PAINE FIELD ENVIRONMENTAL ASSESSMENT
GENERAL RESPONSES

ISSUE 1, STUDY PROCESS

1-1 Why can’t the County limit or restrict operations?

Comments stated that the County should limit or restrict commercial operations. Other
comments expressed concern that once commercial operations are allowed that there will be no
limit to those operations. The County is not allowed to limit or restrict operations at the Airport,
because it is a public use airport that has accepted federal funding, which requires certain
assurances. In accepting federal funding, the County has agreed to comply with 39 specific grant
assurances. These assurances require that the County, among other things, must “make the
airport available as an airport for public use on reasonable terms and without unjust
discrimination to all types, kinds, and classes of aeronautical activities, including commercial
aeronautical activities offering services to the public at the Airport.” (Grant Assurance 22(a)).

The U.S. government deregulated the airline industry with Public Law 95-504, known as the
“Airline Deregulation Act of 1978.” Since the deregulation of the airline industry in 1978,
certificated U.S. air carriers are free to fly routes of their choice and serve airports of their
choice. Airports that are composed of surplus federal property and/or receive federal funding are
considered public use airports, and must be made available for use on a reasonable basis when a
carrier seeks to start service. A consequence of that Act allowed airlines unrestricted choice as
to which airports they serve. Other than to ensure safety, neither the Airport Sponsor
(Snohomish County) nor the Federal government controls where, when, and how airlines provide
service. Operators of public use airports, such as Paine Field, cannot deny access to an airline if
the aircraft they propose to use can safely operate at that facility. Consistent with its grant
assurance obligations, Snohomish County has been negotiating in good faith with Horizon Air
and Allegiant Air to accommodate proposed passenger service at Paine Field.

If the FAA were to find the Airport in non-compliance with its grant assurances, the
consequences could include the suspension of grant funding, loss of the Part 139 Certificate, and
the County could be required to pay back historical grant funding. The requirements of Grant
Assurance 22a are similar to the requirements of the quitclaim deed for airport property from the
Federal government to Snohomish County. Deed covenants require that the land be used for
public airport purposes for the use and benefit of the public, without unjust discrimination or
granting of exclusive rights. If Snohomish County does not meet these deed requirements, if
portions of the Airport are transferred for non-airport purposes, or if the entire property ceases to
be used as an airport, the property may revert back to the Federal government at their option.¹
See General Response 1-4 on grant funding and grant assurances, and General Response 3-15
on what actions would require additional environmental review.

¹ Quitclaim Deed, Book 889859, Volume 421, Pages 449-467.
1.2 What is the Centennial rule? Does it apply here?

Some comments recommended invoking the Centennial Rule at Paine Field to enable the County to reject the commercial service request at Paine Field. The Centennial Rule, Title 49 U.S. Code (USC) 47107 (q) and (r), provides an exception test under which a general aviation airport can prohibit scheduled air passenger service yet otherwise remain “in compliance” and qualify for federal funding under FAA rules. Specifically, the rule states:

"Notwithstanding any written assurances prescribed in subsections (a) through (p), a general aviation airport with more than 300,000 annual operations may be exempt from having to accept scheduled passenger air carrier service, provided that the following conditions are met: (1) No scheduled passenger air carrier has provided service at the airport within 5 years prior to January 1, 2002. (2) The airport is located within or underneath the Class B airspace of an airport that maintains an airport operating certificate pursuant to section 44706 of title 49. (3) The certificated airport operating under section 44706 of title 49 does not contribute to significant passenger delays as defined by DOT/FAA in the ‘Airport Capacity Benchmark Report 2001’. (r) An airport that meets the conditions of subsections (q)(1) through (3) is not subject to section 47524 of title 49 with respect to a prohibition on all scheduled passenger service."

Paine Field does not meet the primary requirement of the Centennial Rule to be a general aviation airport with more than 300,000 annual operations. Paine Field accommodated approximately 143,722 annual operations in 2008, 114,784 in 2010 and the Final EA only forecasts 122,127 annual operations by 2018. Therefore, the Centennial Rule does not apply to Paine Field.

1.3 An independent investigation is needed because the FAA pushed the County to approve the terminal

Comments suggested that the FAA pushed Snohomish County to support construction of a terminal, thus an independent investigation should be completed. Both the FAA and Snohomish County have followed all applicable rules and regulations in responding to the requests from the airlines to initiate commercial passenger service at Paine Field. The FAA has taken the appropriate actions related to the approval process for all Federal actions. The referenced communications reflect the parties seeking clarity concerning the requirements of the grant assurances, as well as the Federal agency steps and requirements in approving the Federal actions. Snohomish County has been and continues to negotiate in good faith with the air carriers in accordance with those requirements.

The FAA is not requiring, nor do they have the power to require, Snohomish County to change existing land use, existing zoning, or future planned land use to allow Paine Field to be served by the air carriers.
1-4 The County should no longer seek FAA funds

Some comments were received stating that no additional taxpayer money or FAA grants should be given to Snohomish County for Paine Field and that the County should pay back funds already received from the FAA.

Even if Snohomish County were to no longer take any FAA grants for Paine Field, the County would still be obligated due to the tens of millions of dollars already received in FAA grant funding. The County would also have to pay FAA back for any funds received in the past. The County does not believe that it is feasible or prudent to pay the FAA back because the County would then be responsible for the on-going operation of the Airport. The County would likely have to significantly increase fees charged to tenants or would have to obtain other County funding (derived from taxpayers), which is not considered prudent in today’s economic climate. See also General Response 1-1.

1-5 Mitigation

Comments received concerning mitigation were varied. Some comments mentioned the need for mitigation for anticipated environmental impacts associated with the Airport and the proposed actions/projects. Other comments questioned what roadway traffic, noise, and air quality mitigation would be required as a result of the proposed actions and who would be responsible for that mitigation.

Mitigation is only required for actions where the project-related effects would exceed the Federally defined thresholds of significance (see also General Response 6-1). As is noted, the proposed actions and their associated projects are not expected to produce impacts that would exceed the Federal thresholds and thus, compensatory mitigation is not required for the proposed actions at Paine Field.

Even though actions may not exceed defined thresholds, the County and airport users undertake best management practices (BMPs) to regularly reduce the effects of the Airport on the surrounding community, such as noise abatement measures and emission reduction actions. These actions are funded by the County or the tenants. These are referred to as BMPs as they are not mandated because of an exceedance of a federal threshold.

For traffic mitigation, the only required mitigation identified in the EA is traffic mitigation fees, which are a local requirement. Implementation of the proposed actions and associated projects will require contributing local mitigation fees to the two WSDOT intersections to aid in funding improvements to the I-5/128th Street SW interchange, per the interlocal agreement and WSDOT comments. Traffic mitigation fee payments to the WSDOT and the City of Mukilteo would mitigate the project’s impacts to the intersection of SR-525 at 84th Avenue NE by allowing the signal timing of the intersection to be optimized, which is anticipated to allow the intersection to operate at an acceptable level of service.

Under the Washington State Growth Management Act, state and local communities can impose impact fees based on new surface traffic that a project is expected to generate. Appendix F,
Traffic Impact Analysis notes that impact fees would be required based on the passengers that would be served at the Airport and their use of area roadways and local intersections. The traffic impact fees that would be paid by the Airport to Snohomish County, WSDOT, and the City of Mukilteo for the proposed actions have been calculated at approximately $333,262.85.

In regards to noise mitigation, the federal threshold for significance is 65 DNL. As stated on Page D.21 of the EA, there are no noise sensitive land uses within the 65 DNL noise contour or greater. Therefore, no noise mitigation is required. See General Response 7-1.

In response to comments about air quality mitigation, Snohomish County is in attainment for all pollutants as defined by the U.S. Environmental Protection Agency (EPA). This means, that while past pollutant levels in parts of the county may have exceeded standards, currently the standards are being attained. The area retains a maintenance designation for carbon monoxide due to exceedances during winter months of the standard during mid-1980s and conditions in 1992.

As the proposed actions would generate emissions less than de-minimis, mitigation would not be required. However, Snohomish County notes that it continues to work with its existing and future tenants to reduce emissions and implement best management practices. The County will investigate participation in the FAA’s Voluntary Airport Low Emission (VALE) grant program to reduce pollutant emissions from its fleet vehicles and those of its tenants. These programs (such as participation in the VALE program) are voluntary and not related to the proposed actions; no mitigation is required from the proposed actions. See General Response 10-2.

1-6 What are the FAA and County roles in this EA and has a decision been made to move forward?

Some comments requested clarification of the role of the FAA and the County in the EA process and the environmental decision making process. Also, some comments suggested that the decision to move forward with the proposed federal actions has already been made.

The FAA is the agency responsible for meeting the requirements of NEPA for federal actions related to the airport. Because the federal actions were not eligible for a categorical exclusion, the FAA required the preparation of an EA to determine if the actions would produce significant adverse effects. Both the FAA and County have been involved in this EA process from the beginning of scope development.

In the case of actions subject to EAs, FAA guidance enables the FAA to delegate responsibility for preparing the Draft EA to the Airport Sponsor. As such, Snohomish County’s role in this EA process is to prepare the environmental documentation (either the County itself or, in this case, through the use of consultants - See General Response 1-10) for the proposed Federal actions at Paine Field and submit the Draft EA to the FAA. FAA typically provides funding assistance through the Airport Improvement Program (AIP) to Airport Sponsors to complete NEPA documentation. Ultimately, the FAA must accept and sign the EA for it to become a Federal document used in the decision making process.
As of the preparation of the Draft EA and response to comments, the decision to approve the federal actions has not yet been made and cannot be made prior to an official environmental finding based on the Final EA. Following receipt of the Final EA from the Airport Sponsor, the responsible FAA official (See General Response 1-7) reviews the EA, the public comments, the expected impacts, the proposed mitigation, and then makes a decision. The FAA will either decide that the anticipated environmental impacts are not significant, or have been adequately mitigated where appropriate, and issue a Finding of No Significant Impact (FONSI)/Record of Decision (ROD). Alternatively, the FAA will decide that the anticipated environmental impacts are significant and recommend the preparation of an EIS.

1-7 Who will make the final environmental determination?

Some comments asked who would make the environmental determination on the proposed actions. The approving official is the FAA Regional Administrator, Northwest Mountain Region.

1-8 Adequacy of FAA guidance and use of FAA guidance

Some comments questioned FAA’s implementation of and compliance with the National Environmental Policy Act (NEPA) as well as analysis methodologies used in the EA. Some comments stated that the EA was biased toward the FAA, and that there was insufficient detail in the EA.

The FAA has the authority and responsibility, consistent with NEPA and CEQ, to prepare and issue guidance for the preparation of environmental documents addressing FAA actions. The FAA has published such guidance and Airport Sponsors are required to follow that guidance when preparing EA’s.

Preparation of the Draft EA followed the policies, procedures, and guidelines as outlined in FAA Order 1050.1E Change 1, Environmental Impacts: Policies and Procedures and Order 5050.4B, National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions. These orders outline FAA accepted methodologies, methods, models, techniques, and thresholds of significance for the impact assessment and preparation of EA documents. The EA was prepared in compliance with NEPA, and Council on Environmental Quality (CEQ) regulations. All environmental documents prepared under FAA oversight follow and adhere to these same Orders, setting national standards for the preparation of environmental documentation.

1-9 Roles of consultant and their qualifications

Some comments questioned the role of the consultant in the Environmental Assessment (EA) process and the qualifications/potential for bias of the consultant to complete NEPA analysis. The Federal Aviation Administration (FAA) often delegates the preparation of Environmental Assessments (EAs) to the Airport Sponsor for projects involving federal actions. Snohomish County, as the Airport Sponsor, retained a third-party, independent consultant to prepare the Draft EA. The third-party consultant was retained using the County procurement process. The
process also complied with FAA requirements which ensure a competitive selection is undertaken. Barnard Dunkelberg & Company was selected.

Compliance with NEPA is not voluntary and it is the FAA’s obligation to ensure that the analysis is done correctly before accepting the EA as a Federal document. Barnard Dunkelberg & Company has no financial interest in whether or not a project is constructed or initiated. Therefore, there is not potential for a conflict of interest. For information on the FAA and County roles, see also General Response 1-6.

1-10 Scope of the EA analysis for future operations and passengers

Some comments received on the Draft EA stated that the scope of the EA should be broader in terms of the level of operations analyzed and more long-term in nature, believing that once commercial service was initiated at the Airport, that the airlines would choose to operate many more flights and enplane many more passengers than what was projected in the Draft EA. A majority of the comments questioned the projected numbers of operations and passengers used in the analysis, indicating that they were too low.

Preparation of the Draft EA complied with applicable FAA Orders and guidance implementing NEPA (see General Response 1-8). The orders outline FAA accepted methodologies, methods, models, techniques, and thresholds of significance for the impact assessment and preparation of EA documents based on actions that are “reasonably foreseeable”. The FAA does not believe that it is reasonably foreseeable that activity levels will be higher than those projected by the airlines (Appendix A). Council on Environmental Quality (CEQ) regulations implementing NEPA require that documents address impacts that are "reasonably foreseeable." FAA Order 5050.4B Paragraph 9q defines reasonably foreseeable as:

>“An action on or off-airport that a proponent would likely complete and that has been developed with enough specificity to provide meaningful information to a decision maker and the interested public. Use the following table to help determine if an action is reasonably foreseeable.”

(footnote 4: Paragraph 905.c(1) and (2) provide definitions of “connected actions” and “similar actions,” respectively)

The evaluation of operations or enplanements beyond 2018 would be speculative and not reasonably foreseeable. Not only would aircraft operation numbers be speculative, but the types of aircraft flown, the destinations flown, and the time of day or night those operations could occur would also be speculative. An infinite number of possibilities could be imagined, none of which would be based on actions which are reasonably foreseeable. This is especially true in response to the comment requesting that the maximum capacity of the Airport be evaluated. The maximum capacity of the Airport is a theoretical number driven by the type of aircraft, and will vary based on the aircraft fleet mix. In addition, any additional airlines or aircraft types desiring to operate at the Airport would be subject to additional environmental documentation. If the number of passengers exceeded the capacity of the proposed terminal; the terminal would require expansion or a new terminal. Such expansion of the terminal would in turn require modification to the Airport Layout Plan (ALP), which would be another Federal action, triggering NEPA compliance. For more information on what actions would require additional environmental review, please see General Response 3-15.
However, in response to these public comments, the FAA tasked the County to prepare an analysis to disclose the effects should activity grow and reach the **maximum capacity of the proposed terminal**. The FAA determined that the terminal is the limiting factor, so the maximum capacity of the modular terminal was examined as a theoretical scenario. This additional analysis was prepared for disclosure purposes to respond to comments about activity levels either above that identified by the airlines or outside the time period which the FAA believes is reasonably foreseeable. See also **General Response 3-12**. This analysis evaluated the Hirsh Report, Terminal Capacity Estimates (Draft and Final EA Appendix K) which reflect a theoretical activity level of the maximum capacity of the proposed terminal in terms of the maximum number of enplanements that could be accommodated and the resultant number of aircraft operations utilizing the proposed aircraft types. This analysis and its results can be found in **Appendix P** of the Final EA. For more information on methods, scope and impact analysis, please see **General Responses 1-8 and 1-12**.

### 1-11 Flawed/inadequate/biased EA

Some comments indicated that the EA was flawed and inadequate in its analysis of environmental impacts of the Airport or the proposed actions and its associated projects.

The FAA and County believe that the EA provides an appropriate assessment of the potential environmental impacts of the proposed actions both for existing conditions and under reasonably foreseeable conditions in accordance with all FAA Orders and guidance (**General Response 1-8**) and the requirements of NEPA. During the preparation of the EA, the most up-to-date models were used in all modeling exercises, per FAA Orders. FAA policy is that the same model will be used throughout the preparation of an EA even if a new model is available. However, based on public comments, the air quality analysis in the Final EA was updated with the most recent version of the model. The EA addresses the potential impacts of the proposed actions based on reasonably foreseeable conditions compared to the thresholds of significance outlined in the FAA Orders and described in **General Response 6-2**. The development of the EA and its conclusions take a critical look at the potential impacts that could occur if the proposed actions are implemented, as required under the NEPA. For more information on the scope and analysis within the EA, please see **General Responses 1-8, and 6-1**.

### 1-12 Adequacy of public involvement and release of the Draft EA and Public Hearings

Some comments questioned the adequacy of public involvement in the EA process including both the public review of the draft EA document and the public hearing arrangements. Some comments related to the timing for the release of the Draft EA, with some suggesting that the release near the holidays and perceived lack of notification was deliberate in an effort to reduce the level of public involvement. Also, comments were received noting the lack of space in the third public hearing in Mukilteo, stating that it was poorly planned and limited the ability to hear commenters.

FAA Order 1050.1E Change 1, paragraph 208.a states that:

> **NEPA and the CEQ regulations, in describing the public involvement process, require Federal agencies to: consider environmental information in their decision making process; obtain**
information from the public regarding environmental concerns surrounding an agency’s proposed action; fully assess and disclose potential environmental impacts resulting from the proposed action and alternatives; and provide the public with this information and allow it to comment on these findings.

The Draft EA was published with electronic versions of the entire EA placed on the County’s website and hard copies available for review and comment at the following locations:

- Snohomish County Planning and Development Services Customer Support Center,
- Snohomish County Airport administrative office, and
- Seven local libraries.

Public involvement for this EA provided more public hearings than is typical for a FAA EA. Snohomish County ultimately conducted three public hearings. Each hearing included an open house to enable the public to discuss the actions/project with the County, the FAA and consultant staff, followed by a presentation, and a formal comment forum. Notices for the three public hearings were run in the *Everett Daily Herald*, the *Mukilteo Beacon*, and *Mukilteo Tribune*. In addition, notices of the hearings were posted at the local libraries where the EA was available, as well as on the County website.

The Draft EA was released as soon as it was complete and was not timed to occur during the holidays. Originally two hearings were scheduled for January 4th and 5th. Some early comments requested that additional public hearings be added not so close to the holidays, allowing people an opportunity to review the document and be available. Both the FAA and the County were responsive to these comments, and adjustments in scheduling and access were made. A third hearing was added on January 21, 2010 to enable those people who could not attend the first hearing dates (January 4th and 5th) to attend a hearing.

In addition to requests regarding an additional hearing date, requests were made to extend the comment period. The initial end of the comment period was January 15, 2010. This comment period was initially extended to January 29, 2010. Then, when a third hearing date was added, the comment period was extended to February 5, 2010. Although the FAA generally only has one public hearing on an EA, the County felt that additional hearings were reasonable due to the public interest in the proposed actions.

