Aurora State Airport Master Plan Update – Planning Advisory Committee (PAC) Meeting #5

June 7, 2011
Maplewood Grange Hall
5:00 – 7:00 pm

SIGN IN SHEET

NAME	REPRESENTING	MAILING ADDRESS	PHONE#	E-MAIL
PAT PLOVER	Charbonneau	7390 SW Arbor Lake DR		
Dolores Scott	"	32170 SW Armitage Ct N	503-694-5163	
Lorraine Gonzales		Clackamas County		
CARRIE SCOTT		BOX 107 AURORA	503-539-1123	CAScott34@GMail.Com
ROB CALLAN		7260 SW Fountain Lake Wilsonville	503 694-8250	ROBERTC@AOL.COM
David R. Johnson		8535 Carny Dr. Wilsonville	503-925-5322	
NINA ROCHETTE		32535 ARMITAGE RD WV	503 694 6213	
Teresa Kotter		15082 Ottaway Rd	503-678-5614	kotterland@gmail.com
LARRY BERGMAN		7814 SE 13TH AVE. PORTLAND, OR	503-572-3832	LARRYCBERGMAN@GMAIL.COM
Brian Oliver		2772 SW Hume St. Portland, OR	240-361-7322	b_r_oliver@yahoo.com
Patti Milne	Marion Co.			pmilne@co.marion.or.us
Jim SEVERSON		29404 SW HEATER RD SHERWOOD OR	503 939 6193	Jim@CENTREXCONSTRUCTION.NET
RICHARD MILLER		32535 SW ARBOR LAKE DR. WILSONVILLE	503-694-6122	RHMILL2053@AOL.com
Ed and Barbara Eastman		32086 S.W. Charbonneau Drive.	503-694-6361	ebeastman@comcast.net
Robert Graham		21424 Liberty St Aurora, OR	503-678-1053	rgraham@gmail.com
Jeffrey Helbling				
Tony Helbling		1126 Yaga Dr. Silverton OR	503-519-6659	helbling@wilsonconst.com
JENNIFER SANDERS		23200 HUBBARD CUTOFF RD AURORA	503 678 4225	JSAUNDERSDWM@YAHOO.COM
JACQUES VAILLANCOURT		16890 Cherry Crest Ave, Lake Oswego, 97034	503-635-8785	jv@forestel.com
GREG LEO		9318 Champoeg Road, N.E. Aurora, OR 97002	503-804-6391	GREG@TheLeoCompany.com
Ken Tevunon	Charbonneau	7668 SW Village Greens Circle Wilson	503 694-8076	Ken.Tevunon@gmail.com
Dennis Barton	CHARBONNEAU	32570 SW Arbor LAKE Dr	503-694-6370	Dennis Barton dennyi27@hotmail.com
TOM HENDRICKS	AURORA JET CENTER	63 NE BRUNGHER DRIVE PDX	" 621-2385	TRUELFLIGHT@MSN.com

Aurora State Airport Master Plan

Planning Advisory Committee (PAC) Meeting #6

September 15, 2011
North Marion School District, Intermediate School, Aurora, OR

MEETING SUMMARY

Attendees

Oregon Department of Aviation (ODA) – Mitch Swecker, Heather Peck , Sandra Larsen, and John Wilson

WHPacific – Rainse Anderson and Sarah Lucas

JLA Public Involvement –Adrienne DeDona and Sylvia Ciborowski

Public Advisory Committee (PAC) –Greg Taylor (new Aurora Mayor), Ray Phelps, Randy Carson, Patti Milne, Nick Kaiser, Jim Hansen, Tony Helbling, Bruce Bennett, Tony Holt, Mark Ottenad (alternate for Wilsonville), Fred Netter, David Waggoner, and Alternate for Dan Riches, Columbia Helicopters.

Public Attendees – see attached sign in sheets

Welcome and Introductions:

Mitch Swecker, Director of the Oregon Department of Aviation (ODA), welcomed the group and kicked-off the meeting. Mitch introduced Heather Peck, ODA's new construction project manager and Greg Taylor, the new mayor of Aurora.

Rainse Anderson introduced himself as the project manager for the Aurora Airport Master Plan update. Rainse introduced Sarah Lucas, project planner and John Wilson and Sandy Larsen from ODA. Rainse explained that there were comment forms and sign in sheets at the front for people to leave written comments at the meeting or send to staff later. Comments can also be made through the project website. Comments will be taken until Sept. 30th. Rainse added that this is the last meeting for the project and that he's enjoyed working with the community here in Aurora.

Rainse reviewed the meeting agenda which includes a project update and presentation on Chapters 6 and 7 (Airport Layout Plan and Capital Facilities Plan). Rainse reminded the public that this is a working session for the PAC and during the presentation, PAC members may have questions, but the public is asked to hold their comments until the end of the meeting. He explained there would be a break for a public workshop during which time the public and the PAC members could review project materials and interact with staff to ask detailed questions about Chapters 6 and 7. After the public workshop, the PAC will reconvene to discuss what was heard, then there will be time for public comment.

Rainse reviewed the project purpose, which is to update the 20 year plan that will guide the future development of the Airport. He went on to explain that at previous meetings, we have reviewed the first five chapters of the Master Plan document. We will now begin review of the Airport Layout Plan and the Capital Improvement Plan. Over the last five months, several alternatives were developed and public comment was generated related to these alternatives. Following public comment, project staff presented the outcomes to the ODA Board on April 28th, where they came up with the displaced threshold concept. The Board requested another public meeting to discuss the displaced threshold. Public comment was generated on the displaced threshold option until June 21st. At that time the ODA Board gave the direction to move forward with the 800-foot displaced threshold to the north, so that will be presented to the FAA within the draft Master Plan as the preferred option. If the FAA does not approve the displace threshold, a 1,000-foot extension to the South would be recommended for their review and opinion. Only one option will be carried forward.

Displaced threshold:

Rainse explained the displaced threshold option, which is recommended to mitigate the runway length deficiency at Aurora Airport. The following distances will be included in the displaced threshold option.

- Take-off run available (TORA): Runway 35, 5,004 feet and Runway 17, 5,804 feet
- Take-off distance available (TODA): Runway 35, 5,004 feet and Runway 17, 5,804 feet
- Accelerate-Stop distance (ASDA): Runway 35, 5,004 feet and Runway 17, 5,804 feet
- Landing Distance Available (LDA): Runway 35, 5,004 feet and Runway 17, 5,004 feet

Note: there is no change to the landing distance available.

Runway extension to the South:

Rainse explained the various concepts included in the proposed 1,000 foot runway extension to the South. The following distances will be included in the displaced threshold option.

- Take-off run available (TORA): Runway 35, 6,004 feet and Runway 17, 6,004 feet
- Take-off distance available (TODA): Runway 35, 6,004 feet and Runway 17, 6,004 feet
- Accelerate-Stop distance (ASDA): Runway 35, 6,004 feet and Runway 17, 6,004 feet
- Landing Distance Available (LDA): Runway 35, 6,004 feet and Runway 17, 6,004 feet

This option would require property acquisition, however pavement options are all on property owned by the Airport.

PAC Discussion:

Bruce Bennett asked why the landing distance wasn't extended in the displaced threshold. Rainse replied that this is how the displaced threshold is calculated since the pavement is only usable in one direction. Bruce asked if it can be considered as a stop-way. Sarah replied that you can only use the 5,000 feet to calculate the distance available. Bruce asked if the Runway 17 run-up pad was shown. Rainse replied that it was included in both alternatives, however it is shifted down to the very end of Runway 17 in the displaced threshold scenario. Rainse also added that easement acquisition is needed at Columbia Helicopters for the displaced threshold to the North.

Chapter 6 – Airport Layout Plan:

Rainse reviewed the Airport Layout Plan (Chapter 6). He explained that the Airport Layout Plans are a pictorial culmination of the master planning process. In order to be eligible to receive funding from the FAA, projects must be shown in the FAA-approved Airport Layout Plan. The drawings include:

- Cover sheet
- Airport Layout Plan
- Airport Airspace
- Airport Approach Surfaces
- Inner Portion of the Runway 17/35 Approach Surfaces
- Terminal Area Plan
- Land Use and Noise Contours
- Runway Departure Surfaces
- Airport Property Map

The Airport Layout Plan includes runway safety areas, displaced thresholds, location for the control tower (northern – CAA ramp area), fire station (centrally located), service road, relocation/closure of Keil Road, and modification of the runway object free area.

PAC Discussion:

Fred Netter said that at the last meeting, we talked about the tower and its proximity to the fire station and there being an issue with homeland security. He asked how close the tower is to the fire station in the Airport Layout Plan and whether that will be an issue. Mitch replied that ODA has appealed this to the FAA and the threat didn't justify the security clearance. Fred asked whether it is possible to connect the fire station facility to other buildings. Mitch replied that if there is some way of funding it from a grant or other source, then that would make it feasible. He added that if there is outside funding, they should talk. Fred replied that there might be other funding sources available. Mitch added that they would need to identify funding, etc. pretty quickly since an engineer has already been hired for the control tower.

Nick Kaiser asked if there are any changes in the previous chapters based on discussions with the ODA Board, such as the land use areas, etc. Rainse replied that in the alternatives chapters, we outlined all the issues relative to the alternatives discussed at that time, and the chapter content will remain the same since it provides the context for developing the preferred alternative shown in the ALP. Mitch added that if ODA gets approval for the displaced threshold distances to the north, you would probably see airplanes taking off to the south. Nick asked if there will be any changes in the noise levels.

Tony Holt suggested including the assumptions related to departures on the maps that show the conditions for 2010. Rainse replied these are listed in Chapter 5, but they can be summarized on the ALP noise drawings as well.

Chapter 7 – Capital Improvement Plan:

Sarah reviewed the Capital Improvement Plan Chapter and explained that this provides the basis for implementing the improvements in the Master Plan. She also explained that the Capital Improvements would be implemented within three separate phases:

- Short-term (Phase I): 2012-2016
- Intermediate-term (Phase II): 2017-2021
- Long-term (Phase III): 2022-2031

A Financial implementation analysis was also conducted to examine the various facets of the financial operating condition of the Airport. The Capital Improvement Plan is a living document and is updated as projects are completed or priorities change. As of right now, this is the prioritization of projects:

Phase I:

1. Construct Air Traffic Control Tower (ATCT) – 2012
2. Service Road – 2012
3. Pavement Maintenance – 2013
4. Helicopter Landing Pads – 2014
5. Ramp reconstruction – state leased – 2014
6. Taxi-lane Development (Hangar Access) - 2014
7. Hangar Development – 2015
8. Carryover Entitlements – 2015
9. Environmental Assessment for Runway Improvements – 2016
10. Pavement Maintenance – 2016

Total cost of Phase I Improvements - $8 million (ODA share = $583,000, FAA share = $2.5 million, Private share = $2.1 million, other funding = $2.7 million)

Phase II:

11. Aurora Fire Response Facility – 2017
12. Carryover Entitlements – 2017

Displaced Threshold Improvements Only:

13. Property Acquisition – 2018
14. Avigation Easement Acquisition – 2018
15. Carryover Entitlements – 2019
16. 800 foot Displaced Threshold to the north – 2020
17. Install Runway – 2020
18. Runway 17 Run-up Area – 2020

Runway Extension to the South Only:

19. Property Acquisition – 2018
20. Keil Road Relocation – 2019
21. Runway 35 1,000 Extension to the south – 2020
22. Install Runway 17 Precision Approach – 2020

Other improvements not related to above alternatives:

23. Pavement Maintenance – 2019
24. Taxi-lane development (hangar access) – 2019
25. Runway 17 & 35 Strengthening Overlay – 2020
26. Hangar Development – 2021
27. Master Plan Update – 2021

Total cost of Phase II Improvements - $7.6 million for Displaced Threshold (ODA share = $263,000, FAA share = $4.6 million, Private share = $2.7 million). $12 million for Runway Extension to the South (ODA share = $487,000, FAA share = $8.9 million, Private share = $2.7 million).

Phase III (2022 – 2031):

28. Pavement Maintenance
29. Apron Development/Run-up area
30. Taxi-lane development (Hangar Access)
31. Hangar Development
32. Cargo Apron
33. Relocate Fuel Tanks
34. Runway 17 run-up area

Total cost of Phase III improvements – $4.5 million (ODA share = $200,000, FAA share = $2.2 million, Private share = $2.1 million)

Sarah explained that ODA and the FAA share the cost of improvements. The Airport pays 5% and FAA pays the remainder for the majority of Airport Improvement Program (AIP)-eligible projects. One exception would be pavement maintenance through the Pavement Maintenance Program, where the Airport supplies 75% of the funding. Items related to hangar development were shown to be 100% private funding, as the FAA rarely funds revenue-generating projects.

Sarah explained that the financial analysis explored the feasibility of implementing these projects. This process entailed looking at the following conditions at the Airport:

- Financial operating condition
- Historical operating revenues and expenses
- Projected future revenues and expenses, with focus on Capital Improvement Plan development phases

The approach to the analysis was to:

- Review financial documents
- Evaluate rates and charges
- Review existing operating and financial environment
- Review Master Plan Capital Improvement Plan
- Analyze sources and timing of capital funding
- Analyze historic and projected operating revenues and expenses

Sarah said that the historical operating revenue and expenses at Aurora State are included in two funds – Public Transportation and Capital Projects. The following shows the revenues and expenses for both funds:

Public Transportation Fund	**FY2007**	**FY2008**	**FY2009**	**FY2010**
• Licenses and fees	$869.64	$116,748	$122,970	$128,358
• Rents and royalties	$149,206	$55,342	$44,461	$63,428
• Other misc. revenues	$11,833	$1,807	$11,649	$12,310
Revenues	*$161,909*	*$173,898*	*$179,081*	*$204,096*
• Salaries and wages	$19,288	$19,234	$19,263	$14,426
• Services, supplies, other	$65,793	$56,667	$38,435	$81,609
Expenses	*$85,081*	*$75,901*	*$57,698*	*$96,035*
Operating Income	*$76,827*	*$97,996*	*$122,382*	*$108,060*
Capital Projects Fund	**FY2007**	**FY2008**	**FY2009**	**FY2010**
• Revenues	$207,856	$2,905,882	$1,857,084	$13,198
• Expenses	$155,561	$3,524,431	$1,005,192	
Fund total	*$52,294*	*$(618,548)**	*$851,891*	*$13,198*

*Taxiway relocated

The projected Aurora State operating revenues and expenditures for the Public Transportation Fund are shown below.

- The Capital Project Fund is not shown as it is dependent upon eligibility and grant availability, which fluctuates.
- Does not include federal or other grant revenues or professional service expenses as they will vary and do not reflect true operating income.

Public Transportation Fund	**Current FY2011**	**FY2015**	**FY2020**	**FY2025**	**FY2030**
• Licenses and fees	$128,358	$145,000	$176,000	$224,000	$300,000
• Rents and Royalties	$63,428	$71,000	$87,000	$111,000	$148,000
• Other misc. revenues	$12,310	$14,000	$17,000	$22,000	$29,000
Revenues	*$204,096*	*$230,000*	*$280,000*	*$357,000*	*$477,000*
• Salaries and wages	$14,337	$16,000	$19,000	$24,000	$33,000
• Services, supplies, other	$96,035	$108,000	$128,000	$164,000	$219,000
Expenses	*$110,372*	*$124,000*	*$147,000*	*$188,000*	*$252,000*
Operating Income	*$93,723*	*$106,000*	*$133,000*	*$169,000*	*$225,000*

Sarah summarized the financial analysis by stating the following:

- Demand and the availability of financial resources for capital projects will dictate when facility improvements will be implemented.
- Continuation of the FAA's AIP entitlement program is essential for funding capital projects.

- The ODA does not allocate any indirect revenues or expenses to any of their 28 airports. Any additional ODA revenues would not be allocated to Aurora State Airport until the project costs are incurred and revenues are transferred.
- Based on ODA acceptance of the Capital Improvement Plan projects and the understanding that funding for the state's obligation will be met at the time of project implementation, the Capital Improvement Plan is financially feasible.

Sarah also noted that based on historic revenues, the ODA has funding to move forward with the first two phases of the Capital Improvement Plan.

PAC Discussion:

Tony commented that it was interesting that the cost to extend the runway to the South is two and half times the cost of the displaced threshold.

Bruce Bennett said he would like to point out that the revenues reported are 100% from aviation.

Public Workshop:

Sarah explained the format for the public workshop. Members of the public were then invited to review the display boards and ask project staff any questions during a 25-minute public workshop. Public comments were captured on flip charts by the facilitation team.

Adrienne and Sylvia recapped the comments heard from participants during the public workshop session:

- The sooner the better with improvements – especially the overlay because that will reduce maintenance costs and increase the life of the runway.
- Will there be any analysis of increased traffic at other airports by pilots who don't want to deal with the Aurora Air Traffic Control Tower after it is built?
- How do you prioritize the projects on the Capital Improvement Plan?
- What uses will be permitted on the service road?
- Are there caretaker facilities and can others be located on the airport?
- Run-up area is essential
- Why won't the run-up area be done sooner?
- Will the FAA buy off on the displaced threshold?
- Where/what are the required vertical clearances?
- What is the timing of the various improvements?
- Where will Keil Road be located to?
- Where will property acquisition/easement acquisition take place? What properties are impacted?
- What are the noise impacts/future flight patterns?
- Why are we doing the Master Plan Update?
- What is entailed in each alternative (Displaced Threshold and Runway Extension to the South)?
- Where are the developable properties?
- How will the Instrument Departure/noise mitigation process work?

Rainse explained that other than the Air Traffic Control Tower and the service road, there wouldn't be a lot of development over the next 5 years in order to save up entitlements for future improvements such as the runway extension or the displaced threshold. Mitch added that there are opportunities to re-prioritize projects based on need and available funding, such as the run-up area.

PAC Discussion:

Fred asked where Keil Road would be relocated to if relocation does occur. Rainse replied that is really up in the air at this time. He said they looked at the area and took a shot at it, but if and when that happens a variety of options will be reviewed if and when it comes up in the phasing plan. Mitch replied that it has to be coordinated with property owners and the County and there isn't a pre-determined outcome at this time.

Bruce recommended as a compromise, that the helicopter pads could be moved to make way for other projects even though it's a worthy project.

Jim asked if there was any way to move up the fire facility or co-locating it with another facility as opposed to duplicating utility needs, etc. He added that this would benefit the airport and the community. Fred replied that now that there is an engineer on board, he will arrange to talk with ODA to put something together. He asked whether or not the timeframe needed to conform with the phasing plan. Rainse said that the timing did not necessarily need to conform with the phasing plan since the funding is on the private side.

Mark asked if the service road was indicated on the Airport Layout Plan. Rainse replied that it was and indicated that it starts at the existing road and goes down to the existing taxilane (it is shown as a blue dashed line on the ALP). Fred asked if it started where you come off of Keil Road (near Metal Innovations). Rainse replied that it was.

Public Comment:

Karen Batte, lives on Ehlen Road. She stated that obviously with the tower coming in, you must be anticipating growth. What kind of growth are you anticipating and what are the impacts to Ehlen Road? At 5 p.m. it is blocked. How will you influence the state to get that road fixed? Mitch replied that this has been a discussion item at several meetings. He said that they will have to work with the County and the State when it comes to road improvements. Rainse said that as far as the tower is concerned, it is a safety related item, not to promote growth. The airport has been growing without the tower. It is a safety need to control aircraft movements in the air and on the ground. He said he could review the forecasts for future growth and type of aircraft with Ms. Batte after the meeting. Rainse added that staff are available for questions after the meeting for anyone who was interested.

Comment Forms- One public comment form was submitted with the following comments:
General comments regarding the Airport Layout Plan – Keil Road should not be closed or moved. The majority of local citizens and tax payers want the airport left as it is. No tower or Runway lengthening. I guess the local citizens have no say in this. These proceedings are dishonest and a waste of time.

Next Steps:

Rainse explained that there will be an opportunity for public comments on the two chapters until Sept. 30th. Comments may be submitted via comment forms at meeting or to staff or online.

The final draft will be prepared and submitted to the ODA Board and the FAA. It will also be available on the website for review. Notification will be sent to the PAC when available on the web.

Typically it takes 90 days for the FAA to review and approve an Airport Layout Plan. From there, the ODA will pursue adoption of the Master Plan as part of the Marion County Comprehensive Plan.

Mark Ottenad asked if the FAA's decision to adopt one of the two options would create some changes to the plan. Mitch replied that both options will be included in the Master Plan, but one will be indicated as the preferred alternative. He added that they are still going to present the 800-foot displaced threshold to the FAA and wait for them to say no before moving forward with any other option. Rainse said that after the decision is made, the document will be revised to show the chosen alternative. It will show the progression of the decision-making process. The other chapters will remain the same, but the Airport Layout Plan and the Capital Improvement Plan chapters will be updated. There will be a statement about what decision was made by the FAA.

Tony requested that when the final document is posted on the website, PAC members be notified where the significant changes are so they don't have to go through it page by page.

Jim asked whether the last time Master Plan update was adopted in the Marion County Comprehensive Plan. He said that we need to do it right this time and we need to answer questions about the impacts to roads and land use. He asked what the next step is for getting the plan adopted in the Marion County Comprehensive Plan. Nick replied that the County must agree to change the Comprehensive Plan, but it takes funds to do it because it's an extensive process. He said that doesn't mean you can't implement it, but the land use portions need to be brought on board. He added that the Master Plan does have land use impacts that need to be addressed. Patti said that the Comprehensive Plan adoption is another formal process with additional opportunity for public input, but we will have something to work from that will be presented and requested to be adopted. She added that doesn't eliminate anyone from coming forward and sharing any concerns that they might have. Jim said he really wants to make sure it gets adopted as part of the Comprehensive Plan because that could help developers as well as create a greater understanding of the Master Plan. He said that we should make sure we are able to produce a profit and make some money for the community.

Rainse thanked everyone on the PAC and the hard work they've done and thanked the public for coming out and asking questions.

Jim thanked Rainse and the consultant team for the work they've done.

Mitch thanked WHPacific, ODA staff and those that aren't here and have since moved on. He also thanked the PAC for spending their time studying the issues and making comments. He thanked the

public for their time and participation. He also stated the PAC and public comments had influenced and changed the course of the Master Planning process.

Meeting adjourned at approximately 6:45 p.m.

Aurora State Airport Master Plan Update – Planning Advisory Committee (PAC) Meeting #6

September 15, 2011
North Marion Intermediate School
5:00 – 7:00 pm

SIGN IN SHEET

NAME	REPRESENTING	MAILING ADDRESS	PHONE#	E-MAIL
MERRA FROCHEN		PO Box 325 AURORA OR 97002		FAUORITEFINDS@CENTURYTEL.NET
BRUCE BERGMAN	BERGMAN PHOTO / Wylie Candis	7816 SE 13th Ave Portland OR 97202	503-572-3831	bruce@bergmanphotographics.com
Jim Hansen	self	0216 SW Seymour Ct Portland, OR 97239	503 307 3164	james.n.hansen@me.com
GREG LEO	Chamberlain CC	9318 Champoeg Road NE. AURORA, OR 97002	(503) 804-6391	GREG@TheLeoGroup.com

Aurora State Airport Master Plan Update – Planning Advisory Committee (PAC) Meeting #6

September 15, 2011
North Marion Intermediate School
5:00 – 7:00 pm

SIGN IN SHEET

NAME	REPRESENTING	MAILING ADDRESS	PHONE#	E-MAIL
PAT MULLIGAN		P.O. Box 819 Canby	503-702-4931	
Patti Milne	Marion Co. Commissioner	P.O. Box 14500 Salem	503 589.3268	
Nick Kaster	Aurora Planning	14035 Ickes Ct Aurora	503 678 1551	
DAVID WAGGONER	Williams Tr Aviation		503-678-7252	DAVE@Williamsfbo.com
DICK SPENCE	Chairman	8420 S.W. Curry Dr Wilsonville	503-694-5875	on file
LEN KAUFFMAN		TUALATIN, OR	503 885 1920	LAKAUF@COMCAST.NET
JOE KAST	MARION COUNTY SHERIFFS OFFICE	100 HIGH ST NE, SALEM 97301	503-316-6620	JKast@co.marion.OR.US
M L Duckworth		9400 SW Tauchman #26 Wilsonville	503-682-0366	

Aurora State Airport Master Plan Update – Planning Advisory Committee (PAC) Meeting #6

September 15, 2011
North Marion Intermediate School
5:00 – 7:00 pm

SIGN IN SHEET

NAME	REPRESENTING	MAILING ADDRESS	PHONE#	E-MAIL
Richard P. Jenks	Self	14198 Keil Rd.	503-678-3221	N/A
LARRY BERGMAN	BERGMAN PHOTO	7816 SE 13TH AVE PORTLAND 97202	503-572-3832	LARRYCBERGMAN@GMAIL.COM
CINDI ELLIOTT	SELF/NEIGHBORHOOD	23023 YEARY LANE NE AURORA	503-678-2203	DEERCREEKNURSERY@AOL.COM
Dave Tibetts	Columbia Helicopters	PO Box 3500 Portland OR	503-678-1222	Davetb@Cdheli.com
Bob Lehrman	self	PO Box 598 Aurora OR	503 478 4956	blehrman@centurytel.net
Mark Ottenad	City of Wilsonville	29799 SW Town Center Loop E	503-570-1505	ottenad@ci.wilsonville.or.us
Christine Warren	myself	15777 NE Becker Rd Aurora		CWarren@Canbytel.com
David Strubhar	self	18320 Fobes Rd. Hubbard OR	503-981-1983	dstrubhar@juno.com
MaryAnn Lebda	Self	3464 Turner Rd SE SLE 97302	503-551-4234	red.white.blonde@comcast.net
Karen & Tom Doupe	Self	13453 Ehlen Rd. NE Aurora		khty@mac.com

Appendix F:
OREGON AVIATION PLAN (OAP) INDIVIDUAL REPORT

Airport Master Plan Update

Aurora State Airport

WHPacific
OREGON DEPARTMENT OF AVIATION

Chapter 1 Introduction

The state of Oregon has an extensive aviation system spread throughout the state, providing valuable transportation options for the public, which range from small emergency use airports in remote regions to the extensive passenger enplanements at Portland International. Managing such a large and diverse system of airports can be a daunting task if a comprehensive plan is not in place to serve as a guide. In addition, with the ever-increasing demands for project funding, it is imperative that the Oregon Department of Aviation (ODA) have a solid inventory, understanding of need, and plan for development for the entire state aviation system to meet the needs of existing and future development.

This report is a combination of three studies, which will guide the development of the aviation system in Oregon for years to come. This document is organized into three distinct sections. *Chapter Two* summarizes the overall study goals, roles, and methodologies used to develop the study. *Chapter Three* is a summary of the various inventory efforts associated with the individual airport facilities. *Chapter Four* contains specific roles, recommendations, and funding options for the airport. This report will provide each community with information, which can guide the development of each facility in an orderly, economic, and environmentally friendly manner.

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Chapter 2

The growing aviation demand in Oregon has prompted the Oregon Department of Aviation (ODA) to update the previous State Aviation System Plan published in 2000 and develop economic impact assessments that gauge the benefits of aviation to the state. Oregon is currently experiencing an unprecedented growth in population as well as aircraft operations. In order for the state to continue to provide a safe and efficient aviation system while accommodating growth, it is important to evaluate what facilities and capabilities are here today and what will be needed for tomorrow.

This chapter is organized into the following sections:

2.1 *Oregon Aviation Plan 2007 (OAP 2007)* Study Components

Three unique studies were originally undertaken which resulted in the development of the *OAP 2007*. This included a traditional state aviation system plan update which was developed to meet Federal Aviation Administration (FAA) requirements. An economic impact study was completed to assess the economic value of the aviation system at the state and local levels. The state aviation master plan component evaluated airports not included within the traditional state system plan criteria, as well as evaluating additional areas of interest or special consideration topics. The aforementioned goals were originally distributed over these three separate studies as outlined above, however, since there were numerous commonalities between the studies, they were combined into a single report for greater ease of use. Additional detail on each of these three studies is listed below. The information contained in the *OAP 2007* is the compilation of information, findings, and recommendations for all three studies.

2.1.a State Aviation System Plan

The *OAP 2007* addresses many different issues related to each individual airport and regional and state aviation system components. It is important to have a comprehensive understanding of the existing facilities, the need for future facilities, and the feasibility of reaching future goals. A state aviation system plan update is based upon sound evaluation of existing facilities, coupled with a clear understanding of the state and nation aviation interests, as well as the needs of the general public. The methodology used to evaluate the state system is consistent with that advocated for use by the FAA in Advisory Circular (AC) 150/5070-7 — *The Airport System*

Planning Process, issued November 10, 2004. All 97 public-use airports are listed in **Table 2.1** – **Public-Use Airports in Oregon**. Their associated city, FAA classification, and their type of ownership are noted within the table.

The *OAP 2007* includes 66 public-use airports, which are part of the National Plan of Integrated Airport Systems (NPIAS). The study group of airports was based upon extensive coordination with the ODA and the FAA. The study group includes the 57 airports currently listed on the NPIAS, eight state-owned airports which serve either a recreational/tourism base or have more than two based aircraft, and one privately owned airport, which serves a significant number of based aircraft.

2.1.b State Aviation Master Plan

The state aviation master plan element of the *OAP 2007* was included to ensure a comprehensive evaluation of all public-use airports within Oregon and was funded independently by the ODA. There are an additional 31 public-use airports in Oregon that were not included in the federally funded state aviation system plan component (NPIAS). These airports were evaluated using the same methodology of the state aviation system plan to provide the ODA a complete inventory of the state's aviation system resources. In addition to the evaluation of individual airports, the state aviation master plan was designed to evaluate broader, more conceptual issues related to the entire state aviation system. The evaluation of these issues will help the ODA better manage and improve the state system of airports.

2.1.c State Aviation Economic Impact Study

With the movement towards a global economy, it is now recognized that airports are no longer just another mode of transportation. Airports are vital components of the economic engine that drives the state, regional, and local economic climate and it is essential the state system of airports support these economies by providing adequate facilities and services. This study will provide the ODA, individual communities, airports and governmental agencies, and politicians the opportunity to assess the economic value of the aviation system as a whole as well as each individual airport. All 97 public-use airports, as shown in **Table 2.1**, are included in the analysis.

Table 2.1 Public-Use Airports in Oregon

Associated City	*Airport Name*	*NPIAS Status*	*Ownership*
Albany	Albany Municipal Airport	Yes	Publicly Owned
Alkali Lake	Alkali Lake State Airport	No	Publicly Owned
Arlington	Arlington Municipal Airport	No	Publicly Owned
Ashland	Ashland Municipal Airport - Sumner Parker Field	Yes	Publicly Owned
Astoria	Astoria Regional Airport	Yes	Publicly Owned
Aurora	Aurora State Airport	Yes	Publicly Owned
Baker City	Baker City Municipal Airport	Yes	Publicly Owned
Bandon	Bandon State Airport	Yes	Publicly Owned
Beaver Marsh	Beaver Marsh Airport	No	Privately Owned
Bend	Bend Municipal Airport	Yes	Publicly Owned
Boardman	Boardman Airport	Yes	Publicly Owned
Brookings	Brookings Airport	Yes	Publicly Owned
Burns	Burns Municipal Airport	Yes	Publicly Owned
Cascade Locks	Cascade Locks State Airport	No	Publicly Owned
Cave Junction	Illinois Valley Airport	Yes	Publicly Owned
Chiloquin	Chiloquin State Airport	Yes	Publicly Owned
Christmas Valley	Christmas Valley Airport	Yes	Publicly Owned
Clearwater	Toketee State Airport	No	Publicly Owned
Condon	Condon State Airport – Pauling Field	Yes	Publicly Owned
Cornelius	Skyport Airport	No	Privately Owned
Corvallis	Corvallis Municipal Airport	Yes	Publicly Owned
Cottage Grove	Cottage Grove State Airport – Jim Wright Field	Yes	Publicly Owned
Crescent Lake	Crescent Lake State Airport	No	Publicly Owned
Creswell	Creswell Hobby Field	Yes	Publicly Owned
Culver	Lake Billy Chinook Airport	No	Privately Owned
Denmark	Cape Blanco State Airport	No	Publicly Owned
Enterprise	Enterprise Municipal Airport	No	Publicly Owned
Estacada	Valley View Airport	No	Privately Owned
Eugene	Eugene Mahlon Sweet Field	Yes	Publicly Owned
Florence	Florence Municipal Airport	Yes	Publicly Owned
Florence	Lake Woahink Seaplane Base - *closed*	No	Privately Owned
Gates	Davis Field	No	Privately Owned

Table 2.1 Public-Use Airports in Oregon (Continued)

Associated City	*Airport Name*	*NPIAS Status*	*Ownership*
Gleneden Beach	Siletz Bay State Airport	Yes	Publicly Owned
Gold Beach	Gold Beach Municipal Airport	Yes	Publicly Owned
Grants Pass	Grants Pass Airport	Yes	Publicly Owned
Hermiston	Hermiston Municipal Airport	Yes	Publicly Owned
Hillsboro	Stark's Twin Oaks Airpark	No	Privately Owned
Hood River	Ken Jernstedt Airfield	Yes	Publicly Owned
Hubbard	Lenhardt Airpark	No	Privately Owned
Imnaha	Memaloose Airport (USFS)	No	Publicly Owned
Independence	Independence State Airport	Yes	Publicly Owned
John Day	Grant County Regional Airport – Ogilvie Field	Yes	Publicly Owned
Joseph	Joseph State Airport	Yes	Publicly Owned
Klamath Falls	Klamath Falls Airport	Yes	Publicly Owned
La Grande	La Grande / Union County Airport	Yes	Publicly Owned
Lakeside	Lakeside Municipal Airport	No	Publicly Owned
Lakeview	Lake County Airport	Yes	Publicly Owned
Lebanon	Lebanon State Airport	Yes	Publicly Owned
Lexington	Lexington Airport	Yes	Publicly Owned
Madras	Madras City - County Airport	Yes	Publicly Owned
Malin	Malin Airport	No	Publicly Owned
Manzanita	Nehalem Bay State Airport	No	Publicly Owned
McDermitt	McDermitt State Airport	Yes	Publicly Owned
McKenzie Bridge	McKenzie Bridge State Airport	No	Publicly Owned
McMinnville	McMinnville Municipal Airport	Yes	Publicly Owned
Medford	Rogue Valley International – Medford Airport	Yes	Publicly Owned
Monument	Monument Municipal Airport	No	Publicly Owned
Myrtle Creek	Myrtle Creek Municipal Airport	Yes	Publicly Owned
Newberg	Chehalem Airpark	No	Privately Owned
Newberg	Sportsman Airpark	Yes	Privately Owned
Newport	Newport Municipal Airport	Yes	Publicly Owned
North Bend	Southwest Oregon Regional Airport	Yes	Publicly Owned
Oakridge	Oakridge State Airport	No	Publicly Owned
Ontario	Ontario Municipal Airport	Yes	Publicly Owned
Owyhee	Owyhee Reservoir State Airport	No	Publicly Owned

Table 2.1 Public-Use Airports in Oregon (Continued)

Associated City	*Airport Name*	*NPIAS Status*	*Ownership*
Pacific City	Pacific City State Airport	No	Publicly Owned
Paisley	Paisley Airport	No	Publicly Owned
Pendleton	Eastern Oregon Regional Airport at Pendleton	Yes	Publicly Owned
Pinehurst	Pinehurst State Airport	No	Publicly Owned
Portland	Portland Downtown Heliport	Yes	Publicly Owned
Portland	Portland International Airport	Yes	Publicly Owned
Portland	Portland Hillsboro Airport	Yes	Publicly Owned
Portland	Portland Mulino Airport	Yes	Publicly Owned
Portland	Portland Troutdale Airport	Yes	Publicly Owned
Powers	Powers Hayes Field	No	Publicly Owned
Prineville	Prineville Airport	Yes	Publicly Owned
Prospect	Prospect State Airport	No	Publicly Owned
Redmond	Redmond Municipal Airport - Roberts Field	Yes	Publicly Owned
Rome	Rome State Airport	No	Publicly Owned
Roseburg	Roseburg Regional Airport	Yes	Publicly Owned
Roseburg	George Felt Airport	No	Privately Owned
Salem	Salem McNary Field	Yes	Publicly Owned
Sandy	Country Squire Airpark	No	Privately Owned
Sandy	Sandy River Airport	No	Privately Owned
Santiam Junction	Santiam Junction State Airport	No	Publicly Owned
Scappoose	Scappoose Industrial Airpark	Yes	Publicly Owned
Seaside	Seaside Municipal Airport	Yes	Publicly Owned
Silver Lake	Silver Lake Strip (USFS)	No	Publicly Owned
Sisters	Sisters Eagle Air Airport	No	Privately Owned
Sunriver	Sunriver Airport	Yes	Privately Owned
The Dalles	Columbia Gorge Regional Airport – The Dalles Municipal Airport	Yes	Publicly Owned
Tillamook	Tillamook Airport	Yes	Publicly Owned
Toledo	Toledo State Airport	No	Publicly Owned
Vale	Miller Memorial Airpark	No	Publicly Owned
Vernonia	Vernonia Municipal Airport	No	Publicly Owned
Waldport	Wakonda Beach State Airport	No	Publicly Owned
Wasco	Wasco State Airport	Yes	Publicly Owned

2.2 Overall Study Goals & Objectives

The primary goal of the three studies is to provide a comprehensive plan which addresses all public-use airports in the state of Oregon and which identifies how to improve individual airports as part of the larger state system, to meet the needs of tourism, economic development, and transportation services for each community and the state as a whole.

This information provides the framework that supports informed decisions related to planning and developing the Oregon aviation system. The objectives of these studies are to:

- Assess aviation facilities: including airside, landside, and ground facilities and services, and general aviation needs
- Assess the economic value of airport facilities to the host community as well as the overall importance to the state
- Provide guidance for the development of the Oregon system of airports to meet the state's future aviation needs to ensure the safety and efficiency of the state aviation system
- Enhance communication opportunities among ODA, airport sponsors, local government, other state and federal agencies, and airport users so that the future development of the state aviation system can be more readily accomplished
- Provide each airport the direction to develop their airport to meet the needs of the state aviation system and local community as well as promote the airport for the purposes of economic development and tourism

Each of these individual studies is a portion of the overall process necessary to create a systematic approach to meeting the improvements which are identified, as well as proposing development strategies. This report provides a summary of the results of three planning studies undertaken by ODA to assess the condition of the existing aviation infrastructure, the economic benefit of the aviation industry, and the passenger demands for air service.

2.3 Airport Functional Roles

Each airport in the state impacts the overall operational capacity and efficiency of the state aviation system by supporting different types and levels of aviation activity. The types of facilities and services that should be provided at each category of airport were determined throughout the development of this plan. Airport functional roles have been broken out into five categories and the following criteria were utilized to classify the airports:

- Current airport infrastructure, facilities, and services
- Aviation activity levels and type of aviation demand served
- Ability to accommodate future growth
- Accessibility and geographic service area

The five airport functional roles are defined on the following page.

Category I – Commercial Service Airports

These airports support some level of scheduled commercial airline service in addition to a full range of general aviation aircraft. This includes both domestic and international destinations.

Category II – Urban General Aviation Airports

These airports support all general aviation aircraft and accommodate corporate aviation activity, including business jets, helicopters, and other general aviation activity. These airports' primary users are business related and service a large geographic region or they experience high levels of general aviation activity.

Category III – Regional General Aviation Airports

These airports support most twin- and single-engine aircraft and may also accommodate occasional business jets. These airports support a regional transportation need.

Category IV – Local General Aviation Airports

These airports support primarily single-engine, general aviation aircraft, but are capable of accommodating smaller twin-engine general aviation aircraft. These airports support local air transportation needs and special use aviation activities.

Category V – RAES (Remote Access/Emergency Service) Airports

These airports support primarily single-engine, general aviation aircraft, special use aviation activities, and access to remote areas or provide emergency service access.

Volume I of the *OAP 2007* displays all airports within their various categories.

2.4 Performance Measures

Airport performance measures were developed for the functional roles. These objectives were developed in cooperation with ODA and the state aviation system plan and master plan Advisory Committee. The purpose of the performance measures is to compare existing airport facilities to the minimum and desired facility criteria for each functional role. The performance measures should not be considered a requirement for development standards and any development would require additional support and justification through the airport master planning process as well as environmental documentation.

The performance measures for each functional role are defined below. Many airports have multiple runways; therefore, the primary runway for each airport was used to evaluate the facility against the performance measures.

Category I – Commercial Service Airports

These airports support some level of scheduled commercial airline service in addition to a full range of general aviation aircraft. This includes both domestic and international destinations.

Performance criteria were evaluated by analyzing each airport's primary runway. A complete description of airport facilities is located below.

Airside Facilities	**Minimum Criteria**	**Desired Criteria**
FAA - ARC	C-II	Varies
NPIAS	Yes	Yes
Based Aircraft	Not an Objective	Not an Objective
Runway Orientation	Varies by Airport	Varies by Airport
Runway Length	6,000 feet	Varies by Aircraft
Runway Width	100 feet	Varies by Aircraft
Runway Pavement Type	Bituminous, Concrete	Bituminous, Concrete
Runway Pavement Strength	Varies by Airport	Varies by Airport
Runway Pavement PCI	Varies by Airport	Varies by Airport
Taxiways	Full Parallel	Full Parallel/High Speed Exits
Approach Type	Precision	Precision
Visual Approach Aids	Both Runway Ends	Both Runway Ends
Instrument Approach Aids	One Runway End	Both Runway Ends
Runway Lighting	MIRL/HIRL	MIRL/HIRL
Taxiway Lighting	MITL/HITL	MITL/HIT

General Facilities	**Minimum Criteria**	**Desired Criteria**
Rotating Beacon	Yes	Yes
Lighted Wind Indicator	Yes	Yes
Weather Reporting	AWOS/ASOS	AWOS/ASOS
Hangared Aircraft Storage	75% of Based Aircraft	100% of Based Aircraft
Apron Parking/Storage	75% of Daily Transient	100% of Daily Transient
Terminal Building	Yes	Yes, Gates and Covered Walkways
Auto Parking	Moderate	Adequate
Fencing	Perimeter	Perimeter
Cargo	Small Handling Facility w/ Apron	Handling Facility w/ Apron
Deicing Facility	Yes	Yes, 24 hour

Services	**Minimum Criteria**	**Desired Criteria**
Fuel	100 LL & Jet A	100 LL & Jet A, 24 hour service
FBO	Full Service, 24 hour service	Full Service, 24 hour service
Ground Transportation	Rental Car, Taxi, or Other	Rental Car, Taxi, or Other
Food Service	Coffee Shop/Deli & Cold Foods	Restaurant
Restrooms	Yes	Yes
Pilot Lounge	Yes w/ Weather Reporting Station	Yes w/ Weather Reporting Station
Snow Removal	Yes	Yes
Telephone	Yes	Yes

Category II – Urban General Aviation

These airports support all general aviation aircraft and accommodate corporate aviation activity, including business jets, helicopters, and other general aviation activity. These airports' primary users are business related and service a large geographic region or they experience high levels of general aviation activity.

Performance criteria were evaluated by analyzing each airport's primary runway. A complete description of airport facilities is located below.

Airside Facilities	**Minimum Criteria**	**Desired Criteria**
FAA - ARC	C-II	Varies
NPIAS	Yes	Yes
Based Aircraft	Not an Objective	Not an Objective
Runway Orientation	Varies by Airport	Varies by Airport
Runway Length	5,000 feet	Varies by Aircraft
Runway Width	100 feet	Varies by Aircraft
Runway Pavement Type	Bituminous, Concrete	Bituminous, Concrete
Runway Pavement Strength	Varies by Airport	Varies by Airport
Runway Pavement PCI	Varies by Airport	Varies by Airport
Taxiways	Full Parallel	Full Parallel/High Speed Exit
Approach Type	Precision	Precision
Visual Approach Aids	One Runway End	Both Runway Ends
Instrument Approach Aids	Not an Objective	One Runway End
Runway Lighting	MIRL/HIRL	MIRL/HIRL
Taxiway Lighting	MITL/HITL	MITL/HITL

General Facilities	**Minimum Criteria**	**Desired Criteria**
Rotating Beacon	Yes	Yes
Lighted Wind Indicator	Yes	Yes
Weather Reporting	AWOS/ASOS	AWOS/ASOS
Hangared Aircraft Storage	75% of Based Aircraft	100% of Based Aircraft
Apron Parking/Storage	75% of Daily Transient	100% of Daily Transient
Terminal Building	Yes	Yes
Auto Parking	Moderate	Adequate
Fencing	Perimeter	Perimeter
Cargo	Designated Apron Area	Small Handling Facility w/ Apron
Deicing Facility	Not an Objective	Yes

Services	**Minimum Criteria**	**Desired Criteria**
Fuel	100 LL & Jet A	100 LL & Jet A, 24 hour service
FBO	Full Service	Full Service, 24 hour service
Ground Transportation	Offsite Rental Car, Taxi, or Other	Rental Car, Taxi, or Other
Food Service	Vending	Coffee Shop/Deli & Cold Foods
Restrooms	Yes	Yes
Pilot Lounge	Yes w/ Weather Reporting Station	Yes w/ Weather Reporting Station
Snow Removal	Yes	Yes
Telephone	Yes	Yes

Category III – Regional General Aviation

These airports support most twin- and single-engine aircraft and may also accommodate occasional business jets. These airports support a regional transportation need.

Performance criteria were evaluated by analyzing each airport's primary runway. A complete description of airport facilities is located below.

Airside Facilities	**Minimum Criteria**	**Desired Criteria**
FAA - ARC	B-II	Varies
NPIAS	Not an Objective	Not an Objective
Based Aircraft	Not an Objective	Not an Objective
Runway Orientation	Varies by Airport	Varies by Airport
Runway Length	4,000 feet	Varies by Aircraft
Runway Width	75 feet	Varies by Aircraft
Runway Pavement Type	Bituminous, Concrete	Bituminous, Concrete
Runway Pavement Strength	Varies by Airport	Varies by Airport
Runway Pavement PCI	Varies by Airport	Varies by Airport
Taxiways	Partial or Turnarounds	Full Parallel
Approach Type	Non-Precision	Precision
Visual Approach Aids	One Runway End	Both Runway Ends
Instrument Approach Aids	Not an Objective	Not an Objective
Runway Lighting	MIRL	MIRL/HIRL
Taxiway Lighting	MITL	MITL/HITL

General Facilities	**Minimum Criteria**	**Desired Criteria**
Rotating Beacon	Yes	Yes
Lighted Wind Indicator	Yes	Yes
Weather Reporting	AWOS/ASOS	AWOS/ASOS
Hangared Aircraft Storage	75% of Based Aircraft	100% of Based Aircraft
Apron Parking/Storage	30% of Daily Transient	50% of Daily Transient
Terminal Building	Small Meeting Area	Yes
Auto Parking	Minimal	Moderate
Fencing	Terminal Area	Perimeter
Cargo	Space on Existing Apron	Designated Apron Area
Deicing Facility	Not an Objective	Not an Objective

Services	**Minimum Criteria**	**Desired Criteria**
Fuel	100 LL & Jet A	100 LL & Jet A, 24 hour service
FBO	Full Service	Full Service, 24 hour service
Ground Transportation	Courtesy Car / Offsite Rental Car	Rental Car, Taxi, or Other
Food Service	Vending	Vending
Restrooms	Yes	Yes
Pilot Lounge	Yes w/ Weather Reporting Station	Yes w/ Weather Reporting Station
Snow Removal	Yes	Yes
Telephone	Yes	Yes

Category IV – Local General Aviation Airport

These airports support primarily single-engine general aviation aircraft but are capable of accommodating smaller twin-engine general aviation aircraft. These airports support local air transportation needs and special use aviation activities.

Performance criteria were evaluated by analyzing each airport's primary runway. A complete description of airport facilities is located below.

Airside Facilities	**Minimum Criteria**	**Desired Criteria**
FAA - ARC	B-I	B-II
NPIAS	Not an Objective	Not an Objective
Based Aircraft	Not an Objective	Not an Objective
Runway Orientation	Varies by Airport	Varies by Airport
Runway Length	3,000 feet Paved; 2,500 feet Turf	Varies by Aircraft
Runway Width	60 feet Paved; 120 feet Turf	Varies by Aircraft
Runway Pavement Type	Bituminous, Concrete, Turf	Bituminous, Concrete
Runway Pavement Strength	Varies by Airport	Varies by Airport
Runway Pavement PCI	Varies by Airport	Varies by Airport
Taxiways	Exits Needed	Partial or Turnarounds
Approach Type	Visual	Non-Precision
Visual Approach Aids	Not an Objective	One Runway End
Instrument Approach Aids	Not an Objective	Not an Objective
Runway Lighting	LIRL	MIRL
Taxiway Lighting	LITL	MITL

General Facilities	**Minimum Criteria**	**Desired Criteria**
Rotating Beacon	Yes	Yes
Lighted Wind Indicator	Yes	Yes
Weather Reporting	Not an Objective	AWOS/ASOS
Hangared Aircraft Storage	75% of Based Aircraft	100% of Based Aircraft
Apron Parking/Storage	30% of Daily Transient	50% of Daily Transient
Terminal Building	Not an Objective	Small Meeting Area
Auto Parking	Minimal	Minimal
Fencing	Not an Objective	Terminal Area
Cargo	Not an Objective	Not an Objective
Deicing Facility	Not an Objective	Not an Objective

Services	**Minimum Criteria**	**Desired Criteria**
Fuel	100 LL	100 LL & Jet A
FBO	Not an Objective	Limited
Ground Transportation	Not an Objective	Courtesy Car/Offsite Rental Car
Food Service	Not an Objective	Vending
Restrooms	Yes	Yes
Pilot Lounge	Not an Objective	Yes w/ Weather Reporting Station
Snow Removal	Yes	Yes
Telephone	Not an Objective	Yes

Category V – RAES (Remote Access/Emergency Services)

These airports support primarily single-engine general aviation aircraft, special use aviation activities, access to remote areas, or provide emergency service access.

Performance criteria were evaluated by analyzing each airport's primary runway. A complete description of airport facilities is located below.

Airside Facilities	**Minimum Criteria**	**Desired Criteria**
FAA - ARC	A-I	B-I
NPIAS	Not an Objective	Not an Objective
Based Aircraft	Not an Objective	Not an Objective
Runway Orientation	Varies by Airport	Varies by Airport
Runway Length	2,500 feet Turf	3,000 feet Paved; 2,500 feet Turf
Runway Width	60 feet Turf	60 feet Paved; 120 feet Turf
Runway Pavement Type	Turf, Gravel	Bituminous, Concrete
Runway Pavement Strength	Varies by Airport	Varies by Airport
Runway Pavement PCI	Varies by Airport	Varies by Airport
Taxiways	Not an Objective	Exits Needed to an apron
Approach Type	Visual	NPIA
Visual Approach Aids	Not an Objective	One Runway End
Instrument Approach Aids	Not an Objective	One Runway End
Runway Lighting	Not an Objective	LIRL
Taxiway Lighting	Not an Objective	LITL

General Facilities	**Minimum Criteria**	**Desired Criteria**
Rotating Beacon	Not an Objective	Yes
Lighted Wind Indicator	Not an Objective	Yes
Weather Reporting	Not an Objective	AWOS/ASOS
Hangared Aircraft Storage	Not an Objective	75% of Based Aircraft
Apron Parking/Storage	Not an Objective	100 X 100 foot Apron
Terminal Building	Not an Objective	Small Meeting Area
Auto Parking	Not an Objective	Minimal
Fencing	Not an Objective	Limited
Cargo	Not an Objective	Not an Objective
Deicing Facility	Not an Objective	Not an Objective

Services	**Minimum Criteria**	**Desired Criteria**
Fuel	Not an Objective	100 LL
FBO	Not an Objective	Not an Objective
Ground Transportation	Not an Objective	On-Call Service
Food Service	Not an Objective	Not an Objective
Restrooms	Not an Objective	Yes
Pilot Lounge	Not an Objective	Yes
Snow Removal	Not an Objective	Yes
Telephone	Not an Objective	Yes

Table 2.2 *OAP 2007* Recommended Airport Classification

Category I – Commercial Service Airports
Eastern Oregon Regional Airport at Pendleton
Eugene Airport - Mahlon Sweet Field
Klamath Falls International Airport
Portland International Airport
Redmond Municipal Airport - Roberts Field
Rogue Valley International - Medford Airport
Salem McNary Field
Southwest Oregon Regional Airport

Category II – Urban General Aviation Airports
Astoria Regional Airport
Aurora State Airport
Bend Municipal Airport
Corvallis Municipal Airport
McMinnville Municipal Airport
Newport Municipal Airport
Portland Downtown Heliport
Portland - Hillsboro Airport
Portland - Troutdale Airport
Scappoose Industrial Airpark

Category III – Regional General Aviation Airports
Ashland Municipal Airport - Sumner Parker Field
Baker City Municipal Airport
Bandon State Airport
Burns Municipal Airport
Columbia Gorge Regional - The Dalles
Grant County Regional Airport
Grants Pass Airport
Hermiston Municipal Airport
La Grande / Union County Airport
Lake County Airport
Ontario Municipal Airport
Roseburg Regional Airport
Tillamook Airport

Category IV – Local General Aviation Airports
Albany Municipal Airport
Boardman Airport
Brookings Airport
Chehalem Airpark
Christmas Valley Airport
Condon State Airport - Pauling Field
Cottage Grove State Airport - Jim Wright Field
Creswell Hobby Field Airport
Florence Municipal Airport
Gold Beach Municipal Airport
Illinois Valley Airport
Independence State Airport
Joseph State Airport
Ken Jernstedt Airfield
Lebanon State Airport
Lenhardt Airpark

Category IV – (Continued)
Lexington Airport
Madras/City-County Airport
Myrtle Creek Municipal Airport
Portland - Mulino Airport
Prineville Airport
Seaside Municipal Airport
Siletz Bay State Airport
Sisters Eagle Air Airport
Sportsman Airpark
Sunriver Airport
Wasco State Airport

Category V – Remote Access/Emergency Service Airports
Alkali Lake State
Arlington Municipal
Beaver Marsh
Cape Blanco State Airport
Cascade Locks State Airport
Chiloquin State Airport
Country Squire Airpark
Crescent Lake State Airport
Davis Field
Enterprise Municipal
George Felt
Lake Billy Chinook
Lake Woahink Seaplane Base - *Closed*
Lakeside State Airport
Malin
McDermitt State Airport
McKenzie Bridge State
Memaloose (USFS)
Miller Memorial Airpark
Monument Municipal
Nehalem Bay State Airport
Oakridge State
Owyhee Reservoir State
Pacific City State Airport
Paisley
Pinehurst State Airport
Powers Hayes Field
Prospect State Airport
Rome State
Sandy River
Santiam Junction State
Silver Lake Strip (USFS)
Skyport Airport
Stark's Twin Oaks Airpark
Toketee State
Toledo State Airport
Valley View
Vernonia Municipal Airport
Wakonda Beach State

Source: Mead & Hunt, Inc.

