ATTACHMENT 4g:
SCOPING COMMENTS RECEIVED

Actual Comments with Assigned Topic Code

DM

From: Bonnie Wilkins
To: SAMP Public Comments
Cc: Michael Matthias; Susan Cezar; Dan Brewer
Subject: City of Des Moines Comments on Scoping for the Near Term Projects for Sea-Tac International Airport
Date: Friday, September 28, 2018 1:01:08 PM
Attachments: Comments on Scoping for the Near Term Project for Sea-Tac Airport 9.27.2018.pdf

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On behalf of Mayo Matt Pina and the Des Moines City Council, please find attached the City of Des Moines Comments on Scoping for the Near Term Project for Sea-Tac International Airport.

Please let me know if you need anything additional.

Thank you,
Bonnie

Bonnie Wilkins, CMC | City Clerk-Communications Director
City of Des Moines | 21630 11th Avenue S, Suite A | Des Moines WA 98198
206.870.6519 | 206.870.6540 (fax)

Des Moines WA
The Waterland City

DM

City of Des Moines

ADMINISTRATION
21630 11TH AVENUE SOUTH, SUITE A
DES MOINES, WASHINGTON 98198-6398
(206) 878-4595 T.D.D.: (206) 824-6024 FAX: (206) 870-6540

September 27, 2018

Mr. Steve Rybolt
Port of Seattle
Aviation Environment and Sustainability
P.O. Box 68727
Seattle, WA 98168

Re: City of Des Moines, WA Comments on Scoping for the Near Term Projects for Sea-Tac International Airport

Dear Mr. Rybolt,

On behalf of the Des Moines City Council I am forwarding the following comments on the scoping process for the proposed environmental review. These comments are derived from the City of Des Moines Aviation Advisory Committee, the City Council, our Community, City staff and from the City's SEPA official. Our first and primary concern is that the process being utilized by the Airport in regards to the Sustainable Airport Master Plan (SAMP) does not appropriately consider the context of development that has occurred and is occurring at the Airport. This specifically relates to growth and the operational utilization of the Third Runway and generally to the overall growth trajectory the Airport has experienced in the past 7 years. Secondly, the process appears to contradict State Environmental Policy Act requirements. Third, that actions to provide appropriate environmental review of the SAMP have taken place outside the bounds of the State Environmental Policy Act (SEPA). Finally, we express concerns about specific impacts on our City from aircraft operations that need to be included in the scoping process.

DM-1

The City believes that the appropriate timeframe to establish the baseline for environmental review is the time frame from 2012 – 2018. A summary of Airport growth through this time frame (see below) reveals significant and consistent year over year growth.

	2012	2013	2014	2015	2016	2017
Passengers	33.2 million	34.8 million	37.5 million	42.3 million	45.7 million	46.9 million
Aircraft Operations	309,597	317,186	340,478	381,408	412,170	416,124
Air Cargo (metric tons)	283,600	292,700	327,239	332,636	366,431	425,856
Source - Sea-Tac Airport Passenger, Cargo and Operations Summary [2012 - 2017]						

DM-1

The extensive growth above should be a precursor and require environmental review prior to any additional capacity building activities. Correspondence between the City and Airport management underscores our ongoing concern with facilities built outside the environmental review process of the SAMP. [1 Testimony of Mayor Pina at Port of Seattle Commission April 25, 2017] [2 Letter from Mr. Lance Lyttle, July 26, 2017] [3 Letter from Mayor Pina, July 27, 2017].

DM-2

The approach of the Airport to identify near-term capital improvements – an incremental approach to developing the SAMP –provides faulty context, ignoring the fact that capital investments going forward will, in fact, define future development patterns. Therefore, the environmental review proposed is inadequate in the context of the SAMP as a whole. Let it be clear that the Airport is not currently reviewing the SAMP, only certain near-term projects. This approach is inconsistent with current Washington State law and Washington Administrative Code requirements – a point that will be extensively made in the comments prepared by our SEPA officials (Burien, SeaTac, Normandy Park, Des Moines and consultants).

The most recent Part 150 was completed in 2013, preceding this growth pattern. The SAMP planning was begun in 2012. Our concern is that environmental review of projected growth does not consider impacts of growth to date.

DM-3

The operational utilization of the Third Runway (16R), a highly controversial chapter in the Airport's history, has seen a trail of agreements that expand the use of the Third Runway. Agreements that originally governed use of the runway were modified over time to increase capacity on the Third Runway. The concern is that these modifications, in providing expansion of operational capacity, were done outside any environmental review. Developing a plan for growth that continues to utilize the Third Runway in an expanded operational role needs to be part of the Scope to understand the increased environmental impacts. [4 reference to FAA Letter of Agreement December 6, 2010 and FAA Letter of Agreement July 26, 2016]. These issues need to be addressed in the scoping process.

DM-4

Additionally, seeking review of aircraft operations and FAA procedures, the City requested the following information from the FAA on August 17, 2018 via the Airport StART committee in order to evaluate these procedures in regard to these comments on the scoping process:

Statement: The City of Des Moines would like to better understand the Seattle ATC operation.

1. Would you please provide a copy of the Tower Standard Operating Procedures (SOP) and TRACON SOP?
2. Would you please provide a copy of any Letters of Agreement (LOA) between the Tower and the TRACON and any LOA between Seattle Tower and Boeing Field Tower?
3. Are you aware of any new Instrument Flight Procedures that are proposed or being developed for the Seattle Airport?
    a. Follow on questions – What is the status of the .41A Process (Dot forty-one Alpha Process) that was underway last year but suspended due to budget concerns?
    b. When do you anticipate the .41A process resuming?
    c. We have hired Performance Based Navigation experts. We would like for them to represent us on the .41A Full Working Group, when the process resumes, with Stakeholder Status.

DM

DM-4

To date, none of these documents have been provided to the City (this is information we believe is critical to providing timely and informed comments on scoping for the operational impacts associated with the Airport's proposed growth).

Significant concerns to be fully included in the environmental scoping:

Noise and Health impacts: Scoping needs to review noise and health impacts from Airport/aircraft operations. It also must include the intrusive assessment of nighttime flights and the growth in overflights, operations and frequency of flights on City residents and businesses. Furthermore, the baseline environmental assessment of these impacts must be for the period 2012-2018.

Fuel dumping: the City has concerns that fuel dumping has occurred in the airspace over our City, or in areas where wind and meteorological dynamics could result in fuel dumping over our City [5 see FAA checklist protocol].

Fuel emissions: What are impacts of aircraft fuel emissions on the communities surrounding the Airport with proposed growth and within the current baseline (as discussed above) from 2012-2018? The scoping needs to include the health and epidemiological impacts of ultra-fine particles resulting from aircraft emissions.

Transportation impacts: Scoping needs to include an analysis of increased traffic impacts and potential multi-modal solutions that will increase congestion and pollution from vehicular traffic including truck transport.

DM-5

Siting 2nd Regional airport: Scoping needs to include a review of options to growth at Sea-Tac Airport including options for siting a second regional airport. [6 See comment regarding potential of Moses Lake as an alternative airport below].

NextGen: Scoping needs to address the environmental (noise and health) impacts of NextGen implementation?

Glide path variation: Scoping needs to include review of glide path variation across all runways, especially as variation relates to runway 34R and the current slope of 2.75%.

Concurrent studies: Scoping needs to utilize three concurrent studies occurring regarding impacts from the Airport:

1. The Ultra-Fine Particle study being conducted by the University of Washington,
2. The Puget Sound Regional Council study on regional aviation,
3. The Budget Proviso baseline study currently underway being conducted by the Washington State Department of Commerce with input from the cities proximate to the Airport.

The City Council and I appreciate your consideration and inclusion of these items into the scoping process. We are extremely concerned that the lack of inclusion of any of these items will not present a comprehensive picture as to the environmental impacts of the Airport, in the context of previous growth, current level of operations, and future growth.

DoE

From: Nishikawa, Tracy (ECY)
To: Rybolt, Steven
Cc: SAMP Public Comments; Sandlin, Gail (ECY); Wang, Ching-Pi (ECY)
Subject: Ecology"s Comments-Seattle-Tacoma International Sustainable Airport Master Plan Scoping Project
Date: Thursday, September 27, 2018 4:14:39 PM
Attachments: 201804083_ECYCommentLetter.pdf

Good Afternoon,

Please find attached a comment letter from the Department of Ecology regarding the Seattle-Tacoma International Sustainable Airport Master Plan Scoping Project.

Best Regards,
Tracy Nishikawa
Regional Secretary / Assistant to Regional Director Tom Buroker
Department of Ecology / Northwest Regional Office
P 425-649-7012/ tracy.nishikawa@ecy.wa.gov

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
Northwest Regional Office • 3190 160th Avenue SE • Bellevue, Washington 98008-5452 • (425) 649-7000
711 for Washington Relay Service • Persons with a speech disability can call (877) 833-6341

September 27, 2018

Steve Rybolt
Port of Seattle
Aviation Environment and Sustainability
PO Box 68727
Seattle, WA 98168

Re: Seattle-Tacoma International Sustainable Airport Master Plan
Project #POS SEPA No. 18-01, Ecology SEPA #201804083

Dear Steve Rybolt:

Thank you for the opportunity to provide comments on **the Seattle-Tacoma International Sustainable Airport Master Plan Scoping Information Packet**. Based on review of the Scoping Information Packet associated with this Project, the Department of Ecology (Ecology) has the following comments:

AIR QUALITY PROGRAM, CLIMATE POLICY SECTION
Gail Sandlin, PhD (360) 407-6860 gail.sandlin@ecy.wa.gov

The Executive Summary (ES) of the Sustainable Airport Master Plan (SAMP) does state that 'climate' is one the 12 primary factors considered during the environmental review process. Section 6.4.2.3 of the ES only emphasizes the GHG emissions quantification of Potential Near-Term projects. There is no mention of GHG mitigation strategies or reduction goals.

However, the SAMP web page https://www.portseattle.org/plans/sustainable-airport-master-plan-samp does state that the purpose of the environmental review is to:

- Identify ways to avoid, minimize or mitigate impacts

DoE-1 It would be helpful if the document discussed GHG mitigation strategies such as the Airport Carbon Certification Accreditation program. https://www.portseattle.org/programs/commitment-air-quality-and-energy-efficiency

DoE-2 According to the GHG inventory data provided in the "Planning Technical Memos" No. 8. Environmental Effects Overview, on page 2-6, 94% of the GHG emissions are scope 3 (pages 2-5) i.e. aircraft (56%) and ground transportation (32%). Therefore, a discussion on partnership greenhouse gas mitigation strategies may be worthwhile such as reference to sustainable aviation fuels or the clean truck program.

DoE-3

Finally, there doesn't seem to be any reference to climate resilience. Is one to assume that climate changes such as frequency of extreme weather events, flooding, heat or wildfire regional haze will have no impact on future near-term projects?

TOXICS CLEANUP PROGRAM
Ching-Pi Wang, (425) 649-7134 cwan461@ecy.wa.gov

DoE-4

There is known contamination in the area that will need to be addressed. The contamination was identified through a study known as the Seatac Groundwater Study conducted under an Agreed Order with the Port in 1999. This study is included as part of the listed site SeaTac International Airport (FSID 2291, Cleanup Site ID 1883).

There may be other areas of contamination depending on where work will occur.

Thank you for considering these comments from Ecology. If you have any questions or would like to respond to these comments, please contact one of the commenters listed above.

Sincerely,

Tracy Nishikawa

Tracy Nishikawa
SEPA Coordinator

Sent by email: Steve Rybolt, rybolt.s@portseattle.org

ecc: SAMP@portseattle.org
Gail, Sandlin, Ecology
Ching-Pi Wang, Ecology

ECR

From:	Veronica Gallardo
To:	Calkins, Ryan; SAMP Public Comments; Bowman, Stephanie; Metruck, Steve
Cc:	Maria Batayola
Subject:	El Centro De La Raza SeaTac Airport Expansion SAMP EIS Scoping Input
Date:	Wednesday, September 26, 2018 5:19:08 PM
Attachments:	Seatac Airport Expansion SAMP EIS Scoping Input Dated 9-26.pdf

On behalf of our Executive Director Estela Ortega, attached please find and below copied for your convenience, is El Centro De La Raza's input for the scope of the Sea-Tac *Airport Expansion SAMP EIS. For additional information, please contact Maria Batayola, EJ Program Coordinator at* mbatayola@elcentrodelaraza.org.

Veronica A. Gallardo
Executive Assistant
El Centro de la Raza
2524 16th Ave S
Seattle, WA 98144
(206) 957-4605 (ex.305)
(206) 329-0786 fax
www.elcentrodelaraza.org

Join us for our 2018 Building the Beloved Community Gala on September 22nd, 2018! Your support will be an impact towards the 43 programs and services we provide to over 14,000 youth, seniors, children and families a year. Purchase tickets to this wonderful annual celebration at **belovedcommunitygala.org!**

The Center for People of All Races

A voice and a hub for the Latino community
as we advocate on behalf of our people
and work to achieve social justice.

Programs & Services

With over 24,846 volunteer hours, El Centro de la Raza serves 14,506 individuals and 8,246 families annually through the following programs and services:

Bebes! Infant Mortality Prevention
Business Opportunity Center
Café con El Centro de la Raza
César Chávez Demonstration Garden
College Readiness
Comadres Women's Support Group
Community Building and Advocacy
Community Connector Benefits Enrollment
Community Meeting Space
Community Service / Volunteer Opportunities
Cultural Arts / Social Events
ECR Transitional Housing
El Patio Apartments
ESL Classes
Federal Way Open Doors Case Management
Financial Counseling / Education
Food Bank
Foreclosure Counseling
Growing & Learning Together (Parents As Teachers)
Historical & Educational Presentations
Homeless Assistance – Eviction Prevention
Hope for Youth Poetry & Civil Rights History Classes
José Martí Child Development Center
Labor Standards Outreach and Education
Latinos in Finance – Job Training
Legal Clinic Site
Lending Circles
Luis Alfonso Velásquez Flores After School Program
ORCA Reduced Fare Enrollment
Parent-Child Home Program
Plaza Maestas After School Program
Plaza Roberto Maestas, Beloved Community
Public Benefits Outreach and Enrollment
Roberto Maestas Leadership Institute
Santos Rodriguez Memorial Park
Seattle Youth Violence Prevention Case Management
Senior Wellness & Congregate Meal Program
Smoking Cessation
Summer Learning - Academic & Cultural Enrichment
Tax Prep Site
Veteran's Services
Youth Job Readiness Training
Young Adults in Tech

September 26, 2018 E-Distributed

Stephanie Bowman, Commissioner, Port of Seattle
Ryan Calkins, Commissioner, Port of Seattle
Stephen Metruck, Executive Director, Port of Seattle
Steve Rybolt, Aviation Environment & Sustainability

RE: SAMP EIS Scoping Input from Seattle Beacon Hill Neighborhood.

Estimad@ Hon. Bowman, Hon. Calkins, Mr. Metruck and Mr. Rybolt,

Greetings from El Centro de la Raza. I hope this email finds you all well. Thank you for the opportunity to provide input to the scope of the Seattle Airport Master Plan (SAMP) Environmental Impact Statement (EIS) for the Seattle Tacoma Airport expansion. I am also sharing El Centro's input to the SAMP EIS with the Port of Seattle's leadership, given our June 4, 2018 discussion along these same lines.

Hon. Bowman, Hon Calkins and Mr. Metruck, please recall our June 4, 2018 meeting where we discussed among other topics, Beacon Hill's air and noise pollution health impacts challenges, how the Port's social equity initiative could hopefully prompt a review of our environmental injustice issues, and our recommendation that such a social equity initiative include or have a parallel Title VI compliance program. We look forward to continuing such discussions and would be happy to make a presentation to the Port of Seattle Commissioners.

We are submitting the core elements of our discussion to Mr. Rybolt for inclusion in the scope of the SAMP EIS study as follows: 1) an air and noise pollution environmental and health impact risks assessment, 2) a review of the definition of fence line community status to include "vertical" fence line communities such as Beacon Hill, 3) environmental injustice impacted communities, and 4) SeaTac Airport within a regional airport system. See attached.

Mr. Rybolt, thank you again for reaching out to our community and the opportunity to give input. Attached please find El Centro's input to the scope of the SAMP EIS. For additional information, please contact Maria Batayola, EJ Program Coordinator at 206 293 2951 or mbatayola@elcentrodelaraza.org. We look forward to a positive response.

Respetuosamente,

Estela Ortega

Estela Ortega, Executive Director

C: NEPA Review Program, US EPA Region 10, 1200 6th Avenue, Suite 155, OERA-140, Seattle 981018-3140

Community Action Agency • United Way Agency • Affiliate of UnidosUS
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www.elcentrodelaraza.org • 501(c)3 Nonprofit Tax ID: 91-0899927

Attachment A

SCOPING COMMENTS FROM EL CENTRO DE LA RAZA ON SUSTAINABLE AIRPORT MASTER PLAN (SAMP) ENVIRONMENTAL IMPACT STATEMENT (EIS)

Thank you for the opportunity to provide input to the scope of the review that will be conducted for the SAMP EIS. Below please find input/request to include the following elements in your SAMP EIS scope of review.

1) HUMAN HEALTH AND ENVIRONMENT

To tell Beacon Hill's story, we will start at the sources of air and noise pollution then proceed to the human health impacts.

a) Source of Air and Noise Pollution

Seattle's Beacon Hill (BH) neighborhood is located in southeast Seattle. It is 6 miles long and 1-2 miles in width starting from I-90 to the north and ending at Boeing Access road to the south.

It is surrounded by air and noise pollution emissions from roadways and airplanes.

From roadways, BH boundary to the north consists of I-90 with 120,000 vehicles a day, I-5 to the west with 250,000 cars a day and major arterials Rainier and Martin Luther King Way to the east. The road congestion is getting worse.

Airplanes fly overhead Beacon Hill every 1 to 3 minutes. BH is the recipient of air and noise pollution from Seattle Tacoma Airport, Boeing Field and King County International Airport. flight and landing path. Most of the flight operations are from the Seattle Tacoma Airport.

In 2016, 70% of the ~200,000 landings flew over Beacon Hill at 3,000 feet, and at times as low as 2,000 ft. Flights have tripled since 2016, given the implementation of Greener skies which tethered take-off and landing to GIS system such that variability of flight is limited and fossil fuels are conserved. to disproportionately impacting BH people of color and immigrant communities.

The Port of Seattle is now starting its "Sustainable Airport Master Plan develop process to meet service demand that is projects passengers will increase from 38 million in 2014 to 66 million in 2035, international flights will double and cargo volume will triple from 2017 to 2021.

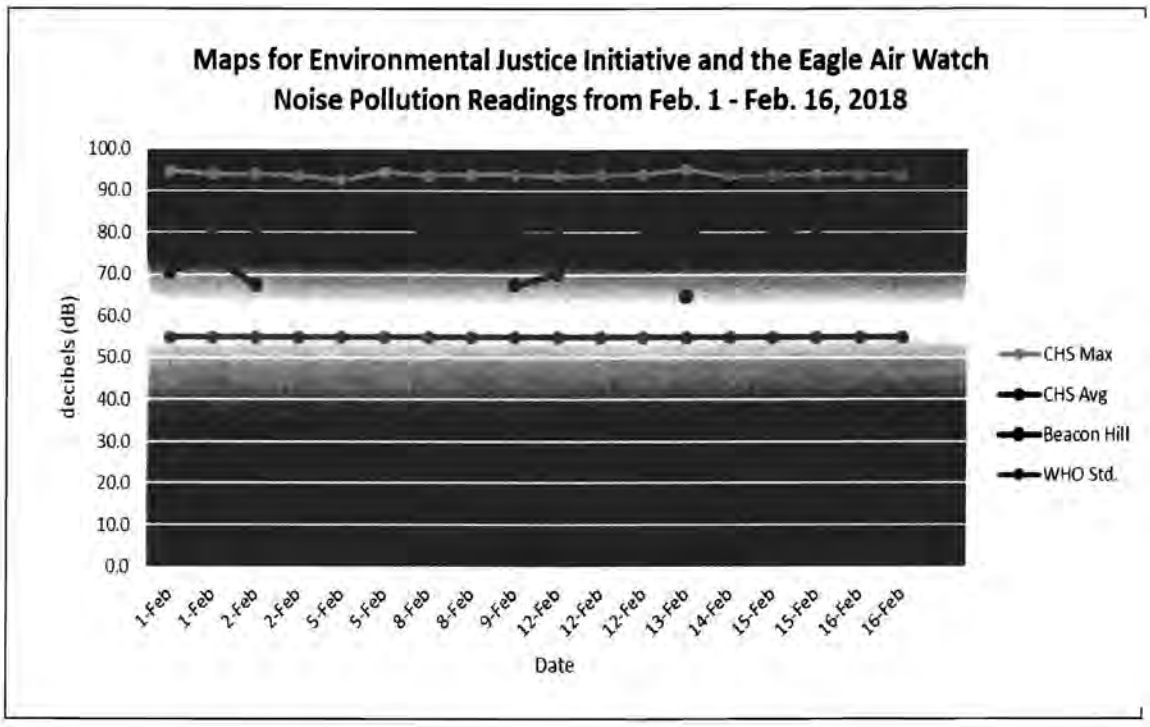
b) No Air & Noise Pollution Quantitative Studies

The published air quality data for Beacon Hill shows it does not have bad air, but that is because the monitor is located on the Jefferson Park Golf course, a location that is not

representative of the greater Beacon Hill area. There is no air quantitative measurements for BH.

Given that there is no quantitative analysis of air and noise pollution in Beacon Hill, El Centro partnered with EPA and Beacon Hill community scientists to conduct exploratory measurements of air and noise. The Cleveland High School Environmental Club study supervised by Dr. Troy Abel of Western Washington University Huxley Institute conducted a MEJI Study (Maps for Environmental Justice Initiative) show that:

- The noise standard for the City of Seattle is 55 decibels
- The noise standard for FAA is 60 decibels
- The average noise level for Cleveland High School is in the low 80's, and
- The maximum noise level for Cleveland High School is in the 90's.



c) Health Impacts

Studies have shown that air pollution can cause asthma attacks, reduced lung capacity, eyes/nose/throat/lungs irritation, heart disease, and cancer, along with other factors.

Studies have shown that noise pollution can cause heart disease, sleep disturbance, stress, and lower math and reading test scores for schools without noise insulation, along with other factors.

The 2017 survey of health indicators for Beacon Hill show that although the data did not rise to statistical significance, they were of deep concern from a precautionary perspective. Beacon Hill health data indicated:

- Higher rates of ASTHMA hospitalization for children.
- Higher rates of hospitalization and death for DIABETES AND RELATED DISEASES.
- Higher rate of deaths due to CHRONIC LOWER RESPIRATORY DISEASES
- Low BIRTH WEIGHT in infants
- Lower LIFE EXPECTANCY

Of serious concern is data from the 2013 Duwamish Valley Community Health Impact Analysis (CHIA) which included residents of zip code 98108.

- 98108 has the highest cumulative impact score of all Seattle areas in the study.
- The cumulative impact score is a combination of socioeconomic, environmental, and public health conditions ranging from 6–120, with higher scores indicating disproportionate impacts.
- 98108 received the highest score (106), while the lowest score (13) was for Magnolia (98199)."

The 2010 Census shows that 98108 zip code residents include 1,277 Georgetown, 3,991 South Park and 17,106 Beacon Hill residents. The BH 98108 residents consists of 49.8% of all BH residents.

d) Input to include in the Scope of the Study

In short, the Port of Seattle would not be able to determine adequately and appropriately the impact on Beacon Hill of the projected massive increase in air operations as projected, without:

1) Air and noise quantitative study (data) for Beacon Hill.
2) Supplemental Noise Study conducted at the noise is experience on the ground.

3) Input as submitted by Debi Wagner in Attachment A1, a 42-page document which includes:

    1) Extensive air quality analysis needed, criteria, toxics, soot deposition assay (MOA agreement between the Port, EPA, DOE, PSCAA 1996 due to third runway EIS predicted future air quality violations of the NAAQS)

    2) Health Impact assessment including a risk analysis

    3) Mapping of areas of impact for BOTH noise and emissions (emission contours will be different and larger than the existing noise)

    4) Mitigation strategies that can be monitored for success and use comparative population for HIA, AQ, Risk and outcomes

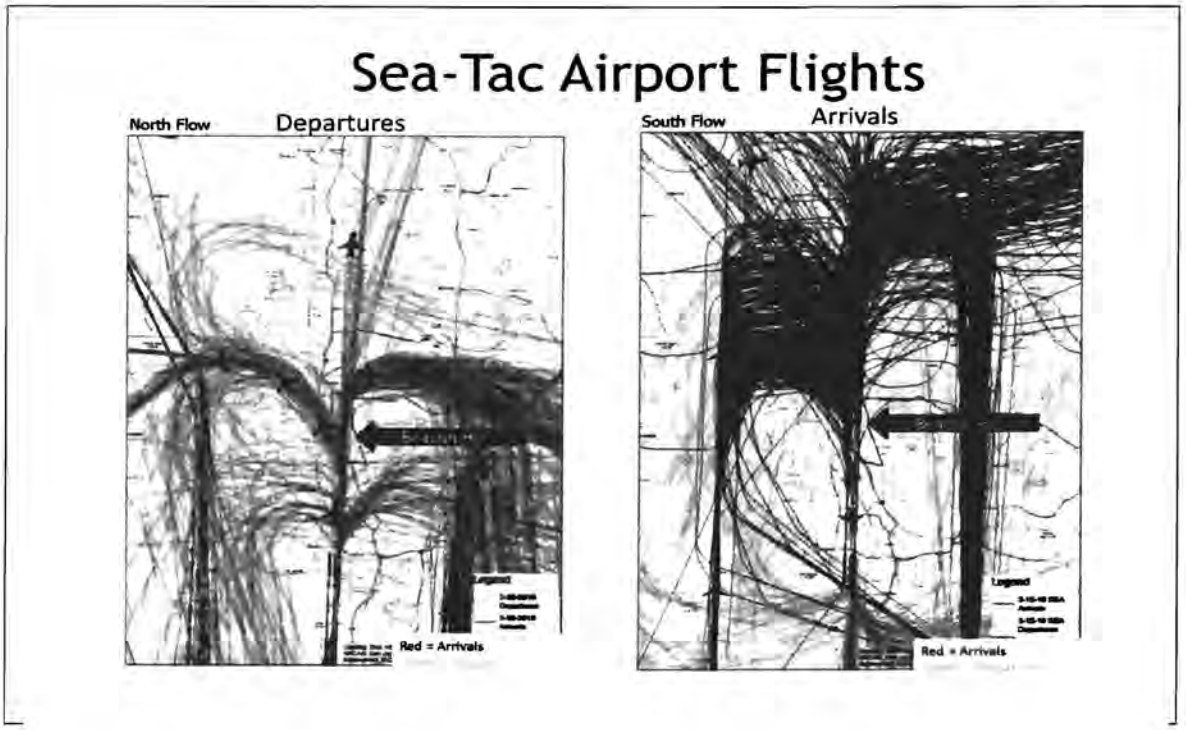
ECR-1

2) REVIEW OF BEACON HILL AS A "VERTICAL" FENCE LINE COMMUNITY

a) Beacon Hill Similarity with Fence Line Communities

El Centro recognizes that the FAA dictates the definition of airport fence line communities and understand the logic that neighborhoods directly impacted by flight operations should receive attention, be included in EIS reviews, and be eligible for mitigation.

Greener Skies hard wired majority of the landing operations over Beacon Hill. See Sea-Tac Airport Flights map. Of note, in 2016, 70% of the ~200,000 landings flew over Beacon Hill at 3,000 feet, and at times as low as 2,000 ft.



2)

a) Environmental Justice Directive

Presidential Executive Order 12898 promotes the principles of environmental justice in all Departmental programs, policies and activities. The US Department of Transportation established Order 5610.2(a) pursuant to said Executive Order. One of its major divisions, the Federal Aviation Administration Desk Reference for Airport Action includes Chapter 10 that states:

> "Compliance with Executive Order 12898, the Presidential Memorandum on environmental justice, and Order 5610.2, requires FAA to analyze impacts on low-income and minority populations."
>
> This chapter also discusses timelines, outreach, working with non-English speaking communities and more. In addition, the directive is given to evaluate cumulative effects:
>
> > "(4) Cumulative effects. This part of the analysis should focus on identified adverse cumulative impacts. Determine if nay low-income or minority populations experience a disproportionately high level of cumulative effects."

FAA flow down compliance requirements of the Port of Seattle reflect said requirements.

b) Beacon Hill Eligibility

Beacon Hill's demographics consists of identified populations under Presidential Executive Order 12898 and its flow down compliance requirements.

To that end, Beacon Hill is the largest Seattle neighborhood with 35,000 residents with majority 80% people of color, including 50% Asian Pacific Islander, 22% African and African American, and 8% Hispanic/Latino residents.

Nearly half (44%) were born outside the US – with most coming as immigrants and refugees, and 36% do not speak English well. One out of 5 are low income.

In 2017, El Centro applied for an EPA Collaborative Problem Grant for a Beacon Hill air & noise pollution health impacts education and empowerment grant . Beacon Hill underwent an extensive review by EPA and determined that Beacon Hill is indeed an environmental justice site. El Centro was awarded the 2-year EPA Collaborative Problem Solving grant CA -1J27101. See attachment A2: El Centro EPA Contract.

c) Previous Request for Compliance

A prior advocacy group, the Community Health Advocates Coalition requested in writing to the FAA, the Port of Seattle and others on November 10, 2015 specifically calling for compliance with the . See Attachment A3.

> "We are asking for the immediate compliance of FAA to Order 5610.2. Specifically, we are asking for 1) cumulative health impact study, 2) mitigation, and 3) follow-up study with 4) strong community engagement role for us..."

d) Input to Include in the Scope of the Study

1) Treat Beacon Hill as an environmental justice cite as defined under Presidential Executive Order 12989 on environmental justice and as determined by the federal Environmental Protection Agency (EPA)

2) Conduct an environmental justice analysis by complying with the Presidential Executive Order 12989 US Department of Transportation Order 5610.2(a), Federal Aviation Administration Desk Reference for Airport Action:

   a. Flight increases from Greener Skies

   b. Projected impact of increased flights as projected under SAMP

EER-2

4) ALTERNATIVES FOR EXPANSION, COMBINED EXPANSION WITH REGIONAL AIR PORT SYSTEM

a) How Much is Enough

El Centro is seriously concerned that the current increase in frequency of flights will result in acceleration of environmental and air and noise health impacts.

The question is not "How much the airport can absorb increased demand for flight operations?". Rather, the question is "How much air and noise pollution can humans absorb before large scale public health issue?" More precisely "How much can Beacon Hill as an environmental injustice affected community, absorb air and noise pollution given its poor social determinants of health?"

At El Centro, we have asked Governor Jay Einslee, and have testified before the Health Disparities Board to encourage our Governor to review the drivers for the current and increased flights with an environmental and health concerns. Case in point, at one of our 24 community meetings, a participant asked paraphrased "Why do we truck food from the eastside of the mountains, then fly it out of Seattle, when it can be flown from there?"

ECR-3

b) Input to Include in the Scope of the Study

1) Inventory and review national and international studies and materials that articulate criteria and/or conditions for transition from singular airport to a regional airport system.

2) Apply such criteria for Seattle Tacoma Airport

3) When applicable, analyze current flight operations and projected impact based on said criteria.

For more information, contact Maria Batayola, El Centro Environmental Justice Program Coordinator at mbatayola@elcentrodelaraza.org, 206 293 2951.

November 10, 2016 E-Distribution

David C. Suomi, FAA Northwest Mountain Regional Administrator
Joelle Briggs, FAA Northwest Mountain Region District Office Manager

Ted. J. Fick, Port of Seattle Chief Executive Officer
Mark Reis, Aviation Division Sea-Tac Airport Managing Director
Port of Seattle Commissioners

Dow Constantine, King County Executive
Harold Taniguchi, King County Transportation Department Director
Robert Burke, KC Transportation International Airport Division Director
Rod Dembowski, King County Council Councilman and Transportation, Economic and Environment Committee Chair

Denis Law, City of Renton Mayor
Jonathan Wilson, Renton Municipal Airport Manager
Ed Prince, Renton City Council President

Re: Airplane Emission and Noise Adverse Health Impacts

Dear Esteemed Government Leaders and Airport Administrators,

We bring to your attention a profound environmental justice issue with regards to the adverse cumulative health impact of airplane emissions and noise over our neighborhoods within the 10-mile radius of your respective airports. The affected neighborhoods in alphabetical order are Beacon Hill, Burien, Chinatown International District, Georgetown, South Park and White Center. They have high, if not the highest, diversity indices with respect to minorities, ethnicities and languages spoken, as well as high socioeconomic disparity.

When the NextGen's Performance Based Navigation and the Fly Quiet program components narrowed the flight paths for departure, arrival and approach for both Seattle-Tacoma International Airport, King County International Airport and Renton Airport, it relieved some communities of airplane emission and noise, while exacerbating the airplane emissions and noise to our affected areas due to exponential increase in the frequency of airplane activity.

(See Next Gen flight paths https://www.portseattle.org/Environmental/Noise/Noise-Abatement/Pages/Flight-Patterns.aspx and https://www.portseattle.org/Environmental/Noise/Noise-Abatement/Pages/Procedures.aspx)

We are deeply concerned about the adverse health impacts on our children, elders, families, adults, students, workers and visitors in our area. What we know is these areas have high rates of asthma, hearing loss and decreased longevity.

It is unconscionable that FAA developed the narrowed flight paths without following its own rules. Presidential Executive Order 12898 promotes the principles of environmental justice in all Departmental programs, policies, and activities. The US Department of Transportation established Order 5610.2(a) pursuant to said Executive Order. One of its major divisions, the Federal Aviation Administration Desk Reference for Airport Action includes Chapter 10 that states:

> "Compliance with Executive Order 12898, the Presidential Memorandum on environmental justice, and Order 5610.2, requires FAA to analyze impacts on low-income and minority populations." The chapter also discusses timeliness, outreach, working with non-English speaking communities and more. In addition, directive is given to evaluate cumulative effects:
>
> "(4) Cumulative effects. This part of the analysis should focus on identified adverse cumulative impacts. Determine if any low-income or minority populations experience a disproportionately high level of cumulative effects."

We are asking for the immediate compliance of FAA to Order 5610.2. Specifically, we are asking for 1) an immediate cumulative health impact study, 2) mitigation and 3) follow-up study with 4) strong community engagement role for us in the development of the cumulative health impact study in the scope of work, the request for proposals, the selection of the vendor, and an active role in the monitoring of the study, review of its methodology, mid-term progress, recommendations prior to publication and implementation monitoring.

Our passion is singular in our concern for the quality of and the lives of our children, elders, families, adults, students, workers and visitors in our affected area.

At our behest, Congressman Adam Smith's Washington DC Legislative Aide, Fernando Ruiz, met separately with FAA staff and Port staff. They were aware of the general concerns regarding emissions and noise. However, they did not realize that the increased frequency in flights would potentially exacerbate the cumulative adverse health on the community.

We would like to meet with you so that we can collaborate on a coordinated approach and solution to this grave concern. Our sincere thanks, again, to Congressman Smith's Office for helping connect us all. Ms. Debrah Entenman, Deputy District Manager will coordinate and host an evening meeting during the early part of December.

We have a collective affirmative responsibility for the lives and health of our communities. We look forward to a positive response.

Sincerely,
Community Health Advocates Collaboration Against Airplane Emissions & Noise

Dr. Roseanne Lorenzana
Co-Chair

Maria Batayola, M.A. A.B.S.
Co-Chair , FAPAGOW President

Estella Ortega, Executive Director
El Centro De La Raza

Teresita Batayola, Exec. Director
Int'l Community Health Services

Maiko Winkler Chin, Exec. Director
Seattle Chinatown International
District Preservation & Development

Pradeepta Upadhyay. Exec. Director
Interim Community Development
Association

Jill Mangilinan, Exec. Director
Got Green

Rebecca Saldaña, Exec. Director
SAGE

Copies to:
Fernando Ruiz, Congressman Adam Smith's Legislative Aide, Washington DC
Debrah Entenman, Congressman Adam Smith Deputy District Director, Renton WA
Tania Park, Puget Sound Air Quality, Environmental Justice Manager, Seattle WA
Dennis McLerran, US EPA Region 10, Regional Administrator, Seattle WA

Senator Maria Cantwell, Ranking Member, Aviation Operations, Safety, and Security Subcommittee
Senator Patty Murray, Appropriations Committee, Transportation Subcommittee
Congressman Rick Larsen, Ranking Member, Transportation Aviation Subcommittee
Congressman Jim McDermott, Senior Member, House Ways & Means Health Subcommittee
Senator Bob Hasegawa, 11th District, Commerce & Labor and Ways & Means Committees
WA State Representative Sharon Tomiko Santos, 37th District, Business & Fin. Services Committee
WA State Representative Eric Pettigrew, 37th District, House Appropriations Committee
Larry Gossett, King County Councilman District 2
Joe McDermott, King County Councilman District 8
Hyeok Kim, City of Seattle Deputy Director

Public Comment

To:

The Port of Seattle Sustainable Airport Master Plan Environmental Impact Statement

The FAA in preparation of an Environmental Assessment

Submitted by: Debi Wagner

Highline College Public Scoping Meeting

9/10/2018

Table 1: List of Environmental Impact Categories in FAA Order 10501.1F

	Environmental Impact Category
1	Air Quality
2	Biological Resources
3	Climate
4	Coastal Resources
5	Department of Transportation Act, Section 4(f)
	Environmental Impact Category
6	Farmlands
7	Hazardous Materials, Solid Waste, and Pollution Prevention
8	Historical, Architectural, Archeological and Cultural Resources
9	Land Use
10	Natural Resources and Energy Supply

	Environmental Impact Category
11	Noise and Noise-Compatible Land Use
12	Socioeconomics, Environmental Justice, and Children's Environmental Health and Safety Risks
13	Visual Effects
14	Water Resources
15	Cumulative Impacts
16	Irreversible and Irretrievable Commitment of Resources

AIR QUALITY

Air quality has not been assessed. A Memorandum of Agreement between EPA, Department of Ecology, Puget Sound Clean Air Agency and the Port of Seattle in 1997 was to monitor the air quality of the Sea-Tac Airport area post 2010 (see attached) due to predicted modeled exceedances of the NAAQS. This was to occur prior to construction of conditioned elements of the ALP. These proposed future improvements such as the new terminal and landside developments are planned along with other segmented developments such as hardstands and international facility improvements and no compliance certifications have been issued. No monitoring is planned. This monitoring should include the analysis of chemical composition of the soot, debris that was included in the MOA but not completed due to funding restraint.

AIR-41

The consultant working on the Sustainable Airport Master Plan (SAMP) has provided air quality data from the EDMS and AEDT model. The EPA also models the same operations for each year analyzed. Below is a table created by EPA showing the consultant (in white) and EPA analysis (in yellow) for 2014 using the same model and FAA supplied operational numbers.

EMISSION SOURCE	SHORT TONS OF POLLUTANTS (2014)											
	NO_x	NO_x	VOC	VOC	CO	CO	SO_x	SO_x	PM_{10}	PM_{10}	$PM_{2.5}$	$PM_{2.5}$
Aircraft Engines	1,623	2,350	242	448	1,329	2,156	158	251	8	53	8	52
APUs	72	48	5	4	48	43	9	7	22	6	22	6
GSE	307	91	78	29	2,292	845	21	3	20	3	19	3
Stationary Sources	17		1		12		0		1		1	
TOTAL	2,019		326		3,681		188		51		50	

N2-B

The differences between these estimates have not been explained. For the third runway analysis, these same problems permeated the modeling. When looking at emission data input from the third runway analysis, it was clear the consultant had manipulated the data to obtain a predetermined outcome of compliance. The consultant failed to estimate any particulate data for all jet operations. All defaults were set to zero. The consultant cut emission data from EPA published rates and used lower than standard operations time in mode. It is not fully understood by me at this time, and to what degree, that falsified data has impacted public health and the environment that would have otherwise received mitigation.

CLIMATE CHANGE

N10-1 N2-9

The consultant has provided data on carbon dioxide emissions in the Air Quality Baseline Preliminary Draft dated September 2017 for 2016 annual emissions. CO_2 is listed at 396,306 metric tons per year. Yet the Port of Seattle Energy and Sustainability Committee estimate from 2015 is 5.4 million metric tons per year. The difference between the two estimates are due to the consultant using a fraction of the Landing/Takeoff cycle rather than total fuel pumped. This leaves a majority of the carbon dioxide emissions unaccounted for. Since climate impact is a global concern, honesty and accuracy and taking responsibility for the total global climate impact is essential to understanding the significant impact the aviation sector has on planning and mitigation. While trees are the only current mitigation for aviation produced CO_2, it makes no sense the FAA has allowed the significant removal rather than topping 3,000 mature trees around the airport.

S3-1

The total climate change impact of the airport expansion will be significant. Sea-Tac is currently producing 25% of the county's climate change emissions. While the county is reducing emissions, the airport plans to double its impact. Ninety percent of the climate impact of the airport is due to jet operations. The Port of Seattle proposes reducing the remaining 10% of climate emissions by 3% or less over the next 18 years while doubling the 90%. None of the estimates consider the higher contributing emissions of nitrogen oxides, methane or black carbon. The imbalance in offsetting the impact could push Sea-Tac to half the county total by 2034 considering the increase in operations and reduction strategies in other sectors. This scenario will undo and even surpass all gains in every other sector.

Table 13
BASELINE (2016) CONDITION AEDT ANNUAL EMISSIONS

	SHORT TONS OF POLLUTANTS (2016)

EMISSION SOURCE	NO_x	VOC	CO	SO_x	PM_{10}	$PM_{2.5}$	CO_2 *
Aircraft Engines	1,775	261	1,455	162	13	13	396,306
APUs	40	3	33	5	5	5	-
GSE	370	94	2,769	19	25	25	-
Stationary Sources	18	1	12	0	1	1	-
TOTAL	2,267	379	4,841	190	48	47	396,306

ENVIRONMENTAL JUSTICE

5.1
5.7

Health disparities in the communities surrounding the airport have been evaluated by the State Department of Public Health. Findings of disproportionate, high and adverse consequences exist in these communities. Currently, respiratory and brain cancer cases are higher than average when compared to King County and asthma in 98168 is statistically significantly higher than average when compared to county, state and national levels.

5.3
5.9

Environmental Justice (EJ) eligible community has been identified by FAA in their June 2017 Preliminary Environmental Analysis (PEA). The Interagency Working Group on EJ Methodologies March 2016 outlines numerous items for analysis that have not been discussed in any detail in the SAMP planning process. Cumulative impacts to these communities of noise and emissions along with health impacts have not been analyzed. Past, present and reasonably foreseeable impacts have not been addressed. Unknown risks should be evaluated.

(From the PEA)
Figures 5 and 6 shows the areas in which Environmental Justice (EJ) may be a concern within the Study Area. This data was pulled using the U.S Consensus 2015 data, through the Environmental Justice tool in AEDT. There are multiple areas of which exceed environmental justice thresholds within the Study Area. However, there are no reportable or significant noise impacts and the noise level of the No Action and Proposed Action Alternatives are less than 45 dBA DNL. Furthermore, there is no change to air quality. Therefore, the FAA has preliminarily determined that there are no high and disproportionate impacts to environmental justice communities.

Figure 5: EJ areas with the No Action flight tracks

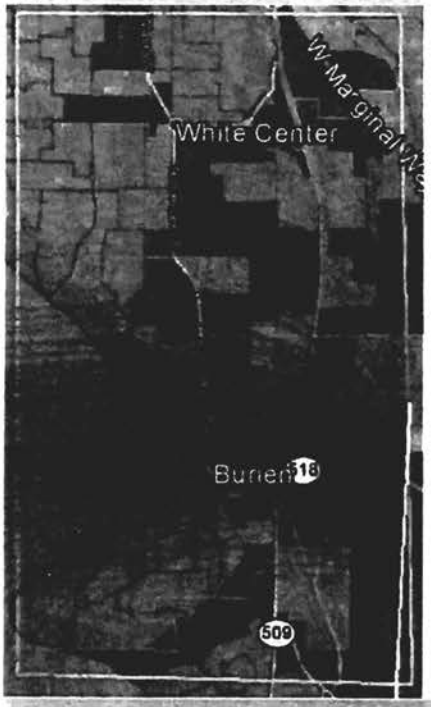
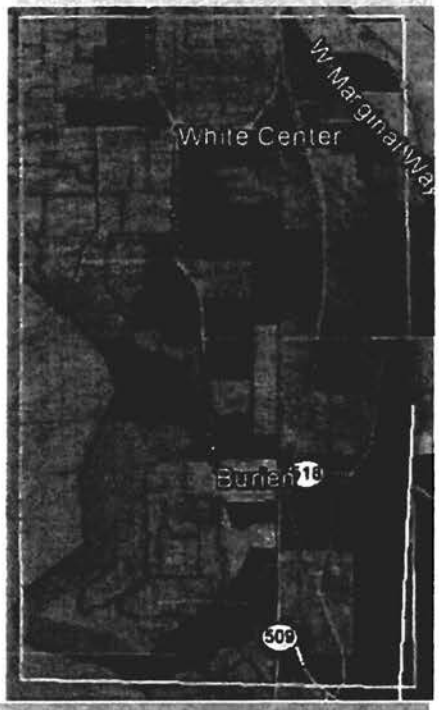


Figure 6: EJ areas with the Proposed Action flight tracks



Key

- No Environmental Justice threshold exceeded
- Exceeds the 1 x poverty threshold level
- Exceeds the for minority threshold
- Exceeds both the 1 x poverty and minority thresholds
- Study Area
- No Action flight tracks
- Proposed Action flight tracks

The aforementioned analysis preliminarily indicates that there would be no direct or indirect or cumulative significant impact as a result of the implementation of the Proposed Action.