All of the hearings were held starting at 6 p.m. to allow adequate time for the open houses, the hearing presentations, and verbal testimony, while balancing the fact that many people get off work around 5 p.m. The general process and procedures for the hearings allowed each person to accept one speaking card that equated to an initial allotment of three minutes for public testimony. Three minutes is the generally allowed length of comment time used at Snohomish County public meetings. If, after those three minutes were finished, a commenter wished to make additional comments, they were invited to submit additional verbal comments after all other people who wished to give testimony had received their first opportunity to speak. Or the person was invited to submit their additional comments in writing either at the hearing or by mailing or emailing their additional comments to the contact addresses. This process ensured that everyone who wished to provide verbal testimony would have a chance to speak without any one person monopolizing the entirety of the hearing. Due to the large number of commenters,
some people did not get a chance to orally finish the entirety of their comments. Recognizing that this was frustrating, the agencies hope that the commenters took the opportunity to submit the remainder of their comments in writing.

In regards to the stated inadequacies of the Mukilteo public hearing site, the FAA and the County worked with local authorities when trying to find a site in Mukilteo as was requested by a number of early commenters. The Kamiak High School in Mukilteo was found to offer the most room for a public hearing. There was no way for the agencies to determine the exact count of those in attendance prior to the night of the public hearing. Although some people were not able to attend, the same options to submit written comments were available to all interested individuals.

1-13 Additional study should be conducted

Some comments requested additional study and some comments specifically requested that the FAA prepare an EIS. Council on Environmental Quality (CEQ) regulations and FAA guidance require the preparation of an EIS for certain actions or in cases where an EA has shown significant adverse impacts.

As described in General Response 1-6, the FAA will review the Final EA, expected impacts, and proposed mitigation. If the impacts exceed the significance thresholds for any affected resource, the FAA may then recommend the preparation of an EIS. Should the impacts not exceed the significance thresholds for any affected resources; the FAA may prepare a Finding of No Significant Impact (FONSI)/Record of Decision (ROD). Please see General Responses 1-8, 1-11, and 1-12 regarding additional information on EA preparation guidance, scope of the EA, and comments on the analysis contained within the EA.

The Draft EA for the proposed actions and projects showed that there would be no significant unresolved project-related effects. Therefore, while an EIS for the proposed actions is not warranted, in response to comments requesting additional study for higher activity levels, the FAA asked the Consultants to prepare additional analysis for the maximum capacity of the proposed terminal. While the FAA does not believe this activity level scenario is reasonably foreseeable, it has been included in response to comments for disclosure purposes (See General Response 1-11).

1-14 What is the role of the State Environmental Policy Act (SEPA) and why is it not mentioned in EA?

Some comments asked why there was no discussion of the requirements of the State Environmental Policy Act (SEPA) analysis in the NEPA EA. Other comments questioned when SEPA compliance would be undertaken.
Certain actions by Airport Sponsors located in Washington must comply with SEPA. Similar to FAA Order 1050.1E, Change 1 and Order 5050.4B, the Department Ecology has issued guidance on compliance with SEPA, titled “SEPA Handbook”. Snohomish County is responsible for SEPA compliance.

The County and FAA recognize that SEPA compliance is required. While the approach to the SEPA process has not been finalized, the County may adopt the NEPA document for purposes of meeting SEPA requirements in accordance with Washington Administrative Code (WAC) 197-11-610. Thus, to preserve this option, the FAA and the County agreed to complete the NEPA process first and to then begin the SEPA process. The County will comply with SEPA and will provide public notice in compliance with the SEPA process.

1-15 EA did not reflect the opposition of the community

Some comments stated that the EA did not reflect the opposition of the community to the proposed actions. Other comments asked what the role of community support was in the EA.

The Draft EA did not discuss community support or opposition to the proposed actions. The public hearings and comment period provided opportunity for the community to comment upon the proposed actions and projects. Comments were received both in support of the proposed actions and in opposition to the proposed action. The FAA and Snohomish County have considered all comments received concerning the Draft EA in preparing the Final EA. These comments resulted in modifications to the main body of the EA as well as the preparation of additional analysis in Appendix P, as described in General Response 1-11.

A detailed response was prepared for all substantive comments, as reflected in this document. Similar comments were grouped together and responses were then prepared and are provided in this document. Individual/unique comments were responded to individually. The general grouped responses are included in Appendix S while the individual responses are provided either at the bottom of the letter/email or on the page following the letter/email in Appendix Q. Comments obtained at the hearings were responded to in Appendix R. The Final EA reflects changes that were made in the Draft EA based on public and agency comments. The next steps for the EA process are described in General Response 1-6.

1-16 How will the proposal be funded?

Some comments asked how the proposal would be funded and whether this would be a good use of public funds. The operations specifications for air carrier operations and the amendment to the Federal Aviation Regulations (FAR) Part 139 certificate do not require FAA or County funding. Preparation of the NEPA documentation was funded through the FAA Airport Improvement Program (AIP) of the Aviation Trust Fund and Airport funds. The airlines and the FAA would be responsible for their own administrative actions. The modification and expansion of the terminal building is estimated to cost approximately $3 million. Snohomish County has

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2 The Trust Fund is generated through fees on aviation activities such as passenger tickets and aircraft parts.
not yet decided how the proposed modular terminal addition will be funded. Options for funding the terminal development and the specific approach to the terminal funding will be determined during negotiations with the airlines to reach agreement on a lease or license.
ISSUE 2, BACKGROUND

2-1 MRD document

Some comments cited the “mediated role determination” as an agreement or promise by the County that Paine Field would never have commercial service. In some instances, the commenters stated that they moved to the area because of the promise that commercial service would never be implemented. The May 16, 2007 Executive Summary of the Report on the Mediated Role Determination for Paine Field states the following:

In 1978 at the request of Snohomish County, the University of Washington, Office of Environmental Mediation convened a panel to recommend the future role of Paine Field. The “mediated role determination” (MRD) panel suggested that general aviation and commercial aeronautical work (such as Boeing’s Everett plant) be the dominant uses of Paine Field. The MRD Panel recommended encouraging those uses, and discouraged any uses incompatible with community harmony. The existing airport uses that would be discouraged included supplemental/charter air passenger service, large transport crew training operations, air cargo aviation, and military aviation.

In late 1978 and early 1979, the Snohomish County Planning Commission adopted the recommendations and forwarded them to the County Commissioners who adopted the recommendations with few changes. These two documents are colloquially known as the “MRD Document.”

The community and aviation business changed dramatically in the past quarter century. Populations boomed. Aeronautical technologies improved, with larger jets becoming quieter. Environmental and land use and planning laws became ever more stringent. The form of County government changed from a commission system (in which the commissioners handle both the legislative and executive functions of government) to an executive/council form of government (in which the executive leads, provides policy direction, and operates the government while an elected council decides overarching policy issues and approves the budget). The 1980s saw many disagreements around the Country between local jurisdictions and the aviation industry over noise and other impacts from a burgeoning scheduled passenger air service industry. Those disagreements led the federal government to pre-empt local attempts to control the type, frequency, and noise of scheduled passenger air service with the passage of the Airport Noise and Capacity Act (ANCA) of 1990 (49 U.S.C. 2101 et seq.). Among the requirements of ANCA was the establishment of Federal Aviation Regulations (FAR) Part 161 Notice and Approval of Airport Noise and Access Restrictions. Since the passage of FAR Part 161, only one airport has met the requirements to enable a restriction on the types of aircraft operating at that airport.
After booming through the 1990s, the economy saw a downturn with the dawn of the 21st century. The terrorist attacks on the World Trade Center in New York City exacerbated the economic problems. Boeing laid off thousands. The County Council and then County Executive Bob Drewel formed a task force to develop methods of stimulating the local economy. The task force produced an economic stimulus action plan in 2002.

The 2002 action plan called for exploration of regional air service and for specific steps to prepare for regional air service at Paine Field. This plan concerned the communities of south Snohomish County. Many south County residents believed the MRD Document forbade scheduled passenger air service and were concerned that scheduled passenger air service would disrupt and diminish the quality of life that attracted them to the area.

In 2005, County Executive Aaron Reardon formed an advisory panel of 12 community members to review and update the role of Paine Field defined by the Snohomish County Commissioners in 1978, and charged the community panel to update the MRD Document.

The community panel held its first meeting in November 2005 and heard from numerous experts on such diverse topics as land use, noise, airport operations, and airport law.

Some community panel members viewed the MRD Document as an important, fundamental social contract between the County government and the citizens and south County cities. Some of these community panel members would like to see the MRD Document rewritten to more clearly state a dislike for scheduled passenger air service.

Other community panel members believed the MRD Document has been overtaken by events and is no longer relevant. They believe the MRD Document is subsumed within Comprehensive Plans mandated by the State’s Growth Management Act and the County’s Airport Master Plan. They say the MRD Document informed the decisions made in the Comprehensive and Master Plans, and the Plans now describe the appropriate role of Paine Field.

These community panel members would like to see scheduled passenger air service at Paine Field and felt such service would drive economic development and provide a substantial convenience to users. This perspective was countered by other community panel members who vehemently disagreed, arguing no evidence supported the claim that scheduled passenger air service would stimulate economic development and claiming that scheduled passenger air service would devalue property and diminish a cherished quality of life.

The panel completed its charge in December 2006. The community panel substantially agreed on how to update the language, though some felt no need to update the MRD Document at all. For example, the community panel generally agreed that references to military aircraft operations could be deleted because Paine Field no longer hosts a military aviation unit.
The efforts of the community panel identified three primary, fundamental factors influencing the future role of the Snohomish County Airport (Paine Field):

1. Current federal law does not allow the County to prohibit or limit scheduled passenger air service.
2. Current federal law does not require the County to encourage or subsidize scheduled passenger air service.
3. The County can and should insist that an airline pay its own way and mitigate its impacts.

The MRD is advisory in nature. As stated previously in General Response 1-1, federal law does not allow the County to prohibit or limit scheduled passenger air service.

2-2 Boeing reaction to the Proposed Project and effect of the Project on Boeing

Some comments expressed concern that the proposed actions may negatively affect Boeing operations and/or cause Boeing to relocate facilities to other airports or other states. According to a Boeing Company letter sent to County officials on January 8, 2009, “Boeing would not be negatively impacted by the addition of commercial air service to Paine Field.” Boeing also expressed concern in the letter that if Snohomish County were to refuse airline service at Paine Field, the FAA could withhold future airport improvement funding. For further description of these issues please see General Responses 1-1 and 1-4.

2-3 Airport Master Plan

Some comments asked about the purpose of the Airport Master Plan and its relation to the analysis in the EA. Other comments indicated that the EA was not consistent with the Master Plan.

The Airport Master Plan is a plan for long-term physical development that may be needed at the Airport. The Airport Master Plan’s purpose is to reserve areas for potentially necessary facilities and to assess how airport land is best used in consideration of anticipated future demand. Airports typically undertake preparation of a Master Plan every 5-10 years in response to changing local and national conditions. Snohomish County completed its most recent long-range plan in 2002 for Paine Field. The 2002 Airport Master Plan included a list of projects to be implemented over 20 years and other projects to be implemented as dictated by demand. One of the projects scheduled to be implemented when demand materialized was a commercial passenger terminal project. As activity levels have changed at the Airport, the County has pursued recommendations in the Plan. Until receiving the request for service from Horizon and Allegiant, there was no need to develop the commercial passenger terminal project.

Some comments compared the forecasts included in the EA to the forecasts included in the 2002 Airport Master Plan. Some comments implied that amending the Airport’s Federal Aviation Regulations (FAR) Part 139 operating certificate enables an uncalculated and unanalyzed number of air carrier operations and that the forecasts included in the Airport Master Plan should be analyzed rather than the forecasts included in the EA. Many conditions have changed since...
the forecasting effort for the 2002 Master Plan was conducted. As such, the FAA required a new forecasting effort for this EA based on new conditions and the information provided by the air carriers (Horizon Air and Allegiant Air). In addition, because the proposed action would result in air carrier service at an airport that does not presently have service, two forecasts were required – one that reflected the No Action and the other reflecting activity with the proposed actions. These forecasts were reviewed and approved by FAA as described in more detail in Appendix G of the Draft and Final EA. The preferred forecast in the 2002 Airport Master Plan was the regional low forecast (Scenario 3) which indicated approximately 10,861 passenger air carrier operations by 2016. By comparison, the forecasting effort for the Final EA indicated approximately 12,055 passenger air carrier operations by 2018 which is only slightly higher than the Master Plan forecast. See also General Response 1-11.

Some comments also recommended that the EA consider either the regional high or the national high scenarios included in the Airport Master Plan and evaluate the environmental impacts of those scenarios. Neither Snohomish County, nor the FAA has any information that would indicate that either the regional high or the national high scenarios included in the Airport Master Plan are reasonably foreseeable. For information related to the environmental impacts related to the maximum capacity of the proposed terminal, please see Appendix P of the Final EA. For more information regarding the Master Plan and the proposed terminal scenarios, please see General Response 3-5.
ISSUE 3, PROJECT AND PURPOSE AND NEED

3-1 What is the purpose and need for the action or project?

Some comments raised questions concerning the purpose and need for the proposed Federal actions and the need for the County to accommodate commercial passenger operations beyond that forecast by the two airlines proposing service at Paine Field. The purpose and need are explained on Pages A.1 through A.4 in the Final EA. The purpose of the proposed action is to allow passengers to fly between Paine Field and Portland, Spokane and Las Vegas. The need for the proposed actions is to meet an unmet demand for commercial service within the area, as identified by Horizon and Allegiant Air. The County is evaluating the development of a new passenger terminal to satisfy this demand. The FAA must review amendments to operations specifications and is required to either grant or deny the amendment to the operations specifications based on a number of criteria. The FAA will review the requests from both Horizon Air and Allegiant Air for the FAA to amend operations specifications to allow scheduled commercial air service to Snohomish County Airport/Paine Field to ensure that any amendments to the FAR Part 139 operating certificate meets all safety standards.

Activity levels beyond what is forecast are not considered reasonably foreseeable and are not pertinent to the purpose and need of the proposed project. For more information on what reasonably foreseeable actions were determined and the effects of these actions, please see General Responses 1-11 and 6-1. Also, the potential addition of new carriers providing service at Paine Field would require additional environmental review, as described in General Response 3-14.

3-2 What are the effects of the Proposed Project on general aviation?

Some comments questioned the effect of the proposed actions on general aviation operations at Paine Field. As indicated in Table B2 of the Final EA, passenger air carrier operations are expected to be approximately 13,931 by 2018 out of a total of 122,127 aircraft operations. In other words, with the proposed actions, air carrier operations are expected to account for less than 12 percent of total aircraft operations. General aviation operations are expected to total 104,479 operations in 2018 regardless of whether or not the proposed actions are implemented. Thus, the initiation of commercial service is not expected to affect the level of general aviation operations at Paine Field. Furthermore, the Annual Service Volume (ASV), or the number of aircraft operations that an airport can accommodate without undue delay, was determined to be 367,000 annual operations. As Paine Field would operate well below the ASV with or without the proposed actions, impacts to general aviation operations due to commercial service are not anticipated.
3-3 Concerns that only half of the activity was considered

Several comments stated that there was confusion over the term “enplanements”, and that the activity reported is only half of what should have been considered in the analysis.

Enplanements refer to passengers boarding flights, deplanements refer to passengers that get off the aircraft on arrival, and total passengers refers to both enplanements and deplanements. The Draft and Final EA used total passengers in the assessment. Similarly, total operations (the sum of all arrivals and all departures) were used. This confusion appears because a standard reporting of airport activity often occurs through the use of enplanements to enable comparison of one airport to another. However, for purposes of assessing the effect of the Airport and the proposed actions, enplaned and deplaned passengers (total passengers) and total operations were included. Performing environmental assessments using total passengers and operations is standard practice in FAA NEPA documents.

3-4 EA Conflicts with proposed terminal in Airport Master Plan

Some comments suggested that the proposed terminal expansion conflicts with the planned permanent terminal in the Airport Master Plan. The County’s proposed project reflects construction of a modular terminal to accommodate the proposed air service. The alternative to construct a larger, more permanent terminal was considered in the EA and is described on Page B.5 of the EA.

The 2002 Airport Master Plan facility requirements were a conservative estimate of spatial needs based on then forecast growth in activity. The Master Plan forecasts were not based on actual airline derived passenger projections, but were based on generalized “rule of thumb” airport planning estimates. The Master Plan used this approach, because at the time, there was not a specific air service proposal, and thus the needs of a possible carrier could not be precisely anticipated. This resulted in the Master Plan space requirements that overestimated the space that may be required so that adequate room was reserved on the ALP to accommodate a terminal. Recognizing that the Airport currently meets the requirements for both aircraft parking and automobile parking spaces, the County decided that the larger, more permanent terminal and parking facilities recommended in the Airport Master Plan and shown on the ALP was not warranted to accommodate the air service activity proposed by Horizon Air and Allegiant Air. A more detailed evaluation of the terminal needs was prepared based on the anticipated activity forecast by Horizon and Allegiant Airlines, which indicated a terminal building smaller than that reserved on the ALP. Given the uncertainty of the success of the service, the County proposes the development of a semi-permanent modular terminal. There are many examples throughout the industry of air service starts and stops as well as airports building terminals only to have airlines cease operations and the terminal goes unused.

Some comments also suggested that because a larger terminal is shown on the Airport’s ALP, the expansion of commercial service that might operate within this larger terminal is reasonably foreseeable and should be addressed in this EA. The purpose of an Airport Master Plan is to reserve space for potentially needed future facilities and the presence of a facility on an ALP does not indicate that demand for that facility is imminent or reasonably foreseeable. For
information regarding the forecasts used in the EA and the Airport Master Plan, please refer to General Response 2-3 and 3-13.

3-5 Why was 2016 selected as the future year?

Some comments stated that there would be growth beyond the Draft EA future year (2016) and that those future operations should be analyzed in the EA. The comments questioned why 2016 was selected as the future year and not additional dates further into the future.

Neither the NEPA nor Council on Environmental Quality (CEQ) regulations contain requirements about specific years to be evaluated. Rather, these regulations indicate that NEPA documents should address the reasonably foreseeable future (See General Response 1-11). The only reference to analysis of project impacts beyond five years in FAA environmental guidance is in Section 14 entitled Noise, of Appendix A in FAA Order 1050.1E. Paragraph 14.4g. states that “DNL (Day-Night Noise Level) contours, grid point, and/or change-of-exposure analysis will be prepared for the following: (1) Current conditions; and (2) Future conditions both with and without (no action) the proposal and each reasonable alternative. Comparisons should be done for appropriate timeframes. Timeframes usually selected are the year of anticipated project implementation and 5 to 10 years after implementation. Additional timeframes may be desirable for particular projects.”

The year 2016 was selected, in part, because it is the concurrency timeframe required under the Snohomish County Unified Development Code (SCC30.66B.155) as well as the timeframe required in accordance with the Clean Air Act General Conformity analysis years (based on the year of attainment/maintenance). The Draft EA considered noise impacts, in accordance with FAA guidance, for the first year of implementation, 2010, and for one future year, 2016, both with and without the proposed activity levels. There were a number of reasons that this timeframe was considered reasonable and appropriate. First, the information from both Allegiant Air and Horizon Air (Appendix A of the EA) was given to the County in two year increments, starting with year 1, and continuing with years 3 and 5. The forecasts of aviation activity (Appendix G) were based on these projections supplied by the airlines.