2.5 Summary

Each of these study efforts will provide valuable information to the state as well as the individual airports as stand-alone documents. Combined together, these studies provide a comprehensive resource for airport development throughout the entire state.

Chapter 3

As outlined in the Federal Aviation Administration (FAA) Advisory Circular 150/5070-7, *The Airport System Planning Process*, the process of system planning for aviation is based upon the collection and evaluation of information about each airport within the overall system and the area they serve. The inventory task is accomplished through physical inspection of the facilities, field interviews and surveys, telephone conversations, and review of previous studies.

The objective of the inventory task is to document existing conditions, thereby providing the background information essential to the development and recommendations for the *Oregon Aviation Plan 2007 (OAP 2007)*. The inventory information covers a broad spectrum and includes information on the following elements of the Airport:

- Airside and landside facilities and their uses
- Navigational aids
- Auxiliary support facilities and services
- Environmental observations
- Air traffic activity data
- Survey analyses

A large volume of data was collected, reviewed, and analyzed during the inventory effort. This chapter presents an overall summary of this information and is organized in the following sections:

3.1 General Airport Description and Location

Aurora State Airport is located approximately one mile northwest of the city of Aurora, within Marion County (**Figure 3.1**). Regionally, the Airport is located approximately 25 miles south of Portland, 25 miles north of Salem, and 90 miles north of Eugene. The airport has easy access to Interstate Highway 5, which is the critical North/South ground transportation link through the Willamette Valley.

According to the State of Oregon Office of Economic Analysis, Marion County contained 305,265 residents in 2005, up 7.2 percent from 284,834 in 2000. Oregon has grown from 3,436,750 residents in 2000 to 3,618,200 residents in 2005, up 5.3 percent. This indicates that Marion County is growing at a faster pace than the state as a whole.

Figure 3.1
Marion County Location Map

The Airport is owned and operated by the Oregon Department of Aviation and is included in the National Plan of Integrated Airport Systems (NPIAS), making this airport eligible for federal funding. Aurora State Airport, designated by the airport code UAO, occupies approximately 144 acres of land.

Historical Development. The Aurora State Airport was constructed by the Oregon State Highway Department during wartime in 1943 as an emergency airfield for air carrier aircraft. The Airport has evolved into the busiest state-owned airport and the fifth overall busiest airport in the state.

3.2 Existing Airport Facilities

Existing airport facilities are presented in three categories: airside, landside, and support facilities. The airside facilities include such areas as the runways, taxiways, aprons, aircraft parking and storage areas, airfield lighting, and navigational aids. The landside facilities include items such as the airport terminal building, vehicular access, auto parking, and support facilities. The support facilities may include fuel facilities, aircraft rescue and firefighting (ARFF) facilities, airport maintenance, snow removal equipment (SRE) and facilities, and utilities. The existing airside, landside, and support facilities are detailed below.

3.2.a Airside Facilities

The airfield consists of many components that are required to accommodate safe aircraft operations. This consists of runways, taxiways, and an apron network; the visual and electronic navigational aids associated with runways; runway protection zones; and general aviation facilities.

Runways. Aurora State Airport has a single paved runway, Runway 17-35. The runway is 5,004 feet long and 100 feet wide with an asphalt surface. The Airport currently has an Airport Reference Code (ARC) of B-II. Additional runway information such as pavement strength and condition are located in **Section 4.2**, *Definition of Airport System Role*.

Taxiways. The existing taxiway system at the Airport consists of a full-length parallel taxiway and entrance/exit taxiways.

Aprons. There are three aprons used for aircraft parking. The north terminal apron has approximately 12 small aircraft tie down spaces. The central terminal apron has 38 small tie-down spaces and four large aircraft parking positions. The southern terminal apron has approximately 10 small aircraft tie-down spaces and five large aircraft parking positions. All three aprons are constructed of asphalt.

Lighting and Navigational Aids. The Airport's lighting and navigational systems extend the Airport's usefulness into night and/or poor visibility.

Pavement edge lighting consists of light fixtures located near the edge of the runway/taxiway to define the lateral limits of the pavement. This lighting is essential for the safe and efficient movement of aircraft during periods of darkness or poor visibility. Runway 17-35 is equipped with medium intensity runway lighting (MIRL). Taxiways at the Airport are equipped with reflectors.

A four-light visual approach slope indicator (VASI) is installed both ends of Runway 17-35. A VASI system provides the pilot with a red, red/white, or white signal that indicates if the pilot is below, above, or on the glide path to the runway.

The ominidirectional approach lighting system (ODALS) is the minimum approach lighting system necessary to achieve three-quarters of a mile non-precision approaches. It consists of seven omnidirectional flashing lights located in the approach area of a non-precision runway. ODALS are installed on the approach end of Runway 17.

A Localizer approach is an Instrument Landing System (ILS) approach without the glide slope. Because there is no glide slope information provided, the Localizer approach is considered a non-precision approach. The Localizer signal provides azimuth, or lateral, information to guide the aircraft to the centerline of the runway. It is similar to a VOR signal except that it provides radial information for only a single course, the runway heading. The Airport has a Localizer approach to Runway 17.

GPS uses satellites placed in orbit around the earth to transmit electronic signals, which properly equipped aircraft use to determine altitude, speed, and position information. GPS allows pilots to navigate to any airport in the country, and they are not required to navigate using a specific navigational facility. The Airport has GPS approaches to both runway ends.

In addition to lighting and navigational aids, the Airport is also equipped with an automated surface observation system (ASOS). The ASOS provides automated aviation weather observations 24-hours a day. The system updates weather observations every minute, continually reporting significant weather changes as they occur. The ASOS system reports cloud

ceiling, visibility, temperature, dew point, wind direction, wind speed, altimeter setting, and density altitude (airfield elevation corrected for temperature).

3.2.b Landside Facilities

General Aviation Facilities. General aviation services at the Airport are provided by three fixed based operators (FBO); Aurora Aviation, General Aviation Services, and Willamette Aviation LLC. They offer aviation fuel, aircraft parking (ramp or tie-down), flight training, aircraft rental, aircraft maintenance, pilot supplies, catering, off site rental cars, and courtesy transportation.

Hangar space at the Airport is comprised of both corporate and T-Hangars. There are approximately 275 hangar facilities at the Airport. Additionally, there is considerable adjacent private development activity that is enhancing hangar facilities and drawing more Aurora based aircraft.

The majority of the landside developments at Aurora State Airport are privately owned and operated and located off airport property. Through the fence operations at the airport are discussed in detail in *Section 4.1.b General Observations and Recommendations*.

3.2.c Support Facilities

Parking. Vehicle parking is located next to each of the FBO buildings. There are moderate parking facilities at the Airport.

Fuel Facilities. All aircraft fuel storage facilities at the Airport are privately owned and operated. The FBOs provide both 100 LL and Jet A fuel.

Aurora State Airport

Source: 2003 Oregon Airport Directory

3.3 Current and Forecast Demand

This element of the report provides projections of future aviation demand at the Airport. Projections of short-, intermediate-, and long-term activity at the Airport are based on 5-, 10-, and 20-year milestones, using 2005 as the base year of analysis as it is the most recent year for which a full year of activity data is currently available.

Projections of aviation demand are an important element of the system planning process as they provide the basis for several key analyses, including:

- Determining the role of the Airport with respect to the type of aircraft to be accommodated in the future
- Evaluating the capacity of existing airport facilities and their ability to accommodate projected aviation demand
- Estimating the extent of airside and landside improvements required in future years to accommodate projected demand

This analysis uses the most recent aircraft activity available to project future levels of aviation demand through the year 2025. The forecast analysis contained in this section includes methodologies based on historical aviation trends at the Airport, as well as other socioeconomic trends related to the state of Oregon. National projections of aviation activity developed by the FAA were also reviewed within the context of this forecast analysis, where available.

This section provides discussions of the methodologies and findings used for projecting passenger enplanements, aircraft operations, and based aircraft at the Airport. The projections of aviation demand are documented below in **Table 3.1**.

3.3.a Forecasting Approach

There are a number of different forecasting techniques available for use in the projection of aviation activity, ranging from subjective judgment to sophisticated mathematical modeling. Because a large number of variables affect a facility plan, it is important that each variable be considered in the context of its use in the plan. For variables that significantly affect the nature and extent of facilities, redundancy has been achieved through the utilization of several forecasting techniques to minimize the uncertainty associated with the range of the forecast variable.

The analysis includes the assessment of historical trends on aviation activity data at the local, regional, and national level. Aviation activity statistics on such items as passenger enplanements, aircraft operations, and based aircraft are collected, reviewed, and analyzed. Similarly, socioeconomic factors such as population and income are analyzed for the effect they may have on aviation growth. The comparison of relationships among these various indicators provides the initial step in the development of realistic forecasts of aviation demand.

The following general methodologies were used in projecting various components of aviation demand at the Airport.

Time Series Methodology. Historical trend lines and linear extrapolation are some of the most widely used methods for forecasting. These techniques utilize time-series types of data and are most useful for a pattern of demand that demonstrates a historical relationship with time. In utilizing this technique, an assumption is made that the same factors that have influenced demand will continue to affect future demand. While this is a rather broad assumption, it often provides a reliable benchmark for comparing the results of other analyses. Linear extrapolation established a linear trend by fitting a straight line using the least squares method to known historical data. Historic trend lines, as utilized in these analyses, examine historic compounded annual growth rates and extrapolate future data values by assuming a similar compounded annual growth rate in the future.

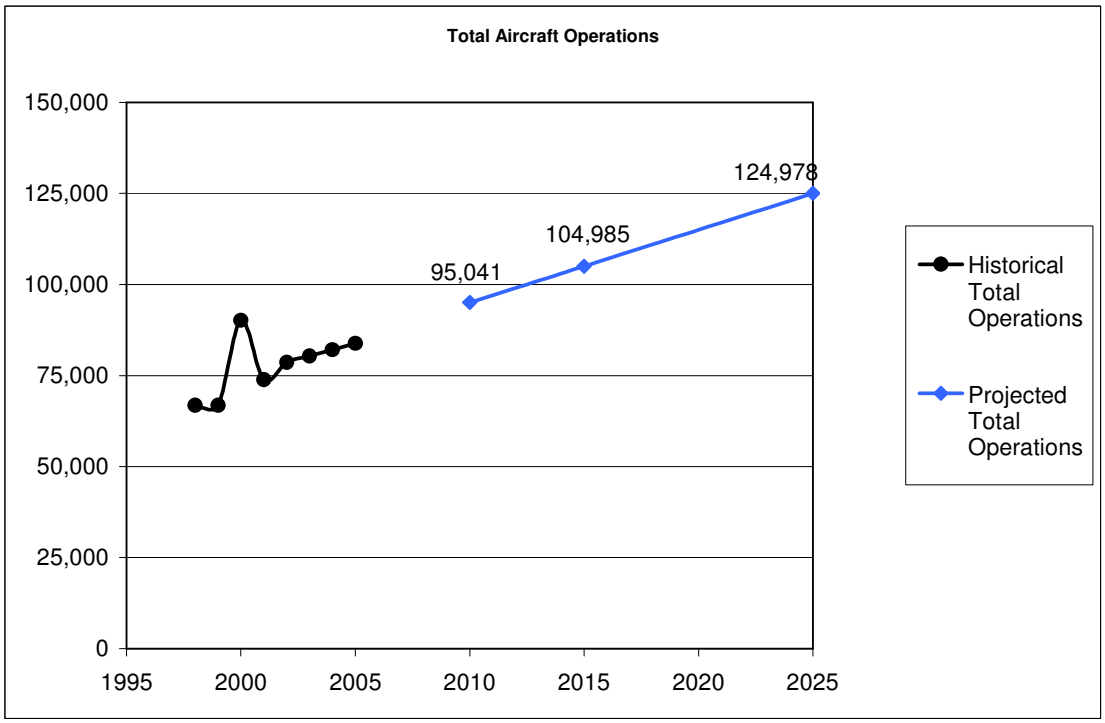
Market Share Methodology. Market share, ratio, or top-down models are utilized to scale large-scale aviation activity down to a local level. Inherent to the use of such a method is the demonstration that the proportion of the large-scale activity that can be assigned to the local level is a regular and predictable quantity. This method has been used extensively in the aviation industry for aviation demand forecasting at the local level. Its most common use is in the determination of the share of total national traffic activity that will be captured by a particular region or airport. Historical data is examined to determine the ration of local airport traffic to total national traffic. From outside data sources, in this case the FAA, projected levels of national activity are determined and then proportioned to the Airport based upon the observed and projected trends.

Socioeconomic Methodology. Socioeconomic or correlation analysis examines the direct relationship between two or more sets of historical data. In this case, socioeconomic analyses have been performed, relating historical aviation activity to historical population levels within the Airport region. Based upon the observed and projected correlation between historical aviation activity and the socioeconomic data sets, future aviation activity projections are developed based upon the projected socioeconomic data sets. In this case, projected population levels were obtained from Woods & Poole Economics, Inc. (W&P), an independent firm that specializes in long-term economic and demographic projections. This forecasting methodology is subject to how accurately an airport's activity reflects local demographic makeup.

Table 3.1 Summary of Aviation Projections

Aurora State Airport (UAO)

Year	Operations				Based Aircraft
	Commercial Air Carrier	General Aviation	Military	Total	
Historical:					
1995					
1996					
1997					
1998	8,791	57,850	180	66,821	233
1999	8,791	57,850	180	66,821	233
2000	9,000	81,000	180	90,180	265
2001	6,190	67,455	250	73,895	387
2002	9,227	69,115	250	78,592	387
2003	9,325	70,775	250	80,350	391
2004	9,422	72,396	250	82,068	387
2005	9,520	74,054	250	83,824	387
Projected:					
2010	10,077	84,713	250	95,041	422
2015	10,668	94,067	250	104,985	447
2025	11,953	112,774	250	124,978	498
CAGR (2005-2025)	*0.00%*	*2.13%*	*0.00%*	*2.02%*	*1.27%*



Source: Historical Enplanements, Operations - FAA Terminal Area Forecast System (TAF)
Historical Based Aircraft - FAA Terminal Area Forecast System (TAF)
Projections - Mead & Hunt, Inc.

3.4 Survey Responses

As previously discussed, surveys were a critical part of the data collection effort. Below is a summary of the surveys and staff interviews that provide the context that surrounds the *OAP 2007*. Surveys were sent to state, local, and county government officials, businesses, airport managers, pilots, chamber of commerce members, and host communities to solicit input of the state aviation system from diverse interests groups.

3.4.a Community Information

Currently, agriculture, timber, and manufacturing were noted as the primary industries in the Aurora area. Survey respondents indicate that the Airport is perceived to be a valuable economic asset to the community. The respondents also indicated that if there were no longer an airport available to the public, they would use the next closest airport. Survey results identified noise, security, safety, and expansion of the Airport as the main concerns regarding the future development of the Airport.

3.4.b Economic Development

The importance of aviation for growth from an economic perspective is ranked moderately high. The survey respondents noted that airport upgrades would increase economic growth for the surrounding communities. According to the survey results, the single most important item that the Airport could do to promote economic growth is to increase runway length. In addition, it was perceived that the impact to the economy would be negative if the Airport was no longer available. Businesses would depreciate in size, relocate, or use the next closest airport. Respondents were unsure if the city of Aurora and Marion County would be supportive of a funding mechanism to finance future airport developments.

3.4.c Airport Development and Use

Survey respondents indicate that the airport users of Aurora State Airport are local business, recreation, tourism, out-of-town business, and agriculture. Surrounding communities rely on the Airport for medical rescue flights and fire protection.

Survey respondents highlighted three areas of concern regarding the Airport. These concerns are outline below:

- There are perceived operational limitations of runway length, terminal amenities, navigational aids, taxiways, aircraft parking/storage, and availability of fuel
- Inclement weather significantly reduces the “usability” of the Airport
- Lack of infrastructure (sewer and water) was noted as a concern to the future of the Airport

3.4.d Air Shuttle

Upon the request of ODA, Mead & Hunt is investigating the feasibility of a state operated and subsidized air shuttle service. This air shuttle service would link various communities within the state. Traditionally, air shuttle services do not compete with regular commercial service, their intent is to commute between smaller local communities instead of large regional airports, therefore, they are viewed as a supplement to air service for airports.

Survey Respondents indicate that some form of an air shuttle service would be considered a convenience and would likely promote economic growth for communities. Survey results indicate that the primary users of the shuttle would be business, emergency services, and health services, transportation of cargo, higher education, and governmental services. Survey results provided the order of importance of issues for potential shuttle passengers. Most important to travelers was schedule, followed by cost, reliability, type of aircraft, and comfort. Survey results identified Bend, Eugene, and Portland as the destination cities for shuttle service originating in Aurora with service being provided daily. Survey results also indicate that the city of Aurora and Marion County would be willing to "guarantee" seats for their community on the air shuttle service; however, they would expect users to pay between $151 and $200 per seat, with a potential of over 20 users per flight.

3.5 Summary

Providing a comprehensive summary of the existing airport facility is an essential part of the planning process. The information contained in this chapter provides the foundation for the recommendations found in *Chapter Four*.

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Chapter 4

As discussed, the inventory and forecasts provide a basis from which recommendations can be made for future development. The recommendations illustrated within the *Oregon Aviation Plan 2007 (OAP 2007)* reflect the Oregon Department of Aviation's (ODA) desire to create a comprehensive aviation system that adequately services the aviation needs of the state and the various interest groups associated with this resource. This chapter is organized in the following sections:

4.1 Airport Facility and Service Needs
4.2 Definition of Airport System Role
4.3 Economic Impact Analysis

4.1 Airport Facility and Service Needs

A primary focus of this report is to identify and evaluate airside, landside, and other general facility needs and deficiencies at the Airport utilizing information collected through the physical inspection of the facility, field interviews and surveys, telephone conversations, review of previous studies, and review of appropriate airport records. The following section presents the recommended airport facility and service needs identified during the study process.

4.1.a Recommendations Based on Performance Criteria

The Aurora State Airport has been classified as a *Category II – Urban General Aviation* airport and should provide appropriate facilities and services commensurate with its system role. The existing airport facilities were compared to the minimum and desired criteria for a *Category II* airport, which identified the following airport facility and service needs:

- Increase Airport Reference Code from B-II to C-II (associated safety area improvements)
- Correct parallel taxiway / runway centerline separation
- Install Medium Intensity Taxiway Lighting (MITL)
- Construct designated cargo apron

4.1.b General Observations and Recommendations

The Aurora State Airport is one of the busiest general aviation airports in the state. A vast majority of the traffic at the Airport is conducted by corporate jets and due to its prime location between the Portland Metropolitan area and Salem, the state capital; the Airport will continue to attract business/corporate aircraft. Therefore, it should be made a priority to increase the margin of safety by developing the Airport with C category aircraft design standards.

The majority of the landside developments at Aurora State Airport are privately owned and operated. However, some areas of the airfield are owned by the state of Oregon and leased to private business. The businesses that are located off airport property are entering the airfield from private property, more commonly known as a "through the fence" operations.

Through the fence agreements provide access onto the airfield for off-airport businesses or individuals who utilize the airport infrastructure but do not lease space at the airport or contribute financially to support the airport through ground leases or operational leases like those located on airport property.

General aviation airports often have difficulty generating revenue to offset the costs of operating, maintaining, and improving the airport. An important revenue generator at many airports is the lease of airport property for private or commercial use. Private property owners adjacent to an airport that are granted access to the airport infrastructure are typically not contributing to the airport fund through the normal lease process. This often results in an economically competitive advantage to off-airport businesses. They are allowed to access the airport without paying a lease rate which often reduces their overhead, allowing them to charge lower rates than their on-airport counterparts. This creates a situation which is first and foremost noncompliant with FAA policies but more importantly, often results in a weaker airport economy.

The FAA does not have a formal policy against "through the fence" operations; however they do strongly discourage their use. To maintain an economically viable business environment the airport sponsor should require all off field businesses or individuals to compensate the sponsor similarly to those being paid by on airport tenants. A yearly fee, percentage of gross profits, or access fees are common methods of collecting compensation from off airport businesses or individuals.

ODA is currently discussing Senate Bill 680 to address the "through the fence" operations at Aurora State Airport.

4.1.c Airport Capital Improvement Program

The Airport Capital Improvement Program (ACIP) is the primary planning tool the FAA utilizes to identify, prioritize, and assign funds to capital airport development and associated capital needs for all NPIAS airports. The 2006 ACIP for Aurora State Airport includes the following projects:

- Construct taxiway Phase 06 and 07
- Relocate taxiway including purchasing land
- Update Exhibit A Property Plan
- Update airport layout plan
- Implement Phase 2 – land purchase

4.1.d Other Potential Improvements for Consideration

No other airport improvement projects were being considered at the time of publication.

4.2 Definition of Airport System Role

Category II – Urban General Aviation
These airports support all general aviation aircraft and accommodate corporate aviation activity, including business jets, helicopters, and other general aviation activity. These airports' primary users are business related and service a large geographic region or they experience high levels of general aviation activity.

Performance criteria were evaluated by analyzing each airport's primary runway. A complete description of airport facilities is located in **Section 3.2**, *Existing Airport Facilities*.

Airside Facilities	**Existing Facilities**	**Minimum Criteria**	**Desired Criteria**
FAA - ARC	B-II	C-II	Varies
NPIAS	Yes	Yes	Yes
Based Aircraft	397	Not an Objective	Not an Objective
Runway Orientation	17/35	Not an Objective	Not an Objective
Runway Length	5,004 feet	5,000 feet	Varies by Aircraft
Runway Width	100 feet	100 feet	Varies by Aircraft
Runway Pavement Type	Bituminous	Bituminous, Concrete	Bituminous, Concrete
Runway Strength	30,000 (SW)	Not an Objective	Not an Objective
Runway Pavement PCI	84	Not an Objective	Not an Objective
Taxiways	Full Parallel	Full Parallel	Full Parallel/High Speed Exit
Approach Type	Non - Precision	Precision	Precision
Visual Approach Aids	V4R (17) V4L (35)	One Runway End	Both Runway Ends
Instrument Approach Aids	ODALS, LOC (17) GPS (17/35)	Not an Objective	One Runway End
Runway Lighting	MIRL	MIRL/HIRL	MIRL/HIRL
Taxiway Lighting	Reflectors	MITL/HITL	MITL/HITL

General Facilities	**Existing Facilities**	**Minimum Criteria**	**Desired Criteria**
Rotating Beacon	Yes	Yes	Yes
Lighted Wind Indicator	Yes	Yes	Yes
Weather Reporting	ASOS	AWOS/ASOS	AWOS/ASOS
Hangared Aircraft Storage	275	75% of Based Aircraft	100% of Based Aircraft
Apron Parking/Storage	70	75% of Daily Transient	100% of Daily Transient
Terminal Building	Yes	Yes	Yes
Auto Parking	Moderate	Moderate	Adequate
Fencing	Perimeter	Perimeter	Perimeter
Cargo	Non-Designated Apron	Designated Apron Area	Small Handling Facility w/ Apron
Deicing Facility	No	Not an Objective	Yes

Services	**Existing Facilities**	**Minimum Criteria**	**Desired Criteria**
Fuel	100 LL & Jet A	100 LL & Jet A	100 LL & Jet A, 24-hour service
FBO	Full Service (3)	Full Service	Full Service, 24-hour service
Ground Transportation	Rental Car, Taxi	Offsite Rental Car, Taxi	Rental Car, Taxi, or Other
Food Service	Vending, Coffee Shop	Vending	Coffee Shop/Deli & Cold Foods
Restrooms	Yes	Yes	Yes
Pilot Lounge	Yes w/Weather Reporting	Yes w/ Weather Reporting	Yes w/ Weather Reporting
Snow Removal	Yes	Yes	Yes
Telephone	Yes	Yes	Yes

4.3 Economic Impact Analysis

The economic impact analysis of airports in Oregon was developed for each airport, measuring economic impacts of airport facilities, within regions and throughout the state. Airports that are part of the Port of Portland were not part of this study, except for the regional-based analysis of aviation dependent businesses. This study used the five regions of *ConnectOregon* to measure local/regional economic impacts of airports and for dependent non-aviation businesses. The regions are shown by the accompanying map.

Total economic impacts are the sum of on-airport economic activities, off-airport spending by visitors who arrive by air, and spin-off impacts (multiplier effect). Airport impacts are provided by region and state to show the contribution of each airport to the regional and state economies. In addition, aviation dependent impacts are provided by region to show the importance of airports in each region to non-aviation businesses. All impacts reported represent a base year of 2005. Each type of impact is defined in the following paragraphs.

On-Airport direct impacts represent economic activities that occur on airport grounds. By separating aviation related activities from non-aviation activities, The *OAP 2007* illustrates the regional economic contribution of aviation by airport in the regional and state economies, as well as the overall impact of each airport as a facility. Aviation related activities are those that would not occur without the airport, such as airlines, fixed base operators (FBO), government, and other tenants located at the airport or directly dependent on the airport. This category also includes airport management and other individuals employed directly by the airport, as well as retail and service operations for passengers, pilots, and other airport employees. In some cases, airports provide land or building space for companies that are not affiliated with aviation. These tenants are not related to the aviation mission of the airport, but are using the facility as a convenient and affordable business or industrial parks.

Off-Airport visitor spending (Direct Impacts) are expenditures made by air travelers who are visiting from outside the region, and occurs off the airport-in the regional economy. Visitor spending includes lodging, food, entertainment, retail purchases and ground transportation (retail purchases and on-airport car rentals are captured by on-airport impacts). Visitor spending is analyzed for commercial passengers as well as for general aviation pilots and passengers. Visitors flying into Oregon from another state or nation contribute to the airport's regional economy as well as to the state. However, passengers flying within Oregon, from one region to another, contribute to the region of their destination airport, but are not bringing additional money into Oregon. Therefore, in regions with air carrier airports, the direct impact of visitor spending for the region is higher than the impact of visitor spending for the state.

Airport dependent impacts represent area businesses that are dependent on an airport for incoming and outgoing, and for business travel. These businesses may relocate or suffer substantial loss if the airport were not available. This impact is not included in traditional economic impact methodology and is analyzed and reported by region for this study. Thus the

economic dependence of a region on aviation represents the cumulative impacts of all airports within a region. The analysis is provided as an indicator of the importance of airports to regional economies.

Spin-off impacts (Multiplier Affect) are calculated using impact multipliers, which are used to reflect the recycling of dollars through both the regional and state economy. A dollar spent in the economy does not disappear; rather, it continues to move through the local economy in successive rounds until it is incrementally exported from the community. As the expenditures described above are released into the economy, they circulate among other industry sectors, creating successive waves of additional economic benefit in the form of jobs, payroll, and output (expenditures). These successive rounds of spending are known as spin-off impacts, and help to represent the full impact of each dollar spent in a region. An example would be an airport employee spending his or her salary for housing, food, and other services. Spending occurring outside the area is considered economic leakage and is not reflected in the multiplier. Spin-off impacts are often reported as indirect and induced impacts. Indirect impacts reflect the purchase of goods and services by businesses. Induced impacts reflect worker making consumer purchases.

The project team analyzed the economic contributions of 91 airports under the jurisdiction of the Oregon Department of Aviation (ODA). In addition, the Port of Portland commissioned a separate economic impact studies of Portland International Airport, Portland Hillsboro Airport and Portland Troutdale Airport, which are administered by the Port. The sum of economic impacts derived from the OAP 2007 and the Port of Portland studies account for economic impacts generated by all public use airports in Oregon.

4.3.a Contribution of Airports to the Economy of Oregon

As shown in **Table 4.1**, Oregon public-use airports contributed a total economic impact of $8.3 billion to the state economy, including $3 billion from ODA airports and more than $5 billion from Port of Portland airports. Following Table 4.1 is a summary entitled *Airport Role in Economy*, which illustrates the individual airport economic impact.

Additional study highlights include:

- Oregon ODA public-use airports, including airport tenants, directly employ 7,000 people for aviation related activities and expend $259 million in wages
- Oregon ODA public-use airport employees and tenants earned an average annual salary of $36,000 per year for aviation activities and $35,000 per worker, when including non-aviation jobs
- Off-airport visitor industry employees earn an average annual salary of $15,000 per year

Table 4.1 Economic Contribution of Airports to the Oregon Economy

	Jobs	Wages	Business Sales
Direct Effects of ODA On-Airport Aviation Activities and Visitor Spending			
On-Airport, including FBO & air related tenants	7,273	$262,147,000	$827,475,000
Off-Airport: visitor spending	6,762	$101,641,000	$324,097,000
Subtotal of Direct Effects From ODA Airports	14,035	$363,788,000	$1,151,572,000
ODA Spin-off Effects of Supplier and Income Re-spending			
Due to On-Airport Aviation	12,029	$305,851,000	$883,988,000
Due to Visitor Spending	3,558	$94,459,000	$310,756,000
Subtotal of Spin-off Effects	15,587	$400,310,000	$1,194,744,000
Total ODA Airport Aviation Related Impacts	29,621	$764,098,000	$2,346,316,000
ODA Airport Generated Impacts of Non-Aviation Activities			
On Airport Non-Aviation Activities	2,177	$67,294,000	$320,530,000
Spin-offs due to Non-Aviation Activities	3,374	$96,239,000	$332,084,000
Total ODA Airport Non-Aviation Impacts	5,551	$163,533,000	$652,614,000
ODA Airports Total Aviation and Non-Aviation Related	35,172	$927,631,000	$2,998,930,000
Port of Portland Totals*			
Airport Generated	20,005	$941,244,000	$3,533,456,000
Visitor Generated	39,418	$907,718,000	$1,740,344,000
Total Impact Port of Portland Airports	59,423	$1,848,862,000	$5,273,800,000
Grand Total – All Airports	94,595	$2,776,493,000	$8,272,630,000

Source: Airport and Tenant Surveys, EDR Group and Mead & Hunt Analyses, IMPLAN econometric package.
Note: Numbers may not add due to rounding.
*Port of Portland Airports include Portland International Airport, ,Portland Hillsboro Airport and Portland Troutdale Airport. Data for the Port of Portland airports was provided by the Port.

Oregon Aviation Plan 2007

Version OR 2.1 5/22/07

Airport Role in Economy

Airport: Aurora State
Airport Code: KUAO

County: Marion

Region: Willamette Valley and Coast

Evaluated for Year: 2005

Activity Data

Total Commercial Operations:	0
Total Commercial Emplanements:	0
Total Commercial Visitors:	0
Total GA Operations:	73,895
Total GA Passengers:	221,685
Total GA Visitors:	59,213
Total Military Operations:	0

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On-going Contribution to the Regional and State Economies

	Jobs		Wages		Business Sales	
	Local	**State**	**Local**	**State**	**Local**	**State**
Direct Effects of On Airport Activities and Visitor Spending						
1. On Airport (incl. FBO and air related tenants)	781	781	$22,305,000	$22,305,000	$62,654,000	$62,654,000
2. Off-Airport: Visitor Spending	179	179	$2,659,000	$2,659,000	$8,483,000	$8,483,000
Total Direct	960	960	$24,964,000	$24,964,000	$71,137,000	$71,137,000
Spin-off Effects: Supplier and Income Re-spending						
3. Due to On Airport Aviation	1,288	1,334	$23,432,000	$29,938,000	$50,205,000	$61,293,000
4. Due to Visitor Spending	84	96	$2,166,000	$2,460,000	$6,932,000	$8,232,000
Total Spin-off	1,372	1,430	$25,598,000	$32,398,000	$57,137,000	$69,525,000
Total Airport Aviation Related Impacts	2,332	2,390	$50,562,000	$57,362,000	$128,274,000	$140,662,000
Total Airport Generated Impacts - Not Aviation						
5. On Airport Non-aviation Activities	39	39	$958,000	$958,000	$3,946,000	$3,946,000
6. Spin-offs due to Non-aviation Activities	32	40	$827,000	$1,006,000	$2,607,000	$3,254,000
Total Airport Non-aviation Impacts	71	79	$1,785,000	$1,964,000	$6,553,000	$7,200,000
Total Aviation and Non-aviation Related	2,403	2,469	$52,347,000	$59,326,000	$134,827,000	$147,862,000
Regional Off-Airport Aviation Dependent Business Activity						
7. Direct Business Activity	8,061	8,061	$368,349,000	$368,349,000	$2,142,913,000	$2,142,913,000
8. Spin-offs due to Dependent Activity	14,509	17,423	$425,253,000	$518,828,000	$1,468,166,000	$1,788,387,000
Total Off-airport Aviation Dependent Activity	22,570	25,484	$793,602,000	$887,177,000	$3,611,079,000	$3,931,300,000

Note: Regional Off-airport Aviation Dependent Business Activities account for business activity in the region that rely on aviation for business travel and cargo, and do not reflect a specific airport.

Appendix G:
PAC COMMENTS COMPILATION

Airport Master Plan Update

Aurora State Airport

Aurora State Airport Master Plan Update - Comments Received on Miscellaneous Items

Comment #	Page #		WHPacific Response
Comments on Scope of Work		**Comments received from: Nick Kaiser**	
0.1	3-18, task 1.2	Significant growth doesn't mean that the runway should be extended. There is no mention of a tower.	A runway extension is not assumed, it is just one element to be studied in the Plan.
0.2	5-18, task 2D	Add proximity to Aurora's city limits.	No changes to Scope of Work will be made. Location of Airport, in relation to Aurora, is mentioned in the Plan.
0.3	6-18, task 2F	Need to collect actual data for airport operations and use ODA noise study.	All available data is used in the Plan, as well as information from the noise study.
0.4	6-18, task 2.4	Include city of Aurora land use data (vision for airport and off airport land use). Include Aurora comp plan and county UGB agreement (area of mutual concern).	Scope indicates land use documents from local government will be obtained. This comment is more applicable to Chapter Two, and this information will be supplemented in that chapter at the appropriate location(s).
0.5	7-18, task 3.2	Need to have firm data on projected critical aircraft. Why not have constraints on projected aircraft types? Current actual operations data should be used for airport demand/capacity not estimated operations.	See response to #3.1. All data available at the time of the study has been used to develop the forecasts.
0.6	9-18, task 4.2	Why not look at an airport design that fits within the current constraints of the airport?	The Facility Requirements only outlines infrastructure needed to meet the forecasted demand. The next task - Airport Alternatives - is where the Plan studies the No Build alternative, which would be a design that fits within the airport's current constraints, as well as other possible layouts.
0.7	13-18, task	(land use and noise contour drawing) Look at city zoning boundaries and noise study.	Noted, the City's zoning boundary will be evaluated, as appropriate. Traffic patterns, which at Aurora State are based on the noise study, are always a consideration in developing the noise contours.
0.8	14-18, task 7.2	Who will guarantee the bonds?	The issue of bonds, including if they are appropriate, will be discussed in Chapter Seven as stated in the Scope of Work.
Comments on Meeting Documents		**Comments received from: Nick Kaiser**	
0.9	4-6	Airport operations for 2002-2003 were 62,926 (actual count).	The RENS acoustical counting program reported 62,926 operations for that reporting cycle. However, that number is an estimate, based on seasonal samples. It is not an "actual" count.
0.10	5-6	The last master plan had a notation on the airport layout that evaluated adjacent property.	It stated the area would be acceptable for airport-related development under private ownership.

0.11	6-6	The last master plan was not adopted by the county but the CIP was completed anyway?	Elements of the CIP that were implemented went through the appropriate conditional use approvals with the County, since they were not approved outright through adoption of the Plan.
Meeting #1		**Comments received from: Nick Kaiser**	
0.12	2-7	(parameters) Will not do land use evaluations. If expansion occurs livability concerns from the local community needs to be considered.	If any deficiencies are noted the Plan will consider a variety of issues, including those that impact livability.
0.13	5-7	Aurora airport should not be a reliever airport for PDX.	As stated in Chapter 1, the Airport should continue to fulfill its role as an Urban General Aviation Airport.
General		**Comments received from: Tony Holt and City of Aurora**	
		Tony Holt	
0.14	-	Chapters 1-3 have been written prior to any discussion of a vision, goals and objectives or assumptions with the PAC. This leaves a clear impression that there is an attempt to lead the discussion in a predetermined direction.	There is no predetermined direction for this Plan. Goals and issues were a significant portion of the PAC #1 discussion, as well as the Kick-Off Meeting.
0.15	-	The process is being rushed and there is not sufficient time allocated, nor enthusiasm by the Consultant and ODA, to make sure all questions are answered at PAC meetings, that the PAC fully understands the assumptions being made and knows the sources of the data being used.	This planning process includes six PAC meetings, five open houses, and one kick-off meeting, which allows all interested parties an opportunity to review and comment on the Plan. ODA and WHPacific are attempting to address all questions and comments from the PAC; however, the meetings are designed to be working sessions and some questions must be answered off-line. These questions are being addressed in this spreadsheet and are available to the PAC and public.
0.16	-	There are obvious constraints to development and expansion of this airport (only one runway, bordered by roads on four sides, limited remaining areas for development within the footprint). Yet there is no discussion of constraints.	Chapter Five, *Airport Development Alternatives* , will address these constraints - as well as others.
0.17	-	ODA has already picked a preferred activity level forecast prior to any discussion with the PAC.	ODA's draft preferred forecast was submitted to the PAC and FAA in mid-September. Based on comments received, some changes will be made to the forecast chapter before final publication, but we do not see a need to substantially change the activity levels forecast.
0.18	-	Throughout the document many general statements mention that were collected from individuals or organizations but there is no proper attribution. There should be.	Sources will be added, as appropriate. However, some sources were given a promise of confidentiality, see response to #3.29.
		City of Aurora	
0.19	-	Has ODA hired a planning consultant for this update like in 2000 and if so, who is it?	Yes, ODA has retained WHPacific, Inc. to undertake the Master Plan Update.

0.20	-	Is there an Aviation System Plan adopted by ODA or Marion County as required by OAR 660?	Yes, the Oregon Aviation Plan was published in 2007. Please refer to ODA's website.
0.21	-	Text: Mutually beneficial to city and airport to have services provided by a utility and not under separate properties; the City of Aurora's future industrial and commercial lands will be impacted by expansion of the airport and they have mutually beneficial/reciprocal relationships; reference Aurora Comprehensive Plan goals and policies;	References will be made, as appropriate, within the plan.

Aurora State Airport Master Plan Update - Comments Received on Draft Chapter One

Comment #	Page #	Comments received from: Nick Kaiser, Susie Stevens, Tony Holt, Clackamas County, and City of Aurora	WHPacific Response	Will revisions to Chapter 1 be made based on comment?
		Nick Kaiser		
1.1	1-2	Enhance safety/noise - Need to complete VFR update of preferred traffic patterns.	Noted, this will be added to the paragraph.	Yes
1.2	1-2	Goal 2 - Livability of surrounding communities should also impact future growth of airport.	Livability of surrounding communities is a consideration for both environmental and political feasibility, which is why it wasn't mentioned outright.	No
1.3	1-3	Runway extension would disrupt the area's livability and encourage the growth of bigger and louder aircraft. Airport growth needs constraints so that the surrounding areas are not negatively impacted.	Impacts of any development will be discussed with the PAC when airport development alternatives are presented in Chapter Five.	No
1.4	1-4	Keep runway 35 as the calm wind runway for noise abatement. Instrument approach on 17 needs to have written training guidelines for calm wind use.	Noted. Chapter Four discusses this issue in more detail.	No
1.5	1-5	If the airport is changed from BII to CII will the runway have to be extended?	C-II is a classification for aircraft based on approach speed, tail height and wingspan. It does not relate directly to runway length.	No
1.6	1-6	Airport use from survey - inadequate runway length is an issue for only 8% of the respondents that don't keep their planes at Aurora.	The survey is only used anecdotally; it was not intended to be a representative sample of all airport users. Data on runway usage, in relation to runway length, was aquired by other sources in addition to this survey.	No
1.7	1-11	Chart error - II should be III	Noted, chart will be revised accordingly.	Yes
1.8	1-13	What is length of Salem airport? Troutdale is a reliever airport for PDX and has an ARC of BII. What is its runway length?	As noted in Table 1A, the length of Salem's runway is 5,811 and Troutdale's is 5,399.	No
1.9	1-14	Airport role - conclusions and recommendations. Need 3rd alternative - grow within the current (physical) constraints of the airport.	This alternative will be evaluated in Chapter Five. This recommendation states the airport should continue to fulfull its role as an Urban General Aviation Activity Airport; it makes no reference to expansion.	No
		Susie Stevens		
1.10	1-2	4th bullet - add "and cite sources."	Noted, text will be revised.	Yes
1.11	1-2	Goal 2 - Add physical constraints to feasibility.	Physical constraints are a component of the financial feasibility, environmental feasibility, and political feasibility.	No
1.12	1-2	Note: This paragraph should address physical constraints as well: one runway, adjacent roads, airport footprint, etc.	This will be discussed in Chapters Four and Five.	No
1.13	1-3	1st bullet - Remove "evaluate" and insert "involve."	Noted, text will be revised.	Yes
1.14	1-3	5th bullet - Conduct proper noise study.	A noise study was conducted in 2002 and noise contours will be prepared as part of this Plan. No other noise study will be conducted as part of this project.	No

1.15	1-3	Could the appendices please be included with the next draft chapters or posted to the website?	The appendices were mailed to all PAC members in hard copy form. For future mailings, they will also be posted on the website (note, they were later added). The appendices were not included in the initial PAC emailing, because of their filesize. However, if future appendices have smaller filseizes, they too will be included in the initial PAC emailing.	Yes
1.16	1-3	Please cite the sources for the statements made in this paragraph (runway extension). Include the survey in the appendices.	Copies of the user surveys will be included as an appendix.	Yes
1.17	1-3	Air traffic control tower section: Please cite sources for these comments.	Sources will be added, as appropriate.	Yes
1.18	1-4	1st full paragraph, revise to read "…rural character [, quality of life,] and natural…"	Noted, text will be revised.	Yes
1.19	1-4	Other Airport Improvements section: Most important to have the survey and interview data to make this paragraph credible.	See response to #1.16.	Yes
1.20	1-6	Survey paragraph: Please note that there was no random or other conventional method survey. Who received the survey? Who did not? What was the percent returned of those sent out?	We will clarify the survey was not intended to be a statistical representation of airport users, along with a list of where the survey was distributed. The rate of return is difficult to account for, since the survey was also available online and copies may have been made to those that we distributed; however, we will attempt to quantify a firm number.	Yes
1.21	1-7	2nd paragraph: This number does not appear to tied in with graph on 3-10.	We bought IFR data from 2 different providers. The 14,186 IFR ops for Oct. 2007-Oct. 2009 came from FlightAware. Addresses in that database were easy to sort, which helped to mail surveys & analyze service area. Later, the master plan was put on hold for several months. When the project started up again, we needed more up-to-date data for forecasting. We subscribed to GCR's less expensive Airport IQ Data Center to obtain IFR data used in Chapter 3. In comparing calendar year 2008, FlightAware shows 3,606 arrivals and 3,664 departures, or 7,270 operations. For the same period, GCR information shows 3,226 arrivals and 2,462 departures, or 5,688 operations. Perhaps FlightAware is capturing more of the flight plans filed after departure and those cancelled before landing. We will add a source (FlightAware) to the reference in Chapter 1 & change the estimate of IFR ops at the top of page 3-10 from "5% to 7% of total traffic" to "5% to 10% of total traffic." This does not affect the forecasts summarized on 3-32.	Yes
1.22	1-14	Troutdale airport is in Multnomah County.	Noted, text will be revised.	Yes
		Clackamas County		
1.23	1-2	Last bullet top of page. The PAC requested a vision at the beginning of the process.	Yes, however, the Plan initially did not include a vision statement at all (see PAC #1 summary: "The Plan will not: … develop a vision statement for the Airport.") This was a compromise.	No

1.24	1-2	Goal 2 - 1st sentence. This is not an accurate statement. Not all the PAC members stated this as a concern. Some PAC members share the community's concern.	It is our recollection the PAC members who are airport users expressed this opinion. However, text will be revised to state "Some PAC members who are airport users fear …"	Yes
1.25	1-3	Runway Extension - entire paragraph. This statement is based on 2009 survey? Survey responses should be available on webpage for review.	See response to #1.16.	Yes
1.26	1-3	Air Traffic Control Tower - last sentence. What is meant by "slowed down?"	The FAA and ODA have postponed some critical decision-making points in the ATCT process to include information from the Plan once it becomes available.	No
1.27	1-4	Other Airport Improvements. The survey responses should be available on wepage and to the PAC.	See response to #1.16.	Yes
1.28	1-5	Aurora State Airport's Regional Role. Is the reference to "spin-off" addressing off site businesses the airport serves?	From the 2007 OAP: "Spin-off impacts are calculated using impact multipliers, which are used to reflect the recycling of dollars through both the regional and state economy… Spin-off impacts are often reported as indirect and induced impacts."	No
1.29	1-6	5th paragraph. Implies that there is a possibility that Airport will become a reliever. Is that really the intent here, especially when it is concluded on page 1-15 that commercial service is not an appropriate future role for the Aurora Airport. Consultant clarified reliever airport during meeting - does not include commercial aircraft but does include business aircraft that meets the standards in chapter 1, page 11.	Correct, reliever airports do not provide commercial (airline) service.	No
1.30	1-15	Bullet at top of page. See comment for page 1-6.	See response to #1.29.	No
1.31	1-15 & 1-16	4th paragraph, last paragraph 1-16. What would be the "trigger" to designate the Aurora Airport as a reliever airport, and why Aurora when it was stated above the Salem [airport] is the better choice? What is the process?	The "trigger" points are generally those described in the bullets on pages 1-15 and 1-16. However, each airport is reviewed on a case-by-case basis. Most likely, at Aurora State, the trigger would be if any of the three entities (ODA, Port of Portland, or FAA) initiated an individual review.	No
		Tony Holt		
1.32	1-2	Goal 2 Heading says "as feasible" Several areas of feasibility are listed. However, this section needs to recognize the physical constraints to airport expansion such as one runway, bordered by roads on four sides, limited areas remaining available for development within the footprint, etc.	See responses to #1.11 and 1.12.	No

1.33	1-3	First bullet, change word "evaluate" to properly describe the meaning of this bullet (it is meaningless currently)---including assessing the effect of any proposed changes on the livability of airport neighbors. **Add bullet**-Perform noise study (to measure potential impacts of proposed developments). **Runway Extension paragraph**-- Please provide proper attribution to the many statements loosely made in this paragraph such as 'Some Airport users and businesses favor a runway extension of up to 1,500 feet'—which?. 'Airport neighbors are concerned that a runway extension would unduly disrupt the area and encourage more and louder aircraft' --who stated that? **Air Traffic Control Tower paragraph**—again, need proper attribution for statements made.	See responses to #1.13, 1.14, 1.16, and 1.17. Sources will be added for statements regarding airport neighbors and noise, as well.	Yes
1.34	1-4	2nd para "Airport neighbors are----". **Add to this sentence** 'and their quality of life'. **Calm Wind Runway Change section** Need to explain this move has never lessened the noise over Charbonneau so to revert to 17 is not a major concern. **Other Airport Improvements** for complete transparency, need a list of individuals interviewed and those given survey with an explanation of how they were chosen, either here or in a table.	See responses to #1.18, 1.27, and 3.29. The calm wind runway section will be supplemented.	Yes
1.35	1-5	2nd Section, first sentence. How has Aurora Airport suddenly changed from a **rural** GA airport to an **urban** GA airport? Note: the Oregon 'Through the Fence' Bill only applies to rural airports.	Aurora State has always been defined as an Urban GA Airport, as it lies on the southern extents of the Portland-Vancouver-Beaverton Metropolitan Statistical Area (MSA) and is within the Salem MSA. It was included in SB 680 explicitly as an exception to the rural airport requirement.	No
1.36	1-7	2nd para the **14,186 IFR operations** does not seem to tie to the graph on page 3-10	See response to #1.21.	Yes
1.37	1-14	Page 1-14 6th para-error-**Troutdale is not in Washington County**.	See response to #1.22.	Yes
1.38	14-Jan	Para 7-again refers to Aurora as an urban airport.	See response to #1.35.	No
1.39	1-16	4th para- refers to 79,953 operations at Aurora on a 10 year average. **This calculation needs to be carefully explained to the PAC.**	The footnote on p. 1-16 mistakenly says it is a ten-year average, when in fact 1998-2008 is 11 years. That footnote will be corrected to say 11 instead of ten. Using averages instead of individual years discredit year-to-year fluctuations. 79,953 is the average of the 1998-2008 total operations in Table 3K, p. 3-23.	Yes
1.40	-	--"PAC members who are airport users fear community concerns will unduly constrain growth."	See response to #1.33.	Yes
1.41	-	--"Some airport users report there are times that they must lessen their airplanes weight in order to depart---"	See response to #1.33.	Yes
1.42	-	--"Some Airport users and businesses favor a runway extension of up to 1,500 feet." (but not mentioned in the survey)	See response to #1.33.	Yes
1.43	-	--"Airport neighbors are concerned that a runway extension would unduly disrupt the area and encourage more and louder aircraft."	See response to #1.33.	Yes
1.44	-	--Re changing calm wind runway back to 17, "noise impact would move with traffic, a concern for Airport neighbors."	See response to #1.34.	Yes

1.45	-	One goal is “evaluate all communities and jurisdictions in the Airport’s influence area.” Meaning?	See response to #1.33.	Yes
1.46	-	When did Aurora Airport go from being classified as a Rural General Aviation Airport to an Urban General Aviation Airport.	See response to #1.35.	No
1.47	-	-You want to “determine” Airport’s future role rather than predict it.	There is no predetermined direction for this Plan.	No
1.48	-	-No discussion of possible constraints to growth such as one runway, hemmed in by roads, current zoning, etc.	See responses to #1.11 and 1.12.	No
1.49	-	-No mention of livability of airport neighbors as goal.	See response to #1.2	No
1.50	-	-An MP goal should be to predict demand as accurately as possible.	It is, see bullet #4 on page 1.2.	No
1.51	-	-An MP goal should be to evaluate potential noise and traffic impacts for any new development.	These are included as Goal #3, "Consider all the off-airport impacts of Airport development." Impacts to ground transportation are cited specifically, and noise contours will be developed as part of the Plan.	No
1.52	-	-Should show a list which individuals/organizations responded to the survey?	See response to #1.16.	Yes
1.53	-	-Should show a list of which individuals/organizations were interviewed?	Sources will be added, as appropriate. However, some sources were given a promise of confidentiality, see response to #3.29.	Yes
1.54	-	-How do the Oct 2007 to Oct 2009 IFR numbers on page 1-7 fit with Exhibit 3D, page 3-10?	See response to #1.21.	Yes
1.55	1-16	Says the average operations at Aurora from 1998-2008 were 79,953 operations; how calculated and isn’t this meaningless?	See response to #1.39. Average operations at both Aurora and PDX were used to perform the calculations associated with the reliever designation. Using averages instead of individual years discredit year-to-year fluctuations. The reliever calculations help assess the role of the Airport. In the past, reliever airports received set-aside funding in the Airport Improvement Program (AIP). This is not the case with the current (expired) legislation covering the AIP, although reliever airports receive higher priority than general aviation airports for some discretionary funding, according to the AIP Handbook. Because the authorizing legislation for the FAA has expired and the content of new legislation is unknown, we were hesitant to go into much detail. We will summarize this information and add it to the chapter so that it seems more meaningful.	Yes
		City of Aurora		
1.56	1-2	Goal 3 has good language that needs to be referred to often in other parts of the plan update, “Consider all the off-airport impacts of Airport development; minimize negative impacts and maximize positive impacts”	All goals are used to evaluate the proposed preferred alternative in Chapter 5, and are used in the decision-making process.	No

1.57	1-3	"For example, the lack of sewer service is a major constraint for having a restaurant at the Airport…" Add text: "While Oregon Department of Aviation recognizes the complexities of Oregon's land use system and potential need for upgrades to City of Aurora utilities prior to annexation, ODA is generally supportive of annexation of the Aurora Airport by the City of Aurora due to the economic growth potential for the airport if it were connected to city services".	Noted, text will be revised.	Yes
1.58	1-12	Page 1-12 under Aurora State Airport heading, add text: "Located less than a quarter mile from the City of Aurora"	See response to #2.1.	Yes

Aurora State Airport Master Plan Update - Comments Received on Draft Chapter Two

Comment #	Page #	Comments received from: Nick Kaiser, Susie Stevens, Tony Holt, Clackamas County, and City of Aurora	WHPacific Response	Will revisions to Chapter 2 be made based on comment?
		Nick Kaiser		
2.1	2-1	Airport location - correction - airport is 1/3 mile from the city limits.	Noted, text will be revised.	Yes
2.2	2-7	Airspace - Need written guidelines for IFR on 17 when calm wind runway 35 is used during VFR conditions.	Chapter Two reports existing conditions. ODA is working with FAA to create procedures to reduce the noise impact to surrounding communities.	No
2.3	2-8	Use noise study	A detailed discussion of the noise study is in Chapter Four.	No
2.4	2-8	Land use - Airport is public Zone - If airport becomes an airport zone what changes other than outright uses will be allowed?	No other changes would occur.	No
2.5	2-9	RPZ - How will this change with runway extension?	Chapter Five discusses alternative Airport Layouts, along with design standards.	No
2.6	2-9	Human factors - consultants indicate there are currently 87,000 operations and the plan projects there will be 100,000 by the end of 2010? Does no make sense? There continues to be noise sensitive issues because of flight over populated areas.	See response to #3.19. 87,345 is the number for 2008 from the Terminal Area Forecast. 100,224 is the number estimated by multiplying 2010 based aircraft (432) by average operations per based aircraft (232). Will revise p. 2-9 to be more clear.	Yes
2.7	2-10	Golf course is on Airport Road. (correct)	Noted, text will be revised.	Yes
2.8	2-10	Social impact - If the state has to acquire land and business and homes are relocated, that is beyond constraint.	This is a general statement, quantifying what would be considered a "social impact" per the National Environmental Policy Act definition. Any proposed land acquisition would undergo NEPA review and the impact would be further assessed.	No
2.9	2-11	Farmland - What happens during the process of coordinating with NRCS?	NRCS coordination is conducted by FAA per NEPA requirements, once a project is identified and if the project includes a taking of farmland. Through consultation, the NRCS would need to be shown there's no feasible and prudent alternative to taking farmland for the use.	Yes
2.10	2-13	Wetlands - Are they not jurisdictional?	A wetland delineation was not conducted, so this is unknown. A delineation would be prepared if any development action could affect the areas in question.	No
2.11	2-14	Controversy - Not correct - There are opinions that the airport should exist but growth should have some constraints to insure livability in the community.	Noted, text will be revised.	Yes
2.12	2-15	Terminal area forecast of operations at 87,345 is shown as "actual data." How is this measured?	See response to #3.13. We will change the word "actual" to "estimated."	Yes
2.13	2-16	Fuel fees - 2010 down 12% from 2009 and down 8% from 2008. This is indication that airport activity is going down.	See response to #3.3. Not all fees were paid on time.	No
		Susie Stevens		
2.14	2-7	Other Support Facilities: Please add Wilsonville to this paragraph.	Wilsonville will be added.	Yes

