecast Subcommittee on final forecast model and results.
2. Finalize passenger model selection and probabilistic forecasts in preparation for sensitivity analyses.
3. Finalize cargo model selection
4. Translate passenger and cargo demand into aircraft operations. Prepare forecasts of general aviation and military aircraft operations.

Considering carbon offsets, we have researched a variety of sources including what the European Union has done. Massachusetts Institute of Technology has done research on evaluating legislative proposals. Jim Edeslon has provided some research on how carbon costs may change over time. It will not change the structure of the model, but it may change how we interpret carbon costs. This is an evolving market. Policies are still being made.

### **Peer Review Preliminary Comments – Jay Sugnet for Jeff Gosling**

Jay reminded us that Jeff Gosling has been retained to do a peer review. He cannot be here today because he is in Washington, D.C. at the FAA annual conference, where they are releasing their forecasts.

The highlights of what Jeff has reported to Jay are that he gives very high marks to consultants. He has been involved on a day-to-day basis so he is intimately involved with and aware of the process and work being done. Jeff thought it was important to understand the underlying market. Jay reminded us that Jeff wrote a memo on climate change back in November 2007 as to how to incorporate it in forecasting. The climate change memo is on the website.

### **Discussion**

Two questions were put up on the screen as suggestions to guide the discussion.

1. Have the consultants addressed all of the critical issues in the model?

2. Have they adequately addressed climate change?

*Dennis Mulvihill:* would like an executive summary to help us wade through the statistics.

*Chris Corich:* we will definitely be preparing that. There will be an executive summary then a lengthy supporting document.

*John Weigant:* is reluctant to put much weight on the PAG numbers. He thinks our ability to guess is unreliable.

*Linda Perry:* That is why we do forecasts, to take the bias out. The point was to bring everyone through the growth assumptions to help each of us think about what goes into this process. It was the point to get at each person's assumptions. We had no way of knowing the results ahead of time.

*Jordan Papé:* is one of the next things to discuss what the Port will be using? He likes to be right more than wrong, so he would estimate conservatively. Others would do it differently. So, how do we use this?

*Chris Corich:* yes, we will use this as a planning guideline, looking also at what growth is occurring, to decide about facilities. He guesses we will use something around the 50% line.

*Andy Cotugno:* if there is one certainly, it is that the number will not be 15.8 million. The question it raises to him is, are there certain components of the system. When do you hit the two terminal issues? When do you hit the 3<sup>rd</sup> runway? The second parking structures? What are the pieces we think we might need in the future and how all the pieces will fit together.

*Chris Corich:* those are exactly the next step of the Master Plan. We will break it up into various times horizons; we will get a sense of when we will run out of parking, when we need new capacities in other places. We will talk about strategies for delaying construction. For example, if Delta rents five gates, what about everybody sharing those gates?

*C.F. Booth:* we will break it up into out-years, and the essential elements. Knowing the capacity in each of the elements is different. So, we will look at all these, keep capacity balanced. We must challenge ourselves to think broadly and creatively, what if the high scenario materializes, what do we do there?

*Stuart Mathews:* if you have an ultimate capacity projection, the results will be different if you go with different arrangements.

*C.F. Booth:* yes, we will consider different options. We do incremental construction. Wait to hit the demand trigger before we build.

*Bill Blosser:* interprets Stuart's question differently. Will we be creating different packages based on different scenarios?

*C.F. Booth:* you will have a list of different essential elements based on different scenarios.

*Bill Blosser:* back to Stuart's point of view, what if you have made decisions based on 15.8 million enplanements scenario and the reality turns out to be quite different.

*C.F. Booth:* we want to be responsive and flexible. To be clear - we are not making four different plans, we will end up with one, hopefully a responsive, flexible plan.

*Jordan Papé:* has the Port ever done a perfect world, maximum scenario?

*Chris Corich:* no. There is no finite number we have planned for, keeping options open is critical. Heathrow has 64 million passengers on two runways.

*Debbie Deetz Silva:* where does cargo fit in this? The model will address this.

*Linda Perry:* yes, the model will consider cargo.

*Fred Stovel:* the question Jordan framed got at an ideal, that there any natural limits to these factors. Heathrow is somehow able to do that one two runways – but what does it cost? Opportunity costs? Other impacts? Is it 10 lbs in a 5 lb bag? Technological changes help increase capacity. Seems like this will be an iterative process and that there will be people looking at these numbers as we go along. What can we do to mitigate a negative impact? That is why we put “avoid” in the Vision and Values language. It is a dynamic process of time and circumstances.

*Catherine Ciarlo:* Does this go to the timing of when we discuss these things? Land use phase, facilities phase – decisions are made to calibrate accordingly.

*Alesia Reese:* does the model include the impacts of activities at other airports?

*Linda Perry:* explicitly, no. But, they are part of what we are thinking of in sensitivity testing.

*Alesia Reese:* I’m talking more concrete – what if SeaTac does something or Bend?

*Linda Perry:* again, no. But, we are looking at leakage to other airports, the development of high-speed rail, and other related issues. We have to work with the existing data and relationship we have. Things like this have come out – how do you predict a 9/11? How do you predict a biological disaster? There is no data on these things, but we do try to incorporate them in our thinking and our model.