Due to the timeframe required to respond to comments on the Draft EA and changes in operational activity at the Airport during that time, the aviation activity forecasts and analysis years from the Draft EA were updated prior to the publication of the Final EA. In the Final EA, 2008 remains the base year or existing year, while 2013 was considered the initial year of commercial airline service, and 2018 was considered the future year for applicable environmental consequence analysis.

The growth rates beyond 2018 (if any) cannot be accurately predicted at this time. It is unclear whether or not the air service would be successful, or if successful, how quickly the air service would increase. Such increases would be dependent on area residents choosing to fly using commercial service at Paine Field (See General Response 3-1).
In response to concerns about future activity levels, the FAA requested that an additional appendix be prepared that identifies the operating capacity of the proposed terminal and the associated environmental effects. These issues are documented in Appendix P.

3-6 There should be an alternative future activity scenario

In response to comments received concerning alternative activity scenarios that might arise with the amended Part 139 certificate and commercial passenger terminal, an expanded analysis was prepared for the Final EA. This analysis in Appendix P, considers the theoretical maximum level of operations that could occur at the proposed terminal and the resulting environmental effect. For more information see General Responses 1-11 and 3-15.

3-7 Parking capacity

Some comments indicated that the EA failed to address parking needs of the passengers or that a future parking plan was not provided. The vehicle parking requirements associated with the proposed actions were identified using generally accepted airport planning practices and estimates of parking demands. The County determined that the existing number of vehicle parking spaces is adequate based on the anticipated passenger demand. As described on Page B.7 of the EA, Snohomish County shows a Uniform Building Code (UBC) requirement of 115 parking spaces for buildings similar in size to the proposed terminal and 141 spaces required for the terminal, the airport office, and Precision Engines (a private business located adjacent to the terminal and airport office) combined.

FAA Advisory Circular (AC) 150/5360-13 Planning and Design Guidelines for Airport Terminal Facilities indicates that between 1 space per 500 to 1 space per 700 enplanements is a general rule of thumb for estimating parking requirements for airports. Estimations using that guidance would equate to 160 to 224 spaces for the 112,000 enplanements in 2013 and 340 to 476 spaces for the 238,200 enplanements in 2018. FAA AC 150/5360-9 Planning and Design of Airport Terminal Facilities at Non-Hub Locations, Figure 6-2 indicates 340 to 440 parking spaces would be required to meet the need for the total 238,200 estimated enplanements in 2018.

There are currently six parking areas near the terminal as follows:

1. SE lot with 70 spaces dedicated to Precision and Aviation Technical Services (ATS) parking.
2. Adjacent to the existing C1/C2 terminal building with 30 spaces dedicated to airport staff and Precision parking.
3. Main lot with 177 spaces.
4. North lot with 102 spaces.
5. C4 lot with 35 spaces.

Of these six lots, only the last four can be used for air carrier passenger vehicle parking, enabling space for 364 cars, or 1 space per 308 enplanements in 2013 and 1 space per 654 enplanements.
in 2018. Therefore, the available parking stalls are expected to meet the requirements for parking.

3-8 Increase in rental cars/rental car agencies

Comments were received about the use of rental cars or the increase in rental car agencies as a result of the proposed actions. Enterprise Rent-A-Car currently provides service at Paine Field to general aviation users of the Airport out of Building Number C84. Enterprise currently rotates cars to Paine Field from their downtown Everett lot as needed. No additional proposals or letters of interest from rental car agencies have been received to date. However, it is possible that additional rental car agencies might consider providing service at Paine Field if commercial service is initiated. If additional rental car facilities would be constructed, a review would be conducted at that time to determine if a modification to the Airport Layout Plan (ALP) would be needed, thereby triggering a federal action, which in turn would require NEPA compliance. Until a proposal for additional rental car space is received, such increases are not reasonably foreseeable.

3-9 Public transportation options should be considered

Comments suggested that more analysis of public transportation options, including bus service and light rail service, should be included in the alternatives chapter.

Local public transportation is technically not an alternative to regional air service. Improvements to local public transportation may, however, facilitate improved access to other airports like Bellingham or Sea-Tac. This alternative is addressed on page B.4 of the EA within the section “Use of Other Area Airports.” This alternative is also represented by the No Action Alternative because with the No Action Alternative, passengers wishing to travel by air are required to use other area airports and either use public transportation or private surface vehicle travel. With or without the proposed actions, neither the FAA nor the County can require passengers to access Paine Field or other airports using public transportation.

3-10 What is the capacity of the airport?

Some comments requested consideration of the maximum operational capacity of the airfield in the EA.

The capacity of the airfield system was analyzed and disclosed in the 2002 Airport Master Plan in accordance with FAA Advisory Circular 150/5060-5, Airport Capacity and Delay. The Annual Service Volume (ASV) is a reasonable estimate of an airport’s annual capacity (defined as the level of annual aircraft operations that would result in an average annual aircraft delay of approximately one to four minutes). According to the Master Plan, under current policies and practices, the Airport has an ASV of approximately 367,000 operations. In 2008, the Airport recorded approximately 143,722 annual operations, or approximately 39 percent of the calculated capacity. Given the dramatic decrease in general aviation activity at the Airport in 2010, the Final EA forecast (Appendix G) indicates the Airport only reaching 122,127 total operations by 2018 or approximately 33 percent of annual capacity. Consideration or analysis of
367,000 annual operations is not considered appropriate because neither the County nor the FAA has received any indication of interest to provide passenger service beyond that proposed by Allegiant Air and Horizon Air. Consequently, analysis of environmental impacts resulting from commercial operations and enplanement levels that are not reasonably foreseeable is considered speculative.

3-11 What is the capacity of the terminal?

Some comments requested consideration in the EA of the maximum operational capacity of the proposed modular terminal building expansion.

The capacity of the proposed terminal expansion was estimated and disclosed in Appendix K of the Draft EA, as described in General Response 1-11. Two estimates of terminal capacity were completed, the maximum capacity of the terminal and the realistic capacity of the terminal. The maximum capacity estimate was based on the capacity of the terminal’s gates and a range of departures per gate. Using a number of standard industry assumptions, the capacity range was determined to be between 252,000 to 401,600 annual enplaned passengers. In other words, 401,600 annual passengers boarding aircraft is considered the maximum theoretical capacity of the proposed modular terminal expansion. A more realistic capacity considers the mix of aircraft which might actually serve the Airport based on predicted fleet mix. In consideration of the mix of commercial service aircraft expected to use the facility, the realistic capacity of the modular terminal expansion was estimated at 294,000 annual enplanements.

To respond to comments concerning this issue, an analysis was added to the Final EA (in Appendix P) to examine the probable environmental effects associated with the maximum theoretical terminal capacity. See also General Response 3-15.

3-12 What is the relationship of the two terminals?

Some comments mentioned the two separate terminals shown in Figure B2 of the Draft EA and some of the comments suggested that the capacity of both terminals need to be disclosed. The base map used in Figure B2 of the Draft EA was the existing, FAA conditionally approved Airport Layout Plan (ALP) for Paine Field. Because the conditionally approved ALP included the recommendations of the Airport Master Plan, it showed a possible future passenger terminal. That terminal is conditionally approved because it would still require a NEPA review, separate from this EA. The Airport Master Plan forecasts indicated that a level of commercial service and enplanements might occur at Paine Field, at a level greater than what could be accommodated by the existing terminal building. Consequently, during the Airport Master Plan process, area and space were reserved for a future terminal and vehicle parking facilities to accommodate that commercial service activity. See also General Response 3-5.

Following receipt of requests from Horizon Air and Allegiant Air to initiate commercial service, the County decided that a terminal facility similar to the Airport Master Plan/ALP terminal was not warranted. An alternative to the Airport Master Plan terminal building was to provide a modular expansion of the existing terminal building. This is further described on Pages B.2 through B.6 of the EA.
Two terminals would *not* be constructed to accommodate the proposed service at Paine Field. Rather, the modular terminal expansion of the existing terminal would be constructed *instead* of the future passenger terminal considered during the Master Plan process and subsequently shown on the ALP.

**3-13 What is a Class I Airport? Explanation of Federal Aviation Regulations (FAR) Part 139**

Some comments requested clarification on the term Class I airport and an explanation of Federal Aviation Regulations (FAR) Part 139.

The FAA is required by 14 CFR Part 139 to issue airport operating certificates to airports that:

- Serve scheduled and unscheduled air carrier aircraft with more than 30 seats;
- Serve scheduled air carrier operations in aircraft with more than 9 seats but less than 31 seats; and
- The FAA Administrator requires an airport to have a certificate.

In 2004, the FAA revised FAR Part 139 to create four classes of operating certificates. Prior to this revision, certificated airports could have either a full or a limited operating certificate. Paine Field has had a full operating certificate since 1974. The certificate was revised in 2005 as a Class IV certificate because at that time there were no scheduled large air carrier operations at the Airport. Part 139 does not apply to airports at which air carrier passenger operations are conducted only because the Airport has been designated as an alternate airport. Airport Operating Certificates (AOC) serve to ensure safety in air transportation. To obtain a certificate, an airport operator must agree to certain operational and safety standards and provide for such things as firefighting and rescue equipment. These requirements vary depending on the size of the airport and the type of flights available.

Class I airports include airports serving all types of scheduled operations of air carrier aircraft designed for at least 31 passenger seats (large air carrier aircraft). These airports currently hold an AOC and may serve any air carrier operations covered under Part 139. Accordingly, the operators of these airports must comply with all Part 139 requirements. The operating certificate at Paine Field would be changed to a Class I Airport as part of the proposed Federal actions assessed in the EA.

Class II airports include airports that currently hold a Limited AOC (or airports that have maintained an AOC after loss of scheduled large air carrier aircraft service) are either Class II airports or Class IV airports. Class II airports are those airports that serve scheduled operations of small air carrier aircraft and unscheduled operations of large air carrier aircraft. Class II airports are not permitted to serve scheduled large air carrier operations.

Class III airports are airports that serve only scheduled operations of small air carrier aircraft. As specified in the authorizing statute, airport certification requirements are not applicable to certain airports in the State of Alaska.
Class IV are airports that currently hold a Limited AOC (or airports that have maintained an AOC after loss of scheduled large air carrier aircraft service) are either Class II or Class IV airports. Class IV airports are those airports that serve only unscheduled operations of large air carrier aircraft. Air carrier operations are so infrequent at these airports that in the past, FAA only required them to comply with some Part 139 requirements. This continues to be the case, but new operational requirements have been added along with modifications to the Airport certification process and other administrative changes. The proposed actions in the EA include an approval to the FAR Part 139 operating certificate for Paine Field reclassifying the Airport from its existing classification as a Class IV airport to a Class I airport.

The change to a Class I airport would enable Paine Field to have scheduled air carrier aircraft operations at the Airport and Horizon and Allegiant could potentially increase operations beyond the projected number. However, if carriers other than Horizon and Allegiant would want to start service at Paine Field, additional environmental review would be required. For additional information on what other actions would require additional environmental review, please see General Response 3-14.

3-14 What actions will require additional environmental review?

Some comments asked if this would “open the door” entirely to unconstrained commercial air service actions and what would require additional environmental review prior to implementation. Such review could be one of the following levels of Federal environmental review:

- Categorical Exclusion (CatEx)
- Environmental Assessment (EA)
- Environmental Impact Statement (EIS)

Federal actions that may require further environmental review include:

- An operations specifications amendment request by another airline to begin service to Paine Field.
- An operations specification amendment to add a new aircraft type by an existing airline.
- Additional city destinations not currently covered by Horizon’s or Allegiant’s operations specifications.
- FAA funding for a new or expanded terminal building beyond that proposed in this EA or other airport facility development.

Additional service by either Horizon Air or Allegiant Air to the cities included in their request letters in Appendix A of the EA or service to other cities included in the airlines’ approved operations specifications would not constitute a Federal action and would not likely require additional environmental review unless FAA funding of further terminal expansion was required to accommodate that service or a new aircraft type was proposed.
ISSUE 4. ALTERNATIVES

4-1 Alternative airports should be used

Some comments requested that other airports, such as Sea-Tac Airport, be used in lieu of Paine Field. The airlines’ use of another airport other than Paine Field was examined as part of the Alternatives Analysis in Chapter B of the EA.

The use of other area airports by both Horizon Air and Allegiant Air in place of Paine Field is reflected in the No Action Alternative because Horizon Air already offers scheduled commercial air service at Sea-Tac Airport, approximately 30 miles south of Paine Field, and Bellingham International Airport, located approximately 74 miles north of Paine Field. Allegiant Air offers scheduled commercial air service currently at Bellingham International Airport. There has been no indication from these airlines that, should the proposed actions not be implemented, they would initiate service to any other area airport beyond those used today. Further, Snohomish County is not aware of any airport in the area with sufficient runway length that is specifically marketing itself to receive air carrier service other than the airports that Horizon and Allegiant are already operating as reflected in the No Action Alternative. Therefore, this alternative is not prudent and feasible, nor would it meet the purpose as described in Chapter A of the EA. The FAA cannot require airlines to choose one airport over another and therefore, this is not a viable alternative to the Proposed Action.

4-2 What is the relationship of the Proposed Project to WSDOT’s Long-Term Air Transportation Study (LATS)

Some comments asked about the relationship of the airline proposals and the EA to the recently completed study by the Washington State Department of Transportation (WSDOT) known as the Long-Term Air Transportation Study (LATS). LATS was a strategic planning effort based on the first comprehensive review of the aviation system in the State of Washington in over two decades. The result of the study was a set of realistic recommendations to address the state’s future aviation needs. One of the identified future aviation needs was additional airside and landside capacity for scheduled commercial air service. LATS recommended consideration of other airports in the Puget Sound Area with the potential to absorb future commercial capacity including Snohomish County Airport/Paine Field, Olympia Regional Airport, King County International Airport/Boeing Field, and Bremerton National Airport. However, the report qualified the recommendation that these airports could provide additional capacity by stating that the provision of commercial service at these airports is dependent on the interest of the airlines.

The planning process for the LATS included several regional public meetings in July 2008 and March 2009. Concern was expressed at these meetings and in written comments about the potential impacts of commercial service at Snohomish County Airport/Paine Field and at Olympia Regional Airport. Participants encouraged the Aviation Planning Council to explore non-aviation alternatives to relieve capacity for in-state travel and alternatives to airport expansion or new airport constructions. The purpose of the proposed actions at Paine Field is not to increase capacity or to provide regional capacity relief. Rather the purpose of the Federal action by the FAA is to evaluate the requests from both Horizon Air and Allegiant Air for the
FAA to amend operations specifications to allow scheduled commercial air service to Paine Field, to approve an amendment to the Federal Aviation Regulations (FAR) Part 139 operating certificate for Paine Field and the construction of the modular terminal.

4-3 What is the demand for this proposal and how does it fit with regional planning?

Some comments questioned whether regional demand was sufficient to support commercial service at Paine Field. Other comments suggested that additional regional planning and analysis of the regional demand for air service should be conducted.

The decision to initiate commercial service at an airport is a business decision by the airlines. Other than to ensure safety, neither the Airport Sponsor nor the Federal government controls where, when, and how airlines provide service. Should demand prove to be lower than that projected by the airlines, the airlines would likely choose to reduce the number of flights or cease service at Paine Field.

The purpose and need as identified in this EA is not to address the concerns related to regional demand/capacity. Rather the EA addresses the responsibility of the FAA and County in responding to the request of two carriers to begin service at the Airport. Per Council on Environmental Quality (CEQ) and FAA guidance, alternatives considered in NEPA process must address the underlying purpose or need.

In this case, the EA has considered the possible use of other airports (See General Response 4-1). However, as noted, if the carriers who are seeking to use Paine Field wished to serve other area airports they are not currently serving, they would make the request to those airports. These two airlines have identified demand for commercial air service at Paine Field and have consequently proposed to initiate service to accommodate that demand. In accordance with Federal grant assurances, the County has limited discretion to deny an airline request to operate at Paine Field. Since additional analysis on regional demand does not meet the purpose and need identified in this EA, it is not warranted.

For comments regarding the capacity at other airports, please see General Response 4-4.

4-4 Relationship between capacity at other airports and Paine Field

Some comments question the relationship between unused capacity at other airports and the proposed service at Paine Field. Comments suggested that expanded airline service at Sea-Tac Airport is a better alternative than the introduction of commercial service at Paine Field.

In regard to the recent "capacity" improvements at Sea-Tac, the third runway was not constructed to relieve or otherwise accommodate projected demand at Paine Field. The use of the third runway is separate from the purpose and need for the proposed action considered in this EA. The proposed Federal actions that are the subject of this EA respond to requests from two specific airlines to initiate service at Paine Field.
Regarding the “demand” for operations at Paine Field, the airlines’ use of another airport other than Paine Field was examined as part of the Chapter B, Alternatives Analysis, in the EA. As described in General Response 1-1, the FAA and Snohomish County cannot require an airline to serve a specific airport nor can they restrict an airline from a specific airport if the airport is a public use airport and the proposed aircraft can safely operate at that airport, regardless of which airport has more unused capacity.

4-5 Other modes of transportation may be better alternatives

Some comments suggested that either high speed rail, bus service, or other modes of transportation would be a better alternative to initiating commercial air service at Paine Field.

Use of public transit is discussed in General Response 3-9 and local public transportation is technically not an alternative to regional air service. Other modes of transportation were not considered in the alternatives analysis as they do not meet the purpose and need for the proposed Federal actions; the decision to take different forms or modes of transportation rests with the passenger, and under the current Federal regulatory process, neither the FAA or the County can require passengers to drive or take other surface modes (train or bus).

4-6 What does the term “Preferred Alternative” mean?

Some comments asked about the use of the term "Preferred Alternative."

Council on Environmental Quality (CEQ) defines the term Preferred Alternative as “the alternative which the agency believes would fulfill its statutory mission and responsibilities, giving consideration to economic, environmental, technical, and other factors."3 While the Draft EA was prepared by the Airport Sponsor, it was closely coordinated with the FAA to ensure that the selection of the preferred alternative would address the FAA's responsibilities under NEPA. The other alternatives reviewed in Chapter B of the EA were determined not reasonable as they did not meet the purpose and need. The Draft EA identified the draft Preferred Alternative so that the public and agencies would have an opportunity to comment upon that selection. A final confirmation of the Preferred Alternative will be made if the FAA accepts and signs the Final EA. The Preferred Alternative is also referred to as the Proposed Action, the project or the proposed project in the EA.