This analysis, above, ignores the significant impact that already exists with health disparities discovered in the past and present. EPA EJ Screen tool can be used to assess the low income and minority populations around Sea-Tac and view the risk and negative health outcomes. Many of the census tracts in 98168 and 98198 typically overflown by departing and arriving aircraft exhibit *extreme* conditions. Some of the greatest poverty levels, language barriers, no access to healthcare deficiencies and health disparities in the county exist in these communities along with higher than average for the county numbers of children. The Highline School District that serves these communities has some of the highest poverty level families, and service needs of any school district in the state. See attached high noise area map and State Department of Health

Washington Tracking Network health disparities map. Both exhibit similar areas of impact for high noise levels and negative health outcomes.

The State Board of Health on behalf of the State Department of Public Health finding statistically significant health disparities in the communities surrounding Sea-Tac Airport writing in The Washington State Committee on Environmental Justice, June 2001 "Final Report, State Board of Health Priority: Environmental Justice" states:

> "Airport community members living near the SeaTac Airport identified several concerns related to air pollution from operations at the airport (see Washington State Department of Health et al., February and December 1999. These reports can be accessed through: http://www.doh.wa.gov/EHSPHL/Epidemiology/NICE/HTML/ nicepubs.htm.)
>
> A March 2000 report prepared jointly by DOH, the Washington State Department of Ecology, the Puget Sound Clean Air Agency, Public Health—Seattle and King County and several other agencies and community representatives found that, in the SeaTac Airport area, there are statistically significantly higher rates of the following conditions:
>
> - Lung cancer cases within one mile of the airport compared to the rest of King County and to Washington State;
> - Oral and pharyngeal cancer cases within one mile of the airport compared to Washington State;
> - Deaths from lung cancer and chronic obstructive pulmonary disease in an area approximately three miles to the west and north and one mile to the east and south of the airport (defined by census tracts) compared to King County; and
> - Hospital admission for asthma and pneumonia/influenza in an area approximately three miles to the west, north and east and one half mile to the south of the airport (defined by zip codes) compared to King County.
>
> **The March 2000 report recommended that an air quality study be conducted around SeaTac Airport. This recommendation was, in part, forwarded because of environmental justice concerns.** The report states, "fundamental to the concept of environmental equity is the value that one group of people not incur environmental exposures from commercial activities from which another group benefits. Those who use SeaTac Airport often derive great financial and other benefits from worldwide travel. **The extent to which these benefits come at the expense**

of environmental degradation affecting the people who live around the airport is unknown, since a comprehensive air quality study has not been performed at SeaTac Airport to determine the impacts attributable to airplane emissions and airport-related traffic" (Washington State Department of Health et al., 2000, p. 8). *[pages 14, 15] (Emphasis added)*

Regarding unknown risks the Federal Interagency Working Group (IWG) on Environmental Justice states in publication "Promising Practices for EJ Methodologies in NEPA Reviews" dated March 2016: https://www.epa.gov/sites/production/files/2016-08/documents/nepa_promising_practices_document_2016.pdf

"The degree to which an impact involves **unique or unknown risks** (see 40 CFR§1508.27(b)(5)) to minority populations and low-income populations in the affected environment can inform how agencies assess the significance of the impact. Minority populations and low-income populations could be uniquely susceptible to impacts from a proposed action due to: 1) **special vulnerabilities, e.g. pre-existing health conditions that exceed norms among the general population**; 2) unique routes of exposure, e.g. use of surface or well water in rural communities; or 3) cultural practices, e.g. subsistence fishing, hunting or gathering, access to sacred sites." IWG page 34

The FAA EA must include the following:

S3-2
1) An air quality monitoring program must be completed which includes toxics and criteria pollutants and used as a validation for modeling
2) A risk analysis must be completed which evaluates all known chemicals released from the airport and operations which might be affecting the poor public health outcomes (see comments to the Port of Seattle)
3) A toxicology study must be completed to help plan mitigation.
4) Mitigation plans, programs and strategies should be planned and implemented along with the SAMP development not after
5) Any mitigation strategy must have a monitoring plan to assure success
6) A similar area must be used for comparison to evaluate health impacts (Kent Auburn area was used as a comparative population to Sea-Tac Airport communities by the State Department of Health in 2000. This area along with Tukwila is overflown by arriving aircraft to both Boeing Field and Sea-Tac Airport. Health disparities in these cities can clearly be seen as extreme on the enclosed map of poor health outcomes and should not be used as a comparison)
7) Areas of impact for emissions should be mapped along with noise.
Consider for instance:

a) New Jersey Institute of Technology has found a wide circular area around airports in the US experiencing toxic emissions 10 times greater than elsewhere
b) State Department of Health found health impact areas to the west and east of Sea-Tac Airport experiencing health disparities
c) EPA evaluating Midway Airport found risk threshold exceeded for 1,3 Butadiene to the northeast of the airport not typically in a noise contour band,
d) McCulley Frick and Gilman Air Quality Survey found hydrocarbon levels exceeding state New Source regulations around Sea-Tac Airport outside of the noise contours
e) Department of Commerce and LAX Ultrafine Particulate study found sooty debris typical of jet engine combustion discharge in flight paths for 10 miles out from runway ends

VII-27

8) An epidemiological study should be conducted
9) All studies should show independence and be peer reviewed to assure objectivity
10) All analysis should include data input, assumptions and justification

Exhibit A

Seattle-Tacoma International Airport
Master Plan Update Improvements

The following airport improvement projects were identified by the Master Plan Update Final Environmental Impact Statement (Final EIS) to be phased in between 1996 and 2020. Based on the air quality analysis presented in the Final EIS, only the terminal and landside improvements planned to occur post 2010 could result in increasing the severity of exceedances of the NAAQS. As a result, before the Port could implement these projects, additional analysis and [illegible] mitigation would be required. These projects were identified based on project purpose and need and are categorized by the four (A through D) purposes and needs. Based on the Final EIS, the following projects would not increase the severity or frequency of exceedances of the NAAQS:

A. New Parallel Runway and associated operational procedures and taxiways (1996-2000)
B. Clearing and Grading off-ends runway and for runway safety area compliance (1996-2000)
C. Extension of Runway 34R (2011-2015)
D. Terminal and Landside Improvements

1996-2000

New Parallel Runway and associated operational procedures and taxiways
Clearing and Grading the requisite lengths off each runway and for runway safety area compliance
Improvements to the Main Terminal roadway and [illegible] roads
Development of the Des Moines Creek Technology Campus
Construction of the new air traffic control tower
Expansion or redevelopment of the cargo facilities in the south cargo complex
Development of a new snow equipment storage facility
Expansion of Concourse A
Development of on-airport hotel
Expansion of the main parking garage
Development of a new parking garage at the [illegible] lot
Site preparation at SASA site
Overhead utility replacement of the STS

2001-2005

Dual taxiway 34L
Expansion of the Main Terminal to the South
Improved access and circulation roadway improvements at the Main Terminal
Additional expansion of the main parking garage
Expansion of the existing north employee parking
Further expansion of Concourse A
Development of a new airport maintenance building
Continued expansion of the north cargo facilities

2006-2010

Expansion of the dual taxiways A and B
Construct first phase parking structure north of SR 518
Additional Expansion of north employee lot
Further expansion or redevelopment of north cargo complex
Upper roadway transit plaza at Main Terminal

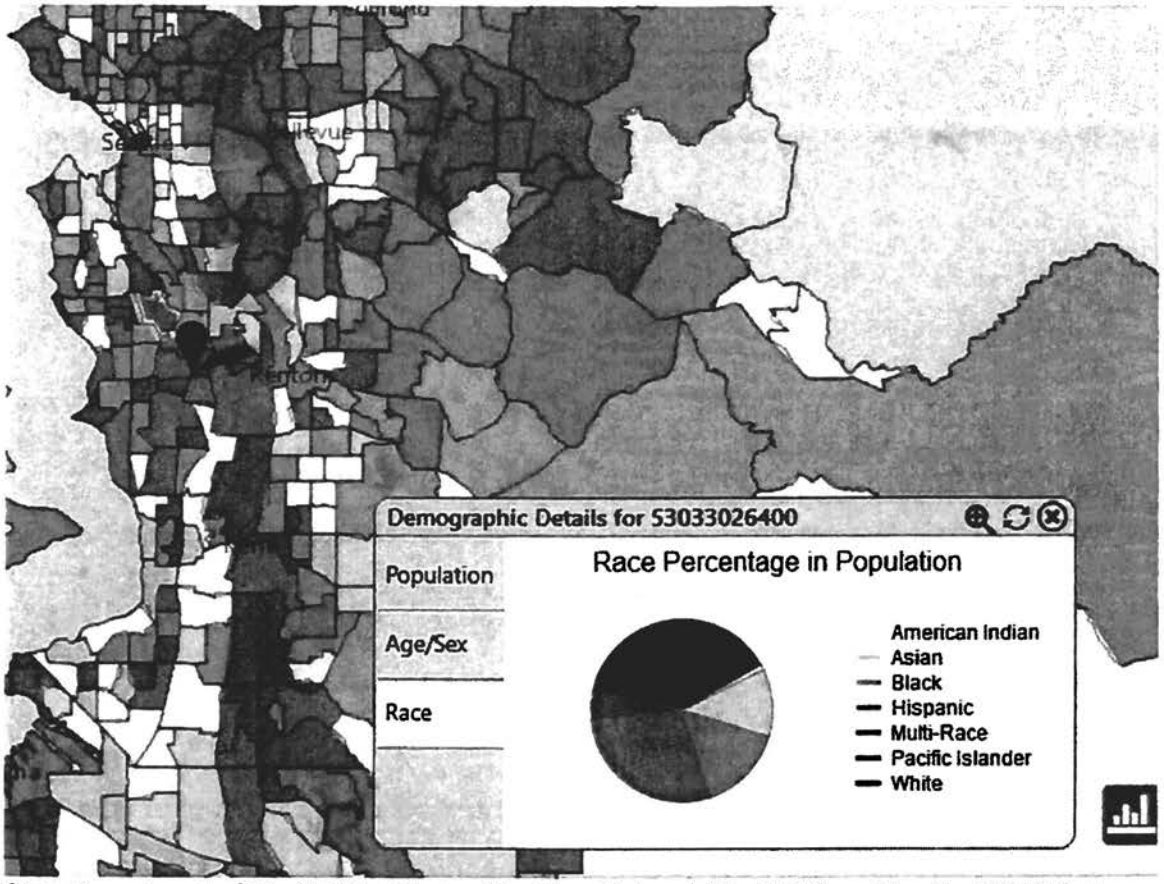
Based on the Final EIS, the following terminal and landside projects could increase the severity or frequency of exceedances of the NAAQS. The primary improvement project that would alter surface transportation, and thus air quality, is the North Unit Terminal development and related projects. The North Unit Terminal is slated for construction between 2011 and 2015. However, several items that are related to this project would occur earlier, such as the relocation of the ARFF which is located on the future site of the new terminal. Therefore, to ensure that earlier projects do not prejudice the outcome of the North Unit Terminal, these projects are identified separately.

2011-2015

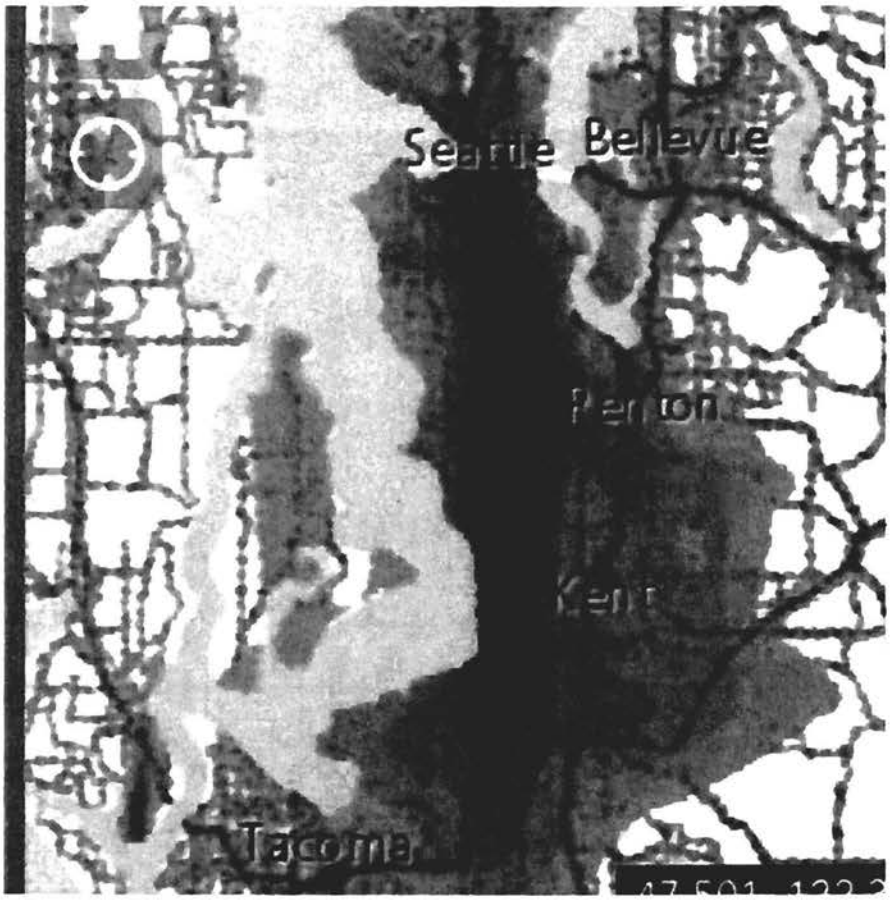
Construction of the North Unit Terminal and roadway system, including [illegible] roadway system
Relocate the ARFF for North Unit Terminal

2016-2020

Completion and further expansion of the North Unit Terminal, parking & roadways
Development of additional [illegible]
[illegible] north parking structure and north employee parking lot
Further development of cargo facilities
[illegible] of the garage
[illegible]



State Department of Health Washington Tracking Network Health Disparities for 98168 that follow flight path and match high noise area



Highest noise level in purple at the airport and surrounding red represents highest noise levels and matches the health disparities map from Department of Health

SCOPING COMMENTS

Scoping should be taken seriously. Past requests for the Third Runway analysis to address environmental considerations have been ignored. Please see attachment for an example of Puget Sound Clean Air Agency (PSCAA) formerly, Puget Sound Air Pollution Control Agency request for the third runway EIS to include a risk analysis and the response from the FAA/Port of Seattle. Where insufficient information exists (was not a valid excuse since EPA had just done a thorough risk assessment for Midway Airport http://www.csu.edu/cerc/documents/SWChicagoCancerRisks1993.pdf) or unknown risk exists as was the case with existing widespread community health disparities, it is the responsibility of the agency proposing the project involving additional impacts to use all available means to discover and disclose. NEPA §1508.27

The FAA and Port of Seattle should analyze the following items in the Environmental Assessment and Environmental Impact Statement:

HUMAN HEALTH AND ENVIRONMENT

1) Conduct an air quality analysis for all pollutants of concern; hydrocarbon emissions, air toxics, lead and criteria pollutants in the communities surrounding the airport and flight paths where aircraft overfly to 3,000 feet. This was required by a MOA between the Port of Seattle, EPA, PSCAA and DOE to be done post 2010 (See Attached). Please note the request for chemical analysis of residues in flight paths. Funding shortfall prevented this from going forward. It is still needed. Monitoring is used to validate modeling and has been recommended by our air quality agencies
2) Provide data on demographics and health in all communities affected by airport noise/emissions using existing data, science, agencies, institutions with city and citizen input. Give same consideration to multiple stressors (noise/emissions, traffic, etc.) in EJ community as was provided by the Port of Seattle in the near Port community grant for Duwamish residents.
3) Identify significant cumulative impacts considering past, present and reasonably foreseeable, multiple project impacts and high and adverse impact areas.509, SASA, South Satellite, flight path changes, modifications, hardstands, new terminal construction and operation etc.
4) Identify areas where low income and minority populations reside and analyze disproportionate impact by airport operations, traffic, congestion, etc.
5) Consider cumulative noise and emissions on resident's health
6) Consider unknown risk and develop methods to determine sources, nature and develop control strategies
7) Conduct a risk analysis using all air contaminants known to be produced by airport operations using the collected monitoring and modeling data for validation as per Puget Sound Clean Air request in 1994 not yet completed
8) Map the areas of impact
9) Conduct a health impact assessment (HIA) and social impact assessment (SIA).
10) Provide meaningful insights into mitigation strategies

METHODOLOGY

S5-1 / S8-3

1) Both co-lead agencies should use available science, data and input from independent sources to inform and validate the process and conclusions
2) Worst-case scenarios for impact analysis should be considered and developed
3) Mapping the area of emission impact will be different than the noise contours and should highlight highest risk areas.
4) A map should be color coded to easily identify:
   a) Low income and minority populations eligible for environmental justice consideration
   b) High and adverse impact assessment by census tract
   c) Impact from emissions and types of emissions
   d) At risk areas by type of risk
   e) Noise contours and highest noise sensitive areas impact
   f) Existing health disparities
5) All assumptions and conclusions should be peer reviewed and independently verified for accuracy. For instance, industry data frequently reflects a bias; current emissions prepared by consultant for the SAMP varies widely from the EPA data for the same year using the same FAA operations, data and model. This problem plagued the third runway EIS data on emissions. Port estimates for 2014 are in white and EPA estimates in yellow

EMISSION SOURCE	SHORT TONS OF POLLUTANTS (2014)											
	NO_x	NO_x	VOC	VOC	CO	CO	SO_x	SO_x	PM_{10}	PM_{10}	$PM_{2.5}$	$PM_{2.5}$
Aircraft Engines	1,623	2,350	242	448	1,329	2,156	158	251	8	53	8	52
APUs	72	48	5	4	48	43	9	7	22	6	22	6
GSE	307	91	78	29	2,292	845	21	3	20	3	19	3
Stationary Sources	17		1		12		0		1		1	
TOTAL	2,019		326		3,681		188		51		50	

Residents are entitled to a fair process. The State Department of Public Health and State Board of Health has previously identified the areas around Sea-Tac Airport as experiencing high and adverse health consequences and eligible for environmental justice consideration. Their recommendation in June 2001 was for a comprehensive independent air quality study.

The Port of Seattle has already previously recognized the importance of greater levels of identification and mitigation for environmental justice eligible communities. For the Near Port Community Grant partnership with EPA analyzing the disproportionate environmental and human health impacts of Seaport operations/cargo trucks, local industry and transportation impacts, the Georgetown and South Park communities received a Community Benefits Agreement and commitment from the Port of Seattle for funding, home air filtration systems, educational programs and workforce development among other contributions. Commissioners recognized the utility of such a community investigation process and foresaw an application of this Duwamish Valley Environmental Justice and Social Equity program as a pilot for future application potential to other Port impacted communities.

June 2001 State Board of Health recommendation for a thorough air quality analysis as a result of findings of significant cancer and respiratory illnesses in zip codes around Sea-Tac Airport for study years 1992-1995 and 1992-1996 http://sboh.wa.gov/Portals/7/Doc/EJ/EJReport_2001.pdf

"EPA explains that "fair treatment means that no population, due to policy or economic disempowerment, is forced to bear a disproportionate burden
of the negative human health or environmental impacts of pollution or other environmental consequences resulting from industrial, municipal, and
commercial operations or the execution of federal, state, and local and tribal programs and policies" (U.S. Environmental Protection Agency, 1998).
Of particular interest to the Committee is the specific claim that disproportionate exposures produce adverse health outcomes that are also borne
disproportionately by these populations. It has been well documented in the State of Washington that low-income and minority populations have
poorer health status than the overall population and have higher rates of a variety of diseases, including cancer and asthma. Many complex factors
interact to produce health disparities among populations. Environmental and occupational exposures, access to medical care, nutrition,behavioral
choices, and genetic variability, all contribute and are related. Where one lives and works is often less a matter of choice than the result of
socioeconomic status. It is usually the case that people in the lower socioeconomic strata are more likely to live in the most hazardous environments
and to work in the most hazardous occupations (Olden, 1998). *[page 7]*
Community Health Concerns around SeaTac Airport Community members living near the SeaTac Airport identified several concerns related to air
pollution from operations at the airport (Washington State Department of Health et al., February and December 1999). These reports can be accessed
through http://www.doh.wa.gov/EHSPHL/Epidemiology/NICE/HTML/ nicepubs.htm. A March 2000 report prepared jointly by DOH, the Washington
State Department of Ecology, the Puget Sound Clean Air Agency, Public Health—Seattle and King County and several other agencies and community
representatives found that, in the SeaTac Airport area, there are statistically significantly higher rates of the following conditions:
• lung cancer cases within one mile of the airport compared to the rest of King County and to Washington State;
• oral and pharyngeal cancer cases within one mile of the airport compared to Washington State;
• deaths from lung cancer and chronic obstructive pulmonary disease in an area approximately three miles to the west and north and one mile to the east
and south of the airport (defined by census tracts) compared to King County; and
• hospital admission for asthma and pneumonia/influenza in an area approximately three miles to the west, north and east and one half mile to the south

of the airport (defined by zip codes) compared to King County.
The March 2000 report recommended that an air quality study be conducted around SeaTac Airport. This recommendation was, in part, forwarded because of environmental justice concerns. The report states, "fundamental to the concept of environmental equity is the value that one group of people not incur environmental exposures from commercial activities from which another group benefits. Those who use SeaTac Airport often derive great financial and other benefits from worldwide travel. The extent to which these benefits come at the expense of environmental degradation affecting the people who live around the airport is unknown, since a comprehensive air quality study has not been performed at SeaTac Airport to determine the impacts attributable to airplane emissions and airport-related traffic" (Washington State Department of Health et al., 2000, p. 8). *[pages 14, 15]*

ATTACHMENTS

1997 EPA, PSCAA, DOE and Port of Seattle Memorandum of Agreement commitment for monitoring the airport area post 2010 due to predicted future scenario modeled violations of the federal standard for carbon monoxide.

Exhibit A

Seattle-Tacoma International Airport
Master Plan Update Improvements

The following airport improvement projects were identified by the Master Plan Update Final Environmental Impact Statement (Final EIS) as to proceed in between 2004 and 2020. Based on the air quality analysis presented in the Final EIS, only the standard and feasible improvements planned to occur post 2010 could result in increasing the severity of exceedances of the NAAQS. As a result, before the Port could implement these project, additional analysis and regulatory mitigation would be required. These projects were identified based on project purpose and need and are independent by the Year (A through D) projects and south. Based on the Final EIS, the following projects would not increase the severity or frequency of exceedances of the NAAQS:

A. New Parallel Runway and associated operational procedures and taxiways (2004-2020)
B. Closing and Grading off north runway and the runway safety area compliance (2004-2020)
C. Extension of Runway 34R (2011-2013)
D. Terminal and Landside Improvements

2004–2010

New Parallel Runway and associated operational procedures and taxiways
Closing and Grading the separation lengths of north runway and the runway safety area compliance
Improvements to the Main Terminal roadway and curbside roads
Development of the Two Bottom Creek Detention Ponds
Construction of the new air traffic control tower
Expansion or redevelopment of the cargo facilities in the north cargo complex
Development of a new cargo apartment cargo facility
Extension of Concourse A
Development of Intermodal
Expansion of the main parking garages
Development of a new parking garage at the Bring Port lot
The acquisition of NASA site
Overlook and/or replacement of the ATB

2005–2015

Dual taxiway 14L
Expansion of the Main Terminal to the South
Improved access and circulation roadway improvements at the Main Terminal
Additional expansion of the main parking garage
Expansion of the taxiway north-southern parking
Further extension of Concourse A
Development of a new airport maintenance building
Continued expansion of the north cargo facilities

2010–2020

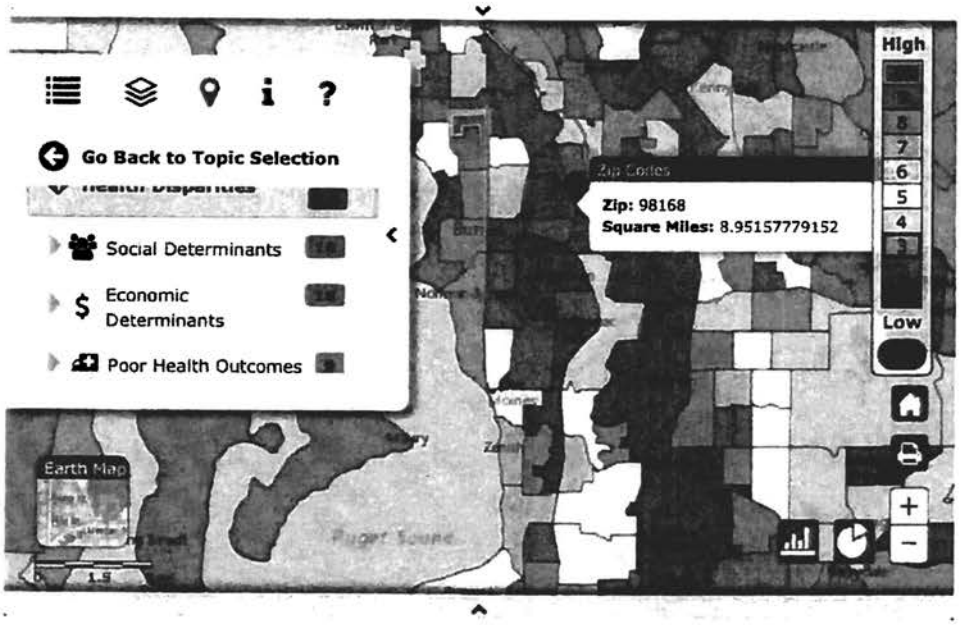
Expansion of the dual taxiways A and B
Construct four plane parking structure north of SR 518
Additional expansion of north cargo facilities or redevelopment of north cargo complex
Upper roadway tunnel plans to Main Terminal

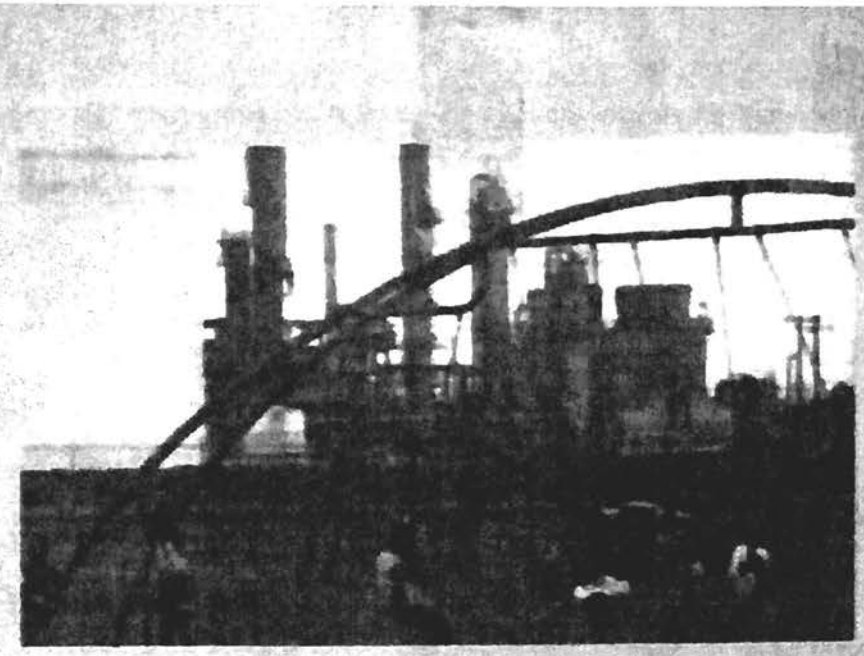
Based on the Final EIS, the following transport and landside projects could increase the severity or frequency of exceedances of the NAAQS. The primary improvement projects that would affect aviation transportation, and thus air quality, in the South Sea Terminal development and related projects. The Final EIS identified to assess the environmental between 2004 and 2020. However, several issues that are related to this project would impact aviation, such as the relocation of the ARFF which is located on the future site of this new terminal. Therefore, to ensure that earlier projects do not jeopardize the outcome of the Final EIS, these projects identified separately.

[redacted]

Hospitalizations from the State Department of Health Washington Tracking Network Map follow the flight path and show high rates for Kent Valley where emissions settle and where flights arriving at both Sea-Tac and Boeing Field overfly below 3,000 feet. Sea-Tac Airport is blue teardrop.

Example of a census tract (yellow highlight) from EPA EJ Screen tool where health disparities and risk is above the 90th percentile





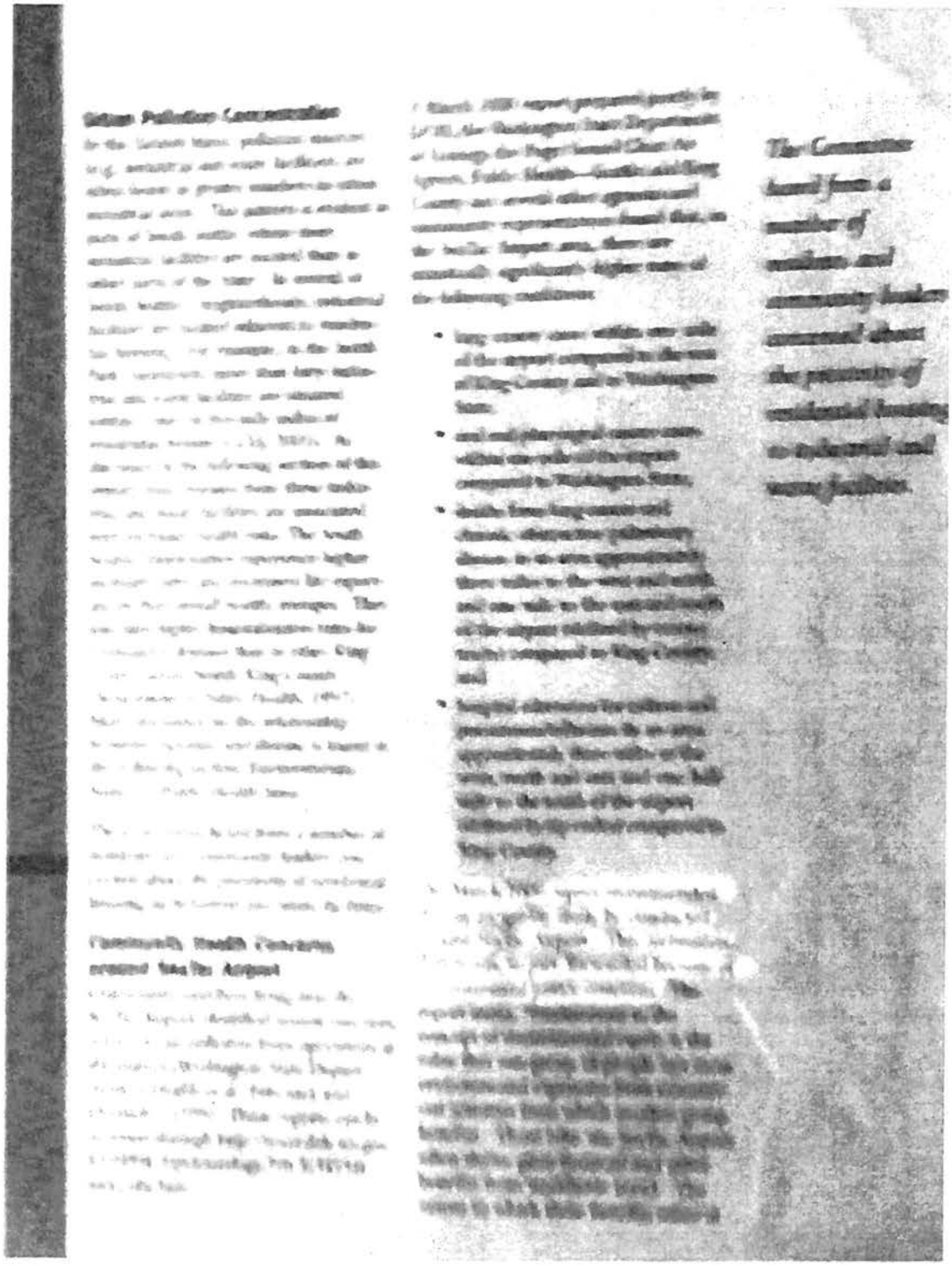
Final Report
State Board of Health Priority: Environmental Justice

June 2001

Committee on Environmental Justice:

Carl Osaki, R.S., M.S.P.H.

Joe Finkbonner, R.Ph., M.H.A.



the expense of environmental degradation affecting the people who live around the airport is unknown, since a comprehensive air quality study has not been performed at SeaTac Airport to determine the impacts attributable to airplane emissions and airport-related traffic" (Washington State Department of Health et al., 2000, p. 8).

Implementing the Committee's Work Plan

As described above, the Committee used a variety of methods to inform its work on environmental justice. This section describes how the Committee responded to each of the tasks in its work plan.

Raise Consciousness about the Issue

In the process of collecting information and speaking with the relevant players, the Committee was also achieving one of the primary goals of its work plan— to raise awareness about environmental justice issues. The Committee focused its efforts on raising awareness about these issues in government. The Committee participated in a number of community forums, meetings, and events in an effort to achieve this end.

In addition, the Committee published articles on environmental justice in the EPA Environmental Justice and the Washington Environmental Health Association newsletters. The Committee also presented its work at the Washington Public Health Association meeting in October 2000.

Create a Clearinghouse of Environmental Justice Information Housed on the SBOH Web site

The Committee launched its Web site in July 2000 at www.doh.wa.gov/sboh/priorities/equity/equity.htm. This site serves as one clearinghouse of information on environmental justice. It also links users to a number of relevant other sites. Topical areas on the Web site include:

- What is Environmental Justice?
- History of Environmental Justice
- Literature Review
- Links
- Link to Board's Health Disparities Site

Set Guidelines for Practice in State Government and within the Public Health Community to Encourage That Environmental Justice Principles Be Incorporated into Practice

To encourage state agencies and local health departments to incorporate environmental justice principles into their activities, the Environmental Justice Committee quickly discovered the need to inform agency staff about the relevance of this issue in their work and to collaborate with those already working on this issue.

The Committee convened an Interagency Workgroup on Environmental Justice. This workgroup served as another vehicle for education and an opportunity to influence agency practice. The workgroup met twice during the year to discuss issues of mutual concern and interest. In December 2000, the Committee convened an educational forum for interested agency representatives. This forum brought together a number of community and agency experts to discuss opportunities to incorporate environmental justice principles into practice. A videotape of this forum is available through the State Board of Health or through the Department of Health's lending library.

Significant Cancer Cases in communities surrounding Sea-Tac Airport for years 1992-1996

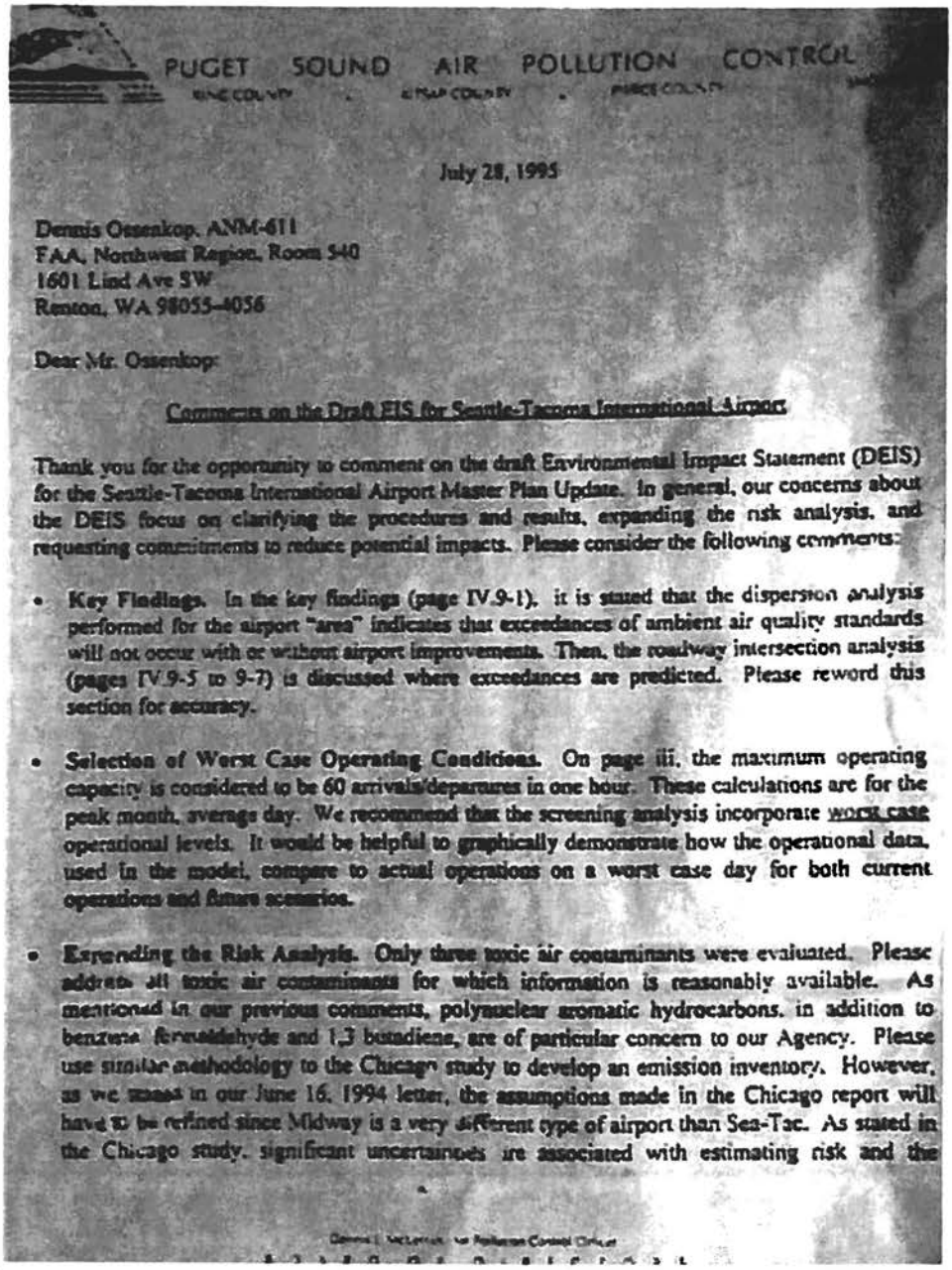
Table 1. Cancer in the Proximity of SeaTac International Airport, 1992-1996

	Area 1 – Within 1 Miles of Airport			Area 2 – Within 3 Miles of Airport			Area 3 – Within 5 Miles of Airport		
	Observed	Expected (County Rate)	Expected (State Rate)	Observed	Expected (County Rate)	Expected (State Rate)	Observed	Expected (County Rate)	Expected (State Rate)
All Cancer¹	797	783	777	2,794	2,874	2,827	† 5,334	5,573	[illegible]
Bladder	32	32	33	117	123	127	217	[illegible]	[illegible]
Brain, All Types	15	11	11	48	39	37	73	[illegible]	[illegible]
Brain, All Gliomas	13	11	10	48	38	36	73	77	[illegible]
Brain, Astrocytoma	1	2	3	7	8	9	13	17	[illegible]
Brain, Glioblastoma	7	5	5	*** 28	19	18	37	[illegible]	[illegible]
Breast	134	142	134	[illegible]	510	[illegible]	[illegible]	[illegible]	[illegible]
Cervix	5	7	8	22	23	20	[illegible]	[illegible]	[illegible]
Colorectal	86	80	79	284	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Endometrium	*** 30	22	22	93	82	83	[illegible]	[illegible]	[illegible]
Esophagus	9	8	8	36	28	28	[illegible]	[illegible]	[illegible]
Kidney / Renal	29	17	17	73	68	63	[illegible]	[illegible]	[illegible]
Larynx	9	6	7	* 34	23	22	[illegible]	[illegible]	[illegible]
Leukemia, All Types	16	19	18	65	60	57	[illegible]	[illegible]	[illegible]
Leukemia, Acute Myeloid (AML)	3	5	5	19	19	17	[illegible]	[illegible]	[illegible]
Liver	6	6	5	** 27	20	17	[illegible]	[illegible]	[illegible]
Lung	*** 132	106	100	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Lymphoma, Hodgkin's	6	6	5	16	20	17	[illegible]	[illegible]	[illegible]
Lymphoma, non-Hodgkin's	28	33	30	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Melanoma	36	46	42	141	163	146	[illegible]	[illegible]	[illegible]
Multiple Myeloma	5	8	8	30	31	31	[illegible]	[illegible]	[illegible]
Oral / Pharynx	** 29	20	19	57	76	[illegible]	[illegible]	[illegible]	[illegible]
Ovary	16	17	16	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Pancreas	18	16	18	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Prostate	99	113	119	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Stomach	9	11	11	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Testis	6	6	6	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Thyroid	9	11	10	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
All Other Cancer Categories	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

* Higher than expected using King County rate
** Higher than expected using State rate
*** Higher than expected using both King County and State rates
† Lower than expected using King County rate
†† Lower than expected using State Rate
††† Lower than expected using both King County and State rates

¹ The totals of cancers broken into categories are greater than "All Cancer" because some individuals have multiple cancers. The "All Cancer" category [illegible] individuals with any type of cancer during the study period

PSCAA made a scoping request for a risk analysis in 1994 for the Third Runway Draft Environmental Impact Statement (EIS) and again asking for the Final EIS to provide a risk analysis that includes all chemicals. This request was from Dennis McClerran who was recently Region X EPA Administrator.



PUGET SOUND AIR POLLUTION CONTROL

KING COUNTY · KITSAP COUNTY · PIERCE COUNTY

July 28, 1995

Dennis Ossenkop, ANM-611
FAA, Northwest Region, Room 540
1601 Lind Ave SW
Renton, WA 98055-4056

Dear Mr. Ossenkop:

Comments on the Draft EIS for Seattle-Tacoma International Airport

Thank you for the opportunity to comment on the draft Environmental Impact Statement (DEIS) for the Seattle-Tacoma International Airport Master Plan Update. In general, our concerns about the DEIS focus on clarifying the procedures and results, expanding the risk analysis, and requesting commitments to reduce potential impacts. Please consider the following comments:

- **Key Findings.** In the key findings (page IV.9-1), it is stated that the dispersion analysis performed for the airport "area" indicates that exceedances of ambient air quality standards will not occur with or without airport improvements. Then, the roadway intersection analysis (pages IV.9-5 to 9-7) is discussed where exceedances are predicted. Please reword this section for accuracy.

- **Selection of Worst Case Operating Conditions.** On page iii, the maximum operating capacity is considered to be 60 arrivals/departures in one hour. These calculations are for the peak month, average day. We recommend that the screening analysis incorporate worst case operational levels. It would be helpful to graphically demonstrate how the operational data, used in the model, compare to actual operations on a worst case day for both current operations and future scenarios.

- **Expanding the Risk Analysis.** Only three toxic air contaminants were evaluated. Please address all toxic air contaminants for which information is reasonably available. As mentioned in our previous comments, polynuclear aromatic hydrocarbons, in addition to benzene, formaldehyde and 1,3 butadiene, are of particular concern to our Agency. Please use similar methodology to the Chicago study to develop an emission inventory. However, as we stated in our June 16, 1994 letter, the assumptions made in the Chicago report will have to be refined since Midway is a very different type of airport than Sea-Tac. As stated in the Chicago study, significant uncertainties are associated with estimating risk and the

Below is the Final EIS response to PSCAA Scoping request for a risk analysis:

[redacted] analysis [redacted]
cancer risk assessment. Cancer [redacted]
defined based on population,
concentration for a particular air toxic,
known cancer risk conversion factors. The
number of potential cancer cases was
based on the probability that an individual
would develop cancer when continuously
exposed to a pollutant at an ambient
concentration of one microgram per cubic
meter (ug/m3) for 70 years (the average
lifetime). As indicated in the Draft EIS,
less than one cancer case might be
attributable to all pollutant sources
(roadway and air traffic) at the modeled
receptor locations.

However, in consultation with the air
quality agencies, it was determined that
insufficient information is available to
adequately conduct a meaningful
assessment. Therefore, for the Final EIS,
risk analysis was not conducted.

The contributions of the Energy and Sustainability Committee on elevating the profile of equity in Port environmental efforts and community engagement were noted. The project elements were summarized and the disproportionate community health impacts of environmental factors in South Park and Georgetown were described at the Port Commission Meeting on April 10, 2018.
http://www.mdpi.com/search?q=noise+Queens%2C+NY&authors=&article_type=&journal=ijerph&section=&special_issue=&volume=&issue=&number=&page=&search=Search

Below are some selected articles with a summary on noise and emissions.