2.15	2-7	Airspace: Note - From the City of Aurora only, but not to the north. What is the source of this sentence?	Overall complaints have been reduced and source will be given. Text will clarify that overall complaints have reduced, but complaint levels from the north have remained at a consistent level.	Yes
2.16	2-11	Farmland: Please add information from the Oregon Department of Agriculture on the designation of Foundation farmland.	Information will be added.	Yes
2.17	2-14	Other Issues: Add a paragraph on (vehicular) traffic.	Issues relating to vehicular traffic will be added to the environmental conclusion section.	Yes
2.18	2-15	Regarding the Terminal Area Forecast: It would be more informative to have a couple sentences explaining how this forecast is determined.	See response to #3.45.	Yes
		Clackamas County		
2.19	2-2	Area Topography. Incorrect: Not part of Mt. Hood National Forest	Marion County reports the forest extends into Marion County, as does the Clackamas River Ranger District Office.	No
2.20	2-2	Community and Airport History. Why not include when tower was 1st put on ALP? This will provide clarification on all structures planned.	Noted, this will be included.	Yes
2.21	2-3	Airfield Facilities. How often is runway rated? What type of aircraft does runway support - commercial, business? Is there a limitation on runway strength and future strength?	The runway is rated every three years. The runway supports General Aviation, which includes private and business operators but does not include commercial (airline) operators. Discussions relating to runway limitations are provided in Chapters Four and Five.	Yes
2.22	2-8	3rd paragraph. Unclear sentence, please restate for clarity. Are you saying that allowed uses on adjacent lands must be compatible with the airport imaginary surface overlays?	Statement will be clarified. The FAA does require that airport sponsors - to the extent of their ability - restrict zoning on adjacent lands and lands within an airport's immediate vicinity to compatible land uses.	Yes
2.23	2-8	Surrounding Area Land Use. This statement gives the impression that adjacent lands are RRFF5 and the golf course. Restate as "… further north of the airport are RRFF-5 zoned lands and a golf course."	Statement will be clarified.	Yes
2.24	2-8	Surrounding Area Land Use. Did not address local, regional or state land use laws and regulations. As long as there is not a proposal to expand the airport runway or locate a facility off of the ALP boundaries the MP does not have to address these regulations, however any expansion will require addressing local, regional and state laws to include an exception process. Then again the FAA guidelines in accordance with the FPPA will prohibity the expansion of the airport boundary on high value farm lands.	This chapter presents the existing conditions. Any actions proposed in this Plan - in subsequent chapters - will address local, regional and state land use laws and regulations.	No
2.25	2-9	1st paragraph. Clackamas County's Capital Improvement Plan (CIP) 2006-2008 Update shelved the Arndt Rd/99E (#267) in 02-23-05.	Noted, text will be revised.	Yes

2.26	2-9	2nd to last sentence. Is this an FAA requirement in response to PAC and community's concerns relating to noise impacts?	No, this is a standard planning requirement for airports. Occasionally FAA will waive this requirement for smaller airports. It has always been in the Scope of Work for this project.	No
2.27	2-10	1st paragraph. In the 2002 noise mitigation study, where was the noise redirected with the implementation of use of Runway 35? Need to see this runway on a map to know where it is.	Please refer to the exhibits for a visual of Runway 17/35. Aircraft landing Runway 35 are approaching from the south.	No
2.28	2-11	4th paragraph. This implies that extension of the airport lands cannot be achieved. The surrounding farmlands are considered high value farmland according to the 1985 soil survey of Clackamas County Area, Oregon, that identifies surrounding soils as type #3 Amity silt loam and #88 Willamette silt loam. Other high value soils surrounding the airport property include #68 and #69 Newberg loam.	Any proposed improvement off airport would undergo NEPA review, in which this concern would be addressed. See response to #2.9.	No
2.29	2-14	Conclusion. The Master Plan goals stated in the beginning of this document also commit the MP to include"… evaluation and minimum impacts of airport growth to include transportation."	See response to #2.17.	Yes
		Tony Holt		
2.30	2-7	4th para, second last sentence-**"complaints from neighboring Aurora have dropped---"**should note that they have not dropped at Charbonneau which is now suffering the wide spectrum of take-off noise.	See response to #2.15.	Yes
2.31	2-9	last para-the PAC needs to properly understand how the current annual operations number quoted of 87,345 was arrived at. Also, the sentence 'Because the majority of the adjacent land is in agricultural use, the number of noise sensitive uses is minimal' is ludicrous given the adjacent residential areas of Aurora and Charbonneau	See response to #3.45. When compared to other urban airports, there are fewer noise sensitive land uses. However, that statement does not negate the impacts at Aurora State.	
2.32	2-11	3rd para should also quote the Oregon Department of Agriculture study classifying areas as either Foundation or Important or Conflicted farmland. The area around the Airport is classified as Foundation farmland the D of A's top rated classification.	See response to #2.16.	Yes
2.33	2-14	2nd para who are the community members who **'desire closure of the Airport'**? 3rd para- under "Other Issues" traffic impacts should be mentioned.	See response to #2.17. Source will be added.	Yes
2.34	2-15	**Table 2D Operational Records**. The PAC needs to know how this was developed. It is fundamental to the key forecasts.	See response to #3.45.	Yes
2.35	2-14	Page 2-14, "There are some members of the community who are against airport growth and desire closure of the Airport and release of the land to other uses." Who are they??	Source will be added.	Yes
2.36	-	"An accurate inventory helps produce an aviation demand forecast---"	--	--

2.37	2-7	"Complaints from neighboring Aurora have dropped since this designation (calm wind 35) was enacted." Maybe, but not from Charbonneau.	See response to #2.15.	Yes
2.38	2-9	Under 'Human Factors' and 'Noise' talks about noise sensitive land uses and says "the number of noise sensitive land uses is minimal' because the majority of the adjacent land is in agricultural use.	See response to #2.31.	No
2.39	2-11	Under 'Farm Preservation' should also reference the Oregon Department of Agriculture study.	See response to #2.16.	Yes
2.40	2-14	'Conclusion' "Beyond controversy over noise and airport expansion, there do not appear to be any significant environmental issues on the Airport or in the airport vicinity." What about traffic??	See response to #2.17.	Yes
		City of Aurora		
2.41	2-1	Page 2-1 under Airport Location and Access hearing: "The city of Aurora is located approximately ~~one~~ **one-quarter** mile southeast of the Airport".	See response to #2.1.	Yes
2.42	2-6	Page 2-6 under Airport Support Facilities heading: Add text: "Surrounding communities have expressed concerns that additional growth at the airport and the potential for airport expansion will have negative impacts upon their water supplies and/or water quality. Advanced planning and feasibility assessments regarding the airport's ability to meet water, sewer, and fire protection needs for development and expansion are of concerns. While not required as part of the Airport Master Plan Update and not included in this document, the ODA recognizes the importance of completion of this work in the future. ODA is supportive of pursuing funding options for such studies and supports surrounding communities in their pursuit of funding for such studies".	Noted, text will be added.	Yes
2.43	2-6	Page 2-6 under Airport Support Facilities heading and Utilities subheading, add text: "While Oregon Department of Aviation recognizes the complexities of Oregon's land use system and potential need for upgrades to the City of Aurora utilities prior to annexation, ODA is generally supportive of annexation of the Aurora Airport by the City of Aurora due to the economic growth potential for the airport if it were connected to city services."	A reiteration of this point will be made. See response to #1.57.	Yes
2.44	2-8	Page 2-8 under the Surrounding Area Zoning and Land Use heading, please make reference to the Urban Growth Boundary Coordination Agreement with Marion County that has a section on the Airport and surrounding lands as an Area of Mutual Concern, and the IGA signed between ODA, Marion County and the City of Aurora. I can provide copies of these documents if needed.	Noted, text will be supplemented.	Yes

2.45	-	Reference should be made to the following City of Aurora Comprehensive Plan Goals and Policies (I can make a copy of the Comp Plan available if needed):	Noted, text will be supplemented.	Yes
	-	Goal 14- Growth and Urbanization. Policy 4: The city will seek the funding to evaluate the impacts of development of the industrial and commercial properties at the Aurora Airport and on surrounding lands to determine the role of the Aurora Airport in relationship to the Overall Objectives of the Aurora Comprehensive Plan and to identify formal and informal relationships needed to achieve mutually beneficial goals.		
	-	Goal 9- Economic Policies. Policy 1: The City will work closely with Marion County, the Oregon Department of Aviation, and the Oregon Department of Economic and Community Development to evaluate and balance the net value (cost/benefit) of the industrial and commercial potential of the Aurora Airport and surrounding lands. The City will strive to minimize potential land use conflicts within the mutual planning area in an effort to maximize the livability of the community.		
	-	Goal 11-Public Facilities. Policy 2 and 8: The City shall consider extension of a sewer and water line to the Aurora Airport industrial district if it is determined by the City and county that: a. The City is the most logical service provider; and b. The extension benefits the City economically; and c. Precautions prevent hook-ups to the line by property owners in the rural area between the urban growth boundary and airport; and d. In full compliance with applicable laws.		

Aurora State Airport Master Plan Update - Comments Received on Draft Chapter Three

Comment #	Page #	Comments received from: Nick Kaiser, Susie Stevens, Tony Holt, and Clackamas County	WHPacific Response	Will revisions to Chapter 3 be made based on comment?
		Nick Kaiser		
3.1	General	Why are the projections unconstrained? There should be some parameters. The last master plan one of the constraints was an ARC of BII.	Airport master plan forecasts of aviation demand are usually unconstrained. ODA did not feel it necessary to constrain the forecasts, particularly since there is undeveloped land at the Airport (ODA and private) for hangars, etc. ODA may elect to constrain the forecasts later in the planning process, as happened in the 2000 master plan update. (During the last master plan, ODA decided to constrain the forecasts by not meeting design standards for Airport Reference Code C-II.) Identifying how to constrain the future is much easier when you have an idea what the unconstrained future might be. The FAA typically produces unconstrained forecasts. The FAA's annual Terminal Area Forecast (TAF) (http://www.faa.gov/data_research/aviation/taf_reports/media/TAF%20Summary%20Report%20FY%202009%20-%202030.pdf) contains forecasts for over 3,000 airports. Page 3 of the TAF report published December 2009 says, "The TAF assumes an unconstrained demand for aviation services based upon local and national economic conditions as well as conditions within the aviation industry. In other words, an airport's forecast is developed independent of the ability of the airport and the air traffic control system to furnish the capacity required to meet demand." This information will be added to Chapter Three to more clearly indicate why the forecasts are unconstrained.	Yes
3.2	3-2	"Critical Aircraft" current analysis is an unconstrained mix. Where do you draw the line on size of plan?	Decisions about the size of the plan will be made later.	No
3.3	3-3	2010 trend is still down so how can operations go up?	Nationwide aircraft shipments were down the first quarter of 2010, although billings were up (p. 3-3). At Aurora, IFR traffic was up 22% for partial year 2010 (p. 3-10) and fuel flowage resumed growth in 2009 (p. 3-8).	No
3.4	3-5	Need to label the charts 3A and 3B.	Exhibits 3A and 3B have titles and sources, so the comment intent is not clear.	No
3.5	3-7	With the slight increase in US active aircraft and Oregon trending below that how can we show such a large increase in base aircraft? How can you conclude that operations will increase at the same rate as based aircraft?	Aurora's historical 2000-2009 growth is 7.0% annually (233 based aircraft in 2000 growing to 427 in 2009), while the national increase for 2000-2009 is 0.6% annual (Table 3A on p. 3-5). So, it is reasonable that Aurora's future growth is higher than the national forecast (1.36% compared to 0.9%). Using a constant OPBA for forecasting future general aviation operations is common in airport master plans. Historical info at Aurora shows operations sometimes go down when based aircraft go up and vice versa.	No
3.6	3-8	Aviation gas dropped 47% in 2008 and the increase in 2009 and 2010 is mainly jet fuel. Jets are a small portion of based aircraft so operations should have not increased at levels indicated.	Fuel is sold to transient as well as based aircraft. Jets have larger fuel tanks and on average are flown more hours than other fixed wing aircraft. This explanation will be added.	Yes
3.7	3-9	2002 & 2003 operaions were measured at 62,926. Chart 3C shows approximately 78,000?	See Table on p. 3-23 for the numbers in Exhibit 3C and see response to #3.13.	No
3.8	3-10	IFR operations in 2009 is approximately the same as 2002-2003. 2010 continues to be a bad year.	See response to #3.3. IFR is growing in 2010.	No
3.9	3-13	I don't see the correlation between the population growth in the core area and licensed pilots.	We did not specifically correlate population growth with pilot growth.	No
3.10	3-16	Based Jet aircraft went from 33 in 2007 to 21 today.	Noted. However, the number in 2006 was only 6. We tried to look at trends over time.	No

3.11	3-18	Based aircraft increase is not following the socioeconomic trends.	Based aircraft forecast is 1.36% annual growth. Average annual population growth in service area is 1.53% (p. 2-13). Metro forecasts for nonfarm employment are between 0.7% and 1.8% annual (p. 3-14).	No
3.12	3-21	Using preferred forecast 1.36% the based aircraft is too optimistic. It will not follow population growth or other socioeconomic trends. For based aircraft to increase at the forecasted rate there will need to be a lot more hangar space. (constraint?)	See response to #3.11. Hangar space needed for forecasts will be in Chapter Four.	No
3.13	3-22	The last actual operations recorded was 2002/2003 at 62,900. No actual data was taken in 2008.	Acoustical counts in 2002/2003 were estimates based on samples (as reported on ODA's website). We have not been able to account for the difference in operations reported from acoustical sampling on ODA's website and the operations reported in the Terminal Area Forecast, which the FAA says come from ODA. We will change the word "actual" to "estimated".	Yes
3.14	3-23	OPBA of 232 means there is little itinerant traffic (according to FAA guidelines). Table shows heavy itinerant traffic? The OPBA from the survey doesn't make sense?	We noted that FAA's OPBA guidance does not relate well with Aurora having considerable itinerant traffic, hence the discussion on p. 3-23 and 3-24. The survey was a random sample, but it did cover a wide range of aircraft types and convey average OPBA per fixed wing aircraft similar to FAA's historical records of aircraft and operations.	No
3.15	3-25	Preferred forecast 1.9% - At 232 OPBA the itinerant will be lower so how do you get to 1.9%/year?	In 2008, operations were 87,345 and the number of based aircraft was 422. The OPBA was 207, below the average of 232. 1.9% average annual growth is from 87,345 in 2008 to 131,312 in 2030.	No
3.16	3-26	Why large growth in itinerant from 51,000 to 85,000?	Itinerant operations are those that are not local (touch and go training, primarily) and are performed by both based and transient aircraft. The assumption is that training operations will comprise a slightly lower portion of total operations in the future, which often happens when airports grow busier. However, the growth in itinerant operations (2.1% per year) is not much different than the growth rate for total operations.	No
3.17	3-27	With 21 jets in 2010 what is the correct % of the jet capable airports.	We do not have 2010 information about the other airports, so cannot calculate that.	No
3.18	3-27	With 21 based jets and 432 total based aircraft (5%) how do you get to 13% of operations growing to 18%?	Business jet aircraft are used more often than piston aircraft. From Tables 3A and 3B, compare national averages by aircraft type. Piston aircraft are flown 83 hours per year and jet aircraft are flown 252 hours per year on average. Also, since it is jet capable, and most of the 46 other airports in the service area are not, Aurora will be used more by transient jet aircraft than most of the other airports. This explanation will be added.	Yes

3.19	3-28	There is a sensitivity to using an inflated operations per year number. Just going from 100,000 to 87,000 the peak hour operations goes from 40 to 34 and 80,000 gets you 32.	This comment is one of several concerned with inaccurate or inflated numbers of aircraft operations. The FAA uses aircraft operations estimates from airport owners to determine the number of aircraft operations at non-towered facilities, and assesses them for their reasonableness before publishing them in the Terminal Area Forecasts. See p. 3-22 through 3-24 for a discussion of different ways to measure operations at non-towered airports, FAA guidance for ratios of operations per based aircraft, and analysis of Aurora's operations per based aircraft compared to other airports in the region. The FAA's records of aircraft operations at over 2,000 airports across the nation are estimates, so reliance on estimates for planning is not unique to Aurora State. Here is how the number of aircraft operations could affect the requirements in Chapter Four: . The capacity analysis uses operations numbers. (However, the analysis will show that the runway has the capacity for many more operations than are estimated to occur at the Airport now or in the 20-year future.) Also, peak operations are used to project the amount of transient aircraft parking apron needed in the future. These projections help in planning the future layout of the Airport. However, neither ODA nor private entities will build more apron until actual need is demonstrated.	No
3.20	3-29	What % of the Aurora based jets is the runway design for?	Airports are designed for transient airplanes as well as based airplanes; this is not something a master plan would normally calculate.	No
3.21	3-29	Do we want to go to ARC C and open the door to much larger jets? What is max weight of jets in C category?	The standards for ARC C-II will be spelled out in Chapter Four, along with weight information about jets in C category that use the Airport. The decision about meeting those standards will be made later.	No
3.22	3-29	How many planes listed in the II category fit the weight restrictions (45,000 dual) currently at the airport? What increase would the runway weight capability have to be to fit the critical aircraft?	All or nearly all the current based aircraft have maximum takeoff weights below 45,000 pounds. The current and forecast critical aircraft mentioned on pages 3-30 and 3-31 weigh 23,500 and 36,100.	No
3.23	3-30	I thought that the current ARC was BII?	The Airport is now designed to meet ARC B-II standards. Operations at the Airport now meet the threshold for the ARC to be C-II.	No
3.24	3-30	What are the weight design specs fro ARC CII? What are the weight design specs for the Astra 1125 and Cessna Citation (X)? Is it 36,000# for both? Are the dual wheel? Footnote shows that ARC CI and CII have the same max takeoff weight?	ARC is based on approach speed, wingspan, and tail height, not weight. Aircraft in one ARC can and do have different weights. More information about different weights of business jets will be in Chapter Four.	No
3.25	3-30	Since 2009 C category jet operations are low and if you used 2009 and 2010 you would probably be below the 500 critical operations.	See p. 3-10. IFR Traffic is up 22% in 2010 compared to 2009, so that is probably not the case.	No
3.26	3-30	What are the runway design specifications for ARC CII? What is the Runway length specs for the Critical aircraft?	This will be in Chapter Four.	No
		Susie Stevens		
3.27	3-1	1st paragraph: Constrained projections should be part of the Master Plan if there is the possibility that ODA may choose to not meet the unconstrained projections.	See response to #3.19.	-
3.28	3-5	Oil prices: This seems unrealistic; perhaps a couple of other sources will provide credibility.	The oil price assumption is in the FAA's forecast for aviation activity nationwide (*FAA Aerospace Forecasts Fiscal Years 2010-2030* , March 2010) and is based on Global Insight's October 2009 oil price forecast. This is simply part of the description of the FAA's latest national forecasts. We don't have sufficient data about Aurora activity to distinguish the effect of high fuel prices in 2008 from effects of the recession or other factors in 2008. High fuel costs usually influence discretionary/recreational flying more than business travel.	No

3.29	3-10	Regarding business interviews: It would be helpful to know which businesses provided this information.	We promised those businesses confidentiality because they compete with each other. If there are any businesses at the Airport that believe this paragraph misrepresents their activity or projections for the future, we will delete the paragraph.	No/Yes
3.30	3-12	I suggest a paragraph that notes that Marion County is the entity that approves zoning and land use changes.	See Chapter Two, page 2-9: "The entire Airport is zoned ... in the Marion County Zoning Code. Marion County is the planning and building permit authority for the Airport."	No
3.31	3-16	Last paragraph: It would be interesting to see, maybe in the appendix, the Table 3I recalculated without Southend Airpark's growth. Sort of like eliminating high and low numbers to get a better average.	We may have mistakenly implied that the Southend Airpark was the only cause of the market shift and will revise the text to mention that the development and removal of hangars at other airports in the region may have contributed to the shift in market share. For example, the privately owned Evergreen Field in Vancouver with up to 165 aircraft closed in 2006 (http://www.airfields-freeman.com/WA/Airfields_WA_SW.html#evergreen). Several other private airports in the region closed between 1998 and 2007. In 2008, Portland International Airport removed 18 hangars for a road improvement project.	Yes
3.32	3-21	Preferred Based Aircraft Forecast: I realize PAC members may feel like we are going backwards, but this is such a critical paragraph. I suggest we discuss the assumptions made in choosing the Preferred Forecasts.	Noted for Dec. 9 meeting.	-
3.33	3-22	It's frustrating that we can't get an accurate count. Using the estimated forecast results in an operation every 6 minutes, 24 hours a day, 365 days per year. This seems too high.	See response to #3.19.	-
3.34	3-23	It would be good to note how the survey was done; how many sent, how many returned, etc.	See Appendix C. It is difficult to estimate how many questionnaires were distributed, but we'll try to quantify this more. See response to #1.20.	Yes
3.35	3-29	Last paragraph: It would be helpful to have a table showing the numbers of piston and turboprop aircraft operations, even if they are estimates. This relates to the ideas expressed at the first PAC meeting of a "vision" for the airport - what do the majority of users want. In 2000, ODA decided to constrain the forecast by keeping the ARC BII (pg 3-28). We should discuss this idea.	See Table 3M, p. 3-27. For a response to the comment about vision, see the response to comment #1.23.	No
3.36	3-32	With over 70% of the projected operations by piston or helicopter for the next 20 years, improvements should be geared to serve the majority of users.	Chapter Four will address the needs of piston and helicopter users. Following FAA guidance, airfield design is for the most demanding aircraft in regular use and then the airfield is adequate for all the less demanding aircraft.	No

3.37	-	In reference to the data and text on pages 3-28 through 3-31, is a designation of ARC C-II mandatory?	Probably not. The obligation to improve the Airport to meet demand is not in the 39 assurances that ODA makes when accepting Federal Airport Improvement Program grants. However, it is possible that the FAA will not fund a future airfield project if does not meet the design standards for the ARC. The FAA's guiding principles for investing in airports include: "Airports should be safe and efficient, located at optimum sites, and developed and maintained to appropriate standards," and "Airports should be flexible and expandable, and able to meet increased demand and to accommodate new aircraft types." On the other hand, cost beneficial investing is another guiding principle for the FAA, along with "Airports should be compatible with surrounding communities, maintaining a balance between the needs of aviation and the requirements of residents in neighboring areas." We believe the best time for deciding whether or not it is feasible to meet ARC C-II standards is after we know the impact of meeting those standards, later in the process. (The guiding principles are in the National Plan of Integrated Airport Systems (NPIAS) 2011-2015, p. 3, http://www.faa.gov/airports/planning_capacity/npias/.)	No
		Clackamas County		
3.38	-	Forecast Growth Rate for Jets. … It would seem that the linear trend would not be a valid predictor of future growth. Is there any factual basis for predicting that the rapid growth that resulted from the opening of the Southend Airpark will or can continue? Is there room within the existing airport boundaries or sufficient land available outside the airport? Zoning maps indicate that there is not. Is the ODA aware of any plans to change the surrounding zoning?	We agree that growth in based jet aircraft will not continue at the 5.9% historical growth rate. The 4.5% growth rate for based jets is substantially less than the historical rate, but comparable to the 4.3% annual growth from 2010 to 2030 that the FAA projects for jets nationwide (Table 3A). The forecasts are unconstrained. Evaluating the amount of land available will be in Chapter Four. If any change in zoning is contemplated, it will be later in the planning process.	No
3.39	-	Critical Aircraft. Is there any reason why the "critical aircraft" is different than the predominant aircraft of last year? How does this meet the "regularly" or "substantially" standards set forth on page 3-28?	The prevalent or predominant jet aircraft is the model that uses the Airport the most. This discussion just expands on what Table 3P shows. The most used aircraft is not the critical aircraft. The critical aircraft is the most demanding that regularly uses the Airport. The predominant jets in 2007 and 2009 were Airport Reference Code (ARC) B-I and B-II. ARC C-II has more demanding design standards (generally larger safety clearances) than ARC B-I or B-II, as Chapter Four will show. We will try to explain the distinction between predominant and critical for better clarity.	Yes
		Tony Holt		
3.40	3-1	1st para, 3rd sentence-**"These projections are unconstrained and assume ODA or others will be able to develop the various facilities necessary to accommodate based aircraft and future aircraft operations."** This is a fatal flaw in the conclusions so far. Constraints to growth must be considered in producing any accurate operations forecast(s).	See response to #3.1.	-
3.41	3-5	last para, the statement that **oil prices will not exceed $100 before 2025** is ridiculous given the limited supply of new sources of petroleum and increases in demand once the current worldwide recession is over. What is the source?	See response to #3.28.	-
3.42	3-9	**Exhibit 3C Historical Aircraft Operations at Aurora State Airport**. On the following page it is admitted that this is an estimate so Exhibit 3C should show that. How were these data it compiled? Sentence above Exhibit 3C says' The FAA keeps records of airport operations reported by airport owners'. Please explain this.	We will add that the airport owners estimate the operations they report to the FAA. Airport operators report estimated operations on periodically updated http://www.gcr1.com/5010web/airport.cfm?Site=UAO) and the FAA Airport District Office in Seattle reports numbers to Headquarters annually.	Yes

3.43	3-10	Exhibit 3D It is hard to believe that out of supposedly **90,000 total operations at Aurora in 2009 only 5,000 were IFR!!** Please confirm and supply source	We realize from our line-by-line analysis of jet IFR operations that quite a few IFR operations are not documented in the IFR records from GCR (http://www.airportiq.com/) because flight plans are filed after takeoff or cancelled before landing. We documented those unrecorded jet operations to identify the appropriate airport reference code, but jets account for less than half of the IFR records. When charting the IFR operations trend in Exhibit 3D, we felt using the data exactly as provided by GCR would be the best course of action. We are increasing the estimate of IFR operations to up to 10% of total operations to account for unrecorded operations. 36% of operations are classified local (touch-and-go) operations that are nearly all VFR. Underestimating or overestimating the IFR operations proportion of total operations has no impact on the facility requirements in Chapter Four, although the FAA might consider IFR operations numbers when contemplating new or different instrument approaches in the future. The consequences of underestimating or overestimating total operations is described in the response to #3.19.	Yes
3.44	3-15	**Based Aircraft Forecast**-explain how various forecast models were developed and the preferred one selected.	The explanation is in the chapter and can be discussed more at the meeting Dec. 9.	-
3.45	3-22	3rd para- the **FAA's Terminal Forecast** is mentioned frequently. What is it, how is it developed and explain how it is relevant.	The Terminal Area Forecast (TAF) is the FAA's annual forecasting for terminal control centers and for the approximately 3,300 individual airports that are in the National Plan of Integrated Airport Systems (NPIAS). According to the Terminal Area Forecast Summary, Fiscal Years 2009 – 2030, p. 3, "The TAF is prepared to assist the FAA in meeting its planning, budgeting, and staffing requirements. In addition, state aviation authorities and other aviation planners use the TAF as a basis for planning airport improvements." The TAF provides a benchmark for individual master plan forecasts. The FAA may modify or update the TAF based on an approved master plan forecasts. If an airport master plan forecast for operations exceeds the TAF by more than 10% in the first five years, they are sent to FAA Headquarters for review. According to Par. 428.a, FAA Order 5100.38C, AIP Handbook, the lack of FAA acceptance of forecasts may delay any further planning or capital improvements depending on them. See Appendix H for the comparison of Aurora's master plan forecasts and the TAF. We will add this explanation to the chapter. For more information about the TAF, see http://www.faa.gov/data_research/aviation/taf_reports/media/TAF%20Summary%20Report%20FY%202009%20-%202030.pdf.	Yes
3.46	3-29	last para-**"The airport has now passed the 500 operations threshold for Aircraft Approach Category C"**. How do we know? Where is it documented and by whom? **But there are not 500 operations for ARC C II.**	There are at least 500 operations for Aircraft Approach Category C and at least 500 operations for Airplane Design Group II, hence the ARC is C-II. Table 3P shows the number of Aircraft Approach Category C operations in FY 2007 and FY 2009 (665 and 377)—these include Airport Reference Code (ARC) C-I, C-II, and C-III. The average of these two years is 521. We consider this average a fair representation of activity because within the last ten years, 2007 was the peak year and 2009 was the valley year. To get these numbers, we counted individual jet operations in IFR records, adding VFR arrivals and departures as required. Here's an example of the backup for Table 3P. The table lists 293 ARC C-I operations in FY2007. These ops are: BAE 125-122, Israel 1124-15, Learjet 36-2, Learjet 45-4, Learjet 55-2, Learjet 31/31A-12, Learjet 35A-14, and Hawker 400/400A-122. A sample from the IFR data is copied below these comment responses.	No
3.47	-	All activity forecasts presented are unconstrained; that is unrealistic.	See response to #3.1.	-

3.48	3-5	The oil price prediction needs references as to source/basis. The prediction is totally unrealistic.	See response to #3.28.	-
3.49	3-10	Exhibits 3C and 3D indicate that of an estimated 88,000 operations at Aurora in 2008, only some 5,800, or 7% were IFR. That seems unrealistic.	See response to #3.10.	-
3.50	3-29	How do we know "the airport has now passed the 500 operations threshold for Aircraft Approach Category C, so the current ARC should be C-II"? What proof? Why C II ?	See response to #3.46.	-

ADDITIONAL INFO FOR DOCUMENTATION OF ARC

Exhibit 3D on page 3-10 lists IFR operations for all types of aircraft, piston and turboprop as well as jet aircraft. Table 3P is only jet aircraft.
The jet operations in Table 3P result from reviewing IFR records line-by-line and adding additional arrivals and departures as needed.
See the footnote on p. 3-29. Here is an example of an IFR record:

Aircraft - **N600ST** Make and Model **CESSNA 550** Class **JET**
ROBERTS FIELD to AURORA STATE - 02/13/2007 at 08:01 AM
REDDING MUNI to **AURORA STATE** - 02/13/2007 at 03:55 PM
ROBERTS FIELD to **AURORA STATE** - 03/07/2007 at 07:44 AM
AURORA STATE to **ROBERTS FIELD** - 03/07/2007 at 08:19 AM
ROBERTS FIELD to **AURORA STATE** - 03/07/2007 at 02:45 PM
AURORA STATE to **ROBERTS FIELD** - 03/07/2007 at 03:12 PM
ROBERTS FIELD to **AURORA STATE** - 06/11/2007 at 09:25 AM
AURORA STATE to **REDDING MUNI** - 06/11/2007 at 10:28 AM
SACRAMENTO MATHER to **AURORA STATE** - 06/11/2007 at 06:59 PM
BOEING FIELD/KING COUNTY INTL to **AURORA STATE** - 07/18/2007 at 12:19 PM
AURORA STATE to **ROBERTS FIELD** - 07/18/2007 at 04:18 PM
Total Operations 11

Operations need to be added to get the airplane from Aurora to Redding Muni on 2/13, from Aurora to Roberts Field between 2/13 and 3/7, and from Aurora to Boeing Field between 6/11 and 7/18.

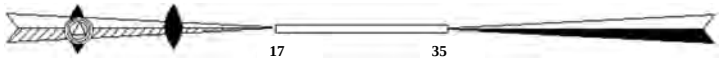
Nick Kaiser (submitted March 24, 2011)

3.51	3-22	1.36% growth in based aircraft will be dependent on what facilities are available at Aurora vs. other airports. What data other than population and Employment shows that Aurora will get this kind of growth?	It is an unconstrained forecast that assumes capacity will be built to meet demand. Chapter Three discusses historical growth at the airport, national and state aviation trends, other forecasts for the airport, and anecdotal projections by some businesses at the Airport.	No
3.52	3-24	According to the FAA guidelines having 240 OPBA indicates little itinerant traffic but according to the Aurora airport operations chart over half of the operations are itinerant?	The FAA uses two different meanings for the word "itinerant". Itinerant operations are those travelling more than 20 miles to/from the airport, and are performed by aircraft based at the airport and by aircraft based at other airports. Operations that are not "itinerant" are "local". Local operations are mostly touch-and-go and other training operations that stay within 20 miles of the airport. Local operations are also performed by both based and visiting aircraft. By saying that 250 OPBA is typical at a rural GA airport with little itinerant traffic, the FAA means little activity by aircraft based at another airport. Aurora State Airport's activity is not consistent with this guidance regarding OPBA, as discussed on pages 3-24 and 3-25 of Chapter Three.	No

Aurora State Airport Master Plan Update - Comments Received on Draft Chapter Four

Comment #	Page #	Comments received from: Tony Holt, Nick Kaiser, Bruce Bennett, Roger Kaye, and City of Aurora	WHPacific Response	Will revisions to Chapter 4 be made based on comment?
		Tony Holt		
4.1	General	Repeating a question I asked at the last meeting, to ensure a response: Current runway length is 5004ft. What is the current length of the required 'safety zones' (sz) at the north end and the south end? What is the distance from the ends of the current safety zones to the airport fence (F) at the north end and the south end? For example, what are the following distances: F---------I---sz----I---------- runway----------I----sz----I----------F	Safety zones are referred to as Runway Protection Zones (RPZs) per FAA Advisory Circular 150/15300-13. Table 4C (page 4-8) shows the RPZ dimensions for the existing condition (ARC B-II with approach minima greater than 1 statute mile), as well as for ARC C-II (all approach minimums). The dimensions you requested are shown below, along with the Runway Safety Area (RSA) lengths (Runway 17 end is to the north, and Runway 35 end is to the south): RPZ length beyond Runway 17: 1,200' RPZ length beyond Runway 35: 1,200' Runway 17 RPZ end to fence: 847' Runway 35 RPZ end to fence: -154 (RPZ extends south of Keil Rd) RSA length beyond Runway 17: 300' RSA length beyond Runway 35: 300' Runway 17 RSA end to fence: 1,747 Runway 35 RSA end to fence: 746'	No. Chapter 5 addresses these issues.
4.2	General	If the runway was lengthened as much as possible without expanding outside the current airport fence, what would be the new runway length and how long would the new 'safety zones' be?	Draft Chapter 5 shows an alternative that extends the runway, while keeping within the current Airport footprint. The appropriate RPZs and RSAs are shown in each alternative.	No. Chapter 5 addresses these issues.
4.3	General	Chapter 5 of the FAA Advisory Circular on Airport Master Plans talks about 'Environmental Considerations' and spends considerable time talking about noise pollution. It mentions noise levels as one of the three most common environmental concerns, talks about a noise compatibility planning program and noise overlay zones. When will this master planning exercise talk about noise? Hopefully it will be before a choice of "possible development alternatives" is made since that must surely be a factor in basing a decision.	Per the Scope of Work, noise contours are developed for Draft Chapter 5. Within Chapter 5 each alternative, including the no build alternative, will be shown with the noise contours. The FAA's Integrated Noise Modeling (INM) program is used to develop the contours. Additionally, an environmental overview for each alternative is given in Draft Chapter 5, wherein noise is an important component for analysis. The noise contours and subsequent analysis will assist decision-making for the "Preferred Alternative."	No. Chapter 5 addresses these issues.
4.4	General	Regarding the survey, it is interesting that of the 61 respondents only 10, or 16%, would publicly say that they have constrained operations. It is interesting also that these 10 operators are content to use KUAO, rather than move to Hillsboro or elsewhere, even though they claim to be constrained. It is also interesting that one operator claims to be about to purchase a new Citation X even though he knows that aircraft may be constrained. It makes one wonder why considerable taxpayer money may be expended to make these already happy operators even happier.	Two surveys were distributed for this planning project: Airport User Survey and Runway Length Survey. The responses you reference are from the Airport User Survey. This survey was distributed at FBOs on Airport and at nearby airports, and on the project website. Many of the respondents were operators of single engine, piston-driven aircraft that have vastly different needs than business jet users. The Runway Length Survey (Appendix I) was distributed to a targeted group identified by IFR flight records that would likely be constrained due to runway length. The runway length analysis identified 358 constrained annual operations based on those survey returns (this number will likely change, as more surveys continue to be returned), see page 4-13. Many factors are used by operators to determine where they base their aircraft - or operate in and out of - in addition to runway length (*i.e.* , location, hangar availability, etc.).	No

4.5	4-2	1st paragraph, talks again about the ARC being C-II. This claim is based on arbitrarily picking two years (2007 and 2009) and averaging them with the defense that one is the decade's highest activity year and 2009 is apparently the decade's lowest year. That is not a robust enough analysis to justify big changes in airport facilities at KUAO. And while we're on that topic, the fact that one operator talks about buying a Citation X surely cannot justify announcing it as the new, official, 'critical aircraft'.	The averaging of two years was a reasonable way to account for the extraordinary impact of the recession. We did not examine more than two years because tallying this information is very labor intensive. There are airports that upgrade their ARC based on forecasts only, without having already surpassed the 500 operations threshold as Aurora has. The ARC represents a family of aircraft and the representative aircraft chosen as the critical aircraft is the one in that ARC that uses Aurora the most. Since the forecast chapter was prepared, an Astra aircraft (ARC C-II) has based at Aurora. (The Astra was listed as the current critical aircraft in the forecast chapter, due to operations by transient aircraft.) Astras were introduced in the mid-1980s. The Citation X is a newer business jet model in ARC C-II and so is likely to remain in the business jet fleet longer than the Astra. If the Aurora tenant purchases a Citation X, the number of Citation X operations will increase considerably in the future from the number occurring now. The Citation X is neither the heaviest airplane using the airport nor the one needing the longest runway, as shown in Table 4E. Consequently, there is no need to fear that future airport design will be focused on that one aircraft. ODA has not yet decided to upgrade the airport from ARC B-II to ARC C-II and will not before considering the development alternatives that show both ARCs.	No
4.6	4-5	The table at the bottom of the page, I presume the hourly capacities mentioned for VFR and IFR are either /or, not additive? It is interesting that one respondent to your questionnaire says "---we have only a single runway which under normal economic conditions is close to the maximum traffic possible now."	Yes, the capacities are not additive, because weather is either visual or instrument. One user may feel the runway is close to maximum traffic, but examples of busier airports with one runway include McClellan-Palomar (Carlsbad, CA) with over 170,000 annual ops and Scottsdale with over 190,000 annual ops.	No
4.7	4-14	Runway Pavement Strength---currently 45,000lbs for dual wheel and taxiway currently 60,000lbs, so if mtow of ARC CII aircraft is more than 45,000lbs and they are using the runway, why is "the current strength rating adequate for the current runway length and using aircraft"?	As shown in Table 4E, not all ARC C-II aircraft have a maximum takeoff weight (MTOW) greater than 45,000 lbs (seven aircraft are shown to have MTOW's greater than 45,000 lbs, regardless of ARC). While this list is not all inclusive of business jets, it is representative of the common business jet fleet, which shows MTOWs can vary greatly. Rarely do aircraft operate at MTOW, due to constraints such as runway length or high ambient temperatures, nor do operators fill the fuel tanks completely if the flight does not require it for safe operations. As such, it is our analysis that because of constraints, such as runway length limitations, few operators will be able to take off with weights greater than 45,000 lbs. ODA, in some instances, has issued waivers for heavier aircraft to operate at the Airport. If the runway were extended, however, operators would be less constrained and more likely to put on more fuel, for instance, thus increasing the aircraft's weight and the need for the pavement strength to be increased. Even with increased pavement strength, operators are not likely to operate at MTOW.	Yes, clarification will be added as to why the current strength rating is adequate for the existing runway length and aircraft fleet.

4.8	4-17	1st bullet, if FAA approves this additional departure procedure will it (and a 90-degree left turn) become mandatory, even without a tower?	Departure procedures, unless flying under instrument flight rules (IFR), are not mandatory for aircraft operators. An air traffic control tower (ATCT) would be able to direct both IFR and visual flight rules (VFR) traffic on the departure procedures. The purpose of an ATCT is to provide aircraft separation and sequencing. Without an ATCT it is solely the pilot's discretion on how to operate safely.	Yes, clarification will be given.
4.9	4-17	3rd bullet, please explain “allow a back course approach”.	Runway 17 has a localizer approach. A "back course" approach would utilize the Runway 17 localizer to give approach guidance for Runway 35. See the drawing below. The hatched chevrons show the localizer, while the solid chevron represents the back course approach. Tracking the back course approach inbound gives reverse sensing unless the aircraft has an HSI (horizontal situation indicator) installed; meaning if the indicator shows course deflection to the left, the pilot would actually correct to the right to get back on the localizer course. For this to work at Aurora State, the distance measuring equipment (DME) associated with the localizer would require an upgrade. Utilizing a back course approach to Runway 35 would reduce the conflict of flight students practicing the Runway 17 localizer approach during calm wind conditions (Runway 35 is the preferred calm wind runway). 	Yes, clarification will be given.
		Nick Kaiser		
4.10	General	In the 2000 master plan update it was noted that the operations acoustical counts for 1997 were not totally accurate but the procedures would be improved for 1998. Were there acoustical counts taken in 1998 or beyond?	According to ODA records (http://www.aviation.state.or.us/Aviation/docs/RENSSummary94-02.pdf), four counts have occurred since the 1997 cycle. The results were: 1998-99 = 74,056 ops; 1999-2000 = 57,823 ops; 2001-02 = 58,479 ops; and 2002-03 = 62,926 ops. The RENS counts are estimates, based on seasonal acoustical samples. While procedures were improved, flaws with the RENS program are inherent (*i.e.* , aircraft noise not "triggering" the system, false-positives, etc).	No
4.11	4-7	How does the C II design standards affect land use outside the airport boundary if the RSA requirements goes from 300’ to 1000’ and the RPZ goes from 1000’ to 1700’? What can be built in the RSA and RPZ? Where do you start the measurement for the increased RSA and RPZ requirements?	If the RPZ extends off airport, the FAA recommends ODA acquire the property; however, in some cases avigation easements would be allowed. Regardless of ARC, the RPZ begins 200' beyond the runway end. While it is desirable to clear all objects from the RPZ some uses are permitted, provided they do not attract wildlife, are outside of the Runway object free area (OFA), do not allow assembly of people, do not allow bulk fuel storage, and do not interfere with navigational aids. If the RSA extends off airport, ODA would acquire the property. Table 4C shows the RSA length beyond runway end for ARCs B-II and C-II. The RSA must remain free of objects, except for objects that need to be located in the RSA because of their function (those objects higher than 3 inches above runway grade should be constructed on frangible mounted structures).	No. Chapter 5 addresses these issues.
4.12	4-10	Is there a category of mid size airplanes that could be applied to table 4D?	No. These are the categories included in FAA's design program.	No

4.13	4-18	Will wastewater land requirements be considered when the final land needs are identified for the various airport designs?	Wastewater land requirements for development needs on state-owned property will be identified in Chapter 5.	No. Chapter 5 addresses these issues.
4.14	4-26	(land use planning) The city of Aurora's comprehensive plan and vision plan have references to current and future airport opportunities and issues and should be reviewed in the master planning process. Also the City has an Urban Growth Boundary Coordination Agreement with Marion County that has a section on the Airport and surrounding lands as an Area of Mutual Concern.	These planning documents will be reviewed and included, as appropriate.	Yes. Documents cited in Chapter 2.
		Bruce Bennett		
4.15	General	Should the current weight restrictions of both based and visiting aircraft be mentioned in the length sections?	See response to 4.7.	No
4.16	General	Please be advised a 27,400 pound Hawker 800A s/n 2580055 (federal registration N855BC pending) has flown into Aurora and is based here until eventual sale, it is not now flyable but will be when registration is complete and US Airworthiness established and issued.	Noted.	No
4.17	General	I request the addition of the attachment to the master plan; this follows up on my comments at the last meeting and on my attempt to keep things in perspective. (attachment shown below)	The information will be included in an appendix of the Final Draft Master Plan Update.	No
4.18	4-11	Table 4E. JHRD does base their Citation CJ3 at UAO.	Noted, table will be corrected.	Yes
4.19	4-16	We do have precision instrument approaches (GPS 17 & 35) although with high (1 mile) visibility.	The Airport has LPV (localizer performance with vertical guidance) approaches, which are considered nonprecision.	No

Aurora Airport Relative Runway Length & Strength Comparison

Based on FAA Airport Facility Directory dated 18 NOV 2010
Compiled by Aurora Aviation December 13, 2010

Airport	MAX Strength	Runway Length
UAO- Aurora State	45K	5004
AST- Astoria	119K	5796
Baker	82K	5095
Bend		5200
Burns	90K	5100
Christmas Valley		5200
Toketee		5350
Corvallis	100K	5900
Cape Blanco	340K	5100
John Day		5220
Joseph		5200
K-Falls	230K	10301
LaGrande	130K	5600
Lakeview	109K	5306
Madras	180K	5089
McDermitt		5900
McMinnville	80K	5420
Newport	170K	5398
OTH- N. Bend	190K	5980
Ontario	50K	5011
PDT- Pendleton	210K	6301
TTD- Troutdale		5399
RDM- Redmond	200K	7038
RBG- Roseburg	88K	4602
Scappoose	90K	5100
Sunriver		5455
The Dalles		5097
Tillamook	125K	5001

		Roger Kaye (asked at the PAC #3 meeting)		
4.20	4-26	The zoning/planning discussion should be deferred to Chapter 5. If were to remain in Chapter 4, there could be conflicting data.	The recommendations given would remain, regardless of alternatives presented in Chapter Five, as they are broad and conform with State guidance given in the Oregon Aviation Plan.	No
		Nick Kaiser (submitted March 24, 2011)		
4.21	4-13	Constraints have increased from 358 to 473 and at the last PAC meeting it was said that it was now even higher. Does ODA have a way to verify these constraints?	Names, phone numbers, addresses, N numbers, and aircraft types can be verified through public records.	No
		City of Aurora		
4.22	4-24	Add text to the effect that public services/facilities should be planned in accordance with needs and capacities rather than be forced to respond to development as it occurs.	Chapter Four identifies facilities that would be required to meet the forecasted demand. Planning and the phasing of specific projects, including utilities, is more appropriate in later chapters of the Plan.	No
4.23	4-25	Under Utilities subheading, add text, "The City of Aurora has express concerns that additional groundwater wells or expansion of water facilities at the Aurora State Airport will have negative impacts upon the City's current water supply. Drinking water quality is also a concern for the City. Continued development and/or potential expansion of airport facilities without proper advanced planning and feasibility assessments regarding the airport's ability to meet water, sewer, and fire protection needs concerns the City.	Noted, text will be supplemented.	Yes
4.24	4-25	Under Utilities subheading, add text, "While it is not within the scope of the Airport Master Plan Update to collect data on surrounding properties and potential expansion of the airport boundary and whether expansion of the airport boundary would be able to provide adequate water or sanitary sewer service (septic or otherwise), the City has requested that the Master Plan Update provide additional documentation as to the adequacy of water, sewer, and other proposed utilities of existing facilities and within the existing airport boundary prior to adoption of the plan document. It is the City's position that adequate consideration of impacts to public facilities and services such as water, sanitary sewer, storm water, and traffic should be given as part of the Plan Update".	This request is outside of the Plan's Scope of Work. Issues relating to utilities will be addressed, as specific projects are identified.	No
4.25	4-5	Under Airfield Capacity: Reference should be made to the Airport Planning Rule here and the requirement that land use applicants should *show* that the proposed increased capacity and projections for flight growth/need *cannot* be reasonably accommodated in the existing airport boundary.	This section is relating to runway capacity; therefore, this addition would not be appropriate.	No

Aurora State Airport Master Plan Update - Comments Received on Draft Chapter Five

Comment #	Page #	Comments received from: Fred Netter, Dan Riches, Nick Kaiser, Tony Holt, City of Wilsonville, City of Aurora, Marion County, and Dave Waggoner	WHPacific Response	Will revisions to Chapter 5 be made based on comment?
		Fred Netter		
5.1	General	Since our role is safety and we strive to be "the safety experts", we place this as our number one concern. We support any proposals that enhance safety as well as protecting the other patrons of our district from economic hardship or undo inconvenience.	Noted.	No
5.2	General	After evaluating all of the proposals, we concluded that a fire facility consisting of two apparatus bays should be included in any plan, even the "no build". We believe this facility should be located by the airport water supply facility along Airport Rd. This location best serves ARFPD for accessibility and eliminates the problem of security. Since this facility is necessitated by airport use and business, it should be paid for by airport generated funding.	Noted, the Preferred Alternative will reserve land for a facility in the location supported by the ARFPD. Funding sources will be identified at a later time. As an Airport Rescue and Fire Fighting facility is not required at the Airport, funding from FAA or ODA is unlikely.	No
5.3	General	We would support the expansion of the runway both north and south as long it does not impinge on the use of private property, both farm and non farm, or result in increased response times or call volume for ARFPD without funding increases.	A runway extension has been shown to be infeasible at this time.	No
5.4	General	Necessary changes in area intersections and roadways must be part of any plan with a focus on safety.	Traffic impacts of proposed development will be evaluated as projects are defined.	No
		Dan Riches		
5.5	General	Columbia Helicopters supports modernization and possible extension of the … Airport runway to provide for a safer operating environment … however, it cannot support any proposal that would restrict business development of our property.	See response to #5.3.	No
		Nick Kaiser		
5.6	General	Need to correct the calm wind runway in chapter 5 pages 9 , 15 , 20.	Yes, these errors will be corrected.	Yes
5.7	5-2	ODA and FAA will establish departure procedures for both runway 35 and 17 to avoid flight over noise sensitive areas.	Runway 17 will be included in the text.	Yes
5.8	General	I still feel that the number of actual operations used, as base data in this study is too high. There should be an actual count made over the various seasons of the year to validate the number and type of operations.	See response to #3.19.	No
5.9	General	The number of operations for critical aircraft that exceeded 500 is still borderline.	See response to #3.25.	No
5.10	General	Constrained operations need to be further validated. The timing of implementing any alternative that is based on constrained operations should be looked at again after further study.	See response to #4.21.	No
5.11	General	There should be a category of airplanes that is used in the study that is medium size not just small and large. The study mix that includes medium size might show a better fit.	The aircraft called "large jets" in the noise input are actually medium-sized according to the industry (see Table 4A in Chapter Four).	No
5.12	General	The preferred alternative should not extend past the current airport boundary, including the RPZ.	Noted.	No
5.13	General	The weather is below 1 mile visibility a small % of the time so having an approach that is usable in lower visibility minimums might not be necessary.	Noted.	No

5.14	General	Calm Wind runway 35 has worked to help abate noise over populated areas and should be continued.	Agreed. See response to #5.6.	No
5.15	General	Having a control tower will help with Safety and Noise.	Noted.	No
5.16	General	In the short term no change in the airport (except for a run-up area for runway 17) is needed and should be adequate to accommodate planned business growth.	Noted.	No
5.17	General	A longer-term look could accommodate a build alternative like number 1 and still stay within the boundaries of the airport.	Noted.	No
5.18	General	All livability issues from the surrounding communities need to be considered when Airport development changes are planned and all long-term impacts are not thoroughly understood.	The planning team has tried to consider these needs, as outlined in the Goals and Issues section of the Master Plan.	No
5.19	General	How did you use the noise data from the 2002 noise study to help develop the noise contours for each alternative?	The 2002 noise data was utilized to determine the model aircraft type and the percentage of operations in a given group (i.e. turboprop, small prop, large prop, jets, and heli). The operations data from this older study was not used to determine the number of operations – just the group makeup. The same group composition (percents and aircraft) was used for each alternative, with the only change the operation numbers between existing conditions and the future conditions.	Yes
		Tony Holt		
5.20	General	Constrained Operations: Given the proviso that the FAA requires airport sponsors to document at least 500 annual itinerant aircraft operations before considering funding of a runway extension (Chapter 4, page 4-11), it is vitally important that proper and accurate documentation be provided by operators demonstrating past constrained operations. Simply sending surveys to based aircraft operators and a wide selection of non-based operators, including some aircraft brokers in California, and asking them how many constrained operations they estimate they have had (or even would have) at Aurora Airport, is insufficient and can lead to possible manipulation of the data. There needs to be a more rigorous attempt at accurate documentation from logbooks or other records. Given that more surveys were returned and mentioned at the last PAC meeting I believe this is a valid topic for Chapter 5.	See response to #4.21. The mailing list for the questionnaire was compiled from IFR records of aircraft that operated frequently at the Airport.	No
5.21	General	Predicted Noise Contours: It is notable that the maps shown as Exhibits 5E-5H have predicted (after a tower is installed and new departure rules are approved by the FAA) noise contours that stop short of Wilsonville City Limits. Clearly, the noise does not stop at the 55 dBA contour. The contours should continue northward to show what noise level is experienced over the City of Wilsonville, including that caused by landings on runway 17. The noise analysis was poorly explained at the last PAC meeting, in my view, and more time should be spent discussing the basis for the conclusions.	The FAA requires noise contours to the 65 dBA line be shown, we have shown contours to the 55 dBA line. The contours show an averaging of noise exposure and we acknowledge there may be noise events of the City of Wilsonville that exceed the average contour line.	No
		City of Wilsonville		
5.22	General	The Wilsonville City Council recognizes the Oregon Department of Aviation master planning obligations, and supports an Aurora State Airport Master Plan alternative that achieves the following outcomes:		
5.23	General	Improves management of aircraft approaching and departing Aurora State Airport that results in minimized noise and enhanced safety to the City of Wilsonville;	Noted.	No
5.24	General	Eliminates the need to expand the runway to the North in a way that impacts current facilities;	Noted.	No