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ISSUE 5. AFFECTED ENVIRONMENT/EXISTING CONDITIONS

5-1 Existing aircraft noise concerns

Some comments discussed the level of existing noise and its impact on quality of life. As stated on page C.16 of the Draft Environmental Assessment (EA), existing aircraft related noise exposure was defined in the EA through the use of noise exposure maps or contours prepared with the Federal Aviation Administration’s (FAA’s) Integrated Noise Model (INM), version 7.0a. The INM is a state-of-the-art, FAA approved software program used to model the noise exposure levels from aircraft operations and engine testing and produce contours of equal noise energy. These contours are presented using the 65 Day-Night Average Sound Level (DNL) noise contour metric where 65 DNL represents significant aircraft noise levels.

DNL metric measures the overall aircraft noise experienced during an entire (24-hour) day. DNL calculations account for the sound exposure level of aircraft, the number of aircraft operations and a penalty for nighttime operations. In the DNL scale, each aircraft operation occurring between the hours of 10 p.m. to 7 a.m. includes a sound level penalty to account for the higher sensitivity to noise in the nighttime and the expected further decrease in background noise levels that typically occur at night. DNL provides a numerical description of the weighted 24-hour cumulative noise energy level using the A-weighted decibel scale, typically over a period of a year.

Because DNL is a cumulative metric, while areas can receive single event noise levels above 65 dB, it is the average of these noise levels over the course of a year that provides for the 65 DNL contour. Although the FAA recognizes that noise occurs outside of these contours, the 65 DNL contour has been federally accepted at the level at which residential and other noise sensitive land uses are non-compatible with aircraft noise. Because the existing 65 DNL noise contour, shown on Figure C6, page C.18 of the EA, does not encompass any noise sensitive land uses (homes, schools, churches, etc.) the existing land use in the vicinity of the Airport is considered compatible with aircraft operations and aircraft generated noise under the federal guidelines.

See General Response 7-6 regarding the existing and future noise impacts.

5-2 Current curfew is broken

Some comments stated that the Airport currently operates under a noise curfew and that the curfew is already broken.

The County has a voluntary noise abatement program that discourages touch-and-go flights and repetitive training flights by jet, turboprop, and large propeller aircraft and requires air carrier aircraft with more than 30 passenger seats between 9:00 p.m. and 7:00 a.m. to receive prior permission from the Airport Director. The voluntary noise abatement program does not prevent aircraft from operating at the Airport and is not a mandatory noise curfew as suggested by some comments. The program requests those aircraft to have prior permission during those hours. Other aircraft are still allowed to depart/arrive at the Airport during those times without the request of prior permission. See also General Response 7-11.
5-3 Aircraft currently fly low and very close to houses

Some comments mentioned that aircraft already fly very low, and close to houses.

The height of aircraft on final approach to a runway or departure from a runway is controlled by the FAA. The standard traffic pattern altitude for small aircraft is 1,600 feet Mean Sea Level (MSL) while the traffic pattern altitude for large aircraft is 2,000 feet MSL. An airfield traffic pattern is a standard path followed by aircraft on takeoff or landing while maintaining visual contact with the airfield. Aircraft typically begin descending from pattern altitude in the downwind leg of the pattern when landing and on a 3-degree approach slope for the final leg of the pattern.

According to Title 14, Code of Federal Regulations, Section 91.119, Minimum safe altitudes; in general, there are minimum standards for operations of fixed wing aircraft (excluding when necessary for takeoff/landing). Over congested areas, an altitude of 1,000 feet above the highest obstacle within a horizontal radius of 2,000 feet is required, except for under take-off and landing procedures. Complaints on low-flying aircraft may be filed with the FAA, Office of Flight Standards, which monitors aircraft operations. Once the facts have been recorded, an FAA aviation safety inspector attempts to identify the offending aircraft operator. For more information on low flying aircraft complaints, please visit the following website: http://www.faa.gov/about/office_org/field_offices/fsdo/

5-4 Existing Traffic

Some comments indicated that existing surface traffic in the area is already very bad and that additional traffic analysis should be included in the EA.

The surface traffic analysis was based upon the existing level of traffic compared to the future levels under the Preferred Alternative. Local jurisdictions establish thresholds which determine if a road segment or intersection is operating at an acceptable level or at a deficient level of service (see General Response 8-1). Currently all roads analyzed are operating at acceptable levels of service. However, there are currently two intersections that operate at deficient levels of service and a total of four intersections that are anticipated to operate at deficient levels of service in the future whether or not the proposed action is implemented. These four intersections are SR-525 at Beverly Park Road (WSDOT Intersection), SR-99 at Airport Road (City of Everett Intersection), the I-5 northbound ramps at 128th Street SW/SR-96 (WSDOT intersection), and SR-525 at 84th Street SW (City of Mukilteo intersection). The City of Everett has identified that capacity improvements for single-occupant vehicles to the intersection of SR-99 at Airport Road are not practical due to the existing land configuration and lack of right-of-way. The project’s impacts to the WSDOT intersections will be mitigated through the WSDOT mitigation fees in accordance with the interlocal agreement between Snohomish County and WSDOT. The City of Mukilteo intersection would operate at an acceptable level of service with optimized timings, which may occur as part of the normal maintenance of the signal. However, the traffic mitigation fees that will be paid to the City of Mukilteo will mitigate the impacts of the proposed action.
5-5 Study Areas

Some comments questioned the boundaries used for evaluation of various resource areas in the EA and stated that expanded study areas should have been considered. Also, some comments stated that the area identified for various resource evaluations for the EA should be the same as the Airport Influence Area, as designated in the Snohomish County 2025 Comprehensive Plan.

As stated in General Response 1-8, the purpose of the EA is to analyze potential environmental impacts from the proposed Federal actions in accordance with NEPA and the associated FAA Orders. These Orders include guidance for study methodologies to identify project-related effects and thresholds of significance, which result in determining resource study areas for each environmental resource category. The analysis in the EA follows those methodologies, significance thresholds, and other guidance for determining the boundaries of resource study areas as described in the EA.

The scope of each environmental resource category is slightly different and consequently, not all study areas for these resource categories are identical. For instance, two resource study areas were examined for historic/cultural resources. The first resource study area includes the direct impact area that is limited to the ground that would be affected during construction where artifacts might be located. Therefore, the study area for that resource category is limited to the direct construction impact area where the terminal footprint is proposed. However, impact on historic properties was also examined within the context of environmental affects that would occur off airport, such as aircraft noise, outside the construction footprint. Federal guidance states that noise above a 65 Day-Night Noise Level (DNL) level is not compatible with land uses such as certain historic properties, schools, and residences.

The EA does not state that noise would not occur outside the 65 DNL contour, but rather presents the area of significant noise exposure as defined by the 65 DNL and area that would be incompatible with various land uses. Changes in the noise environment would occur outside this contour with or without the proposed actions; however, the 65 DNL contour is the federally accepted threshold of the beginning of significant aircraft noise levels and therefore is the contour used to disclose any significant impacts.

Similar to historic/cultural and noise resources, study areas were also established separately for air quality, water quality, and wildlife resources among others. For instance, the resource study area for air quality was also examined within the context of environmental affects that would occur off airport, such as aircraft noise, outside the construction footprint. Federal guidance states that noise above a 65 Day-Night Noise Level (DNL) level is not compatible with land uses such as certain historic properties, schools, and residences.

The Airport Influence Area, shown on Figure C1 of the EA, is designated in the Snohomish County 2025 Comprehensive Plan as “property within the environs of the Airport where land uses are either influenced by, or would influence the operation of the Airport in a positive or negative manner.” (See also General Response 7-14). The study area boundaries for the EA resource categories are those where the proposed actions would exert a change and where the context and intensity of the impact should be identified. Therefore, the resource areas for the EA were established following that guidance in accordance with the agency's guidance on the
individual environmental discipline. The Airport Influence Area does not coincide with the guidance regarding identifying study areas for resource evaluation.

5-6 Sources of existing air pollution

Some comments requested a description of existing pollution sources compared with the airport pollution sources. A number of documents identify the likely sources of emissions at airports, which typically represent the following:

- Aircraft and auxiliary power units (APU) on the aircraft
- Ground support equipment (GSE) - the vehicles that service the aircraft
- Ground access vehicles, roadways, and parking lots - the vehicles that transport passengers, employees, and goods and services that use the airport on the area roadway system
- Stationary sources - such as generators, heating and cooling systems, etc.
- Fire training
- Maintenance and construction activity

Other sources of pollution not associated with the airport and its operations are not the subject of the EA.

Information provided by the Puget Sound Clean Air Agency indicates that airport-related emissions are less than 5 percent of total Puget Sound air emissions. Surface vehicle emissions within the Puget Sound Region are the single largest source of emissions.
ISSUE 6. GENERAL PROJECT EFFECTS

6-1 Significance of Project Effects

Some comments disputed that the project-related effects would not rise to the level of the significant thresholds; comments indicated that the project would generate significant adverse effects.

As stated in General Response 1-8, the EA was prepared according to NEPA and associated FAA guidance. The Draft and Final EA identify all anticipated project-related effects associated with the proposed actions. However, while there would be project-related effects, these effects are not expected to exceed the significance thresholds identified in Appendix A of FAA Order 1050.1E, Change 1. Therefore, because these effects are not significant under NEPA, no mitigation measures are required.

6-2 How is significance defined?

Some comments suggested that either the term significance is ambiguous or that it is not well defined in the Draft EA.

FAA Order 5050.4B paragraph 9s provides the following definition:

s. Significant impact threshold. The impact level or “threshold” that the responsible FAA official uses to determine if the environmental effects of a proposed action or its reasonable alternatives would cause significant environmental effects. If FAA has established a threshold for a resource, the responsible FAA official must use that threshold to determine impact severity and context.

Note: For convenience, Table 7-1 of Chapter 7 of this Order provides the verbatim text of significant impacts in FAA Order 1050.1E, Appendix A, for many environmental resources. The Table also presents information about those thresholds to help analyze airport-related environmental impacts.

FAA defined thresholds of significance for each environmental resource category are described and explained in Appendix A of FAA Order 1050.1E Change 1. The thresholds of significance are described in Chapter D of the EA.

6-3 What are the project benefits?

Some comments questioned what the benefits of the proposed projects are and whether or not the cost outweighed the benefits.

It is important to note the purpose of the EA is not to assess the cost/benefit of the proposed actions. The effects that would be beneficial to the area are of a socio-economic nature, which are discussed in Chapter D, Environmental Consequences. The Proposed Action is not expected to significantly change the socioeconomic environment around the Airport. It would temporarily increase jobs during the construction phase and would increase use of local goods and services. There would also be a slight increase in business both at the Airport and in the vicinity of Airport Road from the increase in vehicle traffic. However, no major shifts in public service demand are expected. Overall, there would not be a significant change in the socioeconomic environment around the Airport. It is true that the airlines would likely benefit from the proposed project.
6-4 What are the quality of life impacts?

Some comments mentioned that their quality of life would be impacted due to changes in noise, air quality, and potential decreases in property value.

“Quality of life” is not a category that is specifically called out in NEPA or FAA guidance. However, the concept of quality of life is tied into several environmental resource categories addressed in NEPA documents, including noise, water quality, air quality, children’s health and safety, etc. While the proposed actions are not expected to generate significant adverse effects, there will be project-related effects. In accordance with the requirements of NEPA, the purpose of the EA is to assess and disclose the environmental impacts of the proposed action and make a determination as to the significance of the impact(s). While some of the environmental resource categories would have project-related environmental effects, as is noted in General Response 6-1, these effects would not exceed FAA defined thresholds of significance.

6-5 Are there any growth inducing or indirect effects?

Some comments asked about the secondary impacts or indirect effects of the project that could induce additional growth.

Secondary (induced) impacts are described on page D.32 of the EA. Major development projects can potentially influence induced or secondary impacts on the surrounding community. Some of these induced impacts could include the relocation of people or a substantial change to traffic patterns in the area. The analysis in the Draft and Final EA considered the induced effects of the proposed actions. Minor traffic changes are anticipated to the roadway systems in the vicinity of the Airport as presented in the Surface Transportation Section (Page D.34 of the EA) and in the Traffic Impact Analysis Report found in Appendix F, and further described in General Response 9-2. However, these traffic changes are not expected to induce growth or otherwise significantly impact the community.

The proposed actions are not considered a major development project. Due to the low number of project related commercial aircraft operations and enplanements, shifting in patterns of population movement and growth or changes in public service demands are not likely. No significant secondary impacts are expected as the result of the proposed Federal actions.

6-6 The document does not refer to “pollution”

Some comments questioned where the EA analyzed pollution impacts since the document did not refer to the word pollution.

“Pollution” is not a term used in the EA because pollution is an overarching word that refers to several separate resource categories within an EA. Pollution, by definition, could be a contamination of air, water, or soil by substances that are harmful to living organisms.\(^4\) Within

the EA, the air quality, noise, water quality, hazardous materials, and fish, wildlife and plants analysis, all address with different aspects of potential pollution. Therefore, per FAA Orders 5050.4B and 1050.1E, Change 1, impacts are examined based on those specific environmental resource categories, and not “pollution” as a whole. As stated in each of the sections within Chapter D, Environmental Consequences, based on federal thresholds of significance there are no expected significant environmental impacts to water quality, air quality, or noise and no significant impacts relating to hazardous materials or fish, wildlife and plants. Therefore, there are no significant impacts related to the broader category of pollution that encompasses all of the resource categories that relate to pollution.
ISSUE 7, NOISE AND LAND USE

7-1 Use of DNL

Some comments asked, “why is the Day-Night Noise Level (DNL) used as the basis for the noise analysis within the EA.”

DNL is the standard required metric for quantifying aircraft noise exposure. As a result of the 1979 Aviation Safety and Noise Abatement Act (ASNA), Congress required the FAA to select a single metric to standardize the evaluation of aircraft noise. In response to ASNA, through Federal Aviation Regulations (FAR) Part 150 Noise Compatibility Planning, FAA formally adopted DNL as its primary metric for evaluating aircraft noise to ensure consistency across the country. FAA Order 1050.1E, Change 1, Paragraph A14.1, states “For aviation noise analysis, the FAA has determined that the cumulative noise energy exposure of individuals to noise resulting from aviation activities must be established in terms of yearly day/night average sound level (DNL) as FAA's primary metric.”

DNL is the 24-hour average sound level in A-weighted decibels (dBA). This average is derived from all aircraft operations during a 24-hour period that represents an airport’s average annual operational day. DNL reflects the inclusion of a penalty to each aircraft operation occurring during nighttime hours (10 p.m. to 7 a.m.). This penalty attempts to compensate for people’s heightened sensitivity to noise during this period. Significant project-related effects are defined as impacts to noise sensitive land uses at or above the 65 DNL that experience a project-related increase of at least 1.5 DNL.

DNL contours were prepared with the FAA’s Integrated Noise Model (INM), version 7.0a. The INM is a state-of-the-art, FAA approved software program used to model the noise exposure levels from aircraft operations and engine testing and produce contours of equal noise energy. These contours are presented using the 65 DNL noise contour metric where 65 DNL represents significant aircraft noise levels, and project-related significant impacts are identified based on a project-caused increase of 1.5 DNL within the 65 DNL contour for noise sensitive land uses.

Although the FAA recognizes that noise occurs outside of these contours, the 65 DNL contour has been federally accepted as the level at which residential and other noise sensitive land uses are non-compatible with aircraft noise. Because the existing 65 DNL noise contour shown on Figure C6, page C.18 of the EA, does not encompass noise sensitive land uses (homes, schools, churches, etc.), the existing land use in the vicinity of the Airport is considered compatible with aircraft operations and aircraft generated noise under the federal guidelines.

The compatibility of various land uses with noise above 65 DNL has been based on scientific research concerning public reaction to noise exposure. The Schultz curve, predicts approximately 14 percent of the exposed population would be highly annoyed with exposure to the 65 DNL. At 60 DNL, this rate of annoyance decreases to approximately 8 percent of the population would be highly annoyed. For more information on additional requests for noise
analysis, please see General Response 7-2, and for more information on perception of noise and general noise methods, please see General Response 7-3.

7-2 Noise Measurements and Supplemental Metrics requested

Some comments requested that noise measurements be conducted and that alternative noise metrics (including change in decibel) be used for the analysis. As described in General Response 7-1, the analysis of aircraft noise exposure was prepared in compliance with Federal Aviation Administration (FAA) Orders. Those orders require the use of noise exposure contours using the FAA’s Integrated Noise Model (INM) showing the area affected by 65 Day-Night Noise Level (DNL) and greater noise levels. While alternative metrics can be informative, they are often associated with further understanding the effects associated with 65 DNL and greater sound levels when noise sensitive land uses are located within the 65 DNL noise contour. While FAA guidance indicates that the use of supplemental metrics such as Lmax and Leq is warranted in special circumstances such as areas of natural quiet or sleep disturbances, the FAA has determined that in this case, use of supplemental metrics is not warranted. For more information on noise perception, please see General Response 7-3. Therefore the standard DNL metric and 65 DNL threshold would be used to determine significance of the potential impacts on noise sensitive land uses.

Noise measurements, commonly referred to as noise monitoring, is a process used to confirm and verify the accuracy of the modeled contours. Noise monitoring is not a process used to test public reaction to a proposed action.

7-3 Noise analysis methodology

Some comments were received on the noise analysis questioning the use of the INM model, and the validity of the analysis. Other comments suggested that the analysis did not include additional noise sources such as engine run-up noise.

The noise methods used in the EA comply with the FAA environmental orders concerning aircraft noise. The noise contours were developed using the Integrated Noise Model (INM) 7.0a, which was the most current INM model at the time the report was created. The operational inputs were based on the FAA approved forecasts in Appendix G.

The INM model included aircraft engine run-ups that take place on the Boeing ramp on the northeast quadrant of the Airport. The “bubbling out” of the noise contour in the south central part of the Airport and to the northeast near the Boeing ramp is a result of aircraft run-ups from Boeing operations and Aviation Technical Services (ATS) operations. Because these noise events can be quite loud, they have a substantial effect on the contour, pushing the contour out to the east. However, the proposed actions are not expected to increase or change these aircraft run-ups. Taxiing operations are not included in the noise model as the INM does not model taxiing noise because it is believed to be overshadowed by landing and takeoff noise.
7-4 Flight tracks should be shown

Some comments requested that the flight tracks be shown on maps in the EA and asked if any changes would occur to the flight tracks as a result of the proposed Federal actions. In response to this request, the flight tracks are included in Figure C6 of the Final EA. Flight tracks are not expected to change with implementation of the proposed actions.

The Integrated Noise Model (INM) uses multiple input variables such as flight track data along with fleet mix, number of operations, etc. to produce noise contours. The flight track data from the Part 150 Study was used in preparing the noise contours for the Draft and Final EA. Data from the Part 150 included both flight track location and flight track use by type of aircraft. There would not be any change to the flight tracks as a result of the Proposed Action.

7-5 Proposed commercial fleet mix

Some comments were about the type of aircraft proposed for commercial service. Some comments suggested that the Allegiant MD83 aircraft should not be allowed to operate at Paine Field because of the noise levels that it generates.