"Air pollution causes seven million premature deaths a year but the harm to people's mental abilities is less well known. A recent study found toxic air was linked to "extremely high mortality" in people with mental disorders and earlier work linked it to increased mental illness in children, while another analysis found those living near busy roads had an increased risk of dementia.

The new work, published in the journal Proceedings of the National Academy of Sciences, analysed language and arithmetic tests conducted as part of the China Family Panel Studies on 20,000 people across the nation between 2010 and 2014. The scientists compared the test results with records of nitrogen dioxide and sulphur dioxide pollution.

They found the longer people were exposed to dirty air, the bigger the damage to intelligence, with language ability more harmed than mathematical ability and men more harmed than women. The researchers said this may result from differences in how male and female brains work.

Derrick Ho, at the Hong Kong Polytechnic University, said the impact of air pollution on cognition was important and his group had similar preliminary findings in their work. "It is because high air pollution can potentially be associated with oxidative stress, neuroinflammation, and neurodegeneration of humans," he said."

https://www.theguardian.com/environment/2018/aug/27/air-pollution-causes-huge-reduction-in-intelligence-study-reveals?CMP=share_btn_link

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Shortened life span due to aircraft noise, savings to airlines in fuel and airports in efficiencies has less value than public health costs associated with the cardiovascular health effects of the noise.

development of blocked arteries." https://www.change.org/p/stop-the-faa-nextgen-flights-over-culver-city/u/22489687?recruiter=false&utm_source=share_update&utm_medium=facebook&utm_campaign=facebook_link

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"Aviation Emissions Impact Ambient Ultrafine Particle Concentrations in the Greater Boston Area." https://pubs.acs.org/doi/pdf/10.1021/acs.est.6b01815

"An air quality study has for the first time detected nano-sized particles of air pollution in children's urine...these ultrafine particles are the smallest particles found in air pollution and have been linked to heart disease and respiratory conditions in previous studies.

The research provides the first direct evidence that some of the particulate matter known as black carbon that we inhale in soot and fumes is making it across the lung barrier and into the body's circulatory system." https://horizon-magazine.eu/article/ultrafine-pollution-particles-create-air-menace_en.html

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Close-in communities and those in flight paths are home to a large population, many which are predominately minority and low income residents. This community has been the topic of investigation by the State Department of Public Health in the past and found to exhibit higher than average and sometimes statistically significantly higher than average respiratory and brain cancer when compared to King County and State averages. Currently, these same statistics seem to be present especially in 98168 for asthma and 98198 for cancer types including brain cancer.

EPA EJ Screen tool can be used to assess the risk, exposure and negative health outcomes of census tracts within these zip codes and indicate the percentile is in the 90 to 100th for much of the population. (see attached example)

UW Ultrafine investigation has found hot spots of ground level ultrafine concentrations below flight paths for Sea-Tac Airport. Ultrafine particulate pollution can be breathed in and small diameters typical of jet aircraft combustion products can pass through the membrane barrier and enter the blood-stream affecting the heart and brain. (See MOV-UP) These are suspected to cause lung irritation, inflammation, immune response and adverse reactions for asthma sufferers.

New Jersey Institute of Technology estimates that airport operations are spreading air toxics and contaminants into a 9 square mile area around airports that is 10 times higher than average for areas not affected by airport operations.

https://graduatedegrees.online.njit.edu/resources/msce/msce-infographics/deadly-airport-toxins/

Aircraft noise causes oxidative stress in the brain. "Thus the presented results may explain at least in part why sleep phase rather than awake phase noise leads to cardiovascular diseases and may also provide an explanation why aircraft noise is linked with cognitive impairment including retardations of learning and memory capabilities in children. Thus preventive measures should be considered to reduce night-time aircraft noise."

"One hundred million Americans are effected by unhealthy levels of noise." https://academic.oup.com/eurheartj/advance-article/doi/10.1093/eurheartj/ehy333/5037114#.W1m3vsP6liE.facebook

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"The analyses suggested that a 5-dB noise reduction scenario would reduce the prevalence of hypertension by 1.4% and coronary heart disease by 1.8%. The annual economic benefit was estimated at $3.9 billion." https://www.ncbi.nlm.nih.gov/m/pubmed/26024562/

"New research Links Air Pollution to Global Diabetes

Air pollution linked to 3.2 million new diabetes cases in one year.

A new research study links air pollution with an increased risk of global diabetes, even at pollution levels deemed safe by other governing bodies.

A study from the Washington University School of Medicine in St. Louis collaborated with the Veterans Affairs (VA) St. Louis Health Care System. The findings could impact a global understanding of one of the fastest growing diseases. More than 420 million people are affected by diabetes worldwide, and roughly 30 million people in the United States alone." http://www.webtopnews.com/new-research-links-air-pollution-to-global-diabetes-8905-2018/

"We report a higher lifetime prevalence of breast, melanoma and non-melanoma skin cancers among flight crews relative to the general population."

"Taking age into account, the study found a higher prevalence of cancer in flight crew for every type of cancer examined." https://www.yahoo.com/news/commercial-flight-crews-show-higher-cancer-rates-study-172109583.html

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"The effects on cardiovascular health start at 50 decibels. The U.S. standard of under 70 decibels is solely to prevent hearing loss. The European Union standard of not more than 40 decibels at night and 50 during the day is to protect human health."

https://www.washingtonpost.com/opinions/loud-noises-hurt-more-than-hearing/2018/05/18/ccc7fc84-59dd-11e8-9889-07bcc1327f4b_story.html?utm_term=.189a034aa801

"Students' performance drops by 0.73 marks with each aircraft noise contour band, according to Ruth Cadbury MP." https://www.getwestlondon.co.uk/news/west-london-news/heathrow-noise-significantly-affecting-pupils-11220403

"Using the opening of a new international airport to model a noise experiment, Cornell University researchers measured physiological stress indicators and other quality of life measures among a sample of 9 to 11 year old children in the period prior to the opening of an international airport and again after its inauguration.

The Results

Among study subjects, resting blood pressure and overnight stress hormone levels (epinephrine and norepinephrine) rose and quality of life indices fell after the opening of the new airport and a corresponding increase in environmental noise levels.[1]

In another major airport noise study out of Munich Germany, researchers found that the opening of a new airport caused reading and memory scores to decline among children living in the noise affected area. Children living near a newly closed airport, by contrast, demonstrated improved reading and memory performance.[2]" https://www.choosehelp.com/topics/stress-burnout/noise-and-stress-2013-how-environmental-noise-levels-can-spike-your-stress-load

"The new analysis has been produced by Ben Barratt and Gary Fuller of the Environmental Research Group at King's College, London. The group said yesterday: 'This period of unprecedented closure during unexceptional weather conditions has allowed us to demonstrate that the airports have a clear measurable effect on NO2 concentrations, and that this effect disappeared entirely during the period of closure, leading to a temporary but significant fall in pollutant concentrations adjacent to the airport perimeters." https://www.independent.co.uk/environment/climate-change/empty-skies-proved-that-airports-cause-pollution-say-researchers-1950672.html

"High levels of potentially harmful exhaust particles from jets using Los Angeles International Airport have been detected in a broad swath of densely populated communities up to 10 miles east of the runways...The research, believed to be the most comprehensive of its type, found that takeoffs and landings at LAX are a major source of ultrafine particles. They are being emitted over a larger area than previously thought, the study states, and in amounts about equal in magnitude to those from a large portion of the county's freeways...The findings raise health concerns, researchers say, because the minute particles, which result from the condensation of hot exhaust vapor from cars, diesel trucks and aircraft, have the potential to aggravate heart and lung conditions, including asthma and the

"The aviation is by far the leading emitter of harmful and deadly toxins such as sulfur oxides, carbon monoxide, nitrogen oxides, carbon dioxide, and volatile organic compounds (VOCs) into the atmosphere. Unfortunately, these toxins are harmful to living things. In fact, people living, working, or simply within nine square miles of airports are exposed to air pollution that is 10 times higher than areas outside this zone."

The following are examples summarized of some topics for investigation of EJ communities in NEPA reviews. See the Interagency Working Group on Environmental Justice https://www.epa.gov/sites/production/files/2016-08/documents/nepa_promising_practices_document_2016.pdf:

- Define the boundaries (GIS or mapping) of the affected population for both noise and emissions
- Define Exposure pathways
- Utilize citizen, organization and government data, science collection
- Define unique characteristics, i.e., human health vulnerabilities, health disparities, socio-economic vulnerabilities
- Explain methodologies and data
- Consider alternatives with the least impact on the low income and minority population
- Identify benefits and detriments
- Determine presence of high and adverse impacts (EJ community may be more susceptible to impacts than the general population)
- Utilize systems for data collection such as Health Department, Cancer Registry, National Birth Defects Registry, National Brain Tumor Registry, etc.
- Develop a health impact assessment (HIA) and Social Impact Assessment (SIA)
- Use a comparative population
- Monitoring plan to assure mitigation is successful
- Consider on balance compensatory mitigation to equalize detriments

From:	Debi Wagner
To:	SAMP Public Comments
Cc:	Sheila Brush; Sharyn Parker; Nancy Tosta; Larry; Walter Bala; Terry Plumb; John Parnass; Dana Hollaway; Steve Edmiston; Scott Stevson; Brian Wilson; Yarden Weidenfeld; Jean Hilde; ROSE CLARK; Roseanne; Stuart Jenner; Kent Palosaari; timr@robinsonnews.com; Scott Schaefer; Michael Matthias - City of Des Moines; Susan Petersen; Peter; Joel Wachtel; Kent Palosaari; Kent Palosaari
Subject:	Scoping comments
Date:	Sunday, September 16, 2018 5:42:45 PM
Attachments:	Scoping I.docx

The attached Scoping comments are not meant to replace my comments submitted at the Highline College Port of Seattle/FAA outreach but are meant as supplemental. I am copying below a list of additional questions from an email exchange with Cayla Morgan, FAA Environmental Specialist which she refused to answer unless submitted through the Scoping process.

S12-1 I fail to understand why the SAMP Scoping boards for air quality and climate are empty and why the public health board has risk of explosion and little else that has anything to do with public health concerns.
These boards could be populated to provide at least some framework for the public to know or understand how much or little the Port of Seattle and FAA plan to cover.

I was involved in the four-year process for the third runway from Scoping to Final Supplemental EIS, MOA air quality study, Record of Decision and Governor Locke's certification of the project. This entire process was an attempt to cover up the true impacts, provide false data, downplay impacts and as a result, further a dangerous, unmitigated airport pollution problem. The subsequent legal cases pushed this process out another 8 years while the community fought impacts with meager resources that pushed cities near bankruptcy. In the end what we received was a somewhat smaller environmental destruction.

S11-31 This current process should include a greater level of transparency and honesty. Agencies, officials and those responsible for oversight should assure the project not only complies with existing laws, but rises to an environmental standard that they themselves would want for their own families. This principle is reflected in state law at WAC 173 which guarantees each person in the State of Washington the right to a healthful environment.

I also realize that the proper analysis may disclose the need for removing billions of dollars worth of residential land uses that are far too close to the airport. This proximity problem is a result of the 1989 "Mediation" agreement which kept incompatible land uses intact in exchange for a noise mitigation program. This was the cheap way out of a problem for the Port of Seattle. An Expert Noise Panel appointed by the State of Washington in 1996 determined the noise mitigation program wasn't successful. Subsequently, many of the insulated homes have had insulation and windows mold, fail and rot. There is currently no plan to repair, or expand the program. This is unacceptable. Other cities are getting updated products and upgrades.

S12-1 In summary, it would be easier to site another airport in the state with a proper buffer of 33,000 acres than to try and make this situation acceptable, livable and compatible.

Thank you,
Debi Wagner

From: Deborah Wagner <debi.wagner4@gmail.com>
Date: Wednesday, September 12, 2018 at 12:01 PM
To: Sheila Brush <shebrush@gmail.com>, Steve Edmiston <sedmiston@bracepointlaw.com>, Scott Stevson <scottstevson@gmail.com>, Bruce Dennis <bld522@yahoo.com>, Larry Cripe <Larrycripe@comcast.net>, Terry Plumb <tmcp123@hotmail.com>, "walterbala@mac.com" <walterbala@mac.com>, "Keiser, Sen. Karen" <Karen.Keiser@leg.wa.gov>
Subject: Fwd: follow-up

---------- Forwarded message ---------
From: <Cayla.Morgan@faa.gov>
Date: Wed, Sep 12, 2018 at 11:01 AM
Subject: RE: follow-up
To: <debi.wagner4@gmail.com>, <shebrush@gmail.com>, <Larrycripe@comcast.net>, <annek@36524.com>
Cc: <Patricia.Deem@faa.gov>, <Janell.Barrilleaux@faa.gov>, <Purcell.Arlyn@portseattle.org>, <Rybolt.S@portseattle.org>

Dear Debi:

Thank you for your comments regarding the Sustainable Airport Master Plan (SAMP) Near-Term Projects environmental review. If you would like your comments to be included as part of scoping, they must be received or postmarked by September 28, 2018 through at least one of the following methods:

1. SAMP Online Open House: www.SAMPNTPenvironmentalreview.org
2. Email: SAMP@portseattle.org
3. Mailed to: Mr. Steve Rybolt

   Port of Seattle

   Aviation Environment and Sustainability

   P.O. Box 68727

   Seattle, WA 98168

4. Submitted in writing at any of the four public meetings
5. Recorded by the Court Reporter at any of the four public meetings

While we appreciate your comments, we cannot consider them as part of the SAMP Near-Term Project environmental review scoping process unless you resubmit them via one or more of the methods above.

Once received, these comments will be reviewed by the Port and Federal Aviation Administration (FAA). We anticipate that we'll report out on the results of scoping to the Port Commission in early 2019.

Thank you,

Cayla D. Morgan

Environmental Protection Specialist

Seattle Airports District Office

206-231-4130

My new address is: **2200 S. 216th Street, Des Moines, WA. 98198**

From: Deborah Wagner <debi.wagner4@gmail.com>
Sent: Tuesday, September 11, 2018 9:41 AM
To: Morgan, Cayla (FAA) <Cayla.Morgan@faa.gov>; Sheila Brush <shebrush@gmail.com>; Larry Cripe <Larrycripe@comcast.net>; Anne Kroeker <annek@36524.com>
Subject: follow-up

Hello Cayla: Thank you for spending time discussing some of our questions at the SAMP Scoping meeting last night. I have a few questions that I hope you can answer.

The "air quality" team said the CO2 figure of 363,306 metric tons per year (2016) produced by Landrum & Brown in a preliminary air quality draft I received six months ago uses only a takeoff cycle of approximately 2 minutes. The figure I received from Elizabeth Leavitt, Port of Seattle senior environmental staff member at the Energy and Sustainability Committee in 2016 was 5.4 million metric tons per year which includes all fuel pumped for CO2 in 2015 but not methane, black carbon or nitrogen oxides which are major contributors to climate impact and in my opinion, should be calculated for their respective contribution.

The AQ staff said that FAA regulations requires them to use only the truncated figure, part of the LTO.

N2-7

Question: Please provide the regulation/guidance/AC or whatever governs this calculation?

N10-40

Question: I am also seeking a copy of any EA, FONSI, CATEX document you referenced from 2006/2007?

N2-1

I am also concerned about the conditional approval FAA received from EPA in 1997 which required an air quality analysis prior to any future build post 2010 due to predicted violations of the NAAQS. Monitoring around the airport drives in 1998 found CO levels at roughly 80% of the federal standard during a slow period of operations along with particulate and NO2 levels higher than any historical regional monitoring. The congestion around the airport along with the massive increase in operations over the years and lack of monitoring in the area combined with close-in communities is cause for concern for compliance meant to protect public health and welfare.

S3-B/S3-2

Question: Will any monitoring of the air quality be required before approvals are issued? If so, will air toxics be included along with criteria pollutants?

In 1993, McCulley, Frick and Gilman monitored hydrocarbons in the neighborhoods around Sea-Tac and found several of concern above the Washington State Acceptable Source Impact level including benzene, formaldehyde, acrolein, etc. Due to these and other studies showing increased cancer risk, the Port of Seattle and FAA were asked to conduct a risk analysis for the third runway EIS which did not happen due to the consultant citing "lack of information." It now appears the community is experiencing higher than average respiratory illnesses and cancer and the State Department of Health map of health disparities along with EPA EJ Screen confirms the area surrounding Sea-Tac is in the above 80th percentile of negative health outcomes. These communities have already been identified by FAA in their PEA for the Automated Turn dated September 2017 as predominately minority and low income for Environmental Justice. There are requirements for notifications, HIA, SIA, and numerous other investigatory measures included in the Federal Interagency Working Group "Promising Practices" report from March 2016 and other regulatory framework.

S5-1/S8-3

Question: Will FAA require a thorough evaluation of the EJ conditions and health disparities in the community surrounding Sea-Tac Airport including a risk analysis that uses monitoring to validate modeling?

Lastly, I am still confused as to the role of FAA in planning aviation capacity in Washington. The DOT Air Transportation representative believes FAA has to provide direction for the state to move forward on siting and building or expanding facilities. Yet, it seems FAA has referred to the state as the lead on this process. I am concerned because the state does not necessarily understand airspace constraints or the potential for harm of the human environment from concentrated high noise and emissions in the congested corridors. Due to constraints on the Sea-Tac facility which drives up the expansion cost tremendously that FAA must help fund, does it seem wise, prudent or usual to not more aggressively pursue alternatives to Sea-Tac expansion that are less harmful?

S12-36

Question: What is FAA's role in regional or state decision-making to either stop expanding Sea-Tac or to build another airport/expand existing facilities?

Thank you,

Debi Wagner

SCOPING COMMENTS
To the Port of Seattle and FAA
9/16/2018

Scoping should be taken seriously. Past requests for the Third Runway analysis to address environmental considerations have been ignored. Please see attachment for an example of Puget Sound Clean Air Agency (PSCAA) formerly, Puget Sound Air Pollution Control Agency request for the third runway EIS to include a risk analysis and the response to not perform the analysis from the FAA/Port of Seattle. Where insufficient information exists (was not a valid excuse since EPA had just done a thorough risk assessment for Midway Airport http://www.csu.edu/cerc/documents/SWChicagoCancerRisks1993.pdf) or unknown risk exists as was the case with existing widespread community health disparities, it is the responsibility of the agency proposing the project involving additional impacts to use all available means to discover and disclose. NEPA §1508.27

The FAA and Port of Seattle should analyze the following items in the Environmental Assessment and Environmental Impact Statement:

HUMAN HEALTH AND ENVIRONMENT

1) Conduct an air quality analysis for all pollutants of concern; hydrocarbon emissions, air toxics, lead and criteria pollutants in the communities surrounding the airport and flight paths where aircraft overfly to 3,000 feet. This was required by a MOA between the Port of Seattle, EPA, PSCAA and DOE to be done post 2010 (See Attached). Please note the request for chemical analysis of residues in flight paths. Funding shortfall prevented this from going forward. It is still needed. Monitoring is used to validate modeling and has been recommended by our air quality agencies
2) Provide data on demographics and health in all communities affected by airport noise/emissions using existing data, science, agencies, institutions with city and citizen input. Give same consideration to multiple stressors (noise/emissions, traffic, etc.) in EJ community as was provided by the Port of Seattle in the near Port community grant for Duwamish residents.
3) Identify significant cumulative impacts considering past, present and reasonably foreseeable, multiple project impacts and high and adverse impact areas.509, SASA, South Satellite, flight path changes, modifications, hardstands, new terminal construction and operation etc.
4) Identify areas where low income and minority populations reside and analyze disproportionate impact by airport operations, traffic, congestion, etc.
5) Consider cumulative noise and emissions on resident's health
6) Consider unknown risk and develop methods to determine sources, nature and develop control strategies
7) Conduct a risk analysis using all air contaminants known to be produced by airport operations using the collected monitoring and modeling data for validation as per Puget Sound Clean Air request in 1994 not yet completed
8) Map the areas of impact
9) Conduct a health impact assessment (HIA) and social impact assessment (SIA).
10) Provide meaningful insights into mitigation strategies

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55-1 58-3

METHODOLOGY

1) Both co-lead agencies should use available science, data and input from independent sources to inform and validate the process and conclusions
2) Worst-case scenarios for impact analysis should be considered and developed
3) Mapping the area of emission impact will be different than the noise contours and should highlight highest risk areas.
4) A map should be color coded to easily identify:
   a) Low income and minority populations eligible for environmental justice consideration
   b) High and adverse impact assessment by census tract
   c) Impact from emissions and types of emissions
   d) At risk areas by type of risk
   e) Noise contours and highest noise sensitive areas impact
   f) Existing health disparities
5) All assumptions and conclusions should be peer reviewed and independently verified for accuracy. For instance, industry data frequently reflects a bias; current emissions prepared by consultant for the SAMP varies widely from the EPA data for the same year using the same FAA operations, data and model. This problem plagued the third runway EIS data on emissions. Port estimates for 2014 are in white and EPA estimates in yellow

EMISSION SOURCE	SHORT TONS OF POLLUTANTS (2014)											
	NO_x	NO_x	VOC	VOC	CO	CO	SO_x	SO_x	PM_{10}	PM_{10}	$PM_{2.5}$	$PM_{2.5}$
Aircraft Engines	1,623	2,350	242	448	1,329	2,156	158	251	8	53	8	52
APUs	72	48	5	4	48	43	9	7	22	6	22	6
GSE	307	91	78	29	2,292	845	21	3	20	3	19	3
Stationary Sources	17		1		12		0		1		1	
TOTAL	2,019		326		3,681		188		51		50	

Residents are entitled to a fair process. The State Department of Public Health and State Board of Health has previously identified the areas around Sea-Tac Airport as experiencing high and adverse health consequences and eligible for environmental justice consideration. Their recommendation in June 2001 was for a comprehensive independent air quality study.

The Port of Seattle has already previously recognized the importance of greater levels of identification and mitigation for environmental justice eligible communities. For the Near Port Community Grant partnership with EPA analyzing the disproportionate environmental and human health impacts of Seaport operations/cargo trucks, local industry and transportation impacts, the Georgetown and South Park communities received a Community Benefits Agreement and commitment from the Port of Seattle for funding, home air filtration systems, educational programs and workforce development among other contributions. Commissioners recognized the utility of such a community investigation

process and foresaw an application of this Duwamish Valley Environmental Justice and Social Equity program as a pilot for future application potential to other Port impacted communities.

The contributions of the Energy and Sustainability Committee on elevating the profile of equity in Port environmental efforts and community engagement were noted. The project elements were summarized and the disproportionate community health impacts of environmental factors in South Park and Georgetown were described at the Port Commission Meeting on April 10, 2018.
http://www.mdpi.com/search?q=noise+Queens%2C+NY&authors=&article_type=&journal=ijerph&section=&special_issue=&volume=&issue=&number=&page=&search=Search

Below are some selected articles with a summary on noise and emissions.

"Air pollution causes seven million premature deaths a year but the harm to people's mental abilities is less well known. A recent study found toxic air was linked to "extremely high mortality" in people with mental disorders and earlier work linked it to increased mental illness in children, while another analysis found those living near busy roads had an increased risk of dementia.

The new work, published in the journal Proceedings of the National Academy of Sciences, analysed language and arithmetic tests conducted as part of the China Family Panel Studies on 20,000 people across the nation between 2010 and 2014. The scientists compared the test results with records of nitrogen dioxide and sulphur dioxide pollution.

They found the longer people were exposed to dirty air, the bigger the damage to intelligence, with language ability more harmed than mathematical ability and men more harmed than women. The researchers said this may result from differences in how male and female brains work.

Derrick Ho, at the Hong Kong Polytechnic University, said the impact of air pollution on cognition was important and his group had similar preliminary findings in their work. "It is because high air pollution can potentially be associated with oxidative stress, neuroinflammation, and neurodegeneration of humans," he said."

https://www.theguardian.com/environment/2018/aug/27/air-pollution-causes-huge-reduction-in-intelligence-study-reveals?CMP=share_btn_link

Shortened life span due to aircraft noise, savings to airlines in fuel and airports in efficiencies has less value than public health costs associated with the cardiovascular health effects of the noise.

Aircraft noise causes oxidative stress in the brain. "Thus the presented results may explain at least in part why sleep phase rather than awake phase noise leads to cardiovascular diseases and may also provide an explanation why aircraft noise is linked with cognitive impairment including retardations of learning and memory capabilities in children. Thus preventive measures should be considered to reduce night-time aircraft noise."

"One hundred million Americans are effected by unhealthy levels of noise." https://academic.oup.com/eurheartj/advance-article/doi/10.1093/eurheartj/ehy333/5037114#.W1m3vsP6liE.facebook

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"The analyses suggested that a 5-dB noise reduction scenario would reduce the prevalence of hypertension by 1.4% and coronary heart disease by 1.8%. The annual economic benefit was estimated at $3.9 billion." https://www.ncbi.nlm.nih.gov/m/pubmed/26024562/

"New research Links Air Pollution to Global Diabetes

Air pollution linked to 3.2 million new diabetes cases in one year.

A new research study links air pollution with an increased risk of global diabetes, even at pollution levels deemed safe by other governing bodies.

A study from the Washington University School of Medicine in St. Louis collaborated with the Veterans Affairs (VA) St. Louis Health Care System. The findings could impact a global understanding of one of the fastest growing diseases. More than 420 million people are affected by diabetes worldwide, and roughly 30 million people in the United States alone." http://www.webtopnews.com/new-research-links-air-pollution-to-global-diabetes-8905-2018/

"We report a higher lifetime prevalence of breast, melanoma and non-melanoma skin cancers among flight crews relative to the general population."

"Taking age into account, the study found a higher prevalence of cancer in flight crew for every type of cancer examined." https://www.yahoo.com/news/commercial-flight-crews-show-higher-cancer-rates-study-172109583.html

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"The effects on cardiovascular health start at 50 decibels. The U.S. standard of under 70 decibels is solely to prevent hearing loss. The European Union standard of not more than 40 decibels at night and 50 during the day is to protect human health." https://www.washingtonpost.com/opinions/loud-noises-hurt-more-than-hearing/2018/05/18/ccc7fc84-59dd-11e8-9889-07bcc1327f4b_story.html?utm_term=.189a034aa801

"Students' performance drops by 0.73 marks with each aircraft noise contour band, according to Ruth Cadbury MP." https://www.getwestlondon.co.uk/news/west-london-news/heathrow-noise-significantly-affecting-pupils-11220403

"Using the opening of a new international airport to model a noise experiment, Cornell University researchers measured physiological stress indicators and other quality of life measures among a sample of 9 to 11 year old children in the period prior to the opening of an international airport and again after its inauguration.

The Results

Among study subjects, resting blood pressure and overnight stress hormone levels (epinephrine and norepinephrine) rose and quality of life indices fell after the opening of the new airport and a corresponding increase in environmental noise levels.[1]

In another major airport noise study out of Munich Germany, researchers found that the opening of a new airport caused reading and memory scores to decline among children living in the noise affected area. Children living near a newly closed airport, by contrast, demonstrated improved reading and memory performance.[2]" https://www.choosehelp.com/topics/stress-burnout/noise-and-stress-2013-how-environmental-noise-levels-can-spike-your-stress-load

"The new analysis has been produced by Ben Barratt and Gary Fuller of the Environmental Research Group at King's College, London. The group said yesterday: 'This period of unprecedented closure during unexceptional weather conditions has allowed us to demonstrate that the airports have a clear measurable effect on NO2 concentrations, and that this effect disappeared entirely during the period of closure, leading to a temporary but significant fall in pollutant concentrations adjacent to the airport perimeters." https://www.independent.co.uk/environment/climate-change/empty-skies-proved-that-airports-cause-pollution-say-researchers-1950672.html

"High levels of potentially harmful exhaust particles from jets using Los Angeles International Airport have been detected in a broad swath of densely populated communities up to 10 miles east of the runways...The research, believed to be the most comprehensive of its type, found that takeoffs and landings at LAX are a major source of ultrafine particles. They are being emitted over a larger area than previously thought, the study states, and in amounts about equal in magnitude to those from a large

portion of the county's freeways...The findings raise health concerns, researchers say, because the minute particles, which result from the condensation of hot exhaust vapor from cars, diesel trucks and aircraft, have the potential to aggravate heart and lung conditions, including asthma and the development of blocked arteries." https://www.change.org/p/stop-the-faa-nextgen-flights-over-culver-city/u/22489687?recruiter=false&utm_source=share_update&utm_medium=facebook&utm_campaign=facebook_link

"Aviation Emissions Impact Ambient Ultrafine Particle Concentrations in the Greater Boston Area." https://pubs.acs.org/doi/pdf/10.1021/acs.est.6b01815

"An air quality study has for the first time detected nano-sized particles of air pollution in children's urine...these ultrafine particles are the smallest particles found in air pollution and have been linked to heart disease and respiratory conditions in previous studies.

The research provides the first direct evidence that some of the particulate matter known as black carbon that we inhale in soot and fumes is making it across the lung barrier and into the body's circulatory system." https://horizon-magazine.eu/article/ultrafine-pollution-particles-create-air-menace_en.html

Close-in communities and those in flight paths are home to a large population, many which are predominately minority and low income residents. This community has been the topic of investigation by the State Department of Public Health in the past and found to exhibit higher than average and sometimes statistically significantly higher than average respiratory and brain cancer when compared to King County and State averages. Currently, these same statistics seem to be present especially in 98168 for asthma and 98198 for cancer types including brain cancer.

EPA EJ Screen tool can be used to assess the risk, exposure and negative health outcomes of census tracts within these zip codes and indicate the percentile is in the 90 to 100th for much of the population. (see attached example)

UW Ultrafine investigation has found hot spots of ground level ultrafine concentrations below flight paths for Sea-Tac Airport. Ultrafine particulate pollution can be breathed in and small diameters typical of jet aircraft combustion products can pass through the membrane barrier and enter the blood-stream affecting the heart and brain. (See MOV-UP) These are suspected to cause lung irritation, inflammation, immune response and adverse reactions for asthma sufferers.

New Jersey Institute of Technology estimates that airport operations are spreading air toxics and contaminants into a 9 square mile area around airports that is 10 times higher than average for areas not affected by airport operations.

https://graduatedegrees.online.njit.edu/resources/msce/msce-infographics/deadly-airport-toxins/

"The aviation is by far the leading emitter of harmful and deadly toxins such as sulfur oxides, carbon monoxide, nitrogen oxides, carbon dioxide, and volatile organic compounds (VOCs) into the atmosphere. Unfortunately, these toxins are harmful to living things. In fact, people living, working, or simply within nine square miles of airports are exposed to air pollution that is 10 times higher than areas outside this zone."

Area	Population age 25+	Deaths age 25+	Mean annual $PM_{2.5}$ ($\mu g/m^3$)	Attributable fraction	Attributable deaths age 25+	Associated life-years lost
London	5,330,600	47,998	12.7	7.2	3,389	41,404
East Midlands	3,087,200	40,806	10.1	5.7	2,314	24,016
West Midlands	3,714,533	50,110	10	5.7	2,837	29,897
East	4,042,900	51,211	9.9	5.6	2,844	29,096
South East	5,884,600	74,124	9.7	5.5	4,034	41,729
Yorkshire and the Humber	3,584,267	48,534	9.3	5.3	2,567	26,636
North West	4,733,000	67,871	8.9	5.1	3,427	35,855
South West	3,705,633	52,000	8.2	4.7	2,389	23,779
North East	1,795,267	26,090	8.1	4.6	1,199	12,336
England	35,878,000	458,743	9.9	5.6	25,002	264,749
Slough Unitary Authority	84,700	744	12.1	6.8	51	714

While levels of particulate matter (PM) do not exceed EU Limit Values. the Joint Strategic Needs Assessment (JSNA) shows that levels of fine particulates (PM2.5) in 2015 accounted for 19.1 premature deaths per 100.000 people in Slough compared with a rate of 11.7 for the South East. The health impacts of air pollution are becoming more apparent with evidence showing effects such as heart attacks. strokes. low birth weight babies and impaired lung and brain development. The World Health Organisation (WHO) categorises diesel exhaust fumes as carcinogenic.

Airport has highest emissions levels per acre in King County for certain pollutants

Comment 5: Commentor questioned how pollutant levels at Sea-Tac contrast with pollutants emissions in other portions of the region on a per acre basis.

Response: As would be expected, the acreage containing Sea-Tac Airport emits a greater level of air pollution than the average acre within King County for specific pollutants. Generally, Airport lands (encompassing 2,500 acres) produce greater levels of nitrogen oxides (NOx) for each airport acre than do all sources for each of King County's 1.4 million acres. However, aircraft emissions of Volatile Organic Compounds (VOC) and Carbon Monoxide (CO) for each Airport acre are nearly the same as compared to all sources for each King County acre.

Nitrogen Oxide (NOx). Aircraft activity at Sea-Tac produces approximately 0.5 tons NOx for each Airport acre (2,500 acres). All sources (aircraft, motor vehicles, fuel tanks, etc.) produce about 0.2 tons NOx for each acre within the Master Plan Update EIS study area (15,000 acres). Comparatively, all sources within King County (mobile, non-road mobile, point and stationary sources) produce 0.1 tons NOx for each King County acre.

Volatile Organic Compound (VOC). Aircraft produce approximately 0.1 tons per year VOC for each Airport acre. All sources produce just over 0.1 tons VOC per year for each acre within the EIS study area. The airport and airport area per acre level is the same as the King County level of about 0.1 tons VOC per acre.

Carbon Monoxide (CO). Aircraft produce about 0.5 tons CO per year for each Airport acre. All sources in the study area produce 1.5 tons CO per year for each acre. All sources within King County produce 0.4 tons CO per year for each acre in King County.

Comment 6: Commentor questioned if the airport should be treated like a point source instead of as mobile sources?

Response: Sea-Tac Airport facilities consist of a complex mix of stationary, mobile and non-road mobile sources. Stationary or point sources are typically limited in size to a single facility in comparison to the 2,500 acres at Sea-Tac consisting of numerous individual facilities. Emissions from aircraft and motor vehicles are consistently treated as mobile sources under the Clean Air Act. Additionally, although the Port of Seattle owns the land, many of the structures on-airport are owned and maintained by the tenants using the Airport. These tenants have certain responsibilities and liabilities associated with their operation independent from the Port of Seattle. These facilities are regulated by the Puget Sound Air Pollution Control Agency as stationary sources. As a result, air pollution modeling for airports typically uses point, area, and line sources to characterize the types of sources and/or facilities.

Comment 7: Commentor expressed concerns with the role and results of the SIP.

Response: Ms. Des Marias correctly notes that "the goal of the SIP is to chart air pollution and improvements over time to eventually reach attainment of the standards to protect public health and better the environment." The SIP "inventories" pollutant levels by a variety of sources within the Region including airports. Once all the pollutant sources are inventoried, then the SIP focuses on measures to reduce pollutant levels in order to meet pollutant reduction goals for the Region. The SIP inventories do not mean that activity within the Region cannot grow, nor do they establish pollutant 'budgets' for a particular source that cannot be exceeded. For example, the SIP accounts for growth in aircraft activity at Sea-Tac. Because motor vehicles are expected to remain the largest

Aircraft have a ground level impact on air quality up to 3,000 feet

For the future years, as well, levels of CO, HC, and NO, remain well below the State's 1995 inventory.

The disparity between the State's inventory levels and the inventory levels presented in the analysis occurs because of differences in operational levels, aircraft taxi/idle/delay, and fleet mix and engine emission assumptions. The State's emission inventory is based on 1990 aircraft operations levels versus actual 1994 used in this study's inventory. This study's and the State's inventory used slightly different aircraft activity levels and fleet mix. Therefore, the State's inventory may not have considered many of the newer aircraft in use or projected to be in use at the Airport.

The Airport's inventory also considered taxi/idle times specific to Sea-Tac. The State's inventory relied on default time in mode values presented in AP-42, including for taxi/idle/delay.[9] As such, the State's inventory is based on a much higher taxi/idle/delay time in comparison to the Airport's inventory. For the Airport's emission inventory, departure delay at Sea-Tac is based on the FAA's Capacity Enhancement Study airfield computer simulation.[10] Departure delay used in the analysis is based on the peak hour departures, for all weather conditions. As levels of CO, are highly influenced by taxi, idle and departure delay, emissions for this pollutant would be expected to be less than for the State's 1990 inventory levels.

(4) DISPERSION SCREENING ANALYSIS

A dispersion analysis was performed to ensure that localized "hot spots" would not result from the Master Plan Update alternatives. In performing the dispersion analysis, the FAA's Emissions and Dispersion Modeling System (EDMS) computer model was utilized.[11] EDMS provides for dispersion analysis in two levels of detail: a screening analysis which reasonably incorporates "worst case" operational and meteorological conditions; and, a more detailed "refined" analysis that considers actual operational characteristics and meteorological conditions. This section describes the screening dispersion analysis methodology and results.

EDMS evaluates the design and operational characteristics of an airport by modeling aircraft emissions. Departing aircraft are simulated from the departure runway hold pad area during take-off and through climb-out. Airfield departure delay periods are included in the EDMS analysis. Aircraft cruise emissions above an altitude of 3,000 feet are not analyzed because they are discharged at altitudes that preclude any discernible impact to ground level air quality conditions. Vehicular emission rates are included in the EDMS model and are used to predict air pollutant dispersion from vehicular sources on roadways and parking lots in the Airport area. The EDMS model includes MOBILE5A, a USEPA mobile source emission program used to determine surface transportation vehicular emission factors.

(A) Dispersion Screening Analysis Methodology

An initial screening dispersion analysis was conducted to determine locations where possible exceedances of the AAQS might occur. The basis for the screening dispersion analysis is to represent worst case conditions, which are the combinations of operational activity and meteorological conditions encountered during the year which result in the highest concentration of air pollutants. The screening analysis identifies pollutant levels according to the worst case wind angle recorded for modeled receptor locations. The worst case wind angle represents the wind direction at which the highest concentrations of pollutants by receptor was calculated based on reasonable worst case meteorological assumptions such as cold temperature and calm wind conditions. The analysis assumes that the peak hour for aircraft, roadway and other sources occurs at the same time. Since this is not the case, the evaluation represents a worst case situation that may present an overestimation of pollutant concentrations.

Sources modeled include roadways, point sources such as heating plants and fuel tanks, and area sources such as parking lots. A description of the sources modeled is

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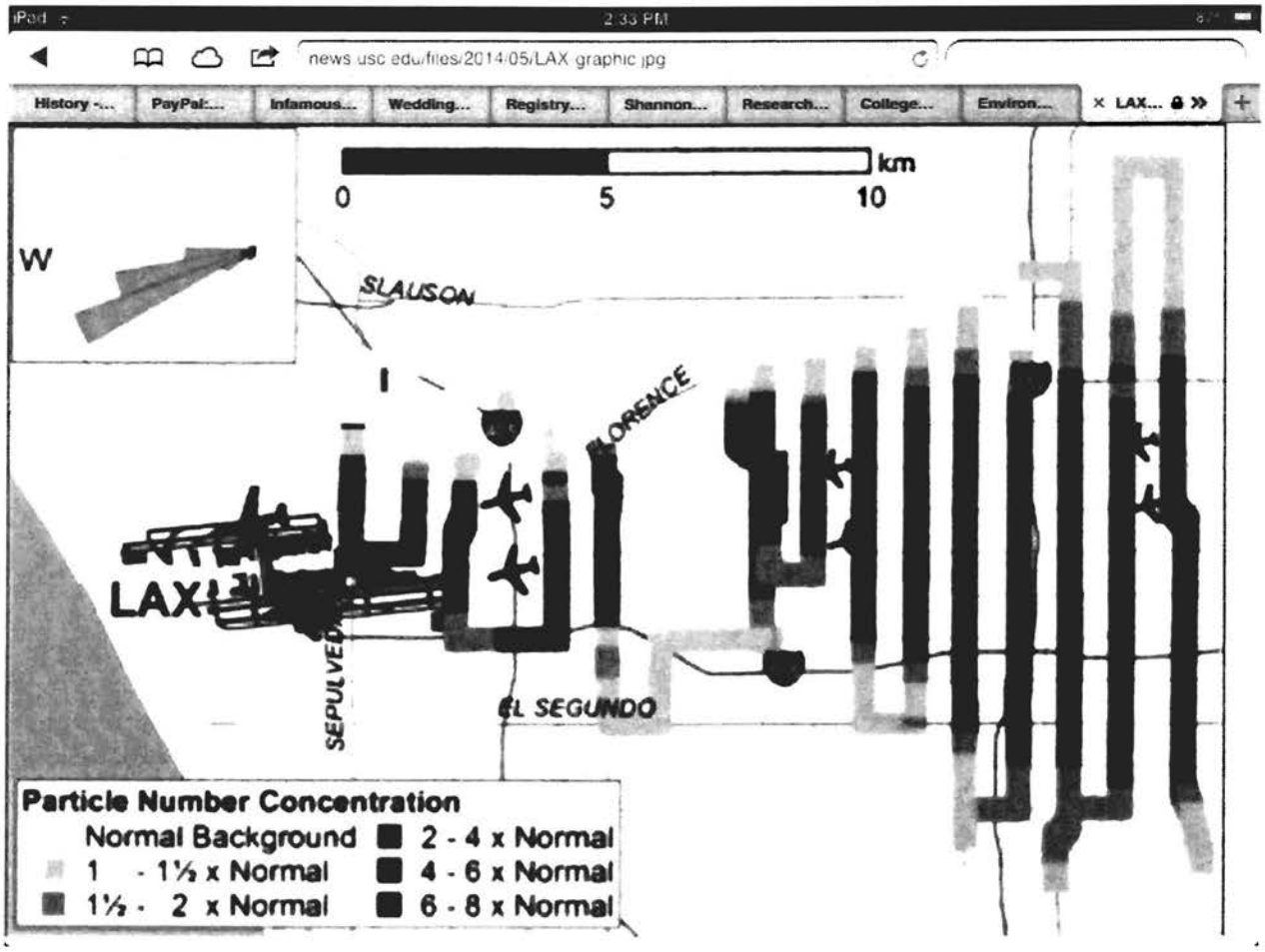
[9] Compilation of Air Pollutant Emission Factors, Volume II: Mobile Sources, AP-42, U.S. Environmental Protection Agency, September, 1985.

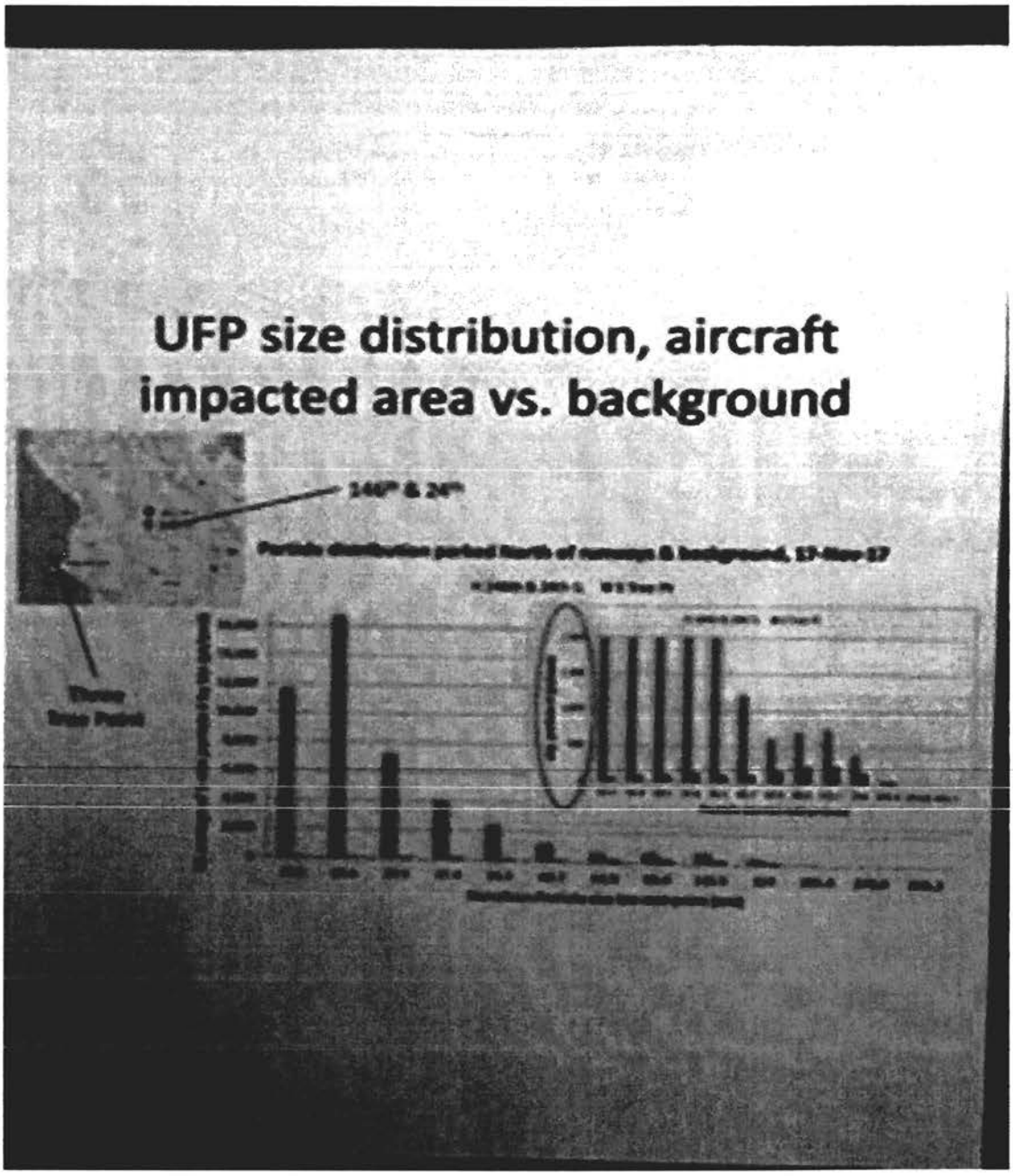
[10] Data provided by Mr. Darryl Stout, Operations Research Analyst, Aviation Capacity Branch, Federal Aviation Administration, October, 1994.