5.25	General	Preserves foundation farmland by restricting future airport development to the property suitable for airport use and bounded by the Hubbard Cutoff to the West, Airport Road to the East, and Arndt Road to the North;	Noted.	No
5.26	General	Supports concurrency by recognizing surface transportation impacts on Airport Road resulting from future development and allowing for cooperation with Clackamas and Marion Counties on the scope and funding of any future improvements that may be required;	Noted.	No
5.27	General	Recognizes a preference for preserving the existing use of Keil Road.	Noted.	No
		City of Aurora		
5.28	5-2	When addressing demand, please specify whether land is public or private or a combination of both to meet hangar demand, aprons and aircraft parking, cargo apron, fuel tanks, etc. (bullets under "Landside Requirements")	As shown in the alternatives, the allocation of these items vary by alternative. Therefore, it would be inappropriate to allocate specific acreages.	No
5.29	5-3	It is my understanding that the Aurora Rural Fire Protection District has not yet identified the site for their new facilities and this was confirmed with the fire chief. While the fire district may have identified the need to park a vehicle at the airport, this distinction needs to be made. Also, please specify how much land is being dedicated/set aside for the fire district under Landside Requirements.	The acreage allocation will be added. ODA and the District acknowledge a specific site has yet to be determined. The alternative merely show areas that would be suitable.	No
5.3	5-3	3rd bullet from the top re: Airport Road. Improvements to Airport Road will occur as improvements occur and will require Traffic Impact Analysis (TIA) from Marion County. This bullet should be completely removed as it is not a statement of fact. ODA and private owners WILL BE required to work with Marion County and City of Aurora as improvements to Airport Road are REQUIRED as a result of development. Funding for improvements are based upon traffic impacts of development. I can provide suggested language from Marion County if requested.	Noted, section will be revised as appropriate.	Yes
5.31	5-3	2nd to last paragraph, please clarify whether the needs for 40 developable acres to meet demand includes: ODA land, private land, or a combination or both. This is clarified later in the text (pages 5-4) but it should be made clear from the beginning. Also include information regarding whether the 40 acres includes needs for water and sewer to accommodate this growth (i.e. Septic fields)	This paragraph states ODA only has nine developable acres, implying development will be a combination of private and public lands. The 40 acres includes allowances of 3 to 4 times the building floor or individual vehicle/aircraft parking area, to account for circulation, fire separation, inefficiency in layout, etc. Depending on how many facilities have plumbing, the land allowance may not be enough for septic fields.	Yes
5.32	5-3	2nd to last paragraph- Again, the Aurora Fire District has not identified a site for their new facility. Please remove reference to the Fire District facility.	See response to #5.29.	No
5.33	5-4	Includes the following statement, "Combining 9 acres of undeveloped State-owned property and 26 acres of undeveloped private property currently zoned for airport use this is a shortfall of approx. 5 acres… over the next 20 years…adjacent property is shown to be suitable for airport-related development. This area incorporates approximately 16 acres. This land, now used as a church camp…" Please explain how the adjacent lands cannot meet the need for 5 additional acres over the next 20 years.	We project a need for 40 acres of landside development over the next 20 years and 35 acres are available for development on either state-owned land or privately owned land that is zoned appropriately for airport use. To provide for the 5-acre shortfall, the church camp is the most suitable for converting to airport development, given its location. The explanation of our 40-acre projection begins on p. 4-18 of Chapter Four.	
5.34	5-4	"Development of private property, adjacent to the Airport, would be permitted-consistent with local and State regulations". This sentence does not provide an appropriate explanation of the land use constraints associated with rezoning EFU land to Public including application to Marion County for Oregon Planning Goal 3 exception. Language from Marion County should be requested and submitted here.	This statement is referring to the adjacent private property on-airport currently zoned as Public, which would be consistent with zoning. Clarification will be given that the No Build Alternative is only a no build for the state, private property (*i.e.* , Southend Airpark, Columbia Helicopter, etc) could still be developed. For the church camp property, a statement will be included to detail the Planning Goal exception.	Yes

5.35	5-5	"The runway extension would accommodate… Keil Road would be dead-ended". Please specify whether this Alternative would result in the loss of road access/frontage for any property owners along Keil Road.	Information will be added to text.	Yes
5.36	5-9	Alternative 2 Noise Contours should acknowledge that by moving closer to the City of Aurora and its surrounding communities would result in a significantly higher impact as the number of residential impacts is much higher than any other alternative since the City of Aurora is primarily residential in nature in the NW end of the city limits and UGB.	Text will include a statement that the 65 dBA contour line would incorporate more residential properties than the other build alternatives.	Yes
5.37	5-15	1st paragraph: Remove reference to the No Build Alternative not presenting noise concerns. The document has acknowledged that the No Build Alternative would still result in growth at the Airport, simply within the current land use boundary. As such, growth at the Airport will continue to have noise concerns/impacts of growth upon surrounding communities.	This statement relates to FAA thresholds of noise impact. A statement will be added that surrounding communities are concerned of the increased noise expected at the airport due to the increase in operations.	Yes
5.38	5-16	Please provide clarification on why avigation easements will be sought on residential lands but agricultural use lands will require acquisition. All lands south of the airport are EFU, some of which include residential uses along with their EFU zone. If the ODA is to pursue acquisition of some lands and only avigation easements over others, this needs to be explained in more detail. In addition, the document later references (on page 5-17) that the FAA may allow continuation of agricultural practices in the RPZ based upon the commodity produced. Whether or not property owners with EFU lands can pursue avigation easements rather than acquisition needs to be explained.	Please refer to the Preferred Alternative and the proposed plan for acquisition/easement within the RPZ.	No
		Marion County - Patti Milne		
5.39	General	An air traffic control tower at the airport can improve safety and reduce the impact of air traffic over residential properties in the area.	Noted.	No
5.40	General	A fire facility at the airport is necessary…	Noted.	No
5.41	General	Based on information provided throught the planning process, we favor an extension of the length of the runway and an increase in it's weight-dearing capacity to support safe and economically efficient airport operations.	Noted.	No
5.42	General	Marion County would support instrument upgrades that improve safety through improved technology.	Noted.	No
5.43	General	Marion County supports ODA's efforts to design departure procedures and designate a calm-wind runway…	Noted.	No
5.44	General	Marion County recognizes that Aurora State Airport is different from many airports in the state… Marion County encourages ODA as well as property owners in the Public Zone at the airport to continue working collaboratively with Marion County on landside development, zoning issues, and traffic impacts in the area outside the airport property.	Noted.	No
		Dave Waggoner		
5.45	General	Modify Build Alternative 1 (600' runway extension to the north) by adding a 400' Displaced Threshold.	Displaced thresholds and the use of "declared distances" (different runway lengths for different components of takeoff/landing) are not recommended at this Airport and they are not supported by the FAA for Aurora. Declared distances must be approved by the FAA. The FAA would rather invest in pavement that can be used for both landing and taking off, otherwise they are only getting half of the utility from their investment.	No

Aurora State Airport Master Plan Update - Comments Received at the Planning Advisory Committee (PAC) #4 Meeting

Comments received from PAC Members and the Audience that warrant further response/clarification	WHPacific Response
If the runway object free area (ROFA) extends, what will happen to the highway?	The highway would not be relocated. ODA would request the FAA to approve modifying the ROFA standard to allow the highway to remain. Recent conversations with the FAA indicate the request would likely be approved.
Have you considered what this project will do to the town of Aurora? Who needs this extension?	Yes, surrounding communities have been considered, including Aurora. The City of Aurora also has a seat on the PAC. As for the extension question, please refer to Appendix I.
Currently the flight plan/pattern is not followed, especially at night. Planes fly right over houses and shake the windows. Concerned about the future safety and who disciplines pilots who fly in no flight zones.	The flight pattern and noise abatement procedures are recommended, not required in most situations. The air traffic control tower will allow for better oversight of operations and sequencing of traffic.
Can we use the additional capacity at Salem Airport rather than expand Aurora?	While there may be unused capacity at Salem, users prefer to operate at Aurora.
What does it take to become a C-II Airport?	For the most part, the Airport already meets C-II design standards. Notable changes would be the increased runway object free area (ROFA) width and increased runway protection zone (RPZ) size.
Can alternative 1 become a C-II with all other elements remaining the same?	Yes, however, the ROFA, RPZ, and runway safety area (RSA) would have to increase in size.
Since we are already a volunteer fire station in Aurora, who will pay for a new fire facility?	We do not know. ODA could not obtain a grant from the FAA to pay for such a facility, since the Airport does not have airline service (therefore a fire facility is not required). Consequently, ODA would not be able to fund construction of the facility. ODA could lease land for the facility, however.
Can you request a modification to standards of the ROFA (on Highway 551) from the FAA?	Yes, see first response above.
Why do you need more clearance for a more precise approach?	A more precise approach allows landing in lower visibility conditions. Larger safety clearances increase the margin of safety - they account for the fact a pilot cannot see as far as in clear weather.
Has ODOT gotten onboard with road improvements, especially Keil Road?	ODOT has reviewed the alternatives, and has expressed concern over the possiblity of closing Keil Road.
If the current noise/flight pattern policy isn't being followed, why would a different policy be followed?	Efforts to educate pilots would continue and the air traffic control tower could provide oversight of operations.

Where is the money/funding for the project coming from?	No specific projects have been defined yet. For those projects eligible for FAA funding, the FAA could fund up to 95% of the project costs. The remaining responsibility would fall on the state or private developers (depending on the project).
Will there be any consideration for jet fumes in any of the future alternatives?	We see no appreciable difference in the alternatives regarding jet fumes. An environmental assessment for a runway improvement would look at air quality in more detail.
Who enforces the noise abatement procedures?	There is no enforcement; they are recommendations.
Will future zoning be amended due to the expanded noise footprint?	We do not know. The FAA and airport owners encourage local governments to make zoning around airports consistent with the FAA's aircraft noise/land use compatibility guidance. According to FAA guidance, any land use is normally compatible outside the 65 DNL noise contour. Guidance for land use compatibility inside the 65 DNL contour is in FAA Advisory Circular 150/5020-1, Noise Control and Compatibility Planning for Airports, Appendix 1.
What will be done to mitigate noise from maintenance on jet engines?	No mitigation is proposed at this time.

Appendix H:
FAA Terminal Area Forecast (TAF) Worksheet

Airport Master Plan Update

Aurora State Airport

WHPacific
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Comparison of Airport Planning and FAA TAF Forecasts

AIRPORT NAME/LOCATION ID: **Aurora State Airport / UAO**
Date: **8/27/2010**

	Year	Airport Forecast	FAA TAF	AF/TAF (% Difference)
Passenger Enplanements				
Base yr.	2010	0	0	#DIV/0!
Base yr. + 5yrs.	2015	0	0	#DIV/0!
Base yr. + 10yrs.	2020	0	0	#DIV/0!
Base yr. + 15yrs.	2025	0	0	#DIV/0!
Commercial Operations				
Base yr.	2010	11,025	9,920	11.1%
Base yr. + 5yrs.	2015	11,795	10,579	11.5%
Base yr. + 10yrs.	2020	12,619	11,237	12.3%
Base yr. + 15yrs.	2025	13,501	11,896	13.5%
Total Operations				
Base yr.	2010	100,224	91,645	9.4%
Base yr. + 5yrs.	2015	107,227	102,396	4.7%
Base yr. + 10yrs.	2020	114,720	113,144	1.4%
Base yr. + 15yrs.	2025	122,736	123,895	-0.9%

NOTE: TAF data is on a U.S. Government fiscal year basis

Summary of Documention for Airport Planning Forecast

AIRPORT NAME/LOCATION ID: **Aurora State Airport / UAO**
Date: **8/27/2010**

A. Forecast Levels and Growth Rates

Base year: **2010**

	2010	2011	2015	2020	2025	Average Annual Compound Growth Rates 2011	2015	2020	2025
Passenger Enplanements									
Air Carrier	0	0	0	0	0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Commuter	0	0	0	0	0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
TOTAL	**0**	**0**	**0**	**0**	**0**	**#DIV/0!**	**#DIV/0!**	**#DIV/0!**	**#DIV/0!**
Operations									
Itinerant									
Air carrier	0	0	0	0	0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Commuter/air taxi	11,025	11,175	11,795	12,619	13,501	1.4%	1.4%	1.4%	1.4%
Total Commercial Operations	**11,025**	**11,175**	**11,795**	**12,619**	**13,501**	**1.4%**	**1.4%**	**1.4%**	**1.4%**
General aviation	53,370	54,097	57,109	61,110	65,391	1.4%	1.4%	1.4%	1.4%
Military	250	250	250	250	250	0.0%	0.0%	0.0%	0.0%
Local									
General aviation	35,580	36,065	38,073	40,740	43,594	1.4%	1.4%	1.4%	1.4%
Military	0	0	0	0	0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
TOTAL OPERATIONS	**100,224**	**101,587**	**107,227**	**114,720**	**122,736**	**1.4%**	**1.4%**	**1.4%**	**1.4%**
Instrument Operations	6,013	6,298	7,506	9,178	10,432	4.7%	4.5%	4.3%	3.7%
Peak Hour Operations	40	40	43	46	49	0.0%	1.5%	1.4%	1.4%
Cargo/mail (enplaned+deplaned tons)	0	0	0	0	0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Based Aircraft									
Single Engine (Nonjet)	312	316	333	344	360	1.3%	1.3%	1.0%	1.0%
Multi Engine (Nonjet)	40	40	40	41	43	0.0%	0.0%	0.2%	0.5%
Jet Engine (Turbofan & Turboprop)	40	41	50	59	70	2.5%	4.6%	4.0%	3.8%
Helicopter	35	36	37	45	51	2.9%	1.1%	2.5%	2.5%
Other	5	5	5	5	5	0.0%	0.0%	0.0%	0.0%
TOTAL	**432**	**438**	**465**	**494**	**529**	**1.4%**	**1.5%**	**1.3%**	**1.4%**

B. Operational Factors

	2010	2011	2015	2020	2025
Average aircraft size (seats)					
Air carrier	0.0	0.0	0.0	0.0	0.0
Commuter	0.0	0.0	0.0	0.0	0.0
Average enplaning load factor					
Air carrier	0.0%	0.0%	0.0%	0.0%	0.0%
Commuter	0.0%	0.0%	0.0%	0.0%	0.0%
GA operations per based aircraft	**206**	**206**	**205**	**206**	**206**

Note: Show base plus one year if forecast was done.
If planning effort did not include all forecast years shown interpolate years as needed, using average annual compound growth rates.

Appendix I: RUNWAY LENGTH SURVEY

Airport Master Plan Update

Aurora State Airport

WHPacific
OREGON DEPARTMENT OF AVIATION

Oregon
Theodore R. Kulongoski, Governor

OREGON DEPARTMENT OF AVIATION

3040 25th Street SE ♦ Salem, OR 97302-1125
Phone: (503) 378-4880 ♦ Toll Free: (800) 874-0102
Fax : (503) 373-1688

Aurora State Airport Runway Length Questionnaire

1. Please list the aircraft currently operated by your company into the Aurora State Airport, along with the aircraft's tail number:
   PC-12NG N811DD
   LR-45 N75XP
2. What is the typical stage length for each of the aircraft listed above?
   PC-12 - 800 nm
   LR-45 - 1600 nm
3. What is the maximum stage length for each of the aircraft listed above?
   PC-12 1200 nm
   LR45 - 2100 nm
4. If aircraft operations at the Aurora State Airport are constrained (i.e., reduced payload for takeoff), identify those constraints:
   runway not long enough on hot days
   traffic congestion - safety issues
5. Identify the number of annual operations at the Aurora State Airport that require a runway extension (this can be a cumulative number based on constrained operations of multiple aircraft, if you have a fleet of various aircraft): 30-40
6. Does your insurance company require a minimum runway length for operations? ___ Yes X No
   a. If you responded Yes to #6, please provide a letter from your insurance company stating the minimum runway length requirement.
7. Do you currently operate at the Aurora State Airport? X Yes ___ No
   a. If you responded No to #7, can you assure that your company intends on operating at the Aurora State Airport, if a runway extension that meets your criteria is constructed?
   ___ Yes ___ No
8. Are there any other comments/suggestions you have for improving the Aurora State Airport?
   Control tower

Optional - Please provide your contact information, in the event we have follow-up questions for you:
Name: Bill Grabewich Company: Premier - Air
Phone: 503 880 3254 E-Mail: premier-air@comcast.net

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OREGON DEPARTMENT OF AVIATION

3040 25th Street SE • Salem, OR 97302-1125
Phone: (503) 378-4880 • Toll Free: (800) 874-0102
Fax: (503) 373-1688

Aurora State Airport Runway Length Questionnaire

1. Please list the aircraft currently operated by your company into the Aurora State Airport, along with the aircraft's tail number:
   CE-560 XL N567MC , PC-12/47E N52MW
   C-172 N943SP

2. What is the typical stage length for each of the aircraft listed above? NM = Nautical Miles SM = Statute Miles
   CE560 XL - 1800 NM (2071 SM)
   PC-12 800 NM (920 SM)

3. What is the maximum stage length for each of the aircraft listed above?
   CE 560 XL 1900 NM
   PC-12 1500 NM

4. If aircraft operations at the Aurora State Airport are constrained (i.e., reduced payload for takeoff), identify those constraints:
   During the summer on Hot days we are limited to less than a full gross weight take off because of too short of a runway. Also, Winter months cause us to operate out of Portland, OR because of runway too short.

5. Identify the number of annual operations at the Aurora State Airport that require a runway extension (this can be a cumulative number based on constrained operations of multiple aircraft, if you have a fleet of various aircraft):
   40 operations combined

6. Does your insurance company require a minimum runway length for operations? ____ Yes X No

   a. If you responded Yes to #6, please provide a letter from your insurance company stating the minimum runway length requirement.

7. Do you currently operate at the Aurora State Airport? X Yes ____ No

   a. If you responded No to #7, can you assure that your company intends on operating at the Aurora State Airport, if a runway extension that meets your criteria is constructed?
   ____ Yes ____ No

8. Are there any other comments/suggestions you have for improving the Aurora State Airport?
   #1, install a control tower, #2 lengthen runway to 6500 ft. #3, install an ILS precision approach.

   Please don't hesitate to contact me with any questions.

Optional - Please provide your contact information, in the event we have follow-up questions for you:
Name: Larry Brons - Chief Pilot Company: Management West
Phone: 503-678-1090 E-Mail: Larry@managementwest.com

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3040 25th Street SE • Salem, OR 97302-1125
Phone: (503) 378-4880 • Toll Free: (800) 874-0102
Fax: (503) 373-1688

Aurora State Airport Runway Length Questionnaire

1. Please list the aircraft currently operated by your company into the Aurora State Airport, along with the aircraft's tail number:
   CJ3 N149WW

2. What is the typical stage length for each of the aircraft listed above?
   400 NM

3. What is the maximum stage length for each of the aircraft listed above?
   1,800 NM

4. If aircraft operations at the Aurora State Airport are constrained (i.e., reduced payload for takeoff), identify those constraints:
   During hot summer days we have to take less fuel and at times incurre a fuel stop.

5. Identify the number of annual operations at the Aurora State Airport that require a runway extension (this can be a cumulative number based on constrained operations of multiple aircraft, if you have a fleet of various aircraft): 7

6. Does your insurance company require a minimum runway length for operations? ____ Yes X No

   a. If you responded Yes to #6, please provide a letter from your insurance company stating the minimum runway length requirement.

7. Do you currently operate at the Aurora State Airport? X Yes ____ No

   a. If you responded No to #7, can you assure that your company intends on operating at the Aurora State Airport, if a runway extension that meets your criteria is constructed?
   ____ Yes ____ No

8. Are there any other comments/suggestions you have for improving the Aurora State Airport?
   My company is considering buying a larger aircraft that would benefit significantly from having a larger runway

Optional - Please provide your contact information, in the event we have follow-up questions for you:

Name: Manny Martinez
Company: JHRD Investments
Phone: 503-957-4891
E-Mail: FIRSTCLASSCJ@msn.com

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3040 25th Street SE ♦ Salem, OR 97302-1125
Phone: (503) 378-4880 ♦ Toll Free: (800) 874-0102
Fax: (503) 373-1688

Aurora State Airport Runway Length Questionnaire

1. Please list the aircraft currently operated by your company into the Aurora State Airport, along with the aircraft's tail number:
   Cessna Citation CE-650 N896RJ

2. What is the typical stage length for each of the aircraft listed above?
   900 + miles

3. What is the maximum stage length for each of the aircraft listed above?
   1500 N.M. if conditions are perfect at Aurora. In summer we cannot takeoff full fuel & Pax.

4. If aircraft operations at the Aurora State Airport are constrained (i.e., reduced payload for takeoff), identify those constraints:
   We are currently limited on take off weight due to runway length. This is especially critical in summer.

5. Identify the number of annual operations at the Aurora State Airport that require a runway extension (this can be a cumulative number based on constrained operations of multiple aircraft, if you have a fleet of various aircraft):
   30 +

6. Does your insurance company require a minimum runway length for operations? ____ Yes __X__ No

   a. If you responded Yes to #6, please provide a letter from your insurance company stating the minimum runway length requirement.

7. Do you currently operate at the Aurora State Airport? __X__ Yes ____ No

   a. If you responded No to #7, can you assure that your company intends on operating at the Aurora State Airport, if a runway extension that meets your criteria is constructed?
   ____ Yes ____ No

8. Are there any other comments/suggestions you have for improving the Aurora State Airport?
   Our current aircraft is limited due to current runway length. We are changing aircraft to a larger model. The new model will be restricted more than the current aircraft. We would be able to operate safely with full fuel at a 7000' runway.

Optional - Please provide your contact information, in the event we have follow-up questions for you:

Name: Tod Coombs — Company: RJ2 / 08 Aviation
Phone: 503-358-0678 — E-Mail: tcoombs2@msn.com

Please contact me to discuss.

Lucas, Sarah

From: tod coombs [tcoombs2@msn.com]
Sent: Wednesday, August 18, 2010 7:42 PM
To: Lucas, Sarah
Subject: Re: Aurora State Airport

Follow Up Flag: Follow up
Flag Status: Flagged

Hi Sarah,

We are looking at a Citation X. We need to go non-stop to the east coast and Bahamas.
We are currently restricted with our current aircraft due to runway length requirements being to short for fuel loads required for the long trips.
When we get the Citation X, we will be more restricted. This of course means wasted time for fuel stops and extra costs involved.
During the summer months we cannot take off from Aurora without making a fuel stop for any trip over two hours.
We conduct on average 12-15 operations per month. Figure about 150-175 operation as a minimum per year.
I hope this information helps. If you need anything else from me, just let me know.
Thank-you,
Tod Coombs

----- Original Message -----
From: Lucas, Sarah
To: tcoombs2@msn.com
Sent: Monday, August 16, 2010 11:36 PM
Subject: Aurora State Airport

Mr. Coombs,

I am writing this email as a follow-up to a survey you completed for the Aurora State Airport Master Plan Update last winter regarding runway length. Due to financial constraints the project was put on hold, but now we are proceeding once again.

In the survey response you mention that you are currently constrained in your operations at UAO, but that constrained operations would be increasing as the company intends to purchase a more demanding aircraft. What type of aircraft is it that you are looking to purchase? What is your estimate for future constraints with this new aircraft? Also, you mention that current constrained operations are 30+: how many total operations per year do you conduct at UAO?

If you could assist me with these follow-up questions I would be greatly appreciative.

If you have any questions, please do not hesitate to contact me.

Oregon
Theodore R. Kulongoski, Governor

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3040 25th Street SE ♦ Salem, OR 97302-1125
Phone: (503) 378-4880 ♦ Toll Free: (800) 874-0102
Fax : (503) 373-1688

Aurora State Airport Runway Length Questionnaire

1. Please list the aircraft currently operated by your company into the Aurora State Airport, along with the aircraft's tail number: ASTRA JET | N41AL

2. What is the typical stage length for each of the aircraft listed above? 6000 feet of Runway, TRIPS OF 500-2000 N.M.

3. What is the maximum stage length for each of the aircraft listed above? 2500 N.M.

4. If aircraft operations at the Aurora State Airport are constrained (i.e., reduced payload for takeoff), identify those constraints: ON OCCASION I would need to take more fuel to Be able to Fly nonstop, however, the Runway is too short for Full Fuel & payload.

5. Identify the number of annual operations at the Aurora State Airport that require a runway extension (this can be a cumulative number based on constrained operations of multiple aircraft, if you have a fleet of various aircraft): 50 Take OFFS & Landings

6. Does your insurance company require a minimum runway length for operations? ____ Yes X No

   a. If you responded Yes to #6, please provide a letter from your insurance company stating the minimum runway length requirement.

7. Do you currently operate at the Aurora State Airport? X Yes ____ No

   a. If you responded No to #7, can you assure that your company intends on operating at the Aurora State Airport, if a runway extension that meets your criteria is constructed?
   X Yes ____ No

8. Are there any other comments/suggestions you have for improving the Aurora State Airport? LONGER RUNWAY By at least 1000 feet. 1500 feet would Be ideal.

   With increasing traffic a control tower would be a great addition!

Optional - Please provide your contact information, in the event we have follow-up questions for you:

Name: Michall Bony
Company: Novellus Systems Inc.
Phone: 408-781-5191
E-Mail: michall.bony@novellus.com

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Phone: (503) 378-4880 ♦ Toll Free: (800) 874-0102
Fax : (503) 373-1688

Aurora State Airport Runway Length Questionnaire

1. Please list the aircraft currently operated by your company into the Aurora State Airport, along with the aircraft's tail number:
   __N900TG___Falcon900B_____

2. What is the typical stage length for each of the aircraft listed above? _____Average 1500miles._____

3. What is the maximum stage length for each of the aircraft listed above? _____3400 miles_____

4. If aircraft operations at the Aurora State Airport are constrained (i.e., reduced payload for takeoff), identify those constraints: ____Reduced payload for longer flights. We have a 46,500 lb max takeoff weight. Limited to 45,000 dual wheel weight restriction for runway. We also run into performance issues at the higher weights with runway length. An extra 1000 ft would help our operation. _____

5. Identify the number of annual operations at the Aurora State Airport that require a runway extension (this can be a cumulative number based on constrained operations of multiple aircraft, if you have a fleet of various aircraft):
   _____5_____

6. Does your insurance company require a minimum runway length for operations? ____ Yes __x__ No

   a. If you responded Yes to #6, please provide a letter from your insurance company stating the minimum runway length requirement.

7. Do you currently operate at the Aurora State Airport? _x___ Yes ____ No

   a. If you responded No to #7, can you assure that your company intends on operating at the Aurora State Airport, if a runway extension that meets your criteria is constructed?
      ____ Yes ____ No

8. Are there any other comments/suggestions you have for improving the Aurora State Airport?
   _____We are for the Control Tower for safety management with the increase in operations particularly with the growing number of larger jet aircraft.
   _____
   _____

Optional - Please provide your contact information, in the event we have follow-up questions for you:
Name: ____Marlin Dumler_____ Company: ____CSIM LLC___
Phone: _____503-516-5857_____ E-Mail: _____marlin@ csimllc.com_____

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By

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Fax : (503) 373-1688

Aurora State Airport Runway Length Questionnaire

1. Please list the aircraft currently operated by your company into the Aurora State Airport, along with the aircraft's tail number:
   IAI ASTRA N777AM, CIRRUS N769PC

2. What is the typical stage length for each of the aircraft listed above?
   1.0 HOUR, 0.7 HOURS

3. What is the maximum stage length for each of the aircraft listed above?
   4.5 HOURS, 2.5 HOURS

4. If aircraft operations at the Aurora State Airport are constrained (i.e., reduced payload for takeoff), identify those constraints:
   REDUCED PAYLOAD FOR T/O AND LDG

5. Identify the number of annual operations at the Aurora State Airport that require a runway extension (this can be a cumulative number based on constrained operations of multiple aircraft, if you have a fleet of various aircraft):
   15-20 DEPARTURES ANNUALLY

6. Does your insurance company require a minimum runway length for operations? ___ Yes [X] No

   a. If you responded Yes to #6, please provide a letter from your insurance company stating the minimum runway length requirement.

7. Do you currently operate at the Aurora State Airport? [X] Yes ___ No

   a. If you responded No to #7, can you assure that your company intends on operating at the Aurora State Airport, if a runway extension that meets your criteria is constructed?
   ___ Yes ___ No

8. Are there any other comments/suggestions you have for improving the Aurora State Airport?
   OUR COMPANY HEADQUARTERS ARE IN WILSONVILLE. WE ROUTINELY DEPART WITH 6-8 PASSENGERS, ESPECIALLY IN SUMMER. WE PURCHASE ALOT OF FUEL @ AURORA AND ARE LIMITED BY RUNWAY LENGTH FOR MANY DEPARTURES - ESPECIALLY IN SUMMER MONTHS.

Optional - Please provide your contact information, in the event we have follow-up questions for you:

Name: GENE MOBLEY
Company: AMERICAN MEDICAL CONCEPTS, INC.
Phone: 541-968-2140
E-Mail: [redacted]
GENE.MOBLEY@AMCMEDICAL.COM

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3040 25th Street SE ♦ Salem, OR 97302-1125
Phone: (503) 378-4880 ♦ Toll Free: (800) 874-0102
Fax : (503) 373-1688

Aurora State Airport Runway Length Questionnaire

1. Please list the aircraft currently operated by your company into the Aurora State Airport, along with the aircraft's tail number: ___Hawker 800A N508MM (currently registered in Mexico) Pilatus PC-12 N535PT & Beech A36 N349RP_____

2. What is the typical stage length for each of the aircraft listed above? ___800 NM, 400 NM, & 60 NM_____

3. What is the maximum stage length for each of the aircraft listed above? __2000 NM, 1500 NM, & 700 NM_____

4. If aircraft operations at the Aurora State Airport are constrained (i.e., reduced payload for takeoff), identify those constraints: ___Hawker reduced payload (fuel) for takeoff_____

5. Identify the number of annual operations at the Aurora State Airport that require a runway extension (this can be a cumulative number based on constrained operations of multiple aircraft, if you have a fleet of various aircraft):
_____120_____

6. Does your insurance company require a minimum runway length for operations?*__X__ Yes __X__ No
*Not specifically, but it does (as I believe most do) require safe & legal operations which includes balance field lengths.
   a. If you responded Yes to #6, please provide a letter from your insurance company stating the minimum runway length requirement.

7. Do you currently operate at the Aurora State Airport? __X__ Yes ____ No

   a. If you responded No to #7, can you assure that your company intends on operating at the Aurora State Airport, if a runway extension that meets your criteria is constructed?
   __X__ Yes ____ No

8. Are there any other comments/suggestions you have for improving the Aurora State Airport?

___The transient parking/ramp area on the state ramp (adjacent A2) needs work i.e. paving / seal-coating and better lighting_____

Optional - Please provide your contact information, in the event we have follow-up questions for you:
Name: __Bill Corn___ Company: _____W.A.C. Charter_____
Phone: ____503-979-7499____ E-Mail: _____

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3040 25th Street SE ♦ Salem, OR 97302-1125
Phone: (503) 378-4880 ♦ Toll Free: (800) 874-0102
Fax : (503) 373-1688

Aurora State Airport Runway Length Questionnaire

1. Please list the aircraft currently operated by your company into the Aurora State Airport, along with the aircraft's tail number:
   EMB-135BJ AC90, AC95 LR-35A, CL-601-3A/R
   N53NA, N543LG, N544LG, N115WF, N71AP, N83WA

2. What is the typical stage length for each of the aircraft listed above?
   EMB - 3400, AC90 = N/A, AC95 = N/A, LR-35A = 3300, CL601 = 4000
   (ALL NUMBERS ARE ESTIMATES)

3. What is the maximum stage length for each of the aircraft listed above?
   EMB = 7600 AC90 = N/A AC95 = N/A, LR-35A = 8300, CL601 = 9000
   (ALL NUMBERS ARE ESTIMATES)

4. If aircraft operations at the Aurora State Airport are constrained (i.e., reduced payload for takeoff), identify those constraints:
   ~~N/A~~ DURING SUMMER MONTHS NO JET CAN TAKE OFF UNDER 135 REQUIREMENTS WITH FULL PAYLOAD / FUEL

5. Identify the number of annual operations at the Aurora State Airport that require a runway extension (this can be a cumulative number based on constrained operations of multiple aircraft, if you have a fleet of various aircraft):
   BEST GUESS: ≈ 50 / YEAR

6. Does your insurance company require a minimum runway length for operations? ____ Yes ✓ No

   a. If you responded Yes to #6, please provide a letter from your insurance company stating the minimum runway length requirement.

7. Do you currently operate at the Aurora State Airport? ✓ Yes ____ No

   a. If you responded No to #7, can you assure that your company intends on operating at the Aurora State Airport, if a runway extension that meets your criteria is constructed?
   ____ Yes ____ No

8. Are there any other comments/suggestions you have for improving the Aurora State Airport?
   UPDATED TAXIWAY MARKINGS.

Optional - Please provide your contact information, in the event we have follow-up questions for you:

Name: VINCE HAMBLIN
Company: ACCO AIR, LLC.
Phone: 503-640-3711
E-Mail: VHAMBLIN@ACCOAIR.COM

Oregon
Theodore R. Kulongoski, Governor

OREGON DEPARTMENT OF AVIATION

3040 25th Street SE ◆ Salem, OR 97302-1125
Phone: (503) 378-4880 ◆ Toll Free: (800) 874-0102
Fax : (503) 373-1688

Aurora State Airport Runway Length Questionnaire

1. Please list the aircraft currently operated by your company into the Aurora State Airport, along with the aircraft's tail number: Global Express (N724AF), Gulfstream V (N531AF) and Twin Otter (N711AF)

2. What is the typical stage length for each of the aircraft listed above? Global Express – 4500NM, GV – 4500NM and Twin Otter – 100NM

3. What is the maximum stage length for each of the aircraft listed above? Global Express -- 6200NM, GV – 6500NM and Twin Otter – 300NM

4. If aircraft operations at the Aurora State Airport are constrained (i.e., reduced payload for takeoff), identify those constraints: In the two larger aircraft, we are constrained by maximum takeoff weight and could also be constrained by runway length if a higher weight were allowed

5. Identify the number of annual operations at the Aurora State Airport that require a runway extension (this can be a cumulative number based on constrained operations of multiple aircraft, if you have a fleet of various aircraft):
   4-5 Operations

6. Does your insurance company require a minimum runway length for operations? ____ Yes _X_ No

   a. If you responded Yes to #6, please provide a letter from your insurance company stating the minimum runway length requirement.

7. Do you currently operate at the Aurora State Airport? __X__ Yes ____ No

   a. If you responded No to #7, can you assure that your company intends on operating at the Aurora State Airport, if a runway extension that meets your criteria is constructed?
   ____ Yes ____ No

8. Are there any other comments/suggestions you have for improving the Aurora State Airport?

Optional - Please provide your contact information, in the event we have follow-up questions for you:

Name: Bruce Dunton Company: Vulcan Flight
Phone: (206) 658-4928 E-Mail: bruced@vulcan.com

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OREGON DEPARTMENT OF AVIATION

3040 25th Street SE ♦ Salem, OR 97302-1125
Phone: (503) 378-4880 ♦ Toll Free: (800) 874-0102
Fax : (503) 373-1688

Aurora State Airport Runway Length Questionnaire

1. Please list the aircraft currently operated by your company into the Aurora State Airport, along with the aircraft's tail number: ___CL-604, CL-601, G200

2. What is the typical stage length for each of the aircraft listed above? __2 to 4 hours_____

3. What is the maximum stage length for each of the aircraft listed above? _____6 – 8 hours_____

4. If aircraft operations at the Aurora State Airport are constrained (i.e., reduced payload for takeoff), identify those constraints: __reduced passenger load due to runway length, possible diversion upon arrival if rain due to runway lenght_____

5. Identify the number of annual operations at the Aurora State Airport that require a runway extension (this can be a cumulative number based on constrained operations of multiple aircraft, if you have a fleet of various aircraft):
___once a month_____

6. Does your insurance company require a minimum runway length for operations? ____ Yes _X___ No

    a. If you responded Yes to #6, please provide a letter from your insurance company stating the minimum runway length requirement.

7. Do you currently operate at the Aurora State Airport? _X___ Yes ____ No

    a. If you responded No to #7, can you assure that your company intends on operating at the Aurora State Airport, if a runway extension that meets your criteria is constructed?
    ____ Yes ____ No

8. Are there any other comments/suggestions you have for improving the Aurora State Airport?
___Our policy manual and me the director of operations make restrictions that apply to this shorter type runway. It also is very hard to plan for our executives since we never know if we can land in UAO since the possibility of rain is high in Oregon. If we arrive into that area and the runway is wet we would have to divert to PDX costing our passenegr a major delay and possible missing the meetings they are flying out there for. One event like that and my orders will be never to fly into there again. I know it sounds odd, but if I plan the drive from PDX then the passneger will not miss the meeting. Don't forget, the type passneger that is on this airplane "IS" the reason for the meeting and many people are awaiting her arrival.__DON'T FORGET THE MAIN REASON YOU SHOULD DO THIS IS FOR INCREASED SAFETY MARGIN FOR ALL!

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By

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Aurora State Airport Runway Length Questionnaire

1. Please list the aircraft currently operated by your company into the Aurora State Airport, along with the aircraft's tail number:
   Our company currently does not operate from KUAO.
   We do however occassionly operate from KHIO, KADX and KMFR
   GLOBAL EXPRESS, N881WT and GULFSTREAM 550, N885WT
2. What is the typical stage length for each of the aircraft listed above?
   4500 NM
3. What is the maximum stage length for each of the aircraft listed above?
   N881WT 5700 NM
   N885WT 6100 NM
4. If aircraft operations at the Aurora State Airport are constrained (i.e., reduced payload for takeoff), identify those constraints:
   Fuel limited by maximum Takeoff weight allowable at KUAO
5. Identify the number of annual operations at the Aurora State Airport that require a runway extension (this can be a cumulative number based on constrained operations of multiple aircraft, if you have a fleet of various aircraft):
   We currently do not operate from KUAO due to location and runway length.
6. Does your insurance company require a minimum runway length for operations? ____ Yes X No
   a. If you responded Yes to #6, please provide a letter from your insurance company stating the minimum runway length requirement.
7. Do you currently operate at the Aurora State Airport? ____ Yes X No
   a. If you responded No to #7, can you assure that your company intends on operating at the Aurora State Airport, if a runway extension that meets your criteria is constructed?
   ____ Yes ____ No Not yet considered. Would have to evaluate.
8. Are there any other comments/suggestions you have for improving the Aurora State Airport?
   Our flight department has never operated from Aurora State Arpt.
   If the runway extension were to equal or exceed the KHIO runway 12/30
   facility, we would possibly consider operations from KUAO
   occassionally.

Optional - Please provide your contact information, in the event we have follow-up questions for you:

Name: Charles Reeves
Company: QUALCOMM
Phone: 858 525 2331
E-Mail: creeves@qualcomm.com

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Aurora State Airport Runway Length Questionnaire

1. Please list the aircraft currently operated by your company into the Aurora State Airport, along with the aircraft's tail number:
   N A

2. What is the typical stage length for each of the aircraft listed above?
   N A

3. What is the maximum stage length for each of the aircraft listed above?
   N A

4. If aircraft operations at the Aurora State Airport are constrained (i.e., reduced payload for takeoff), identify those constraints:
   N A

5. Identify the number of annual operations at the Aurora State Airport that require a runway extension (this can be a cumulative number based on constrained operations of multiple aircraft, if you have a fleet of various aircraft):
   N A

6. Does your insurance company require a minimum runway length for operations? ____ Yes __X__ No

   a. If you responded Yes to #6, please provide a letter from your insurance company stating the minimum runway length requirement.

7. Do you currently operate at the Aurora State Airport? ____ Yes __X__ No

   a. If you responded No to #7, can you assure that your company intends on operating at the Aurora State Airport, if a runway extension that meets your criteria is constructed?
   ____ Yes ____ No

8. Are there any other comments/suggestions you have for improving the Aurora State Airport?

Optional - Please provide your contact information, in the event we have follow-up questions for you:

Name: R. Hopkins Company: D+D Aviation
Phone: 801 532 0990 E-Mail:

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Aurora State Airport Runway Length Questionnaire

1. Please list the aircraft currently operated by your company into the Aurora State Airport, along with the aircraft's tail number:
   PC-12/47E N812GS
   PC-12/47E N812FS

2. What is the typical stage length for each of the aircraft listed above?
   Typical flight length is 800 miles.

3. What is the maximum stage length for each of the aircraft listed above?
   Maximum length is 1500 miles

4. If aircraft operations at the Aurora State Airport are constrained (i.e., reduced payload for takeoff), identify those constraints:
   No constraints.

5. Identify the number of annual operations at the Aurora State Airport that require a runway extension (this can be a cumulative number based on constrained operations of multiple aircraft, if you have a fleet of various aircraft):
   0

6. Does your insurance company require a minimum runway length for operations? ____ Yes X No

   a. If you responded Yes to #6, please provide a letter from your insurance company stating the minimum runway length requirement.

7. Do you currently operate at the Aurora State Airport? X Yes ____ No

   a. If you responded No to #7, can you assure that your company intends on operating at the Aurora State Airport, if a runway extension that meets your criteria is constructed?
   X Yes ____ No

8. Are there any other comments/suggestions you have for improving the Aurora State Airport?
   In the vicinity of Hangar K we need a wider taxi way. Recent hangar construction has caused a chock point and no place to stage aircraft.

Optional - Please provide your contact information, in the event we have follow-up questions for you:

Name: Greg Lund
Company: FLIR Systems
Phone: 503-593-2727
E-Mail: greg.lund@flir.com

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Aurora State Airport Runway Length Questionnaire

1. Please list the aircraft currently operated by your company into the Aurora State Airport, along with the aircraft's tail number:
   CITATION XL

2. What is the typical stage length for each of the aircraft listed above?
   700 MILES

3. What is the maximum stage length for each of the aircraft listed above?
   1600 MILES

4. If aircraft operations at the Aurora State Airport are constrained (i.e., reduced payload for takeoff), identify those constraints:
   N/A

5. Identify the number of annual operations at the Aurora State Airport that require a runway extension (this can be a cumulative number based on constrained operations of multiple aircraft, if you have a fleet of various aircraft):
   NONE.

6. Does your insurance company require a minimum runway length for operations? ____ Yes _X_ No

   a. If you responded Yes to #6, please provide a letter from your insurance company stating the minimum runway length requirement.

7. Do you currently operate at the Aurora State Airport? _X_ Yes ____ No

   a. If you responded No to #7, can you assure that your company intends on operating at the Aurora State Airport, if a runway extension that meets your criteria is constructed?
   _X_ Yes ____ No

8. Are there any other comments/suggestions you have for improving the Aurora State Airport?
   WE ARE HAPPY WITH UAO AND PLAN TO BE HERE FOR MANY YEARS.

Optional - Please provide your contact information, in the event we have follow-up questions for you:

Name: RICH WARDEN Company: RSG FOREST PRODUCTS
Phone: 678-1475 E-Mail: ____

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Aurora State Airport Runway Length Questionnaire

1. Please list the aircraft currently operated by your company into the Aurora State Airport, along with the aircraft's tail number: ____C-152 N64942, C-172(s) N172JV & N2457X, PA-28R N425JV, C-421(s) N513SJ, N2668A & N700MR, BE-200B N411KC_____

2. What is the typical stage length for each of the aircraft listed above? ___40 NM, 60 NM, 110 NM, 200 NM, and 250 NM_____

3. What is the maximum stage length for each of the aircraft listed above? ____240 NM, 450 NM, 600 NM, 950 NM and 1200 NM_____

4. If aircraft operations at the Aurora State Airport are constrained (i.e., reduced payload for takeoff), identify those constraints: ____Yes, but not currently (see below)_____

5. Identify the number of annual operations at the Aurora State Airport that require a runway extension (this can be a cumulative number based on constrained operations of multiple aircraft, if you have a fleet of various aircraft):
_____Approx. 500 (See below)_____

6. Does your insurance company require a minimum runway length for operations? __X__ Yes ____ No

    a. If you responded Yes to #6, please provide a letter from your insurance company stating the minimum runway length requirement. Our Policy is voluminous but requires a balanced field length.

7. Do you currently operate at the Aurora State Airport? __X__ Yes ____ No

    a. If you responded No to #7, can you assure that your company intends on operating at the Aurora State Airport, if a runway extension that meets your criteria is constructed? __X__ Yes ____ No

8. Are there any other comments/suggestions you have for improving the Aurora State Airport?
___We have operated off here since 1968 including Commercial Air-Carrier ("on call –charter under FAR 135) since 1980, from 2003 to 2007 this included Jet Charter (RA-390, BE-400, HS-125 & DA-900) which was constantly limited by runway length, resumption of this service would be expedited by an improved runway. Our jet fuel sales are currently limited by runway length and strength.___

Optional - Please provide your contact information, in the event we have follow-up questions for you:
Name: __Bruce Bennett__ Company: ___Aurora Aviation, Inc._____
Phone: ____503-678-1217_____ E-Mail: _____Bruce@AuroraAviation.com_____

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Fax: (503) 373-1688

Aurora State Airport Runway Length Questionnaire

1. Please list the aircraft currently operated by your company into the Aurora State Airport, along with the aircraft's tail number: We do not presently operate our Global Express into Aurora State Airport since it only has 5,000 foot runway. N823DF

2. What is the typical stage length for each of the aircraft listed above? 4,500 NM

3. What is the maximum stage length for each of the aircraft listed above? 5,900 NM

4. If aircraft operations at the Aurora State Airport are constrained (i.e., reduced payload for takeoff), identify those constraints: With the runway at its present length. We would not be able to depart Aurora State Airport with enough fuel to reach any destination in Europe or Asia. The minimum length would we would need would be 6,000 feet.

5. Identify the number of annual operations at the Aurora State Airport that require a runway extension (this can be a cumulative number based on constrained operations of multiple aircraft, if you have a fleet of various aircraft):
50

6. Does your insurance company require a minimum runway length for operations? ____ Yes __X__ No

   a. If you responded Yes to #6, please provide a letter from your insurance company stating the minimum runway length requirement.

7. Do you currently operate at the Aurora State Airport? ____ Yes __X__ No

   a. If you responded No to #7, can you assure that your company intends on operating at the Aurora State Airport, if a runway extension that meets your criteria is constructed?
   __X__ Yes ____ No

8. Are there any other comments/suggestions you have for improving the Aurora State Airport?

Optional - Please provide your contact information, in the event we have follow-up questions for you:

Name: Larry B Edeal
Company: Y2K Aviation LLC
Phone: 503 640 9518
E-Mail: ledeal@y2kaviationllc.com

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Aurora State Airport Runway Length Questionnaire

1. Please list the aircraft currently operated by your company into the Aurora State Airport, along with the aircraft's tail number:
ASTRA #034 N541RL TRANSCONTINENT INV. LLC.

2. What is the typical stage length for each of the aircraft listed above?
1000 - 2000

3. What is the maximum stage length for each of the aircraft listed above?
2400

4. If aircraft operations at the Aurora State Airport are constrained (i.e., reduced payload for takeoff), identify those constraints:
RUNWAY LENGTH DUE TO TEMP.

5. Identify the number of annual operations at the Aurora State Airport that require a runway extension (this can be a cumulative number based on constrained operations of multiple aircraft, if you have a fleet of various aircraft):
60-70 (SINGLE AIRCRAFT)

6. Does your insurance company require a minimum runway length for operations? ___ Yes ✓ No

   a. If you responded Yes to #6, please provide a letter from your insurance company stating the minimum runway length requirement.

7. Do you currently operate at the Aurora State Airport? ✓ Yes ___ No

   a. If you responded No to #7, can you assure that your company intends on operating at the Aurora State Airport, if a runway extension that meets your criteria is constructed?
   ✓ Yes ___ No

8. Are there any other comments/suggestions you have for improving the Aurora State Airport?
(1) CONTROL TOWER ASAP –
(2) RUNWAY EXTENSION –

Optional – Please provide your contact information, in the event we have follow-up questions for you.
Name: RENNY PRICE
Company: HAMMERHEAD AEROBATICS
Phone: 503-381-5564
E-Mail: RENNYPRICE@MSN.COM

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Aurora State Airport Runway Length Questionnaire

1. Please list the aircraft currently operated by your company into the Aurora State Airport, along with the aircraft's tail number:
   Currently N/A due to runway length. We operate two Challengers - N601RC and 605RC as well as one Hawker 800XP - N800RC

2. What is the typical stage length for each of the aircraft listed above?
   6000 NM each

3. What is the maximum stage length for each of the aircraft listed above?
   N601RC = 3000 NM, N605RC = 4000 NM,
   N800RC 2700 NM

4. If aircraft operations at the Aurora State Airport are constrained (i.e., reduced payload for takeoff), identify those constraints:
   Reduced max T.O. weight resulting in additional fuel stop to return to destination (Essex). Unable to use when runway contaminated

5. Identify the number of annual operations at the Aurora State Airport that require a runway extension (this can be a cumulative number based on constrained operations of multiple aircraft, if you have a fleet of various aircraft):
   If runway extended - would use 12-15 Times/year

6. Does your insurance company require a minimum runway length for operations? ____ Yes X No

   a. If you responded Yes to #6, please provide a letter from your insurance company stating the minimum runway length requirement.

7. Do you currently operate at the Aurora State Airport? ____ Yes X No

   a. If you responded No to #7, can you assure that your company intends on operating at the Aurora State Airport, if a runway extension that meets your criteria is constructed?
   X Yes ____ No

8. Are there any other comments/suggestions you have for improving the Aurora State Airport?

Optional - Please provide your contact information, in the event we have follow-up questions for you:

Name: Evan McBride Company: Rockwell Collins

Phone: 319-295-5221 E-Mail: emcbride@rockwellcollins.com

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Aurora State Airport Runway Length Questionnaire

1. Please list the aircraft currently operated by your company into the Aurora State Airport, along with the aircraft's tail number:
   N300FS CL-30

2. What is the typical stage length for each of the aircraft listed above?
   600 nm

3. What is the maximum stage length for each of the aircraft listed above?
   3,200 nm

4. If aircraft operations at the Aurora State Airport are constrained (i.e., reduced payload for takeoff), identify those constraints:
   reduced payload w/ wet Runway for departures

5. Identify the number of annual operations at the Aurora State Airport that require a runway extension (this can be a cumulative number based on constrained operations of multiple aircraft, if you have a fleet of various aircraft):
   6

6. Does your insurance company require a minimum runway length for operations? √ Yes ____ No

   a. If you responded Yes to #6, please provide a letter from your insurance company stating the minimum runway length requirement. Variable based on ABG survey

7. Do you currently operate at the Aurora State Airport? √ Yes ____ No

   a. If you responded No to #7, can you assure that your company intends on operating at the Aurora State Airport, if a runway extension that meets your criteria is constructed?
   √ Yes ____ No

8. Are there any other comments/suggestions you have for improving the Aurora State Airport?
   We are unable to use UAO about 30% of the time due to runway contraints

Optional - Please provide your contact information, in the event we have follow-up questions for you

Name: [illegible] Company: Key Air
Phone: [illegible] E-Mail: [illegible]

Replaces prior survey.

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Aurora State Airport Runway Length Questionnaire

1. Please list the aircraft currently operated by your company into the Aurora State Airport, along with the aircraft's tail number: ASTRAJET 1125 / N41AU

2. What is the typical stage length for each of the aircraft listed above?
800 N.M.

3. What is the maximum stage length for each of the aircraft listed above?
2200 N.M.

4. If aircraft operations at the Aurora State Airport are constrained (i.e., reduced payload for takeoff), identify those constraints:
Not able to top off Fuel & passengers for some mission Because we are Restricted for weight for Runway length!

5. Identify the number of annual operations at the Aurora State Airport that require a runway extension (this can be a cumulative number based on constrained operations of multiple aircraft, if you have a fleet of various aircraft).
48 take off / year average.

6. Does your insurance company require a minimum runway length for operations? ____ Yes X No

   a. If you responded Yes to #6, please provide a letter from your insurance company stating the minimum runway length requirement.

7. Do you currently operate at the Aurora State Airport? X Yes ____ No

   a. If you responded No to #7, can you assure that your company intends on operating at the Aurora State Airport, if a runway extension that meets your criteria is constructed?
   ____ Yes ____ No

8. Are there any other comments/suggestions you have for improving the Aurora State Airport?
LONGER RUNWAY WOULD BE MUCH APPRECIATED!

Optional - Please provide your contact information, in the event we have follow-up questions for you:

Name: MICHALL BONY
Company: Novellus Systems Inc.
Phone: 408-781-5191
E-Mail: michall.bony@novellus.com

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Aurora State Airport Runway Length Questionnaire

1. Please list the aircraft currently operated by your company into the Aurora State Airport, along with the aircraft's tail number:
   CE 560 N38NS

2. What is the typical stage length for each of the aircraft listed above?
   400 nm 2 hrs

3. What is the maximum stage length for each of the aircraft listed above?
   1680 nm 4.5 hrs

4. If aircraft operations at the Aurora State Airport are constrained (i.e., reduced payload for takeoff), identify those constraints:
   TEMP'S ABOVE 35° C / WET

5. Identify the number of annual operations at the Aurora State Airport that require a runway extension (this can be a cumulative number based on constrained operations of multiple aircraft, if you have a fleet of various aircraft):
   10

6. Does your insurance company require a minimum runway length for operations? ____ Yes X No

   a. If you responded Yes to #6, please provide a letter from your insurance company stating the minimum runway length requirement.

7. Do you currently operate at the Aurora State Airport? X Yes ____ No

   a. If you responded No to #7, can you assure that your company intends on operating at the Aurora State Airport, if a runway extension that meets your criteria is constructed?
   ____ Yes ____ No

8. Are there any other comments/suggestions you have for improving the Aurora State Airport?
   ILS
   RWY EXTENSION 500' - 1000' FT
   TOWER

Optional - Please provide your contact information, in the event we have follow-up questions for you.