The fleet mix used in evaluating the proposed actions in the EA was based upon communications with both Horizon and Allegiant. Horizon plans on using the Q400 for the proposed service at Paine Field and Allegiant plans on using the MD83. The Integrated Noise Model (INM) noise contours were completed based on these aircraft types and therefore the contours take into account the relative “noisiness” of each aircraft. Horizon also listed the CRJ 700 as a substitution aircraft for scheduling conflicts, so 1% of the Horizon traffic was modeled for that aircraft. Both turboprops and jets already operate at Paine Field.

In the early 1980s, the FAA began issuing rules and regulations that control aircraft noise at the source, the aircraft fuselage and engines. These aircraft noise standards established by the federal government must be met by aircraft manufacturers through newly-designed engines and aircraft. The government established timetables for airlines to comply with these noise standards, commonly known as Stage 1, Stage 2, Stage 3, and Stage 4 (in the international area these stages are referred to as Chapter 1 through 4).

Full compliance with Stage 2 standards was established in January 1, 1988 (Federal Aviation Regulations (FAR) Part 36). Subsequent to this timeframe, Congress passed the Airport Noise and Capacity Act of 1990 [ANCA], PL 101-508, 104 Stat. 1388, which established two broad directives for the FAA. The first directive established a method to review aircraft noise and airport use or access restrictions imposed by airport proprietors, and the second was to institute a program to phase-out Stage 2 aircraft over 75,000 pounds by December 31, 1999. In early 2000, the International Civil Aviation Organization established the Stage 4 requirements that require newly manufactured aircraft engines to meet Stage 4 levels by December 31, 2006.
To implement ANCA, the FAA amended FAR Part 91 and issued a new FAR Part 161. Part 91 addresses the phase-out of large Stage 2 aircraft and the phase-in of quieter Stage 3 aircraft. FAR Part 161 was promulgated as a stringent review and approval process for implementing use or access restrictions by airport proprietors, such as curfews and caps on operations.

This is in keeping with one of the major reasons for ANCA, which was to discourage local restrictions more stringent than ANCA’s 1999 Stage 2 phase-out. Part 161 makes it more difficult for airports or any others to implement use or access restrictions, especially those associated with Stage 3 aircraft. These difficulties are so significant that to date there has been only one Part 161 plan approved by the FAA. This plan was approved for Naples Airport in Florida for restricting Stage 2 smaller aircraft (under 75,000 pounds). Worth noting, airport/aircraft use restrictions in place at airports before the passage of ANCA were “grandfathered” and therefore allowed to remain in place as long as the airports did not modify the restrictions making them more stringent. Airports and state and local governments are preempted from regulating the operations of aircraft, with one exception. They may exclude aircraft from an airport for noise reasons as long as the exclusion is reasonable and nondiscriminatory. In addition, it must comply with the provisions of the ANCA, through FAR Part 161, and it must not regulate military aircraft. In 2005, the FAA adopted a new noise standard for jet airplanes that ensures the latest available noise reduction technology be incorporated into new designs. This noise standard, Stage 4, applies to any person submitting an application for a new airplane type design on after January 1, 2006.

The Q400 is a Stage 4 aircraft and the MD 83 is a Stage 3 aircraft. Therefore they meet all noise regulations related to aircraft stages.

**7-6 What are the existing and future noise impacts?**

Some comments stated that the existing noise is already intolerable, and mentioned that the proposed project would only make the problem worse and open the floodgates for even more noise. The comments also indicated that the analysis was flawed and did not represent the true change in noise.

The analysis of aircraft noise exposure in the EA was prepared in compliance with FAA Orders 1050.1E, Change 1 and 5050.4B. Those orders require the use of noise exposure contours using the FAA’s Integrated Noise Model (INM) showing the area affected by 65 Day-Night Noise Level (DNL) and greater noise levels.

The FAA and the County have taken steps over the years to assess existing levels of aircraft noise and develop noise abatement procedures to reduce the impacts on residential and other noise sensitive areas. As a result, under current conditions (without aircraft operating in commercial service at Paine Field) there are currently no noise sensitive uses exposed to 65 Day-Night Noise Level (DNL) noise levels at Paine Field. This existing 65 DNL noise contour is shown in Figure C6, page C.18 of the EA. The 65 DNL does not encompass any noise sensitive land uses (homes, schools, churches, etc.). Therefore, as described in **General Response 5-1**, the existing land use in the vicinity of the Airport is considered compatible with aircraft operations and aircraft generated noise according to Federal guidelines.
With the proposed actions, a slight change in noise would occur increasing the 65 DNL contour by approximately 17 acres in 2018. As seen starting on page D.21 of the Final EA, the proposed actions and their associated projects would not result in noise sensitive uses within the 65 DNL noise exposure contour. Because no significant noise impacts would occur to sensitive land uses within the FAA defined thresholds of significance (65 DNL contour), no mitigation is required. For more information on the use of DNL please see General Response 7-1 and for more information regarding noise perception compared to this significance analysis, please see General Response 7-3.

7-7 Noise impacts on schools

Some comments stated that there will be impacts on schools from increased noise as a result of the Proposed Action.

As stated in General Response 7-1, the noise and land use impact analysis presented in the document were prepared in accordance with Federal guidelines and showed that while aircraft noise would change slightly with the proposed project (increasing the 65 DNL contour by approximately 17 acres in 2018), there would continue to be no noise sensitive uses exposed to 65 Day-Night Noise Level (DNL) or greater noise levels. No schools would be exposed to 65 DNL or greater noise levels with or without the proposed actions. Part 150 Land Use Compatibility Guidelines indicate that schools are compatible with aircraft noise levels less than 65 DNL. For comments regarding the use of additional noise metrics in the analysis, please see General Response 7-2.

7-8 Where are the schools located on the noise map?

Some comments requested that the locations of the schools be included in the EA.

In response to these comments, the locations of the schools have been placed on the noise exposure maps for both existing and future base case and with project scenarios in the Final EA. Please see Figures C4, and D1 through D6 of the Final EA. As described in General Response 7-2, use of the Lmax or Leq metric would not be warranted in this case. See General Response 7-7 for information regarding the noise impacts on schools.

7-9 What are the health effects of noise?

Some comments were received questioning the impacts of noise on public health. According to various studies and scientific research, noise can have varying effects on people. From these effects, criteria have been established to help protect the public health and safety and prevent disruption of certain human activities. These criteria are based on effects of noise on people, such as hearing loss (not a factor with typical community noise), communication interference, sleep interference, physiological responses, and annoyance.

The health effects were taken into account when the FAA was required by Congress, through the Aviation Safety and Noise Abatement Act (ASNA) of 1985, to select one metric for describing aircraft noise levels. As stated in General Response 7-1, the FAA selected the use of the Day-Night Noise Level (DNL), which is required for use in FAA NEPA documents. The DNL
reflects the Schultz curve, which predicts that approximately 14 percent of the exposed population would be highly annoyed with exposure to the 65 DNL. This annoyance level has been correlated to health effects due to stress; hearing loss would not be expected at sound levels experienced off-airport in the vicinity of Paine Field. The Proposed Action would not subject any noise sensitive land uses to exposure of 65 DNL or greater; therefore, no significant project-related noise impacts are expected.

As stated above, noise is known to have adverse effects on people and these effects have helped establish criteria to protect the public health and safety and prevent disruption of certain human activities. These criteria are based on effects of noise on people, including hearing loss, communication interference, sleep interference, physiological responses, and annoyance. Each of these potential noise impacts is briefly discussed in the following points:

- **Hearing Loss** is generally not a concern in community/aircraft noise situations, even when close to a major airport or a freeway. The potential for noise induced hearing loss is more commonly associated with occupational noise exposure in heavy industry; very noisy work environments with long-term, sometimes close-proximity exposure; or, certain very loud recreational activities such as target shooting, motorcycle, or car racing, etc. The Occupational Safety and Health Administration (OSHA) identifies a noise exposure limit of 90 dBA for eight hours per day to protect from hearing loss (higher limits are allowed for shorter duration exposures). Noise levels in neighborhoods near airports, even in very noisy neighborhoods, do not exceed the OSHA standards and are not sufficiently loud to cause hearing loss.

- **Communication Interference** is one of the primary concerns with aircraft noise. Communication interference includes interference with hearing, speech, or other forms of communication such as watching television and talking on the telephone. Normal conversational speech produces sound levels in the range of 60 to 65 dBA, and any noise in this range or louder may interfere with the ability of another individual to hear or understand what is spoken. There are specific methods for describing speech interference as a function of the distance between speaker, listener, and voice level. The following figure entitled QUALITY OF SPEECH COMMUNICATION IN RELATION TO THE DISTANCE BETWEEN THE TALKER AND THE LISTENER\(^5\) shows the relationship between the quality of speech communication and various noise levels.

\(^5\) **Source:** Noise Effects Handbook, EPA
Sleep Interference, particularly during nighttime hours, is one of the major causes of annoyance due to noise. Noise may make it difficult to fall asleep, create momentary disturbances of natural sleep patterns by causing shifts from deep to lighter stages, and may cause awakenings that a person may not be able to recall.

Research has shown that once a person is asleep in their own home, it is much more unlikely that they will be awakened by a noise. Some of this research has been criticized because it has been conducted in areas where subjects had become accustomed to aircraft noise. On the other hand, some of the earlier laboratory sleep studies have been criticized because of the extremely small sample sizes of most laboratory studies and because the laboratory was not necessarily a representative sleep environment.

An English study assessed the effects of nighttime aircraft noise on sleep in 400 people (211 women and 189 men; 20-70 years of age; one per household) living at eight sites adjacent to four U.K. airports, with different levels of night flying. The main finding was that only a minority of aircraft noise events affected sleep, and, for most subjects, that domestic and other non-aircraft factors had much greater effects. As shown in the following figure entitled \textit{CAUSES OF REPORTED AWAKENINGS}\textsuperscript{6}, aircraft noise is a minor contributor among a host of other factors that lead to awakening response.

\textsuperscript{6} Source: Federal Interagency Committee on Aviation Noise (FICAN), 1997
Likewise, the Federal Interagency Committee On Noise (FICON) in a 1992 document recommended that sleep disturbance be assessed based on laboratory studies of sleep disturbance. This review was updated in June 1997, when the Federal Interagency Committee on Aviation Noise (FICAN) replaced the FICON recommendation with an updated curve based on the more recent in-home sleep disturbance studies. The FICAN recommended consideration of the "maximum percent of the exposed population expected to be behaviorally awakened," or the "maximum awakened."

The FICAN recommendation is shown in the following figure entitled \textit{RECOMMENDED SLEEP DISTURBANCE DOSE-RESPONSE RELATIONSHIP} along with a more common statistical curve. The differences indicate, for example, a 10% awakening rate at a level of approximately 100 dB SEL, while the "maximum awakened" curve prescribed by FICAN shows the 10% awakening rate being reached at 80 dB SEL. (The full FICAN report can be found on the internet at \url{www.fican.org}). Sleep interference continues to be a major concern to the public and an area of debate among researchers.
• **Physiological Responses** reflect measurable changes in pulse rate, blood pressure, etc. Generally, physiological responses reflect a reaction to a loud short-term noise, such as a rifle shot or a very loud jet over flight. While such effects can be induced and observed, the extent to which these physiological responses cause harm is not known.

• **Annoyance** is the most difficult of all noise responses to describe. Annoyance is an individual characteristic and can vary widely from person to person. What one person considers tolerable may be unbearable to another of equal hearing capability. The level of annoyance also depends on the characteristics of the noise (e.g., loudness, frequency, time, and duration), and how much activity interference (e.g., speech interference and sleep interference) results from the noise. However, the level of annoyance is also a function of the attitude of the receiver. Personal sensitivity to noise varies widely. It has been estimated that two to 10 percent of the population are highly susceptible to annoyance from noise not of their own making, while approximately 20 percent are unaffected by noise. Attitudes are affected by the relationship between the listener and the noise source (Is it your dog barking or the neighbor's dog?). Whether one believes that someone is trying to abate the noise will also affect their level of annoyance.
7-10  **What potential exists for a project related increase in vibrations?**

Some comments stated that aircraft noise associated with Paine Field causes vibrations in homes and some of the comments stated that these homes are located outside of the 65 Day-Night Noise Level (DNL) contour. Some comments stated objections to the potential vibrations that could result from additional aircraft activity as a result of the Proposed Action.

As shown on Figure C6 of the EA, there are no homes or other noise sensitive land uses located within the 65 DNL or greater noise exposure contour. Residences in the vicinity of Paine Field are subject to vibration associated with existing aircraft. The vibrations are caused by waves of energy emitted from both aircraft engines and the physical airframe of the aircraft as they pass through the air. Vibration, sufficient to cause structural damage, typically only occurs in areas of close proximity to the runway end, usually with areas exposed to 80 DNL and greater sound levels. As 80 DNL conditions do not occur outside the immediate confines of the runway ends at Paine Field, no adverse vibration effects sufficient to result in damage or hazards would be expected.

7-11  **Call for noise curfew/activity restrictions**

Some comments called for a noise curfew, or for activity restrictions or other measures to mitigate the impacts of the proposed project and general noise at the Airport.

Because there are no noise sensitive land uses within the 65 Day-Night Noise Level (DNL) and there are no project-related effects that rise to the level of being significant, no mitigation measures are required. See General Response 1-5.

In terms of restrictions or curfews, the Airport Noise and Capacity Act (ANCA) of 1990 restricted local Airport Sponsor’s ability to impose a curfew or restrict activity at a public use airport. Restrictions or required curfews can put an unreasonable burden on interstate commerce (which is an area of regulation reserved for the Federal government), and also results in discriminatory regulation that violates the tenets of the constitution. Therefore, these types of restrictions cannot be put into place at a public use airport. However, in 1997, the Airport enacted a voluntary noise abatement procedure for large commercial aircraft with more than 30 passengers from 9 p.m. to 7 a.m., where aircraft cannot land or take off without receiving prior permission from the Airport. This procedure is voluntary since ANCA makes it impossible to impose a required curfew or activity restriction and it also serves as a safety measure to inform pilots of potential head to head conflicts when the tower is closed. See also General Responses 2-1 and 5-2.

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7-12 How are the potential noise impacts compatible with surrounding residential land uses?

Some comments questioned how the potential project-related aircraft noise impacts can be compatible with surrounding residential land uses.

The FAA selected the use of the Day-Night Noise Level (DNL) noise metric, which is required for use in FAA NEPA documents. See General Response 7-1.

In accordance with the land use compatibility guidelines as defined in 40 Code of Federal Regulations (CFR) Part 150, certain land uses are compatible with various noise exposure levels. Most notably, residences, schools, churches, and other noise sensitive uses are compatible with noise levels less than 65 DNL (See Figure D7 in the Final EA). As shown in the Draft and Final EA, no noise sensitive uses would be affected by 65 DNL or greater noise levels. However, please see General Response 7-3 regarding people’s perception of noise.

7-13 What is the effect of the proposed project on parks?

Some comments stated that the proposed actions would have an impact on parks in the community.

Figure D7 of the EA shows land uses, including parks, relative to various levels of aircraft noise. Recreational uses of all kinds are compatible with noise below 65 Day-Night Noise Level (DNL). While there would be a project-related increase in noise to several parks in the airport vicinity, because no parks or recreation facilities are located in areas with noise exposure above 65 DNL, FAA land use compatibility guidelines indicate that the existing and future noise exposure with the proposed actions would be compatible with the anticipated noise. Therefore, no significant project-related impact to these parks is expected. For more information on noise see General Response 7-1.

7-14 What is the Airport Influence Area?

Some comments stated that the Airport Influence Area was designated by the local government to be an area appropriate for residential development, and that because of this designation, local officials had promised that commercial service would not occur at Paine Field.

The Airport Influence Area is defined in the Snohomish County General Policy Plan as “the property within the environs of the airport where land uses are either influenced by, or will influence, the operation of the airport in a positive or negative manner.” As described in General Response 5-5, the Airport Influence Area does not relate to the EA thresholds of significance or project area boundaries. The Airport Influence Area includes the Land areas within the Federal Aviation Regulations (FAR) Part 77 conical and approach surfaces within three miles from the ends of the Airport’s runways. The Airport Influence Area was not a consideration of the Mediated Role Determination.
**ISSUE 8. TRAFFIC**

**8-1 Traffic analysis**

Some comments were received questioning the validity of the surface traffic impact analysis.

The traffic impact analysis for the proposed action (“the project”) was performed in accordance with Snohomish County’s requirements for new developments and the interlocal agreements between Snohomish County and WSDOT and the City of Mukilteo. Snohomish County does not have an interlocal agreement with the City of Everett and therefore the City of Everett’s SEPA traffic impact analysis requirements for developments were used when determining the scope of analysis required for the trips generated by the project impacting City of Everett intersections. Reviewing jurisdictions generally require impacts to be analyzed during the typical PM peak-hour (within the 4:00 PM to 6:00 PM time period) and sometimes the AM peak-hour (within the 7:00 AM to 9:00 AM time period). Snohomish County, WSDOT, the City of Mukilteo and the City of Everett do not require analysis of impacts during Boeing shift-changes, peak ferry times, during holidays or other non-typical peak times. In addition, the daily count data along 128th Street SW (the closest Snohomish County critical arterial unit) shows that the 4:00 PM to 6:00 PM traffic volumes are the highest volumes during the day. Snohomish County and the surrounding jurisdictions do not have a weekend or holiday peak analysis requirement for this area since the standard weekday commuter peaks typically have higher traffic volumes than weekends in the study area and seasonal peaks are only for 2-3 months of the year.

The exact schedule for the flights is not currently known. Therefore, to analyze the highest impact scenario it was assumed that the peak trip generation of the project would occur during the existing weekday commuter peaks (7:00 AM to 9:00 AM and 4:00 PM to 6:00 PM). This analysis timeframe was scoped with Snohomish County during the traffic scoping meeting held on September 17, 2009. During the scoping process the distribution of trips and intersections/arterials that were required to be analyzed were also determined.

The peak trip generation of the project assumes that during a 60-minute period the following trips will occur:

- One Horizon Air turn, all passengers arriving and departing
- One Allegiant Air turn, all passengers arriving and departing
- A quarter of the 17 employees will arrive and a quarter of the 17 employees will leave

These Paine Field trip generation assumptions were compared to the operations at Bellingham International Airport, which serves Horizon Air and Allegiant Air. It was found that the time between a full turn for Horizon Air and Allegiant Air at Bellingham is closer to two hours. Therefore, the assumption that all of the Paine Field trips will occur during one hour is conservatively high.

The trip generation calculations for the proposed action were also compared to the analysis performed by The Transpo Group for the Bellingham International Airport, dated November 2009. The Bellingham International Airport analysis shows that the existing 1,100 daily
enplanements, which equates to approximately 385,000 annual enplanements, generates 131 PM peak-hour trips. In comparison, the proposed action is anticipated to have 238,200 annual enplanements in 2018, approximately 40% fewer enplanements than the existing annual enplanements at Bellingham International Airport. However, the anticipated peak-hour trip generation for the proposed action is 212 PM peak-hour trips, which are 60% more trips from 40% fewer enplanements. The trip generation calculations performed for the proposed action are also similar to the maximum peak-hour trip generation calculations that were calculated by Hirsh Associates in their analysis. The three comparisons of the peak-hour trip generation of the project show that the trip generation is conservatively high.