[11] Use of the EDMS model was confirmed with the USEPA, Ecology, PSRC, and PSAPCA May 17, 1994.

LAX significant contribution from overhead aircraft to ground level ultrafine particulate impacts



Sea-Tac Airport area experiencing the same high level of ultrafine particulate impacts of in flight paths similar to that discovered and monitored at LAX environ. The orange bars off the chart is the flight path impact compared to monitoring at Three Tree Point removed from flight path impact area

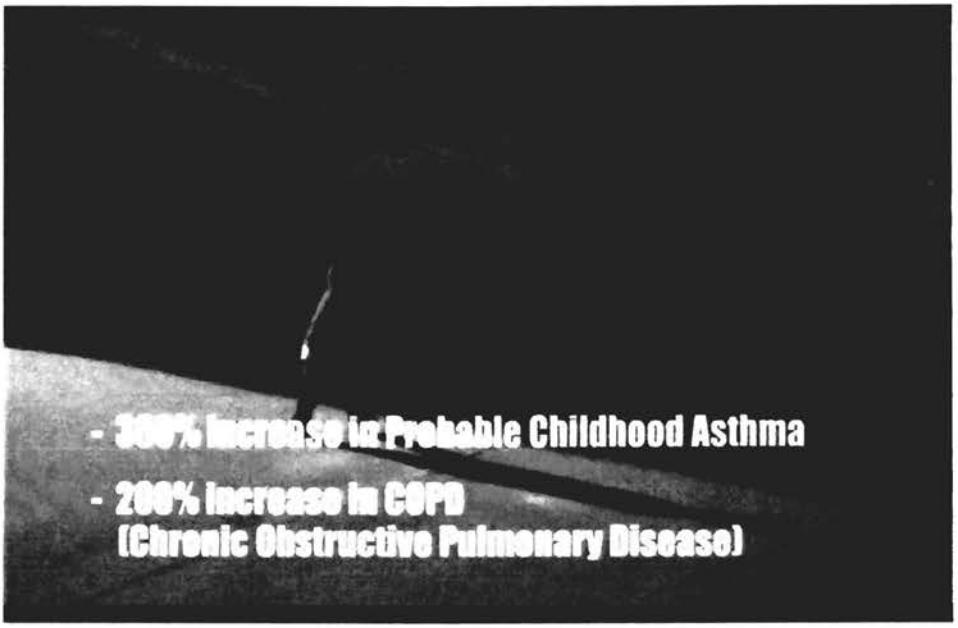


Statistically Significant Asthma and higher than average for King County cancer cases including respiratory and brain cancer from a recent zip code search of 98168 and 98198 by the State Department of Health Epidemiology

Hospitalization: Age Adjusted Rate

Diagnosis Group	Year	Geography	Count	Populatio	Age-Adj	Age-Ad	Age-Ad
##Malignant neoplasm of trachea bronchus	2011-2015	State Total	9168	34497650	23.74	23.25	24.25
##Malignant neoplasm of trachea bronchus	2011-2015	King	2326	10008810	23.27	22.31	24.26
##Malignant neoplasm of trachea bronchus	2011-2015	98168_Sea	34	172403	23.66	16.13	33.8
##Malignant neoplasm of trachea bronchus	2011-2015	98198_Sea	46	174919	24.59	17.94	33.12
##Malignant neoplasm of brain (191)	2011-2015	State Total	3373	34497650	9.03	8.72	9.35
##Malignant neoplasm of brain (191)	2011-2015	King	1011	10008810	9.68	9.08	10.31
##Malignant neoplasm of brain (191)	2011-2015	98168_Sea	18	172403	11.15	6.55	18.29
##Malignant neoplasm of brain (191)	2011-2015	98198_Sea	20	174919	10.44	6.26	16.58
##Asthma (493)	2011-2015	State Total	20274	34497650	58.78	57.96	59.6
##Asthma (493)	2011-2015	King	5847	10008810	61.98	60.38	63.62
##Asthma (493)	2011-2015	98168_Sea	128	172403	75.34	62.68	90.26
##Asthma (493)	2011-2015	98198_Sea	102	174919	58.19	47.27	71.01

The same elevated high and significant numbers of diseases are occurring around Boston Logan Airport. The same planes overfly communities throughout the US but Sea-Tac. LAX and Boston Logan along with other select airports are unique for how dense and close in proximity to the airport are the local residential communities (within a few blocks for residential areas on all sides of Sea-Tac Airport)



Destination: East Boston from Lucas La Battaglia on Vimeo.

The film appears to be connected to Airport Impact Relief, Inc., a nonprofit.

The following are examples summarized of some topics for investigation of EJ communities in NEPA reviews. See the Interagency Working Group on Environmental Justice https://www.epa.gov/sites/production/files/2016-08/documents/nepa_promising_practices_document_2016.pdf:

- Define the boundaries (GIS or mapping) of the affected population for both noise and emissions
- Define Exposure pathways

- Utilize citizen, organization and government data, science collection
- Define unique characteristics, i.e., human health vulnerabilities, health disparities, socio-economic vulnerabilities
- Explain methodologies and data
- Consider alternatives with the least impact on the low income and minority population
- Identify benefits and detriments
- Determine presence of high and adverse impacts (EJ community may be more susceptible to impacts than the general population)
- Utilize systems for data collection such as Health Department, Cancer Registry, National Birth Defects Registry, National Brain Tumor Registry, etc.
- Develop a health impact assessment (HIA) and Social Impact Assessment (SIA)
- Use a comparative population
- Monitoring plan to assure mitigation is successful
- Consider on balance compensatory mitigation to equalize detriments

Impact categories FAA must address in an EA:

Table 1: List of Environmental Impact Categories in FAA Order 10501.1F

	Environmental Impact Category
1	Air Quality
2	Biological Resources
3	Climate
4	Coastal Resources
5	Department of Transportation Act, Section 4(f)
	Environmental Impact Category
6	Farmlands
7	Hazardous Materials, Solid Waste, and Pollution Prevention
8	Historical, Architectural, Archeological and Cultural Resources
9	Land Use
10	Natural Resources and Energy Supply

	Environmental Impact Category
11	Noise and Noise-Compatible Land Use
12	Socioeconomics, Environmental Justice, and Children's Environmental Health and Safety Risks
13	Visual Effects
14	Water Resources
15	Cumulative Impacts
16	Irreversible and Irretrievable Commitment of Resources

AIR QUALITY

Air quality has not been assessed. A Memorandum of Agreement between EPA, Department of Ecology, Puget Sound Clean Air Agency and the Port of Seattle in 1997 was to monitor the air quality of the Sea-Tac Airport area post 2010 (see attached) due to predicted modeled exceedances of the NAAQS. This was to occur prior to construction of conditioned elements of the ALP. These proposed future improvements such as the new terminal and landside developments are planned along with other segmented developments such as hardstands and international facility improvements and no compliance certifications have been issued. No monitoring is planned. This monitoring should include the analysis of chemical composition of the soot, debris that was included in the MOA but not completed due to funding restraint. N10-41

The consultant working on the Sustainable Airport Master Plan (SAMP) has provided air quality data from the EDMS and AEDT model. The EPA also models the same operations for each year analyzed. Below is a table created by EPA showing the consultant (in white) and EPA analysis (in yellow) for 2014 using the same model and FAA supplied operational numbers. N2-8

EMISSION SOURCE	SHORT TONS OF POLLUTANTS (2014)											
	NO_x	NO_x	VOC	VOC	CO	CO	SO_x	SO_x	PM_{10}	PM_{10}	$PM_{2.5}$	$PM_{2.5}$
Aircraft Engines	1,623	2,350	242	448	1,329	2,156	158	251	8	53	8	52
APUs	72	48	5	4	48	43	9	7	22	6	22	6
GSE	307	91	78	29	2,292	845	21	3	20	3	19	3
Stationary Sources	17		1		12		0		1		1	
TOTAL	2,019		326		3,681		188		51		50	

The differences between these estimates have not been explained. For the third runway analysis, these same problems permeated the modeling. When looking at emission data input from the third runway analysis, it was clear the consultant had manipulated the data to obtain a predetermined outcome of compliance. The consultant failed to estimate any particulate data for all jet operations. All defaults were set to zero. The consultant cut emission data from EPA published rates and used lower than standard operations time in mode. It is not fully understood N2-8

N2-8

by me at this time, and to what degree, that falsified data has impacted public health and the environment that would have otherwise received mitigation.

CLIMATE CHANGE

N10-1 / N2-9

The consultant has provided data on carbon dioxide emissions in the Air Quality Baseline Preliminary Draft dated September 2017 for 2016 annual emissions. CO_2 is listed at 396,306 metric tons per year. Yet the Port of Seattle Energy and Sustainability Committee estimate from 2015 is 5.4 million metric tons per year. The difference between the two estimates are due to the consultant using a fraction of the Landing/Takeoff cycle rather than total fuel pumped. This leaves a majority of the carbon dioxide emissions unaccounted for. Since climate impact is a global concern, honesty and accuracy and taking responsibility for the total global climate impact is essential to understanding the significant impact the aviation sector has on planning and mitigation. While trees are the only current mitigation for aviation produced CO_2, it makes no sense the FAA has allowed the significant removal rather than topping 3,000 mature trees around the airport.

S3-1

The total climate change impact of the airport expansion will be significant. Sea-Tac is currently producing 25% of the county's climate change emissions. While the county is reducing emissions, the airport plans to double its impact. Ninety percent of the climate impact of the airport is due to jet operations. The Port of Seattle proposes reducing the remaining 10% of climate emissions by 3% or less over the next 18 years while doubling the 90%. None of the estimates consider the higher contributing emissions of nitrogen oxides, methane or black carbon. The imbalance in offsetting the impact could push Sea-Tac to half the county total by 2034 considering the increase in operations and reduction strategies in other sectors. This scenario will undo and even surpass all gains in every other sector.

Table 13
BASELINE (2016) CONDITION AEDT ANNUAL EMISSIONS

EMISSION SOURCE	SHORT TONS OF POLLUTANTS (2016)						
	NO_X	VOC	CO	SO_X	PM_{10}	$PM_{2.5}$	CO_2 *
Aircraft Engines	1,775	261	1,455	162	13	13	396,306
APUs	40	3	33	5	5	5	-
GSE	370	94	2,769	19	25	25	-
Stationary Sources	18	1	12	0	1	1	-

TOTAL	2,267	379	4,841	190	48	47	396,306

At the Highline College scoping meeting I asked Port staff at the Climate board why they are using only a small portion of the takeoff to estimate total climate impact. They said FAA has a regulation that requires this truncated figure. I asked for a copy of the regulation or a reference to where it can be found and they were unable to provide this. I followed up with a request of the FAA Environmental Specialist Cayla Morgan who was present at the scoping who invited follow-up questions along with her email. She did not provide an answer to my question or others I asked and referred me to the SAMP comment website link. This seems to be much more work than what should be necessary especially for citizens who are already experiencing injuries from excessive noise and airplane emissions.

ENVIRONMENTAL JUSTICE

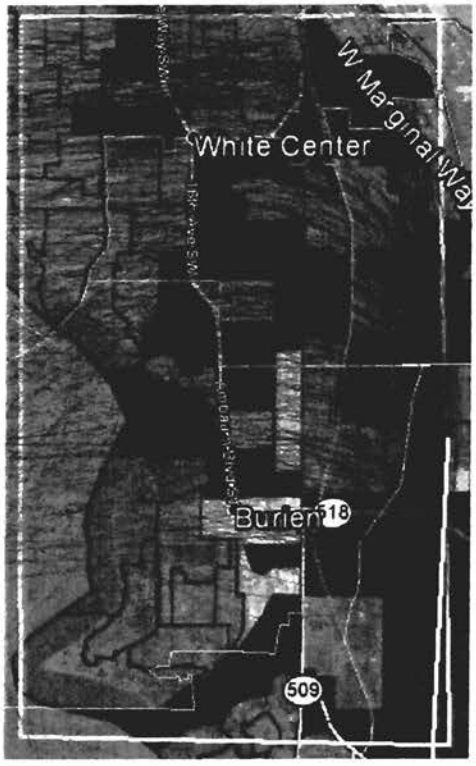
Health disparities in the communities surrounding the airport have been evaluated by the State Department of Public Health. Findings of disproportionate, high and adverse consequences exist in these communities. Currently, respiratory and brain cancer cases are higher than average when compared to King County and asthma in 98168 is statistically significantly higher than average when compared to county, state and national levels.

Environmental Justice (EJ) eligible community has been identified by FAA in their June 2017 Preliminary Environmental Analysis (PEA). The Interagency Working Group on EJ Methodologies March 2016 outlines numerous items for analysis that have not been discussed in any detail in the SAMP planning process. Cumulative impacts to these communities of noise and emissions along with health impacts have not been analyzed. Past, present and reasonably foreseeable impacts have not been addressed. Unknown risks should be evaluated.

(From the PEA)
Figures 5 and 6 shows the areas in which Environmental Justice (EJ) may be a concern within the Study Area. This data was pulled using the U.S Consensus 2015 data, through the Environmental Justice tool in AEDT. There are multiple areas of which exceed environmental justice thresholds within the Study Area. However, there are no reportable or significant noise impacts and the noise level of the No Action and Proposed Action Alternatives are less than 45 dBA DNL. Furthermore, there is no change to air quality. Therefore, the FAA has preliminarily determined that there are no high and disproportionate impacts to environmental justice communities.

Figure 5: EJ **areas with the No Action flight tracks**

Figure 6: EJ **areas with the Proposed Action flight tracks**



Key

- No Environmental Justice threshold exceeded
- Exceeds the 1 x poverty threshold level
- Exceeds the for minority threshold
- Exceeds both the 1 x poverty and minority thresholds
- Study Area
- No Action flight tracks
- Proposed Action flight tracks

The aforementioned analysis preliminarily indicates that there would be no direct or indirect or cumulative significant impact as a result of the implementation of the Proposed Action.

This analysis, above, ignores the significant impact that already exists with air quality impacts, violations of federal and state law, excessive noise through the night and health disparities discovered in the past and present. EPA EJ Screen tool can be used to assess the low income and minority populations around Sea-Tac and view the risk and negative health outcomes. Many of the census tracts in 98168 and 98198 typically overflown by departing and arriving aircraft exhibit *extreme* conditions. Some of the greatest poverty levels, language barriers, no access to healthcare deficiencies and health disparities in the county exist in these communities along with double the average for the county numbers per household of children. The Highline School

District that serves these communities has some of the highest poverty level families, and service needs of any school district in the state. See attached high noise area map and State Department of Health Washington Tracking Network health disparities map. Both exhibit similar areas of impact for high noise levels and negative health outcomes.

The State Board of Health on behalf of the State Department of Public Health finding statistically significant health disparities in the communities surrounding Sea-Tac Airport writing in The Washington State Committee on Environmental Justice, June 2001 "Final Report, State Board of Health Priority: Environmental Justice" states:

> "Airport community members living near the SeaTac Airport identified several concerns related to air pollution from operations at the airport (see Washington State Department of Health et al., February and December 1999. These reports can be accessed through: http://www.doh.wa.gov/EHSPHL/Epidemiology/NICE/HTML/ nicepubs.htm.)
>
> A March 2000 report prepared jointly by DOH, the Washington State Department of Ecology, the Puget Sound Clean Air Agency, Public Health—Seattle and King County and several other agencies and community representatives found that, in the SeaTac Airport area, there are statistically significantly higher rates of the following conditions:
>
> • Lung cancer cases within one mile of the airport compared to the rest of King County and to Washington State;
>
> • Oral and pharyngeal cancer cases within one mile of the airport compared to Washington State;
>
> • Deaths from lung cancer and chronic obstructive pulmonary disease in an area approximately three miles to the west and north and one mile to the east and south of the airport (defined by census tracts) compared to King County; and
>
> • Hospital admission for asthma and pneumonia/influenza in an area approximately three miles to the west, north and east and one half mile to the south of the airport (defined by zip codes) compared to King County.

The March 2000 report recommended that an air quality study be conducted around SeaTac Airport. This recommendation was, in part, forwarded because of environmental justice concerns. The report states, "fundamental to the concept of environmental equity is the value that one group of people not incur environmental exposures from commercial activities from

which another group benefits. Those who use SeaTac Airport often derive great financial and other benefits from worldwide travel. **The extent to which these benefits come at the expense of environmental degradation affecting the people who live around the airport is unknown,** since a comprehensive air quality study has not been performed at SeaTac Airport to determine the impacts attributable to airplane emissions and airport-related traffic" (Washington State Department of Health et al., 2000, p. 8). *[pages 14, 15] (Emphasis added)*

Regarding unknown risks the Federal Interagency Working Group (IWG) on Environmental Justice states in publication "Promising Practices for EJ Methodologies in NEPA Reviews" dated March 2016: https://www.epa.gov/sites/production/files/2016-08/documents/nepa_promising_practices_document_2016.pdf

"The degree to which an impact involves **unique or unknown risks** (see 40 CFR§1508.27(b)(5)) to minority populations and low-income populations in the affected environment can inform how agencies assess the significance of the impact. Minority populations and low-income populations could be uniquely susceptible to impacts from a proposed action due to: 1) **special vulnerabilities, e.g. pre-existing health conditions that exceed norms among the general population**; 2) unique routes of exposure, e.g. use of surface or well water in rural communities; or 3) cultural practices, e.g. subsistence fishing, hunting or gathering, access to sacred sites." IWG page 34

The FAA EA and Port of Seattle EIS must include the following:

S3-2

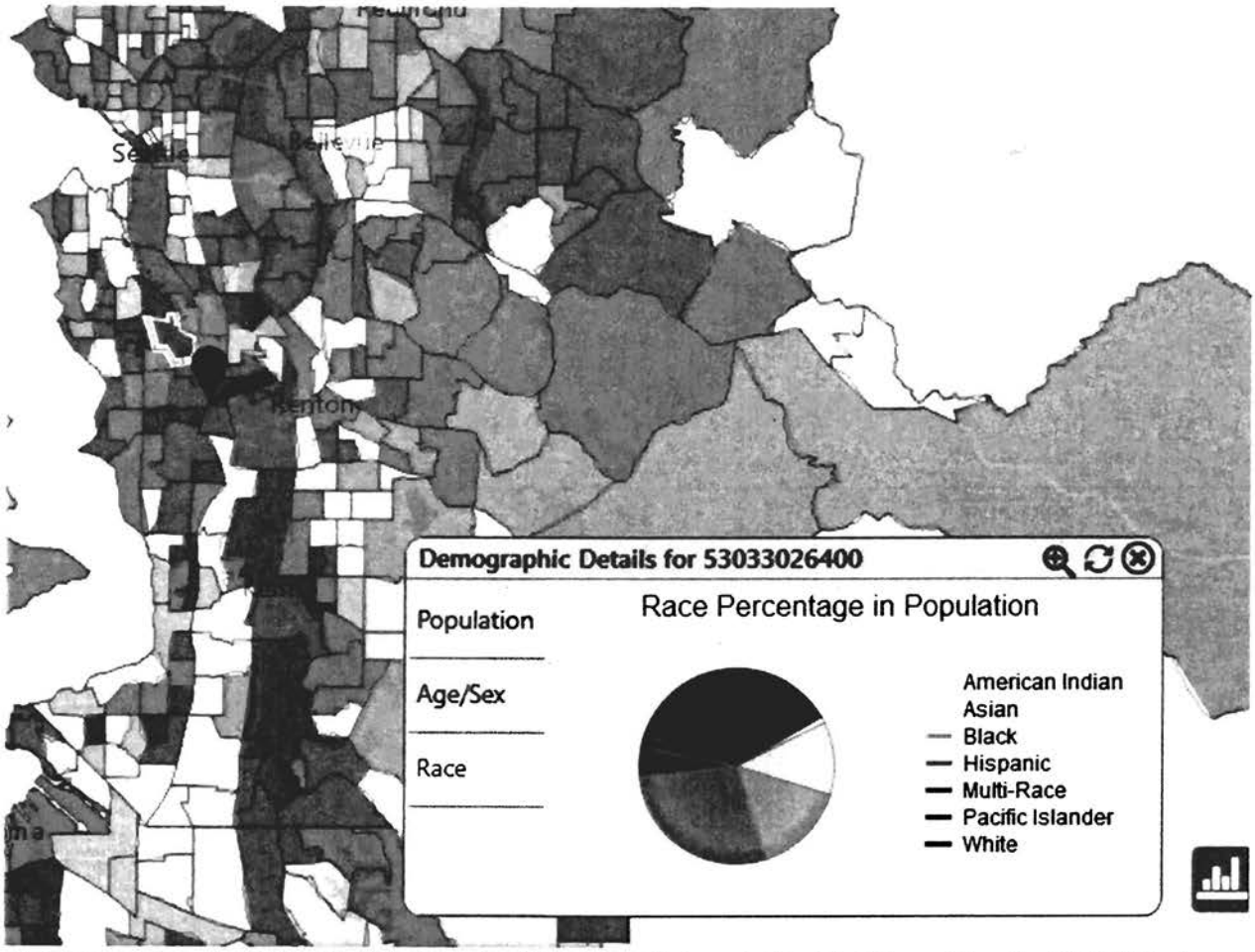
1) An air quality monitoring program must be completed which includes toxics and criteria pollutants and used as a validation for modeling
2) A risk analysis must be completed which evaluates all known chemicals released from the airport including air toxics, criteria pollutants, PAH, metals, soot analysis which might be affecting the poor public health outcomes
3) A toxicology study must be completed to help plan mitigation. This should include analysis of people, plants, soil, and open water at a minimum.
4) Mitigation plans, programs and strategies should be planned and implemented along with the SAMP development not after
5) Any mitigation strategy must have a monitoring plan to assure success
6) A similar area must be used for comparison to evaluate health impacts (Kent Auburn area was used as a comparative population to Sea-Tac Airport communities by the State Department of Health zip code study in 2000. This area along with Tukwila is overflown by arriving aircraft to both Boeing Field and Sea-Tac Airport. Health disparities in these cities can clearly be seen as extreme on the enclosed map of poor health outcomes and should not be used as a comparison)

S3-3 S3-8 S3-1

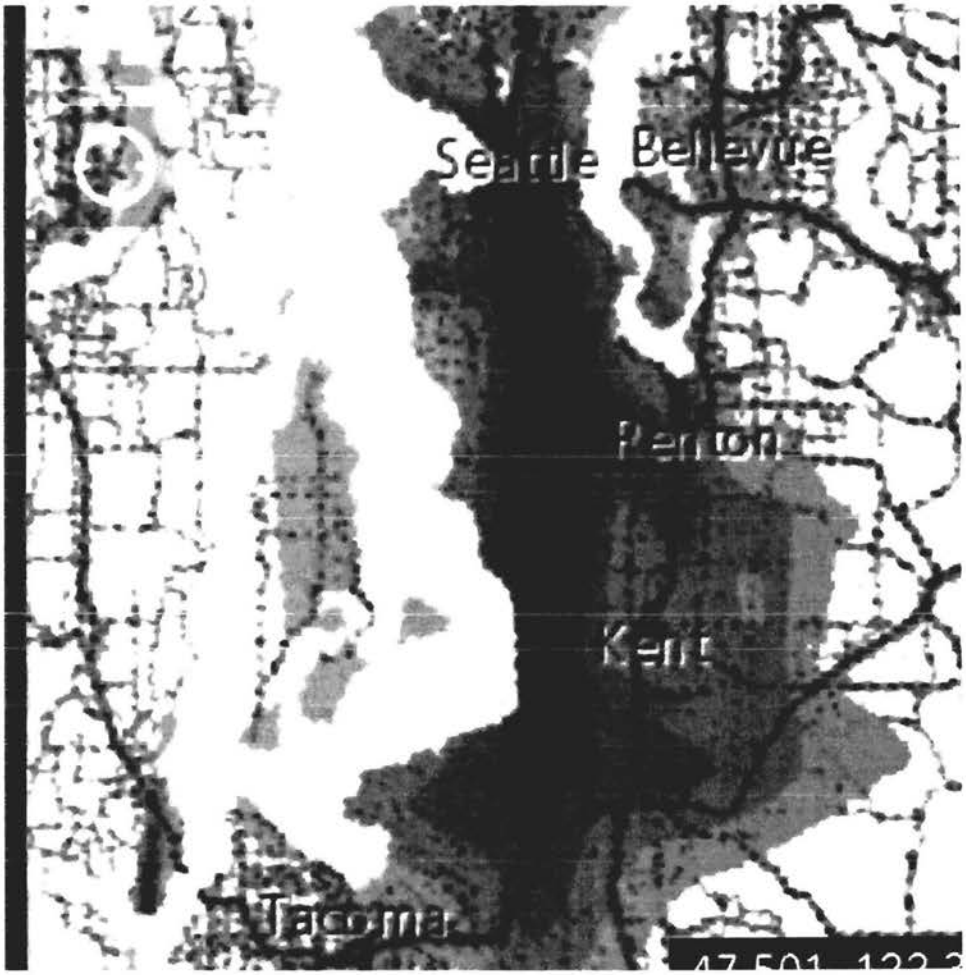
7) Areas of impact for emissions should be mapped along with noise.
   Consider for instance:
   a) New Jersey Institute of Technology has found a wide circular area around airports in the US experiencing toxic emissions 10 times greater than elsewhere
   b) State Department of Health found health impact areas to the west and east of Sea-Tac Airport experiencing health disparities
   c) EPA evaluating Midway Airport found risk threshold exceeded for 1,3 Butadiene to the northeast of the airport not typically in a noise contour band,
   d) McCulley Frick and Gilman Air Quality Survey found hydrocarbon levels exceeding state New Source regulations around Sea-Tac Airport outside of the noise contours
   e) Department of Commerce and LAX Ultrafine Particulate study found sooty debris typical of jet engine combustion discharge in flight paths for 10 miles out from runway ends
8) An epidemiological study should be conducted
9) All studies should show independence and be peer reviewed to assure objectivity
10) All analysis should include data input, assumptions and justification

In 1996 for the third runway EIS, wild and irresponsible predictions were made about air quality impacts. Some sources were estimated far too high and aircraft much lower than had been previously predicted by EPA and Department of Ecology. The Port of Seattle consultants Landrum & Brown predictions were accepted as state-of-the art. It was not until after 2011 that Russ Simonsen, environmental manager at the Port of Seattle admitted the figures were inaccurate. The high sources pales in severity to the elimination of data from the EDMS aircraft model, using too low time-in-mode values and falsified emission factors. The public health impacts we are now experiencing is a result of fraudulent, inaccurate and irresponsible data collection and dissemination.

Similarly, the forecasting of operations failed miserably to even come close to predicting what is happening today. The expanded airport facilities, once predicted to handle operations through 2030 and beyond, are now inadequate even in the existing condition less than 10 years after the opening of the third runway. Constraint and congestion caused by the introduction of the Delta Hub and the need for the SAMP expansion began as early as 2014, only six years after the opening of the most expensive runway in US history.



State Department of Health Washington Tracking Network Health Disparities for 98168 that follow flight path and match high noise area



Highest noise level in purple at the airport and surrounding red represents highest noise levels and matches the health disparities map from Department of Health

1997 EPA, PSCAA, DOE and Port of Seattle Memorandum of Agreement commitment for monitoring the airport area post 2010 due to predicted future scenario modeled violations of the federal National Ambient Air Quality Standard for carbon monoxide. Predicted future violations of the NAAQS for NO_2 were not carried forward although contained within the EDMS modeling for airport environment. PM 10 and PM 2.5 had been eliminated from the EDMS model for all jet aircraft LTO between 1993 and 1994.

Final

MEMORANDUM OF AGREEMENT

AIR QUALITY MONITORING PROGRAM ACTIVITIES RELATING TO THE SEATTLE-TACOMA INTERNATIONAL AIRPORT VICINITY

Introduction

For a number of years, residents in the vicinity of Seattle-Tacoma International Airport (Sea-Tac) have expressed concerns over air pollution. Several studies and small-scale air pollutant sampling programs have been conducted by the Port of Seattle (Port), the State Department of Ecology (Ecology) and the Puget Sound Air Pollution Control Agency (PSAPCA). Because of ongoing concerns about air quality in the vicinity of Sea-Tac, the undersigned agencies have agreed to work together to gather additional air quality baseline data.

In April 1995, the Federal Aviation Administration (FAA) and the Port issued a joint Draft Environmental Impact Statement (EIS) for the proposed Master Plan Update Improvements at Seattle-Tacoma International Airport. In February, 1996 the FAA and Port issued the Final EIS, which incorporated a draft air quality conformity determination. These environmental documents address, among other issues, potential air quality impacts associated with various Master Plan Update improvement projects (facility developments and operational changes) to be phased-in between 1996 and 2020 as part of the long-range airport vision (Exhibit A, attached to this agreement).

The Final EIS considered the available Sea-Tac air quality information from previous studies, updated the baseline and projection year emission inventories for five "criteria" pollutants of concern, performed area-wide dispersion screening modeling for volatile organic compounds (VOC) and oxides of nitrogen (NOX) (both ozone precursors) and conducted localized traffic intersection modeling analyses for carbon monoxide (CO).

The Port and FAA have identified future project build-out and operational conditions that result in modeled exceedences of the federal standard for CO. However, no monitored air quality data for the Sea-Tac vicinity currently exists with which to interpret the FEIS' "worst case" modeling results, which may overstate actual future air quality problems. Also, because the Master Plan Update project phase(s) that cause the modeled CO exceedences do not occur until approximately 2010, the issue of specifying appropriate mitigation measures prematurely has been raised.

In comments submitted by PSAPCA, Ecology and the US Environmental Protection Agency-Region 10 (EPA) to the FAA on the FEIS draft conformity finding, it was noted that in order to demonstrate conformity with the Central Puget Sound State Implementation Plan (SIP), there must be firm commitments made at this time by the Port and FAA to either (1) mitigate the modeled standard exceedences for CO or (2) delay inclusion of certain projects until future environmental reviews are completed for those elements and firm commitments to new mitigation measures are made, if necessary. Several options for achieving this outcome were specified. The comments also recommended a funded 24-month Sea-Tac area air quality monitoring program to better determine baseline conditions at and around the Airport; to inform model interpretation; and to provide better ambient air quality information with which to respond to public air quality concerns.

As a result of these FEIS comments and related interagency discussions, the Port, FAA, Ecology, PSAPCA and the EPA all concur that a Sea-Tac air quality monitoring program be established, focused on the following concerns in priority order:

- Carbon monoxide (CO) concentrations, specifically at those roadway intersections modeled in the FEIS as creating future exceedences of the National Ambient Air Quality Standard for CO;
- Oxides of nitrogen (NOX) concentrations associated with aircraft departure backup queues;
- Ground-level residue deposition associated with aircraft fuel particle discharges;
- Ground level residue-related toxic substances; and
- "Fugitive dust " particulate matter concentrations associated with Sea-Tac construction activity sites and dirt haul routes.

The parties agree that this monitoring program is in support of quantifying pollutant levels and not for the purpose of supporting the proposed improvements at Sea-Tac Airport.

Sufficient funding totaling $195,000 already has been identified by the parties to this agreement to conduct special field monitoring activities for the first three items listed above (CO, NOX and fuel particle discharge-related residue) within the next 24 months. Whether or not to fund monitoring of toxic substances in the Sea-Tac vicinity will depend on the results from ground-level residue monitoring data collection and analysis. For purposes of fugitive dust emissions, the Sea-Tac vicinity monitoring program will rely on PSAPCA's existing regulatory, inspection and enforcement authority rather than formal in-field monitoring.

The initial CO saturation study monitoring will be conducted during the upcoming winter season (1996-97), with the ability to continue some CO measurements in winter 1997-98. The monitoring of NOX is projected to occur in summer/fall 1997, with fuel particle discharge residue measurements occurring seasonally between fall, 1996 and summer, 1997. All field monitoring activities and data analyses are scheduled for completion no later than June, 1998.

Public involvement from the surrounding community will be sought in the monitoring program to facilitate public understanding of the monitoring results and the implications for long-term Sea-Tac air quality monitoring. To this end, establishment of a special working group comprised of both agencies and community representatives is contained in the proposed program's scope (Exhibit B, attached to this agreement).

Purpose

This Memorandum of Agreement (MOA) establishes an air quality monitoring program in the Sea-Tac International Airport vicinity designed to achieve the following goals:

- Characterize actual monitored air quality conditions, via in-field measurements conducted by independent environmental agencies and their contractors, in the general vicinity of Sea-Tac International Airport;
- Utilize actual monitored air quality baseline information to improve future Sea-Tac vicinity modeling and monitoring efforts; and to help identify the need for and design of appropriate mitigation measures whenever criteria pollutant modeling forecasts, or as shown by actual measurements, exceed a National Ambient Air Quality Standard (NAAQS), e.g., for CO and/or particulate matter;

- Allow actual monitored air quality baseline information to be incorporated into future environmental reviews for Master Plan Update project elements projected to worsen air quality (listed in Exhibit A) and to enable making commitments to more specific long-term mitigation measures, if necessary;
- Enable agencies to reference actual monitored air quality baseline data for the Sea-Tac Airport vicinity when responding to future questions and information requests from the public;
- Secure funding commitments to complete Sea-Tac CO, NO_x and residue monitoring data collection and analysis within the next 24 months, by July 1, 1998; and
- Determine the scientific justification, if any, for Sea-Tac toxic emissions monitoring and secure appropriate funding commitments by fall, 1997.

The programmatic scope of the proposed air quality monitoring for the Sea-Tac Airport vicinity is contained in Exhibit B, attached to this agreement.

THEREFORE, THE UNDERSIGNED PARTIES AGREE:

1. Additional air monitoring in the vicinity of Seattle-Tacoma International Airport is desirable for purposes of more accurately describing existing air pollutant levels, interpreting modeled results, identifying longer range monitoring requirements, promoting appropriate mitigation measures to protect the NAAQS whenever necessary, and responding to public inquiries related to Sea-Tac vicinity air quality.
2. All parties will participate in the design, conduct and reporting of air quality measurement activities in the Sea-Tac area over the next 24 months according to an approved monitoring plan. It is specifically desired that Ecology, EPA and PSAPCA will provide independent expertise to the air quality monitoring and analysis activity, which can then be incorporated into project-level environmental reviews conducted under SEPA and NEPA by the Port and other initiating agencies. The participation commitments of each agency are enumerated below:
   - Ecology, as overall technical program coordinator, will in consultation with EPA and PSAPCA develop a detailed monitoring and analysis plan and participate in the funding, monitor siting, conduct, and analysis/review of the air measurements. Ecology also will provide a final summary report on monitoring and data analysis activities for agency and public distribution concerning the results of the air measurements and recommendations for future monitoring activities.
   - The EPA will assist with the plan scoping, funding, monitor siting, conduct and analysis and review of the air measurements;
   - PSAPCA will participate in the scoping of the air monitoring plan and analysis, including development of the monitoring framework, establishment of monitoring locations, coordination with transportation agencies, technical assistance regarding collected data, and tracking of regional surface travel growth and associated project-level modeling efforts;
   - The Port of Seattle will assist with funding for monitoring and will participate as an observer in the monitoring plan's design, implementation and outcomes reporting.
3. Ecology ($35K), EPA ($30K) and the Port ($130K) together will provide a total of $195,000.00 to complete field monitoring data collection and analysis for CO, NOX and aircraft fuel discharge residue. In addition, other in-kind (non-cash) contributions from PSAPCA and the other signatories to this agreement will be provided.
4. The Port agrees that it will not proceed with Master Plan Update elements which are projected to create future CO exceedences or further worsen projected CO levels until CO field monitoring data collection and analysis is completed and, if necessary, appropriate mitigation commitments are identified. The Port further agrees that new information on actual monitored CO and NO_x levels shall be incorporated into future Master Plan Update-related environmental reviews and

air quality conformity determinations. Construction-related dust prevention and management activities will be directed by the Port in accord with the protocol described in Exhibit C, attached to this agreement.

5. To the maximum extent possible, all new program, plan and project-level air quality analyses conducted in the Sea-Tac Airport vicinity will reference and/or incorporate data obtained from the actual field measurements, once they are available, to help refine modeling approaches and interpret new modeling results and to identify appropriate mitigation measures for identified NAAQS exceedence problems.
6. A decision by Ecology regarding whether a permanent CO monitor (or monitors) should be established near Sea-Tac as part of the permanent CO monitoring network will be made based on the data obtained from the CO saturation sampling. Funding of long-term monitoring for CO will be determined at the time permanent monitoring decisions are made.

This Memorandum of Agreement reflects agreement by the undersigned responsible officials:

Mic Dinsmore
Mic Dinsmore, Executive Director
Port of Seattle

Date

Win Granlund
Win Granlund, Board Chair
Puget Sound Air Pollution Control Agency

10-1-96
Date

Mary Riveland
Mary Riveland, Director
Washington State Department of Ecology

9/27/96
Date

Chuck Clarke
Chuck Clarke, Regional Administrator
US Environmental Protection Agency-Region X

10/4/96
Date

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Exhibit A

Seattle-Tacoma International Airport
Master Plan Update Improvements

The following airport improvement projects were identified by the Master Plan Update Final Environmental Impact Statement (Final EIS) to be phased in between 1996 and 2020. Based on the air quality analysis presented in the Final EIS, only the terminal and landside improvements planned to occur post 2010 could result in increasing the severity of exceedances of the NAAQS. As a result, before the Port could implement these project, additional analysis and requisite mitigation would be required. These projects were identified based on project purpose and need and are categorized by the four (A through D) purpose and needs. Based on the Final EIS, the following projects would not increase the severity or frequency of exceedances of the NAAQS:

A. New Parallel Runway and associated operational procedures and taxiways (1996-2000)

B. Clearing and Grading off each runway end for runway safety area compliance (1996-2000)

C Extension of Runway 34R (2011-2015)

D. Terminal and Landside Improvements

1996-2000

- New Parallel Runway and associated operational procedures and taxiways
- Clearing and Grading the requisite lengths off each runway end for runway safety area compliance
- Improvements to the Main Terminal roadway and recirculation roads
- Development of the Des Moines Creek Technology Campus
- Construction of the new air traffic control tower
- Expansion or redevelopment of the cargo facilities in the north cargo complex
- Development of a new snow equipment storage facility
- Expansion of Concourse A
- Development of on-airport hotel
- Expansion of the main parking garage
- Development of a new parking garage at the Doug Fox lot
- Site preparation at SASA site
- Overhaul and/or replacement of the STS

2001-2005

- Dual taxiway 34L
- Expansion of the Main Terminal to the South
- Improved access and circulation roadway improvements at the Main Terminal
- Additional expansion of the main parking garage
- Expansion of the existing north employee parking
- Further expansion of Concourse A
- Development of a new airport maintenance building
- Continued expansion of the north cargo facilities

2006-2010

- Expansion of the dual taxiways A and B
- Construct first phase parking structure north of SR 518
- Additional Expansion of north employee lot
- Further expansion or redevelopment of north cargo complex
- Upper roadway transit plaza at Main Terminal

Based on the Final EIS, the following terminal and landside projects could increase the severity or frequency of exceedances of the NAAQS. The primary improvement project that would alter surface transportation, and thus air quality, is the North Unit Terminal development and related projects. The North Unit Terminal is slated for construction between 2011 and 2015. However, several items that are related to this project would occur earlier, such as the relocation of the ARFF which is located on the future site of the new terminal. Therefore, to ensure that earlier projects do not prejudice the outcome of the North Unit Terminal, these projects are identified separately.

2006-2010

Construction of the North Unit Terminal and roadway system, including the main terminal by-pass roadway system
Relocate the ARFF for North Unit Terminal

2011-2020

Completion and further expansion of the North Unit Terminal, parking & roadways
Development of additional taxiway exits on 16L/34R
Expansion of north parking structure and north employee parking lot
Further development of cargo in SASA
Develop connections to the RTA system at the east side of the garage
Develop cargo/warehouse site north of SR518

EXHIBIT B

Programmatic Scope of Proposed Air Monitoring
Seattle-Tacoma International Airport

The parties agree that the following steps should be undertaken to scope a specific air pollutant monitoring plan to be undertaken in the vicinity of Seattle-Tacoma International Airport:

1. Establish the funding and staffing commitment levels available to conduct the air measurements. The air measurement plan should include the following:
   A. Development of an air monitoring work plan and definition of how the comparison of actual measurements to modeled data will be performed;
   B. Conduct of air measurements;
   C. Analysis of measurements;
   D. Conduct briefings for participating agencies; and
   E. Prepare a final report which responds to the goals of the effort.

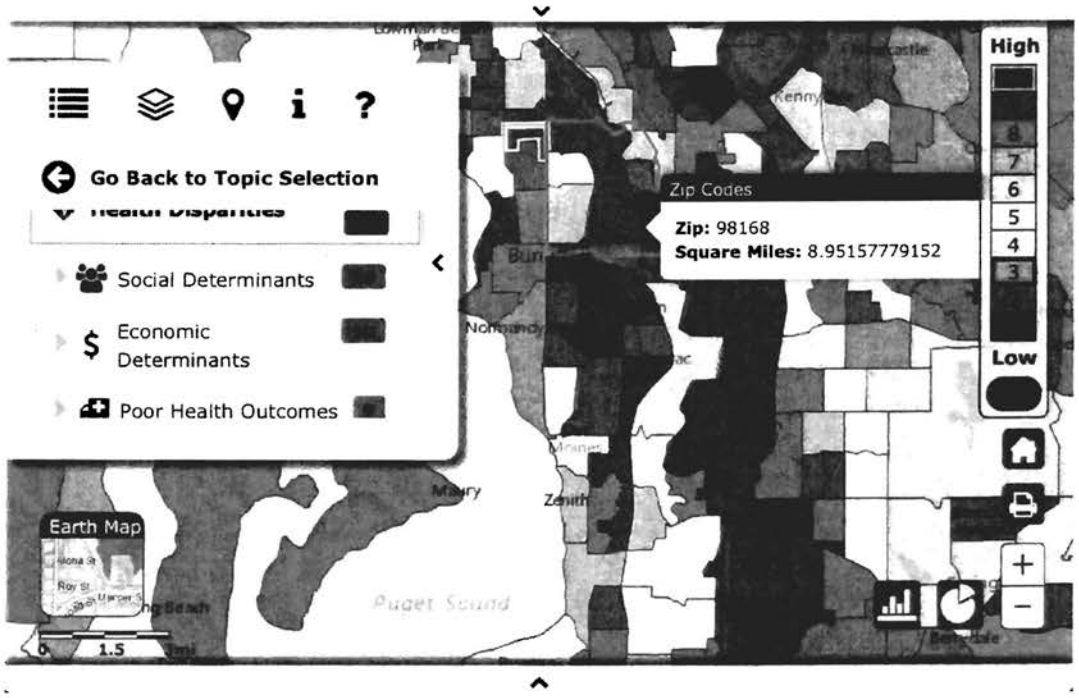
2. The monitoring plan will be tailored such that it can be completed within the allocated funding and staffing levels and will reflect the following objectives:
   A. To interpret modeled data relative to measured data but not to conduct a model validation study;
   B. To use the measurements to improve:
      - Future modeling
      - Future monitoring
      - Mitigation of exceedances of the national ambient air quality standards
      - Responds to citizen comments and questions

3. The funding level will dictate the specifics of the air measurement plan. However, the following priorities will be placed on specific air measurements that can be achieved within the allocated resources (in order of highest to lowest priority):
   A. Carbon Monoxide - measurements at roadway intersections in the airport vicinity;
   B. Nitrogen Oxides - at ends of runways, near aircraft departure queues;
   C. Engine Exhaust Residue - under flight paths of aircraft;
   D. If residue testing indicates that aircraft related emissions are a dominant source of collected residue, the parties will discuss and seek funding for the conduct of a air toxics measurements, which could include canister samples in the flight pattern;
   E. Fugitive Dust - at construction sites and near haul routes in the vicinity of construction. No funding has been allocated to this pollutant issue. Compliance with fugitive dust standards will rely on PSAPCA's existing regulatory, inspection, and enforcement authority.

4. Upon definition of the allocation of resources by the participating agencies, a working group will be established that includes representation from the participating agencies and the local community to monitor the progress of the air measurements The Washington Department of Ecology will take the lead in coordinating the meeting schedule and agenda and will serve as the chair of the working group. The working group is being formed for the sole purpose of facilitating public understanding of the air monitoring results. The working group will be disbanded by December 31, 1998 or within 2 months of completion of the air monitoring effort.