Name: ERNIE STURM
Company: AIRCRAFT MIAMI JOHNSONS
Phone: 360-834-2211
E-Mail: estrum@aircraftmiami.com

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Aurora State Airport Runway Length Questionnaire

1. Please list the aircraft currently operated by your company into the Aurora State Airport, along with the aircraft's tail number:
   HAWKER 800XP N650JS

2. What is the typical stage length for each of the aircraft listed above?
   500 nm 2-3 hrs

3. What is the maximum stage length for each of the aircraft listed above?
   2500 nm 6 hrs

4. If aircraft operations at the Aurora State Airport are constrained (i.e., reduced payload for takeoff), identify those constraints:
   TEMP ABOVE 20° C / WET

5. Identify the number of annual operations at the Aurora State Airport that require a runway extension (this can be a cumulative number based on constrained operations of multiple aircraft, if you have a fleet of various aircraft):
   12

6. Does your insurance company require a minimum runway length for operations? ____ Yes X No

   a. If you responded Yes to #6, please provide a letter from your insurance company stating the minimum runway length requirement.

7. Do you currently operate at the Aurora State Airport? X Yes ____ No

   N/A a. If you responded No to #7, can you assure that your company intends on operating at the Aurora State Airport, if a runway extension that meets your criteria is constructed?
   ____ Yes ____ No

8. Are there any other comments/suggestions you have for improving the Aurora State Airport?
   RUNWAY EXTENSION
   ILS
   TOWER

Optional - Please provide your contact information, in the event we have follow-up questions for you.

Name: ERNIE STRUEM
Company: AIRCRAFT MGMT SOLUTIONS
Phone: 360-834-2211
E-Mail: estruem@airmansol.com

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Aurora State Airport Runway Length Questionnaire

1. Please list the aircraft currently operated by your company into the Aurora State Airport, along with the aircraft's tail number:
   FA/20 N987AB

2. What is the typical stage length for each of the aircraft listed above?
   2-5 hrs 500 nm

3. What is the maximum stage length for each of the aircraft listed above?
   4-5 hrs 1000 nm

4. If aircraft operations at the Aurora State Airport are constrained (i.e., reduced payload for takeoff), identify those constraints:
   TEMP's ABOVE 20°C / WET

5. Identify the number of annual operations at the Aurora State Airport that require a runway extension (this can be a cumulative number based on constrained operations of multiple aircraft, if you have a fleet of various aircraft):
   15

6. Does your insurance company require a minimum runway length for operations? X Yes X No

   a. If you responded Yes to #6, please provide a letter from your insurance company stating the minimum runway length requirement.

7. Do you currently operate at the Aurora State Airport? X Yes ____ No

N/A a. If you responded No to #7, can you assure that your company intends on operating at the Aurora State Airport, if a runway extension that meets your criteria is constructed?
   ____ Yes ____ No

8. Are there any other comments/suggestions you have for improving the Aurora State Airport?
   ILS
   EXTENDENDED RNWY 500' - 1000'
   TOWER

Optional - Please provide your contact information, in the event we have follow-up questions for you.

Name: ERNIE STURM Company: Aircraft Mount Solutions
Phone: 360-834-2211 E-Mail: esturm@aircraftmount.com

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Fax: 503-373-1688

Aurora State Airport Runway Length Questionnaire

1. Please list the aircraft currently operated by your company into the Aurora State Airport, along with the aircraft's tail number:
   N6780Q Beech A36

2. What is the typical stage length for each of the aircraft listed above?
   200 nm

3. What is the maximum stage length for each of the aircraft listed above?
   1000 nm

4. If aircraft operations at the Aurora State Airport are constrained (i.e., reduced payload for takeoff), identify those constraints:

5. Identify the number of annual operations at the Aurora State Airport that require a runway extension (this can be a cumulative number based on constrained operations of multiple aircraft, if you have a fleet of various aircraft):

6. Does your insurance company require a minimum runway length for operations? ____ Yes X No

   a. If you responded Yes to #6, please provide a letter from your insurance company stating the minimum runway length requirement.

7. Do you currently operate at the Aurora State Airport? X Yes ____ No

   a. If you responded No to #7, can you assure that your company intends on operating at the Aurora State Airport, if a runway extension that meets your criteria is constructed?
   ____ Yes ____ No

8. Are there any other comments/suggestions you have for improving the Aurora State Airport?
   Need a Control Tower; Several Near misses when entering or departing.

Optional - Please provide your contact information, in the event we have follow-up questions for you.

Name: Craig Stuckey
Company: Aircraft Management Solutions
Phone: 503 780 4151
E-Mail: CStuckey@aircraftmgmtsolutions.com

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Aurora State Airport Runway Length Questionnaire

1. Please list the aircraft currently operated by your company into the Aurora State Airport, along with the aircraft's tail number:
   Hawker 800XP N800YY

2. What is the typical stage length for each of the aircraft listed above?
   500 - 1000 nm 3-4 hrs

3. What is the maximum stage length for each of the aircraft listed above?
   1500 nm 6 hrs

4. If aircraft operations at the Aurora State Airport are constrained (i.e., reduced payload for takeoff), identify those constraints:
   ~~TO~~ Temp Above 30°C / Wet

5. Identify the number of annual operations at the Aurora State Airport that require a runway extension (this can be a cumulative number based on constrained operations of multiple aircraft, if you have a fleet of various aircraft):
   12

6. Does your insurance company require a minimum runway length for operations? ____ Yes X No

   a. If you responded Yes to #6, please provide a letter from your insurance company stating the minimum runway length requirement.

7. Do you currently operate at the Aurora State Airport? X Yes ~~X~~ No

   a. If you responded No to #7, can you assure that your company intends on operating at the Aurora State Airport, if a runway extension that meets your criteria is constructed?
   ____ Yes ____ No

8. Are there any other comments/suggestions you have for improving the Aurora State Airport?
   ILS
   Tower
   Rnwy Ext 500 - 1000'

Optional - Please provide your contact information, in the event we have follow-up questions for you.

Name: Ernie Stuem Company: Aircraft Maint. Solutions
Phone: 360-834-2211 E-Mail: estuem@aircraftsol.com

Oregon
Theodore R. Kulongoski, Governor

OREGON DEPARTMENT OF AVIATION

3040 25th Street SE • Salem, OR 97302-1125
Phone: (503) 378-4880 • Toll Free: (800) 874-0102
Fax: (503) 373-1688

Aurora State Airport Runway Length Questionnaire

1. Please list the aircraft currently operated by your company into the Aurora State Airport, along with the aircraft's tail number: CJ3 – N417C

2. What is the typical stage length for each of the aircraft listed above? ___400 nm

3. What is the maximum stage length for each of the aircraft listed above? 1700 nm

4. If aircraft operations at the Aurora State Airport are constrained (i.e., reduced payload for takeoff), identify those constraints: Shortened runway would affect balanced field length, which would affect range and payload. Not good for us.

5. Identify the number of annual operations at the Aurora State Airport that require a runway extension (this can be a cumulative number based on constrained operations of multiple aircraft, if you have a fleet of various aircraft): For us, 2

6. Does your insurance company require a minimum runway length for operations? _____ Yes _X___ No

   a. If you responded Yes to #6, please provide a letter from your insurance company stating the minimum runway length requirement.

7. Do you currently operate at the Aurora State Airport? __X__ Yes _____ No

   a. If you responded No to #7, can you assure that your company intends on operating at the Aurora State Airport, if a runway extension that meets your criteria is constructed? __X__ Yes _____ No

8. Are there any other comments/suggestions you have for improving the Aurora State Airport? Not at this time

9.

10. provide your contact information, in the event we have follow-up questions for you:

Name: Jeffrey L. Glass_____ Company: Glass Aviation, Inc.
Phone: 408-292-3886 E-Mail: jglass@glassaviation.com

Oregon
Theodore R. Kulongoski, Governor

OREGON DEPARTMENT OF AVIATION

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Aurora State Airport Runway Length Questionnaire

1. Please list the aircraft currently operated by your company into the Aurora State Airport, along with the aircraft's tail number: ___British Aerospace BAE 125 Series (Hawker) 800A N855BC_____

2. What is the typical stage length for each of the aircraft listed above? ___900 NM,_____

3. What is the maximum stage length for each of the aircraft listed above? __2000 NM, _____

4. If aircraft operations at the Aurora State Airport are constrained (i.e., reduced payload for takeoff), identify those constraints: ___ reduced payload (fuel, baggage or passengers) for takeoff due to runway length and balanced field safety requirements_____

5. Identify the number of annual operations at the Aurora State Airport that require a runway extension (this can be a cumulative number based on constrained operations of multiple aircraft, if you have a fleet of various aircraft):
   _____60/year_____

6. Does your insurance company require a minimum runway length for operations?*__X__ Yes ____ No
   *Not certain distance but does require legal operations which includes balance field lengths.
   a. If you responded Yes to #6, please provide a letter from your insurance company stating the minimum runway length requirement. (on request)

7. Do you currently operate at the Aurora State Airport? __X__ Yes ____ No

   a. If you responded No to #7, can you assure that your company intends on operating at the Aurora State Airport, if a runway extension that meets your criteria is constructed?
   __X__ Yes ____ No

8. Are there any other comments/suggestions you have for improving the Aurora State Airport?
   _____A Control Tower is very badly needed and the transient parking/ramp area on the state ramp (adjacent A2) needs work i.e. paving / seal-coating and better lighting_____

Optional - Please provide your contact information, in the event we have follow-up questions for you:
Name: __Bill Corn___ Company: _____PB Air Inc_____
Phone: _____503-979-7499_____ E-Mail: _____

Oregon

Theodore R. Kulongoski, Governor

OREGON DEPARTMENT OF AVIATION

3040 25th Street SE • Salem, OR 97302-1125
Phone: 503-378-4880 • Toll Free: 800-874-0102
Fax: 503-373-1688

Aurora State Airport Runway Length Questionnaire

1. Please list the aircraft currently operated by your company into the Aurora State Airport, along with the aircraft's tail number:
   N823HD, N707WR, N823HD, N884HD, N825HD
   FA-900, FA-900EX, FA-50, FA-50, FA-50

2. What is the typical stage length for each of the aircraft listed above?
   3-4 hours

3. What is the maximum stage length for each of the aircraft listed above?
   5 hours

4. If aircraft operations at the Aurora State Airport are constrained (i.e., reduced payload for takeoff), identify those constraints:

5. Identify the number of annual operations at the Aurora State Airport that require a runway extension (this can be a cumulative number based on constrained operations of multiple aircraft, if you have a fleet of various aircraft):
   4

6. Does your insurance company require a minimum runway length for operations? X Yes ____ No

   a. If you responded Yes to #6, please provide a letter from your insurance company stating the minimum runway length requirement.

7. Do you currently operate at the Aurora State Airport? X Yes ____ No

   a. If you responded No to #7, can you assure that your company intends on operating at the Aurora State Airport, if a runway extension that meets your criteria is constructed?
   X Yes ____ No

8. Are there any other comments/suggestions you have for improving the Aurora State Airport?

Optional - Please provide your contact information, in the event we have follow-up questions for you:

Name: Andrew Howard
Company: The Home Depot
Phone: 770-384-3837
E-Mail:

Oregon
Theodore R. Kulongoski, Governor

OREGON DEPARTMENT OF AVIATION

3040 25th Street SE • Salem, OR 97302-1125
Phone: (503) 378-4880 • Toll Free (800) 874-0102
Fax: (503) 373-1688

Aurora State Airport Runway Length Questionnaire

1. Please list the aircraft currently operated by your company into the Aurora State Airport, along with the aircraft's tail number: None because the runway is too short. We operate a Citation Encore. Jet N550PF

2. What is the typical stage length for each of the aircraft listed above? Hour and 30 min.

3. What is the maximum stage length for each of the aircraft listed above? Six hours

4. If aircraft operations at the Aurora State Airport are constrained (i.e., reduced payload for takeoff), identify those constraints. The runway is to short to even consider

5. Identify the number of annual operations at the Aurora State Airport that require a runway extension (this can be a cumulative number based on constrained operations of multiple aircraft, if you have a fleet of various aircraft): We would consider using it 10 times a year

6. Does your insurance company require a minimum runway length for operations? ____ Yes __X__ No

   a. If you responded Yes to #6, please provide a letter from your insurance company stating the minimum runway length requirement

7. Do you currently operate at the Aurora State Airport? ____ Yes __X__ No

   a. If you responded No to #7, can you assure that your company intends on operating at the Aurora State Airport, if a runway extension that meets your criteria is constructed?
   __X__ Yes ____ No

8. Are there any other comments/suggestions you have for improving the Aurora State Airport?
   Just make the runway longer

Optional - Please provide your contact information, in the event we have follow-up questions for you.

Name: Garry Pohrman Company: Adaptation Aviation LLC 3635 Alma Ave Redding, Ca 96002

Phone: 5309497614 Garry44@aol.com E-Mail:

Appendix J:
TRAFFIC ANALYSIS

Airport Master Plan Update

Aurora State Airport

WHPacific
OREGON DEPARTMENT OF AVIATION

Appendix J
TRAFFIC ANALYSIS

Contents

Anderson, Rainse

From: CROWNOVER Don R [Don.R.CROWNOVER@odot.state.or.us]
Sent: Wednesday, November 03, 2010 4:31 PM
To: Anderson, Rainse; CUMMINGS Christopher * ODA; WILSON John P * ODA
Subject: RE: Aurora airport counts [auto-ip][senderbase]

All; I applied factors to the counts to estimate a annual average daily traffic (AADT) at the sites. These should be taken with a great plus or minus. The AADT is derived by multiplying the count ADT by a seasonal factor by an axle factor. The count ADT is just the average from the seven days it was counted. The seasonal factor is just an adjustment based on our nearby Hubbard automatic traffic recorder (ATR) that is a ratio of that count week to the year (in this case a rolling year from Nov 2009 to Oct 2010, because 2010 is not yet complete. That factor was 0.97. The axle factor adjusts for the fact that the counter just sees every two axles as a vehicle. Since there were few trailers that we saw, I just applied an axle factor of 0.99. Since all that is such a long shot, I also rounded as much as I could get away with. The chart below presents the sites in clockwise order around the airport. If you have any questions, please let me know. Don

Site ID	Description	Count ADT	Estimated Annual ADT	Peak Hour
21127	Columbia North Exit	106	100	37
21165	Columbia North Entrance	142	140	50
21157	Columbia East Entrance	926	890	396
21187	Willamette Aviation	165	160	36
21122	Orange Entrance	75	70	15
21114	Blue Entrance	170	160	30
21160	Green Entrance	145	140	29
21159	Purple Entrance	137	130	33
21168	Yellow Entrance	306	290	39
21105	Van's Entrance	142	140	59
21119	Red Entrance	185	180	33
			2400	

Columbia (3) - 1130
Airport (8) - 1270
2400

HTS - keilrd 211
Peak 34 AM
36 PM

From: Anderson, Rainse [mailto:RAnderson@whpacific.com]
Sent: Friday, October 29, 2010 10:39 AM
To: CROWNOVER Don R; CUMMINGS Christopher * ODA; WILSON John P * ODA
Cc: Anderson, Rainse
Subject: RE: Aurora airport counts

Don,

Thanks for the data. Could you let me know what other reports you can provide....also I assume that these number are total axle counts so at a minimum they are one half of the total correct?

Thanks

Rainse
Rainse Anderson
Director of Aviation

Transportation Development Division - TSM Unit

Site Number:	21127	Site Name:	Columbia North Exit	Region:	2	Vehicle Type:	Vehicles	County:	Marion
Street Number:	0	Mile Point:		Start Date:	10/18/2010	Lane / Direction / Flow:	Combined		

ADT:	100	Avg Weekdays (Mon - Thu):	-	Avg Day:	106		
Max Hour:	37	Day:	Wed	Date:	10/20/2010	Hour:	18
Max Day:	188	Day:	Tue	Date:	10/19/2010		

Sunday		Monday		Tuesday		Wednesday		Thursday		Friday		Saturday	
Date	Value	Date	Value	Date	Value	Date	Value	Date	Value	Date	Value	Date	Value
		10/18	-	10/19	188	10/20	157	10/21	140	10/22	151	10/23	00
10/24	01	10/25	-										
Avg:	1	Avg:	-	Avg:	188	Avg:	157	Avg:	140	Avg:	151	Avg:	0

Date	Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Total
10/18	Mon	-	-	-	-	-	-	-	-	-	-	-	-	-	5	6	5	28	33	0	0	0	0	0	0	77
10/19	Tue	0	0	0	0	0	1	8	27	3	3	4	29	14	13	4	1	32	35	0	13	1	0	0	0	188
10/20	Wed	0	0	0	0	0	1	6	20	0	0	4	29	13	5	5	1	36	37	0	0	0	0	0	0	157
10/21	Thu	0	0	0	0	0	2	5	28	2	4	3	20	10	4	16	2	28	16	0	0	0	0	0	0	140
10/22	Fri	0	0	0	0	0	1	4	17	2	1	3	31	28	7	2	14	28	13	0	0	0	0	0	0	151
10/23	Sat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10/24	Sun	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
10/25	Mon	0	0	0	0	0	1	7	24	3	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	35

Transportation Development Division - TSM Unit

Site Number:	21165			Site Name:	Columbia North Ent			Region:	2			Vehicle Type:	Vehicles			County:	Marion								
Street Number:	0			Mile Point:				Start Date:	10/18/2010			Lane / Direction / Flow:	Combined												
	ADT:	140		Avg Weekdays (Mon - Thu):	-			Avg Day:	142																
	Max Hour:	50		Day:	Tue			Date:	10/19/2010			Hour:	8												
	Max Day:	242		Day:	Tue			Date:	10/19/2010																

Sunday		Monday		Tuesday		Wednesday		Thursday		Friday		Saturday	
Date	Value	Date	Value	Date	Value	Date	Value	Date	Value	Date	Value	Date	Value
		10/18	-	10/19	242	10/20	215	10/21	230	10/22	163	10/23	01
10/24	00	10/25	-										
Avg:	0	Avg:	-	Avg:	242	Avg:	215	Avg:	230	Avg:	163	Avg:	1

Date	Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Total
10/18	Mon	-	-	-	-	-	-	-	-	-	-	-	-	-	19	4	14	4	16	2	0	0	0	1	0	60
10/19	Tue	0	0	0	1	0	4	8	50	14	19	17	14	27	14	10	20	20	16	0	7	0	0	1	0	242
10/20	Wed	0	0	0	0	0	0	3	42	16	13	14	23	31	4	2	23	9	31	2	2	0	0	0	0	215
10/21	Thu	0	0	0	0	0	0	3	46	15	18	18	28	27	7	19	23	15	10	0	0	0	1	0	0	230
10/22	Fri	0	0	0	1	0	0	2	30	8	10	6	10	28	14	8	11	19	14	2	0	0	0	0	0	163
10/23	Sat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
10/24	Sun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10/25	Mon	0	0	0	0	1	0	2	28	13	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	58

Transportation Development Division - TSM Unit

Site Number:	21157			Site Name:	Columbia East Entrance			Region:	2			Vehicle Type:	Vehicles			County:	Marion								
Street Number:	0			Mile Point:				Start Date:	10/18/2010			Lane / Direction / Flow:	Combined												
	ADT:	890		Avg Weekdays (Mon - Thu):	-			Avg Day:	926																
	Max Hour:	396		Day:	Thu			Date:	10/21/2010			Hour:	17												
	Max Day:	1538		Day:	Tue			Date:	10/19/2010																

Sunday		Monday		Tuesday		Wednesday		Thursday		Friday		Saturday	
Date	Value	Date	Value	Date	Value	Date	Value	Date	Value	Date	Value	Date	Value
		10/18	-	10/19	1538	10/20	1502	10/21	1499	10/22	1016	10/23	00
10/24	01	10/25	-										
Avg:	1	Avg:	-	Avg:	1538	Avg:	1502	Avg:	1499	Avg:	1016	Avg:	0

Date	Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Total
10/18	Mon	-	-	-	-	-	-	-	-	-	-	-	-	104	42	47	54	383	94	0	2	2	3	0	0	731
10/19	Tue	2	2	2	1	1	156	283	117	29	40	35	122	51	56	55	76	375	107	11	0	5	2	9	1	1538
10/20	Wed	0	3	0	1	0	152	260	104	68	45	42	72	92	66	58	63	367	94	3	2	5	3	0	2	1502
10/21	Thu	1	2	3	1	1	140	281	118	25	54	52	83	89	57	68	47	396	75	3	0	2	0	0	1	1499
10/22	Fri	0	2	0	2	0	130	216	101	53	49	54	59	29	23	31	115	125	27	0	0	0	0	0	0	1016
10/23	Sat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10/24	Sun	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
10/25	Mon	0	0	0	0	0	6	10	10	18	18	23	-	-	-	-	-	-	-	-	-	-	-	-	-	85

Transportation Development Division - TSM Unit

Site Number:	21187			Site Name:	Willimette Entrance			Region:	2			Vehicle Type:	Vehicles			County:	Marion								
Street Number:	0			Mile Point:				Start Date:	10/18/2010			Lane / Direction / Flow:	Combined												
	ADT:	160		Avg Weekdays (Mon - Thu):	-			Avg Day:	165																
	Max Hour:	36		Day:	Mon			Date:	10/18/2010			Hour:	13												
	Max Day:	244		Day:	Tue			Date:	10/19/2010																

Sunday		Monday		Tuesday		Wednesday		Thursday		Friday		Saturday	
Date	Value	Date	Value	Date	Value	Date	Value	Date	Value	Date	Value	Date	Value
		10/18	-	10/19	244	10/20	199	10/21	182	10/22	147	10/23	142
10/24	77	10/25	-										
Avg:	77	Avg:	-	Avg:	244	Avg:	199	Avg:	182	Avg:	147	Avg:	142

Date	Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Total
10/18	Mon	-	-	-	-	-	-	-	-	-	-	-	-	36	16	20	7	18	15	6	3	2	6	1	0	130
10/19	Tue	0	0	0	0	0	0	0	2	16	18	19	23	17	17	17	20	8	22	17	9	15	24	0	0	244
10/20	Wed	0	0	0	0	0	0	0	6	24	15	12	15	20	15	22	9	11	16	17	0	2	15	0	0	199
10/21	Thu	0	0	0	0	0	0	1	4	10	3	18	20	21	32	13	19	16	14	10	0	1	0	0	0	182
10/22	Fri	0	0	0	0	0	0	0	7	9	16	13	22	18	21	14	6	8	2	9	2	0	0	0	0	147
10/23	Sat	0	0	0	0	0	3	11	1	3	14	14	16	14	11	5	10	6	4	4	0	1	3	22	0	142
10/24	Sun	0	0	0	0	0	0	0	0	4	2	5	6	6	10	11	9	9	3	1	0	4	7	0	0	77
10/25	Mon	0	0	0	0	0	0	2	4	8	12	24	-	-	-	-	-	-	-	-	-	-	-	-	-	50

Transportation Development Division - TSM Unit

Site Number:	21122	Site Name:	Orange Entrance	Region:	2	Vehicle Type:	Vehicles	County:	Marion
Street Number:	0	Mile Point:		Start Date:	10/18/2010	Lane / Direction / Flow:	Combined		

ADT:	70	Avg Weekdays (Mon - Thu):	-	Avg Day:	75			
Max Hour:	15	Day:	Tue	Date:	10/19/2010	Hour:	12	
Max Day:	116	Day:	Wed	Date:	10/20/2010			

Sunday		Monday		Tuesday		Wednesday		Thursday		Friday		Saturday	
Date	Value	Date	Value	Date	Value	Date	Value	Date	Value	Date	Value	Date	Value
		10/18	-	10/19	100	10/20	116	10/21	84	10/22	58	10/23	54
10/24	40	10/25	-										
Avg:	40	Avg:	-	Avg:	100	Avg:	116	Avg:	84	Avg:	58	Avg:	54

Date	Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Total
10/18	Mon	-	-	-	-	-	-	-	-	-	-	-	-	13	6	4	3	5	8	8	1	0	0	0	0	48
10/19	Tue	0	0	0	0	0	0	5	0	2	7	4	15	5	11	8	3	15	6	9	3	0	2	3	2	100
10/20	Wed	0	0	0	0	0	0	0	2	8	8	3	15	12	4	15	13	5	15	13	0	0	0	2	1	116
10/21	Thu	0	0	0	0	0	3	0	0	6	13	2	6	9	7	6	3	9	4	2	0	1	1	0	12	84
10/22	Fri	0	0	0	0	0	0	0	0	7	6	3	2	7	12	13	2	2	2	2	0	0	0	0	0	58
10/23	Sat	0	0	0	1	0	0	0	0	3	0	5	2	3	10	8	6	8	5	2	1	0	0	0	0	54
10/24	Sun	0	0	0	0	0	1	6	0	0	0	1	4	7	4	1	6	3	5	2	0	0	0	0	0	40
10/25	Mon	0	0	0	0	0	0	0	0	4	4	1	-	-	-	-	-	-	-	-	-	-	-	-	-	9

Transportation Development Division - TSM Unit

Site Number:	21114	Site Name:	Blue Entrance	Region:	2	Vehicle Type:	Vehicles	County:	Marion		
Street Number:	0	Mile Point:		Start Date:	10/18/2010	Lane / Direction / Flow:	Combined				

ADT:	160	Avg Weekdays (Mon - Thu):	-	Avg Day:	170			
Max Hour:	30	Day:	Thu	Date:	10/21/2010	Hour:	16	
Max Day:	219	Day:	Wed	Date:	10/20/2010			

Sunday		Monday		Tuesday		Wednesday		Thursday		Friday		Saturday	
Date	Value	Date	Value	Date	Value	Date	Value	Date	Value	Date	Value	Date	Value
		10/18	-	10/19	213	10/20	219	10/21	215	10/22	173	10/23	112
10/24	91	10/25	-										
Avg:	91	Avg:	-	Avg:	213	Avg:	219	Avg:	215	Avg:	173	Avg:	112

Date	Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Total
10/18	Mon	-	-	-	-	-	-	-	-	-	-	-	-	14	9	19	15	10	8	12	1	0	9	0	2	99
10/19	Tue	0	2	2	3	0	4	7	11	7	16	15	22	15	23	18	17	16	10	11	7	2	2	1	2	213
10/20	Wed	0	0	3	1	0	1	7	5	16	20	14	24	11	16	22	27	19	8	11	3	2	4	3	2	219
10/21	Thu	0	0	0	2	5	0	7	3	12	14	13	15	18	28	17	30	20	14	3	0	3	4	0	7	215
10/22	Fri	0	0	3	1	3	0	5	4	12	15	12	17	11	17	16	21	12	6	7	5	6	0	0	0	173
10/23	Sat	0	0	3	1	7	7	8	9	6	3	1	11	5	3	11	6	8	3	2	6	4	3	5	0	112
10/24	Sun	3	2	0	3	3	0	5	1	0	3	5	15	5	10	9	4	4	7	2	1	4	0	0	5	91
10/25	Mon	3	0	0	3	0	0	7	5	13	11	10	-	-	-	-	-	-	-	-	-	-	-	-	-	52

Transportation Development Division - TSM Unit

Site Number:	21160		Site Name:	Green Entrance		Region:	2		Vehicle Type:	Vehicles		County:	Marion											
Street Number:	0		Mile Point:			Start Date:	10/18/2010		Lane / Direction / Flow:	Combined														
	ADT:	140	Avg Weekdays (Mon - Thu):	-		Avg Day:	145																	
	Max Hour:	29	Day:	Wed		Date:	10/20/2010		Hour:	9														
	Max Day:	227	Day:	Wed		Date:	10/20/2010																	

Sunday		Monday		Tuesday		Wednesday		Thursday		Friday		Saturday	
Date	Value	Date	Value	Date	Value	Date	Value	Date	Value	Date	Value	Date	Value
		10/18	-	10/19	203	10/20	227	10/21	181	10/22	201	10/23	34
10/24	24	10/25	-										
Avg:	24	Avg:	-	Avg:	203	Avg:	227	Avg:	181	Avg:	201	Avg:	34

Date	Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Total
10/18	Mon	-	-	-	-	-	-	-	-	-	-	-	-	13	14	12	9	19	19	5	2	1	1	0	0	95
10/19	Tue	0	0	0	0	0	3	11	17	18	14	18	20	16	15	14	12	20	20	3	0	2	0	0	0	203
10/20	Wed	0	0	0	0	0	2	9	15	29	22	12	14	13	14	17	23	23	21	6	3	4	0	0	0	227
10/21	Thu	0	0	0	0	2	2	7	14	22	16	10	12	9	18	7	22	16	22	0	1	1	0	0	0	181
10/22	Fri	0	0	0	0	0	2	9	10	22	8	11	24	22	28	10	22	15	16	1	0	0	0	1	0	201
10/23	Sat	0	0	0	0	0	0	0	0	9	0	5	8	6	1	0	0	2	0	1	2	0	0	0	0	34
10/24	Sun	0	0	0	0	0	1	2	2	3	0	1	0	3	0	5	0	1	2	1	1	0	2	0	0	24
10/25	Mon	0	0	0	0	0	2	6	12	17	12	9	-	-	-	-	-	-	-	-	-	-	-	-	-	58

Transportation Development Division - TSM Unit

Site Number:	21159			Site Name:	Purple Entrance			Region:	2			Vehicle Type:	Vehicles			County:	Marion								
Street Number:	0			Mile Point:				Start Date:	10/18/2010			Lane / Direction / Flow:	Combined												
	ADT:	130		Avg Weekdays (Mon - Thu):	-			Avg Day:	137																
	Max Hour:	33		Day:	Thu			Date:	10/21/2010			Hour:	21												
	Max Day:	222		Day:	Thu			Date:	10/21/2010																

Sunday		Monday		Tuesday		Wednesday		Thursday		Friday		Saturday	
Date	Value	Date	Value	Date	Value	Date	Value	Date	Value	Date	Value	Date	Value
		10/18	-	10/19	170	10/20	187	10/21	222	10/22	152	10/23	54
10/24	37	10/25	-										
Avg:	37	Avg:	-	Avg:	170	Avg:	187	Avg:	222	Avg:	152	Avg:	54

Date	Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Total
10/18	Mon	-	-	-	-	-	-	-	-	-	-	-	-	12	21	4	9	9	17	12	0	1	4	0	0	89
10/19	Tue	0	1	1	0	0	5	8	7	16	15	9	15	14	15	10	14	15	8	10	4	1	2	0	0	170
10/20	Wed	0	0	2	0	0	3	4	7	12	24	13	19	12	5	11	11	23	14	10	15	1	1	0	0	187
10/21	Thu	0	0	2	0	0	3	6	6	7	13	11	14	19	12	11	14	17	25	21	4	33	3	0	1	222
10/22	Fri	0	0	2	0	1	2	4	10	10	14	17	17	25	10	6	13	9	6	4	1	0	1	0	0	152
10/23	Sat	0	0	0	0	0	0	2	1	3	2	3	8	1	6	6	10	8	1	0	0	0	0	3	0	54
10/24	Sun	0	0	0	0	0	0	0	0	0	5	4	1	2	8	4	4	0	4	3	1	0	0	0	1	37
10/25	Mon	0	0	0	0	0	0	5	4	4	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17

Transportation Development Division - TSM Unit

Site Number:	21168			Site Name:	Yellow Entrance				Region:	2			Vehicle Type:	Vehicles			County:	Marion						
Street Number:	0			Mile Point:					Start Date:	10/18/2010			Lane / Direction / Flow:	Combined										
	ADT:	290		Avg Weekdays (Mon - Thu):	-				Avg Day:	306														
	Max Hour:	59		Day:	Tue				Date:	10/19/2010			Hour:	12										
	Max Day:	504		Day:	Tue				Date:	10/19/2010														

Sunday		Monday		Tuesday		Wednesday		Thursday		Friday		Saturday	
Date	Value	Date	Value	Date	Value	Date	Value	Date	Value	Date	Value	Date	Value
		10/18	-	10/19	504	10/20	399	10/21	419	10/22	379	10/23	72
10/24	63	10/25	-										
Avg:	63	Avg:	-	Avg:	504	Avg:	399	Avg:	419	Avg:	379	Avg:	72

Date	Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Total
10/18	Mon	-	-	-	-	-	-	-	-	-	-	-	-	39	20	23	26	49	17	10	5	4	4	0	0	197
10/19	Tue	0	0	2	3	4	7	34	52	32	34	35	59	29	36	52	41	43	21	13	3	2	2	0	0	504
10/20	Wed	0	0	1	2	4	2	31	43	32	24	20	43	35	17	21	27	35	29	13	6	8	6	0	0	399
10/21	Thu	0	1	2	1	9	5	27	53	28	29	21	45	45	19	28	31	36	15	4	3	6	2	9	0	419
10/22	Fri	2	0	1	4	6	0	30	47	29	26	22	39	38	40	20	18	33	11	6	0	3	4	0	0	379
10/23	Sat	0	0	0	0	0	2	5	0	10	1	5	5	7	4	3	7	11	3	3	2	1	1	0	2	72
10/24	Sun	1	0	0	0	0	2	7	2	3	3	5	1	2	0	2	6	3	2	11	3	7	0	0	3	63
10/25	Mon	1	0	0	0	2	8	24	57	33	46	-	-	-	-	-	-	-	-	-	-	-	-	-	-	171

Transportation Development Division - TSM Unit

Site Number:	21105	Site Name:	Vans Entrance	Region:	2	Vehicle Type:	Vehicles	County:	Marion
Street Number:	0	Mile Point:		Start Date:	10/18/2010	Lane / Direction / Flow:	Combined		

ADT:	140	Avg Weekdays (Mon - Thu):	-	Avg Day:	142		
Max Hour:	39	Day:	Tue	Date:	10/19/2010	Hour:	12
Max Day:	239	Day:	Tue	Date:	10/19/2010		

Sunday			Monday		Tuesday		Wednesday		Thursday		Friday		Saturday	
Date	Value		Date	Value	Date	Value	Date	Value	Date	Value	Date	Value	Date	Value
			10/18	-	10/19	239	10/20	201	10/21	208	10/22	174	10/23	30
10/24	00	-	10/25	-										
Avg:	0		Avg:	-	Avg:	239	Avg:	201	Avg:	208	Avg:	174	Avg:	30

Date	Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Total
10/18	Mon	-	-	-	-	-	-	-	-	-	-	-	-	8	6	13	36	16	1	0	0	0	0	0	0	80
10/19	Tue	0	0	0	1	19	23	13	7	10	9	20	39	21	7	11	37	18	4	0	0	0	0	0	0	239
10/20	Wed	0	0	0	0	16	24	15	9	3	6	27	20	15	8	12	32	10	2	0	0	2	0	0	0	201
10/21	Thu	0	0	0	0	10	29	9	12	17	14	19	21	14	12	18	20	12	1	0	0	0	0	0	0	208
10/22	Fri	4	0	0	0	5	16	19	15	5	10	19	22	15	17	11	10	6	0	0	0	0	0	0	0	174
10/23	Sat	0	0	0	0	0	0	0	0	10	3	0	0	1	3	10	0	3	0	0	0	0	0	0	0	30
10/24	Sun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10/25	Mon	0	0	0	0	3	4	3	1	4	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15

Transportation Development Division - TSM Unit

Site Number:	21119			Site Name:	Red Entrance				Region:	2			Vehicle Type:	Vehicles			County:	Marion							
Street Number:	0			Mile Point:					Start Date:	10/18/2010			Lane / Direction / Flow:	Combined											
	ADT:	180		Avg Weekdays (Mon - Thu):	-				Avg Day:	185															
	Max Hour:	33		Day:	Tue				Date:	10/19/2010			Hour:	12											
	Max Day:	290		Day:	Thu				Date:	10/21/2010															

Sunday		Monday		Tuesday		Wednesday		Thursday		Friday		Saturday	
Date	Value	Date	Value	Date	Value	Date	Value	Date	Value	Date	Value	Date	Value
		10/18	-	10/19	201	10/20	198	10/21	290	10/22	230	10/23	105
10/24	87	10/25	-										
Avg:	87	Avg:	-	Avg:	201	Avg:	198	Avg:	290	Avg:	230	Avg:	105

Date	Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Total
10/18	Mon	-	-	-	-	-	-	-	-	-	-	-	-	27	6	19	2	13	14	9	1	2	0	0	0	93
10/19	Tue	0	4	0	4	2	2	11	3	6	5	20	33	19	22	6	15	16	6	10	6	5	4	2	0	201
10/20	Wed	0	0	4	6	2	2	20	18	9	14	14	11	2	12	8	2	17	25	3	9	13	7	0	0	198
10/21	Thu	0	4	0	7	2	5	6	8	9	8	16	27	19	33	18	24	24	29	12	10	10	5	14	0	290
10/22	Fri	0	0	4	0	4	12	22	8	6	17	13	20	25	5	22	28	14	7	8	0	0	2	9	4	230
10/23	Sat	0	0	2	3	5	0	7	2	0	5	17	4	16	11	12	3	2	5	3	4	0	4	0	0	105
10/24	Sun	0	0	0	0	5	0	2	3	5	2	11	3	4	3	13	6	2	18	0	0	0	6	0	4	87
10/25	Mon	0	0	3	4	2	7	13	7	25	19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	80

Print This Page

ADT For: AIRPORT RD NE
Rd#: 59
Date: 9/18/2007
From: EHLEN RD
To: ARNDT RD

Milepost	ADT	Date	Source	Comments
0.03	2632	6/11/2007	Hose Count	N OF EHLEN RD (CR 96)
0.58	2610	9/18/2007	Estimated Volume	S OF KEIL RD (CR 429)
0.6	2600	9/18/2007	Estimated Volume	N OF KEIL RD (CR 429)
1.86	2521	6/4/2007	Classifier	S OF ARNDT RD (CR 428)

Print This Page

ADT For: KEIL RD NE
Rd#: 429
Date: 9/18/2007
From: WILSONVILLE-HUBBARD CUT OFF(PAVED)
To: BOONES FERRY ROAD

Milepost	ADT	Date	Source	Comments
0.05	1010	6/6/2007	Classifier	W OF WILSONVILLE-HUBBARD CUT OFF
0.07	735	6/11/2007	Hose Count	E OF WILSONVILLE-HUBBARD CUT OFF
0.89	720	9/18/2007	Estimated Volume	W OF AIRPORT RD (CR 59)

Print This Page

ADT For: ARNDT RD NE
Rd#: 428
Date: 9/18/2007
From: AIRPORT RD
To: BOONES FERRY RD

Milepost	ADT	Date	Source	Comments
0.010	10062	6/4/2007	Classifier	W OF AIRPORT RD (CR 59)
0.24	9500	9/18/2007	Estimated Volume	E OF WILSONVILLE-HUBBARD CUT OFF
0.26	2500	9/18/2007	Estimated Volume	W OF WILSONVILLE-HUBBARD CUT OFF
0.74	2128	6/4/2007	Classifier	E OF BOONES FERRY RD (CR 11)

Print This Page

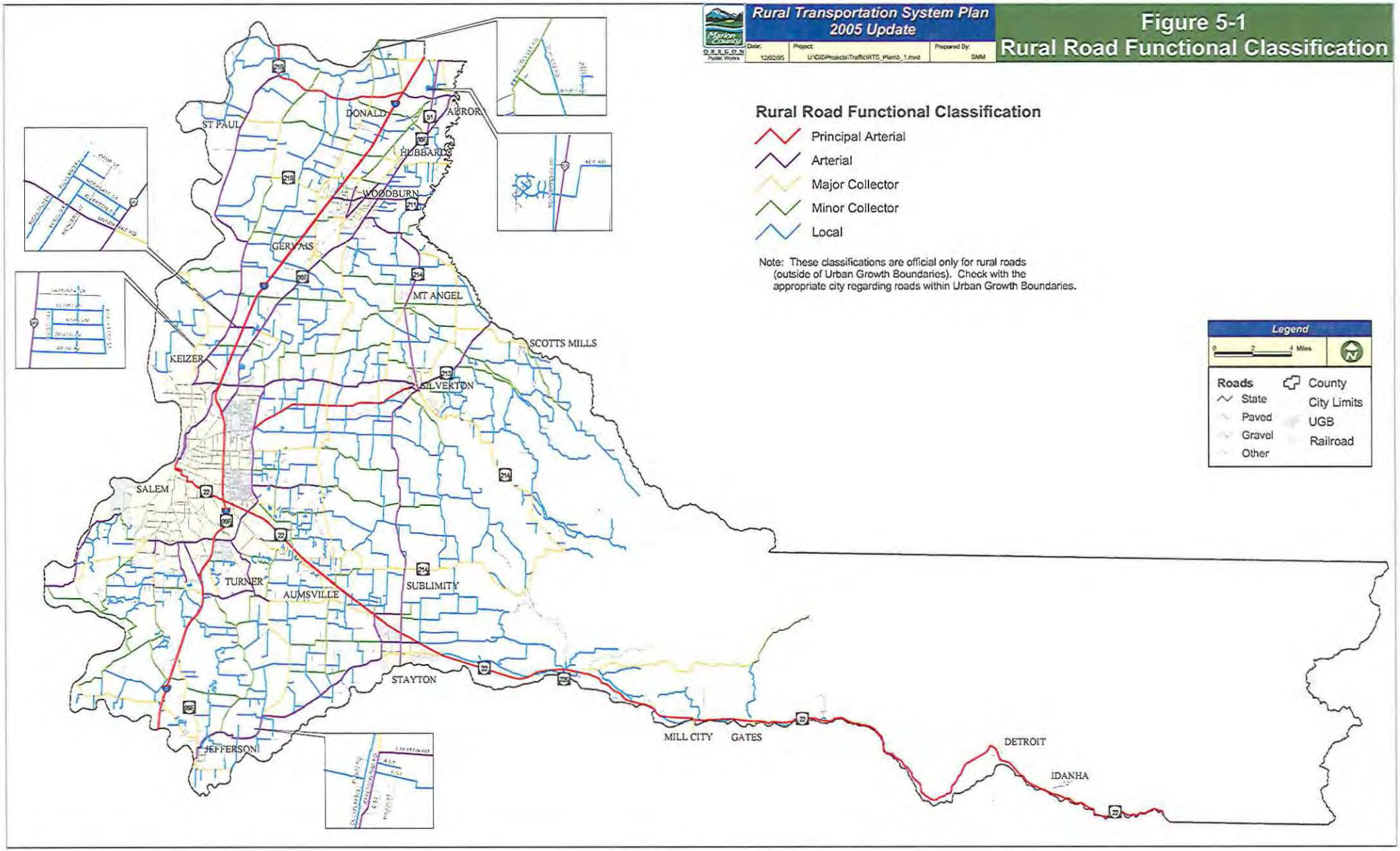
ADT For: EHLEN RD NE
Rd#: 96
Date: 9/18/2007
From: DONALD RD
To: AURORA CITY LIMITS

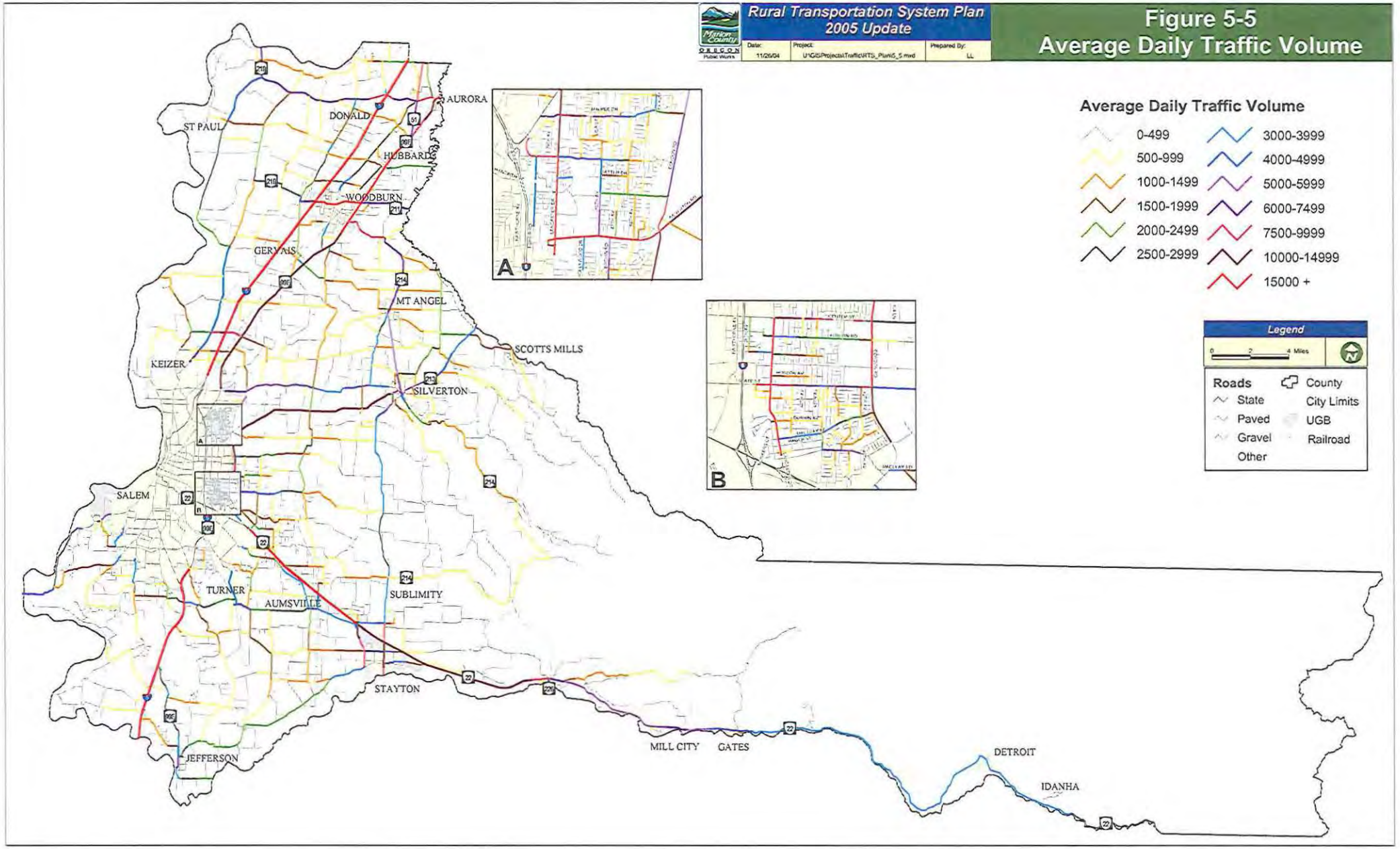
Milepost	ADT	Date	Source	Comments
2.77	6200	9/18/2007	Estimated Volume	NE OF DONALD RD (CR 61)
3.54	6454	7/12/2007	Classifier	W OF BUTTEVILLE RD (CR 65)
3.56	7866	6/11/2007	Classifier	E OF BUTTEVILLE RD (CR 65)
5.17	9670	6/6/2007	Classifier	W OF BENTS RD (CR 425)
5.22	9994	7/16/2003	Classifier	UNDER I - 5
5.28	8488	6/6/2007	Classifier	SE OF I-5 INTERCHANGE
6.85	7258	6/20/2007	Classifier	W OF BOONES FERRY RD (CR 10)
6.9	10945	6/22/2007	Hose Count	W OF WILSONVILLE-HUBBARD CUT OFF
6.92	5158	6/20/2007	Classifier	E OF WILSONVILLE-HUBBARD CUT OFF
7.44	8300	9/18/2007	Estimated Volume	W OF COLE LN (CR 430)
7.65	8408	6/6/2007	Classifier	W OF AIRPORT RD (CR 59)
7.7	9500	9/18/2007	Estimated Volume	E OF AIRPORT RD (CR 59)
7.81	9664	6/20/2007	Classifier	@ AURORA CITY LIMITS

A

STREET	CROSS STREET	2008 ADT	2005 ADT	2002 ADT	2000 ADT
ABERNETHY RD	WEST OF HOLCOMB	5050	-	-	-
ADVANCE RD	WEST OF MOUNTAIN	600	930	830	950
ADVANCE RD	EAST OF STAFFORD	1450	1950	2150	2150
AIRPORT RD	SOUTH OF MILEY	4500	6450	5300	6600
ALBERTA AVE	WEST OF BELL	860	860	1050	870
ALDERCREST RD	NORTH OF RUSK	1300	1450	1200	1200
ALDERCREST RD	NORTH OF THIESSEN	3100	2850	3000	2800
AMISIGGER RD	NORTH OF HWY 224	2850	2900	2700	2950
ARNDT RD	EAST OF AIRPORT RD	11450	11600	10950	11950
ARNDT RD	EAST OF KNIGHTS BRIDGE RD	7500	6400	6700	6650
ARRAH WANNA BLVD	SOUTH OF HWY 26	500	470	520	580

MERIDIAN RD	NORTH OF BARLOW	670	650	850	620
MERIDIAN WAY	EAST OF 65TH	640	780	690	580
MILEY RD	EAST OF I-5	9200	12000	9900	8550
MILEY RD	EAST OF AIRPORT	7400	7400	7000	7100
MOLALLA AVE	EAST OF HWY 213	3900	3350	3700	5450
MOLALLA AVE	SOUTH OF VICK	6650	3950	4700	4950
MOLALLA AVE	SOUTH OF WARRICK	1800	1900	2300	2150
MONROE ST	WEST OF LINWOOD	2350	2350	2450	2500
MONROE ST	EAST OF LINWOOD	2250	2200	2100	2300
MONTE CRISTO RD	WEST OF HWY 213	480	530	450	440
MONTEREY AVE	EAST OF 82ND	6400	5700	6000	4200
MORGAN RD	EAST OF BAKER	620	680	670	400
MOUNTAIN RD	EAST OF STAFFORD	2750	3250	2450	2600
MOUNTAIN RD	NORTH OF ADVANCE	930	1050	880	1050
MOUNTAIN RD	SOUTH OF ADVANCE	1550	1550	1450	1650
MOUNTAIN RD	SOUTH OF HOFFMAN	400	300	320	450
MULINO RD	SOUTH OF HAINES	1350	1750	1600	1300
MULINO RD	SOUTH OF TOWNSHIP	1700	2000	1750	1550
MULINO RD	WEST OF CENTRAL POINT	1200	1400	1250	1350
MULINO RD	SOUTH OF CENTRAL POINT	1100	1300	1200	1300
MULINO RD	WEST OF AIRPORT	1200	1300	1250	1550
MULINO RD	WEST OF HWY213	1250	1350	1250	1550
MUSIC CAMP RD	EAST OF FIRWOOD	210	550	210	230


Rural Transportation System Plan
2005 Update
Figure 5-1
Rural Road Functional Classification
Rural Road Functional Classification
Principal Arterial
Arterial
Major Collector
Minor Collector
Local
Note: These classifications are official only for rural roads (outside of Urban Growth Boundaries). Check with the appropriate city regarding roads within Urban Growth Boundaries.
Legend
Roads
State
Paved
Gravel
Other
County
City Limits
UGB
Railroad
ST PAUL
DONALD
AURORA
HUBBARD
WOODBURN
GERVAIS
MT ANGEL
SCOTTS MILLS
KEIZER
SILVERTON
SALEM
TURNER
AUMSVILLE
SUBLIMITY
STAYTON
JEFFERSON
MILL CITY
GATES
DETROIT
IDANHA


Rural Transportation System Plan
2005 Update
Figure 5-5
Average Daily Traffic Volume
Average Daily Traffic Volume
0-499
500-999
1000-1499
1500-1999
2000-2499
2500-2999
3000-3999
4000-4999
5000-5999
6000-7499
7500-9999
10000-14999
15000 +
Legend
Roads
State
Paved
Gravel
Other
County
City Limits
UGB
Railroad
AURORA
DONALD
ST PAUL
HUBBARD
WOODBURN
GERVAIS
MT ANGEL
SCOTTS MILLS
KEIZER
SILVERTON
SALEM
TURNER
AUMSVILLE
SUBLIMITY
STAYTON
JEFFERSON
MILL CITY
GATES
DETROIT
IDANHA
A
B

Rural Road Functional Classification Characteristics

Principal Arterial
- Continuous segments with trip length and travel density indicative of statewide or interstate travel; and
- Serve all of the large urban areas and most of the moderate sized cities.

Arterial
- Link cities, larger towns, and other major traffic generators; and provide interstate and inter-county service: and
- Spaced such that all developed areas of the region are within reasonable distance of an arterial; and
- Serve a higher travel density, trip length, and overall travel speed than collector and local systems.

Major Collector
- Provide service to larger towns not directly served by higher classed roads and to other traffic generators of equivalent intra-county importance (including parks, tourist attractions, significant resource areas, etc.); and
- Link these places with nearby towns and cities, or routes of higher classification; and
- Serve the more important intra-county travel corridors.