All of the trips generated by the proposed action (i.e. trips to and from the new terminal) were assumed to be new trips to the road system for the purposes of performing the level of service analysis. This assumption that all trips are new, despite the fact that it is likely that the project will divert some existing trips to Paine Field from Sea-Tac International Airport and Bellingham International Airport that are presently traveling along the local road system, represents the highest impact scenario. The diversion of trips on a microscopic scale, intersection by intersection, is nearly impossible to determine. However, the diversion of trips can be calculated on a macroscopic level, the level at which the VMT analysis was performed, since the macroscopic level analysis is performed over a large area and is not based on turning movement volumes at specific intersections. A diversion of trips has therefore not been included in the level of service analysis for the traffic impact analysis. This assumption means that all of the trips generated to the project are new to the analyzed intersections and arterials, which represents the highest estimate of the impacts of the project.

The analysis of the impacts of the development are based on the Snohomish County and City of Everett standards for all developments and the interlocal agreements between Snohomish County and WSDOT and the City of Mukilteo and City of Everett standards for all developments. WSDOT, the City of Mukilteo and the City of Everett evaluate impacts of a development based on the operation of intersections. Snohomish County evaluates the impacts of a development based on the operation of arterial segments. The level of service criteria for WSDOT, City of Mukilteo and City of Everett intersections is summarized in Table 1, which is consistent with Table 1 of the traffic impact analysis.
### Table 1: Level of Service Criteria for Intersections

<table>
<thead>
<tr>
<th>Level of Service</th>
<th>Expected Delay</th>
<th>Intersection Control Delay (Seconds per Vehicle)</th>
<th>Unsignalized Intersections</th>
<th>Signalized Intersections</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Little/No Delay</td>
<td>≤10</td>
<td>≤10</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>Short Delays</td>
<td>&gt;10 and ≤15</td>
<td>&gt;10 and ≤20</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>Average Delays</td>
<td>&gt;15 and ≤25</td>
<td>&gt;20 and ≤35</td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>Long Delays</td>
<td>&gt;25 and ≤35</td>
<td>&gt;35 and ≤55</td>
<td></td>
</tr>
<tr>
<td>E</td>
<td>Very Long Delays</td>
<td>&gt;35 and ≤50</td>
<td>&gt;55 and ≤80</td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>Extreme Delays⁹</td>
<td>&gt;50</td>
<td>&gt;80</td>
<td></td>
</tr>
</tbody>
</table>

The City of Mukilteo and the City of Everett have a level of service threshold of LOS D for the operation of their intersections. WSDOT has a level of service threshold of LOS D for intersections along SR-525 and SR-526 and a threshold of LOS E for I-5 interchange ramps.

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**LOS A**: Free-flow traffic conditions, with minimal delay to stopped vehicles (no vehicle is delayed longer than one cycle at signalized intersection).

**LOS B**: Generally stable traffic flow conditions.

**LOS C**: Occasional back-ups may develop, but delay to vehicles is short term and still tolerable.

**LOS D**: During short periods of the peak hour, delays to approaching vehicles may be substantial but are tolerable during times of less demand (i.e. vehicles delayed one cycle or less at signal).

**LOS E**: Intersections operate at or near capacity, with long queues developing on all approaches and long delays.

**LOS F**: Jammed conditions on all approaches with excessively long delays and vehicles unable to move at times.

⁹ When demand volume exceeds the capacity of the lane, extreme delays will be encountered with queuing which may cause severe congestion affecting other traffic movements in the intersection.
The level of service criteria for Snohomish County arterials is summarized in Table 2, which is consistent with Table 2 of the traffic impact analysis.

Table 2: Level of Service Criteria for Arterials

<table>
<thead>
<tr>
<th>Level of Service</th>
<th>Expected Delay</th>
<th>Average Arterial Speed (miles per hour)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Urban, Category II</td>
</tr>
<tr>
<td>A</td>
<td>Little/No Delay</td>
<td>&gt; 35</td>
</tr>
<tr>
<td>B</td>
<td>Short Delays</td>
<td>&gt; 28</td>
</tr>
<tr>
<td>C</td>
<td>Average Delays</td>
<td>&gt; 22</td>
</tr>
<tr>
<td>D</td>
<td>Long Delays</td>
<td>&gt; 17</td>
</tr>
<tr>
<td>E</td>
<td>Very Long Delays</td>
<td>&gt; 13</td>
</tr>
<tr>
<td>F</td>
<td>Extreme Delays</td>
<td>≤ 13</td>
</tr>
</tbody>
</table>

Snohomish County has a level of service threshold of LOS E for the operation of their arterials. There are two arterials that are Urban Category II arterials:

- Arterial Unit #227 – Beverly Park Road, SR-525 to Airport Way
- Arterial Unit #231 – Airport Road, 106th Street SW to Kasch Park Road

The only Urban Category III arterial impacted by the project is:

- Arterial Unit #228 – Airport Road/128th Street SW, SR-99 to I-5 Southbound Ramps

The analysis of the Snohomish County arterials is based on a model that has been calibrated to field collected data to ensure that the model accurately represents the existing operation of the arterial and can accurately predict the operation with the additional traffic.

It should be noted that Arterial Unit #223 was analyzed as part of the traffic impact analysis in the Draft EA, but not the Final EA. This arterial was no longer a critical arterial unit at the time of the traffic impact analysis included in the Final EA.

A scoping meeting was held with Snohomish County staff on September 17, 2009 and a scoping memorandum was received from WSDOT. Scoping discussions were held with City of Everett staff and a scoping request was made to the City of Mukilteo, but a response from the City of Mukilteo was never received. These scoping discussions were performed to, in part, determine the scope of analysis required for the project. The interlocal agreement between Snohomish County and WSDOT sets a threshold of 10 total PM peak-hour trips for analysis of WSDOT intersections. The following WSDOT intersections, designated by their associated study intersection numbers, are impacted with 10 or more PM peak-hour development trips and were analyzed as part of the traffic impact analysis:
4. SR-525 at Beverly Park Road
12. I-5 Southbound Ramps at 128th Street SW
17. I-5 Northbound Ramps at 128th Street SW
20. Airport Road at SR-526 Westbound Ramps

Additional WSDOT intersections were not analyzed since the either did not meet the threshold of 10 PM peak-hour trips or were not requested by WSDOT for analysis during the scoping process. A review letter from Lorena Eng of WSDOT, dated January 20, 2010, agreed with the analysis of impacts to WSDOT intersection.

The interlocal agreement between Snohomish County and the City of Mukilteo requires arterial intersections impacted with 10 or more directional PM peak-hour trips to be analyzed. The only City of Mukilteo intersections meeting this criteria that will be impacted by 10 or more directional PM peak hour trips from the project, designated by their associated study intersection numbers, are:

21. SR-526/Paine Field Boulevard at 84th Street SW
22. 44th Avenue W at 84th Street SW
23. SR-525 at 84th Street SW

The Traffic Impact Analysis included these intersections.

Snohomish County and the City of Everett do not have an interlocal agreement. However, impacts to City of Everett intersections have been analyzed following the City of Everett SEPA impact threshold of 50 PM peak-hour trips. The intersection of the SR-526 westbound ramps at Evergreen Way which is a City of Everett intersection, was also analyzed at the request of WSDOT even though it is not impacted with 50 PM peak-hour trips. The following City of Everett intersections, designated by their associated study intersection numbers, were analyzed as part of the traffic impact analysis:

5. Beverly Park Road at Airport Road
6. SR-99 at Airport Road
18. Airport Road at 112th Street SW
19. Airport Road at Casino Road
24. SR-526 Westbound Ramps at Evergreen Way

The project does not impact any other City of Everett intersections with 50 or more PM peak-hour trips. A review letter, dated February 3, 2010, from Allan Giffen, the SEPA Responsible Official of the City of Everett, agreed with the analysis of impacts to City of Everett intersection. The traffic impact analysis determined that the project’s impacts to these arterials and intersections would decrease the travel speed on the arterials and add delay to the intersections. However, the analysis showed that the project will not have a significant impact on the surrounding roadways since the project will not cause any of the arterials or intersections to change from an acceptable level of service without the project to an unacceptable level of service with the project. This increase in delay is not anticipated to significantly affect emergency vehicles that will use the major roadways in the site vicinity, especially since Snohomish County
provides pre-emptive operation for emergency vehicles. The increase in delay is also not anticipated to significantly change the existing travel patterns since the project will not cause any arterials or intersections to operate at a deficient level of service.

The project will add trips to one City of Everett intersection, SR-99 at Airport Road, one City of Mukilteo intersection, SR-525 at 84th Street SW, and two WSDOT intersections, SR-525 at Beverly Park Road and 128th Street SW at the I-5 northbound ramps, which will operate at LOS F without the addition of the project and will meet the respective impact thresholds for the jurisdiction. The City of Everett did not require mitigation for impacts to this intersection since capacity improvements for single-occupant vehicles are not practical. The City of Everett supported the recently implemented Swift bus rapid transit as its strategy for multi-modal transportation improvements to this corridor and is in the process of evaluating the entire Evergreen Way corridor in this area for comprehensive transportation enhancements. The project will be contributing mitigation fees as part of the WSDOT traffic mitigation fees to aid in funding improvements to the I-5/128th Street SW interchange, per the interlocal agreement and WSDOT comments and the intersection of SR-525 at Beverly Park Road is at its ultimate configuration. The City of Mukilteo intersection of SR-525 at Beverly Park Road is anticipated to operate at a deficient level of service under the 2018 with project conditions and the existing signal timings. However, the intersection is anticipated to operate at an acceptable level of service under the 2018 with project conditions if the signal timings are optimized. Traffic mitigation fees are proposed to be paid to the City of Mukilteo that will help mitigate the impacts to City of Mukilteo roadways.

The calculated peak-hour trip generation for the Paine Field project, which is used for all of the impact analysis in the traffic impact analysis, has been shown to be consistent with the trips generated at Bellingham International Airport for a Horizon Air and Allegiant Air arrival and departure over approximately 2 hours. The peak-hour trip generation of the project is therefore conservatively high since it has been assumed that all of the trips will occur in 1 hour, as opposed to 2 hours. This assumption is also consistent with the analysis in the Hirsh Associates report (Appendix K of the Draft EA and Final EA). The peak-hour trip generation is also higher than the peak-hour trip generation that would be calculated using the Institute of Transportation Engineers trip generation data.

### 8-2 **Why weren’t diverted trips accounted for?**

Some comments questioned why the analysis did not account for diverted trips.

Diversions are expected. However, it is not possible to determine on an intersection-by-intersection basis the diverted traffic. Evaluating diversions would require knowing, on a neighborhood-by-neighborhood and street-by-street basis, how many passengers are likely to use Paine Field instead of Sea-Tac International Airport or Bellingham International Airport. The FAA determined that such micro level scale location information was not available and thus, the impact analysis should focus on a conservative evaluation. For these reasons a diversion of trips (reduction in trips) was not applied to the microscopic analysis that is required for the traffic impact analysis. Therefore, a conservative analysis of the impacts of the project was used.
ISSUE 9. SOCIOECONOMIC

9-1 What is the impact upon property values?

Some comments expressed concern that the proposed actions would have a negative impact on property values in the area.

A limited number of studies have attempted to measure the impact of aircraft noise on property values. No specific studies of the impact of noise at Paine Field on real property values have been conducted. Studies conducted at other airports have concluded that airport noise has only a slight impact on property values within the 65 Day-Night Noise Level (DNL) or greater noise contour. Additionally, comparison of older studies to more recent studies indicates that the impact was greater in the 1960’s, when jet aircraft first entered the fleet, than in the 1980’s or 1990’s. This presumably is the result of stabilization of real estate markets following an initial adjustment to noisier jets, and of noise reduction in more modern Stage 3 planes.

An FAA summary report on aviation noise effects states:

“Studies have shown that aircraft noise does decrease the value of residential property located around airports. Although there are many socio-economic factors which must be considered because they may negatively affect property values themselves, all research conducted in this area found negative effects from aviation noise, with effects ranging from 0.6 to 2.3 percent decrease in property value per decibel increase of cumulative noise exposure ... The studies can be divided into two groups and some conclusions drawn. The first group of estimates ... was based on 1960 data (and included New York, Los Angeles and Dallas) and suggests a range of 1.8 to 2.3 percent decrease in value per decibel (DNL). The second group of estimates, covering the period from 1967 to 1970, suggests a mean of 0.8 percent devaluation per decibel change in DNL... The bottom line is that noise has been shown to decrease the value of property by only a small amount -- approximately 1 percent decrease per decibel (DNL). At a minimum, the depreciation of a home due to aircraft noise is equal to the cost of moving to a new residence. Because there are many other factors that affect the price and desirability of a residence, the annoyance of aircraft noise remains just one of the considerations that affect the market value of a home.”

One of the difficulties in evaluating the effect of aircraft noise on property values is the application of findings from one location to another. The Effect of Airport Noise on Housing Values, a report prepared in 1994 by Booz-Allen & Hamilton for the FAA, outlined a viable method of examining the effects of airport noise on housing values at the national level by using an approach referred to as the "neighborhood pair model." A series of studies conducted at Baltimore-Washington International, Los Angeles International, and New York LaGuardia and Kennedy International Airports determined that the neighborhood pair model can be used to establish the boundaries of the effect that airport noise has on housing values at a given airport. However, Booz-Allen recommended that their approach not be used at this time to determine property values.

In the Summary and Conclusions section of the report, it was stated "the magnitude of this impact [of noise on property values] cannot be estimated at the national level at this time, since the results varied across a wide range for the Airports studied, and only a small sample of airports was considered."

9-2 Indirect/induced traffic effects

Some comments questioned the evaluation of indirect and induced impacts, specifically relative to traffic.

The evaluation of indirect and induced impacts was conducted in accordance with FAA Orders 1050.1E Change 1 and 5050.4B. Major development projects can potentially influence induced or secondary impacts on the surrounding community. Some of these induced impacts could include relocation of people or a substantial change to traffic patterns in the area. Minor traffic changes are anticipated to the roadway systems in the vicinity of the Airport as presented in the Surface Transportation section of the EA (Page D.34) and in the Traffic Impact Analysis Report found in Appendix F. Growth induced impacts are addressed in General Response 6-6, job impacts and socioeconomic impacts are addressed in General Response 9-3.

9-3 Socioeconomic Impacts

Some comments generally questioned what socioeconomic impacts would occur as a result of the proposed actions. Other comments questioned what impacts the proposed actions would have on the community, specifically in terms of jobs.

According to FAA Order 1050.1E Change 1, a socioeconomic impact is significant if it requires extensive relocation, with insufficient replacement housing available, extensive relocation of community business that would cause severe economic hardship for affected communities, disruption of local traffic patterns that substantially reduce the Levels of Service (LOS) of roads serving the airport and its surrounding communities, or a substantial loss in community tax base. As stated in the Final EA, an increase in the number of jobs and use of local goods and services as a result of the Proposed Action can be expected. The proposed actions would specifically generate additional jobs, payroll, and expenditures in the airport vicinity. It is estimated that 6 to 10 airline jobs would be created. However, some of these employees (such as fuel service providers) may be existing Fixed Base Operator (FBO) contracted employees. It is also estimated that up to 17 new Transportation Security Administration (TSA), rental car, and maintenance jobs would be permanently created at the Airport. There was concern from some commenters that these jobs created would be “lower-paying jobs,” and this issue is addressed in General Response 9-7.

Because the Proposed Action would not require relocation of businesses or residences, there would be no significant change in either the tax base or the economic vitality of the area. No significant impacts on property values are expected and therefore, no induced impacts resulting from a negative change in the tax base are expected. There would be a slight change in traffic as described in General Responses 8-1 and 9-2, but this impact would not be significant.
9-4  E.O. 13045 Children’s Health and Safety impact analysis

Some comments stated that children’s health and safety were not analyzed in the EA.

The analysis of impacts to children’s health and safety was prepared in accordance with FAA Orders 1050.1E Change 1 and 5050.4B. Per Executive Order 13045, Protection of Children from Environmental Health Risks and Safety Risks Federal agencies:

(a) shall make it a high priority to identify and assess environmental health risks and safety risks that may disproportionately affect children; and

(b) shall ensure that its policies, programs, activities, and standards address disproportionate risks to children that result from environmental health risks or safety risks

The analysis of children’s health and safety was included in the EA and can be found on page D.32 of the Final EA. In response to comments, the locations of schools were added to the noise contour figures in the EA (General Response 7-8). There are no anticipated significant noise impacts on schools (General Response 7-7 and see Figures D1 through D6 of the Final EA) and there are no other general effects on schools regarding air quality, water quality or other resources which could affect the health of children or impact schools. Because there are no significant adverse impacts (including noise) to any population groups or neighborhoods according to FAA defined thresholds of significance, there are no significant adverse impacts or disproportionate impacts to children’s health or safety.

9-5  Environmental Justice

Some comments stated that the EA did not address environmental justice or special population issues.

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations directs federal agencies to identify and address, as appropriate, disproportionately high and adverse human health or environmental effects of its actions on minority populations and low-income populations. The effects of the proposed actions were addressed in the Draft and Final EA in the section titled Socioeconomic Environment, Environmental Justice, and Children’s Environmental Health and Safety Risks.

There are no significant impacts to any population group or neighborhoods based on the 65 Day-Night Noise Level (DNL) noise contour and the FAA’s threshold of project-related significance; consequently, there can be no disproportionate adverse effects to special population groups, minority populations or low-income populations. The “project area” in the EA either refers to the actual construction footprint of the modular terminal and/or the 65 DNL noise contour. While there are special population groups in the surrounding community, there are no special population groups or neighborhoods located within the direct impact area (construction footprint) or within the 65 DNL noise contour (the indirect impact area); therefore there would not be any significant direct or indirect impacts on special population groups or neighborhoods. No land acquisition is associated with the Proposed Action and the only off-airport effects of the Proposed Action are in the areas of surface transportation and noise. No significant impacts are
expected and no improvements are required for the roadway system as a result of the increased traffic attributable to the Proposed Action and the 65 DNL noise contour remains primarily on airport property and does not encompass any residential development.

9-6 What is the impact of the project on crime?

Some comments stated that the proposed actions will increase crime in the community.

There is no known published research that would indicate a correlation between the initiation of commercial air service or conduct of commercial aviation and local crime or prostitution. Therefore, it is not possible to evaluate such conditions relative to the proposed actions.

9-7 Project will bring in lower income people and low paying jobs

Some comments stated that the proposed actions will bring in lower income people and low paying jobs that would have a negative impact on the community.