Negative health outcomes from the State Department of Health Washington Tracking Network Map follow the flight path and show high rates for Kent Valley where emissions settle and where flights arriving at both Sea-Tac and Boeing Field overfly below 3,000 feet. Sea-Tac Airport is blue teardrop.

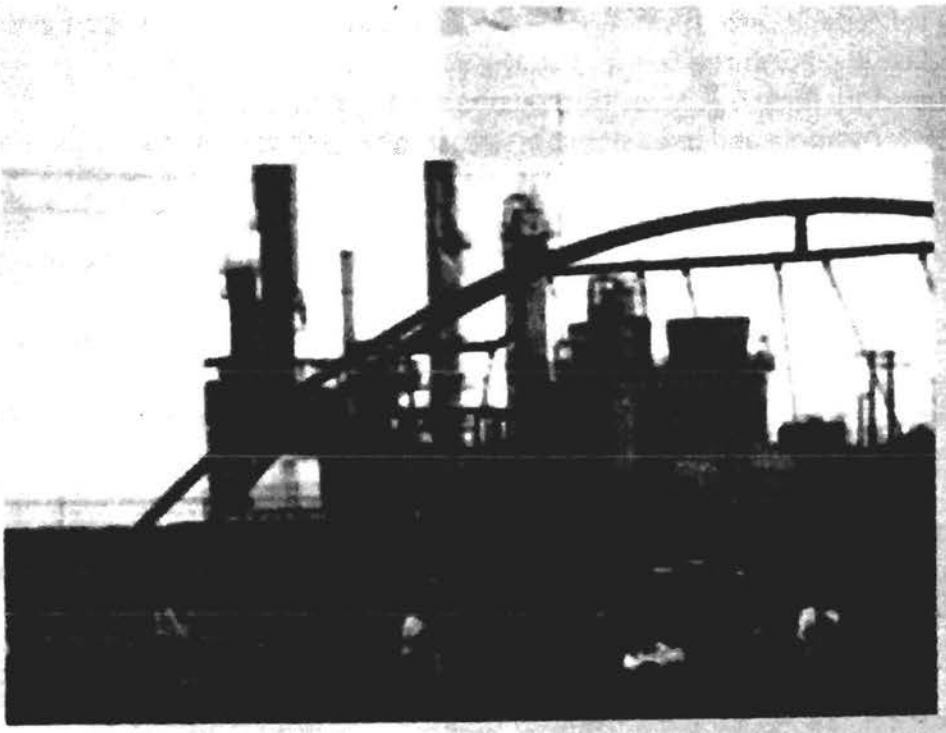
Example of a census tract (yellow highlight) from EPA EJ Screen tool where health disparities and risk is above the 90th percentile



June 2001 State Board of Health recommendation for a thorough air quality analysis as a result of findings of significant cancer and respiratory illnesses in zip codes around Sea-Tac Airport for study years 1992-1995 and 1992-1996 http://sboh.wa.gov/Portals/7/Doc/EJ/EJReport_2001.pdf

"EPA explains that "fair treatment means that no population, due to policy or economic disempowerment, is forced to bear a disproportionate burden
of the negative human health or environmental impacts of pollution or other environmental consequences resulting from industrial, municipal, and
commercial operations or the execution of federal, state, and local and tribal programs and policies" (U.S. Environmental Protection Agency, 1998).
Of particular interest to the Committee is the specific claim that disproportionate exposures produce adverse health outcomes that are also borne
disproportionately by these populations. It has been well documented in the State of Washington that low-income and minority populations have
poorer health status than the overall population and have higher rates of a variety of diseases, including cancer and asthma. Many complex factors
interact to produce health disparities among populations. Environmental and occupational exposures, access to medical care, nutrition,behavioral
choices, and genetic variability, all contribute and are related. Where one lives and works is often less a matter of choice than the result of
socioeconomic status. It is usually the case that people in the lower socioeconomic strata are more likely to live in the most hazardous environments
and to work in the most hazardous occupations (Olden, 1998). *[page 7]*
Community Health Concerns around SeaTac Airport Community members living near the SeaTac Airport identified several concerns related to air
pollution from operations at the airport (Washington State Department of Health et al., February and December 1999). These reports can be accessed
through http://www.doh.wa.gov/EHSPHL/Epidemiology/NICE/HTML/ nicepubs.htm. A March 2000 report prepared jointly by DOH, the Washington
State Department of Ecology, the Puget Sound Clean Air Agency, Public Health—Seattle and King County and several other agencies and community
representatives found that, in the SeaTac Airport area, there are statistically significantly higher rates of the following conditions:
• lung cancer cases within one mile of the airport compared to the rest of King County and to Washington State;
• oral and pharyngeal cancer cases within one mile of the airport compared to Washington State;

• deaths from lung cancer and chronic obstructive pulmonary disease in an area approximately three miles to the west and north and one mile to the east
and south of the airport (defined by census tracts) compared to King County; and
• hospital admission for asthma and pneumonia/influenza in an area approximately three miles to the west, north and east and one half mile to the south
of the airport (defined by zip codes) compared to King County.
The March 2000 report recommended that an air quality study be conducted around SeaTac Airport. This recommendation was, in part, forwarded because
of environmental justice concerns. The report states, "fundamental to the concept of environmental equity is the value that one group of people not incur
environmental exposures from commercial activities from which another group benefits. Those who use SeaTac Airport often derive great financial and
other benefits from worldwide travel. The extent to which these benefits come at the expense of environmental degradation affecting the people who live
around the airport is unknown, since a comprehensive air quality study has not been performed at SeaTac Airport to determine the impacts attributable to
airplane emissions and airport-related traffic" (Washington State Department of Health et al., 2000, p. 8). *[pages 14, 15]*



Final Report
State Board of Health Priority: Environmental Justice

June 2001

Committee on Environmental Justice:

Carl Osaki, R.S., M.S.P.H.

Joe Finkbonner, R.Ph., M.H.A.

Urban Pollution Concentration

In the United States, pollution sources (e.g., industrial and waste facilities) are often found in greater numbers in urban industrial areas. This pattern is evident in parts of South Seattle, where more industrial facilities are located than in other parts of the State. In several of South Seattle's neighborhoods, industrial facilities are located adjacent to residential housing. For example, in the South Park community, more than [illegible] industrial and waste facilities are situated within a one- to five-mile radius of residential homes (CCFJ, 2001). As discussed in the following sections of this report, toxic releases from these industrial and waste facilities are associated with increased health risks. The South Seattle communities experience higher mortality rates and decreased life expectancies than overall Seattle averages. They also have higher hospitalization rates for respiratory diseases than in other King County areas (Seattle-King County Department of Public Health, 1997). More discussion on the relationship between exposure and disease is found in the following section, Environmental Justice: Public Health Issues.

The Committee heard from a number of residents and community leaders concerned about the proximity of residential housing to industrial and waste facilities.

Community Health Concerns around SeaTac Airport

Community members living near the SeaTac Airport identified several concerns related to air pollution from operations at the airport (Washington State Department of Health et al., February and December [illegible]). These reports can be accessed through http://www.doh.wa.gov/[illegible]

A March 2000 report prepared jointly by [illegible], the Washington State Department of Ecology, the Puget Sound Clean Air Agency, Public Health—Seattle and King County and several other agencies and community representatives found that, in the SeaTac Airport area, there are statistically significantly higher rates of the following conditions:

- lung cancer cases within one mile of the airport compared to the rest of King County and to Washington State;
- oral and pharyngeal cancer cases within one mile of the airport compared to Washington State;
- deaths from lung cancer and chronic obstructive pulmonary disease in an area approximately three miles to the west and north and one mile to the east and south of the airport (defined by census tracts) compared to King County; and
- hospital admissions for asthma and pneumonia/influenza in an area approximately three miles to the west, north and east and one half mile to the south of the airport (defined by zip codes) compared to King County.

The March 2000 report recommended that an air quality study be conducted around SeaTac Airport. This recommendation was, in part, [illegible] because of [illegible] environmental justice concerns. The report states, "fundamental to the concept of environmental equity is the value that one group of people not bear environmental exposures from commercial activities from which another group benefits. Those who use SeaTac Airport often derive great financial and other benefits from worldwide travel. The extent to which these benefits [illegible]

The Committee heard from a number of residents and community leader concerned about the proximity of residential housing to industrial and waste facilities.

the expense of environmental degradation affecting the people who live around the airport is unknown, since a comprehensive air quality study has not been performed at SeaTac Airport to determine the impacts attributable to airplane emissions and airport-related traffic" (Washington State Department of Health et al., 2000, p. 8).

Implementing the Committee's Work Plan

As described above, the Committee used a variety of methods to inform its work on environmental justice. This section describes how the Committee responded to each of the tasks in its work plan.

Raise Consciousness about the Issue

In the process of collecting information and speaking with the relevant players, the Committee was also achieving one of the primary goals of its work plan— to raise awareness about environmental justice issues. The Committee focused its efforts on raising awareness about these issues in government. The Committee participated in a number of community forums, meetings, and events in an effort to achieve this end.

In addition, the Committee published articles on environmental justice in the EPA Environmental Justice and the Washington Environmental Health Association newsletters. The Committee also presented its work at the Washington Public Health Association meeting in October 2000.

Create a Clearinghouse of Environmental Justice Information Housed on the SBOH Web site

The Committee launched its Web site in July 2000 at www.doh.wa.gov/sboh/priorities/ejustice/ejustice.htm. This site serves as one clearinghouse of information on environmental justice. It also links users to a number of relevant other sites. Topical areas on the Web site include:

- What is Environmental Justice?
- History of Environmental Justice
- Literature Review
- Links
- Link to Board's Health Disparities Site

Set Guidelines for Practice in State Government and within the Public Health Community to Encourage That Environmental Justice Principles Be Incorporated into Practice

To encourage state agencies and local health departments to incorporate environmental justice principles into their activities, the Environmental Justice Committee quickly discovered the need to inform agency staff about the relevance of this issue in their work and to collaborate with those already working on this issue.

The Committee convened an Interagency Workgroup on Environmental Justice. This workgroup served as another vehicle for education and an opportunity to influence agency practice. The workgroup met twice during the year to discuss issues of mutual concern and interest. In December 2000, the Committee convened an educational forum for interested agency representatives. This forum brought together a number of community and agency experts to discuss opportunities to incorporate environmental justice principles into practice. A videotape of this forum is available through the State Board of Health or through the Department of Health's lending library.

Statistically significant Cancer Cases in communities surrounding Sea-Tac Airport for years 1992-1996

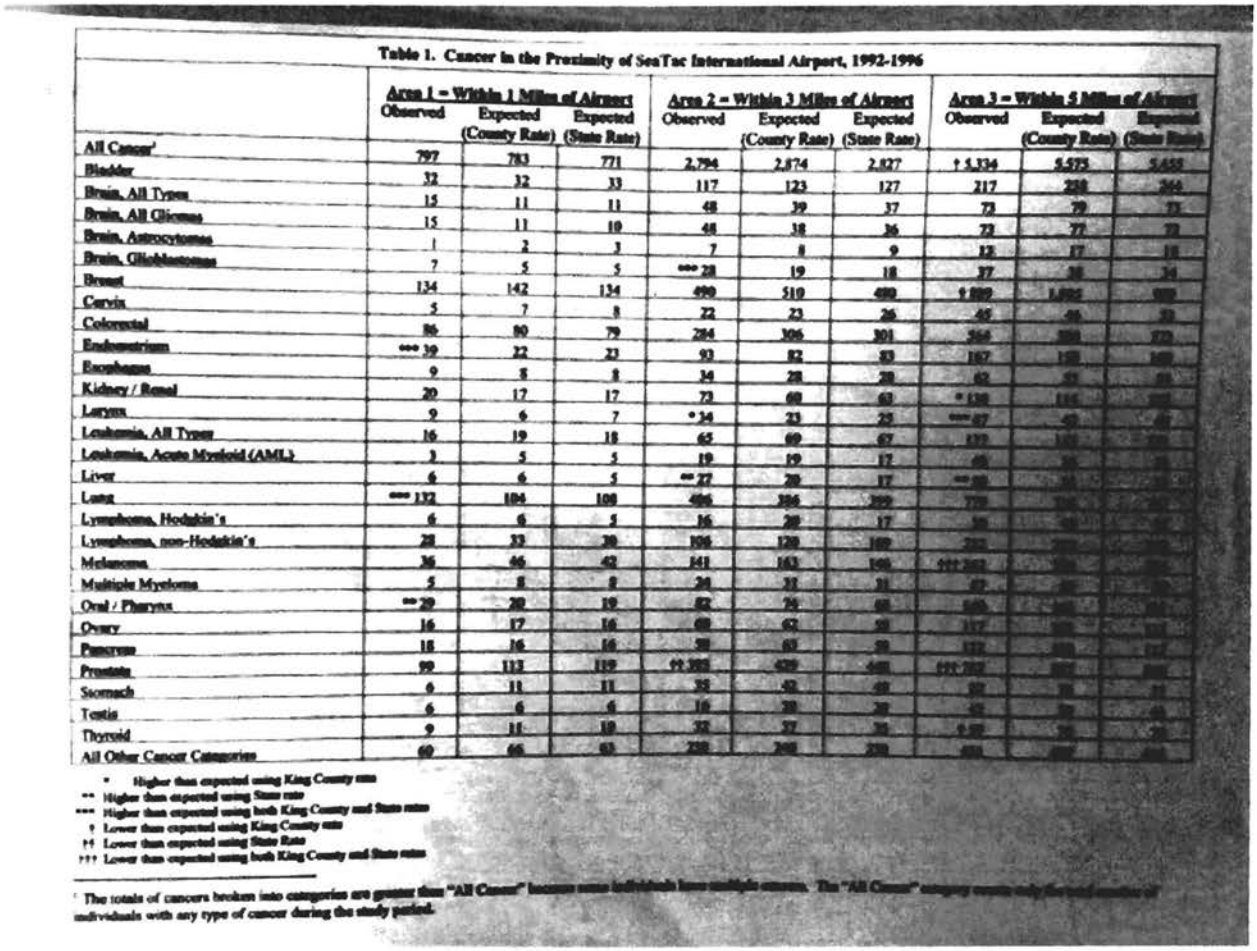


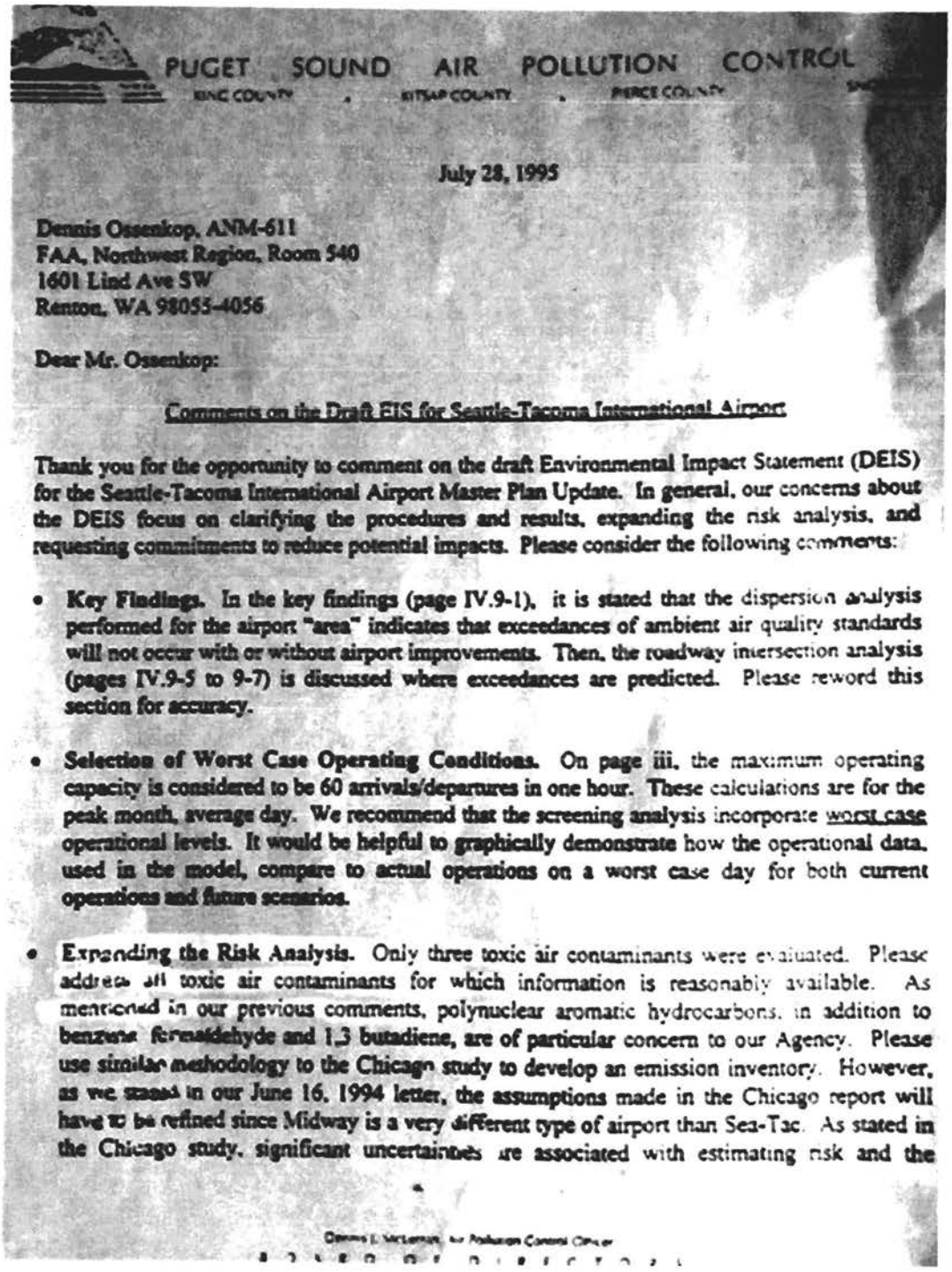
Table 1. Cancer in the Proximity of SeaTac International Airport, 1992-1996

	Area 1 – Within 1 Miles of Airport			Area 2 – Within 3 Miles of Airport			Area 3 – Within 5 Miles of Airport		
	Observed	Expected (County Rate)	Expected (State Rate)	Observed	Expected (County Rate)	Expected (State Rate)	Observed	Expected (County Rate)	Expected (State Rate)
All Cancer[1]	797	783	771	2,794	2,874	2,827	† 5,334	5,575	5,455
Bladder	32	32	33	117	123	127	217	238	244
Brain, All Types	15	11	11	48	39	37	73	79	73
Brain, All Gliomas	15	11	10	48	38	36	73	77	72
Brain, Astrocytomas	1	2	3	7	8	9	12	17	18
Brain, Glioblastomas	7	5	5	*** 28	19	18	37	38	34
Breast	134	142	134	490	510	480	† 889	1,002	939
Cervix	5	7	8	22	23	26	45	46	53
Colorectal	86	80	79	284	306	301	564	588	573
Endometrium	*** 39	22	23	93	82	83	167	148	149
Esophagus	9	8	8	34	28	28	62	57	56
Kidney / Renal	20	17	17	73	60	63	* 130	116	120
Larynx	9	6	7	* 34	23	25	*** 67	42	47
Leukemia, All Types	16	19	18	65	69	67	133	140	136
Leukemia, Acute Myeloid (AML)	3	5	5	19	19	17	40	36	33
Liver	6	6	5	** 27	20	17	** 48	34	31
Lung	*** 132	104	108	406	386	399	778	708	736
Lymphoma, Hodgkin's	6	6	5	16	20	17	30	38	32
Lymphoma, non-Hodgkin's	28	33	30	106	120	109	213	229	208
Melanoma	36	46	42	141	163	146	††† 262	308	276
Multiple Myeloma	5	8	8	24	31	31	47	59	59
Oral / Pharynx	** 29	20	19	82	75	68	146	142	129
Ovary	16	17	16	69	62	59	117	118	112
Pancreas	18	16	16	58	63	59	112	120	112
Prostate	99	113	119	†† 395	439	448	††† 787	837	846
Stomach	6	11	11	35	42	40	69	78	75
Testis	6	6	6	16	20	20	32	38	40
Thyroid	9	11	10	32	37	36	† 57	70	68
All Other Cancer Categories	69	66	63	230	248	239	458	467	454

* Higher than expected using King County rate
** Higher than expected using State rate
*** Higher than expected using both King County and State rates
† Lower than expected using King County rate
†† Lower than expected using State Rate
††† Lower than expected using both King County and State rates

[1] The totals of cancers broken into categories are greater than "All Cancer" because some individuals have multiple cancers. The "All Cancer" category counts only the total number of individuals with any type of cancer during the study period.

PSCAA made a scoping request for a risk analysis in 1994 for the Third Runway Draft Environmental Impact Statement (EIS) and again asking for the Final EIS to provide a risk analysis that includes all chemicals. This request was from Dennis McClerran who was recently Region X EPA Administrator.



PUGET SOUND AIR POLLUTION CONTROL

KING COUNTY · KITSAP COUNTY · PIERCE COUNTY

July 28, 1995

Dennis Ossenkop, ANM-611
FAA, Northwest Region, Room 540
1601 Lind Ave SW
Renton, WA 98055-4056

Dear Mr. Ossenkop:

Comments on the Draft EIS for Seattle-Tacoma International Airport

Thank you for the opportunity to comment on the draft Environmental Impact Statement (DEIS) for the Seattle-Tacoma International Airport Master Plan Update. In general, our concerns about the DEIS focus on clarifying the procedures and results, expanding the risk analysis, and requesting commitments to reduce potential impacts. Please consider the following comments:

- **Key Findings.** In the key findings (page IV.9-1), it is stated that the dispersion analysis performed for the airport "area" indicates that exceedances of ambient air quality standards will not occur with or without airport improvements. Then, the roadway intersection analysis (pages IV.9-5 to 9-7) is discussed where exceedances are predicted. Please reword this section for accuracy.

- **Selection of Worst Case Operating Conditions.** On page iii, the maximum operating capacity is considered to be 60 arrivals/departures in one hour. These calculations are for the peak month, average day. We recommend that the screening analysis incorporate worst case operational levels. It would be helpful to graphically demonstrate how the operational data, used in the model, compare to actual operations on a worst case day for both current operations and future scenarios.

- **Expanding the Risk Analysis.** Only three toxic air contaminants were evaluated. Please address all toxic air contaminants for which information is reasonably available. As mentioned in our previous comments, polynuclear aromatic hydrocarbons, in addition to benzene, formaldehyde and 1,3 butadiene, are of particular concern to our Agency. Please use similar methodology to the Chicago study to develop an emission inventory. However, as we stated in our June 16, 1994 letter, the assumptions made in the Chicago report will have to be refined since Midway is a very different type of airport than Sea-Tac. As stated in the Chicago study, significant uncertainties are associated with estimating risk and the

Below is the Final EIS response to PSCAA Scoping request for a risk analysis:

Draft EIS analysis also [illegible] cancer risk assessment. Cancer risk was defined based on population, the concentration for a particular air toxic, and known cancer risk conversion factors. The number of potential cancer cases was based on the probability that an individual would develop cancer when continuously exposed to a pollutant at an ambient concentration of one microgram per cubic meter (ug/m3) for 70 years (the average lifetime). As indicated in the Draft EIS, less than one cancer case might be attributable to all pollutant sources (roadway and air traffic) at the modeled receptor locations.

However, in consultation with the air quality agencies, it was determined that insufficient information is available to adequately conduct a meaningful risk assessment. Therefore, for the Final EIS, risk analysis was not conducted.

Environmental Impact analysis should include the following considerations:

1) Full disclosure of data used for model input
2) Worst case predictions year by year of increases in emissions and noise
3) Worst-case predictions year by year of increases in operations
4) Airspace constraints, i.e., how many operations can FAA reasonably manage in the airspace
5) On the ground congestion, i.e., how many operations can the airport reasonably manage in peak hour/day/month
6) Timeline for sunsetting Sea-Tac as the only regional airport
7) Plans for mitigating potential worst-case predictions of operations/impacts to human health, environment, congestion
8) Local roadway capacity and congestion considering 30% increase in cargo
9) Who is primarily responsible for the financial impact of construction and operation activities on local, state and interstate road damage
10) How will the financial impact of loss on regional worktime and productivity be compensated for by Port of Seattle related traffic congestion

Debi Wagner

U.S. ENVIRONMENTAL PROTECTION AGENCY

Cooperative Agreement

GRANT NUMBER (FAIN): 01J27101 **MODIFICATION NUMBER:** 0 **PROGRAM CODE:** EC	**DATE OF AWARD** 08/29/2016
TYPE OF ACTION New	**MAILING DATE** 09/05/2016
PAYMENT METHOD:	**ACH#** PEND

RECIPIENT TYPE:
Not for Profit

Send Payment Request to:
Las Vegas Finance Center
FAX # 702-798-2423

RECIPIENT:
El Centro de la Raza
2524 16th Avenue, S
Seattle, WA 98144-5104
EIN: 91-0899927

PAYEE:
El Centro de la Raza
2524 16th Avenue, S
Seattle, WA 98144-5104

PROJECT MANAGER	EPA PROJECT OFFICER	EPA GRANT SPECIALIST
Estela Ortega 2524 16th Avenue, S Seattle, WA 98144-5104 **E-Mail:** eortega@elcentrodelaraza.org **Phone:** 206-957-4613	Catherine Vila 1200 Sixth Avenue, Suite 900, ETPA-202-6 Seattle, WA 98101 **E-Mail:** Vila.Catherine@epa.gov **Phone:** 206-553-1544	Mary Gutierrez 1200 Sixth Avenue, Suite 900, OMP-173 Seattle, WA 98101 **E-Mail:** gutierrez.mary@epa.gov **Phone:** 206-553-6056

PROJECT TITLE AND DESCRIPTION

Environmental Justice Collaborative

The Beacon Hill Environmental Health Collaboration aims to improve the neighborhood's environmental health through educational outreach, engagement and capacity building. The project will be implemented in a cross-culturally and linguistically-competent manner to ensure inclusive engagement for improving the health of its residents. The project approach incorporates all seven elements of the Environmental Justice Collaboration Problem Solving Model.

BUDGET PERIOD	PROJECT PERIOD	TOTAL BUDGET PERIOD COST	TOTAL PROJECT PERIOD COST
10/01/2016 - 09/30/2018	10/01/2016 - 09/30/2018	$150,000.00	$150,000.00

NOTICE OF AWARD

Based on your Application dated 08/23/2016 including all modifications and amendments, the United States acting by and through the US Environmental Protection Agency (EPA) hereby awards $120,000. EPA agrees to cost-share 80.00% of all approved budget period costs incurred, up to and not exceeding total federal funding of $120,000. Recipient's signature is not required on this agreement. The recipient demonstrates its commitment to carry out this award by either: 1) drawing down funds within 21 days after the EPA award or amendment mailing date; or 2) not filing a notice of disagreement with the award terms and conditions within 21 days after the EPA award or amendment mailing date. If the recipient disagrees with the terms and conditions specified in this award, the authorized representative of the recipient must furnish a notice of disagreement to the EPA Award Official within 21 days after the EPA award or amendment mailing date. In case of disagreement, and until the disagreement is resolved, the recipient should not draw down on the funds provided by this award/amendment, and any costs incurred by the recipient are at its own risk. This agreement is subject to applicable EPA regulatory and statutory provisions, all terms and conditions of this agreement and any attachments.

ISSUING OFFICE (GRANTS MANAGEMENT OFFICE)	AWARD APPROVAL OFFICE
ORGANIZATION / ADDRESS	**ORGANIZATION / ADDRESS**
EPA Region 10 Mail Code: OMP-173 1200 Sixth Avenue, Suite 900 Seattle, WA 98101	U.S. EPA, Region 10 Regional Administrators Division 1200 Sixth Avenue, Suite 900 Seattle, WA 98101

THE UNITED STATES OF AMERICA BY THE U.S. ENVIRONMENTAL PROTECTION AGENCY

Digital signature applied by EPA Award Official Paula VanHaagen - Manager - Grants Unit	**DATE** 08/29/2016

EPA Funding Information

FUNDS	FORMER AWARD	THIS ACTION	AMENDED TOTAL
EPA Amount This Action	$	$ 120,000	$ 120,000
EPA In-Kind Amount	$	$	$ 0
Unexpended Prior Year Balance	$	$	$ 0
Other Federal Funds	$	$	$ 0
Recipient Contribution	$	$ 30,000	$ 30,000
State Contribution	$	$	$ 0
Local Contribution	$	$	$ 0
Other Contribution	$	$	$ 0
Allowable Project Cost	$ 0	$ 150,000	$ 150,000

Assistance Program (CFDA)	Statutory Authority	Regulatory Authority
66.306 - Environmental Justice Collaborative Problem-Solving Grants Program	Clean Air Act: Sec. 103(b)(3)	2 CFR 200 2 CFR 1500 40 CFR 33 and 40 CFR 35 Subpart A

Fiscal

Site Name	Req No	FY	Approp. Code	Budget Organization	PRC	Object Class	Site/Project	Cost Organization	Obligation / Deobligation
-	1610UZG001	1617	B	10U	301E57	4183	-	-	120,000
									120,000

Budget Summary Page

Table A - Object Class Category (Non-construction)	Total Approved Allowable Budget Period Cost
1. Personnel	$33,179
2. Fringe Benefits	$3,011
3. Travel	$1,328
4. Equipment	$0
5. Supplies	$1,280
6. Contractual	$16,099
7. Construction	$0
8. Other	$91,785
9. Total Direct Charges	$146,682
10. Indirect Costs: % Base	$3,318
11. Total (Share: Recipient 20.00 % Federal 80.00 %.)	$150,000
12. Total Approved Assistance Amount	$120,000
13. Program Income	$0
14. Total EPA Amount Awarded This Action	$120,000
15. Total EPA Amount Awarded To Date	$120,000

Administrative Conditions

1. **General Terms and Conditions - Effective 03/29/2016**

The recipient agrees to comply with the current EPA general terms and conditions available at: https://www.epa.gov/grants/epa-general-terms-and-conditions-effective-march-29-2016-or-later. These terms and conditions are in addition to the assurances and certifications made as part of the award and terms, conditions or restrictions cited below.

The EPA repository for the general terms and conditions by year can be found at: http://www2.epa.gov/grants/grant-terms-and-conditions.

2. **General Terms and Conditions - Consultant Cap - Additional Information**

In addition to the General Terms and Conditions #6 "Consultant Cap", as of January 1, 2016, the limit is $614.48 per day $76.81 per hour.

NOTE: For future years' limits, the recipient may find the annual salary for Level IV of the Executive Schedule on the following Internet site: http://www.opm.gov/oca. Select "Salary and Wages", and select "Rates of Pay for the Executive Schedule". The annual salary is divided by 2087 hours to determine the maximum hourly rate, which is then multiplied by 8 to determine the maximum daily rate.

3. **General Terms and Conditions – Cybersecurity**

The recipient agrees to comply with the current EPA general terms and conditions "Cybersecurity". The terms and conditions can be found on the EPA Grants Terms and Conditions Website.

For STATE:
http://www2.epa.gov/sites/production/files/2015-07/documents/state_grant_cyber_security_condition.pdf.

For TRIBE:
http://www2.epa.gov/sites/production/files/2015-07/documents/tribal_grant_cyber_security_condition.pdf.

For Other Recipients:
http://www2.epa.gov/sites/production/files/2015-07/documents/cyber_security_grant_condition_for_other_recipients.pdf.

4. **General Terms and Conditions - Indirect Costs - EPA 10% Default Rate**

In addition to the General Terms and Conditions "Indirect Cost Rate Agreements", as agreed to by the recipient, the indirect costs funded by this award are limited to 10% of salaries and wages only. **By accepting this assistance agreement, the recipient agrees to use this rate for the life of the agreement.**

When the actual costs for this period have been determined, any overpayment of indirect costs from this assistance agreement shall be repaid to EPA at the time of the close out of this agreement and submission of the final Federal Financial Report (SF-425). Repayments shall be sent to:

US Environmental Protection Agency

Las Vegas Finance Center

Box 979087

St. Louis, MO 63197-9000

The recipient also acknowledges that permission to use this rate is contingent on taking significant steps to obtain a current indirect cost rate agreement.

5. **General Terms and Conditions - Indirect Costs for Non-Profit Organizations**

The cost principles of 2 CFR 200 Subpart E are applicable, as appropriate, to this award.

In addition to the General Terms and Conditions "Indirect Cost Rate Agreements", recipients may not draw down indirect costs unless they: (1) have a current rate agreement; (2) have been approved for a flat 10% rate; or (3) have submitted, within 90 days of award, an indirect cost rate proposal to their cognizant federal agency for review and approval and a final rate has been determined by the cognizant agency.

The recipient agrees to comply with the audit requirements in accordance with OMB Circular 2 CFR 200 Subpart F.

6. **UTILIZATION OF SMALL, MINORITY AND WOMEN'S BUSINESS ENTERPRISES (MBE/WBE)**

GENERAL COMPLIANCE, 40 CFR, Part 33
The recipient agrees to comply with the requirements of EPA's Disadvantaged Business Enterprise (DBE) Program for procurement activities under assistance agreements, contained in 40 CFR, Part 33.

REPORTING PROVISION
MBE/WBE reporting is required annually for assistance agreements where there are funds budgeted for procuring construction, equipment, services and supplies, including funds budgeted for direct procurement by the recipient or procurement under subawards or loans in the "Other" category, that exceed the threshold amount of $150,000, including amendments and/or modifications.

Based on EPA's review of the planned budget, this award does not meet the condition above and is not subject to the reporting requirements of the Disadvantaged Business Enterprise (DBE) Program. However, if during the performance of the award the total of all funds expended for direct procurement by the recipient and procurement under subwards or loans in the "Other" category exceeds $150,000, annual reports will be required in accordance with the reporting paragraph below and you are required to notify your grant specialist for additional instructions.

The recipient also agrees to request prior approval from EPA for procurements that may activate DBE Program reporting requirements.

This provision represents an approved deviation from the MBE/WBE reporting requirements as described in 40 CFR, Part 33, Section 33.502; however, the other requirements outlined in 40 CFR Part 33 remain in effect, including the Good Faith Efforts requirements as described in 40 CFR Part 33 Subpart C and Fair Share Objectives negotiation as described in 40 CFR Part 33 Subpart D and explained below.

MBE/WBE REPORTING, 40 CFR, Part 33, Subpart E
When required, MBE/WBE reports must be submitted annually. The recipient agrees to complete and submit a "MBE/WBE Utilization Under Federal Grants, Cooperative Agreements and Interagency Agreements" report (EPA Form 5700-52A) on an annual basis. All procurement actions are reportable, not just that portion which exceeds $150,000.

When completing the annual report, recipients are instructed to check the box titled "annual" in section 1B of the form. For the final report, recipients are instructed to check the box indicated for the "last report" of the project in section 1B of the form. Annual reports are due by October 30th of each year. Final reports are due by October 30th or 90 days after the end of the project period, whichever comes first.

The reporting requirement is based on total procurements. Recipients with expended and/or budgeted funds for procurement are required to report annually whether the planned procurements take place during the reporting period or not. If no budgeted procurements take place during the reporting period, the recipient should check the box in section 5B when completing the form.

The current EPA Form 5700-52A can be found at the EPA Office of Small Business Program's Home Page at http://www.epa.gov/osbp/dbe_reporting.htm

SIX GOOD FAITH EFFORTS, 40 CFR, Part 33, Subpart C
Pursuant to 40 CFR, Section 33.301, the recipient agrees to make the following good faith efforts whenever procuring construction, equipment, services and supplies under an EPA financial assistance agreement, and to require that sub-recipients, loan recipients, and prime contractors also comply. Records documenting compliance with the six good faith efforts shall be retained:

(a) Ensure DBEs are made aware of contracting opportunities to the fullest extent practicable through outreach and recruitment activities. For Indian Tribal, State and Local and Government recipients, this will include placing DBEs on solicitation lists and soliciting them whenever they are potential sources.

(b) Make information on forthcoming opportunities available to DBEs and arrange time frames for contracts and establish delivery schedules, where the requirements permit, in a way that encourages and facilitates participation by DBEs in the competitive process. This includes, whenever possible, posting solicitations for bids or proposals for a minimum of 30 calendar days before the bid or proposal closing date.

(c) Consider in the contracting process whether firms competing for large contracts could subcontract with DBEs. For Indian Tribal, State and local Government recipients, this will include dividing total requirements when economically feasible into smaller tasks or quantities to permit maximum participation by DBEs in the competitive process.

(d) Encourage contracting with a consortium of DBEs when a contract is too large for one of these firms to handle individually.

(e) Use the services and assistance of the SBA and the Minority Business Development Agency of the Department of Commerce.

(f) If the prime contractor awards subcontracts, require the prime contractor to take the steps in paragraphs (a) through (e) of this section.

CONTRACT ADMINISTRATION PROVISIONS, 40 CFR, Section 33.302
The recipient agrees to comply with the contract administration provisions of 40 CFR, Section 33.302.

BIDDERS LIST, 40 CFR, Section 33.501(b) and (c)
Recipients of a Continuing Environmental Program Grant or other annual reporting grant, agree to create and maintain a bidders list. Recipients of an EPA financial assistance agreement to capitalize a revolving loan fund also agree to require entities receiving identified loans to create and maintain a bidders list if the recipient of the loan is subject to, or chooses to follow, competitive bidding requirements. Please see 40 CFR, Section 33.501 (b) and (c) for specific requirements and exemptions.

FAIR SHARE OBJECTIVES, 40 CFR, Part 33, Subpart D

1. **For Grant Awards $250,000 or Less**

This assistance agreement is a Technical Assistance Grant (TAG); or the award amount is $250,000 or less; or the total dollar amount of all of the recipient's financial assistance agreements from EPA in the current Federal fiscal year is $250,000 or less. Therefore, the recipient of this assistance agreement is exempt from the fair share objective requirements of 40 CFR, Part 33, Subpart D, and is not required to negotiate fair share objectives/goals for the utilization of MBE/WBEs in its procurements.

2. **For Recipients Accepting Goals**

A recipient must negotiate with the appropriate EPA award official, or his/her designee, fair share objectives for MBE and WBE participation in procurement under the financial assistance agreements.

In accordance with 40 CFR, Section 33.411 some recipients may be exempt from the fair share objectives requirements as described in 40 CFR, Part 33, Subpart D. Recipients should work with their DBE coordinator, if they think their organization may qualify for an exemption.

Accepting the Fair Share Objectives/Goals of Another Recipient
The dollar amount of this assistance agreement, or the total dollar amount of all of the recipient's financial assistance agreements in the current federal fiscal year from EPA is $250,000, or more. The recipient accepts the applicable MBE/WBE fair share objectives/goals negotiated with EPA. The Region 10 fair share objectives/goals can be found: http://www.epa.gov/osbp/pdfs/r10_fair_share_goals.pdf.

By signing this financial assistance agreement, the recipient is accepting the fair share objectives/goals and attests to the fact that it is purchasing the same or similar construction, supplies, services and equipment, in the same or similar relevant geographic buying market.

Negotiating Fair Share Objectives/Goals, 40 CFR, Section 33.404
The recipient has the option to negotiate its own MBE/WBE fair share objectives/goals. If the recipient wishes to negotiate its own MBE/WBE fair share objectives/goals, the recipient agrees to submit proposed MBE/WBE objectives/goals based on an availability analysis, or disparity study, of qualified MBEs and WBEs in their relevant geographic buying market for construction, services, supplies and equipment.

The submission of proposed fair share goals with the supporting analysis or disparity study means that the recipient is **not** accepting the fair share objectives/goals of another recipient. The recipient agrees to submit proposed fair share objectives/goals, together with the supporting availability analysis or disparity study, to the Regional MBE/WBE Coordinator within 120 days of its acceptance of the financial assistance award. EPA will respond to the proposed fair share objective/goals within 30 days of receiving the submission. If proposed fair share objective/goals are not received within the 120 day time frame, the recipient may not expend its EPA funds for procurements until the proposed fair share objective/goals are submitted.

3. For Recipients with Established Goals

The recipient must negotiate with the appropriate EPA award official, or his/her designee, fair share objectives for MBE and WBE participation in procurement under the financial assistance agreements.

In accordance with 40 CFR, Section 33.411 some recipients may be exempt from the fair share objectives requirements described in 40 CFR, Part 33, Subpart D. Recipients should work with their DBE coordinator, if they think their organization may qualify for an exemption.

Current Fair Share Objective/Goal
The dollar amount of this assistance agreement or the total dollar amount of all of the recipient's financial assistance agreements in the current federal fiscal year from EPA is $250,000, or more. The Region 10 fair share objectives/goals can be found: http://www.epa.gov/osbp/pdfs/r10_fair_share_goals.pdf.

Negotiating Fair Share Objectives/Goals
In accordance with 40 CFR, Part 33, Subpart D, established goals/objectives remain in effect for three fiscal years unless there are significant changes to the data supporting the fair share objectives. The recipient is required to follow requirements as outlined in 40 CFR Part 33, Subpart D when renegotiating the fair share objectives/goals.

Region 10 DBE Coordinator

Andrea Bennett at (206) 553-1789 or email: Bennett.Andrea@epa.gov. The coordinator can answer any MBE/WBE reporting questions you may have. MBE/WBE reports should be sent to the EPA Region 10, Grants and Interagency Agreements Unit, 1200 Sixth Avenue, Suite 900, OMP-173, Seattle, WA 98101 or FAX to (206) 553-4957.

7. **FY12 or Later Unpaid Federal Tax Liabilities/Felony Convictions for Non-Profit and For-Profit Organizations**

This award is subject to the provisions contained in the Consolidated Appropriations Act, 2014, Public Law 113-76, Division G, Title IV, Sections 422 and 423 regarding unpaid federal tax liabilities and federal felony convictions, which also have been included in prior appropriations acts. Accordingly, by accepting this award the recipient acknowledges that it: (1) is not subject to any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability, and (2) has not been convicted of a felony criminal conviction under any Federal law within 24 months preceding the award, unless EPA has considered suspension or debarment of the corporation based on these tax liabilities or convictions and determined that such action is not necessary to protect the Government's interests. If the recipient fails to comply with these provisions, EPA will annul this agreement and may recover any funds the recipient has expended in violation of Sections 422 and

423.

Programmatic Conditions

Environmental Justice Conditions

1. **Semi-annual Performance Reports**

The recipient shall submit one copy of a short written summary report for each six month period throughout the duration of the project period. The semi-annual report should include an overview of the activities that have taken place during the six month period. Refer to 40 CFR 30.51(d) for guidance on information that should be included in the reports. Reports are due to the EPA Project Officer 30 days after the six month period and are based on the start date of the project period shown in the assistance agreement.

If the project period ends at a six month period, a final report will be accepted in lieu of that semi-annual report.

In addition to the semi-annual performance reports, the recipient shall immediately notify the EPA Project Officer of developments that have a significant impact on the award-supported activities. Also, notification shall be given in the case of problems, delays, or adverse conditions which materially impair the ability to meet the objectives of the award. This notification shall include a statement of the action taken or contemplated, and any assistance needed to resolve the situation.

2. **Final Performance Report**

Within 90 days after the end of the project period the recipient agrees to submit **two** copies of the final project report to the EPA Project Officer. The report must clearly address the items below:

a. An abstract or overview of the project in terms of its overall process and outcomes. Indicate which eligible activities and or EPA criteria were addressed and how these were fulfilled.

b. Include information on the target audience, such as (local residents, community activists, businesses, etc.), and demographics of the target audience.

c. What findings or information were gained that could contribute to addressing environmental injustices.

d. Description of evaluation measures and results. Include evaluation tools where applicable.

e. Plans for dissemination of project results in terms of method of dissemination and target audience (i.e., conference presentations, educator networks, community forums, etc.).

f. Were any problems encountered that prohibited the completion of the project goals or objectives? If yes, how were they overcome?

g. Provide an overview of expenditures and budget. What changes were made to the budget, if any? Were expenditures made as planned?

h. What benefits were gained from this program?

i. How could EPA have been more effective in assisting you with this project? For example, were EPA's priorities and directives in the solicitation notice clearly stated?

After review of the final report, the EPA Project Officer may request additional information from the recipient. Once the EPA Project Officer receives an acceptable final report, the Project Officer will keep one copy and send a copy to a national clearing house of environmental justice materials. In addition to the report, the recipient should also supply **two** copies to EPA of all tangible final products that were created for the purposes of the funded project (i.e., videos, research findings, curriculum, presentations, etc.). If an exhibit, slide show, or other item was created that is too large and/or expensive to duplicate, photos or transcripts of the product may be substituted.

3. **Use of Data - Intangible Property**

The recipient agrees to comply with the provisions of 40 CFR 30.36 or 40 CFR 31.34, as applicable.

4. **Acknowledgment of Sponsorship**

EPA encourages recipients to include an acknowledgment of the sponsoring program, when appropriate, on fliers, agendas, and at meetings, etc. A suggested statement is: "This project is sponsored through or in part by an Environmental Justice Grant from the Environmental Protection Agency under assistance agreement (number) to (recipient)."

5. **Substantial Involvement**

The EPA will be substantially involved in this project by participating in the following activities : (1) Within the first nine months of the project, the EPA reserves the right to negotiate work plan and budget; (2) monitor the project management and execution throughout the assistance agreement's project and budget period; (3) provide technical assistance and coordination as requested or needed by the recipient; and (4) review and approve technical deliverables.