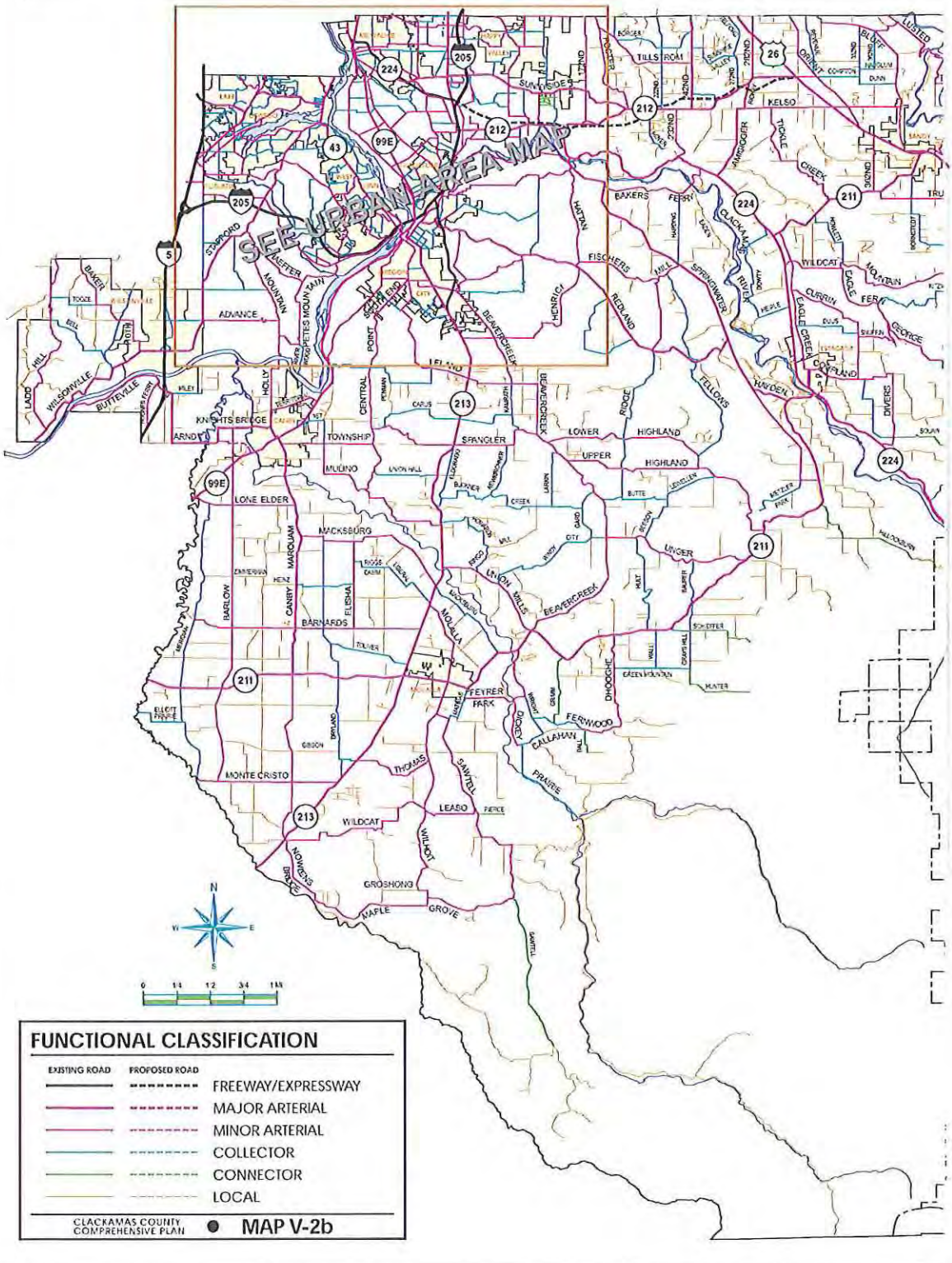
Minor Collector
- Spaced at intervals to collect traffic from local roads and bring all developed areas within a reasonable distance of a collector road; and
- Provide service to any remaining smaller communities and traffic generators; and
- Link locally important traffic generators with their local constituents.

Local
- Primarily provide access to adjacent lands; and
- Provide relatively short travel distances compared to higher classed facilities.

The original (1998) RTSP included a list of roadways and their functional classification. As part of this 2005 Update, some changes are being made as shown in **Table 5-2**, which better reflect the current and future function of each roadway.

FUNCTIONAL CLASSIFICATION GUIDELINES

Classification	Number of Traffic Lanes	Purpose	Access Impacts	Examples
Freeway Expressway	4-8	Serves Interregional and Intrareginal Trips. Carries heavy volume at high speed.	Freeways and expressways are intended to move traffic and not provide direct access to land use activities. Access to these facilities will be from other arterials.	I-205 Milwaukie Expressway
Major Arterial	3-7 Urban 2-4 Rural	Carries local and through traffic to and from destinations outside local community, connects cities and rural centers. Moderate to heavy volume, moderate to high speed.	Direct Access to major arterials will be limited. Access should be restricted to major generators.	Sunnyside Road Boones Ferry Road Highway 26
Minor Arterial	2-5	Connects collectors to higher order roadways. Carries moderate volume at moderate speed.	Direct access will be limited, however to a lesser degree than major arterials. The number and location of driveways should be controlled.	Oatfield Road Beavercreek Road Borland Road



Classification	Number of Traffic Lanes	Purpose	Access Impacts	Examples
Collector	2	Principle carrier within neighborhoods or single land use areas. Links neighbor-hoods with major activity centers and arterials. Generally not for through traffic. Low to moderate volume; low to moderate speed. New collectors should intersect minor arterials rather than major arterials.	Collectors provide access to abutting land and to the arterial system. Access to individual parcels is usually allowed.	Roethe Road Welches Road Pilkington Road
Connector	2	Collects traffic from and distribute traffic to local streets within neighborhoods or industrial districts. Usually longer than local streets. Low traffic volumes and speeds. Primarily serves access and local circulation functions. Not for through traffic	Connectors provide direct access to abutting properties	Risley Ave Harold Ave Pleasant Ct
Local	2	Provides access to abutting property and connects to higher order roads. New local roads should intersect collectors or, if necessary, minor arterials.	Local streets provide direct access to abutting properties. Adjacent land is normally residential.	Blanton Street Windy City Road La Bonita Way

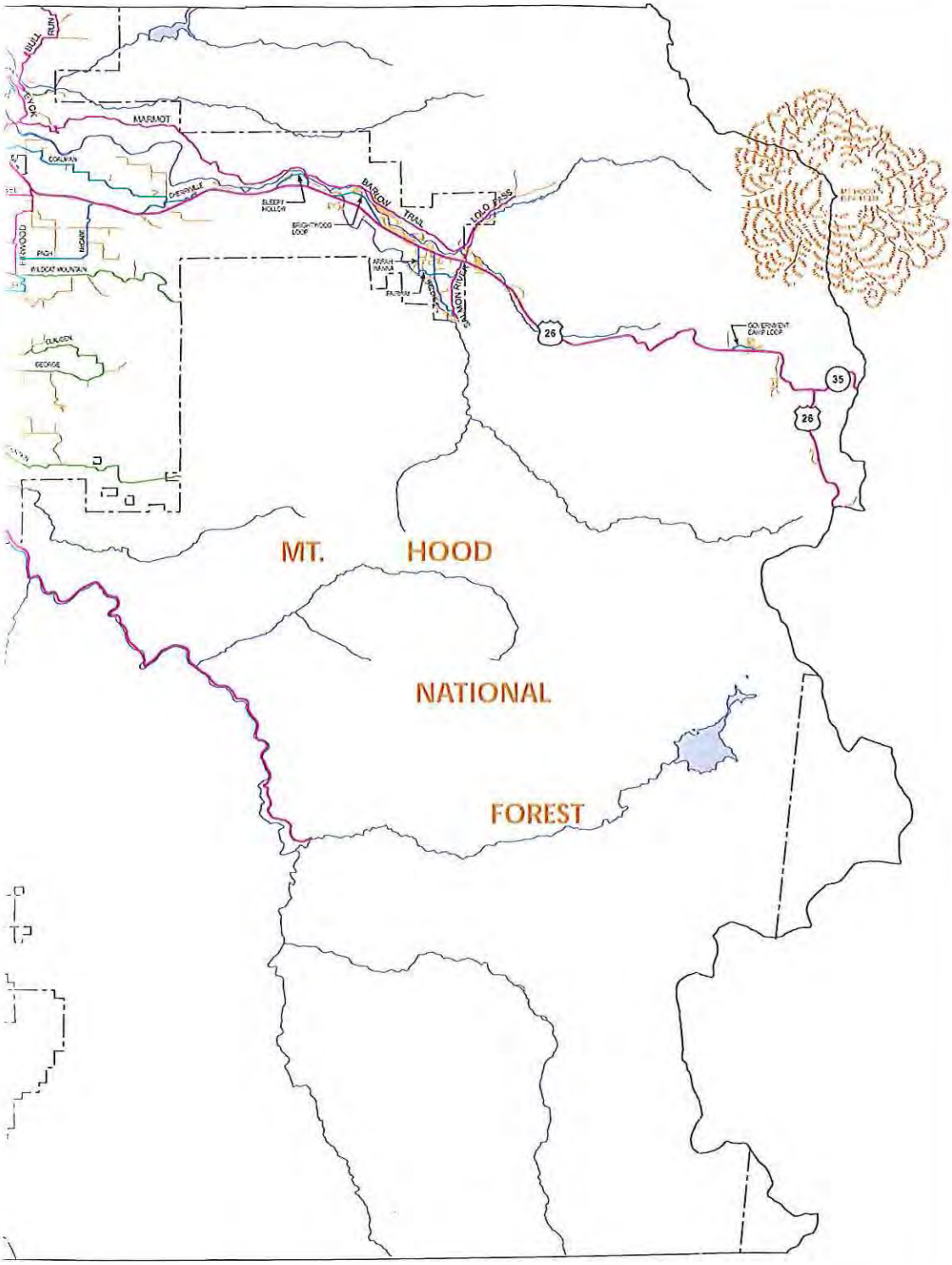


Table V-3
Clackamas County
Roadway Classifications and Guidelines (Continued)

Roadway Classifications and Guidelines (continued)						
FUNCTIONAL CLASSIFICATION	NUMBER OF TRAFFIC LANES	MINIMUM RIGHT-OF-WAY WIDTH*	PAVED WIDTH	SIDEWALK/ PATHWAY (1/17/08)	BIKWAYS	LANDSCAPE STRIP**
Freeway/ Expressway	4 to 8	Defer to Federal and State Standards	Defer to Federal and State	No	No	Defer to Federal and State
Major Arterial	3 to 7 Urban 2 to 4 Rural	60'-125' More if needed for terrain, turn lanes or heavy volume	36'-98'	Yes In urban areas only	Yes	Yes In urban areas
Minor Arterial	2 to 5	60' – 115'	36' – 90'	Yes In urban areas only	Yes	Yes In urban areas
Collector	2 to 3	60' – 85' Less if volume and land use density are low and terrain allows	32' – 61'	Yes In urban areas only	Yes	Yes In urban areas
Connector	2	55'	28' – 34' Residential 28' – 40' Industrial	Yes In urban areas only	If ROW allows	Yes In urban areas
Local	2	40' – 50'	28'	Yes***	No	Yes In urban areas
Alley	2	16'	16'	No	No	No

* - Preferred dimensions are not adjusted for adjacent land uses; additional right-of-way may be required for slope, sign, sidewalk and utility easements.

** - Required unless acquiring right-of-way is impractical due to wetlands, topographic conditions, resource protection, or preexisting development patterns.

*** - Sidewalks are required on all new streets within the Urban Growth Boundary and when development or redevelopment occurs on existing streets. (1/17/08)

Milepoint	2009 AADT All Vehicles		Location Description
			PACIFIC HIGHWAY NO. 1 (Continued)
258.10	*88900*		0.40 mile south of Hayesville Interchange
259.50	*81800*		0.70 mile south of Chemawa Road Interchange
263.09	*87400*		0.40 mile south of Brooks Interchange
271.55	*81900*		0.30 mile south of Hillsboro-Silverton Highway (OR214)
278.27	*83600*		0.40 mile south of Aurora-Donald Interchange (Ehlen Road)
281.20	*85700*	*	Wilsonville Automatic Traffic Recorder, Sta. 03-011, 1.38 miles south of Wilsonville-Hubbard Highway No. 51 (OR551)
283.58	*115700*		0.30 mile south of Wilsonville Interchange
285.88	*117700*		0.30 mile south of Stafford Road
287.91	*129800*		0.60 mile south of East Portland Freeway (I-205)
289.20	*134300*		0.30 mile south of Nyberg Road Interchange
290.14	*153600*	*	Tigard Automatic Traffic Recorder, Sta. 34-008, 0.34 mile south of Boones Ferry Road Interchange
290.99	*153700*		0.30 mile south of Upper Boones Ferry Road Interchange
291.80	*154300*		0.40 mile south of Beaverton-Tigard Highway (OR217)
293.00	*107300*		0.30 mile south of Haines Road
293.51	*104900*		0.30 mile south of Pacific Highway West (OR99W), at Tigard Jct
294.74	*118800*		0.30 mile south of Capitol Highway
295.43	*119000*		0.10 mile south of Taylors Ferry Road Connection
296.24	*116600*		0.10 mile south of Spring Garden Road Undercrossing
296.45	*120800*		0.10 mile south of Multnomah Boulevard Undercrossing
297.08	*126100*		0.10 mile south of Terwilliger Boulevard Undercrossing
298.24	*140900*	*	Iowa Automatic Traffic Recorder, Sta. 26-016, 1.07 miles north of S.W. Terwilliger Boulevard, in Portland
299.13	*137700*		0.10 mile south of Macadam and Hood Avenue connections
299.87	*123000*		0.10 mile south of Stadium Freeway (I-405)
300.37	*138600*	*	Marquam Bridge Automatic Traffic Recorder, Sta. 26-026, 0.34 mile northeast of Stadium Freeway No. 61 (I-405)
301.09	*89200*		Undercrossing, S.E. Morrison Street Bridge
301.50	*66700*		Undercrossing, Burnside Bridge
301.70	*78600*		Undercrossing, eastbound connection to Columbia River Highway (I-84)
301.99	*122500*		Overcrossing, N.E. Holladay Street
302.70	*121000*		0.40 mile south of Stadium Freeway (I-405)
303.68	*136500*		0.30 mile south of N. Going Street Interchange
304.23	*119000*		0.20 mile south of N. Killingsworth Street Overcrossing
304.66	*130000*	*	Minnesota Freeway Automatic Traffic Recorder, Sta. 26-019, 0.03 mile south of N. Ainsworth Street undercrossing
305.14	*123700*		0.30 mile south of Northeast Portland Highway (US30 Bypass)
305.64	*109100*		0.20 mile north of Northeast Portland Highway (US30 Bypass)
306.36	*93900*		0.50 mile south of Overcrossing Pacific Highway West (OR99W)
307.08	*98500*		0.38 mile south of Pacific Highway East (OR99E)
307.66	*126800*		0.20 mile north of Pacific Highway East (OR99E)
307.97	*121100*	*	Interstate Bridge Automatic Traffic Recorder, Sta. 26-004, 0.41 mile south of Oregon-Washington State Line
			COLUMBIA RIVER HIGHWAY NO. 2
			Milepoint indicates distance from Pacific Highway (I-5), in Portland
0.49	*142100*	*	West Banfield Automatic Traffic Recorder, Sta. 26-015, 0.49 mile east of Pacific Highway No. 1 (I-5)
0.76	*150200*		0.24 mile east of Pacific Highway East (OR99E, Grand Avenue) undercrossing
1.43	*168700*		0.57 mile west of N.E. 33rd Avenue
2.27	*147900*		0.27 mile east of N.E. 33rd Avenue

Milepoint	2009 AADT All Vehicles		Location Description
			KLAMATH FALLS-MALIN HIGHWAY NO. 50 (Continued)
27.08	*170*		0.02 mile north of Oregon-California State Line (Loveness Road)
			ESPLANADE STREET SPUR HIGHWAY NO. 50
			Milepoint indicates distance from Klamath Falls-Lakeview Highway (OR39/OR140), in Klamath Falls
Y 4.98	*7200*		0.01 mile southwest of Klamath Falls-Malin Highway (OR39), on Esplanade Street
			WILSONVILLE-HUBBARD HIGHWAY NO. 51
			Milepoint indicates distance Pacific Highway (I-5), south of Wilsonville
0.50	*19900*		0.50 mile south of Pacific Highway (I-5)
1.48	*10800*		0.01 mile south of Arndt Road, Clackamas-Marion County Line
3.47	*11000*		0.01 mile north of Ehlen Road
3.70	*7700*	*	Hubbard Automatic Traffic Recorder, Sta. 24-016, 0.22 mile south of Ehlen Road
5.43	*7400*		0.20 mile north of Pacific Highway East (OR99E)
			HEPPNER HIGHWAY NO. 52
			Milepoint indicates distance from Columbia River Highway (I-84), at Heppner Jct.
0.30	*150*		0.30 mile south of Columbia River Highway (I-84)
3.93	*140*		On Willow Creek Bridge
8.44	*120*		Gilliam-Morrow County Line
13.88	*120*		0.10 mile north of Fairview Road at Cecil
14.12	*120*		0.02 mile south of Immigrant Road
19.29	*110*		0.10 mile north of E. Morgan Road
19.60	*120*		0.21 mile south of E. Morgan Road
20.42	*150*		0.01 mile south of Ely Canyon Road
24.58	*170*		0.05 mile northwest of McNab West Road
24.73	*280*		0.10 mile east of McNab West Road
27.16	*260*		0.25 mile west of Johnson Grade Road
27.50	*320*		0.01 mile west of Main Street
27.61	*240*		West city limits of Ione
27.89	*600*		0.01 mile east of Green Street
28.33	*610*		0.01 mile west of Ella Road
28.72	*780*		0.03 mile west of Emert Road
29.09	*730*		0.34 mile east of Emert Road
30.36	*640*		0.01 mile west of Jordan Grade Road
30.86	*600*		0.01 mile west of Rhea Creek Road
30.88	*620*		0.01 mile east of Rhea Creek Road
36.11	*640*		North city limits of Lexington
36.41	*950*		0.01 mile northwest of Lexington-Echo Highway (OR207)
36.46	*1700*		0.01 mile southeast of Lexington-Echo Highway (OR207)
36.59	*1700*		0.01 mile northwest of "C" Street
36.61	*1600*		0.01 mile southeast of "C" Street
36.77	*1500*		South city limits of Lexington, 0.01 mile south of "A" Street
37.83	*1400*	*	Lexington Automatic Traffic Recorder, Sta. 25-007, 1.38 miles southeast of Lexington-Echo Highway No. 320 (OR207)

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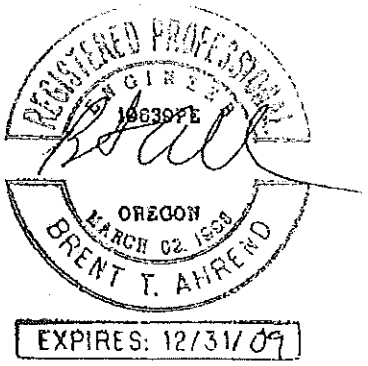
TRANSPORTATION IMPACT ANALYSIS

HELICOPTER TRANSPORT SERVICES

Aurora, Oregon



Prepared For
Helicopter Transport Services LLC

Completed On
May 27, 2009

Submittal To
Marion County

Project Number
2090040.00

GROUP MACKENZIE
Since 1960

RiverEast Center | PO Box 14310 | Portland, OR 97293
1515 SE Water Ave. Suite 100 | Portland, OR 97214
T 503.224.9560 | F 503.228.1285 | www.grpmack.com

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TRANSPORTATION IMPACT ANALYSIS

HELICOPTER TRANSPORT SERVICES

Aurora, Oregon

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I. EXECUTIVE SUMMARY

DEVELOPMENT DESCRIPTION

A zone change and conditions use application are required for development of the proposed Helicopter Transport Services facility. The site is currently zoned Exclusive Farm Use (EFU) and the proposed zone is Public (P). An airport use is a conditional use in the Public zone. It has been determined the zone change from EFU to P does not result in an increase in trip potential, so only the condition use application is addressed for conditions at buildout of the site.

The Helicopter Transport Services facility is a repair station for the company's helicopters. The company's helicopters are located around the world at different sites, and generally are brought back to this maintenance facility once a year in the late fall for major overhaul and repair during the winter months. After a several month overhaul and repair, the helicopters, pilot crews, mechanics, and fuel tank drivers, then return to service in the spring to specific locations based on contract needs for firefighting services with the company's clients. Thus, the activities within the facility are all related to helicopter maintenance. In addition, there is supporting administrative and management activities for the helicopter maintenance operation.

During the fire season, which runs from May through October/November, only support staff remain in the building, with an estimate of up to 30 employees working an 8:00 am - 5:00 pm shift. During the off-season, running from November through April, employment at the building will increase to up to 70 employees.

The site plan and access locations are still in development. Access will be provided to Keil Road, and will comply with Marion County access and spacing standards.

MAJOR FINDINGS

Trip generation estimates for the Helicopter Transport Services facility were prepared using the Institute of Transportation Engineers *Trip Generation*, Land Use – 110 (General Light Industrial) based on the anticipated peak seasonal 70 employees. A total of 211 daily, 34 AM peak hour and 36 PM peak hour trips are anticipated. Truck trips are expected to be less than 30 per day.

The intersection of OR 551 with Ehlen Road does not currently meet ODOT standards of v/c 0.70. The addition of site trips does not decrease the v/c in the critical PM peak hour. Improvements are planned, as noted in the Draft 2010-2013 STIP (key number 16121), to include building left turn lanes on Ehlen Road and a traffic separator to limit Boones Ferry to right turns. The Marion County 2005 Rural Transportation Plan, Table 8-5 also identifies improvements that are needed at the OR intersection.

- The Airport Road/Ehlen Road intersection is expected to operate at a level of service "F" in 2010 PM peak hour conditions regardless of site development, which is below Marion County standards. AM peak hour operation would remain at level of service "C". The City of Aurora is considering adding a traffic signal at this intersection in their TSP.

Queuing calculations were prepared for the OR 551 intersections in accordance with ODOT standards using SimTraffic software. The addition of trips from the proposed Helicopter Transport Services facility has little impact on the anticipated queue lengths at the study intersections. Long queues are currently experienced on the Ehlen Road eastbound approach to OR 551, cansed by the lack of a dedicated left turn lane. Both ODOT and Marion County have identified the need for dedicated left turn lanes, which would address the long queues currently occurring.

- Traffic signal warrants presented in the Manual on Uniform Traffic Control Devises were reviewed for the intersection of Ehlen Road with Airport Road, specifically Warrants 1 – Eight Hour Vehicular Volume, 2 – Four Hour Vehicular Volume, and 3 – Peak Hour. ODOT's sixteen hour volumes were used as a basis for review of the eight and four hour warrants. With the addition of site trips, Warrants 1 and 2 not met, and Warrant 3 is just met. Based on this analysis, a traffic signal is not recommended at this time.

  The need for right and left turn lanes at the study area intersections was reviewed using ODOT's turn-lane criterion. Right turn volumes on OR 551 at Keil Road will not meet ODOT's Right Turn Lane Criterion for either AM or PM peak hours.

  No left turn lanes are provided on OR 551 at the intersection with Keil Road. Given the high through volume on the highway, the left turn lane criterion is met with only 10 left turns in an hour. The criterion is met with existing AM peak hour volumes, but not with the PM peak hour volumes for the southbound left turn movement.

- The need for a left tnrn lane was also reviewed on Ehlen Road at the intersection with Airport Road, where no turn lanes are currently provided. The ODOT left turn criterion is met for both the Pre-Development AM and PM peak hour conditions.

MITIGATION MEASURES PROPOSED

With improvements already identified for the intersections of Ehlen Road with OR 551 and Airport Road, and costs that would exceed the proportionate impacts of the Helicopter Transport Services facility, it is recommended the project contribute a proportionate share of planned improvements.

II. INTRODUCTION

This transportation impact analysis has been prepared to support the proposed zone change and Conditional Use Permit for the 126,000 square foot Helicopter Transport Services facility in Aurora, Oregon. The site is currently zoned Exclusive Farm Use (EFU) and the proposed zone is Public (P). An airport use is a conditional use in the Public zone. The subject area is bound by the Aurora Airport to the west, vacant land to the north, Keil Road to the south, and Airport Road to the east. Figure 1 is a vicinity map indicating the property location.

PROJECT DESCRIPTION

The site is approximately 27.48 acres and is identified by Assessor's Map Township 4 Range 1W Section 11 Tax Lot 100 and Township 4 Range 1W Section 12b Tax Lot 400. There are currently two dwelling units on the property.

The Helicopter Transport Services facility is a repair station for the company's helicopters. The company's helicopters are located around the world at different sites, and generally are brought back to this maintenance facility once a year in the late fall (November) for major overhaul and repair during the winter months. After a several month overhaul and repair, the helicopters, pilot crews, mechanics, and fuel tank drivers, then return to service in the spring (April/May) to specific locations based on contract needs for firefighting services with the company's clients. Thus, the activities within the facility are all related to helicopter maintenance. Such use generally includes airframe, rotor, engine, electronics, and radio repair items. In addition, there is supporting administrative and management activities for the helicopter maintenance operation.

During the fire season, which runs from May through October/November, only support staff remain in the building, with an estimate of up to 30 employees working an 8:00 am - 5:00 pm shift. During the off-season, running from November through April, employment at the building will increase to up to 70 employees.

Site access is proposed to Keil Road at several locations. The number and location of access points will be refined based on site conditions and will comply with Marion County access and spacing standards. Figure 2 attached is the preliminary site plan.

SCOPE OF REPORT

As identified in our March 17, 2009 scope letter to Marion County, the zone change from EFU to P does not result in an increase in trip potential. For this reason, only the condition use application is addressed for conditions at buildout of the site.

Due to the project location, both the Marion County and the Oregon Department of Transportation (ODOT) have jurisdiction over certain study area intersections. Based on the March 17, 2009 scope letter, May 14, 2009 trip generation letter and conversations with County staff, the analysis study area includes the following intersections as well as the site access to Keil Road:

ODOT
- OR 551/Keil Road
- OR 551/Ehlen Road

Marion County
- Airport Road/Keil Road
- Airport Road/Ehlen Road

Analysis was conducted for the AM and PM peak hour for the following scenarios:

- 2009 Existing
- 2010 Pre-Development
- 2010 Post-Development

All correspondence is included in the appendix.

III. EXISTING CONDITIONS

TRANSPORTATION FACILITIES

The following summarizes the study area roadway classifications and descriptions:

TABLE 1 - ROADWAY CHARACTERISTICS						
Roadway	ODOT/City Classification	Posted Speed	Travel Lanes	Bike Lanes	On-Street Parking	Sidewalks
OR 551	Rural Arterial – Regional Hwy	50	2	No	No	No
Ehlen Road	Arterial	35/55	2	No	No	No
Airport Road	Major Collector	35/55	2	No	No	No
Keil Road	Local Road	25	2	No	No	No

Currently, the OR 551/Ehlen Road intersection is signalized. The other intersections are stop controlled for the minor street approach.

Figure 3 illustrates study area intersection existing lane configurations and traffic controls.

EXISTING TRAFFIC COUNTS

Traffic volume data was either collected at the study intersections between 7 AM – 9 AM and 4 AM – 6 PM in April, 2009 or agency supplied. Sixteen hour counts for the intersection of Ehlen Road/Airport Road were conducted by ODOT in 2008 and were used in review of signal warrants for that intersection.

Turning movement counts for OR 551 were not conducted in the peak month (August); therefore, a 3.2% seasonal volume adjustment was made using the 2008 Seasonal Trend Table, in accordance with ODOT standards. Calculations and raw count data are included in the appendix.

Figures 4A and 4B present 2009 intersection traffic volumes including the seasonally adjusted volumes on OR 551.

PLANNED PUBLIC IMPROVEMENTS

ODOT

The Draft 2010-2013 STIP (key number 16121) indicates improvements are scheduled to begin in 2012 at the OR 551/Ehlen Road intersection. Identified improvements include building left turn lanes on Ehlen Road and a traffic separator to limit Boones Ferry to right turns.

Marion County

The Marion County 2005 Rural Transportation Plan, Table 8-5 also identifies improvements are needed at the OR 551/Ehlen Road intersection. Potential improvements may include "*Left Turn Lane on Ehlen; possible realignment; possible traffic signal at Boones Ferry coordinated with State Highway signal*".

City of Aurora
The City of Aurora is currently in the process of a TSP update with public hearings scheduled for July 2009. According to City and County staff, a recommendation for a signal at the Ehlen Road/Airport Road intersection is expected to be included in the TSP.

CRASH ANALYSIS

When evaluating relative intersection safety, consideration is given to the total number and types of crashes occurring and the number of vehicles entering the intersection. This leads to the concept known as "crash rate", usually expressed in terms of the number of crashes occurring per one million vehicles entering the intersection (mev). Intersections having a crash rate less than 1.0/mev are generally considered relatively safe and with crash rates higher than 1.0/mev, consideration may be given to correcting operational problems.

Crash data for the study area intersections were provided by the ODOT Crash Analysis and Reporting Unit (CARU) for January 2003 through December 2007. The following table represents calculated crash rates at the study intersections for the five-year data period. Annual traffic entering the intersections was estimated by multiplying the average daily traffic (ADT) entering the intersection by 365. ADT was estimated by multiplying the intersection PM peak hour volumes by a factor of 10, which coincides with volumes found in the 2007 Oregon State Flow Map.

TABLE 2 – CRASH DATA

Intersection	2004	2005	2006	2007	2008	Total	Crash Rate
OR 551/Keil Road	2	5	1	4	1	13	0.72
OR 551/Ehlen Road	4	2	10	8	7	31	1.09
Airport Road/Keil Road	0	0	0	0	0	0	0.00
Airport Road/Ehlen Road	1	0	0	2	0	3	0.14

All study intersections have crash rates below the 1.0 mev threshold with the exception of the OR 551/Ehlen Road intersection, with a crash rate of 1.09/MEV.

The OR 551/Ehlen Road intersection is currently listed in the ODOT Highway Safety Improvement Program (HSIP) Top 5% Report. The report describes the problem as 43% of crashes turning related, with angle and rear-end type crashes also. It noted the Boones Ferry Road intersection approximately 260 feet to the west causing issues with back to back left turns and traffic backing up through the highway. It lists potential remedies as designated left turn lanes on Ehlen Road and a traffic separator restricting turn movements to and from Boones Ferry Road. The Draft 2010-2013 STIP (key number 16121) indicates improvements are scheduled to begin in 2012. A copy of the HSIP page is located in the appendix.

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IV. PRE-DEVELOPMENT CONDITIONS

IN-PROCESS TRAFFIC VOLUMES

In-process traffic volumes are generated by approved projects not yet complete at the time of this analysis. County Staff has stated there are no significant in-process projects to be included in the analysis.

BACKGROUND TRAFFIC GROWTH

Background growth is general traffic growth not related to specific projects. These volumes represent anticipated growth in the project area over the planning period. Individual neighborhoods and streets may have higher growth rates in the short term, but the overall growth rate is averaged over the planning period.

The background traffic growth rate was based on the Marion County Rural Transportation Systems Plan (RTSP) and Automatic Traffic Recorder (ATR) 24-016 data. The RTSP, Table 6-2, included in appendix, presents anticipated 2025 daily traffic volumes. Growth rates for the study area roadways range from 1.8% to 2.5%.

ATR 24-016 is located 0.22 miles south of Ehlen Road on OR 551. Being near the study area and on the major study area roadway, this ATR is a fair representation of traffic growth in the area. The ATR data presents daily traffic volumes for years 1998-2007. The 10 year growth rate is 2.0% and the 5 year growth rate is 1.0%.

For the purposes of this study a conservative 2.5% growth rate was used for all future year analyses. Figures 5A and 5B illustrates one year of background traffic growth volumes for the AM and PM peak hour.

PRE-DEVELOPMENT TRAFFIC VOLUMES

Pre-Development traffic volumes are the sum of existing traffic volumes and background traffic growth. Figures 6A and 6B presents the 2010 Pre-Development volumes in the AM and PM peak hours.

V. SITE DEVELOPMENT

TRIP GENERATION

The Helicopter Transport use is best categorized using Institute of Transportation Engineers *Trip Generation,* Land Use – 110 (General Light Industrial). Based on the anticipated operation for Helicopter Transport, it is more appropriate to estimate trips based on employees than on building size. For purposes of this analysis, the higher winter employee estimate has been used to provide a "worst case" scenario. Based on discussions with County staff, average trip rates for the peak hour of the generator will be used in the trip generation estimates.

The anticipated trip generation is presented in the following table based on the number of employees.

TABLE 3 – TRIP GENERATION

Land Use (Code)	Employees	ADT	AM Peak Hour			PM Peak Hour		
			Total	Enter	Exit	Total	Enter	Exit
Light Industrial (110)	70	211	34	28	6	36	8	28

The proposed facility is anticipated to generate an additional 211 ADT, 34 AM and 36 PM peak hour trips. Truck trips are expected to be less than 30 per day.

TRIP DISTRIBUTION AND TRAFFIC ASSIGNMENT

Trip distribution and traffic assignment were based on a review study area traffic patterns and engineering judgment. In general, 30% of site trips are anticipated to travel north on OR 551, 10% south on OR 551, 20% both west and east on Ehlen Road, and 10% east on Arndt Road. Figures 7A and 7B illustrate trip distribution and traffic assignment for the AM and PM peak hours, respectively.

POST-DEVELOPMENT TRAFFIC VOLUMES

Post-Development traffic volumes are the sum of Pre-Development and proposed development traffic volumes. Figures 8A and 8B illustrate the 2010 Post-Development traffic volumes for the AM and PM peak hour, respectively.

VI. INTERSECTION AND ROADWAY ANALYSIS

OPERATION ANALYSIS DESCRIPTION

Intersection operation characteristics are generally defined by two measurements: volume-to-capacity (v/c) ratio and level-of-service (LOS). ODOT uses v/c ratio and the County uses LOS and delay to determine intersection performance. Since both agencies have roadways within the project impact area, both measurements are included in the analysis.

V/c ratio is a measurement of capacity used by a given traffic movement for an entire intersection. It is defined by the rate of traffic flow or traffic demand divided by the theoretical capacity. Based on the 1999 Oregon Highway Plan (OHP), OR 551 is a Regional Highway. The OHP requires a maximum v/c ratio of 0.70 be maintained on OR 551 at the study area intersections.

LOS is a measure of the average control delay (in seconds) experienced by drivers at an intersection and is described by a letter on the scale from 'A' to 'F'. LOS 'A' represents optimum operating conditions and minimum delay. LOS 'F' indicates over capacity conditions causing unacceptable delay. LOS 'D' is considered the acceptable minimum by Marion County (Marion County Department of Public Works Transportation Impact Analysis (TIA) Requirements).

PEAK HOUR FACTOR

The peak hour factor (PHF) is used to determine the design hour flow rate and is defined as the ratio of total hourly flow to the peak flow rate within the hour. For analyses contained in this report, 15-minute time increments are used to measure intersection approach volumes; therefore, the PHF is the total hourly volume of all approaches divided by 4 times the peak 15-minute total approach volume. As roads approach capacity, their peak hour factors approach 1.0.

PHFs were calculated for all study area intersections. For the 2010 analysis year, PHFs were assumed to remain consistent with existing 2009 PHFs. PHF calculations are included on the volume summary sheet.

OPERATION ANALYSIS

Operation analysis was conducted for the AM and PM peak hours using Synchro software and the Highway Capacity Manual Methodologies, and following ODOT's Analysis Procedures Manual. The following scenarios were analyzed:

- 2009 Existing
- 2010 Pre-Development
- 2010 Post-Development

In accordance with ODOT standards for areas outside the Portland MPO a saturation flow rate of 1,750 passenger cars per hour of green per lane was used in the analysis. This is consistent with Marion County's standard of 1,800 unless justified by a measurement at that location.

Calculation results are summarized in the following tables. Calculation sheets from the Synchro analysis are included in the appendix.

TABLE 4 – INTERSECTION OPERATIONS										
Intersection	Time Period	2009 Existing			2010 Pre-Development			2010 Post-Development		
OR 551/Keil Road	AM	22.7	0.26	C	23.7	0.27	C	24.9	0.30	C
	PM	31.8	0.28	D	33.7	0.30	D	35.6	0.36	E
OR 551/Ehlen Road	AM	30.0	0.74	C	32.0	0.76	C	32.6	0.77	C
	PM	32.5	0.81	C	35.1	0.83	D	35.6	0.83	D
Airport Road/Keil Road	AM	10.6	0.02	A	10.7	0.02	A	10.7	0.03	A
	PM	10.7	0.09	A	10.8	0.09	B	11.1	0.13	A
Airport Road/Ehlen Road	AM	17.0	0.14	C	17.5	0.15	C	17.9	0.15	C
	PM	46.7	0.75	E	53.6	0.80	F	59.0	0.84	F
Keil Road/Site Access	AM	-	-	-	-	-	-	8.7	0.01	A
	PM	-	-	-	-	-	-	8.8	0.03	A

Signalized/Unsignalized Criteria: Delay-v/c-LOS (unsignalized v/c reported for the critical movement)

The Keil Road approach to OR 551 is anticipated to operate at a 0.36 v/c and a level of service "E" with the addition of site trips. This is consistent with ODOT and Marion County standards for an unsignalized intersection.

The OR 551/Ehlen Road intersection does not meet ODOT's mobility standard of a 0.70 v/c, with an anticipated 0.83 in the PM peak hour pre-development scenario. The addition of site trips does not change the v/c, so no mitigation is required with the project. Both ODOT and Marion County have identified that dedicated left turn lanes are needed at this intersection to improve safety and capacity; identified on ODOT's Draft 2010-2013 STIP .

The Airport Road/Keil Road intersection will continue to operate at a level of service "A" with the addition of site trips.

The Airport Road/Ehlen Road intersection is expected to operate at a level of service "F" in 2010 PM peak hour conditions regardless of site development. AM peak hour operation would remain at level of service "C". The City of Aurora is considering adding a traffic signal at this intersection in their TSP. The project is expected to add 15 PM peak hour trips or a 1.3% increase over existing volumes.

For purposes of this analysis, one access was assumed to Keil Road. The number and locations of site accesses has yet to be determined.

QUEUING ANALYSIS

Queuing calculations were prepared for the OR 551 intersections in accordance with ODOT standards using SimTraffic software. The following table presents the queuing results at each of the study intersections.

TABLE 5 – QUEUE LENGTHS (FEET)								
Intersection	Approach	Movement	2009		2010			
			Existing		Pre-Development		Post-Development	
			AM	PM	AM	PM	AM	PM
OR 551/ Keil Road	EB	Lt, Th, Rt	75	50	50	50	75	75
	WB	Lt, Th, Rt	25	75	50	75	50	75
	NB	Lt, Th, Rt	25	25	25	25	50	25
	SB	Lt	50	25	50	25	75	25
OR 551/ Ehlen Road	EB	Lt, Th, Rt	975	2100	1500	2025	1300	2150
	WB	Lt, Th, Rt	375	300	550	300	300	275
	NB	Lt	125	100	125	75	125	75
		Th	350	275	375	575	425	275
		Rt	50	25	75	25	50	25
	SB	Lt	100	325	75	325	75	300
		Th	175	675	175	750	175	625
		Rt	100	200	100	200	100	200
Airport Road/ Keil Road	EB	Lt, Rt	25	50	25	50	50	50
	NB	Lt	25	0	0	0	0	0
Airport Road/ Ehlen Road	EB	Th, Rt	75	75	75	50	100	75
	SB	Lt, Rt	50	175	75	175	75	175

The addition of trips from the proposed Helicopter Transport Services facility has little impact on the anticipated queue lengths at the study intersections. Long queues are currently experienced on the Ehlen Road eastbound approach to OR 551, caused by the lack of a dedicated left turn lane. Both ODOT and Marion County have identified the need for dedicated left turn lanes, which would address the long queues currently occurring.

SIGNAL WARRANT ANALYSIS

The City of Aurora is currently considering including a traffic signal at the intersection of Ehlen Road with Airport Road in their TSP. Traffic signal warrants presented in the Manual on Uniform Traffic Control Devises were reviewed for this intersection with the post-development traffic volumes. Specifically, Warrants 1 – Eight Hour Vehicular Volume, 2 – Four-Hour Vehicular Volume, and 3 – Peak Hour were reviewed.

For Warrant 1 – Eight Hour Vehicular Volume, ODOT's 16 hour counts were used in the review. The count was conducted in 2008, so two years of background growth were added to the hourly volumes to estimate conditions in 2010, and 10 trips were added to both the minor and major streets (this is a worst case estimate as only 15 PM peak hour trips are added). The volume threshold is only met for three hours for both conditions A and B of the warrant. This warrant is not met, as eight hours must meet the volume thresholds.

Warrant 2 - Four-Hour Vehicular Volume was also reviewed using ODOT's 16 hour counts and the addition of background growth and site traffic. As shown on the warrant figure in the appendix, only three of the hours meet the volume standards. This warrant is not met.

The peak hour warrant was reviewed using PM peak hour volumes for the post-development scenario. The warrant is just met as shown in the attached figure.

With Warrants 1 and 2 not met with development of the site trips, and Warrant 3 just met, a signal is not recommended at this time.

Copies of the warrant worksheets and volume summaries are included in the appendix.

TURN LANE WARRANT ANALYSIS

The need for right and left turn lanes at the study area intersections was reviewed using ODOT's turn-lane criterion.

No right turn lane is currently provided on OR 551 at Keil Road northbound. With development of the site, volumes will not meet ODOT's Right Turn Lane Criterion for either AM or PM peak hours. ODOT's right turn figure is included in the appendix.

No left turn lanes are provided on OR 551 at the intersection with Keil Road. Given the high through volume on the highway (over 900 AM and 1200 PM vehicles per hour in both directions), the left turn lane criterion is met with only 10 left turns in an hour. Pre-development conditions include 23 AM peak hour. The addition of site trips increases the AM left turn volume to 29 trips. The PM volumes are only 6 left turns in the pre-development scenario, and 8 left turns with the addition of site trips. Only the AM peak hour volume meets the Left Turn Lane Criterion.

The need for a left turn lane was also reviewed on Ehlen Road at the intersection with Airport Road, where no turn lanes are currently provided. The ODOT left turn criterion is met for both the pre-development AM and PM peak hour conditions.

PEDESTRIAN AND BICYCLE

None of the roadways within the study area have striped bike lanes or sidewalks. A paved shoulder is currently provided on Ehlen Road.

VII. MITIGATION

The intersections of Ehlen Road with OR 551 and Airport Road currently do not meet operating standards even without the proposed Helicopter Transport Services facility. The project will add less than 2% to these intersections and have little impact above the pre-development conditions. Both intersections have improvements identified, including a traffic signal at Airport Road and dedicated left turn lanes at Ehlen Road. A warrant analysis indicates a traffic signal is not needed with the addition of site trips.

Existing traffic volumes at the intersection of OR 551 meet ODOT's left turn criterion for the AM peak hour. The site will add to the southbound left turn movement, increasing from the existing 22 to 29 left turns.

Costs for all of the identified future improvements would likely exceed the proportionate impacts of the Helicopter Transport Services facility. Therefore, it is recommended that the project contribute a proportionate share of planned improvements.

VIII. SUMMARY

This transportation impact analysis has been prepared to support the proposed zone change and Conditional Use Permit for the 126,000 square foot Helicopter Transport Services facility in Aurora, Oregon. The site is currently zoned Exclusive Farm Use (EFU) and the proposed zone is Public (P). An airport use is a conditional use in the Public zone. The 27.48 acre site is bound by the Aurora Airport to the west, vacant land to the north, Keil Road to the south, and Airport Road to the east. There are currently two dwelling units on the property.

As identified in our March 17, 2009 scope letter to Marion County, the zone change from EFU to P does not result in an increase in trip potential. For this reason, only the condition use application is addressed for conditions at buildout of the site. Both Marion County and the Oregon Department of Transportation (ODOT) have jurisdiction over study area intersections. This analysis addresses requirements of both jurisdictions. Analysis was conducted for the AM and PM peak hour for the 2009 Existing, 2010 Pre-Development and 2010 Post-Development.

The Helicopter Transport Services facility is a repair station for the company's helicopters. The company's helicopters are located around the world at different sites, and generally are brought back to this maintenance facility once a year in the late fall for major overhaul and repair during the winter months. After a several month overhaul and repair, the helicopters, pilot crews, mechanics, and fuel tank drivers, then return to service in the spring to specific locations based on contract needs for firefighting services with the company's clients. Thus, the activities within the facility are all related to helicopter maintenance. In addition, there is supporting administrative and management activities for the helicopter maintenance operation.

During the fire season which runs from May through October/November, only support staff remain in the building, with an estimate of up to 30 employees working an 8:00 AM -5:00 PM shift. During the off-season, running from November through April, employment at the building will increase to up to 70 employees.

The site plan and access locations are still in development. Access will be provided to Keil Road, and will comply with Marion County access and spacing standards.

Traffic volume data was either collected at the study intersections between 7 AM – 9 AM and 4 AM – 6 PM in April 2009, and sixteen hour counts for the intersection of Ehlen Road/Airport Road were conducted by ODOT in 2008. A seasonal volume adjustment was made to OR 551 volumes using the 2008 Seasonal Trend Table, in accordance with ODOT standards.

Improvements are planned at the OR 551/Ehlen Road intersection, as noted in the Draft 2010-2013 STIP (key number 16121), to include building left turn lanes on Ehlen Road and a traffic separator to limit Boones Ferry to right turns. The Marion County 2005 Rural Transportation Plan, Table 8-5 also identifies improvements are needed at the OR 551/Ehlen Road intersection. Potential improvements may include "*Left Turn Lane on Ehlen; possible realignment; possible traffic signal at Boones Ferry coordinated with State Highway signal*".

The City of Aurora is currently in the process of a TSP update with public hearings scheduled for July 2009. According to City and County staff, a recommendation for a signal at the Ehlen Road/Airport Road intersection is expected to be included in the TSP.

Crash data for the study area intersections were reviewed to determine crash rates. Only the intersection of OR 551 with Ehlen Road has a crash rate above 1.0 crashes per million entering vehicles, as has been noted in the ODOT Highway Safety Improvement Program (HSIP) Top 5% Report. The planned left turn improvements are expected to address the high crash rate.

Pre-development traffic conditions were estimated by adding one year of 2.5% background growth to existing volumes. County staff has stated there are no significant in-process projects to be included in the analysis.

Trip generation estimates for the Helicopter Transport Services facility were prepared using Institute of Transportation Engineers *Trip Generation,* Land Use – 110 (General Light Industrial) based on the anticipated peak seasonal 70 employees.

Based on discussions with County staff, average trip rates for the peak hour of the generator will be used. A total of 211 daily, 34 AM peak hour and 36 PM peak hour trips are anticipated. Truck trips are expected to be less than 30 per day.

Capacity calculations were prepared in accordance with ODOT standards using Synchro software, which follows the Highway Capacity Manual methodologies.

The intersection of OR 551 with Ehlen Road does not currently meet ODOT standards of v/c 0.70, and the addition of site trips does not decrease the v/c in the critical PM peak hour. Improvements have been identified for this intersection to include left turn lanes on Ehlen Road.

The Airport Road/Ehlen Road intersection is expected to operate at a level of service "F" in 2010 PM peak hour conditions regardless of site development, which is below Marion County standards. AM peak hour operation would remain at level of service "C". The City of Aurora is considering adding a traffic signal at this intersection in their TSP.

Queuing calculations were prepared for the OR 551 intersections in accordance with ODOT standards using SimTraffic software. The addition of trips from the proposed Helicopter Transport Services facility has little impact on the anticipated queue lengths at the study intersections. Long queues are currently experienced on the Ehlen Road eastbound approach to OR 551, caused by the lack of a dedicated left turn lane. Both ODOT and Marion County have identified the need for dedicated left turn lanes, which would address the long queues currently occurring.

Traffic signal warrants presented in the Manual on Uniform Traffic Control Devises were reviewed for the intersection of Ehlen Road with Airport Road, specifically Warrants 1 – Eight Hour Vehicular Volume, 2 – Four-Hour Vehicular Volume, and 3 – Peak Hour. ODOT's sixteen hour volumes were used as a basis for review of the eight and four hour warrants. With the addition of site trips, Warrants 1 and 2 not met, and Warrant 3 is just met. Based on this analysis, a traffic signal is not recommended at this time.

The need for right and left turn lanes at the study area intersections was reviewed using ODOT's turn-lane criterion. Right turn volumes on OR 551 at Keil Road will not meet ODOT's Right Turn Lane Criterion for either AM or PM peak hours.

No left turn lanes are provided on OR 551 at the intersection with Keil Road. Given the high through volume on the highway, the left turn lane criterion is met with only 10 left turns in an hour. The criterion is met with existing AM peak hour volumes, but not with the PM peak hour volumes for the southbound left turn movement.

The need for a left turn lane was also reviewed on Ehlen Road at the intersection with Airport Road, where no turn lanes are currently provided. The ODOT left turn criterion is met for both the pre-development AM and PM peak hour conditions.

With improvements already identified for the intersections of Ehlen Road with OR 551 and Airport Road, and costs that would exceed the proportionate impacts of the Helicopter Transport Services facility, it is recommended the project contribute a proportionate share of planned improvements.

IX. APPENDIX

A. Figures
B. Traffic Count Summaries
C. Crash Data
D. Background Growth
E. Capacity Calculations
F. Queuing Calculations
G. Warrant Analysis
H. Marion County and ODOT Scoping

CHAPTER 1: INTRODUCTION AND SUMMARY

This study evaluates the transportation impacts for the proposed Fred Meyer development located on the northeast corner of Boones Ferry Road and Bailey Street in the City of Wilsonville, Oregon. It also recommends mitigation measures to offset the impacts.

The currently proposed development includes a 155,881 square-foot Fred Meyer building (which includes the Fred Meyer store as well as 10,100 square feet of additional tenant space[1]), six other buildings (which include 50,879 square feet of retail/office use and a 3,316 square-foot restaurant), and 60 residential apartment units.[2] The site has four access points to the public street system: two on SW Boones Ferry Road and two on SW Bailey Street.

The study area for the project is shown in Figure 1 and was determined based on discussions with City staff. Within the study area, there are seven study intersections where traffic operations are analyzed:

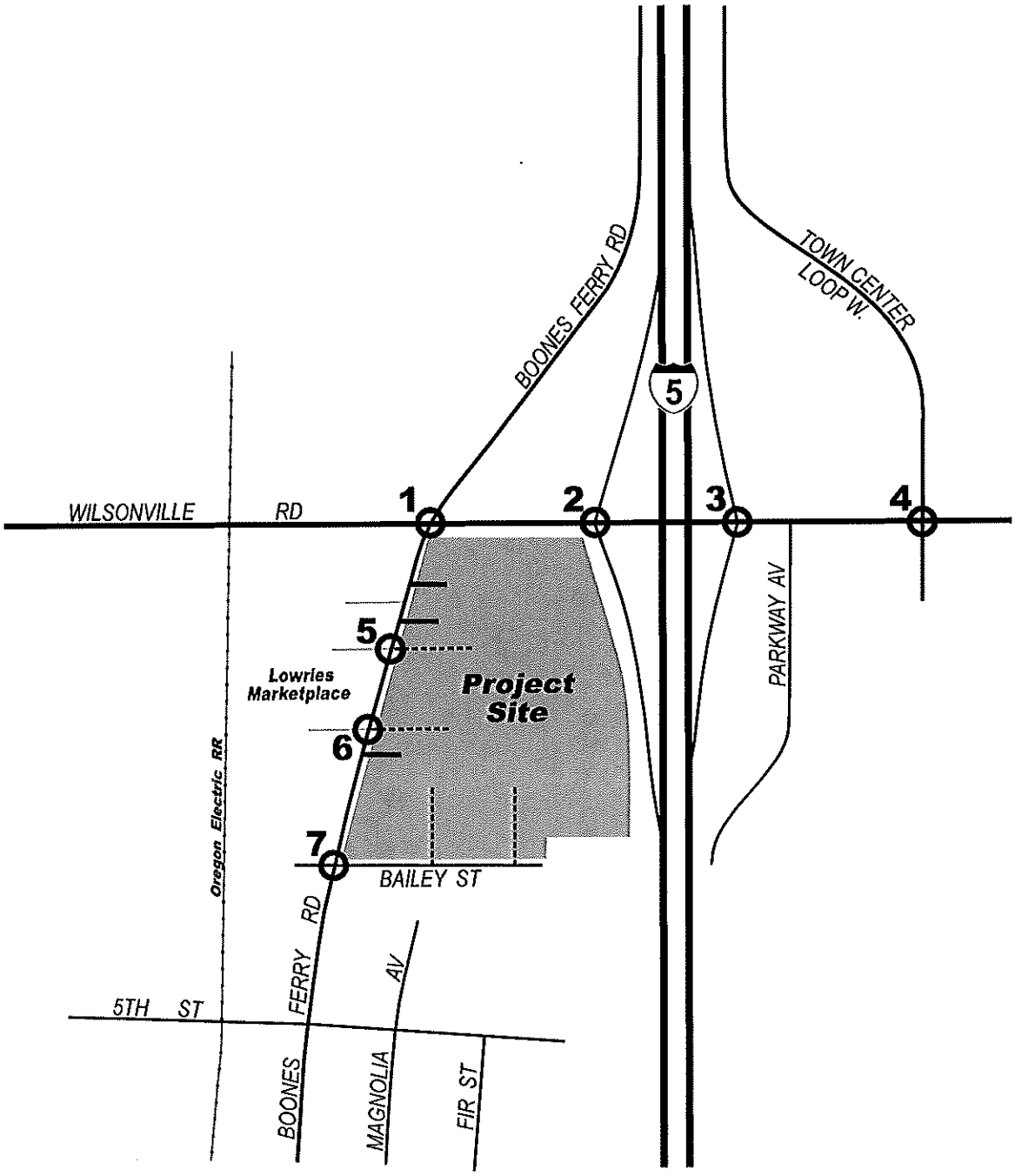
- Boones Ferry Road/Wilsonville Road
- I-5 Southbound Ramps/Wilsonville Road
- I-5 Northbound Ramps/Wilsonville Road
- Town Center Loop West/Wilsonville Road
- Boones Ferry Road/Fred Meyer north access
- Boones Ferry Road/Fred Meyer south access
- Boones Ferry Road/Bailey Street

Project traffic impacts were evaluated at the study intersections for the weekday PM peak hour. The impact analysis includes trip generation, trip distribution, PM peak hour project trips through the two City of Wilsonville I-5 interchange areas, and future traffic operating conditions. The analysis also accounts for developments in the area that have Stage II approval, including those under construction but not yet occupied. Recommended mitigations are then described and analyzed. Included in the mitigations section of Chapter 3 is a conceptual cross-section layout for Boones Ferry Road between Bailey Road and Wilsonville Road (see Figure 5).

Other issues addressed in this report include Saturday peak hour safety analysis and a project site evaluation (which addresses access location and spacing), sight distance, project frontage adjustments, traffic signal warrants, internal circulation, and parking. At the end of the report, a summary is presented of the recommended transportation mitigation measures that are expected to offset the negative transportation impacts of future traffic growth.

Table 1 lists important characteristics of the study area and proposed project.

[1] Tenant space within a Fred Meyer building is typically occupied by businesses providing additional goods or services, such as coffee shops or banks.
[2] Email from Christine McKelvey, Group Mackenzie, July 2, 2008.