The proposed actions are not expected to alter population patterns in the airport area, as the actions are not expected to result in residential or business displacements or result in a material change in employment patterns. The jobs that would be created as a result of the Proposed Action are expected to have a positive impact on the local community. See also General Response 9-3 on the number of created jobs resulting from the proposed actions. No negative socioeconomic impacts are expected to result from jobs, which would help stimulate the economy. Also see General Response 9-1 concerning perceived loss in property values and General Response 9-4 regarding general socioeconomic impacts.

9-8 What are the health and quality of life effects associated with the project?

Some comments stated that the proposed actions will have an adverse effect on health and quality of life.

“Health” is not a category that is specifically called out in NEPA or FAA NEPA guidance. However, each of the environmental resource categories addressed in the EA can be related back to health effect. For example, in the area of air quality, the national ambient air quality standards are established by the USEPA to protect public health and welfare. Thus, the air quality evaluation considers the effects of the proposed actions relative to these standards. Similarly, FAA’s consideration of aircraft noise exposure ensures the protection of public health and also the compatibility of land uses with various sound levels. Each section in Chapter D of the EA discusses the environmental resources. As noted, in accordance with FAA NEPA guidance, the project-related effects of the proposed actions are not expected to exceed the FAA’s thresholds of significance, and thus, no significant health-related effects are expected.
ISSUE 10, AIR QUALITY/EMISSIONS

10-1 Greenhouse gas/climate change

Some comments requested that the EA address project-related greenhouse gas emissions and climate change.

In response to these comments and in close coordination with the Puget Sound Clear Air Agency, the FAA included the following discussion in the Final EA:

In January 2012, the FAA issued FAA Order 1050.1E Change 1 Guidance Memo #3 titled "Considering Greenhouse Gases and Climate Change under the National Environmental Policy Act (NEPA): Interim Guidance". This section addresses the effects of the proposed actions at Paine Field in accordance with the FAA guidance.

Of growing concern is the impact of proposed projects on climate change. Greenhouse gases are those that trap heat in the earth's atmosphere. Both naturally occurring and anthropogenic (man-made) greenhouse gases include water vapor (H₂O), carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), and ozone (O₃).

Research has shown that there is a direct link between fuel combustion and greenhouse gas emissions. Therefore, sources that require fuel or power at an airport are the primary sources that would generate greenhouse gases. Aircraft are probably the most often cited air pollutant source, but they produce the same types of emissions as cars. Aircraft jet engines, like many other vehicle engines, produce CO₂, water vapor, nitrogen oxides, carbon monoxide, oxides of sulfur, unburned or partially combusted hydrocarbons [also known as volatile organic compounds (VOCs)], particulates, and other trace compounds.

According to most international reviews, aviation emissions comprise a small but potentially important percentage of human-made greenhouse gases and other emissions that contribute to global warming. The Intergovernmental Panel on Climate Change (IPCC) estimates that global aircraft emissions account for about 3.5% of the total quantity of greenhouse gas from human activities. In terms of relative U.S. contribution, the U.S. General Accounting Office (GAO) reports that aviation accounts “for about 3% of total U.S. greenhouse gas emissions from human sources” compared with other industrial sources, including the remainder of the transportation sector (23%).

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12 All greenhouse gas inventories measure carbon dioxide emissions, but beyond carbon dioxide different inventories include different greenhouse gases (GHGs).
13 Several classes of halogenated substances that contain fluorine, chlorine, or bromine are also greenhouse gases, but they are, for the most part, solely a product of industrial activities. For example, chlorofluorocarbons (CFCs) and hydrochlorofluorocarbons (HCFCs) are halocarbons that contain chlorine, while halocarbons that contain bromine are referred to as bromofluorocarbons (i.e., halons) or sulfur (sulfur hexafluoride: SF₆).
and industry (41%).\footnote{Ibid, p. 14; GAO cites available EPA data from 1997.} The 2012 USEPA nationwide inventory of greenhouse gas emissions, notes that aviation-related emissions represented about 2.1% of emissions. That report also found "Across all categories of aviation, CO2 emissions decreased by 20.6 percent (36.9 Tg) between 1990 and 2010." \footnote{Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2010, United States Environmental Protection Agency, Report EPA 430-R-12-001, April 15, 2012; page 3-13/}

The scientific community is developing areas of further study to enable them to more precisely estimate aviation's effects on the global atmosphere. The FAA is currently leading and participating in several efforts intended to clarify the role that commercial aviation plays in greenhouse gas emissions and climate change. The most comprehensive and multi-year program geared towards quantifying climate change effects of aviation is the Aviation Climate Change Research Initiative (ACCRI) funded by FAA and NASA. ACCRI will reduce key scientific uncertainties in quantifying aviation-related climate impacts and provide timely scientific input to inform policy-making decisions. FAA also funds Project 12 of the Partnership for Air Transportation Noise & Emissions Reduction (PARTNER) Center of Excellence research initiative to quantify the effects of aircraft exhaust and contrails on global and U.S. climate and atmospheric composition.

Aviation activity levels and airport development projects have the potential to both affect climate change and be affected by climate change. Changes to generation and/or use of natural resources such as air quality and energy supply can potentially affect climate change (e.g., by increasing the amount of greenhouse gases emitted), but projects can also be impacted by climate change (e.g., rising sea levels). At this point, there is no consistent scientific indication of when and how the climate will change.

Research has shown that there is a direct link between fuel combustion and greenhouse gas emissions. Therefore, sources that require power/fuel at an airport are the primary sources that would generate greenhouse gases. Aircraft are probably the most often cited air pollutant source, but they produce the same types of emissions as cars. Based on FAA data, operations activity at Snohomish County Airport, relative to aviation throughout the United States, represents less than 1% of U.S. aviation activity. Therefore, assuming that greenhouse gases occur in proportion to the level of activity, greenhouse gas emissions associated with existing and future aviation activity at the Airport would be expected to represent less than 0.03% of U.S.-based greenhouse gases. Therefore, emissions of greenhouse gases from this project are not expected to be significant.

As discussed above, changes to resource categories such as air quality and natural resources and energy supply can potentially affect climate change (e.g., by increasing the amount of greenhouse gases emitted), but projects can also be impacted by climate change (e.g., rising sea levels). At this point, there is no consistent scientific indication of when and how the climate will change.
The EA adequately addresses FAA guidance and requirements for Air Quality and Climate Change. There is no FAA requirement for GHG quantitative evaluation. At this time a full airport and project-related greenhouse gas inventory has not been prepared. However, parts of the information are available, and others will be generated when the County prepares its Washington State Environmental Policy Act (SEPA) documentation. The following data is available:

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<tr>
<td>Ground Service Vehicles</td>
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<td>Ground Access Vehicles</td>
<td>NA</td>
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<tr>
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<tr>
<td>Total</td>
<td>23,432</td>
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BridgeNet Consulting Services, July 2012 Using EDMS 5.1.3; Surface emissions: Synergy Consultants, July 2012. Note that EDMS is not able to quantify CO2 emissions from GSE and CO2 emissions for ground access vehicles assumes no diverted trips. GAV calculated assuming average MPG of 22.5 and 19.56 lbs of CO2 per gallon fuel. * Project-related emissions for 2013 are conservative and assume a full year of operations in addition to construction of the proposed terminal.
**10-2 Air quality conformity**

Some comments stated that the EA did not address general conformity or fully address air quality impacts.

The General Conformity Regulation requirements of the Clean Air Act (40 Code of Federal Regulations (CFR) Part 93) are very clear. Any actions of the federal government must be shown to conform with the State Implementation Plan (SIP) for the area. In undertaking a conformity analysis, the conformity regulations identify the steps of the process, which first starts with a determination of whether or not the regulation applies, through the preparation of an applicability analysis. If the total project-related emissions are less than the de-minimis threshold for the pollution, a conformity determination is not required. The Draft and Final EA contain that applicability analysis. Because the Puget Sound Region is in attainment for all pollutants, but is subject to a maintenance plan for carbon monoxide, the conformity analysis is only required for that pollutant. The de-minimis threshold for a carbon monoxide maintenance area is 100 tons of project-related emissions per year. (40 CFR Part 93.153(b)(2). The air quality modeling indicated that the proposed project would not trigger the de-minimis threshold (i.e. the project would produce less than 100 tons of project-related emissions per year).

In response to questions and comments about the emissions being low because the evaluation only focused on the proposal by two carriers, it is important to understand the basis by which NEPA documents are prepared. Council on Environmental Quality (CEQ) regulations implementing NEPA requires that NEPA documents address impacts that are "reasonably foreseeable".

Federal Aviation Administration (FAA) Order 5050.4B Paragraph 9q defines reasonably foreseeable as:

> An action on or off-airport that a proponent would likely complete and that has been developed with enough specificity to provide meaningful information to a decision maker and the interested public. Use the following table to help determine if an action is reasonably foreseeable.4

(footnote 4: Paragraph 905.c(1) and (2) provide definitions of “connected actions” and “similar actions,” respectively)

Similar to the requirements of NEPA, the General Conformity Regulations also contain a related definition. 40 CFR 93.153 defines "reasonably foreseeable emissions" as:

> ... are projected future indirect emissions that are identified at the time the conformity determination is made; the location of such emissions is known and the emissions are quantifiable, as described and documented by the Federal agency based on its own information and after reviewing any information presented to the Federal agency.

While the action of constructing a new modular terminal is reasonably foreseeable, and thus is ripe for consideration in the EA, how and when activity levels may change beyond that...
predicted by the two proposing airlines is not foreseeable. Such information is required to evaluate the environmental effect. To disclose the effects of activity at the maximum capacity of the proposed terminal, the Final EA includes Appendix P. It is important to note that some commenters indicated that the proposing carriers may increase their activity to that capacity level, or that additional carriers may choose to operate at Snohomish County Airport. The results of the impact evaluation would differ based on the fleet mix assumptions and activity assumptions of the carriers operating. Appendix P describes one such scenario. Without a clear understanding of the carriers that would be operating in a specific timeframe, the impacts on air quality could not be identified, as emissions vary based on aircraft type and the associated engines. For these reasons, the FAA determined that such conditions are not reasonably foreseeable and therefore will not be modeled or assessed in this EA.

10-3 Outdated model: EDMS

Some comments indicated concern with the modeling process and use of an outdated model in the EA to assess air quality conditions.

At the time the analysis was initiated, it was conducted using the most recent version of the model required by the FAA for use in NEPA documents – the FAA’s Emissions Dispersion Modeling System (EDMS). This is the same model used by the Puget Sound Clean Air Agency (PSCAA) in preparing inventories for airports that are represented in the maintenance plan/State Implementation Plan (SIP). FAA Order 1050.1E Change 1 Appendix A.2.2 notes: "In conducting air quality analysis for purposes of complying with NEPA or conformity, the FAA requires use of the Emissions and Dispersion Modeling System (EDMS) model for aviation sources (aircraft, auxiliary power units, and ground support equipment)."

The emissions inventory presented in the Draft EA was prepared using FAA's EDMS version 5.1. Preparation of the Draft EA was initiated in early 2009. At that time, Version 5.1 was the most recent version of EDMS offered by FAA. Subsequently, the FAA issued Version 5.1.3. As noted on the FAA's web site, Version 5.1.3 corrected several output reports associated with the FAA's Voluntary Airport Low Emission (VALE) grant program, which is not related to analysis used in this EA. However, because a new forecast was prepared the most recent version of the EDMS was used.

FAA Order 1050.1E Appendix A.2 states:

2.4c. Modeling Requirements. The EDMS is FAA’s required methodology for performing air quality analysis modeling for aviation sources. EDMS also offers the capability to model other airport emission sources that are not aviation-specific, such as power plants, fuel storage tanks, and ground access vehicles. (underline added)

2.4d. Except for air toxics or where advance written approval has been granted to use an equivalent methodology and computer model by the FAA Office of Environment and Energy, the air quality analyses for aviation emission sources from airport and FAA proposed projects conducted to satisfy NEPA, general conformity, and 49 USC 47106(c) requirements under the Clean Air Act Amendments of 1990 (as amended) must be
Although the consultant had already completed the emissions inventory modeling, due to public comments, the EDMS model was re-run with the most recent version of the model, EDMS 5.1.3. The quality modeling results presented in the Final EA reflect the analysis using the most recent version of the model.

EDMS was accepted as an U.S. Environmental Protection Agency (EPA) “Preferred Guideline” model in 1993 under Title 40 CFR part 51 Appendix W. In 2005 the FAA and EPA recognized that EDMS employs a suite of standalone compliance models already listed in the “Preferred Guideline” such as MOBILE6.2, NONROAD, AERMOD, AERMET, and AERMAP. Consequently, EDMS was relocated to section 6.2.4 “Modeling Guidance for Other Governmental Programs” in 40CFR51 Appendix W to coincide with FAA’s policy that EDMS is the required model to assess airport emissions.

**10-4 Would there be an increase in fuel dump/fuel smell/residue?**

Some comments stated that there would be added fuel dump, smell and residue as a result of the proposed project. Rarely does fuel dumping actually occur. If an aircraft needs to jettison fuel, it is in an emergency situation. Most aircraft have the capability of taking off with more weight than they can safely land with. This means that in an emergency situation after takeoff, the aircraft would need to reduce its weight to make a safe return landing. Depending on the nature of the emergency, the pilot has two options, either jettison fuel or fly in a holding pattern until enough fuel has been burned to reduce the weight below the maximum certified gross landing weight. According to federal directive 7110.65T paragraph 9-4-1 through 9-4-4, aircraft may dump fuel as necessary in a declared emergency state. There are no restrictions as to where the aircraft may or may not dump fuel. However, each airspace area has a recommended, pre-designated fuel dumping area for instances where fuel needs to be dumped if time permits. 7110.65T states controllers are to "assign an altitude at least 2,000 feet above the highest obstacle within 5 miles of the route or pattern being flown." For the Central Puget Sound Region, this is typically over Puget Sound at an altitude of above 5,000 feet to allow time for the fuel to evaporate before reaching the ground, and to prevent non-evaporated fuel from reaching populated areas. Because any fuel release is irregular and restricted to emergency conditions, impacts to human or natural habitats would be minimal and rare.

It is important to note that not all aircraft even have the capability to jettison fuel. Some are designed and stressed to be able to takeoff and land with the same weight, so fuel jettisoning is not necessary. Boeing information indicates that fuel dumping is not available on the MD80 aircraft as this aircraft is designed with a high landing weight.

Citizens also noted that soot or particles are deposited on their property due to aircraft flights. The FAA has conducted soot analysis at many airports across the country with the uniform result that samples collected on and near the airport bore little chemical resemblance to either unburned
jet fuel or soot from jet exhaust. Instead, the collected material was found to be chemically similar to general urban pollution, particles from burning heavy fuels, and motor vehicle exhaust.

Odors from aircraft typically have more of an oily smell versus an odor like one would experience when fueling an auto. The pollutants that comprise this type of smell are accounted for in the air pollutant assessment presented in the Environmental Assessment (EA) for precursor pollutants -- pollutant levels where the standards exist to protect human health and welfare.

There are many different types of odorous hydrocarbon compounds in jet exhaust which may be responsible for periodic “odor episodes”. Typically, the most reactive or “volatile” hydrocarbons have the most potential to cause odor (i.e., cause a detectable odor at a lower concentration). The principal odor-causing hydrocarbon species in jet exhaust are the aromatic (fuel-related) and oxygenated (partially burned) hydrocarbons. Hydrocarbon emission rates are greatest during the low-power idle and taxi modes of the Landing-Take-Off (LTO) cycle, when the engines are not operating as efficiently. During takeoff and climbout, for example, hydrocarbon emissions are greatly reduced since the engines operate with greater efficiency.

The most recent study concerning odors from jet engine exhaust was conducted at Boston’s Logan Airport (“Identification of Odorous Compounds From Jet Engine Exhaust at Boston’s Logan Airport”, December, 1992). Based on air monitoring at Boston Logan, three compounds - acetaldehyde, formaldehyde, and naphthalene - were present on a consistent basis above their respective odor recognition thresholds. Each of these compounds could be generated by the incomplete combustion of jet fuel. The odor impact depends on wind speed and direction, turbulence, and distance between the source and nearby residents. The odor recognition characteristics of these compounds is generally characterized as follows: Acetaldehyde is described as sweet, “apple ripened” and pungent; Formaldehyde is described as odor like hay, straw-like, and pungent; Naphthalene is described as having odor like tar, creosote, and mothballs.

As noted by the Boston study, the results were based on the minimum detectable limits because overall concentrations for these compounds were generally small. Additionally, no specific source or activity was identified as the primary source of these compounds. Moreover, the Boston study notes that motor vehicle exhaust also contains many of these same compounds. No conclusion was drawn as to the source, concentration, or potential impact to human health.

The air quality modeling within the EA covers many of the pollutants that relate either directly or indirectly to fuel “smells,” and covers all the pollutants regulated federally that relate to human health. Since the project does not trigger any federal thresholds of significance for air quality for these pollutants, there are no significant impacts relating to the air quality.

**10-5 Question regarding the analysis of PM$_{10}$ and PM$_{2.5}$**

Some comments stated that particulate matter needed to be rigorously analyzed in the EA. The EA considered emissions of particulate matter within the evaluation capabilities of the models that are required for use (Emissions Dispersion Modeling System – EDMS). The inventory presented in the EA considered the two particulate matters for which there are national ambient...
air quality standards ($PM_{10}$ and $PM_{2.5}$). The Environmental Protection Agency (EPA) has designated the Snohomish County as attainment for both $PM_{10}$ and $PM_{2.5}$.

The EPA, Washington State Department of Ecology, and the Puget Sound Clean Air Agency (PSCAA) conduct measurements throughout the State for purposes of monitoring compliance with the National Ambient Air Quality Standards (NAAQS). The closest air quality monitoring station to Paine Field is located in Marysville (7th Ave) about 10 miles north of the Airport, and Lynnwood (on 212th) about 9 miles south of the Airport. Two other sites also measure concentrations in Snohomish County – Darrington (Fir Street) and Woodinville. Both of these monitoring sites measure $PM_{2.5}$ concentrations. The 2007 Air Quality Data Summary Report\textsuperscript{17} by the PSCAA states:

\begin{quote}
The agency, along with partners, continued to monitor the region’s air quality in 2007. Over the last decade, criteria air pollutant concentrations for some pollutants have fallen well below levels of concern in our jurisdiction. For example, levels of carbon monoxide, a pollutant that the region was formerly in nonattainment for, have fallen to levels so low that the Washington State Department of Ecology discontinued many of the monitors in 2006 in order to focus its monitoring resources on higher priority pollutants.