6. **Light Refreshments**

Unless the event(s) and all of its components (i.e., receptions, banquets and other activities that take place after normal business hours) are described in the approved workplan, the recipient agrees to obtain prior approval from EPA for the use of grant funds for light refreshments and/or meals served at meetings, conferences, training workshops, and outreach activities (events). The recipient must send requests for approval to the EPA Project Officer and include:

(1) An estimated budget and description for the light refreshments, meals, and/or beverages to be served at the event(s);
(2) A description of the purpose, agenda, location, length and timing for the event.
(3) An estimated number of participants in the event and a description of their roles.

Recipients may address questions about whether costs for light refreshments, and meals for events are allowable to the recipient's EPA Project Officer. However, the Agency Award Official or Grant Management Officer will make final determinations on allowability. Agency policy prohibits the use of EPA funds for receptions, banquets and similar activities that take place after normal business hours unless the recipient has provided a justification that has been expressly approved by EPA 's Award Official or Grants Management Officer.

Note: U.S. General Services Administration regulations define light refreshments for morning , afternoon or evening breaks to include, but not be limited to, coffee, tea, milk, juice, soft drinks, donuts, bagels, fruit, pretzels, cookies, chips, or muffins. (41 CFR 301-74.11)

7. **Competency of Organizations Generating and/or Using Environmental Measurement Data**

In accordance with Agency Policy Directive Number FEM-2012-02, Policy to Assure the Competency of Organizations Generating Environmental Measurement Data under Agency-Funded Assistance Agreements, recipient shall maintain competency for the duration of the project period of this agreement and this will be documented during the annual reporting process. A copy of the Policy is available online at http://www.epa.gov/fem/lab_comp.htm or a copy may also be requested by contacting the EPA Project Officer for this award.

Federal Assistance Agreement Funds Up To $200,000

Recipient agrees that if the total federal funding obligated on this award exceeds $200,000 (resulting from subsequent amendments to this agreement) and will involve the use or generation of environmental data it will (unless it has otherwise done so) demonstrate competency prior to carrying out any activities involving the generation or use of environmental data under this agreement.

Federal Assistance Agreement Funds Exceed or Expect to Exceed $200,000

Recipient agrees, by entering into this agreement, that it has demonstrated competency prior to award, or alternatively, where a pre-award demonstration of competency is not practicable. Recipient agrees to submit documentation and demonstrate competency prior to carrying out any activities under the award involving the generation or use of environmental data.

R10 Quality Assurance Team Contact: Donald M. Brown at (206) 553-0717 or email: brown.donaldM@epa.gov.

8. **Electronic and Information Technology Accessibility**

Recipients and subrecipients are subject to the program accessibility provisions of Section 504 of the Rehabilitation Act, codified in 40 CFR Part 7, which includes an obligation to provide individuals with disabilities reasonable accommodations and an equal and effective opportunity to benefit from or participate in a program, including those offered through electronic and information technology ("EIT"). In compliance with Section 504, EIT systems or products funded by this award must be designed to meet the diverse needs of users (e.g., U.S. public, recipient personnel) without barriers or diminished function or quality. Systems shall include usability features or functions that accommodate the needs of persons with disabilities, including those who use assistive technology. At this time, the EPA will consider a recipient's websites, interactive tools, and other EIT as being in compliance with Section 504 if such technologies meet standards established under Section 508 of the Rehabilitation Act, codified at 36 CFR Part 1194. While Section 508 does not apply directly to grant recipients, we encourage recipients to follow either the 508 guidelines or other comparable guidelines that concern accessibility to EIT for individuals with disabilities. Recipients may wish to consult the latest Section 508 guidelines issued by the US Access Board or W3C's Web Content Accessibility Guidelines (WCAG) 2.0 (see http://www.access-board.gov/sec508/guide/index.htm).

9. **Sufficient Progress**

EPA may terminate the assistance agreement for failure of the recipient to make sufficient progress so as to reasonably ensure completion of the project within the project period, including any extensions. EPA will measure sufficient progress by examining the performance required under the workplan in conjunction with the milestone schedule, the time remaining for performance within the project period, and/or the availability of funds necessary to complete the project.

END OF DOCUMENT

JC

From:	Steve Pilcher
To:	SAMP Public Comments
Cc:	Rybolt, Steven; Purcell, Arlyn (Env&Sus); "Susan Cezar"; "Michael Matthias"; Bonnie Wilkins; Chip Davis; "Brian Wilson"; David Nemens; "Mark Hoppen"; Joseph Scorcio
Subject:	Sustainable Airport Master Plan Near-Term Projects Environmental Review Scoping Comments
Date:	Friday, September 28, 2018 2:13:33 PM
Attachments:	1685_001.pdf

Attached please find comments submitted jointly by the Cities of Burien, Des Moines, Normandy Park and SeaTac. You may receive additional comments individually from one or more of the four cities.

Thank you for the extended opportunity to provide comments; we look forward to seeing our concerns addressed as the Port prepares and issues environmental documents.

Steve Pilcher, SEPA Responsible Official
Director,Community & Economic Development
City of SeaTac
4800 S. 188th St.
SeaTac, WA 98188-8605
206-973-4832
spilcher@seatacwa.gov

JC

September 28, 2018

Mr. Steve Rybolt
Aviation Environment and Sustainability
Port of Seattle
P. O. Box 68727
Seattle, WA 98618

Re: Sustainable Airport Master Plan Near Term Projects NEPA EA and SEPA EIS Scoping Comments

The Port of Seattle (the Port) has prepared a Sustainable Airport Master Plan (SAMP) for Seattle-Tacoma International Airport (Airport). It is understood that the purpose of the SAMP is to develop a facilities plan that will allow the Airport to satisfy the region's air transportation needs through 2034 and identify measures that enable the Port to build, manage, and operate the Airport's facilities in ways that meet the Port's sustainability goals and objectives.

The airport has experienced substantial growth in aircraft operations, passenger enplanements, and air cargo. Forecasts for the planning period suggest that growth will continue, exceeding the capacity of the current airfield, terminal, and cargo processing facilities.

The SAMP process resulted in both a vision for comprehensive long-range Airport development and a Near-Term plan, with projects to be constructed by 2027. The planning constraints included using airport-owned property (not acquiring new land) and not adding to the airport's current three runways.

The SAMP addresses five operational areas: airfield (runways and taxiways), terminal, access and parking, air cargo, and airport/airline support functions. The main goals for each, is to improve efficiency, increase airport capacity, reduce delay, and do this while supporting the Port's sustainability goals. The environmental analysis to be conducted needs to address the impacts of proposed improvements for each of these operational areas to the surrounding communities.

The cities of SeaTac, Burien, Normandy Park, and Des Moines, are the closest communities to the airport, and while the airport provides social and economic benefits to the region, our four cities are disproportionately impacted by airport operations. These impacts will only increase with the planned growth in flights, passengers, and air cargo.

Aircraft noise is of primary concern for our communities, especially those located in close proximity to flight paths. We are also heavily impacted by air emissions and reduced air quality, increased traffic congestion, and expanded industrial activity that occurs near residential neighborhoods.

JC

After careful review of the SAMP, with a focus on the Near-Term projects, we have compiled the following comments and concerns related to potential impacts for our communities and areas which must be included in the NEPA and SEPA reviews and considered by the Port as part of managing the long-term operation and growth of Seattle-Tacoma International Airport.

JC-1

Aviation forecasts call for a 60% increase in aircraft operations and a 75% increase in annual passengers through 2034, and the Port's long-term goals include doubling international passengers, international destinations, and tripling air cargo processed through the airport. The increase in overflights alone will result in a substantial increase in noise exposure to our communities and will be especially impactful for those areas located below arrival and departure paths.

JC-2

The Port has committed to adopting a "sustainable" airport master plan which includes pledging to be a "responsible environmental steward" and a "good neighbor." In doing so, the Port must objectively assess benefits and impacts, understanding that regional benefits may not offset local community impacts. To fulfill its commitment to be a good neighbor, the Port must carefully analyze and acknowledge both the current impacts, as well as the increased impacts and reduction of quality of life that will result from the planned growth assumed in the SAMP.

Joint Comments from the Cities of Burien, Des Moines, Normandy Park and SeaTac

JC-3

The issues raised in this letter need to be considered within the scope of the environmental reviews being conducted for the proposed projects derived from the SAMP. Although during the Agency Scoping meeting on September 6, 2018, some of the following issues were characterized as "Long Term" and therefore beyond the scope of the upcoming environmental review process, we find them to be current and relevant. They are not issues for future analysis, but have arisen from recent, ongoing, and planned changes to the facilities and airspace surrounding the Airport in an ongoing effort to enhance airport capacity. These efforts are intrinsically linked to the proposed projects and cannot be ignored by segmenting the environmental review through limiting the analysis to the near term projects, and ignoring the remainder of the SAMP.

These issues are a derivative of the actions taken by the airport and FAA to increase capacity to meet growing demand. More gates, expanded cargo facilities, improved airspace and procedures, etc., have and will lead to more traffic, more overflights, more noise events, and other impacts. Air Traffic Control (ATC) procedures have already changed within the past few years to accommodate the projected increase in air traffic.

General issues:

JC-4

1. The environmental analysis must address what has recently been implemented as part of the overall growth planned and projected at the airport to have a true assessment of the impacts to the communities. The cumulative effect of the changes added to the proposed near and long-term changes (including continued double-digit growth in operations) will have substantial and lasting impacts on our cities. The environmental analysis needs to address these impacts as well as reasonable and attainable mitigations measures.

JC-5

2. The environmental review process must include the entire SAMP rather than only the near-term projects from the SAMP for the following reasons:

JC

a. Previous project approvals outside of the SAMP are now proposed to be included as part of the baseline. (Reference the attached letter from the City of Des Moines expressing concerns and the Port's response letter assuring the City that no additional capacity projects would be completed outside of the SAMP.) By including only the near term projects in the environmental review, this pattern of increasing capacity outside of the SAMP and associated environmental review is proposed to be inappropriately continued.

b. The SAMP has been completed and includes a long term vision, but only the short term projects are proposed to be included in the environmental review. This is an inappropriate use of the phased review provisions of WAC 197-11-60. Phased review could be utilized when the scope is from a broad policy document (the SAMP) to a narrower scope (the near term projects of the SAMP) as provided under state law. The near term projects environmental review is proposed to precede the broader scope policy document upon which the near term projects are based.

JC-3

c. The "proposal" is improperly defined as the SAMP near-term projects, while the SAMP itself is complete. The proposal is the SAMP (which contains the near-term projects) and analysis should occur to the extent feasible.

d. Implementing the near term projects outside of the SAMP, would establish the development pattern and preclude consideration of options when the SAMP eventually undergoes environmental review.

e. Environmental review is starting late in the process of the development of the SAMP and near-term project list. Reference the entirety of WAC 197-11-400 - Purpose of EIS. Note particularly that, "...An environmental impact statement is more than a disclosure document. It shall be used by agency officials in conjunction with other relevant materials and considerations to plan actions and make decisions." Including the entire SAMP will allow decision-makers more appropriate information related to environmental impacts, options and mitigation on which to base decisions.

3. The baseline activity for environmental assessment and review is proposed to be 2018. Our concern is that the very significant growth that has occurred at Sea-Tac during the period 2012-2018 is relegated to a foregone conclusion without sufficient environmental review or analysis. The baseline impacts need to be from 2012-2018.

JC-4

a. The revisions to agreements that established usage of the third runway, and that now operates at higher capacity levels, have substantially increased operations without sufficient environmental review.

b. The most recent Part 150 submitted to the FAA for their Record of Approval (2013), preceded very significant year over year growth. This Part 150 has not accounted for noise impacts occurring in this dynamic, steadily increasing growth environment over the last six years.

JC-5

4. The analysis should include as an alternative, the use and/or siting of other airports.

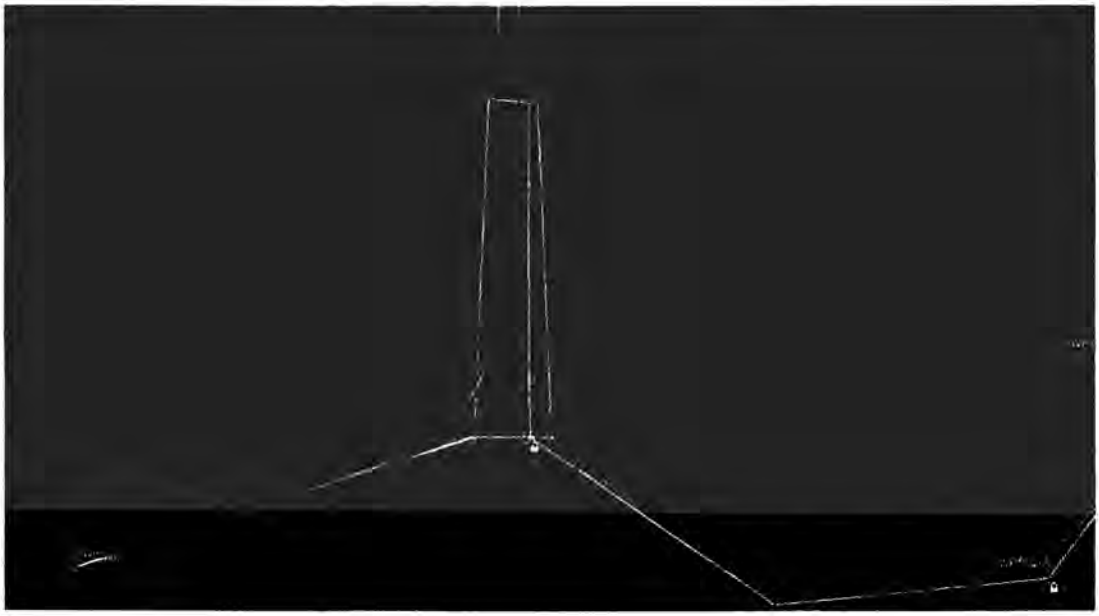
JC

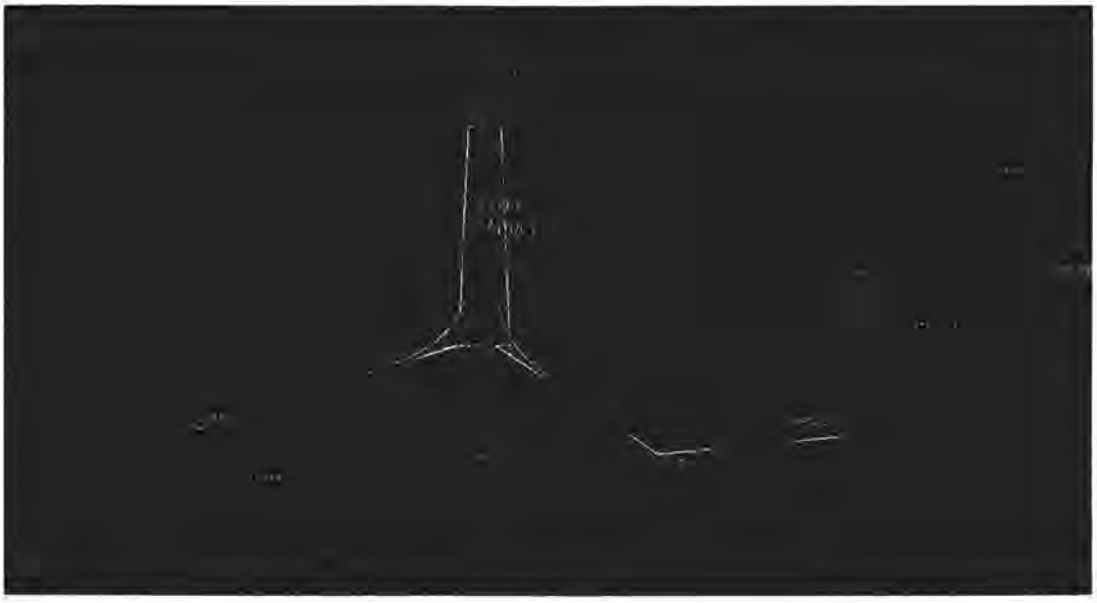
Operational issues:

JC-6

1. Any Airport Modeling Data and TAM Simulation Results from the past ten (10) years needs to be included in the EA/EIS.
2. AEDT Modeling Data also needs to be included.
3. The existence of the current FAA Performance Based Navigation Implementation Process (FAA Order 7100.41A) Full Working Group and the Notional Procedures that were being considered before the suspension of the Working Group in 2017, needs to be included in the EA/EIS. Specifically, the following Notional Procedures:

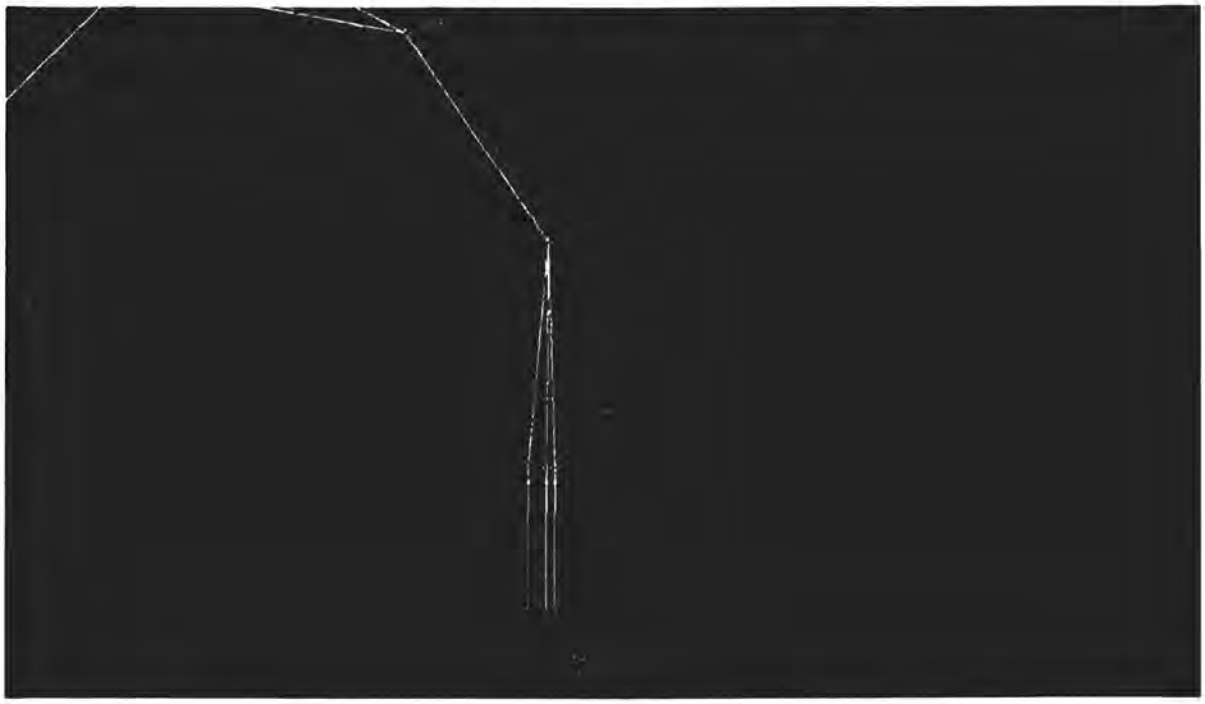
    a. South Flow proposed departure track changes as depicted below:

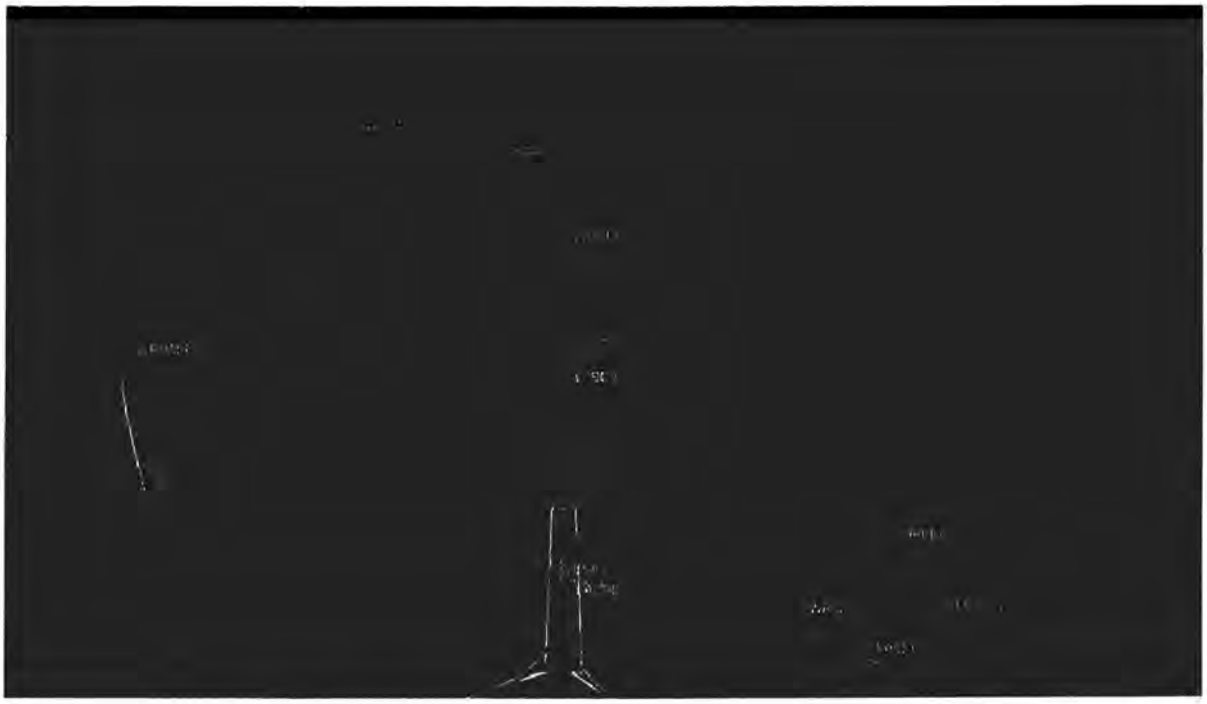




JC

b. North Flow Proposed departure track changes as depicted below:





4. The EA/EIS needs to include further evaluation of the "Automated Turnouts" westbound over Burien including alternative headings available, frequency of use, and potential mitigation strategies. JC-7
5. The EA/EIS needs to address the impact of Wake RECAT on residents under the flight paths due to increased number of events.
6. Existing and Proposed Run-Up Pads need to be addressed in the EA/EIS due to the ongoing and potential disturbance caused to communities in close proximity to these facilities. Mitigation measures for noise generated by these facilities need to be identified. JC-8
7. The Baseline of the EA/EIS should not be the airport configuration in 2018, but rather the airport configuration that existed in 2012, as major changes have been implemented since that time without appropriate environmental analysis. Facility changes at the airport since 2012 need be included in the EA/EIS. JC-4
8. The EA/EIS needs to address those ATC procedures that were implemented via a Categorical Exclusion (CATEX) over the last decade. These procedures, including Greener Skies, were implemented based upon existing and projected traffic at the time. Since growth and current traffic levels exceed the projected amounts of traffic when implemented, the impacts due to the number of events has increased and will continue to increase as procedures such as Wake RECAT and Equivalent Lateral Spacing Operations (ELSO) are implemented. JC-7
9. The EA/EIS needs to evaluate impacts and measures (such as Point-Merge) to mitigate noise for residents living underneath the final approach course, JC-9

Other Issues:

1. An increase in operations and current levels of congestion suggest an increase in nighttime operations are likely. Additionally, the Port's stated intention to expand cargo operations will likely further increase nighttime operations which are the most impactful for communities, at the time they are most sensitive to noise. Many citizens mention a middle-of-the-night flight to Asia as well as night cargo flights. JC-1
2. The increase in operations (close to 70% over the SAMP planning period) will result in significant increases in noise and emissions.
3. The increase in operations will result in an increase in health effects for communities, especially those close-in to the airport. Health impacts have been associated with aircraft noise, air pollution, and water quality affected by aircraft and airport operations. Include the potential for increased jet fuel releases over water and homes. JC-2
4. Sustainable growth requires adequate and effective mitigation to offset or reduce impacts. These should be identified and prioritized in collaboration with affected communities. JC-9
5. Regarding noise, the EIS needs to specifically analyze ground noise and address mitigation measures, such as sound absorption walls. JC-9
6. The document should clearly delineate those impacts the Port can address vs. those subject to FAA purview. JC-10

JC

7. Address and mitigate impacts of noise exposure and air emissions on children's learning and environmental justice populations adjacent to the airport.

8. Address and mitigate congestion impacts associated with increased commercial truck traffic on off-airport roadways as a result of expanded cargo operations at the airport.

9. Quantify and mitigate for climate change impacts resulting from Green House Gas (GHG) emissions resulting from expanded airport operations.

10. Ensure all SAMP documents and review processes conform to the Limited English Proficiency and Environmental Justice provisions of Title VI of the Civil Rights Act of 1964.

11. The EA/EIS needs to specifically address impacts associated with development of the "L-Shaped parcel" for air cargo processing (Site #3 in the table below).

Figure 5-6
Cargo Sites Round 1 Screening Matrix
Seattle-Tacoma International Airport

Criteria	Site #1 North Cargo Area	Site #2 North of Cargo 1	Site #3 L-Shaped Parcel	Site #4 SASA
Potential to meet PAL 4 area requirements	-1	-1	-1	1
Site development cost	1	1	0	-1
Potential direct airfield access	1	1	-1	1
Potential to improve access and congestion	1	-1	-1	1
Potential to promote optimum utilization	1	1	0	1
Site availability	1	0	1	-1
Phasing	0	1	1	0
[illegible]	0	0	-1	0
[illegible]	1	1	-1	-1
[illegible]	0	0	-1	-1
Proximity to noise and light sensitive land uses	0	0	-1	0
Consistency with zoning	1	1	1	1
Consistency with public expectations	1	0	1	1
Score summary	7	4	-3	2
	-1	poor/undesirable	1	good
	0	neutral		

Source: Logplan and LeighFisher, 2016.

Although this site scored poorly and was not selected in the final screening, Development of Site #3 is selected for the Near-Term project portfolio.

12. The SAMP notes that off-airport roadways are outside the scope of the SAMP itself, however, SEPA requires consideration of transportation impacts including increased roadway use and congestion. The EA/EIS needs to address congestion and increased traffic on local surface streets.

JC

JC-17

Issue: Impacts to NEPA 4(f) areas, including recreational resources.

There are several parks and recreational resources in proximity to SEA and within the current DNL 65 dBA contours for the airport. The increase in aircraft overflights and resulting increase in noise exposure and air emissions will substantially diminish intended use and enjoyment of these properties. The EA/EIS needs to analyze both indirect and cumulative impacts of the air traffic levels enabled by implementation of the near-term projects, as well as those included in the long-term vision for airport.

JC-18

Issue: Maintenance of existing noise abatement program and procedures.

A number of elements in the Current Part 150 appear to be inconsistent with the plans included in the near-term projects within the SAMP. These include:

1. Voluntary rescheduling of nighttime flights (10PM-7AM). The forecasted operational level, particularly the substantial increase in cargo operations suggests an increase in nighttime operations may be required.
2. Preferential runway system. A preferential runway system was established to minimize community noise impacts during nighttime hours. This program was limited to nighttime hours due to the relatively low(er) volume of operations during this time. Increased operations at night, combined with impacts to the preferential runway system will increase community noise impacts when residents are most sensitive.
3. The EA/EIS needs to evaluate the increased level of operations enabled through implementation of the SAMP Near-Term projects and whether they may result in modification or elimination of the noise abatement corridors. The environmental analysis needs to address impacts to the elements included in the SEA Fly Quiet program and subsequently, the SEA noise abatement program.

JC-19

Issue: Include supplemental noise metrics.

Public annoyance and sensitivity to aircraft noise is changing. This has been acknowledged by the FAA and others and has prompted a great deal of research by the FAA, Airport Cooperative Research Program, and others. Despite the reduction in numbers of people exposed to DNL 65 dBA, noise complaints are skyrocketing across the United States. Though the FAA has recently completed an aircraft annoyance study, the findings have yet to be released. However, most expect the results will confirm annoyance levels are different than they were in the 1970s when DNL was initially adopted as the standard for predicting annoyance.

While DNL remains the federal standard for assessing aircraft noise impacts, supplemental metrics have been used around the country to help the public better understand the expected changes associated with airport projects and procedure changes. This also helps inform decision-makers and public-authorities who participate in the planning process including airport master planning, compatibility planning, and local land-use planning. While DNL is mandated, reporting a change in DNL alone is less informative than supplementing the DNL values with supplemental metrics such as the Number-of-Events-Above and Time-Above metrics, especially for non-industry experts.

The EA/EIS needs to include use of supplemental metrics to include exposure beyond DNL 65 (i.e. down to the DNL 55 dBA levels of exposure), such as Number of Events Above and Time Above.

We appreciate the opportunity to comment on the scoping for the near term project environmental review. We look forward to receiving the SEPA Draft EIS and NEPA EA upon issuance of those documents.

Sincerely,

Steve Pilcher, AICP
SEPA Responsible Official
City of SeaTac

Charles W. "Chip" Davis, AICP
SEPA Responsible Official
City of Burien

Susan Cezar, LEG
SEPA Responsible Official
City of Des Moines

David Nemens
SEPA Responsible Official
City of Normandy Park

PS

From: Erika Harris
To: SAMP Public Comments
Cc: Josh Brown; Ben Bakkenta; Sheila Rogers; Rick Olson; Gallagher, Clare
Subject: PSRC Scoping Comment Letter on the Sustainable Airport Master Plan
Date: Wednesday, September 26, 2018 2:41:39 PM
Attachments: PSRC SAMP Scoping Letter.pdf

PSRC is pleased to submit the attached scoping comment letter on the Sustainable Airport Master Plan. We appreciate the opportunity to provide input in the development of this important plan. Please contact me if you have any questions about our comments.

Sincerely,

Erika Harris, AICP
Senior Planner, SEPA Responsible Official

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Puget Sound Regional Council

Puget Sound Regional Council

September 26, 2018

Mr. Steve Rybolt
Port of Seattle
Aviation Environment and Sustainability
P.O. Box 68727
Seattle, WA 98168

Dear Mr. Rybolt,

The Puget Sound Regional Council (PSRC) appreciates the opportunity to comment on scoping for the Sustainable Airport Master Plan (SAMP). The Port of Seattle is commended for thinking regionally about how the airport serves our communities and emphasizing sustainability in the SAMP. The scoping notice reflects a thorough consideration of the appropriate range of environmental issues to be addressed in the forthcoming Draft Environmental Impact Statement (EIS). The following comments underscore the importance of the SAMP in implementing our regional plans.

PS-1 Commercial aviation is a cornerstone of the region's economy and Seattle-Tacoma International Airport is its aviation powerhouse. Recognizing this importance, the region's economic strategy, *Amazing Place* (2018), includes a goal to compete globally and an implementing strategy to sustain and grow commercial air travel connections domestically and globally. The SAMP and its implementation will help to advance this important regional goal.

The newly adopted *Regional Transportation Plan* (2018) embraces the strategies and recommendations contained in the state's *Long-Term Air Transportation Study in the Puget Sound* completed in 2009. It recommends that future regional system planning processes be joint efforts between PSRC, the state, and other key stakeholders.

PS-2 As stated in the *Regional Transportation Plan* (pp. 53-54) planning for the future regional airport system is guided by the following regional policies:

- The region should maximize aviation capacity within the existing regional airport system before constructing new airports.
- The state will play a lead role in addressing aviation capacity needs and place a priority on funding and planning the state's air transportation system.
- When additional capacity is forecast to be needed, and no feasible airport capacity is available within the region, the state will take the lead role in addressing capacity needs, including by funding a site selection study for the placement of new airport(s) if no sponsor is available.

Discussion of Seattle-Tacoma International Airport's regional context in the SAMP should acknowledge and consider these regional aviation system policies.

With the recent award of a planning grant from the Federal Aviation Administration, PSRC will lead the development of a new Regional Aviation Baseline Study that will build on master planning processes underway at many of the region's airports, including the SAMP. The study will provide a clear picture of the aviation activities and needs in the central Puget Sound region and set the stage for future planning efforts. The study, to be launched in fall 2018 and likely completed in early 2020, will examine the dynamics of the region's growing aviation activity, the unique role of the regional aviation system in supporting our region's global center for aerospace manufacturing, the economic impact of the region's airports, and community issues and concerns with airport activities. PSRC looks forward to working with the Port of Seattle as it conducts this parallel regional aviation study.

PS-4 / PS-3

The *Regional Transportation Plan* provides a long-term, regional strategy for expanding the regional network of roads and transit to serve our growing communities and includes a constrained list of transportation projects that are anticipated to be completed by the year 2040. It will be important for the SAMP to consider the transportation and transit connections to the airport and look at opportunities to enhance access between the regional transit system and the passenger terminals and employment concentrations at the airport. Please consider alternatives that provide convenient access to Link light rail and other components of the regional transit system. Benefits and impacts of the plan to transit, nonmotorized facilities, local roadways, and state highways should be studied in the EIS.

PS-5

VISION 2040 provides a policy basis for transportation planning and the *Regional Transportation Plan*. It identifies a group of regionally-designated growth and manufacturing industrial centers intended to accommodate a large share of the region's anticipated growth. Like other regional growth centers, the SeaTac Regional Growth Center has an important role in providing jobs, housing, services and mobility in the region. Please acknowledge its role in the region's growth management plan and study potential support for or impacts to the center and its continued development. Coordination with the City of SeaTac and other local jurisdictions will be crucial in understanding the benefits and impacts to these communities and planning for a sustainable airport.

The SAMP is an important long-range plan for our region. We commend the Port of Seattle for the comprehensive planning and environmental review being undertaken. We appreciate the opportunity to comment and participate, as well as the Port of Seattle's ongoing coordination and participation in regional planning at PSRC. If you have any questions regarding our comments, please contact our Director of Regional Planning, Ben Bakkenta, at bbakkenta@psrc.org or our SEPA Responsible Official, Erika Harris, at eharris@psrc.org.

Sincerely,

J. W. Brown

Josh Brown
Executive Director

ST

From: Hale, Kent
To: SAMP Public Comments
Cc: Weinberg, Perry; Billen, Don
Subject: SAMP Environmental Scoping Comments - Sound Transit
Date: Wednesday, September 26, 2018 8:54:07 AM
Attachments: image001.png
PortofSEattleScopingLetter_ST_20180926.pdf

Good morning,

Attached please find Sound Transit's environmental scoping comments on the Port of Seattle's SAMP. Hard copy to Steve Rybolt will follow via regular mail.

Many thanks,

Kent Hale
Environmental Planning Manager
Planning, Environment & Project Development
W (206) 398-5103 I C (206) 715-4974

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SOUNDTRANSIT

SOUNDTRANSIT

September 26, 2018

Mr. Steve Rybolt
Port of Seattle
Aviation Environment and Sustainability
P.O. Box 68727
Seattle, WA 98168
SAMP@portseattle.org

Subject: Sustainable Airport Master Plan (SAMP) EIS Scoping Comments

Dear Mr. Rybolt:

Thank you for the invitation to comment on the scope of the SEPA EIS and NEPA EA the Port of Seattle will prepare for the Sustainable Airport Master Plan (SAMP). Sound Transit appreciates the ongoing partnership between our agencies.

Sound Transit reviewed the scoping materials provided at www.SAMPenvironmentalreview.org. We understand the environmental review will focus on the list of Near-Term Projects, anticipated to be operational by 2027. We offer the following comments on the scope of the environmental review:

ST-1

- **Cumulative Impact Analysis**: Major transportation infrastructure projects are planned for construction in the vicinity of Sea-Tac Airport within the timeframe for the SAMP Near-Term Projects. Sound Transit's Federal Link Extension will build a light rail extension from the Angle Lake Station to the Federal Way Transit Center between 2020-2024. WSDOT's construction of Phase 1 of the SR 509 Extension will likely occur during this period as well. Sound Transit's Bus Rapid Transit service is scheduled to begin operations in 2024, and will include improvements in the SR 518 corridor near Sea-Tac Airport. The SAMP EIS should evaluate the potential for cumulative construction period effects during construction of the Near-Term Projects. Sound Transit looks forward to working together with the Port to manage and minimize potential impacts from our respective construction projects in the area.

ST-2

- **Transportation / Transit Impact Analysis**: Evaluation of the Near-Term Projects should consider potential effects on existing transit operations, including Sound Transit's light rail service at Sea-Tac Airport. As required by the Airport Station Operations and Maintenance Agreement (December 2016) between ST and the Port, we will need to "coordinate and jointly review proposed changes that may affect the physical and/or operational

characteristics of [our] respective facilities." Sound Transit looks forward to working closely with the Port as you proceed with the SAMP to better understand how those plans could impact operations, maintenance and security at SeaTac/Airport station, Angle Lake station and along the light rail guideway located on Port property.

Finally, we would appreciate receiving additional information about the SAMP throughout the environmental review process. Please send such information to my attention via email at kent.hale@soundtransit.org, or by mail at Sound Transit, 401 S. Jackson Street, Seattle, WA 98104. Please feel free to contact me at 206-398-5100 with any questions.

Sincerely,

Kent Hale
Environmental Planning Manager

cc: Don Billen, Sound Transit
Perry Weinberg, Sound Transit

Central Puget Sound Regional Transit Authority • Union Station
401 S. Jackson St., Seattle, WA 98104-2826 • Reception: (206) 398-5000 • FAX: (206) 398-5499
www.soundtransit.org

TU

From: Brandon Miles
To: SAMP Public Comments
Cc: Gallagher, Clare; Milanese, Marco
Subject: SAMP Scoping Public Comment Letter
Date: Friday, September 28, 2018 2:06:54 PM
Attachments: SAMP Scoping Letter.pdf
Strander 2-pager.pdf
Fehr and Peers TIB Rechannelization Study Jan 2018.pdf

Good Afternoon-

Please find attached the City of Tukwila's official letter for the SAMP Scoping.

Best Regards,

Brandon

Brandon J. Miles

Business Relations Manager| City of Tukwila
6200 Southcenter Blvd | Tukwila, WA 98188

office: (206) 431-3684 cell: (206) 731-9071
Brandon.Miles@Tukwilawa.gov| www.tukwilawa.gov

Tukwila

City of Tukwila

Allan Ekberg, Mayor

Mayor's Office – David Cline, City Administrator

September 27, 2018

Mr. Steve Rybolt
Port of Seattle
Aviation Environment and Sustainability
PO Box 68727
Seattle, WA 98168

RE: SEPA Determination of Significance
Scoping
City of Tukwila Comments

Dear Mr. Rybolt:

Thank you for meeting with City of Tukwila (City) staff on September 26 and providing an outline of the Port of Seattle's (Port) proposed Sustainable Airport Master Plan (SAMP). The expansion of the Sea-Tac Airport (Airport) is vital to the overall economic well-being of the State of Washington. While the City understands that an expansion is needed, it is important that any expansion mitigate impacts to surrounding communities.

While the City is impacted by noise, pollutants, and other impacts associated with operations at the Airport, given that Tukwila does not directly border the Airport and is not directly under the approaches to the runways, the City is narrowly focusing its scoping request. The City of Tukwila requests that the following items be examined as part of the Environmental Impact Statement (EIS).

Transportation

Green River Valley Traffic Concerns

I-405 from Renton to the I-5/SR 518 interchange already experiences considerable delays due to the high traffic volume on this critical freeway route. I-405 services the Green River Valley, which is the second largest warehousing district on the west coast of the United States and fifth largest in the nation. Due to freeways, railroad tracks, and the Green River, this area has very few east-west connections, with I-405 being used to move goods and people between the adjacent communities. This stretch of I-405 has significant bottlenecks and congestion, which delays goods and people getting to vital transportation hubs such as I-5, the Airport, BNSF's South Seattle Intermodal Yard and the seaports in Tacoma and Seattle.

TU-1

As the Airport grows to accommodate more passengers it will result in more people on this part of I-405, increasing delays. The City requests that the Port examine the traffic impacts of the Airport in the EIS. The City asks that the Port's traffic analysis extend at least ten miles out from the footprint of the Airport, with specific emphasis on I-405 and east-west connections in the Green River Valley. Aside from just looking at average daily vehicle trips, the City also requests that the traffic analysis examine increased delay times for freight movements.

TU-2

As possible mitigation for impacts on I-405, the City would suggest the Port invest in capital projects to improve east-west mobility between the Cities of Tukwila and Renton. Specifically, the City suggests the Port provide funding for the Strander Multi-Modal Connector (see attached). The City of Renton has already completed phase 1 and 2A of this project and provided an underpass below the BNSF railroad. Phase 3A will complete the project and construct an underpass below the Union Pacific railroad. The current connection is inefficient and does not accommodate freight vehicles. While the City of Tukwila has already provided or secured $15.6 million for phase 3A, the total estimated construction cost is $83.7 million.

When completed, this connected roadway between Tukwila and Renton will improve cross-valley freight movement by creating an alternate truck route. It is estimated that the project will remove 55,000 vehicles from I-405 and SR-167. Removing traffic from I-405 will increase reliability for users of the freeway. Finally, it will allow Airport patrons to get to and from the Airport more quickly and safely.

Tukwila International Blvd Traffic

TU-3

Over 25 years ago the City annexed the area formerly known as Pacific Hwy or old 99. Since annexation the City has spent millions of dollars to transform the area from a regional roadway into a pedestrian-friendly neighborhood. It should be noted that in 2003 the City successfully petitioned the State of Washington to hand over control of the roadway from the State to the City. The roadway is no longer part of the State highway system. The City has installed sidewalks, worked in partnership with private developers on the Tukwila Village project, worked with King County Library system on a new library, and purchased and closed several motels that were contributing to criminal activity. In 2019, the City will break ground on its new Justice Center building in the neighborhood.

As a part of our neighborhood planning, the City hired transportation consultant Fehr and Peers to study traffic patterns on Tukwila International Boulevard just north of Southcenter Boulevard. As part of the Fehr and Peers' study, the City learned that 50% of the traffic on Tukwila International Blvd was pass through trips, with the majority of these trips starting or ending at the Airport. Since 2010 the number of trips on the roadway has increased between 10% to 15% despite limited development near the roadway. Thus, the increase in traffic was likely due to spillover from congested regional routes as drivers sought out less congested alternatives.

As the Airport continues to grow, the regional routes in the area will face more traffic pressure, with drivers looking for alternatives by driving on Tukwila International Blvd. This traffic hinders the City's vision of converting Tukwila International Blvd into the main street and of a pedestrian friendly neighborhood. As part of the traffic analysis for the EIS requested above, the City asks that the Port include the review how to best divert Airport traffic from traveling on Tukwila International Blvd. If traffic from the Airport cannot be redirected from Tukwila International Blvd then the City would request mitigation, including financial assistance with pedestrian and other neighborhood improvements, both on Tukwila International Blvd and surrounding streets.

Air Quality

TU-4

Please ensure that the examination of air quality in the EIS not just be limited to operations at the Airport and air traffic using the Airport. Almost all people going to and from the Airport drive through freeways that go through the City of Tukwila. These freeways are adjacent to Tukwila's residential neighborhoods. The City requests that the EIS examine air quality issues associated with motorists and freight traffic going to and from the Airport.

TU-5

The City was disappointed that the "Airport Communities Ecology Partnership" excluded the City of Tukwila. Future mitigation for air quality issues associated with the Airport should also account for impacts within the City of Tukwila.

Transit

TU-6

The City requests that the EIS examine impacts associated with transit demand and usage within south King County, including examining usage and parking at the Tukwila International Blvd Light Rail Station. Parking at this station is already at peak capacity, even with the opening of the Angle Lake Station. There is growing evidence that Airport workers park at this station to avoid paying for parking at the Airport. The City requests that the Port examine ways to prevent Airport employees from parking at the Light Rail station to simply avoid paid parking.

Social and Economic Justice

TU-8 / TU-7

Communities closer to the Airport are disproportionally impacted by more negative impacts form the Airport than the benefits those communities receive. The Port for several years has highlighted the benefits that Tukwila and other communities received from the Airport. Yet, it's unclear how the Port measures the benefit received by the City. Please ensure that the EIS examines social justice issues, specifically ensuring that south King County residents have access to living wage jobs and career development opportunities at the Airport and in the aviation industry. The City requests to see specific job numbers, including average salaries, for Tukwila residents who might be working at the Port.

The City of Tukwila looks forward to working in partnership with the Port in a manner that mitigates impacts to surrounding communities. If you have any questions regarding this letter, please contact me at (206) 431-3684 or send an email to Brandon.Miles@Tukwilawa.gov. Please consider the City of Tukwila a party of record for all future notices regarding the EIS process.

Sincerely,

Brandon J. Miles
Business Relations Manager

cc. Allan Ekberg, Mayor
Tukwila City Councilmembers
City of SeaTac
City of Renton

STRANDER MULTI-MODAL CONNECTOR

A project reducing congestion on critical freight corridors, anticipating future growth, and leveraging future employment opportunities in the region.

THE CASE FOR

Supporting regional economics, the Green River Valley is the **second largest warehousing district** on the West Coast and the **fifth largest in the nation**.

As the valley has grown over the last 20 years, very few east-west connections exist due to freeways, railroad tracks and the river. This creates **bottlenecks and congestion** between the major warehouse/manufacturing centers in the valley and critical transportation and freight hubs such as I-5, the airports and seaports.