LEGEND

1 - Study Intersection & Number
- Proposed Fred Meyer Driveway
- Existing Lowries Driveway
- Existing Driveway to be Removed

DKS Associates
TRANSPORTATION SOLUTIONS

NO SCALE

Figure 1

STUDY AREA

DKS Associates
TRANSPORTATION SOLUTIONS

TABLE 1: Study Area and Proposed Project Characteristics

Study Area	
Number of Study Intersections	7
Analysis Periods	Weekday PM Peak (4:00 p.m. to 6:00 p.m.) Saturday Midday Peak (11:00 a.m. to 1:00 p.m.)
Proposed Development	
Total Weekday PM Peak Hour Project Trips	1,255 (627 in, 628 out)
Non Pass-by[a] Weekday PM Peak Hour Project Trips	937 (468 in, 469 out)
Net New Weekday PM Peak Hour Project Trips	488 (244 in, 244 out)
Estimated Weekday PM Peak Hour Project Trips Through I-5/Wilsonville Road Interchange[b]	612 (768 new trips – 156 grandfathered trips)
Estimated Weekday PM Peak Hour Project Trips Through I-5/Elligsen Road Interchange	2
Vehicle Access Points	Four full access points: two on SW Boones Ferry Road and two on SW Bailey Street.
Project Vicinity	
Pedestrian Facilities	Sidewalks to be constructed along project frontage of Boones Ferry and Bailey Street with connection to Wilsonville Road.
Bicycle Facilities	Sidewalks and bike lanes on Boones Ferry Road and Wilsonville Road
Nearest Transit Stop	Boones Ferry Road (SMART Routes 1X and 203)

[a] Non-Pass-by project trips account for pass-by and internal trip reductions.
[b] The Wilsonville Road interchange area includes the Boones Ferry Road/Wilsonville Road intersection. Some of the new project trips that pass through this intersection are diverted trips.

Project Traffic Impact

To determine project impact at the study intersections, traffic operating conditions were analyzed at the study intersections during the weekday PM peak hour for the following four scenarios:

- Existing Conditions
- Existing plus Project
- Existing plus Stage II
- Existing plus Project plus Stage II

The study intersection operating conditions (assuming the existing roadway network) for the "Existing," "Existing plus Stage II," and "Existing plus Project plus Stage II" scenarios are listed in Table 2. Under existing conditions, all study intersections meet the City of Wilsonville LOS "D" standard and the Oregon Department of Transportation (ODOT) 0.99 volume-to-capacity (V/C) standard during the PM peak hour. With the addition of stage II traffic, both northbound and southbound ramps exceed operating standards. When project traffic is also added, all four study intersections on Wilsonville Road exceed operating standards. In addition, the two Fred Meyer development accesses on Boones Ferry Road operate below desired levels.

TABLE 2: Study Intersection Operating Conditions (PM Peak Hour)

Intersection	Operating Standard	Existing Conditions			Existing + Stage II			Existing + Stage II + Project		
		Delay	*LOS*	*V/C*	*Delay*	*LOS*	*V/C*	*Delay*	*LOS*	*V/C*
Signalized										
Boones Ferry Rd / Wilsonville Rd	LOS D	36.0	D	0.77	44.5	D	0.89	>80	**F**	>1.0
I-5 SB Ramps / Wilsonville Rd	LOS D, 0.99 V/C	36.1	D	0.90	79.1	**E**	**>1.0**	>80	**F**	**>1.0**
I-5 NB Ramps / Wilsonville Rd	LOS D, 0.99 V/C	37.2	D	0.91	70.9	**E**	**>1.0**	>80	**F**	**>1.0**
Town Center Loop W / Wilsonville Rd	LOS D	37.7	D	0.80	51.2	D	0.94	56.2	**E**	0.97
Unsignalized										
Boones Ferry Rd / North Project Access	-	12.7	A/B	0.13	13.9	A/B	0.18	>50	A/F	>1.0
Boones Ferry Rd / South Project Access	-	11.9	A/B	0.14	12.4	A/B	0.15	>50	A/F	0.71
Boones Ferry Rd / Bailey St	LOS D	10.9	A/B	0.06	11.6	A/B	0.06	13.8	A/B	0.12

Signalized intersections:
Delay = Average Stopped Delay per Vehicle (sec) for All Movements
LOS = Level of Service of Intersection
V/C = Volume-to-Capacity Ratio of Intersection
Bold Underlined values do not meet standards.

Unsignalized intersections:
Delay = Average Stopped Delay per Vehicle (sec) at Worst Movement
LOS = Level of Service of Major Street/Minor Street
V/C = Volume-to-Capacity Ratio of Worst Movement
Bold Underlined values do not meet standards.

Planned Wilsonville Road Improvements

Due to capacity constraints at the I-5/Wilsonville Road interchange, improvements are planned that will provide additional capacity along Wilsonville Road between Boones Ferry Road and Town Center Loop West. Recently, the City has signed an intergovernmental agreement to construct the first phase of improvements, which will consist of a Wilsonville Road 6-lane enhanced alternative that focuses on ramp improvements and on adjustments to intersection lane configurations.

For the four study intersections on the Wilsonville Road corridor, a Synchro™ model of the improved Wilsonville Road cross-section was used to analyze intersection operating conditions for each of the three

future PM peak hour traffic scenarios (i.e., "Existing plus Project", "Existing plus Stage 2", and "Existing plus Project plus Stage 2"). The results of the analysis are listed in Table 3. As shown in the table, all four study intersections on Wilsonville Road comply with the City of Wilsonville LOS D operating standard for each of the three scenarios. The two I-5 ramps also meet the Oregon Department of Transportation (ODOT) 0.99 volume-to-capacity (V/C) standard.

TABLE 3: Future Operating Conditions of Wilsonville Road Intersections with Six-Lane Enhanced Alternative Improvements (PM Peak Hour)

Intersection	Operating Standard	Existing + Project + Improvements			Existing + Stage II + Improvements			Existing + Project + Stage II + Imps.		
		Delay	*LOS*	*V/C*	*Delay*	*LOS*	*V/C*	*Delay*	*LOS*	*V/C*
Signalized										
Boones Ferry Rd / Wilsonville Rd	LOS D	37.7	D	0.66	31.1	C	0.67	39.3	D	0.75
I-5 SB Ramps / Wilsonville Rd	LOS D	20.6	C	0.64	22.0	C	0.72	22.7	C	0.76
I-5 NB Ramps / Wilsonville Rd	LOS D	22.9	C	0.64	23.6	C	0.74	24.7	C	0.78
Town Center Loop W / Wilsonville Rd	LOS D	35.7	D	0.66	40.3	D	0.75	43.2	D	0.78

Delay = Average Stopped Delay per Vehicle (sec) V/C = Volume-to-Capacity Ratio of Intersection
LOS = Level of Service of Intersection **Bold Underlined** values do not meet standards.

Project Impact Mitigations

To mitigate impacts at the north and south project accesses onto Boones Ferry Road, three Boones Ferry Road site frontage improvements are needed (these are in addition to the planned improvements to Boones Ferry Road that are shown on the Fred Meyer site plan):

- At the north Fred Meyer access, install a median along Boones Ferry Road to restrict movements to right-in/right-out for both the Lowries Marketplace and Fred Meyer developments; this will increase safety by removing turn lane needs at this access and will provide for better traffic flow (i.e. queuing spillback that impact Wilsonville Road). It will also accommodate turn lane placement and storage needs for the Boones Ferry Road/Wilsonville Road intersection's northbound approach traffic. Also, if desired, the north Fred Meyer access may be converted to a right-out only driveway and narrowed to one lane, which would allow additional space on the project site that could be used to increase a building pad size, the number of parking stalls, etc.
- Between the north and south Fred Meyer accesses, extend the second northbound through lane (which becomes a right turn lane at the Wilsonville Road intersection) to ensure approximately 600 feet of storage is provided for the northbound right turn lane at Wilsonville Road. This distance meets the short-term Fred Meyer needs and the long-term 20-year Wilsonville Road Interchange design needs.
- At the south Fred Meyer access, install a traffic signal to facilitate egress movements from the Lowries and Fred Meyer developments. There should also be two egress lanes (i.e., a right turn lane and a through-left lane). It is expected that warrants will be met in the near future due to the

addition of nearby developments. Installing the traffic signal with the Boones Ferry Road improvements will assure continuity between the improvements and the traffic signal construction. The signal should be coordinated with the Boones Ferry Road/Wilsonville Road signal. To enable the coordination, interconnect conduit and cable will need to be installed between the signals.

A conceptual layout of Boones Ferry Road that shows all improvements and mitigations is presented in Figure 5, which can be found in Chapter 3: Impact Analysis. The mitigated analysis results are listed in Table 4 for the north Fred Meyer access and the Boones Ferry Road/Bailey Street intersection and in Table 5 for both traffic control options at the south access (i.e., a traffic signal and four-way stop control). As shown in the tables, the three intersections have good operation levels and the two traffic control options for the south access are comparable to one another. The main benefits from the installation of the traffic signal are the ability to service platoon flow from the Boones Ferry Road/Wilsonville Road intersection and increased future capacity that will be available.

TABLE 4: Boones Ferry Road Mitigated Future Operating Conditions (PM Peak Hour)

Intersection	Operating Standard	Existing + Project + Stage II + Mitigated		
		Delay	*LOS*	*V/C*
Unsignalized – Two-way Stop Control				
Boones Ferry Rd / North Project Access	-	13.8	A/B	0.41
Boones Ferry Rd / Bailey St	LOS D	17.0	A/C	0.15

Delay = Average Stopped Delay per Vehicle (sec) at Worst Movement
LOS = Level of Service of Major Street/Minor Street
V/C = Volume-to-Capacity Ratio of Worst Movement
Bold Underlined values do not meet standards.

TABLE 5: South Project Access Mitigated Future Operating Conditions (PM Peak Hour)

Traffic Control at South Project Access	Existing + Project + Mitigated		
	Delay	*LOS*	*V/C*
Signalized (Option 1)	22.0	C	0.49
Four-way Stop Control (Option 2)	20.1	C	0.75

Delay = Average Stopped Delay per Vehicle (sec) for All Movements
LOS = Level of Service of Intersection
V/C = Volume-to-Capacity Ratio of Intersection
Bold Underlined values do not meet standards.

Additional Project Oriented Transportation Mitigations

In addition to the Boones Ferry Road mitigations, the following project related measures would typically be required as conditions of approval if the project were approved:

Site Accesses

- The south Fred Meyer access on Boones Ferry Road should be aligned with the south Lowries Marketplace driveway (i.e., near Albertsons). In addition, regarding the Fred Meyer accesses on Bailey Street, the east access should be aligned with the driveway on the south side of the street and the west access should be located in a manner that it does not create conflicting turn movements with any nearby driveways on the south side of the street.
- The radius for the right-out movement at the north access on Boones Ferry Road should be designed to allow trucks to perform a right turn without encroaching on neighboring lanes.

Intersection Alignment

- Improvements to the Boones Ferry Road/Bailey Street intersection should be constructed to ensure that the east and west legs of Bailey Street are properly aligned (these legs currently are offset).

Sight Distance

- All proposed site driveways should meet American Association of State Highway and Transportation Officials (AASHTO) sight distance requirements[3], and prior to occupancy, sight distance at the access points will need to be verified, documented, and stamped by a registered professional Civil or Traffic Engineer licensed in the State of Oregon.
- The sight triangle at each driveway should be clear of objects (large signs, landscaping, parked cars, etc.) that could potentially limit vehicle sight distance.

Boones Ferry Road Adjustments

- The Fred Meyer development site frontage will require adjustments to accommodate the increased cross-section on Boones Ferry Road (as shown in Figure 5, which is found in Chapter 3: Impact Analysis). Adjustments at the southwest corner of the site may also be needed to ensure that the east and west legs of the Boones Ferry Road/Bailey Street intersection are properly aligned (currently, these legs are offset). Because the site plan does not show the curb locations on the west side of Boones Ferry Road or south side of Bailey Street, it is not clear what exact adjustments are needed.

Internal Circulation

- Site plan changes are recommended to convert the south access into the main access. One optional method for making the conversion is presented in Figure 8 (found in Chapter 5: Site Evaluation), which shows two conceptual changes: (1) realigning the internal roadways so that priority is given to vehicles coming and going to the south access and (2) installing four-way stop-control at the internal intersection near the south access.
- The site plan is not clear in the vicinity of the buildings, but it appears that the site would provide adequate pedestrian circulation. It should be ensured that the site indeed provides pedestrian access to the buildings and to the nearby crosswalks and paths (in particular, to the paths on the north side of the site that connect to Wilsonville Road).
- All sidewalks within the site should conform to ADA requirements.[4]

[3] *Geometric Design of Highways and Streets,* AASHTO, 2004; Case B1, p. 661.
[4] *ADA Accessibility Guidelines for Buildings and Facilities,* Department of Justice, January 1998.

Traffic Signal Warrants

- Though signal warrants are not met at any unsignalized study intersection for the "Existing plus Project plus Stage II" scenario, it was determined that the peak hour warrant will be met in the near future at the south Fred Meyer access; therefore, a traffic signal should be installed in conjunction with the Fred Meyer development. This will assure continuity between the Boones Ferry Road improvements and the traffic signal construction. The signal should be coordinated with the Boones Ferry Road/Wilsonville Road signal. To enable the coordination, interconnect conduit and cable will need to be installed between the signals.

Parking

- The proposed site provides only 885 parking stalls. This is not sufficient to meet City of Wilsonville code requirements, which specifies that a minimum of 962 stalls should be provided (based on the types of uses and the total building square footage of each use). During peak parking periods (such as holiday shopping periods), not meeting code requirements may cause parking demand to exceed the number of available stalls and oblige vehicles to park in adjacent commercial and/or residential areas; therefore, either 962 parking stalls should be provided to reduce potential off site parking impacts or a parking management plan should be prepared outlining how peak parking demand needs shall be met.
- The 138 bicycle parking spaces meet City code requirements and should be distributed throughout the development and should be located near building entrances in order to provide convenient access to each building.

PFB15.	Sidewalks and pedestrian linkages shall be in compliance with the ADA Accessibility Guidelines (ADAAG), as amended in 2004, and the 2005 Draft Public Rights-of-Way Accessibility Guidelines.
PFB16.	Prior to the City issuing a construction permit, the applicant shall submit the sanitary sewer construction plans to the Department of Environmental Quality for review and approval.
PFB17.	No surcharging of sanitary or storm water manholes is allowed.
PFB18.	The project shall connect to an existing manhole or install a manhole at each connection point to the public storm system and sanitary sewer system.
PFB19.	A City approved energy dissipation device shall be installed at all proposed storm system outfalls. Storm outfall facilities shall be designed and constructed in conformance with the Public Works Standards.
PFB20.	The applicant shall provide a 'stamped' engineering plan and supporting information that shows the proposed street light locations meet the appropriate AASHTO lighting standards for all proposed streets and pedestrian alleyways.
PFB21.	All required pavement markings, in conformance with the Transportation Systems Plan and the Bike and Pedestrian Master Plan, shall be completed in conjunction with any conditioned street improvements.
PFB22.	The proposed site plan and landscape plan shall depict adequate sight distance at all project driveways. The applicant shall maintain all landscaping to ensure that it does not interfere with adequate sight distance requirements at any project driveway.
PFB23.	Access requirements, including sight distance, shall conform to the City's Transportation Systems Plan (TSP) and be approved by the City Engineer.
PFB24.	Applicant shall design interior streets and aisles to meet specifications of Tualatin Valley Fire & Rescue, Allied Waste Management (United Disposal) and South Metro Area Regional Transit (SMART) for access and use of their vehicles.
Specific Comments:	
PFB25.	At the request of Staff, DKS Associates completed a Transportation Impact Study (TIS) dated November 22, 2004. This study looked at a 166,887 s.f. Fred Meyer store with additional 9,000 s.f. of retail pads and a 6,000 s.f. restaurant; total proposed development of 182,000 s.f.. At the request of staff, a new TIS was completed by DKS dated August 19, 2008. This new study looked at a 165,981 s.f. Fred Meyer building with an additional 51,879 s.f. of retail/office pads, a 3,316 s.f. restaurant and 60 residential apartment units; total proposed development of 221,176 s.f. plus 60 residential apartments. The applicant's traffic consultant has suggested a different methodology for calculating trips. Pursuant to the DKS study, the project is estimated to generate the following traffic impacts. Estimated Weekday PM Peak Hour Trips 1,255 Estimated Weekday PM Peak Hour Trips 768 Through Wilsonville Road Interchange Area Allowing for grandfathered trips from U.S. Bank and the demolished gas station, as well as accounting for pass-by trips and internal trips, the project is hereby limited to no more than the following impacts. Estimated Net New Weekday PM Peak Hour Trips 728 Estimated Weekday Net New PM Peak Hour Trips 612 Through Wilsonville Road Interchange Area
PFB26.	Applicant shall dedicate to the City sufficient rights-of-way along frontage on Boones Ferry Road to allow construction of the roadway sections as shown in Figure 5 of the DKS TIS

	report and from material submitted by the Old Town Square development team, specifically: From Wilsonville Road to north access driveway: 5-lane section (12-ft travel lanes and 14-ft northbound left turn lane with minimum 5-ft landscape median/pedestrian refuge) with two 5-ft bike lanes and on east side from back of rainwater flow-through planter a minimum 10-ft sidewalk/landscape area. From north access driveway to south access driveway: 4-lane section (12-ft travel lanes and 14-ft southbound left turn lane with minimum 5-ft landscape median/pedestrian refuge), with two 5-ft bike lanes, and on east side from back of rainwater flow-through planter a minimum 10-ft sidewalk/landscape area. From south access driveway to Bailey Street: 3-lane section (12-foot travel lanes with 14-ft northbound and southbound left turn lanes with minimum 5-ft landscape median/ pedestrian refuge), with two 5-ft bike lanes, and on east side from back of curb a 10-ft sidewalk/landscape area.
PFB27.	Applicant shall dedicate to ODOT/City of Wilsonville sufficient rights-of-way along frontage on Wilsonville Road to allow construction of a second westbound 14-ft left turn lane and a third eastbound 12-ft travel lane, and from back of curb a 12-ft wide sidewalk/landscape area.
PFB28.	Applicant shall dedicate to the City sufficient rights-of-way along frontage on Bailey Street to allow construction of the roadway section as shown in material submitted by the Old Town Square development team and from back of curb a 5-ft wide sidewalk area.
PFB29.	On Bailey Street, left turn pockets shall meet recommended lengths as determined by DKS Associates and approved by the City. Center lane areas not required for queue lengths shall be constructed as landscape medians.
PFB30.	Applicant shall provide sufficient PUE to allow the franchise utilities to construct necessary improvements, including installation of vaults, peds, conduit, and/or other facilities needed. Applicant shall coordinate on-site landscaping and pedestrian areas to incorporate the franchise utility improvements. The City will allow PGE to have conduit and cable in the easternmost 4 feet of the proposed Boones Ferry Road right-of-way.
PFB31.	Access to public rights-of-way shall be limited to the two proposed driveways on Boones Ferry Road and the two proposed driveways on Bailey Street. Proposed southern access driveway to Boones Ferry Road shall align centerlines with driveway on opposite side of roadway. Proposed eastern driveway to Bailey Street shall align centerlines with driveway on opposite side of the roadway.
PFB32.	The northern access driveway to Boones Ferry Road shall be limited to right-in / right out traffic movement only. The other three proposed driveways are allowed to have full turning access.
PFB33.	Applicant shall place adequate signage at the north and south access driveways on Boones Ferry Road to indicate the truck turning movements and prohibited movements as shown on submitted material.
PFB34.	The northern access driveway to Boones Ferry Road shall be designed with a sufficient radius to allow egress by WB65 trucks with limited impact on the middle travel lane and no impact on adjacent pedestrian sidewalks.
PFB35.	At the eastern access driveway to Bailey Street, material submitted indicates ingress turning movements for WB-65 trucks and buses are made from the through travel lane and not the left turn lane, and even so the movements are shown to conflict with the egress left turn lane. Applicant shall redesign this entrance so as to eliminate these conflicts and turning movements are made in a legal manner consistent with the Oregon Vehicular Code.

Appendix K:
PREFERRED ALTERNATIVE INPUT

Airport Master Plan Update

Aurora State Airport

WHPacific
OREGON DEPARTMENT OF AVIATION

Aurora State Airport Master Plan

Planning Advisory Committee (PAC) Meeting #4

March 10, 2011
North Marion Intermediate School, Aurora, OR

MEETING SUMMARY

Attendees

Oregon Department of Aviation (ODA) – Chris Cummings, Sandra Larsen and Mitch Swecker (also a PAC member)

WHPacific – Rainse Anderson, Sara Funk, Sarah Lucas and Casey Storey

JLA Public Involvement – Vaughn Brown, Adrienne Dedona and Sylvia Ciborowski

Public Advisory Committee (PAC) – Bruce Bennett, Jim Bernard, Jim Hansen, Tony Holt, Steve Hurst, Nick Kaiser, Rick Kosta, James Meirow, Ted Millar, Fred Netter, Dan Riches, Ray Phelps, Charlotte Lehan (for Jim Bernard), Craig Wilmes and Dave Waggoner.

Public Attendees – see attached sign in sheets

Welcome and Introductions

Chris Cummings, ODA, introduced himself and welcomed everyone to the meeting. He noted this meeting had the best public turnout so far.

Chris reviewed the meeting agenda, explaining there would be a presentation from WHPacific prior to breaking out into a public workshop. After the workshop, the PAC will reconvene for a discussion of the alternatives. Chris instructed participants to ask as many questions as possible during the workshop and indicated that there is also the opportunity to provide written comments.

Rainse Anderson, WHPacific, introduced himself and provided an overview of the study to date. He noted that at previous meetings he had told members several times to hold their comments until we review Chapter 5. Rainse explained that Chapter 5 and the draft alternatives is what we've been building up to. He said reviewing and discussing the draft alternatives in order to develop a preferred alternative is the most exciting and important part of the study. Rainse asked the remainder of the consultant team to introduce themselves and reminded everyone to sign in. He drew attention to the comment form and let people know this would be a helpful guide when reviewing the draft alternatives.

Rainse reviewed the agenda further and explained there would be a review of the forecast updates, traffic analysis and the draft alternatives prior to the public workshop. He also said there would be a discussion of the alternatives with the PAC, and at the end of the meeting, there will be time for public comments.

Presentation

Project Overview: Rainse reviewed the project purpose and explained that there are seven (7) chapters total in the Master Plan Update. The first four draft chapters have been completed and draft chapter 5 will be reviewed tonight. Following completion of the document, the draft will be submitted to FAA for review. This process typically takes 90 days prior to final publication. After this meeting, the project team will take the feedback received and begin developing the preferred alternative. The draft preferred alternative will include a public review and comment period. Once that is completed, the Airport Layout Plan (ALP) and the Capital Improvement Plan (CIP) will be developed. The ALP and CIP will be the topics for review and discussion at the next PAC meeting; tentatively scheduled for the end of June.

Traffic Analysis: Rainse said that at the first PAC meeting there was a discussion about vehicular traffic and since that time, the project team has done some analysis to look at traffic coming from and around the airport. He explained that this data was gathered from various available sources. ODOT traffic specialists were enlisted to conduct counts around the airport. Data was gathered at 11 of the gates in during a 1 week period to determine the average annual daily traffic (AADT) and peak hour traffic volumes. The result was 2,400 AADT. Located at the NE corner, Columbia Helicopters generates 47% of the total traffic (1,130 AADT). Rainse explained that this is not a typical Fixed Base Operator (FBO) tenant since they don't use the runway. The traffic analysis included HTS (Helicopter Transport Services), under construction on the corner of Keil and Airport Road, and projected 211 AADT once developed. On Airport Road itself, 2007 data shows that approximately 2,600 vehicles travel along the road between Ehlen and Arndt Road. Rainse mentioned that this data is somewhat low; when it is updated in 2011, it's expected to increase. The data will be updated by studies completed by Marion County later this year. Rainse went on to explain that there is a lot of pass-through traffic going to and from I-5. He added that the impact from the airport on the Boone Bridge was also analyzed and it was determined that the airport generates about 1.5% of the total traffic on the bridge. Currently the employment numbers at the airport are approximately 750 employees, which equates to 3.2 trips per employee. Once a 1.19% annual employment growth rate is applied, the total employment for 2030 is 950 employees, equating to an airport generated AADT of 3,040. Rainse added that additional data and background information on the traffic analysis can be found in the report and could be discussed further during the workshop session.

Traffic Analysis Recommendations: Rainse said that ODA will continue to work with Marion County and the City of Aurora as improvements to Airport Road are considered and the appropriate considerations will have to be made with regard to airport businesses and entrances along Airport Road. He added that it is likely that there will be sharing of the costs in the system development, similar to what HTS did with their system development, but this will need to be worked out between the entities.

Forecast Updates: Chris explained that the previous meeting scheduled for February was postponed because of incorrect forecast information that needed to be corrected. There was an error with previous information related to the number of aircraft based at the airport. To remedy the problem, ODA checked with tenants, sent someone out to physically count aircraft in hangars (if able), and thoroughly reviewed their database of registered aircraft. Chris said there are now new numbers and those numbers have gone down from the original count. He said this information was used to go back and correct other information previously developed in the report. Chris said that he is very confident with the count and the new forecast.

Sara Funk said that while they were doing revisions based on the aircraft count, they completed other revisions, such as:

- Information from the FAA's Terminal Area Forecast (published in December 2010).
- Comments received from the PAC previously were addressed
- Additional research was done related to the Airport Reference Code (ARC). The project team looked up what kind of airplanes there were that were previously reported as unknown.

Sara reviewed the past and current numbers of aircraft based at Aurora, including the new projections for 2030 (based upon a 1.58% annual average growth rate).

Year	Aircraft Type	Revised Forecast	Previous Forecast
2010 Historical	Single Engine	261	312
	Jets	23	21
	Multi-engine	40	59
	Helicopter	25	35
	Other	5	5
	Total	*354*	*432*
2030 Projection	*Total*	*464*	*566*
	Jets	47	51

Operations: Sara explained the takeoffs and landings changed with the based number of aircraft. This number is now estimated at 90,909 for 2010. The number was previously somewhere around 100,000. Based upon the estimated annual growth rate, the revised forecast for 2030 operations is 124,386 as compared to the previous figure of 131,312.

Sara asked the PAC if there were any questions about the traffic or forecast analysis before moving on to Chapter 5. There were no questions from the PAC.

Draft Chapter 5

Sara said that the runway length surveys have been updated to reflect at least 500 constrained annual operations, which justifies a longer runway based on the FAA criteria. Besides the additional completed surveys sent to the PAC prior to the meeting, additional surveys have been received.

Tony Holt asked about the updated survey and requested to talk about it further later.

Bruce Bennett noted that Management West is still at Aurora, although the constrained jet aircraft owned by Management West is not.

Sara explained that three build alternatives have been proposed in order to meet the facility requirements.

Sarah Lucas explained that the preferred alternative would be developed based upon the elements included in the three build alternatives and the no-build alternative and the preferred alternative would be the basis for the ALP. She explained that the various elements outlined in the comment form could be mixed and matched to develop the preferred alternative.
Sarah explained the various comparative elements within the alternatives:

- Airport Reference Code (ARC)
- Runway length and strength
- Instrument approach capability
- Hangar/tiedown locations
- Cargo apron location
- Fuel tank location
- Air traffic control tower (ATCT)
- Aurora Rural Fire Protection District Facility

Approximately 40 developable acres are needed to meet the forecasted demand for the activity at Aurora. Currently ODA has about 9 acres of developable land. Development necessary for precision approach path indicators, a cargo apron, helicopter parking, vehicle parking and some additional hangars would be built on state-owned property. In all of the build alternatives, the adjacent church camp property (16 acres) is shown to be suitable for hangars and related development.

- *No-build Alternative:* The no-build alternative is ARC B-II. An air traffic control tower (ATCT) will still be constructed in this option, but a location has not yet been identified. The runway length would remain at its current length of (5,004 feet). Instrument approach capability does not change. The approach criteria minimums remain not lower than 1 statute mile. (The Runway Protection Zone (RPZ) at the end of each runway correlates to the approach minima). The pavement strength would remain the same (45,000 pounds dual-wheel gear).
  While the no-build alternative is essentially a do nothing option, it does not mean that there would be no financial impact to the airport. Most prominently, there would still be a cost associated with maintaining the current pavement and facilities.

- *Build Alternative 1:* – Alternative 1 is also ARC B-II and includes a 600 foot runway extension. The southern RPZ would extend south of Keil Road and an aviation easement would be sought. The northern RPZ would encroach into Columbia helicopters. The majority of state-owned property would be developed as hangars in this option. The state has identified three various alternatives for the location of the air traffic control tower. This alternative includes a fire station facility near the control tower. The air traffic control tower would be located midfield on the east side. Two helipads would also be built on public property. No cargo apron is included in this build alternative. Instrument approach capability does not change although the visual glide slope indicators would be upgraded to precision approach path indicators. The pavement would be strengthened to 60,000 pounds (dual-wheel gear). The fuelling tank would be relocated to the south of Aurora Aviation.

- *Build Alternative 2* – Alternative 2 increases design standards to ARC C-II. The approach minima are greater and extend RPZs further off of airport property; requiring additional easements or land acquisition. There are further impacts to Columbia Helicopters. This alternative has a fairly equal split between development of tiedown facilities and cargo aprons. The helicopter parking pads are same as in build alternative 1. The fuel facility is located near the cargo apron, northeast of Aurora Aviation. The fire station would be located near the current water suppression system, and the air traffic control tower is located near the center of the airport. The pavement would be strengthened to 60,000 pounds (dual-wheel gear). The runway and parallel taxiway would be extended to the south by 1,000 feet, which would require the closure of Keil Road (total runway length of 6,004 feet).

- *Build Alternative 3* – Alternative 3 also increases design standards to ARC C-II and shows a precision approach. The precision approach was something a lot of pilots requested during the goals and issues identification phase. There is no runway extension included in this alternative and RPZs increase significantly. The high voltage power lines would have to be relocated or put underground. The pavement strength remains the same. The helicopter operations areas are located north of the current cargo apron. The air traffic control tower is located closer to the north end and farther from the runway than in the other two build alternatives. The Fire District's building is located east of the fire suppression system. The fuel tanks would be located at the south end of state-owned property and the cargo aprons would be centrally located on state-owned property.

Steve Hurst asked if the no build option would include an air traffic control tower. Sarah clarified that the control tower is a committed project and would be built regardless, since it's already funded.

Noise: Casey Storey explained the type of noise model used and that it looked at saturated noise vs. point in time noise. He said the model accounts for more disturbances by night time noise vs. daytime noise. Casey went on to explain that they looked at the flight paths from this year and the aircraft type and mapped where those types of aircraft will fly. The flight tracks reflect the current noise abatement flight patterns and departure procedures. Casey noted that based upon the FAA criteria, residential land use is not considered compatible within the 65 dBA (average decibel) contour. Casey reviewed the noise projections for each of the proposed alternatives:

- All 2020 alternatives have the same type of and quantity of aircraft and show an increase in noise over time.
- Build Alternative 1 shows a slight bulge/increase in noise to the north due to the expanded runway.
- Build Alternative 2 contours shift south, due to the proposed southern extension to Runway 35.
- Build Alternative 3 contours remain the same as the 2020 No Build Alternative contours, since the runway configuration would not change.

Steve Hurst asked about the maps for the noise and confirmed whether or not alternative 2 was supposed show 2010 or 2020. Casey confirmed that it should have reflected 2020 and that this was a typo.

Tony Holt asked if this assumes the traffic control tower is built. Casey replied that it did not.

Mitch Swecker added that an instrument departure would be recommended for departures as well as certain flight patterns designed to keep the aircraft away from the Charbonneau area.

Tony said that he just wanted to understand what is currently in place.

Sarah explained that there are currently noise abatement procedures in place at the airport. Instrument procedures for northward departures are expected to be approved by the FAA in the fall. These procedures are in line with the current recommended noise abatement procedures for northward departures.

Tony said that he was aware of that but many operators don't pay attention to the noise abatement procedures and he asked if other flight paths were factored into the model. Casey responded that yes, they were taken into account.

Nick Kaiser said that the decibels don't change much between the alternatives and he asked if there were things that affected that. Casey explained that there is some shift based on the type of aircraft since there will be more jets in the future.

A member of the public asked what is happening to noise abatement around Aurora. Mitch replied that they've tried to change the flight pattern to avoid flights over Aurora and planes should depart to the south around Aurora.

Bruce Bennett said that he was involved with the FAA during the time they designed the airport departures/flight pattern and that they were designed to avoid Aurora.

Rainse explained that the preferred alternative would be presented to the Oregon Aviation Board later this month and then again in April for their concurrence. Chris said that he will send information out to the public about the meetings with the State.

Nick asked about the comment period for the draft alternatives. Chris said that there will be a two week comment period prior to the presentation to the Oregon Aviation Board.

Public Workshop

Vaughn reviewed the format for the public workshop and explained there would be 45 minutes for the public and the PAC to interact with staff to ask questions and review information about the draft alternatives. He recommended that participants take a comment form in order to review information and formulate their questions and comments. Vaughn suggested that participants think about the issues that need to be identified or considered when developing the preferred alternative. He said that the group will come back together after the workshop and the feedback heard will be discussed with the PAC for 30 minutes, then there will be time for public comment. If necessary, the public comment time would be extended and each person will be given a couple of minutes to provide testimony.

After the 45 minute public workshop, Vaughn reconvened the PAC session. He said he hoped that everyone had an opportunity to ask questions and obtain information from staff and PAC members. Vaughn explained that the PAC would now have the opportunity to discuss the draft alternatives and give input on the direction for the preferred alternative.

To start off the discussion on the preferred alternatives Sylvia Ciborowski and Adrienne DeDona reported out on the group discussion during the work session related to noise impacts and the draft alternatives. The following is a summary of the comments collected on flip charts at each of the information stations:

- If the runway object free area (ROFA) extends, what will happen to the highway?
- Have you considered what this project will do to the town of Aurora? Who needs this extension?
- I'm concerned about the impact of the RPZ on off-airport properties (alternatives 2 and 3)
- There needs to be consideration for the economic feasibility. There is no way this will pencil out economically. It will result in greater revenue from gas sales, but this will never cover the huge expenditure.
- I'm concerned about the impacts/development on the best farmland in the world. This farmland is more important for the future of food production than to pave over it.
- Currently the flight plan/pattern is not followed, especially at night. Planes fly right over houses and shake the windows. Concerned about the future safety and who disciplines pilots who fly in no flight zones.
- I'm concerned about the feasibility of Alternative 3.
- Can we use the additional capacity at Salem Airport rather than expand Aurora?
- The Run-up area is too close to hangars and private property (condo association) in Alternative 2. I'm concerned about the safety of this situation and the dust flying up in the area.
- What does it take to become a C-II Airport?
- I'm concerned about what will happen to the property values of nearby homes with the noise increase.
- I'm an airport user with five planes stationed in two hangars at Aurora. I prefer Alternative 1 with the 600 foot extension and ARC C-II.
- Can alternative 1 become a C-II with all other elements remaining the same?
- I have a concern about fumes from jets on people. The wind blows fumes into residential areas.
- The no-build option is no good because it does not have a fire facility. If we have a tower, we need a fire facility.
- Since we are already a volunteer fire station in Aurora, who will pay for a new fire facility?
- Can you request a modification to standards of the ROFA (on Highway 551) from the FAA?
- Why do you need more clearance for a more precise approach?
- Has ODOT gotten onboard with road improvements, especially Keil Road?
- Use displaced thresholds as a last resort. Sarah L. explained that a displaced threshold could be done to gain runway length for takeoff. The runway could be extended, but a displaced threshold, where aircraft land, would not be placed at the end of the extended runway pavement. The runway pavement behind the threshold could be used for takeoff, but not for landing. . .
- The Tower will enforce flight patterns (to reduce noise impacts to area neighborhoods) by keeping in contact with pilots by radio.
- Three to four days a week there are early morning airplane departures at approximately 3 a.m.

- Planes should not be allowed to take off before 7 a.m.
- If the current noise/flight pattern policy isn't being followed, why would a different policy be followed?
- Where is the money/funding for the project coming from? The Runway is already long enough. Enough money has already been spent on Aurora. Aurora doesn't have a lot of constraints as compared to the Orange County Airport (CA).
- The power lines at the north end of the airport should be removed or undergrounded for community safety reasons. The expense of doing so should be shared.
- An Educational Center for children should be built at the airport as well as a mechanic school in partnership with the local community colleges. A nearby playground is also a good idea so that kids could watch the airplanes take off and land.
- The area west of highway 551 will be severely impacted if the runway is extended. Farm equipment will be forced into the busy highway, creating safety concerns. Deer Creek Mobile Home Park will have limited access due to the closure Keil Road. Highway 551 will be the only point of access.
- Helicopters fly too low and are too noisy.
- The runway extension will increase the noise impacts to Deer Creek Estates. Residents already smell jet fuel. Airplanes take off as early as 4 a.m.
- Will there be any consideration for jet fumes in any of the future alternatives?
- The impervious surfaces drain to area farmlands since adequate drainage systems do not exist.
- Who enforces the noise abatement procedures? Orange County has a good noise abatement system.
- Will future zoning be amended due to the expanded noise footprint?
- The statement in the report that indicates that NW and Charbonneau residents will not be affected (related to Environmental Justice analysis) is inaccurate. There are 141 homes in the Deer Creek neighborhood. There will be quality of life impacts to residents.
- What will be done to mitigate noise from maintenance on jet engines?
- There seems to be a high number of planes flying over the Charbonneau area when there shouldn't be (based upon recommended flight patterns/noise abatement procedures).
- Mitigation efforts done simultaneously with airport improvements will help make things better for area residents.

PAC Discussion on Alternatives:

After the report out of public comments during the work session, the PAC reconvened for further discussion on the draft alternatives. The following is a summary of their comments and recommendations for consideration when developing the preferred alternative:

- Fred Netter said that his number one concern has consistently been regarding safety. He indicated that the no-build includes the tower, but not a fire station. He said that it would be his preference to have a Fire Station facility at the Airport near Airport Road and the water suppression system. He also indicated that closing Keil Road would a safety concern due to

emergency access and farming equipment access. Fred also requested that Airport Road be improved and called for Clackamas County to assist with funding for roadway improvements.

- Charlotte Lehan said that the traffic analysis doesn't recognize Clackamas County's role in surface transportation. She explained that Clackamas County's concerns are related to the surface transportation impacts and the impacts to area agriculture (industrial development pushes agriculture out). Charlotte added that Clackamas County has been excluded from some of the planning steps in this process.
- Dave Waggoner agreed that Clackamas County should be involved in funding the airport due to the positive impact the airport has on area economic development.
- Charlotte commented that the funding for the project hasn't been addressed.
- Steve Hurst asked if increased use of GPS and other technologies could be incorporated in lieu of a need for a runway extension.
- Bruce said that in order to make take off quieter, planes/pilots must use less power. To use less power, more runway is needed. This is a typical procedure for noise abatement elsewhere.
- Tony Holt said that the Aurora Airport is constrained by three major roads and only one runway. He indicated his support for the no-build alternative.
- Bruce agreed that the airport is constrained and should 'fill-in' for development. He added that agriculture and golf courses make good neighbors to airports and that no other building development should be allowed near airports.
- Charlotte requested that the financial impact to the public should be captured somehow and that Airport Road should be part of the financial analysis.
- Nick Kaiser stated that Airport Road gets 2,600 trips a day, but is listed as a collector street. It should be listed as an arterial street and should be designed as such. He added that in Alternative 2, the RPZ goes over the Deer Creek neighborhood and highway 551; this is a safety concern.
- Fred added that development in various communities impacts the airport too.
- Steve said that the Wilsonville City Council will discuss the Airport Alternatives at an upcoming meeting and will determine a formal position within the two week comment period.
- Ted Millar said that Aurora Airport is a category 2 airport and is an important part of the National Aviation System. He added that the Airport benefits Clackamas and Washington Counties (the cities of Wilsonville and Aurora). Ted commented that from a safety and an economic development standpoint, the runway should be expanded. There is an economic opportunity and that need should be filled. He called for an additional 1,000 feet of runway and increasing the pavement thickness of the runway.
- Rick Kosta stated that National retailers can land elsewhere in Oregon (Hillsboro, Portland, and Troutdale). He went on to say that the only alternative that doesn't impact Deer Creek neighborhood is the No-build. The noise impacts to Deer Creek residents in any of the build alternatives will be over 65 dB. What mitigation can be done for Deer Creek residents?
- Mitch Swecker said that before any mitigation were to occur, actual measuring of noise exposure would likely be conducted. If impacts are shown, they may be mitigated.

- Dave said that the current situation at the airport is dangerous for run-ups and that the run-up area in alternative 2 is impractical. It's too close to hangars and one of the hangars provides space for the Emergency Operations Center. There is no run-up space allocated in alternative 3. He called for alternative 2 to be modified to allow for a run-up area that doesn't crowd the hangars.
- Bruce said a greater than ¾ statute mile (sm) approach should be required; it's safer, quieter and saves fuel. He requested the minimums be lowered with a small extension to the south.
- Tony Holt asked how many of the user surveys were based at Aurora. He added that there should be a better, more rigorous way to collect/validate this type of data.
- Dan Riches said that Columbia Helicopters has reserved land for future development, so they cannot support any type of expansion to the north. He added that Columbia Helicopters supports safety improvements and improvements to Airport Road. Dan preferred the no-build or a hybrid of the no-build alternative.
- Nick said that the 2002 noise contour showed different planes, but there is not a huge difference. There has been a larger increase in the number of aircraft.
- Fred noted that expansion of the airport may impact other businesses' future plans and suggested that monetary compensation be offered to those businesses. Dan replied stating that Columbia Helicopters monetary compensation wouldn't work in their case because they are looking for a more long-term investment.

To wrap-up the discussion on the draft alternatives and to provide direction to the project team on the development of a preferred alternative, Vaughn directed the PAC to provide their individual recommendations/feedback on the draft alternatives in a round-robin fashion. The following summarizes their feedback:

- Dave Waggoner echoed his concerns about the run-up areas.
- Nick Kaiser said that there are a lot of variables within the four alternatives, especially with regard to noise.
- Dan Riches called for the no-build option or for an extension to the south.
- Steve Hurst said that he is looking forward to hearing the public comments.
- Fred Netter commented that safety is important and a Fire Station should be part of the plan.
- Ted Millar said that the Runway should be extended in addition to the thicker pavement surface. He suggested considering a possible hybrid alternative with a displaced threshold.
- Tony Holt said the no-build is the best option and that there are other airports in the area to operators to use. He feels the expansion of Aurora is not justified.
- Bruce Bennett said lengthening and strengthening the runway are important and that the overall safety of the airport should be increased. He added that the overall noise and environmental impacts should be decreased.
- Charlotte Lehan said that Clackamas County has not yet weighed in on the project and, at this time, she supports the Fire Station and the Airport Control Tower for safety reasons.
- Rick Kosta said he supports the no-build option since there are other airports in the area.

- James Meirow said that he would like to hear from the neighbors to the south of the airport.
- Craig Wilmes said he supports the run-up areas and displaced threshold.

Overall the PAC did not come to consensus on a preference for one single preferred alternative. However, there seemed to be somewhat shared support for safety improvements such as the Fire District's facility and the Air Traffic Control Tower. The consultant team and ODA will evaluate all comments and concerns received and consider them when developing the preferred alternative.

Public Comments:

Members of the public were each given two minutes to provide oral testimony regarding the draft alternatives. Several members provided written testimony in addition to or in lieu of oral testimony. Those statements are attached to this summary as separate documents.

- John Ranken, 26715 Baker Rd: He is an Attorney and consultant representing several property owners to the south. This area comprises 75 acres of properties in the EFU zone—from Airport Road to Hwy 551. Mr. Ranken was formerly the city attorney for the City of Aurora for 13 years and has been asked to help these property owners. The thanked PAC for its manner, and the public, and Chris C. for his efforts to help him get oriented to the project. He distributed information to the PAC showing the properties to the south that would be impacted. He said that at this point, their position is that they are interested in build alternative #1 since it seems to give everyone a little something. He added that this seemed to present a compromise.
- Mike Rite, NW Aircraft: Has been involved in aviation his whole life. He said he has been very involved in airport issues. Mr. Rite added that there have not been meetings in Mulino or McMinnville about expansion because no one wants to go there. He said that people are coming to Aurora because they want to be there. He said there is not as much going to Portland. Mr. Rite added that some complaints about noise will be addressed and that tower will help airplanes not go over neighborhoods as much. He indicated he supports extending the runway because it provides additional safety and will bring in other aircraft that aren't coming in currently.
- Larry Elschen, resident of Charbonneau: Mr. Elschen said he was representing Charbonneau neighbors. He presented a petition with 260 Charbonneau names on it, and indicated it should include more signatures. Mr. Elschen read from the petition (attached).
- Ken Ivey, representing a planning organization in Clackamas County. Mr. Ivey said he has heard a lot about safety and that airplanes are coming into a marginal airport, and they are choosing to create an unsafe condition. Mr. Ivey stated that these pilots have at least four alternatives within 30-40 miles that do have the infrastructure to safely handle those planes. He stated the group he represents would vote for the no-build alternative. He stated if you want to make the airport safer, direct those planes to those airports that have the infrastructure on the ground paid for, rather than asking us to shell out more money. I live near the airport, and I don't see a noisier airport and having to pay for the highway to get there.

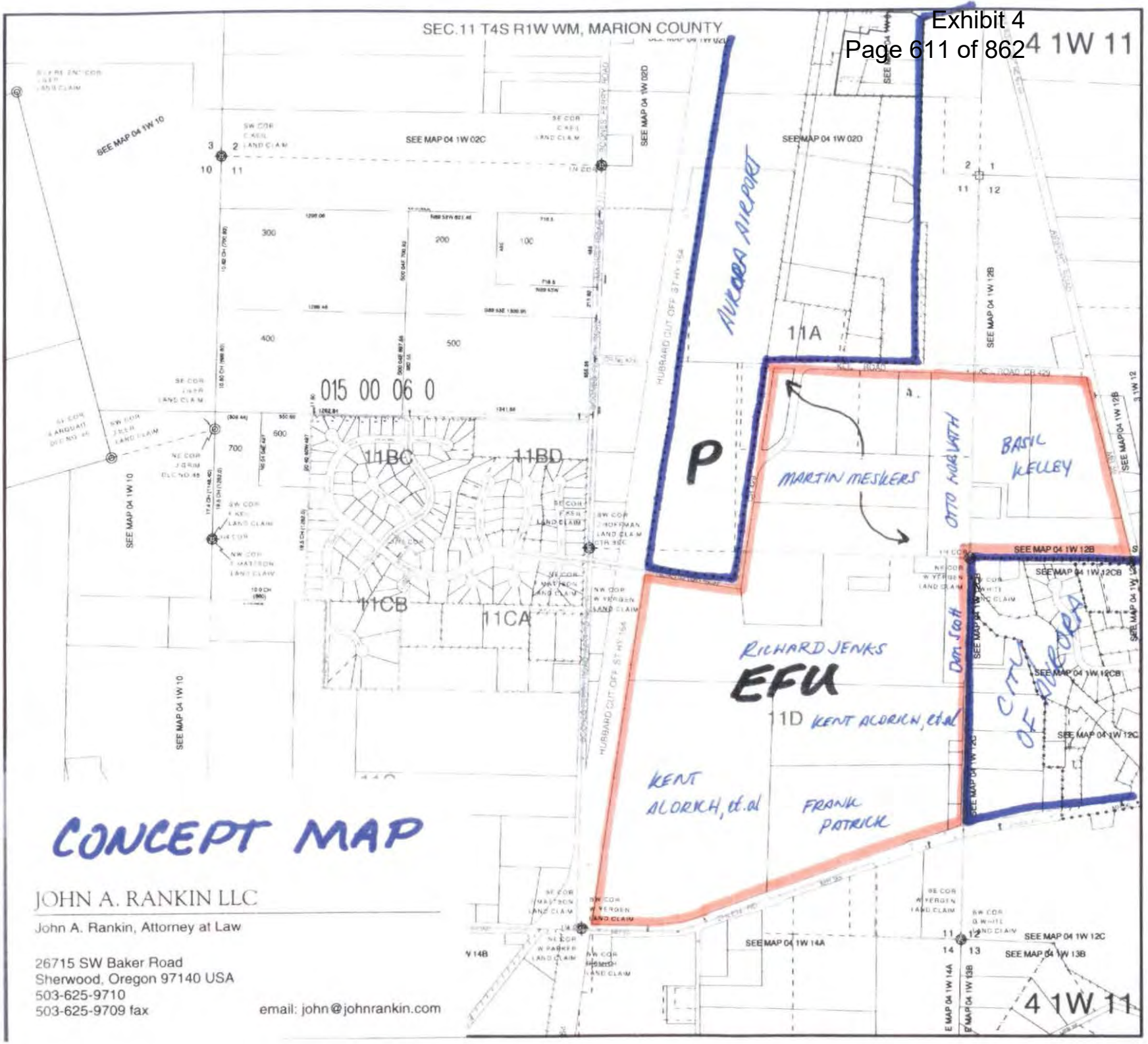
- Ailin Ottinger: Mr. Ottinger said the main thing we are doing is making it possible for more commercial flights outside of Aurora. As a taxpayer, I wonder do the corporations have any part in funding all of this?
- Ben Williams, resident of Aurora and President of Friends of French Prairie: (submitted attached written comments). He said he was concerned about preservation of farmland and the impact on surface transportation. He said, we support addressing the safety requirements, but we have a 20-30 year history of the domino effect. With improvements, it will only get bigger and we'll need more improvements. The airport is surrounded by EFU farmland that needs to be preserved.
- Jack Kaley: He said he has a commercial pilot license and has been flying at Aurora 30 years. He is also the director of Positive Aurora Aviation Management Group. He attended the first PAC meeting, and noted that most placed aviation safety as their top concern. He said that is my top concern, especially safety issue for helicopter landing areas. He went on to say that Aurora has stated safety provisions for helicopters. We need to properly separate helicopter and fixed wing areas. Helicopters take off from tie down areas that are designated for fixed wing areas. There are no designated helicopter landing and parking areas on state owned property. Because of ground turbulence, it is essential that helicopters be separated from fixed wing tie down locations. Mr. Kaley distributed some diagrams explaining the problem. He said the FAA has established safety circles and helicopter standards. The safety circles have a range. In his drawing, he superimposed a helicopter pad between a fixed wing. The projected increase of helicopter traffic means we need safe operations. In the interest of overall safety, we must provide for proper separation. The master plan should plan for safe helicopter operation. The vacant state owned land east of the helicopter blade renovation building should be used for locating several helicopter pads.
- Manuel Martinez: chief pilot for JHRD investments: He said that his company moved from PDX to Aurora State due to his recommendations. His company has provided $2 million in local revenue. He has safety concerns in operating in and out of Aurora Airport. He felt a tower would enhance the safety margins, and runway length is a concern. In his 15 years as pilot, he has had 8 close encounters, mostly near Aurora Airport.
- Larry Brons: professional pilot, flying primarily out of Aurora, doing professional contract flying: He said he supports the Air Traffic Control Tower for safety. The additional 600 feet of runway would make operations safer and more economically viable. He said we are coming out of recession and we should try to stimulate the economy in the local area by making the airport more viable for business.
- Bryan Mobey, representative for Deer Creek Estates: He said they have concerns about their quality of life. He stated now with noise and the smell of fumes from jets, it affects us drastically. They cannot sit on their patios without being disturbed by aircraft. He supports the Air Traffic Control Tower to keep planes out of no fly zones and the Fire Response Facility. He felt an expansion at the airport will negatively affect their property values due to noise and jet fumes. He added that planes take off at 4 or 5 in the morning and that nobody has control of the

planes. Salem tells us to get the number of the aircraft, but we can't get their numbers at night. He said he is concerned about an accident in the future.

- Annie Kirk, Aurora resident: She said she is representing her family. She said regarding undue hardships and compensation, I have not heard anything about outside of the fence compensation for Aurora and Charbonneau residents. For impacts to Airport Road, who will bear the burden for those improvements? The road is grossly unimproved now. It needs to be taken care of, but we have more to come. I am comfortable with the tower and the fire services for safety. But I'm not convinced that any of the alternatives resolve the interest of the communities outside of the fence.
- Lolita Carl, full time farmer in Marion County: She said she is on Marion County Board of Directors for the Farm Bureau. Ms. Carl said that farming is the number one industry in Marion County. She said she is worried about encroachment on farmland and economic development. Agriculture is the second industry in Oregon, and all of us eat. All of the land surrounding Aurora Airport is the most fertile in the world. Once we start a little bit of development, it just encourages more. As a tax payer, she wonders where the money is coming from to support so few.
- Ron Sterba: He shared his concern with the power lines on north end of airport and asked what happens if a plane hits them? Where does the power grid go to? Hospitals or schools? They should be relocated. He said he would like to see an education center on the airport to share with high schools and local community colleges. Would like to see a realignment of runway so the approach is over I-5 on the north and to take the approach corridor off of Charbonneau and move the runway 75 feet to west to allow for an expansion of the taxi way without removing any buildings.

Meeting Adjournment

Rainse wrapped up the meeting and reviewed the next steps for the project. The next meeting will cover the Airport Layout Plan and the Capital Improvement Plan. This meeting is tentatively scheduled for the end of June. Rainse reminded everyone that there will be a public review and comment period for the preferred alternative and that an e-mail notification will be distributed with this information. The meeting was adjourned at approximately 8:30 p.m.