*Chris Corich:* but, we do know that Salem has commercial service, you can fly from Redmond direct to LA, etc. These have been changes since 1999. Our goal is to be as flexible as we can.

*Catherine Ciarlo:* following up on the concept of natural limits, it is useful to think about this in the early phases.

*Bill Blosser:* will the consultant/planners come back to us with scenarios and what/ifs for us to evaluate?

*Chris Corich:* will quantify noise impacts, air quality implications, etc. It will all be put out on the table and be able to evaluate how the alternatives compare.

*Stan Alison:* from the FAA’s perspective, they do terminal forecasts every year and are constantly tweaking their curve. He ventures to say the Port will be looking at this again before 2035, measuring and monitoring what is going on. The reason FAA reviews and approves

forecasts is because they are followed up with funding requests. Linda said the forecasts need to be within 5% in first 10 years and 10% in 15 years so FAA can manage the funding for facilities. The last thing they want to do is build unused facilities. The FAA tries to manage how all the airports relate to each other. When you get to be 60% of your annual service volume, you need to start thinking and planning and when you get to 85%, you need to start building. The FAA goes through scenarios like this group is going through.

*Andy Cotugno:* one input variable that keeps concerning him is the price of oil. Among the sensitivity runs, we ought to do some with very high prices.

*Linda Perry:* yes, correct. The Department of Energy (DOE) thinks the current prices are not sustainable because if the price goes up, people do consume less. There will likely be alternative energy development, etc. DOE has recently updated their near-term forecast.

*Bill Blosser:* the DOE may be coming up with political projections. Can you look at other projections?

*Linda Perry:* sure. Keep in mind the relationship we are seeing is based on history. There are other things that will change as well.

*Sam Imperati:* will this be part of sensitivity or will it be before that?

*Linda Perry:* we could increase the parameters for the Monty Carlo.

*Linda Perry:* we also have carbon costs, and they interact too. Let us not forget that we are doing three new, innovative things in our forecasting process! 1) probabilistic forecasts, 2) including carbon costs and 3) key issue and trends at the outset.

*Veronica Rinard:* shouldn't it be the cost of fuel instead of the cost of oil?

*Fred Stovel:* somewhere along the line, we have to explain what we mean by the price of oil.

*Linda Perry:* that is what we are trying to do, to look at these as changing over time. Testing different prices.

*Bill Blosser:* you are doing all projections in 2006 dollars, so you do not have to worry about inflation.

*Sam Imperati:* time check. Question – do you want to make suggestions to the subcommittee for them to address at their next meeting with the consultant team? Our goal is to be ready at the next PAG meeting to conclude the forecast.

*Andy Cotugno:* how do the enplanement forecasts get translated into facility recommendations, related to time of day? For example, we have heavy morning airport traffic, slow mid-morning.

*C.F. Booth:* first step is to create a planning schedule, which will drive the facility requirements. We will look at demand patterns. This is down the road a bit.

*Brian Nelson:* do we kind of agree with this framework of model? Do we have any alternatives? Based on your experience, if we said no, what would you say?

*Linda Perry:* what would you want to add or re-specify? We tried to set up a logical process. This is probably more extensive than any forecasting that has been done in a master planning process. She thinks we, this group as a whole, has gone beyond most other planning processes.

*Dennis Mulvihill:* is looking forward to the sensitivity tests. Might we want to hold off on approving the forecast until we can see some of these results?

*Linda Perry:* we are going to do the sensitivity analysis for the next subcommittee meeting, so you will get to see that before this is approved.

*Jordan Papé:* likes to see visuals, can some be produced, which would elaborate the data/model/forecast sensitivity scenarios?

*Michael Sloan:* just passengers or cargo, too?

*Sam Imperati:* it will cover it all.

*John Weigant:* feels the most important variables are the population projection and personal income; they really drive enplanements.

#### **Public Comment – Sam Imperati**

Jim Edelson of the Oregon Interfaith Global Warming Campaign made the following comments: Concerning the price of oil, Jim feels that from the beginning of this process, the data has been lacking. The way this city plans for peak oil, at \$200/barrel, does not seem to jive with what is going on here. The process going forward that incorporates climate change is good, including the price of carbon. It is a real factor to consider. Something that is not being considered was passed last week in the state of Washington - a 50% reduction in global warming emissions. There is a dissonance in our planning and the Global Warming Commission. Requests a check on our process that includes these.

#### **Closing Comments and Adjournment – Sam Imperati**

Sustainability Subcommittee – March 18

Forecast Subcommittee - April 8

Public Meetings - April 8 and April 9

PAG Meeting #6 – April 15: Go over cargo forecast, Operations forecast, Subcommittee recommendations on these forecasts, Results of 6-month evaluation of process,

Explanation/overview of next phase

Portland Planning Commission – Informational Briefing - May 13 3:00-5:00 pm

Port Commission – Approval to forward to FAA - May 14 9:00-11:00 am

Sam thanked everyone for attending, noting that there were 21 members/alternates present. Your commitment and willingness to attend this additional meeting is greatly appreciated and important to the process. There was no meeting evaluation.

Meeting adjourned.

Notes respectfully submitted by the ICM, Inc. facilitation team.