Extending Strander Boulevard will improve cross-valley freight movement by creating an alternate truck route. It **removes 55,000 vehicles from nearby I-405 and SR-167**, as well as 40% of traffic on the parallel route of South 180th Street, providing **increased reliability** for manufacturers and clients.

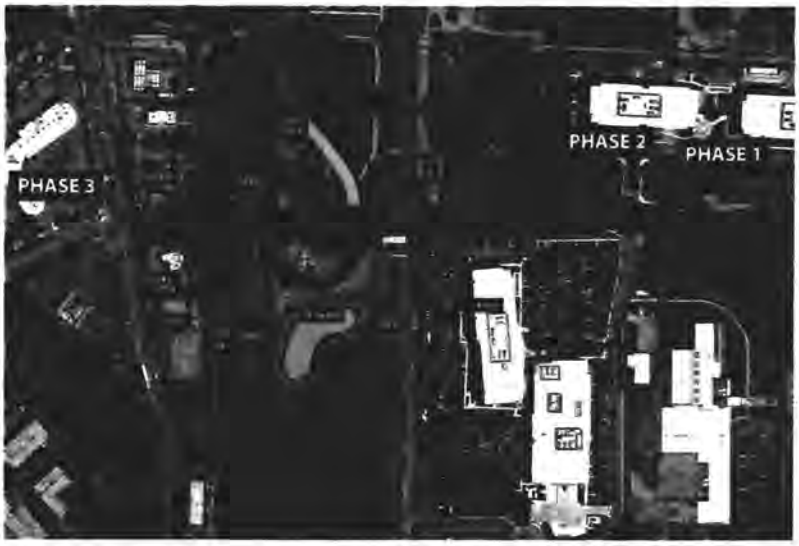
This project supports employment growth in the area, **projected to grow between 25,000–35,000 employees by 2030**, which could also further constrict freight movement in the area.

THE HISTORY

The City of Renton undertook Phases 1 and 2A, **investing $30,000,000 to** extend SW 27th Street to four lanes from Oaksdale Avenue SW to Naches Avenue SW, and two lanes to the west with expansion capability under the BNSF rail lines.

Phase 3A – to construct Strander Boulevard between West Valley Highway and SW 27th Street with **four lanes under the Union Pacific lines** and **finish the east-west connection** – remains unfunded, with a total construction cost of $83.7 million.

The City of Tukwila has provided funds and received grants for $15.6 million, and is currently seeking federal BUILD funding. The project team is exploring opportunities to value engineer savings to the project budget.



THE PARTNERS

City of Renton • King County • Port of Seattle

Freight Action Strategy Partners

The Boeing Company • Union Pacific Railroad

BNSF Railroad • Sound Transit

Included in the State Highway Plan, Metropolitan Transportation Plan, and State Transportation Improvement Program

One of top two projects supported by the Statewide Freight Mobility Strategic Investment Board

STRANDER PROJECT LOCATION

The Strander Multi-Modal Connector is a **significant regional project** that:

Phase 3 Project Area

- Connects two cities with a combined **27.7 million square feet** of warehouse and industrial space.
- Is less than one mile from the **largest mall in the Pacific Northwest.**
- Provides important freight route from local seaports – **Port of Seattle,** 10 miles; **Port of Tacoma,** 22 miles.
- Is three miles from BNSF's South Seattle Yard, primarily a domestic intermodal facility **operating 24/7.**
- Is within 10 miles of two major airports, **Sea-Tac International** and **King County Airport** (Boeing Field).
- Provides connection to **regional employment centers,** including Boeing's Longacres site that is permitted for additional 2.5 million square feet of commercial space.

STRANDER MULTI-MODAL CONNECTOR BENEFITS

The Strander Multi-Modal Connector will:

- Increase **freight connectivity** with the Ports of Tacoma and Seattle and the 110-million square feet of warehouse space in the Green River Valley.
- Support **employment growth** in the region, expected to grow by 25,000–35,000 by the year 2030.
- Reduce congestion on existing interstate and state highways with the opening of a **new strategic freight route** and missing east-west connection.
- **Stimulate local economy** by providing construction jobs.
- **Make non-motorized transportation in the area safer** through construction of new bicycle and pedestrian facilities that will connect the Tukwila Station, two regional trails, and nearby businesses and neighborhoods in both Renton and Tukwila.

ADDRESSING SAFETY

The new roadway will increase safety for vehicles and the railroads by providing a **grade-separated crossing** between vehicular traffic and the freight and passenger trains.

Installation of coordinated traffic signals along the corridor will reduce the number of stops, **improving safety** for drivers, bicyclists and pedestrians.

The new arterial will provide an alternative route to existing parallel routes, **eliminating many left-turn movements** at several key intersections.

Tukwila International Boulevard Rechannelization Study

Prepared for:
City of Tukwila

January 2018

SE17-0561

FEHR & PEERS

Table of Contents

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Chapter 1. **Introduction**

The City of Tukwila is considering a rechannelization project on Tukwila International Boulevard (TIB) between S 144th Street and S 152nd Street. The current configuration of the ½ mile corridor is a 5-lane cross section with 2 northbound lanes, 2 southbound lanes, and a two-way left turn lane. The proposed project would remove a travel lane in each direction to allow for on-street parking and striped bicycle lanes. In addition, new mid-block pedestrian crossings could be constructed along the corridor and the rechannelization would decrease the required crossing distance and associated risk for pedestrians. The rechannelization is intended to increase the mobility and safety foster an attractive and inviting environment for all users of TIB. This type of project is sometimes referred to as a "road diet" since the number of travel lanes are reduced.

The potential effects of reducing the number of travel lanes on TIB were first analyzed using microsimulation software to evaluate vehicular operations and second with the City's travel demand model to investigate potential traffic diversion. The microsimulation analysis focuses on the TIB corridor and reports changes in travel time, queuing, and intersection level of service (LOS) for existing and future conditions. The diversion analysis explores the alternative routes that drivers could use to avoid TIB and traffic calming measures the City could implement to reduce diversion onto residential streets.

This report is organized as follows:

- *Chapter 1. Introduction*
- *Chapter 2. Existing Conditions:* This chapter documents existing conditions along the study section of the TIB corridor and includes vehicular volumes, travel times, field observations, and travel behavior data.
- *Chapter 3. Microsimulation Analysis:* This chapter discusses the development and validation of the microsimulation model and the analysis results for the project under both existing and future demand scenarios.
- *Chapter 4. Diversion Analysis:* This chapter provides an analysis of potential traffic diversion due to the project and a suite of traffic calming strategies that could be used by the City to mitigate impacts on residential streets.
- *Chapter 5. Design Options:* This chapter outlines a series of design options that can reduce the significance of the traffic congestion and/or diversion related to the road diet. Pros and cons of each option are described.

- *Chapter 6. Conclusion:* This chapter summarizes the results from the microsimulation and diversion analyses and recommends further actions the City consider related to the rechannelization project.

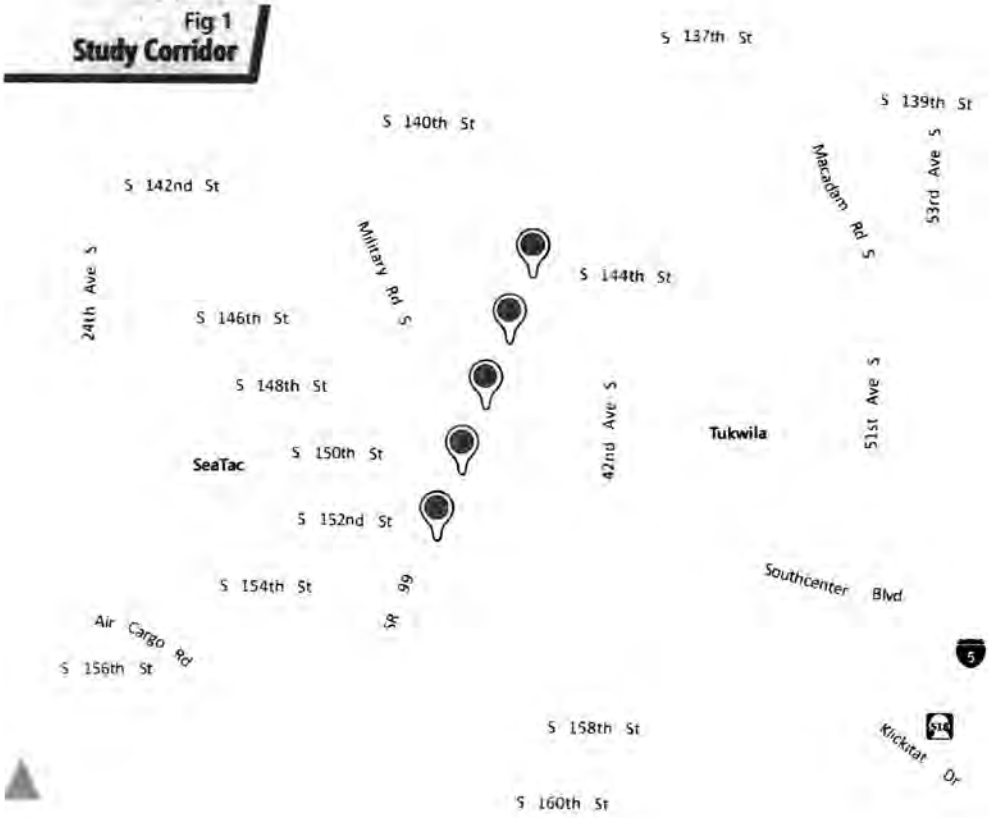
Chapter 2. **Existing Conditions**

Existing travel behavior data (intersection traffic counts, corridor travel time, and origin-distribution travel data) and corridor infrastructure data (lane geometries, pedestrian crossing locations, and traffic signal timings) were collected along the study corridor during May 2017. The study corridor, shown in **Figure 1**, includes the following intersections along Tukwila International Boulevard.

1. S 144th Street
2. S 146th Street
3. S 148th Street
4. S 150th Street
5. S 152nd Street

The intersections at S 144th Street and S 152nd Street are signalized while the other three intersections are side-street stop-controlled. There is one mid-block signalized crossing for pedestrians between S 150th Street and S 152nd Street that is activated with a push button.

Fig 1
Study Corridor



The following information was not only used to understand current operating conditions along the TIB corridor, but also to calibrate and validate the microsimulation travel model. Since traffic volumes are higher during the evening peak hour than the morning peak hour, the data collection effort and subsequent analyses focused on the evening peak period. Traffic volumes collected during the City's Comprehensive Plan Update in 2010 show that the morning peak hour volumes on TIB are 40% lower than the evening peak hour volumes. The significantly lower volumes in the morning suggest that any impacts from the proposed rechannelization would be substantially less during the morning than in the evening.

2.1 Intersection Traffic Counts

Traffic counts at the five study intersections along the corridor were collected on May 15th during the PM peak period between 4:00 and 6:00 PM and included vehicular, pedestrian, and bicycle volumes. The peak hour at all intersections occurred between 4:15 and 5:15 PM. There were approximately 700 northbound vehicles and 900 southbound vehicles that travelled along Tukwila International Boulevard during the peak hour. The number of observed bicycle users was less than five at any of the approaches at all study intersections and the number of pedestrians crossing TIB at the unsignalized locations was also minimal. The traffic counts are included in Appendix A.

The 2017 traffic volumes at the two signalized intersections were compared with the intersection volumes collected for the Comprehensive Plan update. Since those counts were collected, volumes have increased by 10 to 15% in the study corridor with the majority of increases occurring on TIB (as opposed to the east-west streets crossing TIB). The cause of the increased volumes could be spillover from congested regional routes since limited land use development has occurred near the study corridor in the last decade.

2.2 Travel Times

Travel time data along the study corridor was collected using advanced sensors that track the unique identifiers of internet connected devices (cell phones, GPS devices, and Bluetooth electronics). A sensor was placed at each end of the corridor and using paired device IDs the travel time can be estimated for each device that travelled through the corridor.

A total of 81 southbound pairs and 60 northbound pairs were collected between 4:00 and 6:00 PM. 3 minutes was determined to be an appropriate threshold to separate vehicles that travelled through the corridor from those that stopped at a destination along TIB. Approximately 65% of southbound trips and 55% of northbound trips met this criteria for pass-through travel. **Table 1** summarizes the travel time data for these trips.

Table 1: Observed Travel Time Summary

Direction	Northbound	Southbound
Total Observed Pairs (Pass-through and Local)	60	81
Pass-through Observed Pairs (<3 minutes travel time)	34 (56%)	52 (64%)
Average Observed Travel Time (minutes)	1:45	1:45
Average Observed Travel Speed (mph)	18 mph	18 mph
Observed Travel Time Standard Deviation (minutes)	0:40	0:35

Source: Fehr & Peers.

The average travel time both northbound and southbound through the study corridor is approximately 1 minute 45 seconds which corresponds with an average travel speed of 18 mph. The fastest observed travel time was less than 1 minute in each direction with an average travel of approximately 40 mph northbound and 50 mph southbound. Vehicles that were able to travel through the corridor at this speed likely had green lights at both ends of the corridor and did not need to slow down. The traffic signals at S 144th Street and S 152nd Street are operated by the Cities of Tukwila and SeaTac and do not have coordinated timing plans. If the traffic signals were coordinated, higher vehicle speeds northbound and southbound on TIB throughout the study corridor could likely be achieved.

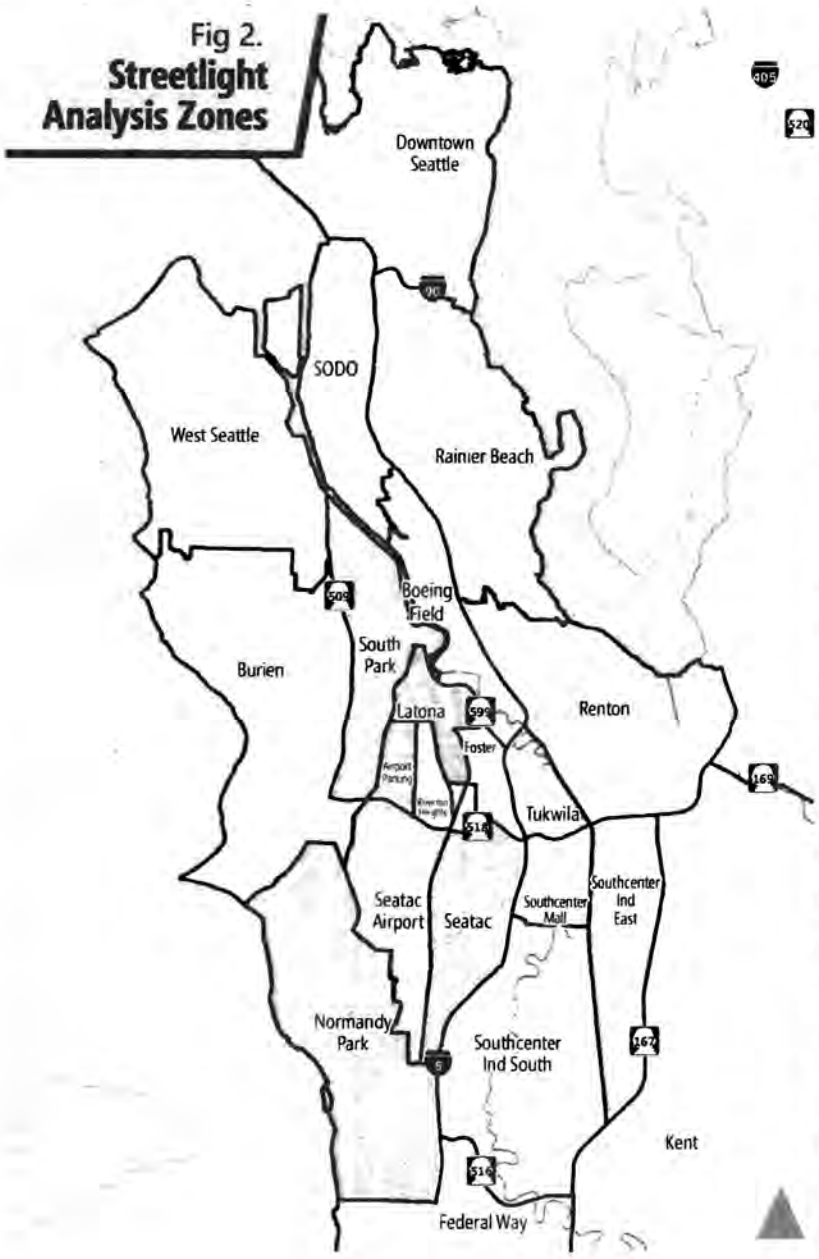
2.3 Field Observations

Fehr & Peers conducted field observations on May 30th during the PM peak hour to verify intersection geometry, traffic signal timing and phasing, pedestrian volumes, vehicular travel behavior, and any existing congestion and queuing throughout the corridor. During our observations, there was no recurring or sustained congestion at any of the signalized or unsignalized intersections along the corridor. While vehicle queues were present at the traffic signals, there was sufficient green time to serve all of the queued demand at each of the approaches and most vehicles were able to travel through the intersection during one cycle. The available storage in the turn pockets was also sufficient to store the existing demand without spilling back into the through lanes.

At the side-street stop-controlled intersections there were sufficient gaps in traffic for vehicles to enter on to and exit from TIB. There was also no sustained congestion or queuing at the driveways along TIB to any of the local businesses. The vehicle compliance rate at the signalized mid-block pedestrian crossing between S 150th Street and S 152nd Street was also very high. The observed demand at this crossing location was approximately 40 pedestrians per hour.

2.4 Travel Behavior Data

Origin-distribution (OD) data for vehicles travelling on TIB through the study corridor was collected from Streetlight travel behavior data. Streetlight aggregates and normalizes travel behavior data from a wide variety of internet connected devices (cell phones, GPS devices, connected cars, fitness trackers, and commercial fleet management systems) to generate an OD matrix that represents average travel conditions within a study area.



A custom zone system was developed for this project which is shown in **Figure 2**. The zone system uses smaller zones closer to the study corridor and larger, more aggregate zones further away.

The Streetlight data provides a summary of average travel patterns from data collected between April 2016 and March 2017, the most recent months available. The data was filtered to personal (not commercial) vehicle trips occurring on a Tuesday, Wednesday, or Thursday between 3:00 and 6:00 PM. Only vehicle trips which travelled on TIB within the study corridor were recorded and analyzed.

The Streetlight OD data was used to characterize the origin and destination location of travelers on TIB as well as to estimate the percentage of pass-through trips during the

PM peak period. The analysis zones were aggregated by approximate distance from the study corridor to calculate how far away driver's origins and destinations are. The results are shown in **Table 2**.

Table 2: Origin and Destination Distance from TIB

Distance from Study Corridor	Trip Origins	Trip Destinations
< 1 mile	33%	25%
< 5 miles	26%	31%
< 10 miles	17%	16%
< 20 miles	10%	16%
> 20 miles	13%	13%

Source: Fehr & Peers.

According to the Streetlight data only 60% of the driver's origins or destinations are within 5 miles of the study corridor. For 40% of drivers on TIB, their origin or destination is more than 5 miles from the study corridor and for almost 15% of drivers, their trip starts or ends more than 20 miles away. This pattern of travel behavior is more consistent with a regional roadway than a local arterial.

The percentage of pass-through trips was estimated by calculating the number of trips that do not start or end within one mile of the study corridor. Approximately 45% of trips fall into this category, with the largest trip pairs occurring between SeaTac and Central Seattle. The Streetlight data and travel time data suggest that approximately 50% of the travel through the study corridor on TIB is pass-through and that 40% of trips start or end more than five miles from the study corridor.

Chapter 3. **Microsimulation Analysis**

A microsimulation model of the TIB study corridor was developed using PTV's Vissim software (version 9.00-06). For congested and oversaturated conditions, a microsimulation analysis is preferable to a static analysis (using Synchro software for example) because microsimulation better captures the interaction of closely spaced intersections along a corridor. The primary metrics used to evaluate the proposed rechannelization project are changes in travel time, vehicular queuing, and intersection LOS along the study corridor.

The following four scenarios were evaluated using the microsimulation model:

- 2017 Existing
- 2030 Baseline
- 2017 with Project
- 2030 with Project

When reporting results from Vissim, 10 different simulation runs with different random seeds are used. Each simulation run includes a 15 minute loading period and four 15-minute analysis periods. Detailed LOS and queuing results for each scenario are included in Appendix B.

3.1 Existing Scenario

The existing conditions PM peak hour model was calibrated and validated using the collected travel data described in the Existing Conditions chapter. The model also included the transit stops and scheduled arrivals for King County Metro Routes 124 and 128 which have 15 minute and 30 minute headways respectively. Intersection geometries and signal timings at each of the study intersections were confirmed during field observations and the vehicular and pedestrian volumes at each study location were taken directly from the observed counts. However, the westbound approach at S 144th Street was closed due to construction activity when counts were collected, so the missing turning movements were estimated from the available 2010 count data and increased based on the observed growth rate at adjacent intersections along TIB.

The microsimulation model was calibrated to match existing travel volumes, travel times, and observed queues. The model is considered validated when each of these metrics are within an acceptable range of the observed values.

Table 3 shows the intersection LOS results calculated using the HCM 2010 methodology and the percent demand served at each of the study intersections. For signalized intersections, the LOS grade is determined using the average control delay for the entire intersection while at side-street stop-controlled locations the average control delay for the worst movement is used. The percent demand served is calculated using the observed hourly demand at each location and the number of vehicles that were served in the microsimulation model. Acceptable values are greater than 95%. As shown in the table, the model is serving 100% of the demand at each study intersection.

Table 3: 2017 Existing – Intersection LOS and Demand served

Study Intersection	Intersection Control	LOS / Average Control Delay (sec)	Percent Served / Demand (veh)
1. TIB / S 144th St	Signal	D / 40	100% / 2,282
2. TIB / S 146th St	Side-street stop	C / 21	100% / 1,846
3. TIB / S 148th St	Side-street stop	C / 17	100% / 1,709
4. TIB / S 150th St	Side-street stop	C / 17	100% / 1,762
5. TIB / S 152nd St	Signal	C / 30	100% / 2,030

Source: Fehr & Peers.

Table 4 shows a comparison of corridor travel time and average speed calculated from the microsimulation model with observed data. The model's estimate are within an acceptable range of 15% of the observed values. The average travel speed through the corridor is less than 20 mph.

Table 4: 2017 Existing – Corridor Travel Time

Direction	Observed (minutes) / Average Speed (mph)	Modeled (minutes) / Average Speed (mph)	Percent Difference
Northbound	1:45 / 18 mph	01:55 / 18 mph	9%
Southbound	1:45 / 18 mph	01:50 / 19 mph	5%

Source: Fehr & Peers.

Table 5 shows the average and maximum northbound and southbound queue lengths at the two signalized intersections along TIB. Theses calculated values from the microsimulation model are measured in vehicles and are consistent with observed conditions. The average queue lengths during the PM peak hour at all four approaches is not greater than five vehicles.

Table 5: 2017 Existing – Intersection Queuing

Intersection	Northbound: Average / Maximum Queue Lengths (veh)	Southbound: Average / Maximum Queue Lengths (veh)
1. TIB / S 144th St	2 vehicles / 9 vehicles	5 vehicles / 17 vehicles
5. TIB / S 152nd St	2 vehicles / 10 vehicles	3 vehicles / 14 vehicles

Source: Fehr & Peers.

Based on the comparison of results from the microsimulation model with collected data and observed conditions, the model is considered validated to existing conditions.

3.2 Future Baseline

Travel conditions along the study corridor were evaluated for future 2030 conditions using the City's travel demand model to forecast changes in traffic demand volumes. The land use in the City's model near the study corridor was updated based on adjustments provided by City staff. The updated land use forecast includes approximately 800 new housing units and 700 new jobs by 2030. Compared with the 2010 estimates in the model, these represent a 40% increase in residential land use and a 55% increase an employment along the study corridor.

The resulting 2030 intersection forecasts are between 20% and 25% higher than the 2017 existing counts. The northbound and southbound volumes on TIB through the corridor increase by approximately 200 vehicles per hour in each direction. The study corridor geometry and signal timing data in the 2030 Baseline scenario are consistent with the existing conditions model.

Table 6 summarizes the intersection LOS and demand served for the 2030 Baseline scenario. As shown in the table, all intersections operate at LOS D or better and 100% of the vehicular demand is served at the signalized intersections. Compared with existing conditions, average intersection delay increased by approximately five seconds per vehicle at the two signalized intersections.

Table 7 shows the corridor travel time and average speed estimates calculated from the microsimulation model. Compared with the existing conditions model, travel times increase by approximately five seconds in each direction with no significant change in average travel speed.

Table 8 shows the average and maximum northbound and southbound queue lengths at the two signalized intersections along TIB. Compared with existing conditions, the average queue lengths increased by one to two vehicles while the maximum queue increased by at most five vehicles.

Table 6: 2030 Baseline – Intersection LOS and Demand served

Study Intersection	Intersection Control	LOS / Average Control Delay (sec)	Percent Served / Demand (veh)
1. TIB / S 144th St	Signal	D / 44	100% / 2,690
2. TIB / S 146th St	Side-street stop	D / 26	99% / 2,240
3. TIB / S 148th St	Side-street stop	C / 24	99% / 2,140
4. TIB / S 150th St	Side-street stop	D / 26	99% / 2,160
5. TIB / S 152nd St	Signal	D / 36	100% / 2,520

Source: Fehr & Peers.

Table 7: 2030 Baseline – Corridor Travel Time

Direction	Travel Time (minutes) / Average Speed (mph)
Northbound	02:00 / 18 mph
Southbound	01:55 / 18 mph

Source: Fehr & Peers.

Table 8: 2030 Baseline – Intersection Queuing

Intersection	Northbound: Average / Maximum Queue Lengths (veh)	Southbound: Average / Maximum Queue Lengths (veh)
1. TIB / S 144th St	3 vehicles / 13 vehicles	6 vehicles / 20 vehicles
5. TIB / S 152nd St	3 vehicles / 12 vehicles	5 vehicles / 19 vehicles

Source: Fehr & Peers.

The results for the 2030 Baseline scenario show that there is sufficient capacity along the study corridor to accommodate increased growth while maintaining the same operating conditions that exist currently. Vehicular delay, corridor travel time, and queue lengths are all relatively consistent with the results from the 2017 Existing scenario.

3.3 Project Scenarios

The proposed rechannelization along TIB removes one travel lane in each direction and adds bicycle lanes and on-street parking while preserving the two-way left turn lane for accessing businesses along the corridor. Three additional signalized mid-block pedestrian crossings, similar to the existing crossing

between S 150th Street and S 152nd Street, are also proposed. This rechannelization was evaluated under both 2017 and 2030 demand conditions.

Table 9 shows the resulting intersection LOS and demand served at each study intersection for the rechannelization scenario using 2017 and 2030 demand volumes. Under both scenarios, the delay significantly increases at S 144th Street and the demand served falls to approximately 85% with 2030 demand. The total southbound demand at S 144th Street increases to 1,100 vehicles in the 2030 forecast and this demand greatly exceeds the capacity of single traffic lane, which is assumed to be approximately 600 vehicles per hour. While only two intersections operate at LOS F in the 2017 scenario, four of the five are overcapacity and operate with LOS F conditions in the 2030 scenario.

Table 9: 2017 and 2030 Project – Intersection LOS and Demand Served

Study Intersection	2017: LOS / Average Delay (sec)	2017: Pct. Served / Demand (veh)	2030: LOS / Average Delay (sec)	2030: Pct. Served / Demand (veh)
1. TIB / S 144th St	F / >150	90% / 2,282	F / >150	83% / 2,690
2. TIB / S 146th St	D / 25	90% / 1,846	F / >120	82% / 2,240
3. TIB / S 148th St	C / 23	91% / 1,709	F / >120	84% / 2,140
4. TIB / S 150th St	F / 53	92% / 1,762	F / >120	84% / 2,160
5. TIB / S 152nd St	D / 42	95% / 2,030	E / 75	86% / 2,520

Source: Fehr & Peers.

Table 10 shows the travel time results on TIB between S 144th Street and S 152nd Street for the 2017 and 2030 demand scenarios. In the 2017 scenario, travel times only increase by 20 to 30 seconds with the average speed decreasing by 1 to 2 mph compared with existing conditions. These results show that once vehicles enter the study corridor, vehicular travel speeds are similar to existing conditions. However, the excessive southbound delay experienced by drivers before entering the corridor (more than 8 minutes) is not included in these travel times. Under the 2030 conditions, the travel time for southbound vehicles within the study corridor more than doubles and drivers experience more than 10 minutes of additional delay before even entering the corridor.

Table 10: 2017 and 2030 Project – Corridor Travel Time

Direction	2017: Travel Time (min.) / Speed (mph)	2030: Travel Time (min.) / Speed (mph)
Northbound	02:15 / 16 mph	04:35 / 8 mph
Southbound	02:05 / 17 mph	02:50 / 12 mph

Source: Fehr & Peers.

Table 11 shows the average and maximum queue lengths for the northbound and southbound approaches at the two signalized intersections. Southbound queues longer than 50 vehicles at S 144th Street extend past S 140th Street and northbound queues longer than 20 vehicles at S 152nd Street will spillback into the intersection at Southcenter Boulevard. Consistent with the results shown in the previous tables, the rechannelization has a significant impact on southbound travelers on TIB. Under both 2017 and 2030 scenarios, the average southbound queue at S 144th Street (during the entire PM peak hour) is longer than 50 vehicles. In the 2017 scenario, the maximum northbound queue at S 152nd will spill back into the intersection at Southcenter Boulevard. By 2030, the average queue length would also spillback to this intersection. Within the study corridor on TIB, average vehicles queues are approximately 10 vehicles long in 2017 but are four to seven times longer by 2030. The maximum southbound queue at S 152nd Street extends almost the entire length of the study corridor on TIB in the 2030 scenario.

Table 11: 2017 and 2030 Project – Intersection Queuing

Intersection	2017 NB: Avg. / Max Queue Lengths	2017 SB: Avg. / Max Queue Lengths	2030 NB: Avg. / Max Queue Lengths	2030 SB: Avg. / Max Queue Lengths
1. TIB / S 144th St	5 veh / 24 veh	>50 veh / >50 veh	38 veh / 60 veh	>50 veh / >50 veh
5. TIB / S 152nd St	6 veh / >20 veh	12 veh / 36 veh	>20 veh / >20 veh	79 veh / 104 veh

Source: Fehr & Peers.

3.4 Demand Sensitivity Tests

Fehr & Peers performed additional sensitivity tests to determine the volume of traffic that would need to shift to an alternative route for the performance on TIB in the 2030 Project scenario to be similar to performance in the 2017 Existing scenario.

If approximately 450 southbound vehicles and 350 northbound vehicles per hour were to shift to alternate routes, the intersection LOS, travel time and queuing along TIB would be similar to existing conditions. This volume is approximately 50% of the demand travelling through the study corridor today, and represents the estimated pass-through volume: non-local traffic that does not have an origin or destination near the study corridor.

Chapter 4. **Diversion Analysis**

The results from the microsimulation analysis show that under both 2017 and 2030 demand scenarios, TIB will be overcapacity with the rechannelization, especially in the southbound direction during the PM peak hour. The high traffic volumes coupled with the single lane will result in significant delays, even under existing conditions, and as a result, drivers will likely divert to alternate routes including 42nd Avenue S, Military Road S, and Interstate 5 (I-5). Of particular concern to the City is the potential for parallel residential streets (42nd Avenue S and 51st Avenue S) to see significant increases in traffic due to the rechannelization. Based on the available 2010 counts, the daily volumes on these nearby residential streets are 75 to 85% lower than the daily volumes on TIB.

4.1 Traffic Diversion

The City's travel demand model was used to assess what facilities traffic is likely to divert to in response to the increased congestion along TIB after the rechannelization. The results were estimated from the 2030 model scenario since regional facilities are likely to be more congested in the future and this would result in more drivers choosing to divert from TIB to local streets, rather than choose the congested I-5 route, for example. **Figure 3** shows which parallel facilities drivers chose as alternatives to TIB.

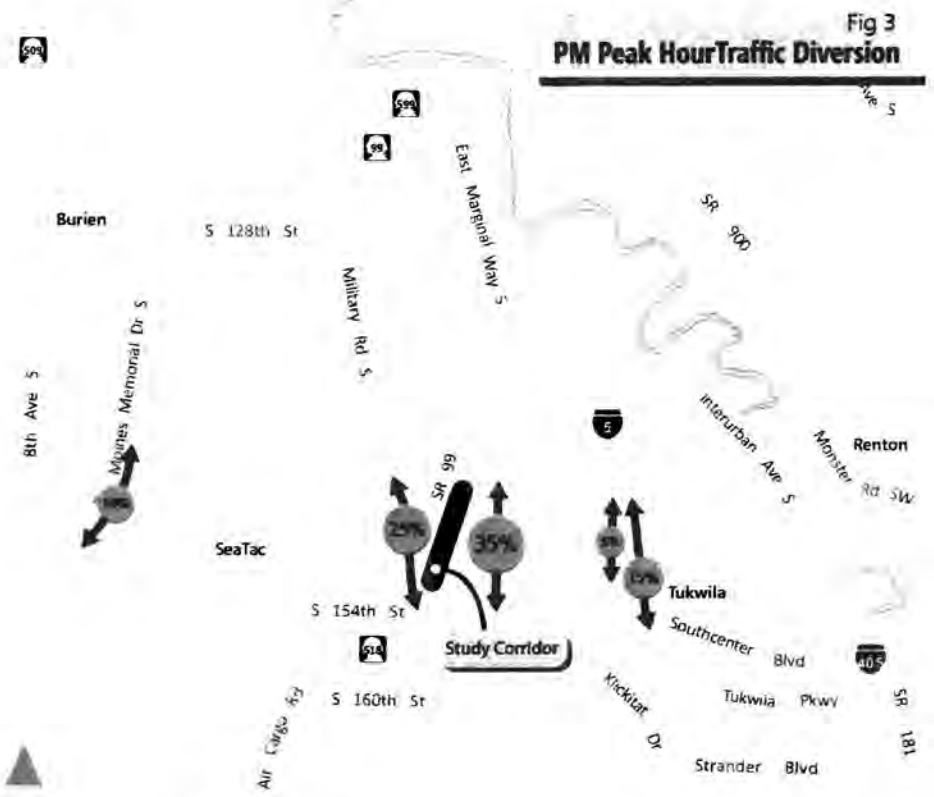
The results from the model show that a majority of trips avoiding congestion on TIB (approximately 65%) choose to divert to streets within the City of Tukwila. Specifically, the results indicate the following distribution to the main north-south streets in the area:

- Military Road S (25%)
- 42nd Avenue S (35%)
- Macadam Road/51st Avenue S (5%)

Approximately 10% of diverted trips used Des Moines Memorial Drive S via S 133rd Street and 15% of diverted trips used I-5 via State Route 599. The remaining 10% of diverted trips use a combination of SR 509, 1st Avenue S, 8th Avenue S, or 24th Avenue S.

If approximately 800 vehicle trips are diverted during the PM peak hour, this would result in an increase of 280 vehicles on 42nd Avenue S and 200 vehicles on Military Road S. Based on the forecasted intersection volumes from the City's Comprehensive Plan, this would increase the traffic on 42nd Avenue S by 40% and on Military Road S by 30% in 2030.

Fig 3
PM Peak HourTraffic Diversion

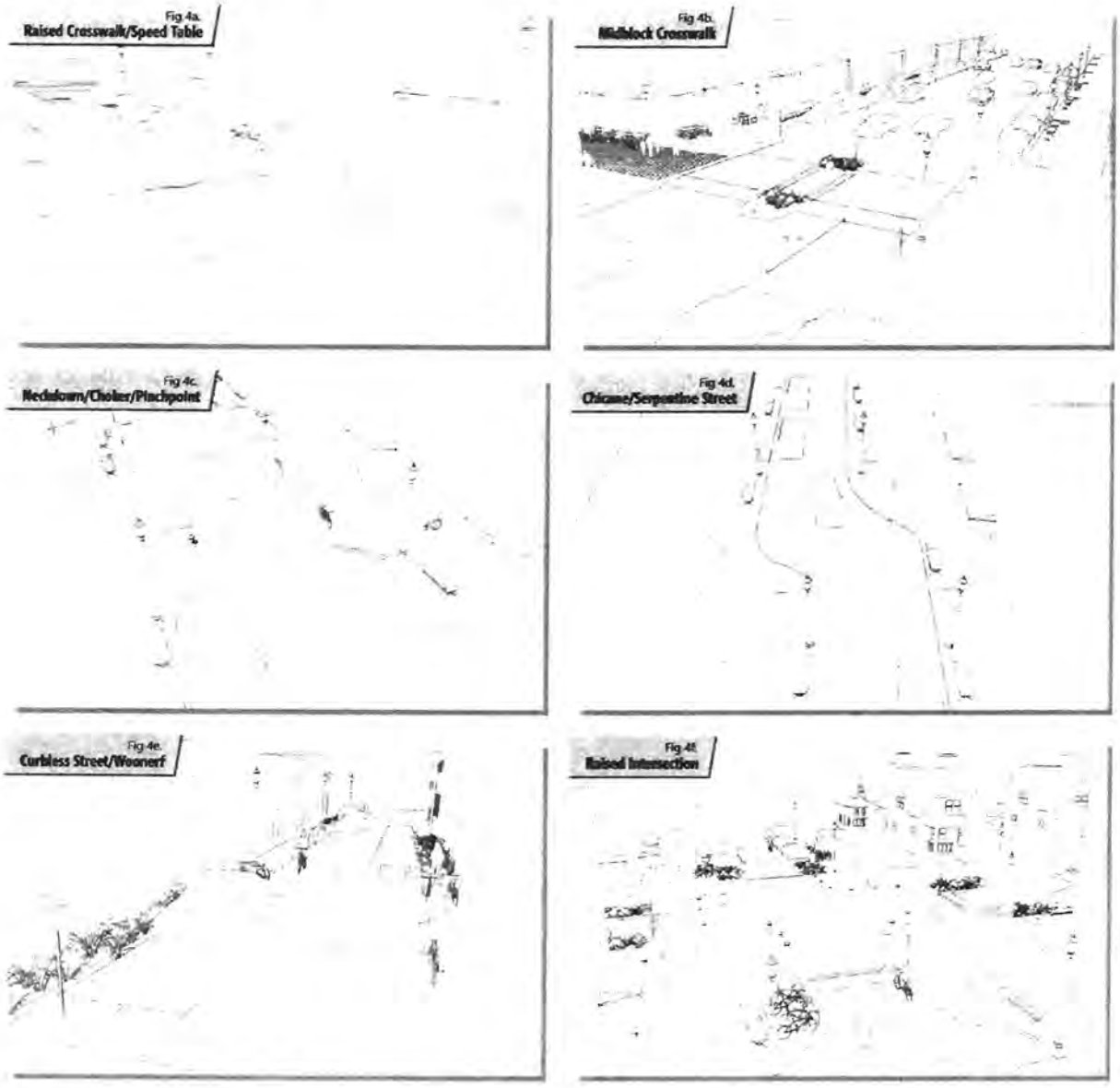


4.2 Traffic Calming Toolbox

One common strategy to combat diversion of regional traffic onto local streets is to employ traffic calming. The *Urban Street Design Guide* from the National Association of City Transportation Engineers (NACTO) provides a blueprint for designing streets that are safer, more livable, and economically vibrant. The guide provides strategies for how cities can reduce vehicular travel speeds/volumes through physical changes to a roadway or psychological changes to how drivers perceive a roadway. The six images in **Figure 4** from NACTO's guide show some of the commonly used strategies for calming traffic on urban streets. These approaches work by introducing vertical or horizontal deflections into the roadway, narrowing a vehicle's travel way, or increasing the likelihood of vehicles yielding to pedestrians and bicyclists on the street. The effectiveness of these strategies in reducing vehicle speeds range from approximately 5-15%. The percentage reduction in traffic volumes due to the implementation of these traffic calming measures would be less than the percent reduction in travel speeds.

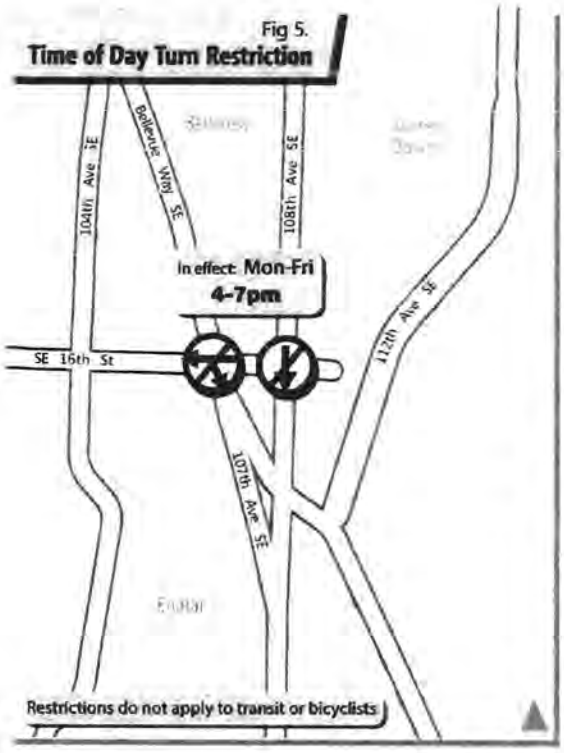
The diversion of traffic from the rechannelization of TIB onto parallel roadways could be partially mitigated using any of these traffic calming strategies to decrease the travel speeds on the nearby roadways. However, since drivers would be saving over 5 minutes of travel time compared with travelling through the TIB corridor, the traffic calming measures would need to decrease the average travel speed by over 50% on

42nd Avenue S and Military Road S to remove the travel time advantages of these facilities. The current speed limits of the roads are 30mph and 35mph, respectively. The combinations of measures that would be required to reduce the travel speed to 15mph for 8 blocks would likely be impractical on a minor arterial/collector street. In general, the common traffic calming measures shown in Figure 4 are designed to encourage vehicles to travel at the posted speed limit rather than to dramatically reduce speeds to a level less than is typically seen on a residential street.



To significantly discourage traffic diverting from TIB, more significant countermeasures would be required, likely in addition to some of the traffic calming strategies documented above. Strategies cities use to

explicitly deter cut through traffic involve the prohibition of certain traffic movements at key locations along the corridor. Two different approaches that would prohibit northbound and southbound through trips would be intersection diverters or short one-way travel segments. The implementation of these mitigations could be less expensive than other traffic calming treatments since the installations would be limited to key intersections or segments of Military Road or 42nd Avenue S near the vicinity of S 144th Street. Special consideration would need to be provided for transit vehicles to ensure that existing or planned traffic routes could still be accommodated. Some cities have had limited success with signage that restricts movements for all vehicles except bicycles and buses, but regular enforcement is required for this strategy to be successful.



An example of a current pilot study in Bellevue is shown in **Figure 5** where there are time of day restrictions in place on 108th Avenue SE, a collector arterial street (not dissimilar to 42nd Avenue S) to deter traffic from Downtown Bellevue traveling through a residential area and encouraging traffic to stay on regional routes like Bellevue Way or 112th Avenue SE. Like in Tukwila, the degree of diversion is partially dependent on traffic congestion on the adjacent freeway (I-405 in this case). In discussions with Bellevue staff, this approach has been successful in reducing traffic on 108th Avenue SE, but there still tends to be a substantial violation rate of people making the prohibited movements. This violation has frustrated area residents who view the treatment as unsuccessful even though overall volumes have decreased.

Chapter 5. **Alternative Design Options**

Based on the results of the traffic operations and diversion analysis, it is clear that reducing the number of travel lanes on TIB without addressing the southbound PM peak hour congestion or potential diversion to other streets would result in an unacceptable outcome. Working with Tukwila staff, our team identified three potential options to reduce the width of TIB while mitigating or redirecting the traffic congestion and diversion impacts. The options are listed below:

1) Road diet between 144th Street and 152nd Street with traffic calming mitigation on 42nd Avenue S
2) Road diet between 116th Street (SR 599) and 152nd Street
3) Hybrid road diet between 144th Street and 152nd Street with two southbound and one northbound lane

Characteristics of each option are described below.

Road Diet with Traffic Calming on 42nd Avenue S

This option would maintain the general road diet design described in Chapter 1 (one travel lane in each direction with turn lanes at intersections) between 144th and 152nd Street. To address the likely traffic diversion onto 42nd Avenue S, traffic calming measures are recommended to ensure vehicles travel at a reasonable speed. Given the residential nature of the street and the proximity to Foster High School, we recommend a targeted speed of 25mph on 42nd Avenue S. There are a number of traffic calming devices that can encourage lower speeds, including chokers, and chicanes as shown in the previous section. Below is a picture of a low-cost chicane in Bellevue that is used to manage speed (note that only one car at a time can comfortably pass through the chicane, which is also coupled with a speed cushion. In addition to traffic calming on 42nd Avenue S, traffic calming on Military Road may also be prudent, however, this traffic calming would need to be coordinated with the City of SeaTac.