SEC.11 T4S R1W WM, MARION COUNTY
4 1W 11
LEGEND
LINE TYPES
TAX LOT BOUNDARY
OLD PROPERTY LINE
ROAD RIGHT-OF-WAY
VACATED RIGHT-OF-WAY
RAILROAD
RAILROAD RIGHT-OF-WAY
STREAM, LAKE, ETC. TAX LOT BOUNDARY
STREAM, LAKE, ETC. NON-BOUNDARY
SUBDIVISION BOUNDARY
PARTITION PLAT BDY
TAX CODE BOUNDARY
EASEMENT
SYMBOL TYPES
D.L.C.
CONTROL POINTS
SURVEY MONUMENTS
G.L.O. CORNERS
SECTION
1/4 SEC
1/16 SEC
1/4 COR
1/16 COR
NUMBERS
TAX CODE NO.
000 00 00 0
ACREAGE - ALL ACREAGES EXCLUDE ANY PORTION THAT MAY LIE WITHIN THE INDICATED PUBLIC RIGHT OF WAYS.
TICK MARKS - WHEN A TICK MARK IS INDICATED ON THE EXTENSION OF A LINE, THEN THE DIMENSION GOES TO THE TICK MARK. GENERALLY THIS IS USED WHEN DIMENSIONS GO INTO PUBLIC RIGHT OF WAYS.
ARROWS ARE USED WITH DIMENSIONS IN AREAS OF GREATER COMPLEXITY.
NOTICE: This map was created for Assessor's Office use ONLY.
Assessor "We Care" GIS
Geographic Information System
SCALE 1" = 400'
or 1:4800
Plot file created: August 21, 2001
SEE MAP 04 1W 10
SEE MAP 04 1W 02C
SEE MAP 04 1W 02D
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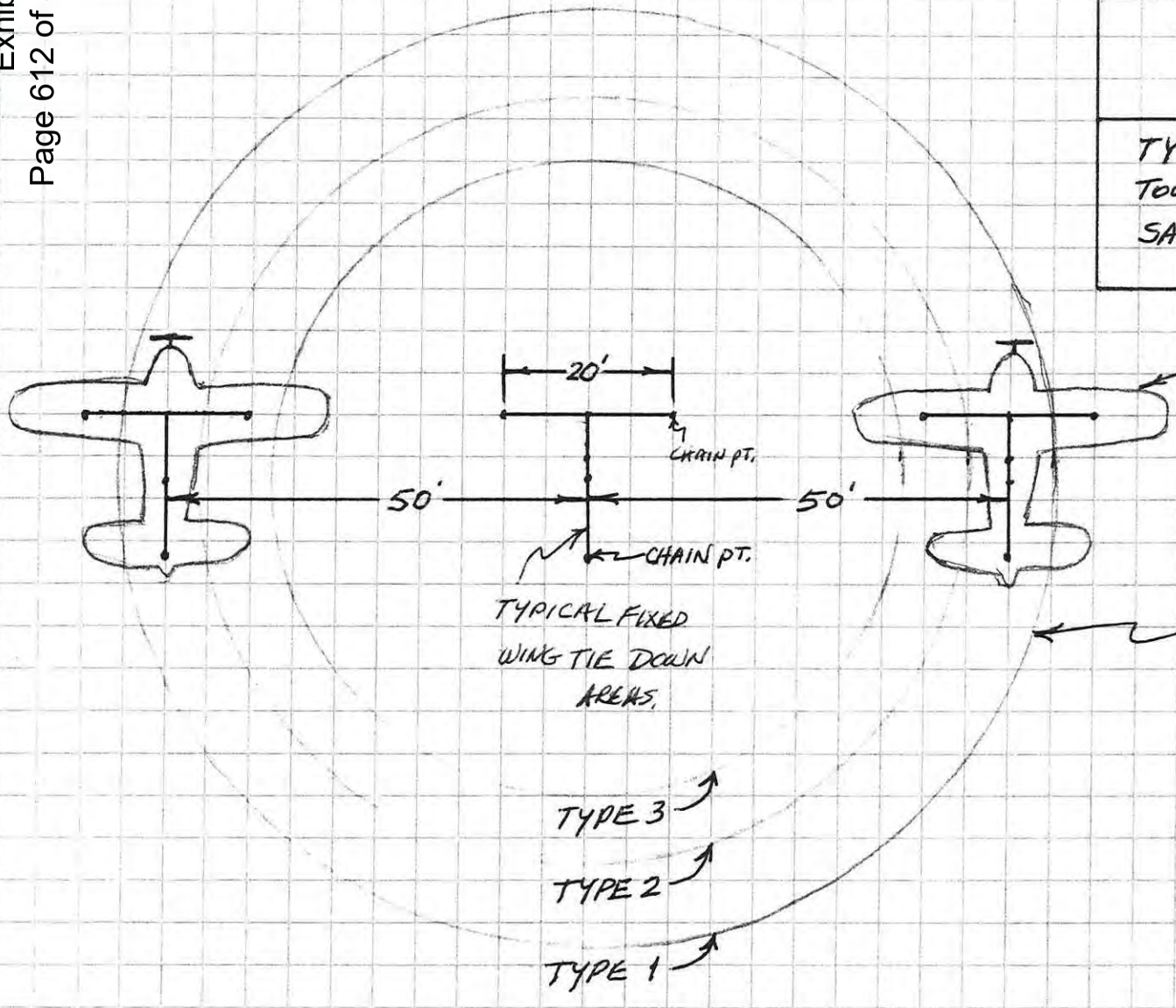
AURORA AIRPORT
HUBBARD CUT OFF ST HWY 164
MARTIN MESKERS
OTTO MARTH
BASIL KELLEY
RICHARD JENKS
EFU
KENT ALDRICH, et al
FRANK PATRICK
CITY OF AURORA
CONCEPT MAP
JOHN A. RANKIN LLC
John A. Rankin, Attorney at Law
26715 SW Baker Road
Sherwood, Oregon 97140 USA
503-625-9710
503-625-9709 fax
email: john@johnrankin.com

AURORA STATE AIRPORT

STATE OWNED PARKING AREA FOR FIXED WING AIRCRAFT

SAFETY CIRCLES FOR HELIPADS FAA HELICOPTER STDS.			
TYPE	1	2	3
TOUCH DOWN PAD	30'x30'	20'x20'	15'x15'
SAFETY CIRCLE	110'	90'	75'



TYPICAL SINGLE ENGINE FIXED WING AIRCRAFT. (C-182, BONANZA, SUPER CUB)

TYPICAL FIXED WING TIE DOWN AREAS.

HELIPAD "SAFETY CIRCLE" SHOWN TO DEMONSTRATE SAFETY PROBLEM OF HELICOPTERS LANDING IN FIXED WING PARKING AREAS.

JEK 2-6-11

SCALE - 1"=20'

Aurora State Airport Master Plan Update – Planning Advisory Committee (PAC) Meeting #4 & Open House

March 10, 2011

North Marion Intermediate School

5:00 – 7:30 pm

SIGN IN SHEET

NAME	REPRESENTING	MAILING ADDRESS	PHONE#	E-MAIL
Dan Chandler	Clackamas County	2051 Kaen Rd O.C., OR 97045	503 742 5394	dchandler@co.clackamas.or.us
Michael Broussard	CHI	PO Box 3500, Portland, OR 97208	503-648-1222	mbroussard@[illegible]
Martin Dumler	CSIM	14332 Stonebrook Wy NE	503-516-5857	martin@csimllc.com
Kyle Hubert	CSIM	26101 SW 45th Dr. Wilsonville, OR 97070	503-475-5900	khubert@csimllc.com
DAN FRICKE	ODOT	455 AIRPORT RD SE SALEM 97301-5395	503-986-2663	daniel.l.fricke@odot.state.or.us
Dick & Leanne Spence	—	8420 A S.W. Curry Dr, Wilsonville 97070	503-694-5875	dickspence72@gmail.com
CINDI ELLIOTT	—	23023 YEARY LANE NE AURORA OR 97002	503-678-2703	DEERCREEKNURSERY@AOL.COM
[illegible]	Marion C	PO Box 547	503 260-5484	[illegible]
Reginald L. Keddie		31988 SW Country View Lane Wilsonville 97070	503-694-2245	RLKAVRSOC@centurytel.net
William [illegible]	Marion	[illegible] Yergen Rd NE Aurora 97002	503 678 [illegible]	
Richard [illegible]	Deer Creek	22073 [illegible] Ave NE 97002	503 678 [illegible]	[illegible]@hotmail.com
Mike Iverson	Aurora Farms	[illegible] Golf Course Rd Aurora 97002	503-819-0662	mikeiverson@centurytel.net
Stanley Anderson	Self	21799 [illegible] Aurora 97002	503 678 [illegible]	
Ben Williams	Friends of French Prairie	23023 Yeary Lane NE Aurora 97002	503 588-5270	benwilliams6@liturgica.com
Brian [illegible]	Deer Creek Est	22043 [illegible] Ave Aurora 97002	503-678-2993	
Carol Dobbs	Self - Deer Creek Est	13711 NE Wisteria Dr Aurora OR	503 348-2917	ddobbs@centurytel.net
Rob Graham	Aurora Planning Commission	21484 Liberty St Aurora		robbylu@yahoo.com
John Rankin	Dick Jenks & Neighboring Prop. Owners	26715 SW Baker Road Sherwood OR 97140	503 625-9710	john@johnrankin.com
Brandon Reich	Marion County	5155 Silverton Rd NE Salem 97305	503-588-[illegible]	breich@co.marion.or.us
Christine Warren	myself	15777 NE Becke Rd Aurora OR		
BERNICE [illegible]		21780 NE PRAIRIE VIEW DR AURORA OR 97002	503-678-3383	
Manny Martinez	THRD INVESTMENTS, LLC	17717 NE 26th ST Vancouver Wa 98684	503 457-4891	
Retta Braaten (Historic Aurora)		[illegible] Airport Rd. NE 97002	503-678-6880	rittabr@yahoo.com

Aurora State Airport Master Plan Update – Planning Advisory Committee (PAC) Meeting #4 & Open House

March 10, 2011
North Marion Intermediate School
5:00 – 7:30 pm

SIGN IN SHEET

NAME	REPRESENTING	MAILING ADDRESS	PHONE#	E-MAIL
Bob Lebeni	himself	PO Box 528 Aurora OR	503 678 9916	blebeni@wer.ter.org
Richard Waggen	Tri-Prop			admin@varicast.com
Susie Stevens	Chairwoman			[illegible]@teleport.com
RONALD STERBA	Pilot	500 20th St NE Salem OR 97301	503-559-3191	SAINTESTERBA@MSN.COM
Michele Lambert	Southend Airpark	14355 Keil RD NE #11 Aurora 97002	503 678 6200	mlambert@southendairpark.com
Lorraine Gonzales	Clackamas Co		503 742-4541	lorrainego@co.clackamas.or.us
Bob ALTEMUS	PUBLIC	2740 Summit Pl West Linn	(503) 703-1482	BANDLALTEMUS@COMCAST.NET
Lisa Veber	public	22475 Bents Rd NE Aurora	503-680-4316	lisaveber@aol.com
Lindsey Hughes	Public	[illegible] Aurora; mailing [illegible] St Portland OR 97225		[illegible]@keatingjones.com

Aurora State Airport Master Plan Update – Planning Advisory Committee (PAC) Meeting #4 & Open House

March 10, 2011
North Marion Intermediate School
5:00 – 7:30 pm

SIGN IN SHEET

NAME	REPRESENTING	MAILING ADDRESS	PHONE#	E-MAIL
[illegible]	Self	14198 Keil Rd NE Aurora OR 97002	503-678-7021	—
Keith Amundson		32545 SW Juliette Dr Wilsonville OR	(503) 694 1065	
DAN RICHES	COLUMBIA HELICOPTERS	14452 ARNDT RD NE AURORA OR 97002	503-678-1272	danrich@colheli.com
Bruce Bennett	Aurora Aviation	P.O. Box 127	503-678-1217	Bruce@AuroraAviation.com
Gary Fish	DLCD	635 Capitol St NE, Salem OR 97301	503-373-0050, x254	gary.fish@state.or.us
LARRY BERGMAN	WYLEE CONDO ASSOC	7816 SE 13TH AVE PORTLAND, OR 97202	503-572-3832	LARRY@BERGMANPHOTOGRAPHIC.COM
DAVID WAGGONER	WILLAMETTE AVIATION	~~[illegible]~~		DAVE@WILLAMETTEAIR.COM
JAMES CONSTANTINE	HOMEOWNER	[illegible] FLORAL AVE NE AURORA		
VIRGINIA CONSTANTINE	HOMEOWNER	" " "		
Ann Keddie	Self	31988 SW Country View Ln Wilsonville	503 694-2245	rlkav k50@centurytel.net
RANDALL KACPF	SELF	[illegible] FLORAL AVE NE AURORA	[illegible]	[illegible]
RICHARD GODDARD	WILSONVILLE CITY COUNCIL			richardgoddard[illegible]@gmail.com
Tony Holt		7670 SW Village Green Circle W. 97070		
Susan Mulberry	Self/DCF	[illegible]		[illegible]
PAT MULLIGAN	SELF/OOA	P.O. BOX 879 CANBY, OR 97013	503-702-4931	[illegible]
Phillip Kissel	Self	PO Box 2533, Wilsonville OR 97070	503-780 4916	phil@flyinginstructor.com
MJ Cartasegna	Clackamas County	2051 Kaen Rd, OC 97045	503-742-5742	mcartasegna@co.clackamas.or.us
Greg Leo	Charbonneau/Wilsonville	9318 Champoeg Road NE Aurora	(503) 804-6391	GREG@[illegible]
David Buck	Bucketal property owner	1880 Hawthorne Ave SE, #140, Salem, OR 97301	503 585 2774	dbuck@[illegible]cpa.com
Rick Hardeman	Self	21174 Liberty St NE Aurora Or 97002	503 [illegible]	
JANET OLSTON	SELF	[illegible] SW FAIRWAY DR WILSONVILLE 97070		[illegible]
Marilee Sullivan	HOMEOWNER	[illegible] Dr, PO Box 34 Aurora OR 97002		marilees@[illegible].com
Larry Burns	Self	2024 NE 21st Ave Canby OR 97013		LBURNS@CANBY.com

Aurora State Airport Master Plan Update – Planning Advisory Committee (PAC) Meeting #4 & Open House

March 10, 2011

North Marion Intermediate School

5:00 – 7:30 pm

SIGN IN SHEET

NAME	REPRESENTING	MAILING ADDRESS	PHONE#	E-MAIL
Jon Sullivan	[illegible]	PO Box 34 Aurora OR 97002	503-678-[illegible]	
LARRY EISCHEN	CHARBONNEAU	5417 SW FR PRAIRIE RD WILSONVILLE OR	503 694-6322	
Mike Wright	Self/Northwest Aircraft	3225 Yellow [illegible] Ln NE Aurora OR 97002	503 678 6076	[illegible]
Lolita Carl		PO Box 179 Hubbard OR 97032	(503)982-[illegible]	
STEVE BIRD	TSA	7000 NE AIRPORT WAY ST#3500 PORT OR 97218	503 385-7874	steven.bird@[illegible]
P. ANNIE KIRK	AURORA RESIDENT	P.O. BOX 83, AURORA, OR 97002	—	annie@redbirddesign.net
[illegible]	Local Pilot	3404 [illegible] SE Salem 97302		[illegible]
[illegible] Ottmeyer	Wilsonville	31292 SW Country View Ln	(503) 694-2544	
Dalton Burson	Self	22033 Floral Ave Aurora		
Roger Burson	Deer Creek Estates	22033 Floral Ave. Aurora		
Rob Callow		7260 SW Fountain Lake Dr Wilsonville		ROBRTC@AOL.COM
JENNIFER SAUNDERS	WILLAMETTE VALLE EQUINE	23200 HUBBARD CUTOFF RD AURORA 97002	503 678 4225	JSAUNDERSDVM@YAHOO.COM
Ken Ivey	[illegible]	24780 NE Prairie View Dr Aurora 97002	503 313 0478	Ken@ijco-cpa.com
Burke, Mary Lou	Deer Creek	P O Box 356 Hubbard 97032	(503)678-2544	jburke@centurytel.net

Aurora State Airport Alternatives Public Meeting
Comment Summary

30 comment forms were submitted at the March 10, 2011 Aurora State Airport meeting. 59 additional comment forms were faxed, mailed or e-mailed in after the meeting. 13 people submitted a comment form via the online survey.

Additionally, several people submitted other comments beyond the comment form at the public meeting and by email after the event. These comments are attached at the end of this summary.

	No Build Alternative	Alternative 1	Alternative 2	Alternative 3
Instrument Approach Capability	64 No change Approach minima to remain at visual and greater than 1 statute mile (sm)	12 No change Approach minima to remain at visual and greater than 1 statute mile (sm)	16 Improved instrument approach capability. Visibility greater than ¾ statute mile (sm)	8 Improved instrument approach capability. Visibility minima lower than ¾ statute mile (sm) (precision approaches). Parallel taxiway relocated 100 feet to the east and multiple buildings removed or altered.
Airport Reference Code	65 No change Remain at ARC B-II	16 No change Remain at ARC B-II	12 Upgrade to ARC C-II	1 Upgrade to ARC C-II
Runway Length	62 No change (total runway length: 5,004')	17 600' extension to north end of runway (total runway length: 5,604')	10 1,000' extension to south end of runway, closure of Keil Rd. (total runway length:	5 No change to length. However, relocation of the parallel taxiway is necessary for
Runway Strength	69 No change - 45,000 pounds DWG	18 Strengthen to 60,000 pounds DWG	9 Strengthen to 60,000 pounds DWG	4 No change - 45,000 pounds DWG
Air Traffic Control Tower (ATCT) Location	*Has not yet been determined.*	31 ATCT located midfield on the east side.	10 ATCT centrally located within State-owned property, but north of the location in Alternative 1.	5 ATCT located closer to the north end and farther from the runway than in the other two build alternatives.

	No Build Alternative	Alternative 1	Alternative 2	Alternative 3
Helicopter Parking Location	60 No change	18 Designation of helicopter operations area in the northwest section of State-owned property.	3 Designation of helicopter operations area, situated where the fuel tanks are currently located.	4 Designation of helicopter operations area, north of the current apron.
Fuel Station Location	64 No change	13 Fuel tank relocation south of Aurora Aviation.	6 Fuel tanks relocated northeast of Aurora Aviation.	9 Future fuel tanks located at the south end of State-owned property.
Aurora Rural Fire Protection District Location	34 No change	23 Fire District's response building located near the air traffic control tower (ATCT).	35 Fire District's response building located adjacent to the water suppression system.	3 The Fire District's response building located east of the fire suppression system.
Cargo Apron Location	66 No change	10 No change	4 Designation of a cargo apron facility, north of Aurora Aviation.	9 The cargo apron centrally located on State-owned property.

Additional comments provided on comment forms:

1) The number of air operations does not justify the lengthening of the runway. I support the no build alternative with the exception of the Aurora Rural Fire District facility. I am an elected board member of the Fire District. Aurora was never intended to be a "big jet" airport. It is too constrained both in length and width.
2) For the no build alternative, determination of the location for the ATCT is a critical addition.
3) Would like C-2, but don't think closing Keil Rd. is a good idea, increases traffic on Airport Rd. Prefer 600' extension to the north.
4) No additional growth.
5) 600' extension to begin with to the North. After a term of 5 years to help replenish funds extend an additional 600' on the South end (save Keil Rd.)
6) Roads are already over capacity!
7) Alternative 2 as depicted places a RWY 17 run-up area on Wiley Condo Association property very close to existing hangars with large operable doors. This property is not for sale and is not likely to be. Consideration should be given to an alternative that includes a 600' extension with run-up area at the North end and a 500' extension at the South end to create a 60000' runway with an upgrade to ARC C-11.

8) Representing property south of airport "P" zone south of Keil Rd. Totally approximately 75 acres.
9) Since you cut the trees down the noise is louder—trees are important to clean the air. I support the tower and fire station. NO expansion. I am very concerned about how the quality of my life will decrease because of the high noise along with the value of my property which will decrease. I live in Dear Creek Estates close to the end of the now runway and in 10 years the noise has increased greatly. Plus planes flying over our home taking a short cut to the airport.
10) The removal of the trees by the west opened up more noise. I support the no build plan, the tower and fire station.
11) I am a home owner in Aurora.
12) Why don't they do something at the airport to actually get pilots of jets to fly the pattern they are supposed to?
13) Property owner
14) Remove power lines on north end. If the power lines were hit by a plane how would the loss of power to our community. Hospitals, schools, fire police. Shared costs to relocate lines underground—Power Company, City, County, and Oregon Aviation Dept. Educational building for high school students interested in aviation, shared by community colleges and education districts; 2-story building. I have additional ideas. Email me please. (Ronald Sterba, saintesterba@msn.com)
15) Comment on Helicopter Parking Location for no build alternative: already done on whose approval?
16) Aurora is one of the most significant pieces of history in Oregon. Who benefits from a larger and busier airport? Could you consider doing something in the line of keeping the integrity of this small historic piece? It doesn't lend itself to this noisy alternative. Take an example from Vermont and keep this historic jewel as the treasure it should be.
17) Any/all proposed changes need to consider/mitigate the problems that will come outside "the fence" area. Such as east-west traffic and turn lanes, drainage issues, sewer and water supplies up to code, noise and vectoring of air traffic. If the above concerns are not met there will be many irate and vindictive neighbors to deal with going forward. Not a good situation! Given present and mean time future economic situation, we are better to not overbuild especially your way for the very few – the number of operations is still highly questionable! Use your new tower to get accurate numbers prior to any further changes. Runway lengthening and Build options 2 and 3 are not warranted.
18) What is tax payer liability for under improvements of Airport Rd? For the entire expansion?
    What are impacts of expansion on adjacent properties? Zoning? Usages?
    What is the number of regular operators that live in Clackamas or Marion County?
    What will be done prior to expansion mobilization to ensure City of Aurora's annexation of Airport?
    What are the wildlife and environmental impacts? When were studies completed?
19) We have hundreds of large geese in the Charbonneau area which could pose a serious threat to aircraft and civilians. I am not concerned about the lives of the geese—only the people. We have more than enough aircraft emanating from this airport now!

20) The noise level now is too high with low flying planes and helicopters who don't seem to care that people would very much appreciate a quiet neighborhood in which to find refuge. It is unfortunate that we in Clackamas County must suffer the consequences of Marion County decisions on this matter. More planes also mean more cars and trucks on our exits and entrances to the I-5 corridor which is awful right now as it is.
21) Some Charbonneau residents are curious when we see the map showing the sound pressure level (yellow line) following the exact southern boundary of Charbonneau. Also at the DOA meeting we heard SPL/Ob numbers for aircraft on this boundry to be 65 or 75 Db. Institutions such as MIT and HUD have said that the Db for flushing a toilet is 75 Db and a business office is 85 Db. I have a hard time believing that the planes going over as we dine on our patios are more quiet than a toilet or a business office.
    We have taken a straw poll of Charbonneau residents, at a recent social function and well over 95% of us are strongly opposed to the airport expansion!
22) No more noisy planes over Charbonneau!
23) It is hard for me to believe that fuel tax would pay for all the proposed changes. As a tax payer I don't want to have any part of paying for the ability to have more corporate jets landing at the Aurora Airport!
24) I have had enough as it is of planes flying over Charbonneau. I came here from Beaverton because of the rural atmosphere and less crowding. Why must it always be ruined?
25) To approve any changes is "letting the camel in the tent!" Good, bad, indifferent—the future cannot be controlled. Surely a tower and instrument approach would improve safety but that is the camel.
26) Rw 17 run-up area on Alternative 2 is not desirable to owners of Wylee property. It would add constant noise and blast to adjacent hangars. Better solution must be found, preferably adjacent to Willamette Aviation facility on runway extension to north.
27) It is my feeling that most Charbonneau residents have little sympathy for the needs and wishes of users of the Aurora Airport, because pilots presently flying in and out of the airport just don't give a shit about avoiding the airspace above Charbonneau. Improved facilities can only mean continued disregard for the neighborhood, on a larger scale.
28) Locate ATCT at mid-field west of the highway to Hubbard. This will require land acquisition but will reduce tower height with no loss of 2 acres of airport land.
    Locate the helicopter parking in the fire suppression system area. This will totally separate helicopter traffic from fixed wing, plus make room for helicopter business and hangars.
    A reasonable return on investment should always be a paramount consideration where major investment is required. I don't feel that has happened when consideration for runway strengthening or extension is being considered. To spend millions of dollars for the possibility of a very small return on investment makes no sense, especially when both the state and federal government is broke. Lets get realistic.
29) A tower and runway extension is not so good in this climate.
30) Who wrote this? Our biggest problem is people who don't have a clue about aviation write questionnaires like this. Get someone involved in aviation to help make airport programs! You are wasting our money.
31) Justify all projects by cost.

32) The noise over our house is BAD enough as it is. I certainly don't want any increase! I wish there were no Aurora Airport at all.
33) Any changes will only benefit a small handful of users of the airport, not the general public.
34) We hope that the airport is not enlarged! There is enough jet noise now over Charbonneau!
35) Larger jets = more noise
36) Runway extension – particularly north will result in heavier noisier aircraft taking off closer (& lower over) populated areas. Noise problem. Environmental problem. Safety problem. Please do not extend runways.
37) Planes are flying over Charbonneau even though they are required not to. Expansion would only increase the noise level in this area. Think of the noise level at our Portland International Airport. We don't need to push in that direction. Thanks.
38) Aircraft coming and going creates a worsening noise problem for those of us who live in Charbonneau. Making the changes sought will only make a bad problem worse!
39) I trust you will not move north. It would be too close to a population of a growing city (Wilsonville and Tualatin).
40) See submitted letter and petition from Friends of French Prairie.
41) We are concerned about the noise level from larger jets. The hundreds of geese that flock to the small lakes in Charbonneau are a hazard to the jet engines. Longer runways bring larger planes. Larger planes bring freight. Freight needs to be hauled away in big trucks. I-5 in the Wilsonville area and beyond is the most deadly in the State. We don't need more truck traffic and congestion.
42) We hate to see an increase in the airport. Already the noise and planes flying low is very unpleasant. Quality of living in a somewhat rural area is suffering from all of this. Homes to the south would really feel this with runway extensions.
43) In as much as the Charbonneau is a heavily populated area at the southern most edge of the city of Wilsonville, every effort should be taken to not degrade the environmental and living conditions of the residents while improving or, at the very least, mitigating the physical risk to person and property. To that end, I recommend the following: 1) any fuel storage should be located as far to the southern end of the airport as possible. That provides, by physical distance, the maximum protection to the populace in the case of explosion. 2) Approach capability should NOT be lowered below the current one statute mile minimum. North-to-south approaches typically pass over Charbonneau. Lowering the approach minimum directly increases the risk to the populace by reducing the vertical distance between the aircraft and the ground in case of an in-flight emergency such as mechanical failure, bird strikes, and/or wind shear. Further, the potential for increased air traffic coupled with lowering the approach minimum directly and dramatically degrades the quality of life around the airport by increasing the noise pollution associated the lower approaches. 3) Strengthening the runway only serves to allow larger, louder aircraft to access the airport. This change will result in further increasing noise pollution and dramatically increases the risk of damage to property and person in the case of an aircraft crash. 4) Helicopter operations should be located as far away from heavily populated areas as possible. This dislocation not only affords increased protection for the populace but also reduces the noise pollution associated with these aircraft types.

44) My husband and I would like our opinion on the Aurora Airport known. I have attached a copy of the survey for the airport. As you can see we have MARKED every box in the "NO Build Alternative" column. We DO NOT want and improvements done to the Aurora Airport. We would like to see the larger jets go to another airport. The noise from the jets is extremely annoying, especially when the come screaming over the house late at night. We have lived here since 1977. We know there will be change. But we DO NOT want the airport any larger or improved from how it is now. The current JETS are loud and at times too low during landing. The size of aircraft is getting too large for this location.
45) Helicopter parking location should be in south end only.
46) From 1/14/11 to present there have been 127 flights at the intersection of Miley Rd and Airport Rd that are totally out of FAA compliance, according to the flight directory rules. This intersection is 1.6 miles from the airport.
    1. Average flight inbound is 337 yards AGL (laser sighted)
    2. All aircraft are flying in an illegal pattern
    3. Noise abatement—some cases rattle windows
    4. Number of aircraft per month is 113 flights
    5. Most critical—who at the State Department did the bird counts for possible bird strikes?
    6. Four witnesses working on counting birds including AGL and direction of flight have been monitoring morning and night
    7. Flocks of over 1,000+ to as few as 25 or 30 generally fly pattern at 020 degrees to 219 degrees. These are the biggest migration pattern for these birds. These birds are directly in the fly pattern of aircraft flying over the intersection of Miley Rd and Airport Rd.
    8. The first engine out bird strike outbound is going to land in the middle of Wilsonville Shopping Center. It is a coincidence that average AGL for aircraft is 337 yards and geese are 215 to 480 yards AGL.

    With these documentations and witnesses to what may happen in the event of a major accident, who exactly are we going to sue? All flight in and out of this airport should use the FAA directory per its rules and you will find it is pretty safe flying conditions.

Comments from Online Survey

1) I have flown into and out of 3S2/ KUAO for 14 years. The demand for greater volume of aircraft is evident, and improved operational conditions would help Aurora, the local economy and the state of Oregon, whilst improving safety.
2) I have no opinion or inadequate information on other choices, what about both extensions? Why only 60,000 pounds; many business jets today push 100,000 pounds.
3) The city believes that the Airport should be allowed to grow, But it also believes that no growth should happen outside the existing boundaries of the airport until the airport is annexed into the City Of Aurora. In talking to adjacent property owners it seems they also agree with the City. Please consider our comments in your decision.
4) Before selecting the preferred alternative, comprehensive traffic and noise impact studies on surrounding communities need to be completed. The work done on these problems to date is cursory and insufficient for the size of the projects contemplated.

Additional Comments Submitted

Bernice -

Here are some of the questions that need to be addressed along with some additonal information that you will need at the meetings that you are going to attend.

1. FLOCKS OF GEESE

Since the meeting on the 12/12/10, my neighbor, Mike Farmer and I, have monitored the geese on the approach pattern from 7:30 am to 5:00 pm. In two days the average elevation was 1100'. The flocks range from 15 to more than 200 geese in the flock. We are going to keep monitoring the geese to prove how unsafe this is for the possibility of aircraft bird stikes.

2. DO THE PILOTS FLYING IN THE AIRSPACE AROUND THE AURORA AIRPORT HAVE TO ABIDE BY REGULATIONS FOR LANDING CONFIGERATIONS AND TAKE OFFS, INCLUDNG ANY ABATEMENTS OR RESTRICTIONS WHILE FLYING IN THESE PATTERNS?

3. ARE THERE ANY RESTICTIONS AROUND THE AURORA AIRPORT THAT CONCERNS SOUND ABATEMENT? WE WOULD LIKE YOU TO CLARIFY WHAT DECIBLE READING WOULD BE TOO HIGH FOR THE HOUSING AREA THAT SURROUNDS THE AURORA AIRPORT. IS THIS GOING TO BE A FAA READING OR ONE THAT YOU ARE GOING TO APPROVE ON YOUR OWN?

4. WHAT ARE THE RULES FOR ELEVATIONS FOR AIRCRAFTS AFTER CROSSING THE WILLAMETTE RIVER ON FINAL APPROACH TO AURORA AIRPORT?

5. DON'T JETS HAVE TO FOLLOW THE SAME RULES AND REGULATIONS, INCLUDING LANDING CONFIGERATIONS, AS PER THE FAA LAWS AND RULES THAT ARE
IN COMPLETE DETAIL IN THE AIRPORT DIRECTORY THAT IS USED BY ALL PILOTS?

6. WILL THERE BY ANY REGULATIONS THAT CONCERNS "CALM WIND DAYS" WITH WINDS 10 MPH OR LESS? ALL AIR TRAFFIC, IN BOUND AND OUT BOUND, SHOULD BE TAKING OFF FROM THE SOUTH ONLY. THIS WOULD EASE SOME OF THE TENSION FOR THE THOUSANDS OF PEOPLE INVOLVED TO THE NORTH.

All the questions above clearly indicate that no one is monitoring those pilots that are violating the FAA laws. When these laws are broken, will the pilots be fined or lose their license or will a new directory be written by the Aurora Airport to fit their needs?

As of 12/12/10, we have been monitoring incoming and out going aircraft, expecially their elevations (AGL). Just as a note, on 12/15/2010, Aurora Airport manager (FBO)
was notified that at 11:16 am, 11:21 am, 11:37 am and 11:46 am, the highest elevation for a DC3 was 301 yds and as low as 257 yds above Prairie View Estates. After the call, the DC3 stopped making its practice runs.

HARLAN REETZ

I do not believe citizens or local property owners benefit from the airport improvements that are going to be adopted by this master plan. I also don't believe it makes any difference if citizen's comment with disapproval, Marion County and the ODA will give the airport whatever they decide it needs or wants.

I've watched a film of a town hall meeting, concerning the master plan, from 10 years ago. Local citizens were very disapproving of all the improvements being offered. It made no difference. Marion County commissioners have allowed unrestrained growth. Now, 10 years later, the airport claims they need a tower because of safety issues, that were brought on by that unrestrained growth. In today's financial crisis, I am appalled that our federal and state governments are funding a tower. Millions of dollars could be put to much better use than to build a tower at Aurora.

I would encourage citizens to take a look at what has happened at the Hillsboro airport. The "improvements" being adopted here are designed to promote private aviation business interests such as flight training or aviation hobbyists whose comfortable lifestyle allows them to own or rent private aircraft.

I am against lengthening or strengthening the runway, the taking of farmland for hangers or the building of a tower. Attracting bigger jets or more aircraft only benefits a small minority and diminishes livability for those who live in the area. The no build option is best for the majority of citizens. The roads are already to busy and tax payers should not have to pay the cost of road and utility improvements, that only benefit a few private aviation businesses.

The Marion County Commissioners have demonstrated their support for aviation development over the environment, livable neighborhoods or protecting farmland. Clackamas County residents have not been given equal representation even though the airport expansion and development affects us as well as Marion County citizens.

The impact would be temp, but not for making large aircraft accessible. The environmental impact of a busier facility is a detriment to agriculture and to the livability of the entire area.

March 7, 2011

To: PAC of Aurora State Airport

I am concerned with increased noise and air pollution to nearby residents and potential disturbance to wildlife in the area if airport traffic is increased and more jets begin to use the airport. The small, local airport is already here, and we accept that once in a while a small jet flies in. But we are distressed that if it is opened to more and larger jets, our quality of life and property values will be diminished.

Perhaps the addition of a tower and/or runway extension would improve safety at the airport, but the increased noise levels of more jets using the airport are problematic. Jets that are really pounding to gain altitude would definitely affect noise levels. Plus, with the smaller planes that are currently using the airport there is almost no night-time traffic--I'm concerned that with more jets, we would have more noise and increased safety risk at night. I am also concerned about the possibility of more around the clock jet cargo traffic in the future.

The FAA performs extensive noise tests on hundreds of models that fly in the United States, making generalizations difficult. However, according to figures taken from FAA records, the median decibel level upon takeoff of all models of two common small jets, Learjet and Gulfstream, at 76 decibels, is somewhat higher than those of two common small propeller plane manufacturers, Piper and Cessna, at 69 decibels. Even a small increase in jet traffic would have an adverse noise impact. *(Longmont Ledger, April 23, 2010)*

Lorna Dove, who lives in Georgetown near Seattle, has devoted extensive hours toward researching and measuring chemicals like benzene and toluene, byproducts of jet fuel and plane exhaust. Dove's strongest ally has been the Agency for Toxic Substances and Disease Registry in Atlanta, which, after conducting a risk assessment of air quality in 1998, found that Georgetown residents had "a higher risk for leukemia and thyroid cancer" than the population at large. I would like to see studies of environmental impact of increased air traffic on our area. *(The Stranger, July 2, 2008)*

Our area is called French Prairie. Let's talk about the historical significance of this area and the importance of preserving it. A larger commercial airport will undermine the agricultural character and general livability of our community.

Look at CAAP (Citizens Against Airport Pollution), a community based organization that seeks to reduce pollution caused by airport operations.

July 20, 2010

Citizens Against Airport Pollution [CAAP] has filed a lawsuit against the City of San Jose because the City recently approved a major amendment to the Airport Master Plan without an Environmental Impact Report describing what adverse affect these amendments will have on the environment.

The suit alleges that the City failed to conduct the proper environmental investigation necessary prior to the approval of a major amendment to the Airport Master Plan, as required by CEQA. Air pollution impacts, noise pollution impacts and impacts on wildlife are unknown. In an effort to avoid litigation, CAAP previously requested the City to defer action approving the major amendment so that these issues could be evaluated and discussed without litigation. The City chose to ignore these concerns and approved the major amendment to the Airport Master Plan without a clear understanding of its impact on the environment.

For over 20 years, Citizens Against Airport Pollution has been the only watchdog organization committed to protecting the environment from pollution caused by Mineta San Jose International Airport. CAAP has always supported a first class airport to serve the needs of the Southbay. Protecting the quality of life for San Jose residents and maintaining a first class airport is doable. However, it requires thoughtful planning and a keen sensitivity to environmental protections. If Silicon Valley is to become the center of "green" technology, the City of San Jose must make every effort to make its airport environmentally sensitive and a good neighbor. CAAP believes that the protection of the quality of life in the neighborhoods should be the highest priority to the City of San Jose. http://www.caap.org/

I hope the ones who finally make the decision in this matter will take into consideration the appeals of their neighbors, and not jeopardize their ability to continue living comfortably in their homes. Please slow down the premature rush to expand this airport.

Patti Oleson
7465 SW Bunker Post Ct.
Wilsonville, OR 97070

AOPA MAGAZINE - MAR. 2011

LOGBOOKENTRY | COMMENTARY

BY ROBERT E. BREILING
FOUNDER, ROBERT E. BREILING ASSOCIATES

Statistics that improve safety

Compiling business jet and turboprop accident statistics has been an objective of mine since the early 1960s. When I was a Navy carrier pilot and safety officer—and later a Pan Am pilot—I met an insurance executive who was concerned about insuring the new business jets and turboprops being bought by corporations. As I had some 3,000 hrt flight hours, I was retained as a consultant by the underwriter to visit and evaluate its operations. When Pan Am furloughed junior pilots, I went to work for the insurance underwriter to perform new-aircraft analyses, establish an engineering department, and supervise the company's fleet of 12 piston aircraft. There I began to compile business turbine aircraft statistics.

More than 50 percent of the bizjet accidents and incidents continue to occur in the landing phase year after year (for turboprops, it's 43 percent).

During this period I served on the NBAA board of directors, as head of its safety committee, and made numerous statistical presentations at Flight Safety Foundation's Corporate Aviation Safety Seminar, Bombardier's Safety Standdown, and others. I also worked with Donald Engen to establish the AOPA Air Safety Institute's light aircraft database.

I was then offered an opportunity to join the start-up team SimuFlite, where one of my objectives was to secure an FAA exemption to use "advanced" simulators for training in lieu of aircraft. I showed the FAA that 52 business-jet accidents occurred during in-aircraft training from 1964 through 1980. We received the exemption, which benefitted both SimuFlite and FlightSafety International, the two training companies at the time. The accident rate began to fall (improve) so much that underwriters offered a reduced hull rate if companies trained in advanced simulators for both jets and turboprops. In 1985 we saw a need for this data by aviation insurance underwriters and corporate operators and began publishing our *Annual Business Turbine Aircraft Accident Review*, where we identified by specific aircraft the accident rates, phase of operation in which the accident occurred, causal factors, and other pertinent information.

In review of this data over the years, we found several dominant trends. For example, more than 50 percent of the bizjet accidents and incidents continue to occur in the landing phase year after year (for turboprops, it's 43 percent). Surprisingly, 76 percent of the jet accidents occur on 5,000-foot or longer runways, 10 percent on 4,000- to 5,000-foot-long runways, and 8 percent on runways shorter than 4,000 feet. Sixty-five percent were in VMC, and 24 percent were on contaminated runways. It is obvious that pilots are not adhering to positive landing techniques. They continue to land long, add a few knots to V_{REF}—which is already 30 percent above stall speed—"grease it on," delay reverser use, and use positive braking.

With respect to turboprops, accidents in the approach phase are higher with 17.6 percent occurring here, versus 7 percent in bizjets. My opinion is that many approach accidents involve single pilots, where it is apparent that the pilot gets to minimums and, being unfamiliar with the missed approach procedure, goes lower or performs an improper missed approach. I might add that single pilots have a 50-percent greater accident rate than aircraft flown by two pilots.

Single-engine turboprops, mostly flown by single pilots, are involved in a higher number of high-altitude upsets than other turboprops. It seems apparent that pilots are over-relying on the autopilot and when a malfunction occurs, loss of control follows. More instrument flight proficiency and upset training may be necessary.

Also noted over the years is that the number of reported incidents is increasing, and many result in serious damage. It is interesting to note that a turboprop can land gear up, and cause serious damage, yet this is classified as an incident—whereas a light jet can experience a gear collapse while taxiing, causing relatively light damage, and it is classified as an accident.

We believe that our annual reviews are invaluable to any bizjet or turboprop operator to aid in identifying specific aircraft problems, support the fact that short runways should not be used, and illustrate how business aviation safety compares to charter air taxi, fractionals, airline operations, single-pilot involvement, et cetera.

We publish the review annually and offer the complete study, including turbine helicopters, for $375; the jet section or turboprop section can be purchased separately for $175 each. For more see our website (www.breilinginc.com) or call us at 561-338-6900. AOPA

From: RobrtC@aol.com [mailto:RobrtC@aol.com]
Sent: Monday, March 21, 2011 3:03 PM
To: christopher.cummings@state.or.us
Cc: Anderson, Rainse
Subject: Comment: Aurora State Airport Master Plan

I attended the meeting earlier this month but unfortunately could not stay for the public comment portion that was begun at the end of the meeting.

One of the questions I have and I posed it to several people at the breakout session: Why is the Aurora Airport the subject of expansion when McNary Field is 20 miles away and has an existing longer runway than Aurora? Most of the responses to my questions were "convenience and closer to downtown Portland". I think that the overall public may be better served by exploring the options of McNary Field in Salem instead of embarking on this costly expansion.

If this expansion at Aurora proceeds the State of Oregon needs to impose stringent and enforced noise abatement procedures for the surrounding neighborhoods. This would mean monitoring by the control tower of violators and the imposition of fines and or license suspensions for pilots of aircraft that do not comply. To help with noise abatement the arrival/departure flight path from/to the north should be directed over the I-5 corridor and not Wilsonville.

Lastly, has an environmental impact study been conducted as to the affects of wildlife on airport operations. This area of the Willamette valley is a

large flyway for Canada geese. Wouldn't this be a safety issue?

I would appreciate your thoughts on my comments.

Rob Callan

7260 SW Fountain Lake Drive.

Wilsonville Oregon. 97070

Adrienne DeDona

From: Joel Joslin [joelandlynell@mac.com]
Sent: Monday, March 21, 2011 10:23 PM
To: Adrienne DeDona
Subject: Aurora Airport

Dear Adrienne,

Thank you for taking the time to listen to the residents concern about the proposed expansions to the Aurora airport.

I live nearby in an area that is supposed to be a "no fly" zone. It is anything but. We have planes flying over frequently and sometimes very low.
Low enough on occasion that I am concerned they are in distress and are about to crash.

An expansion would only increase these problems with the addition of increased jets and larger planes in the area and the subsequent noise issues.

It seems there are enough larger airports in the vicinity already with PDX and Hillsboro, both with greater activity and facilities than here.
Please do not turn this area into another large airport and all the noise and safety issues that would go with it.

Keep us safe and quiet!

Thank you for taking our welfare into your consideration.

A local resident and neighbor of the Aurora Airport.

Lynell Cooper-Joslin
Charbonneau

I, Kenneth W. Hawken agree with the proposal noted below. Please add my name to the petition.
my address :
24751 NE Prairie View Dr.
AURORA, OR 97002-9545
Phone 503-678-2280

Aurora Airport Master Planning Process
Petition to the Oregon Department of Aviation
from
Aurora Airport Neighbors in the Prairie View Community

Whereas, the Aurora State Airport lies less 1 1/2 miles south of the Prairie View residential community and over-flights of Prairie View are already frequent and noisy and

Whereas, the Oregon Department of Aviation is considering the possible inclusion of an extension of the existing runway and/or strengthening the runway to accommodate heavier aircraft in the current master planning process,

We, the undersigned residents of Prairie View support the petition from Charbonneau residents and express our grave concern about the number of larger jets that such an extension would bring, with the resultant increase in noise pollution for neighboring communities. We oppose such action for the following reasons:

1. At this airport, landings to the south require jets and others to fly low over dense residential areas of Wilsonville and surrounding communities. The proposed control tower, operating only during daylight hours, will not be able to fully mitigate this problem.

2. The environmental impact of a runway extension or strengthening, bringing additional and larger jet traffic, will be to reduce property values for many Wilsonville residents including those living in Charbonneau and Prairie View.

3. The extension proposed is sought by a very small number of operators, most of whom regularly use its current runway. At a time of extreme State and Federal budget difficulties it is unacceptable to consider spending large sums of taxpayer money on development to benefit so few special interests.

4. This Airport is constrained on all sides by roads and residences, by one runway, and by private infrastructure close to the taxiway and runway, all hampering long term expansion. For example, it is not practically possible, nor financially feasible, to reduce the approach minimums, something that would make the Airport a more reliable destination in bad weather. If a longer runway is required in the region this should be done at a rural area airport with many fewer constraints, such as Mulino.

For all the above reasons we request that consideration of a runway extension and/or strengthening the weight-bearing load of the runway at Aurora Airport be postponed to allow study of the most appropriate location and timing for such developments and any extension or strengthening be excluded from the current Master Plan update.

To who it may concern, we agree with the proposal below.

Stanley P. Kaveckis
25031 NE Prairie View Drive
Aurora, OR 97002

Suzanne M. Kaveckis
25031 NE Prairie View Drive
Aurora, OR 97002

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Louisa Farmer
25089 N.E. Prairie View Drive
Aurora, Oregon 97002

Michael Farmer
25089 N.E. Prairie View Drive
Aurora, Oregon 97002

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I, Karen J. Hawken agree with the proposal noted below. Please add my name to the petition.

My address:
24751 NE Prairie View Drive
Aurora, OR 97002
Phone 503-678-2280

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I agree with this proposal:
Dana Stephens
14550 NE Mulligan Ct.
Aurora, OR 97002

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I agree with the proposal noted below and would like to add the following:

As a tax paying citizen, it is appalling to me that millions are going to be spent to build a tower at the Aurora Airport. It is obvious the ODA at the State of Oregon and the FAA will promote private aviation business interests over those of neighboring property owners. Marion County should not legally be allowed to expand the airport when it affects the residents of Clackamas County without equal representation. Sitting on an advisory committee outnumbered by airport business interests is not representation.

IT IS THE SPECIAL INTERESTS OF A SMALL MINORITY THAT BENEFITS BY DIMINISHING THE RIGHTS AND LIVIBILITY OF PROPERTY OWNERS.

Christine Warren
15777 NE Becke Rd
Aurora, Or 97002

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make the Airport a more reliable destination in bad weather. If a longer runway is required in the region this should be done at a rural area airport with many fewer constraints, such as Mulino.

For all the above reasons we request that consideration of a runway extension and/or strengthening the weight-bearing load of the runway at Aurora Airport be postponed to allow study of the most appropriate location and timing for such developments and any extension or strengthening be excluded from the current Master Plan update.

BERNICE IVEY
24780 NE PRAIRIE VIEW
AURORA, OR 97002

Petition to the Oregon Department of Aviation

from

Aurora Airport Neighbors in the Prairie View Community

Whereas, the Aurora State Airport lies less 1 1/2 miles south of the Prairie View residential community and over-flights of Prairie View are already frequent and noisy and

Whereas, the Oregon Department of Aviation is considering the possible inclusion of an extension of the existing runway and/or strengthening the runway to accommodate heavier aircraft in the current master planning process,

We, the undersigned residents of Prairie View support the petition from Charbonneau residents and express our grave concern about the number of larger jets that such an extension would bring, with the resultant increase in noise pollution for neighboring communities. We oppose such action for the following reasons:

1. At this airport, landings to the south require jets and others to fly low over dense residential areas of Wilsonville and surrounding communities. The proposed control tower, operating only during daylight hours, will not be able to fully mitigate this problem.

2. The environmental impact of a runway extension or strengthening, bringing additional and larger jet traffic, will be to reduce property values for many Wilsonville residents including those living in Charbonneau and Prairie View.

3. The extension proposed is sought by a very small number of operators, most of whom regularly use its current runway. At a time of extreme State and Federal budget difficulties it is unacceptable to consider spending large sums of taxpayer money on development to benefit so few special interests.

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For all the above reasons we request that consideration of a runway extension and/or strengthening the weight-bearing load of the runway at Aurora Airport be postponed to allow study of the most appropriate location and timing for such developments and any extension or strengthening be excluded from the current Master Plan update.

I agree with the proposal noted below.
Victoria Arck
24035 Butteville Rd, Aurora, OR 97002

>if you want to send me the petition, I will sign it. The points
>addressed are significant and will affect all tax payers. Even 'tho
>I live quite a distance from the A/P I am concerned!
>Vik

> > Aurora Airport Master Planning Process
> >
> > Petition to the Oregon Department of Aviation
> >
> > from
> >
> > Aurora Airport Neighbors in the Prairie View Community
> >
> >
> >
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> >possible inclusion of an extension of the existing runway and/or
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> >property values for many Wilsonville residents including those
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> >
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> >at Aurora Airport be postponed to allow study of the most
> >appropriate location and timing for such developments and any
> >extension or strengthening be excluded from the current Master Plan update.
> >
> >=

We agree with the proposal noted below:
Hellen Safronchik
15651 NE Browndale Farm Rd,
Aurora, Oregon 97002

Paul Safronchik
15651 NE Browndale Farm Rd
Aurora, Oregon, 97002

Rebecca Safronchik
15651 NE Browndale Farm Rd
Aurora, Oregon, 97002

Alexander Safronchik
15651 NE Browndale Farm Rd
Aurora, Oregon 97002

In a message dated 3/5/2011 5:04:08 P.M. Pacific Standard Time,
berniceativeyacres@hotmail.com writes:

Aurora Airport Master Planning Process

Petition to the Oregon Department of Aviation from Aurora Airport Neighbors in the Prairie View Community

Whereas, the Aurora State Airport lies less 1 1/2 miles south of the Prairie View residential community and over-flights of Prairie View are already frequent and noisy and

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For all the above reasons we request that consideration of a runway extension and/or strengthening the weight-bearing load of the runway at Aurora Airport be postponed to allow study of the most appropriate location and timing for such developments and any extension or strengthening be excluded from the current Master Plan update.

=

Bernice,

First a thank you for all the time and effort you put in for all of our sakes. We both appreciate it.

We agree with the attached proposal, namely the Petition to the Oregon Department of Aviation from the Aurora Airport Neighbors in the Prairie View Community.

Robert C. Brooks 14510 NE Mulligan Court, Aurora, OR 97002
Susan G. Brooks 14510 NE Mulligan Court, Aurora, OR 97002

Thank you.

Aurora Airport Master Planning Process
Petition to the Oregon Department of Aviation
from
Aurora Airport Neighbors in the Prairie View Community

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Aurora State Airport Master Plan Update
COMMENT FORM

The chart below includes features of the no build alternative and the three build alternatives. Please indicate what features of the alternatives you prefer by checking the appropriate box.

	No Build Alternative	Alternative 1	Alternative 2	Alternative 3
Instrument Approach Capability	☒ No change. Approach minima to remain at visual and greater than 1 statute mile (sm)	☐ No change. Approach minima to remain at visual and greater than 1 statute mile (sm)	☐ Improved instrument approach capability. Visibility greater than ¾ statute mile (sm)	☐ Improved instrument approach capability. Visibility minima lower than ¾ statute mile (sm) (precision approaches). Parallel taxiway relocated 100 feet to the east and multiple buildings removed or altered.
Airport Reference Code	☒ No change. Remain at ARC B-II	☐ No change. Remain at ARC B-II	☐ Upgrade to ARC C-II	☐ Upgrade to ARC C-II
Runway Length	☒ No change (total runway length: 5,004')	☐ 600' extension to north end of runway (total runway length: 5,604')	☐ 1,000' extension to south end of runway, closure of Keil Rd. (total runway length: 6,004')	☐ No change to length. However, relocation of the parallel taxiway is necessary for precision approach. (total runway length: 5,004')
Runway Strength	☒ No change (45,000 pounds DWG)	☐ Strengthen to 60,000 pounds DWG	☐ Strengthen to 60,000 pounds DWG	☐ No change (45,000 pounds DWG)
Air Traffic Control Tower (ATCT) Location	*Has not yet been determined. Please select your preferred location from Alternative 1, 2 or 3.*	☒ ATCT located midfield on the east side.	☐ ATCT centrally located within State-owned property, but north of the location in Alternative 1.	☐ ATCT located closer to the north end and farther from the runway than in the other two build alternatives.

	No Build Alternative	Alternative 1	Alternative 2	Alternative 3
Helicopter Parking Location	☒ No change	☐ Designation of helicopter operations area in the northwest section of State-owned property.	☐ Designation of helicopter operations area, situated where the fuel tanks are currently located.	☐ Designation of helicopter operations area, north of the current apron.
Fuel Station Location	☒ No change	☐ Fuel tank relocation south of Aurora Aviation.	☐ Fuel tanks relocated northeast of Aurora Aviation.	☐ Future fuel tanks located at the south end of State-owned property.
Aurora Rural Fire Protection District Location	☐ No change	☒ Fire District's response building located near the air traffic control tower (ATCT).	☐ Fire District's response building located adjacent to the water suppression system.	☐ The Fire District's response building located east of the fire suppression system.
Cargo Apron Location	☒ No change	☐ No change	☐ Designation of a cargo apron facility, north of Aurora Aviation.	☐ The cargo apron centrally located on State-owned property.

Additional Comments:

The Number of Air operations Does not Justify the long Hauling of the Runway
I Support the 'no Build' Alternate with the Exception of the Aurora Rural Fire District Facility - I am an Elected Board Member of the Fire District.
Aurora was Never Intended to Be a 'Big Jet' Airport. It is Too Constrained Both in length & Width. GREG LEO

Contact Information (optional):

Name: GREG LEO
Address: 9318 Champoeg Road N.E.
Aurora OR 97002
Phone: (503) 804-6391
Email: GREG@TheLeoCompany.com

Thank you for taking the time to provide your input!

Please drop this form in the comment box, or mail to:

Adrienne DeDona
1110 SE Alder Street, Suite 301
Portland, OR 97214
Or fax to: (503) 230-4877
You can also email comments to: Adrienne@jla.us.com

Aurora State Airport Master Plan Update
COMMENT FORM

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critical addition

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Additional Comments:

Contact Information (optional):

Name: _____

Address: _____

_____

Phone: _____

Email: _____

Thank you for taking the time to provide your input!

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Adrienne DeDona
1110 SE Alder Street, Suite 301
Portland, OR 97214

Or fax to: (503) 230-4877

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Additional Comments:

Would like C-2, but don't think closing Keil Rd a good idea, increase traffic on ~~Butteville~~ Airport Rd. Parlee 600' extension to North

Contact Information (optional):

Name: Rob Graham

Address: 21404 Liberty
Aurora

Phone:

Email: robbyly@yahoo.com

Thank you for taking the time to provide your input!

Please drop this form in the comment box, or mail to:

Adrienne DeDona
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Portland, OR 97214

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