The same is true for the criteria pollutants sulfur dioxide, lead, and nitrogen dioxide. While the area enjoys improving air quality, we are facing new challenges. After more than a decade of attaining all federal standards, the agency faces nonattainment, potentially in multiple areas, for $PM_{2.5}$ and ozone. This is due to recent revisions to the national fine particulate and ozone standards to better protect public health…. … sites in Snohomish and King Counties are close to the daily fine particle federal standard. … While efforts to reduce fine particulate emissions will be tailored to different areas, they generally target wood smoke emissions reductions, as the highest $PM_{2.5}$ levels occur in heating months when wood stoves and fireplaces contribute the majority of $PM_{2.5}$. (Page 3)
\end{quote}

Relative to particulate emissions, the PSCAA has noted that “Concentrations at the Marysville and Darrington monitors, both in Snohomish County, are on the brink of violating the new daily standard” (35 $\mu g/m^3$ which was adopted in 2006). Daily $PM_{2.5}$ measurements in Snohomish County have shown that measurements at Lynnwood have not exceeded the federal standard since measurements began in 2002, but measurements at Maryville equaled or exceeded the standards between 2001 and 2007, except in 2006. Relative to the annual $PM_{2.5}$ standard, measurements at the two Snohomish County sites have been below the standard between 2001 and 2007. PSCAA notes that the primary contributor to PM emissions is from residential wood stoves and fireplaces.

The air quality modeling within the EA covers the analysis for both PM$_{10}$ and PM$_{2.5}$. Since the project does not trigger any federal thresholds of significance for air quality for these pollutants, there are no significant impacts relating to the air quality under NEPA.

**10-6 Toxics/HAPS**

Some comments addressed hazardous air pollutants (HAPs) and their potential increase due to the proposed project. FAA guidance states:

e. **Airport-related hazardous air pollutants (HAPs).** The Environmental Protection Agency (EPA) has identified roughly 25 individual HAPs that are associated with emissions from aircraft and airport ground service equipment (GSE). However, EPA does not specify aircraft and airports in the definitions and categories of HAP sources in Section 112 of the Clean Air Act (CAA) (“Hazardous Air Pollutants”). Nor has EPA established standards for HAPs. When compared with existing urban backgrounds, air quality monitoring studies near several large airports have not shown that increased HAP levels occur near those facilities. In fact, only a small percentage of an urban area’s overall air pollution is attributable to airport emissions. Nevertheless, due to the emission levels of unburned hydrocarbons and particulates near airports, EPA’s National Air Toxic Program notes that airports are complex facilities that emit HAPs.

Therefore, to comply with NEPA’s disclosure requirements, FAA reports HAPs emissions in its environmental documents for information purposes only. FAA does not use that information to assess human health risks. The responsible FAA official should consider whether 40 CFR Section 1502.22, which addresses incomplete and unavailable information, applies to HAPS emissions for major airport development projects.

(1) For major projects normally requiring an EIS (e.g., new airport, new runway, major runway extension), the responsible FAA official should decide, in consultation with Federal, State, and local air quality agencies whether it is appropriate to conduct a HAPs emission inventory. This is, especially so when the action would occur in areas that are classified as nonattainment or maintenance for O$_3$ or particulate matter (PM).

(2) As needed, consult APP-400 to determine the HAPs FAA will analyze and the methodology FAA will use to conduct that analysis.

In 2003, the Puget Sound Clean Air Agency (PSCAA) completed a toxics evaluation for the Puget Sound region. Relative to airports, the following was concluded:

Emissions from the two airports (Sea-Tac and Boeing Field) could impact the Sea-Tac and Georgetown monitors. However, the results do not reflect significantly higher pollutant levels at these locations when compared with other sites. In fact, SeaTac potential risks appear slightly lower than Beacon Hill. It is possible that the airport emissions do not significantly impact the monitors because the emissions are diluted over the area. It is also possible that the pollutants of concern at the airport are not those included in the monitoring study.
Because of this information, the FAA did not feel that the evaluation of HAPs would be warranted.
ISSUE 11, OTHER RESOURCE CATEGORIES

11-1  What is the impact on wildlife?

Some comments stated that there would be impacts on wildlife as a result of the proposed actions.

Potential action-related impacts to wildlife as a result of the Proposed Action were assessed in Chapter D of the EA in accordance with FAA Order 1050.1E Change 1. There are no endangered, threatened, or special status species or habitat in the study area. The area of direct effect is located entirely on airport property and consists of pre-disturbed ground that does not contain any native habitats. No natural habitats would be impacted by the construction activities. Concerns were raised over the project study area of potential effect with respect to wildlife, suggesting that wildlife outside of airport property and construction area could be impacted, especially with respect to areas within the flight pattern from aircraft activities or noise.

Public observations of special status species were located outside the project area. Because the area of construction consists of pre-disturbed ground on airport property, and because flight paths would not change, it was determined that no substantial impacts to wildlife would occur to species outside the construction area. Additionally, no significant impacts are expected with respect to air quality, noise, wetlands or water quality that would affect surrounding habitats on or off airport property that would warrant examining a larger biotic project area or require a large-scale survey. No habitats would be affected, and according to FAA Orders, no additional coordination with the U.S. Fish and Wildlife Service is required.

Although there are documented special status species, such as the Bald Eagle and Spotted Owl within Snohomish County, the Proposed Action is not expected to alter any important natural habitat of any kind. According to FAA Order 1050.1E Change 1, for federally listed species, a significant impact would occur if, “a proposed action would likely jeopardize a species’ continued existence or destroy or adversely affect a species’ critical habitat.” Since the Proposed Action would not destroy any natural habitat, and there are no significant indirect impacts from changes in noise, air quality, wetlands, or water quality, there are no expected significant impacts to Federally-listed species. For non-listed species, FAA Order 1050.1E, Change 1, states that the FAA should “consider scientific literature on and information from agencies having expertise on addressing the affected species. Consider information on: project effects on population dynamics; sustainability; reproduction rates; natural and artificial mortality (aircraft strikes); and the minimum population size needed to maintain the affected population.” As stated above, while there would be an increase in the number of flights, the additional aircraft operations would use the same flight paths that are currently used today. Therefore, there are no significant impacts to fish, wildlife or plants as a result of the Proposed Action.

Additionally, the Airport discourages the siting of land uses (such as ponds) that are wildlife (specifically bird) attractants through a provision within the Snohomish County 2025 Comprehensive Plan’s designated Airport Influence Area. This applies directly to the area on the Airport and immediately surrounding the Airport due to the safety risks of bird strikes. This provision does not pertain to the natural features outside this direct area, such as the ravines,
bluffs, and hillsides within a larger area around the Airport. It is merely a pre-existing means to prevent aircraft/wildlife safety issues. The Airport regulates wildlife through its Wildlife Hazard Management Plan, which pertains to wildlife on airport property. No changes in this policy would occur as the result of the Proposed Action and the continued management of wildlife on airport property would not change. The Airport has no authority over the preservation of open spaces within the County, and can only manage wildlife and wildlife attractants within airport property. Additionally, the Proposed Action would not result in the removal of any trees.

**11-2 Migratory Bird Treaty Act and ESA threshold of effect were not considered**

Some comments stated that the EA did not address the Migratory Bird Treaty Act or the Endangered Species Act.

The Migratory Bird Treaty Act (MBTA) was not specifically discussed in the Draft EA as the proposed actions will not affect migratory birds. As outlined in FAA Order 1050.1E, Change 1, MBTA prohibits private parties (and depending on the judicial circuit, federal agencies), from “intentionally taking a migratory bird, their eggs, or nest. Take is defined as ‘pursue, hunt, shoot, wound, kill, trap, capture, or collect’ (50 CFR 10.21). The MBTA prohibits taking, selling or other activities that would harm migratory birds, their eggs or nests unless the Secretary of the Interior authorizes such activities under a special permit.”

Because there are no migratory birds known to be located within the construction area, no migratory birds would be intentionally taken or impacted as a result of the Proposed Action. Therefore, there would be no significant impacts to migratory birds under the MBTA and coordination with the U.S. Fish and Wildlife Service is not required.

The endangered, threatened, and special status species impacts are described in Chapter D, *Environmental Consequences*. FAA Orders 1050.1E, Change 1 and 5050.4B require FAA to make an affect determination for Federally-listed species. If the FAA determines that the Proposed Action may affect a Federally-listed species or critical habitat, then further consultation with the U.S. Fish and Wildlife Service is required. If the FAA determines that the Proposed Action would not affect a Federally-listed species or critical habitat, consultation with the U.S. Fish and Wildlife Service is not required.

Based on regular on-airport surveys, there are no endangered, threatened, or special status species that are known to be permanent residents in the project area, the area where the proposed terminal would be completed. There is also no known habitat of importance to any special status species within the project area. Of all the species listed during the weekly surveys, only two special status species were observed (the Bald Eagle and Peregrine Falcon). The Peregrine Falcon was observed only once since 2001 and the Bald Eagle observations are infrequent.

According to FAA Order 1050.1E, Change 1, for federally listed species, a significant impact would occur if, “a proposed action would likely jeopardize a species’ continued existence or destroy or adversely affect a species’ critical habitat.” The area of direct effect is located entirely on airport property and consists of pre-disturbed ground that does not contain any native habitats. No natural habitats would be impacted by the construction activities. Concerns were raised over
the project area of potential effect with relation to special status species, suggesting that wildlife outside of the airport property and construction area could be impacted, especially with respect to areas within the flight pattern from aircraft activities, noise, air pollution or water quality impacts that could occur outside of the area of direct impact. Public observations of special status species such as the Spotted Owl were located entirely outside the project area. Because the area of construction is within pre-disturbed ground on airport property and the additional aircraft operations would use the same flight paths that are currently used today, it was determined that no significant impacts to wildlife would occur to species outside the construction area.

11-3 What is the potential for additional bird strikes?

Some comments expressed concern over the safety of commercial service operations in an area with birds and the potential for additional bird strikes.

The Airport discourages the siting of land uses (such as ponds) that are wildlife (specifically bird) attractants through a provision within the Snohomish County 2025 Comprehensive Plan’s designated Airport Influence Area. This applies directly to the area on the Airport and immediately surrounding the Airport due to the safety risks of bird strikes. This provision does not pertain to the natural features outside this direct area, such as the ravines, bluffs, and hillsides within a larger area around the Airport. It is merely a pre-existing means to prevent aircraft/wildlife safety issues.

The Airport attempts to control wildlife through its Wildlife Hazard Management Plan, which pertains to wildlife on-airport property that could be a risk to aircraft safety. Snohomish County contracts with the United States Department of Agriculture to manage wildlife on airport property. While there would be an increase in the number of flights as a result of the Proposed Action, the additional aircraft would use the same flight paths that are currently used today. The Proposed Action is not expected to increase bird strikes at the Airport.

11-4 Effect on culture of local community

Concerns were raised on the change in local community culture as the result of the Proposed Action and that the EA “disregarded the culture of the local community.”

Following FAA Order 1050.1E, Change 1 guidance, impacts to local communities are generally analyzed based on the significance of noise impacts or required relocations that could fracture a community or otherwise disrupt the community physically or economically. Aircraft noise already exists from current operations, although no noise sensitive uses are located in significant aircraft noise exposed areas. The proposed actions are not expected to generate significant aircraft noise exposure (See General Response 7-6). No homes, businesses or other community resources would need to be relocated (See General Response 9-4). Additionally, no historic, cultural, architectural or archaeological sites are located within the project’s area of potential effect (APE). No significant health effects are anticipated (See General Response 9-9). No significant impacts on children’s health of safety or schools are anticipated (General Response...
9-5). Therefore, no significant impact on the local community or cultural values is expected as a result of the Proposed Action.

11-5 What are the health impacts compared to safety?

Some comments expressed concern with health and safety of the community relating to the proposed addition of commercial service at Paine Field.

The continuing mission of the FAA is to provide the safest, most efficient aerospace system in world. Air carriers and airports must meet various safety certifications and operating requirements required by the FAA. Both Horizon Air and Allegiant Air currently meet FAA safety certification requirements and air worthiness standards for their respective fleets.

As stated in General Response 9-9, because no significant adverse impacts were identified, there are no predicted significant impacts to human safety, or health as a result of the Proposed Action. Safety is further described in General Response 11-6.

11-6 Safety: No mention of accident history or airline safety

Some comments were received on the safety of initiating commercial service at Paine Field, specifically about the lack of discussion in the EA on accident history of the airlines or overall airline safety.

The continuing mission of the FAA is to provide the safest, most efficient aerospace system in world. Air carriers and airports must meet various safety certifications and operating requirements required by the FAA. Both Horizon Air and Allegiant Air are in good standing and meet current safety certification requirements and air worthiness standards for their respective fleets. Paine Field meets all applicable FAA standards.

11-7 Security: terrorist attack

Some comments questioned the security of adding commercial service to Paine Field, citing the fact that commercial service aircraft have been used for terrorist activity.

The Transportation Security Administration (TSA) protects the nation’s transportation systems to ensure freedom of movement for people and commerce. Security screening (including both passenger and baggage screening) associated with the proposed commercial service would be conducted by TSA using all required technology and equipment. For more information on general safety issues, please see General Response 11-6.

11-8 Cumulative impacts

Some comments suggested that the overall cumulative impacts of the proposed Federal actions were not adequately assessed in the Draft EA, while others suggested that the future timeframe for the assessment of impacts (2016) was not appropriate and that an additional outlier year should be considered in the cumulative impacts analysis.
Council on Environmental Quality (CEQ) regulations state that cumulative impacts represent the “…impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over time.” The cumulative impacts assessment, which was prepared in accordance with CEQ regulations and FAA Order 1050.1E Change 1 and Order 5050.4B, is described in the Final EA in Chapter D, Environmental Consequences starting on page D.40. The cumulative impacts section in the Final EA describes past, present, and reasonably foreseeable projects on and adjacent to the Airport that have the potential for cumulative impacts when considered with the proposed actions. The analysis in the Final EA has been refined to address the comments received, and states that based on Federal significance thresholds, there would be no significant cumulative impacts.

In regard to the future timeframe for the assessment of impacts (2016), as stated above, CEQ regulations state that future actions being considered for cumulative impact analysis must be “reasonably foreseeable.” As mentioned in General Response 3-5, the aviation activity forecasts and analysis years from the Draft EA were updated prior to the publication of the Final EA. In the Final EA, 2008 remains the base year or existing year while 2013 was considered the initial year of commercial airline service and 2018 was considered the future year for applicable environmental consequence analysis.

Passenger service growth rates beyond 2018 (if any) cannot be accurately predicted at this time and are therefore not reasonably foreseeable. Accordingly, projects beyond 2018 are not appropriate for consideration in the cumulative impacts analysis. Also see General Response 3-5 for additional discussion on the selection of 2018 as the future year of analysis for the proposed actions.

### 11-9 How does this project compare to the commercial operations at Bellingham Airport?

Some comments suggested that the initiation of commercial service at Bellingham Airport was a good parallel example of what they envision occurring at Paine Field.

In response to comments about the potential parallel between commercial service at Bellingham Airport and Paine Field, consideration was given to the characteristics of the two airports. Because of the proximity of Bellingham Airport to the City of Bellingham and Vancouver British Columbia as well as the distance from Sea-Tac Airport, Bellingham Airport serves a much broader and larger market than would be served by Paine Field. The lower cost and relative convenience for British Columbia residents clearing customs at the border instead of at Vancouver International Airport is also a factor in the popularity of flying to U.S. destinations from Bellingham Airport.

If commercial service is initiated at Paine Field, the airlines will be serving a completely different market. Given the existing service at both Sea-Tac and Bellingham airports, the service
at Paine Field would likely draw traffic from primarily Snohomish County and those closest to the airport. Growth in traffic beyond that predicted by the carriers proposing the service is not reasonably foreseeable. See General Response 3-5.

11-10 Water quality impacts

Some comments related to the potential for water quality impacts as a result of the Proposed Action.

Water quality considerations related to airport development and operation often include increased surface runoff, erosion, and pollution from fuel, oil, solvents and deicing fluids and potential impacts from decreased water quality on fish, wildlife, plants, and humans. Potential pollution could come from petroleum products spilled on the surface and carried through drainage channels off of the Airport. State and Federal laws and regulations have been established that include standards for above ground and underground storage tanks, leak detection and overflow protection.

Paine Field currently operates under a Master Drainage Plan which includes stormwater detention and water quality requirements. According to the Master Drainage Plan, all runoff from the Airport is detained for stream protection standards as set forth in the 1992 Department of Ecology (DOE) Manual and the Snohomish County Addendum to that manual. The Airport also operates under Permit #SO3000428C issued to Snohomish County under the State of Washington’s Industrial Stormwater General Permit.

Only a small amount of additional impervious area (approximately 1,000 square feet) is anticipated as a result of the Proposed Action, as described in the water quality section starting on page D.37 of the Final EA. Commercial aircraft maintenance and washing activities are not expected as a result of the Proposed Action. All commercial aircraft requiring deicing would use the approved deicing pad located at Taxiway “A1”. This deicing pad drains to the Boeing Company sanitary sewer system and outfalls to the City of Everett Treatment Plant, not to groundwater or other bodies of water. The de-icing run-off would be treated at the treatment plant. The closest known aquifer is located approximately 220-feet below the Airport and infiltration or other impacts to this aquifer are considered unlikely. Therefore, there are no expected water quality impacts resulting from the Proposed Action.

Concerns were raised over the dumping of aircraft fuel before landing and its potential to impact water quality. Dumping of fuel is a rare practice that generally only occurs during emergency situations. Aircraft at lower altitudes often show a “trail,” that some people assume is a fuel dump. However, these vapor trails (contrails) are created due to moisture in the air and are not evidence of fuel dumping. Therefore, there are no expected water quality impacts related to the rare practice of fuel dumping.

11-11 Light pollution

Some comments stated that the project could increase light pollution.
According to the FAA Order 1050.1E, Change 1, *Environmental Impacts: Policies and Procedures*, due to relatively low levels of light intensity from airport lighting compared to background levels associated with airport development actions, light emissions impacts are unlikely to have an adverse impact on human activity or the use or characteristics of the protected properties. The metric for measuring impacts is generally a comparison between existing background lighting/visual impacts compared with the change proposed from the project. The Proposed Action includes only minor lighting improvements associated with the modular terminal expansion as well as minor lighting improvements for the commercial aircraft parking apron. No additional runway lighting would be required. Generally, airfield lighting is the most visual aspect of an airport. Because the additional terminal lighting meets with the general background lighting environment within the developed area, and because the existing Boeing aircraft parking ramp includes lighting, the minor lighting improvements associated with the terminal are not expected to result in a significant impact.

**11-12 Wetlands**

Some comments questioned impacts on wetlands.

As stated in the EA on page D.38, according to the Airport’s Master Drainage Plan, there are two large wetland areas, one wetland mitigation bank and a number of small wetlands located on airport property. Wetlands on Snohomish County Airport/Paine Field property have been impacted by fill, clearing and/or surrounding land use over the past several years. However, no wetlands were identified that could be potentially impacted by the proposed project.

Additionally, as stated in **General Response 11-10**, no significant water quality impacts are expected. Because increased stormwater and deicing practices would not exceed the capacity of the stormwater detention systems and permits, no water quality impacts are expected and therefore, no indirect wetland impacts are expected.