[insert picture]

After talking with Tukwila staff, more restrictive traffic calming measures that would prohibit certain movements through physical barriers (half street closures, diagonal diverters) were not selected due their impacts to all users throughout the day. There is the potential for time-of-day movement restrictions, but

as noted in the previous chapter, these require occasional enforcement to be successful, which is a draw of police resources.[1]

Benefits:

- Implements the rechannelization as originally designed
- Provides opportunities for mid-block crossings
- Slows down vehicles on 42nd Avenue S (and potentially Military Road), may slightly reduce diversion

Drawbacks:

- Does not reduce the substantial southbound delays at 144th Street
- Diversion to 42nd Avenue and Military Road will still be an option for people who wish to save time and avoid the southbound delay at 144th Street

Extended Road Diet between 116th Street and 152nd Street

As noted earlier, as much as half of the traffic on TIB during the PM peak hour is regional traffic that does not have an origin or destination in the City of Tukwila. The largest share of this traffic is travel between Seattle and the Sea-Tac Airport area. The idea behind this option is to discourage regional traffic from using TIB by beginning the road diet at 116th Street, which is also the southbound onramp to SR 599. By constraining capacity at SR 599, southbound regional trips will be encouraged to use SR 599 and I-5 rather than TIB. Any bottleneck associated with the reduced southbound capacity would be concentrated at this intersection, where there is much more capacity to divert traffic (and reduce overall delays for travelers along TIB) to SR 599.

While this option has advantages for Tukwila, it presents a less-desirable option for the regional travelers who would need to eventually merge on the congested I-5 south corridor. Travelers who are on TIB to access areas in SeaTac or Burien will be inconvenienced with a potentially longer and less direct path, unless they are willing to sit through congestion at the 116th Street intersection. This option also shifts the diversion/congestion problem from Tukwila to WSDOT. In discussions with City staff, there was some concern that regional partners might be less willing to support funding/grant applications for this and other Tukwila projects if they are negatively impacted from the rechannelization.

[1] Some cities have investigated whether traffic safety enforcement cameras can be used to issue citations for people violating movement restrictions. However, current Washington Law clearly limits the use of such cameras to the following conditions:(i) Intersections of two arterials with traffic control signals that have yellow change interval durations in accordance with RCW 47.36.022, which interval durations may not be reduced after placement of the camera; (ii) railroad crossings; and (iii) school speed zones. Using the cameras for other purposes would require a change to the law.

One other downside to this option is that it would require a substantial area of rechannelization, along which there are large stretches without any adjacent land uses or developable parcels to capitalize on the improved streetscape. The costs of fully implementing this rechannelization are likely to be higher than other options due to the length of the corridor.

Benefits:

- More likely to reduce diversion issues within Tukwila
- Better location to divert traffic that would likely result in less delay than the lane drop at 144th Street
- May allow for some additional redevelopment potential north of 144th Street

Drawbacks:

- May be substantially more costly to implement due to the length of the corridor
- Sections of TIB would likely not benefit from the rechannelization because there are no adjacent land uses
- Other cities and regional partners may not be as supportive of funding city projects if they feel they are negatively impacted by this project
- Shifts traffic to the congested I-5 corridor

Hybrid Road Diet between 144th Street and 152nd Street

This option focuses on preserving the southbound capacity while still achieving the general goals of the rechannelization of TIB. In general, this design would feature two southbound lanes and a single northbound lane, with a turn lane at key intersections like 144th and 152nd Street. The benefit of this configuration is that it avoids the PM peak hour congestion and diversion issues since two southbound lanes are preserved. Given that the AM peak hour is of substantially lower magnitude and duration, an additional northbound lane is not needed to maintain adequate operations.

Some downsides of this design option include greater difficulty in accommodating mid-block crossings since a median island is not feasible without eliminating on-street parking or other amenities. The additional southbound lane may also result in higher off-peak speeds, making the road somewhat less desirable to walk or bicycle along. In addition, to accommodate the turn lanes at the intersections, the crossing distances would be larger under this option than the other two options, although still less than today's condition.

Chapter 6. **Conclusion**

The rechannelization of Tukwila International Boulevard between S 144th Street and S 152nd Street to remove one northbound and southbound travel lane and to install bicycle lanes and on-street parking would result in significant congestion for southbound vehicles entering the corridor under both 2017 and 2030 demand scenarios. The existing demand for vehicles travelling through the entire study corridor on TIB exceeds 700 vehicles in both directions during the PM peak hour. This demand is forecasted to increase by over 20% by 2030 due to new residential and commercial development near the study corridor. Removing a travel lane in each direction results in overcapacity conditions, especially for southbound drivers at S 144th Street. Delay, travel times, and vehicular queuing increase substantially in both 2017 and 2030 scenarios and would likely result in drivers choosing parallel routes as alternatives to TIB.

The travel time data and Streetlight OD data provide information on travel behavior for drivers currently using TIB. An analysis of the data suggests that at least 50% of existing travel on the roadway is pass-through trips. These trips represent non-local travel: trips that pass through the corridor without stopping or those not related to nearby residential or commercial land uses. Popular origins and destinations are SeaTac and Central Seattle. Since 2010, the traffic volumes on TIB have increased by 10% to 15% despite limited land use development near the study corridor. The increases in traffic volumes are likely due to spillover from congested regional routes as drivers seek less congested alternatives. If the existing volume of pass-through travel, approximately 800 vehicle trips during the PM peak hour, were to shift to alternative routes, the TIB corridor could accommodate the growth in traffic from planned development with the rechannelization and operate with a similar quality of service to that experienced today.

The traffic calming measures that would need to be implemented to prevent traffic from diverting onto 42nd Avenue S and Military Road S after the rechannelization of Tukwila International Boulevard would need to reduce vehicle speeds by at least 50%, compared with posted speed limits. This is beyond the range of effectiveness of most common traffic calming treatments and would require average travel speeds of 15mph on these facilities which would significantly impact local residents who live along these streets.

Alternatives to traffic calming measures are physical barriers or turn restrictions that prevent vehicles from using these parallel routes as alternatives to TIB: intersection diverters or short one-way segments. The most effective locations for installation of these preventative measures would likely be in the vicinity of S 144th Street. While these barriers occupy a small area, they are still an inconvenience for residents who are accustomed to traversing the area on Military Road or 42nd Avenue S.

If the proposed rechannelization is pursued, the City could further investigate the optimal design and placement of these devices which would prevent cut-through traffic while maintaining as much connectivity

as possible for local residents as well as students travelling to Foster High School or Thorndyke Elementary School. As part of a larger outreach program to promote this project, the City could also consider a temporary installation of the lane conversion on TIB to bicycle lanes and traffic calming devices on nearby streets to demonstrate to the local community how the project would be implemented and its potential benefits to all users. This "tactical urbanism" approach would also allow the City to quickly assess traffic operations conditions before and after implementation of the project.

The proposed rechannelization of TIB would necessitate a change in usage and perception for this facility. While the route today serves a high percentage of regional pass-through traffic, the reduction in vehicular capacity would likely limit the facility's usage to local residents and employees. Even with the existing travel demand, a significant volume of trips would shift to alternate parallel routes to avoid the increased congestion along TIB. However, the removal of two travel lanes would allow for the installation of bicycle lanes and on-street parking which would contribute to a more amenable environment for all users.

Appendix A:
Traffic Counts

Appendix B:
Vissim Worksheets

AA

From: Zaleski, Joseph
To: SAMP Public Comments
Cc: Jack.Rossi@alaskaair.com; Megan.Quellette@AlaskaAir.com; Steenland, Peter R.
Subject: Alaska Airlines Comments on SAMP Environmental Assessment Scope
Date: Friday, September 28, 2018 6:46:05 AM
Attachments: image001.png
Alaska Airlines Comments_SAMP Scoping (9.28.2018).pdf

Dear Mr. Rybolt,

Attached please find comments by Alaska Airlines regarding the scope of the Seattle-Tacoma Airport Sustainable Airport Master Plan proposed environmental assessment. Thank you for your consideration of these comments.

Best,

Joe

JOSEPH T. ZALESKI
Associate*
**Admitted only in California; pending approval of application for admission to the DC Bar, practicing law in the District of Columbia under the supervision of principals of the firm who are members in good standing of the DC Bar.*
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Alaska

September 27, 2018

Mr. Steve Rybolt
Port of Seattle
Aviation Environmental and Sustainability
P.O. Box 68727
Seattle, WA 98168

Re: Scope of Seattle-Tacoma Airport Sustainable Airport Master Plan proposed environmental assessment

Alaska Airlines submits these comments in response to the Port of Seattle's ("the Port") request for public comment during the scoping process for the proposed actions contained in the Sustainable Airport Master Plan ("SAMP").

Alaska Airlines appreciates this opportunity to participate in the scoping phase of the Seattle-Tacoma ("Sea-Tac") Airport's proposed implementation of the SAMP. Our comments fall into three categories: *how* the Port should proceed with the environmental analysis of the SAMP; *what* that environmental review should include with respect to alternatives; and, *whether* some of the action items are needed so urgently they should be approved while the environmental review of the SAMP is underway.

Alaska Airlines is headquartered at Sea-Tac, and the airline along with its wholly-owned subsidiary Horizon Airlines has more operations at Sea-Tac than any other carrier. Alaska Airlines is firmly rooted in this community and fully committed to the success of Sea-Tac. We are also committed to staying engaged in this process to its conclusion. As the Puget Sound region continues to expand, and projections for airline traffic continue to grow, a smoothly functioning, properly equipped, operationally efficient and environmentally sustainable Sea-Tac Airport is critical for our community, area residents, and the regional economy.

Alaska

September 27, 2018

First, Alaska Airlines asks the Port to reconsider *how* these proposals should be examined in order to ensure compliance with all applicable environmental statutes. We believe the scoping phase of the SAMP is a step in the right direction in preparing Sea-Tac for the implementation of this ambitious program. At the same time, we are concerned that the Port and the Federal Aviation Administration ("FAA") may be jeopardizing the SAMP's implementation by proposing to meet the rigorous requirements of the National Environmental Policy Act ("NEPA") with an environmental assessment ("EA") rather than an environmental impact statement ("EIS"). Alaska Airlines believes this is a mistake and strongly encourages the Port to reconsider. Instead, we believe it is in the best interest of the SAMP, the community, the environment, and all stakeholders concerned about the future of this airport for the Port to meet its legal requirements under NEPA with an EIS, rather than an EA. Anticipating the heightened scrutiny this project will likely face, we believe that the Port should take the time and effort to develop a full EIS. Making this decision now will help ensure the most rigorous standard of environmental review, and be more cost-effective and efficient over the long term.

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While preparing an EIS may require more upfront time and effort than if the Port were to develop an EA, Alaska Airlines believes this additional time would ultimately be an effort well spent. Preparing an EIS eliminates the need to make a finding of no significant impact (FONSI) which in a project of this magnitude could be more difficult than demonstrating procedural compliance with the EIS process. In addition, preparing an EIS could produce more substantive stakeholder feedback and fully effectuate the stated goals of the SAMP projects. As a result, an EIS may ultimately be more cost-effective than generating an EA, as any major litigation delay will almost certainly drive up the total cost of the project as construction deadlines are impacted.

What is more, if the Port decides to proceed with an EA, there may be a strong likelihood that the Port may only be able to justify a finding of no significant impact if it straps a host of massive mitigation projects to the FONSI. Such mitigation proposals could have the potential to saddle the Port and Sea-Tac operations with numerous, potentially onerous obligations that may never have been contemplated within the SAMP. These obligations may not end with approval of the proposed actions. If project opponents conclude at some point in the future that there has been a failure to continue to honor ongoing mitigation commitments, they could initiate additional litigation risk assailing the effectiveness of mitigation measures adopted in the FONSI. This uncertainty could continue years after project approval, for as long as mitigation measures remain in place. As a result, an EA/FONSI that requires extreme mitigation may well be more difficult to implement than taking the time to prepare an EIS, which would not require such mitigation proposals.

AA-1

Second, Alaska Airlines urges the Port to expand *what* the forthcoming environmental analysis should consider. At present, the range of alternatives slated for detailed consideration is inadequate. In NEPA analysis, if an alternative satisfies the project's Purpose and Need and is feasible, that alternative warrants close scrutiny in the EIS or EA. Here, the Port has stated that the Purpose and Need for the projects identified in the SAMP is to address concerns that are applicable to the entire airport. As a result, the Port's decision to address future airport-wide demands by considering only North Terminal alternatives is both ill-advised and legally inadequate, especially when another feasible alternative is available.

AA-2

Alaska Airlines has demonstrated that an alternative involving extensions and/or modifications to existing concourses in the Main Terminal is a viable, feasible alternative that can satisfy the SAMP's Purpose and Need when paired with certain roadway and other improvements considered in the SAMP – and others in the main terminal and transportation access that would be ancillary to this work. The alternative proposed by Alaska Airlines would address inefficiencies in the existing terminal, inadequacies which would be unaffected by the proposals in the SAMP. Alaska Airlines' alternative merits detailed consideration in the NEPA process.

AA-2

There are at least several benefits that could result if the alternative proposed by Alaska Airlines is given detailed consideration in the NEPA process. Alaska Airlines has shown that the proposal advanced in the SAMP poses a substantial risk of overbuilding. The SAMP ignores already approved construction projects, including the North Satellite Modernization Project, the International Arrival Facility, and Concourse D Annex project. These projects will add approximately 25% more aircraft parking positions by 2022 than existed in 2017. Even with conservative utilization of these additional facilities, this added capacity will accommodate the 2027 demand forecast.

Also, detailed consideration of a more modest alternative would provide the Port and stakeholders with beneficial flexibility in selecting an alternative that meets the SAMP's Purpose and Need without overbuilding. If the concerns of Alaska Airlines are validated and the Port concludes at the conclusion of the NEPA process that the actions proposed by the SAMP are not

needed, failure to consider a more modest alternative now would require beginning the NEPA process anew, which would be an unfortunate waste of time and resources.

Additionally, and separate from the SAMP environmental assessment, the Port plans to conduct an in depth study of the most significant factor contributing to delay at the airport: the limitations on current airspace capacity. Clearly, the overall impact of significant improvement in the region's airspace can play a role in addressing airport delay. The failure to make adequate airspace revisions could compromise the expected benefits of the SAMP. Therefore, it is unclear how the proposed environmental analysis could objectively evaluate the SAMP without incorporating the findings of an airspace study or why the two are not part of the same work stream.

AA-3

Notably, the timing for conducting the airspace study will preclude its consideration in the SAMP environmental review. This makes no sense. Authorizing the SAMP without linkage to and coordination with the FAA upcoming redesign of the region's airspace is akin to substantially expanding a railroad station without addressing the need for additional train tracks. The Port should not commit to building the proposed terminal facilities for projected growth without some credible plan to make room in the sky for those additional aircraft.

AA-2

Respectfully, Alaska Airlines suggests that when confronted with projections of future growth at Sea-Tac, the Port and the many stakeholders should not be tempted to pursue an overly ambitious response when that response is likely to impose severe operational, customer experience, and financial constraints upon the Port, air carriers, and passengers. It would be especially unfortunate if the burdens of implementing these audacious projects had the effect of

precluding needed improvements to the Main Terminal where 80% of the airport's passengers will continue to transit, even with a fully-operational new North Terminal. Indeed, using the Port's own data from Leigh Fisher on forecast delay, it is possible that implementation of the SAMP actions could adversely affect the airport's ability to compete with other airports in attracting new carriers and new service.

AA-2

Finally, Alaska Airlines requests that the Port examine *whether* some of the proposed actions in the SAMP could be implemented in the immediate future rather than waiting for the completion of the NEPA analysis. The FAA has adopted procedures in FAA Order 1050.1F that allow for documented categorical exclusions.[1] Alaska Airlines believes that certain proposed actions, such as the high-speed taxiway for Runway 34L as identified as an airport improvement in the SAMP, has independent utility and could be reviewed through the mechanism of a documented categorical exclusion. Importantly, swift approval of these measures could provide important environmental, customer, and operation benefits, and may not need to be subject to detailed environmental scrutiny.

AA-4

Thank you for your consideration of these comments.

Sincerely,

Shane Jones

Vice President – Airport Real Estate and Development

[1] FAA, Order 1050.1F, at 1-6 (July 16, 2015), https://www.faa.gov/documentLibrary/media/Order/FAA_Order_1050_1F.pdf.

DM

From: Bonnie Wilkins
To: SAMP Public Comments
Cc: Michael Matthias; Susan Cezar; Dan Brewer
Subject: City of Des Moines Comments on Scoping for the Near Term Projects for Sea-Tac International Airport
Date: Friday, September 28, 2018 1:01:08 PM
Attachments: Comments on Scoping for the Near Term Project for Sea-Tac Airport 9.27.2018.pdf

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On behalf of Mayo Matt Pina and the Des Moines City Council, please find attached the City of Des Moines Comments on Scoping for the Near Term Project for Sea-Tac International Airport.

Please let me know if you need anything additional.

Thank you,
Bonnie

Bonnie Wilkins, CMC | City Clerk-Communications Director
City of Des Moines | 21630 11th Avenue S, Suite A | Des Moines WA 98198
206.870.6519 | 206.870.6540 (fax)

Des Moines WA
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September 27, 2018

Mr. Steve Rybolt
Port of Seattle
Aviation Environment and Sustainability
P.O. Box 68727
Seattle, WA 98168

Re: City of Des Moines, WA Comments on Scoping for the Near Term Projects for Sea-Tac International Airport

Dear Mr. Rybolt,

On behalf of the Des Moines City Council I am forwarding the following comments on the scoping process for the proposed environmental review. These comments are derived from the City of Des Moines Aviation Advisory Committee, the City Council, our Community, City staff and from the City's SEPA official. Our first and primary concern is that the process being utilized by the Airport in regards to the Sustainable Airport Master Plan (SAMP) does not appropriately consider the context of development that has occurred and is occurring at the Airport. This specifically relates to growth and the operational utilization of the Third Runway and generally to the overall growth trajectory the Airport has experienced in the past 7 years. Secondly, the process appears to contradict State Environmental Policy Act requirements. Third, that actions to provide appropriate environmental review of the SAMP have taken place outside the bounds of the State Environmental Policy Act (SEPA). Finally, we express concerns about specific impacts on our City from aircraft operations that need to be included in the scoping process.

The City believes that the appropriate timeframe to establish the baseline for environmental review is the time frame from 2012 – 2018. A summary of Airport growth through this time frame (see below) reveals significant and consistent year over year growth.

	2012	2013	2014	2015	2016	2017
Passengers	33.2 million	34.8 million	37.5 million	42.3 million	45.7 million	46.9 million
Aircraft Operations	309,597	317,186	340,478	381,408	412,170	416,124
Air Cargo (metric tons)	283,600	292,700	327,239	332,636	366,431	425,856
Source - Sea-Tac Airport Passenger, Cargo and Operations Summary [2012 - 2017]						

DM-1

DM-1

The extensive growth above should be a precursor and require environmental review prior to any additional capacity building activities. Correspondence between the City and Airport management underscores our ongoing concern with facilities built outside the environmental review process of the SAMP. [1 Testimony of Mayor Pina at Port of Seattle Commission April 25, 2017] [2 Letter from Mr. Lance Lyttle, July 26, 2017] [3 Letter from Mayor Pina, July 27, 2017].

DM-2

The approach of the Airport to identify near-term capital improvements – an incremental approach to developing the SAMP –provides faulty context, ignoring the fact that capital investments going forward will, in fact, define future development patterns. Therefore, the environmental review proposed is inadequate in the context of the SAMP as a whole. Let it be clear that the Airport is not currently reviewing the SAMP, only certain near-term projects. This approach is inconsistent with current Washington State law and Washington Administrative Code requirements – a point that will be extensively made in the comments prepared by our SEPA officials (Burien, SeaTac, Normandy Park, Des Moines and consultants).

DM-3

The most recent Part 150 was completed in 2013, preceding this growth pattern. The SAMP planning was begun in 2012. Our concern is that environmental review of projected growth does not consider impacts of growth to date.

The operational utilization of the Third Runway (16R), a highly controversial chapter in the Airport's history, has seen a trail of agreements that expand the use of the Third Runway. Agreements that originally governed use of the runway were modified over time to increase capacity on the Third Runway. The concern is that these modifications, in providing expansion of operational capacity, were done outside any environmental review. Developing a plan for growth that continues to utilize the Third Runway in an expanded operational role needs to be part of the Scope to understand the increased environmental impacts. [4 reference to FAA Letter of Agreement December 6, 2010 and FAA Letter of Agreement July 26, 2016]. These issues need to be addressed in the scoping process.

DM-4

Additionally, seeking review of aircraft operations and FAA procedures, the City requested the following information from the FAA on August 17, 2018 via the Airport StART committee in order to evaluate these procedures in regard to these comments on the scoping process:

Statement: The City of Des Moines would like to better understand the Seattle ATC operation.

1. Would you please provide a copy of the Tower Standard Operating Procedures (SOP) and TRACON SOP?
2. Would you please provide a copy of any Letters of Agreement (LOA) between the Tower and the TRACON and any LOA between Seattle Tower and Boeing Field Tower?
3. Are you aware of any new Instrument Flight Procedures that are proposed or being developed for the Seattle Airport?
   a. Follow on questions – What is the status of the .41A Process (Dot forty-one Alpha Process) that was underway last year but suspended due to budget concerns?
   b. When do you anticipate the .41A process resuming?
   c. We have hired Performance Based Navigation experts. We would like for them to represent us on the .41A Full Working Group, when the process resumes, with Stakeholder Status.

DM-4

To date, none of these documents have been provided to the City (this is information we believe is critical to providing timely and informed comments on scoping for the operational impacts associated with the Airport's proposed growth).

Significant concerns to be fully included in the environmental scoping:

Noise and Health impacts: Scoping needs to review noise and health impacts from Airport/aircraft operations. It also must include the intrusive assessment of nighttime flights and the growth in overflights, operations and frequency of flights on City residents and businesses. Furthermore, the baseline environmental assessment of these impacts must be for the period 2012-2018.

Fuel dumping: the City has concerns that fuel dumping has occurred in the airspace over our City, or in areas where wind and meteorological dynamics could result in fuel dumping over our City [5 see FAA checklist protocol].

Fuel emissions: What are impacts of aircraft fuel emissions on the communities surrounding the Airport with proposed growth and within the current baseline (as discussed above) from 2012-2018? The scoping needs to include the health and epidemiological impacts of ultra-fine particles resulting from aircraft emissions.

DM-5

Transportation impacts: Scoping needs to include an analysis of increased traffic impacts and potential multi-modal solutions that will increase congestion and pollution from vehicular traffic including truck transport.

Siting 2nd Regional airport: Scoping needs to include a review of options to growth at Sea-Tac Airport including options for siting a second regional airport. [6 See comment regarding potential of Moses Lake as an alternative airport below].

NextGen: Scoping needs to address the environmental (noise and health) impacts of NextGen implementation?

Glide path variation: Scoping needs to include review of glide path variation across all runways, especially as variation relates to runway 34R and the current slope of 2.75%.

Concurrent studies: Scoping needs to utilize three concurrent studies occurring regarding impacts from the Airport:

1. The Ultra-Fine Particle study being conducted by the University of Washington,
2. The Puget Sound Regional Council study on regional aviation,
3. The Budget Proviso baseline study currently underway being conducted by the Washington State Department of Commerce with input from the cities proximate to the Airport.

The City Council and I appreciate your consideration and inclusion of these items into the scoping process. We are extremely concerned that the lack of inclusion of any of these items will not present a comprehensive picture as to the environmental impacts of the Airport, in the context of previous growth, current level of operations, and future growth.

Sincerely,

Matt Pina
Mayor

Cc: Des Moines City Council
Aviation Advisory Committee
Port of Seattle Commissioners
Port of Seattle Executive Director Steve Metruck
SEPA Officials for the Cities of Burien, SeaTac, and Normandy Park
SAMP Joint City Consultants
City Manager Michael Matthias
Chief Operations Officer Dan Brewer
Chief Strategic Officer and City of Des Moines SEPA Official Susan Cezar
City Attorney Tim George

Mayor Matt Pina

CITY OF DES MOINES TESTIMONY TO PORT OF SEATTLE COMMISSION

APRIL 25, 2017

The City of Des Moines appreciates the opportunity to provide comments to the Port and Federal Aviation Administration (FAA).

Our city, as is also the case with Burien, Sea-Tac and Normandy Park and others, experiences disproportionate impacts from aircraft operations because of our proximity to Sea-Tac International airport. We receive the brunt of airport impacts as the human cost of Sea-Tac's economic benefit for the region.

Des Moines residents are constantly challenged by noise impacts and health impacts. The United States Congress and the State of Washington legislature are each considering legislation to fund scientific based studies to assess the exact impacts and mitigation options and we actively support those studies and will continue to do so. We have

advised Congress of our support and recommendation to include Sea-Tac airport in these studies. We have testified in the Washington State House and Senate on behalf of bills to assess impacts of ultra-fine particles emissions from aircraft overflights and the City has allocated $25,000 to support that study.

As the implementation of NextGen by the FAA results in the narrowing of the bandwidth of aircraft overflights – departures and landings – the disproportionate impacts suffered by some of our residents' increases. Those living directly under the overflights suffer increased noise and health impacts.

These impacts come from more focused aircraft operations and from increased number and frequency of aircraft operations. The NextGen

impacts are attributable to the FAA. The increase in aircraft activity is the responsibility of the airport.

The Sustainable Airport Master Plan (SAMP) is being developed to increase growth in operations at Sea-Tac over the next 20 years. The SAMP, in responding to increased demand is designed to accommodate a new international terminal, new gates and increased operational efficiencies, however there is not sufficient attention paid to noise, environmental and health impacts. The Plan provides for sustainable operations on the airfield but does little to address sustainability, in terms of airport operations as they impact the surrounding cities.

The City believes that the airport has an obligation to address these impacts. Mitigation should include:

- effective implementation of the home insulation program, expanding in scope and quality.
- provide financial compensation to those homeowners living under the flight paths in any situation where the value of the home is negatively impacted.
- Support ongoing studies and act upon the results ensure that the health and safety of Des Moines residents receives the priority that it deserves.

Without due consideration of these concerns, any plan for operational expansion of Sea-Tac airport is unacceptable. We look forward to the opportunity to continue this discussion on behalf of all of our residents.

Port of Seattle

P.O. Box 68727
Seattle, WA 98168
Tel: (206) 787-5388

City of Des Moines
21630 11th Avenue S., Suite A
Des Moines, WA 98198

July 26, 2017

Dear Mayor Pina:

I appreciated the City of Des Moines' work to convene last week's discussion with Normandy Park, Burien, SeaTac and airport staff to review the airport's Concourse D Hardstand Holdroom project and the Determination of Non-Significance (DNS). I understand this was a direct and open conversation about concerns with the project.

We recognize that growth-related projects at Sea-Tac must be evaluated together in the Sustainable Airport Master Plan (SAMP) to assure that cumulative environmental impacts are addressed. The addendum to the DNS issued on July 21, 2017, which Port staff prepared after last week's meeting, provided more specifics related to the Hardstand Holdroom project timing and scope, showing a net reduction of gates in operation until mid-2021.

The SAMP environmental review, which is anticipated to be conducted in 2018, will account for all existing and approved gates and passenger loading facilities. This includes the North Satellite, the International Arrivals Facility, and the Concourse D Hardstand Holdroom. No additional gates are anticipated until the completion and approval of the Sustainable Airport Master Plan and associated environmental review.

At the same time, we recognize the need for increased effective and informative communication with our adjacent cities. I have greatly appreciated the leadership you and your colleagues in the city of Des Moines have shown in working with the Airport on airport issues and regarding the formation of an Aviation Advisory Committee at Sea-Tac Airport. I am currently in the process of seeking input from our city partners and have scheduled a meeting with city managers in August. Input received at that meeting will help determine the best way to proceed in this regard.

I appreciate your concerns and look forward to a stronger relationship in the future.

Lance Lyttle
Managing Director, Aviation
Seattle Tacoma International Airport

Cc: Deputy Mayor Vic Pennington
Councilmember Melissa Musser
Councilmember Robert Back
Councilmember Luisa Bangs
Councilmember Dave Kaplan
Councilmember Jeremy Nutting
Michael Matthias, City Manager
Susan Cezar, Community Development Director

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July 27, 2017

Mr. Lance Lyttle,
Managing Director, Aviation
Seattle Tacoma International Airport
PO Box 1209
Seattle WA 98111

Dear Mr. Lyttle,

I am in receipt of your letter of July 26, 2017 in which you state,

"The SAMP environmental review, which is anticipated to be conducted in 2018, will account for all existing and approved gates and passengers loading facilities. This includes the North Satellite, the International Arrivals Facility, and the Concourse D Hardstand Holdroom."

This statement addresses our concerns with this specific capital project: the Concourse D Hardstand Holdroom. However, as I have previously stated in a presentation to the Port of Seattle Commission:

> "Our city, as is also the case with Burien, Sea-Tac and Normandy Park and others, experiences disproportionate impacts from aircraft operations because of our proximity to Sea-Tac International airport. We receive the brunt of airport impacts as the human cost of Sea-Tac's economic benefit for the region. Des Moines residents are constantly challenged by noise impacts and health impacts." (Testimony to Port of Seattle/FAA meeting April 25, 2017)."

There are two principal issues I want to communicate to you. First, it is unacceptable for the Airport to wait until the development of the SAMP to address mitigation issues derived from the year over year double digit growth of operations at Sea-Tac Airport. Impacts of growth must be addressed now.

The siting of a second major airport in western Washington State must begin immediately. In this regard, the City of Des Moines has commented on and is in contact with the Washington Aviation System Plan staff, at the State level, to further this process.

I also want to comment on the lack of transparency by the Airport and the failure of the Airport to communicate effectively. The local cities had no knowledge of this proposed Holdroom facility prior to issuance of the Determination of Non-Significance. This is inappropriate and ineffective. The Airport needs to be timely, transparent and proactive in communication with your surrounding communities.

It is for this reason we have encouraged you to form an Airport Advisory Committee, sponsored by the Airport and including representatives from the Federal Aviation Administration, the airlines, local community organizations and local government officials to address the impacts of the Airport on our local communities.

We look forward to ongoing, productive discussion with you on these issues.

Sincerely,

Matt Pina
Mayor and Councilmember

Seattle Terminal Radar Approach Control (S46), Seattle Air Traffic Control Tower (SEA) and Port of Seattle (POS)

LETTER OF AGREEMENT

EFFECTIVE: **December 6, 2010**

SUBJECT: Informal Runway Use Program

1. PURPOSE: To establish the Noise Abatement Informal Runway Use Program for the Seattle-Tacoma International Airport (KSEA). This program has been established by the Port of Seattle (POS) and is administered by the Federal Aviation Administration (FAA) at Seattle Terminal Radar Approach Control (S46) and Seattle Air Traffic Control Tower (SEA). The goal of this informal runway use program is to establish a clear understanding of the preferred way in which all of the runways will be used in various operating conditions. However, it is not intended that the program described herein would restrict operations or adversely discriminate against any user. Deviations from specified runway use may be necessary because of emergencies, weather, traffic volume, airport construction, or maintenance work. Under these circumstances, runway selection will be in accordance with FAA Orders 7110.65 and 8400.9.

2. SCOPE: The policy outlined herein provides for the preferential arrival and departure usage of each runway at KSEA. This voluntary program applies to all turbojet aircraft weighing 12,500 pounds or more. The program that is described herein shall be utilized to the maximum extent possible whenever wind, weather, traffic density, controller workload, equipment, operations and field conditions and other considerations permit.

3. RESPONSIBILITIES: POS, S46 and SEA must ensure that all appropriate personnel are briefed on this voluntary program. The FAA reserves the right to determine under what conditions flight operations may be conducted without causing degradation of safety. The FAA may be required to follow different policies than detailed herein and reserves the right to determine runway usage such that it is not unsafe, unjustly discriminatory nor incompatible with the efficient management of navigable airspace.

4. PROCEDURES: The FAA has the responsibility for managing air traffic. At any time, the FAA maintains the right to change the way they use the runways to safely and efficiently manage air traffic. This does not abrogate the authority and responsibility of the pilot in command to ensure the safe operation of his aircraft. The following is the planned runway usage during typical operations at KSEA under normal conditions:

South Flow Runway Use Program

- **Regular overnight usage.** During regular overnight operations in normal weather patterns when arrival demand decreases, the FAA plans to reduce its use of the third runway (16R).
- **South flow during good weather.** During normal weather patterns, and periods of low demand, the primary south flow arrival runway is the center runway (16C). The easternmost runway (16L) will be the primary south flow departure runway. When airport demand increases, both 16R and 16L will be used for arrivals and 16C will be used as the primary departure runway.
- **South flow in lower visibility conditions.** During periods of low demand the primary south flow arrival runway is 16C. Runway 16L will be the primary south flow departure runway. When airport demand increases, in order to have two streams of arriving traffic that can

Seattle Airport Traffic Control Tower and Seattle Terminal Radar Approach Control

LETTER OF AGREEMENT

EFFECTIVE: JULY 26, 2016

SUBJECT: Approach Control Service and Coordination Procedures.

1. PURPOSE: To establish coordination and control procedures between Seattle Terminal Radar Approach Control (TRACON) and Seattle Airport Traffic Control Tower (Tower).

2. CANCELLATION: Seattle TRACON and Seattle ATCT Letter of Agreement dated June 10, 2013 and all its revisions, and NOTICES S46 N7110.705/SEA N7110.121, S46 N7110.706/SEA N7110.122, S46 N7110.690/SEA N7110.107 and S46 N7110.698/SEA N7110.109.

3. SCOPE: The responsibilities and procedures outlined herein must apply to Tower and TRACON personnel for inter-facility coordination and control of air traffic.

4. RESPONSIBILITIES: Tower and TRACON must be responsible to ensure that all applicable personnel are briefed on and comply with the procedures contained in this agreement.

5. PROCEDURES:

a. Pre-arranged Coordination.

(1) A clear operational benefit may result by establishing prearranged coordination procedures in this Letter of Agreement. In the event of a malfunction or failure of the radar/computer system that prevents complete alphanumeric track data from being displayed, or in the event that prearranged coordination procedures become impractical due to other circumstances; i.e. weather, equipment, frequencies, etc., the FLM must terminate the applicable prearranged coordination procedures immediately.

(2) Prearranged coordination may be terminated at any time by the controller responsible for the airspace and must not be resumed until additional coordination has been effected.

(3) When using Special Interfacility Procedures (i.e., Plan Alpha, Plan Bravo, Plan Charlie) between SEA ATCT, BFI ATCT, and Seattle TRACON refer to that Letter of Agreement. Due to the limited scope of this Letter of Agreement, the tri-facility LOA must provide the in-depth guidance necessary for the above procedures.

(4) Tower must Quick Look the F1 and F2, Y, and A Sectors and the sector that has control of the BFI final. See Attachments 1, 2, 3, and 4 for descriptions and depictions of Tower and TRACON airspace.

(5) TRACON may climb and descend BFI arrivals and departures through Tower delegated airspace along the Runway (RWY) 13R/31L centerlines, except BFI arrivals or departures opposite to the established flow of traffic must be coordinated with Tower.

maintain appropriate separation during lower visibility conditions, runways 16R and 16L will be used for arrivals. Runway 16C will be the primary departure runway.

- **South flow departure demand.** Runway 16R will also help with airfield efficiency when there is an increased departure demand. The FAA can increase use of 16R for arrivals in order to allow departures off of both runways 16L and 16C.

North Flow Runway Use Program

- **Regular overnight usage.** During regular overnight operations in normal weather patterns when arrival demand decreases, the FAA plans to reduce its use of the third runway (34L).
- **North flow during good weather.** During normal weather patterns, and periods of low demand, the primary north flow arrival runway is the center runway (34C). The easternmost runway (34R) will be the primary north flow departure runway. When airport demand increases, both 34R and 34L will be used for arrivals and 34C will be used as the primary departure runway.
- **North flow in lower visibility conditions.** During periods of low demand the primary north flow arrival runway is 34C. Runway 34R will be the primary north flow departure runway. When airport demand increases, in order to have two streams of arriving traffic that can maintain appropriate separation during lower visibility conditions, runways 34R and 34L will be used for arrivals. Runway 34C will be the primary departure runway.
- **North flow departure demand.** Runway 34L will also help with airfield efficiency when there is an increased departure demand. The FAA can increase use of 34L for arrivals in order to allow departures off of both runways 34R and 34C.

a. Emergency and Closed Runway Conditions

In the event of an emergency or closed runway condition, the policy outlined in this document may not be followed as prescribed. With safety as the primary goal, the FAA maintains the right to determine the optimal runway assignments and usage during emergency and closed runway conditions.

b. Operational and Safety Criteria (per FAA Order 8400.9)

A variety of weather and operational conditions may preclude the application of the normal runway use policy outlined above. These include, but are not limited to, the following:

1. Wind Shear or Thunderstorms.
2. Visibility
3. Runway Braking Effectiveness
4. Wind

c. Annual Review: The parties to this agreement will review this LOA annually on or around the anniversary of the signing thereof or upon request by any signatory to the LOA.

Ron Fincher	Tay Yoshitani
District Manager	Chief Executive Officer
Seattle Terminal District	Port of Seattle

Footnote 5

Fuel Dumping Checklist

1. Determine route/altitude/weather conditions fuel dumping will occur.
2. Advise adjacent sectors when fuel dumping commenced and terminated.
3. Except for emergency, vector or assign a VFR holding pattern over water at or above 5000.4. Separation Minima:

a. VFR radar-identified aircraft by 5 miles.
b. IFR aircraft by one of following:

1. 1000 above it.
2. 2000 below it.
3. 5 miles radar.
4. 5 miles laterally.

4. Phraseology. Sectors concerned must broadcast an advisory at 3-minute intervals until the dumping stops.

4/6/2016 ORDER S46 TRACON 7110.65M

"ATTENTION ALL AIRCRAFT, FUEL DUMPING IN PROGRESS OVER (LOCATION) AT (ALTITUDE) BY (TYPE AIRCRAFT) (FLIGHT DIRECTION)""ATTENTION ALL AIRCRAFT. FUEL DUMPING OVER (LOCATION) TERMINATED."

Reference - FAA Order 7110.65 Chapter 9, Section 4, Fuel Dumping.

Footnote 6

Relative to Moses Lake as a viable alternative for cargo flights, "It has capacity to accommodate much more given its five runways and onsite FAA control tower for commercial, military, and general aviation use." [Moses Lake website: http://www.portofmoseslake.com/aeronautics/#1477951474378-007e7354-62f6}.

ST

From:	Steve Pilcher
To:	SAMP Public Comments
Cc:	Rybolt, Steven; Purcell, Arlyn (Env&Sus); City Manager; City Council
Subject:	City of SeaTac SAMP Near Term Projects Environmental Scoping Comments
Date:	Friday, September 28, 2018 3:05:07 PM
Attachments:	1176_001.pdf

Attached please find comments from the City of SeaTac regarding the SAMP Near Term Projects Environmental Scoping. These are submitted in addition to those provided jointly by the Cities of Burien, Des Moines, Normandy Park and SeaTac, sent earlier today.

Thank you for the extended opportunity to provide comments; we look forward to seeing our concerns addressed as the Port prepares and issues environmental documents.

Steve Pilcher, SEPA Responsible Official
Director,Community & Economic Development
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September 28, 2018

Mr. Steve Rybolt
Aviation Environment and Sustainability
Port of Seattle
P.O. Box 68727
Seattle, WA 98618

Re: Sustainable Airport Master Plan Near Term Projects NEPA EA and SEPA EIS Scoping comments

Mr. Rybolt:

City of SeaTac staff has reviewed the July 30, 2018 Scoping document and supporting materials posted on the SAMP Environmental Review website. We also participated in the September 6, 2018 Agency Scoping meeting and the public Open House held at the SeaTac Community Center on September 19, 2018.

As you know, SeaTac has joined with our neighboring cities of Burien, Des Moines and Normandy Park to retain professional assistance to help us to respond to areas of concern for all four jurisdictions. The comments in this letter are intended to supplement, but not abrogate, any comments made in that letter.

The Port formally assured a variety of commitments to the City within the new Interlocal Agreement (ILA) that became effective in February 2018. These provisions need to be acknowledged and incorporated as necessary into the environmental documents. Our comments reflect our understanding and affirm our commitment to the terms of the ILA.

The City has the following comments regarding the proposed scope of the environmental analysis:

ST-1

1. It is clear from reading the available documents that the Port has developed concepts for how future expansion will occur after completion of the defined "near term projects." For example, there is reference to future airplane hangars being constructed in the South Aviation Support Area (SASA), yet that and other project(s) are not proposed for analysis at this time. There are other statements in the Executive Summary that refer to projects that will be needed to accommodate forecasted growth in activity through 2034, beyond the horizon of the "near term projects."

   The State SEPA Guidelines (WAC 197-11-005 (2)) clearly provide that "the lead agency shall prepare its threshold determination and environmental impact statement (EIS), if required, at the earliest possible point in the planning and decision-making process, when the principal features of a proposal and its environmental impacts can be reasonably identified." We have formally raised this same concern in past Port

SEPA actions (International Arrivals Facility, North Satellite Expansion, Flight Corridor Safety Program, Concourse D Hardstand), yet the Port continues to "piecemeal" its environmental analyses. We direct your attention to WAC 197-11-060 (3) and WAC 197-11-060 (5.d.ii), the latter which specifically notes that "phased reviewed" is not appropriate when "it would merely divide a larger system into segmented fragments or avoid discussion of cumulative impacts." The statement in the Scoping document that although the "SAMP includes the Long Term vision, those projects are not ripe for environmental review because it requires more study and is not reasonably foreseeable" is clearly not consistent with SEPA.

ST-1

In summary, the City's position is the scope of the environmental analysis needs to be expanded beyond "near term projects" to analyze the impacts of conceptual buildout of the airport as it is currently envisioned. If the environmental impacts of the components of the Long Term Vision are not analyzed in conjunction with the "near term projects," the City will likely consider the environmental review as incomplete.

2. In 2015, the City raised concerns with the Determination of Nonsignificance that the Port issued for the proposed International Arrivals Facility (IAF). Our concerns were that the IAF was clearly indicated as being needed to "ensure continued growth" and deal with "accelerated growth in international traffic." Following our initial comments, there were various communications that eventually resulted in a Letter of Understanding dated September 15, 2015, which was signed by our respective chief administrative officers and Responsible SEPA Officials. In that letter, the Port committed to addressing the "growth of passengers that will be processed in the IAF" as part of the SAMP environmental review process (Item #6). We are reminding you of that binding commitment and our expectation to see that full analysis in the Draft EIS.

ST-2

We raised similar concerns with the environmental reviews for the North Satellite expansion, the Concourse D Hardstand project and the Flight Corridor Safety Program. We respectfully insist that this analysis include the impacts and other growth-related effects of these projects.

3. The September 15, 2015 letter also notes the City and Port have worked together on a shared transportation plan model that was to be used to inform the City's Transportation Improvement Plan as well as the SAMP. This approach is confirmed in the 2018 ILA. We remind you of your binding commitment in the SAMP process to "identify transportation and other improvements necessary to accommodate future growth and mitigate where necessary" (Item #4).

ST-1 / ST-2

Finally, in the September 15, 2015 letter, the Port clearly stated its "intention to fully and appropriately assess the transportation and other impacts of all airport growth....as part of the Sustainable Airport Master Plan" (Item #8). This commitment relates to the concerns raised throughout our comments, in which we insist the environmental analysis address all anticipated airport growth discussed in the SAMP, not just the "near term projects."

4. In regards to Transportation, the analysis should include projected use of public transit (light rail and RapidRide in particular) as a mean of both workers and travelers accessing the airport. This data should be consistent with Sound Transit ridership projections. Sound Transit's light rail Airport Station provides a convenient stop for

ST-3

transit and passenger vehicles dropping off individuals to access the skybridge across International Blvd. As part of the Federal Way Link Extension, the light rail station in the Kent/Highline area is projected to have 30-second bus headways by 2040. The environmental assessment needs to address the impacts and mitigation of future bus passengers at the Airport Station.

ST-4

5. The Transportation analysis should also evaluate the pending construction of SR 509 and its impact on airport-related cargo truck traffic's use of city streets.

ST-5

6. The planned employee surface parking lot (Project L06) is proposed adjacent to known wetlands that have been delineated by the Port. The EIS needs to describe the nature of the potential wetland impacts and prescribe appropriate mitigation measures to ensure the integrity of these wetlands. In addition, Project L06 does not indicate how it is proposed to access and utilize the City's streets, the traffic volumes and frequency of trips to be generated and related environmental issues.

ST-6

7. The transportation analysis needs to consider the impact airport-related truck traffic will have on City streets from both a traffic and street integrity standpoint, due to the two proposed cargo facilities (Projects C02, C03).

ST-7

8. The City's road network may not have the capacity to support the likely increases in traffic to be caused by projected airport growth. The City is not obligated to accommodate that growth or fund improvements to increase road capacity for privae or public projects of this nature. The transportation analysis conducted for the SAMP needs to address how the Port will mitigate its off-site transportation impacts.

Thank you for providing an extended Scoping comment period and also providing numerous opportunities for public and agency participation in the Scoping process. We look forward to receiving the SEPA Draft EIS and NEPA EA upon issuance of those documents.

Sincerely,

Steve Pilcher, SEPA Responsible Official
Community & Economic Development Director

Cc: City Manager
City Council

FW

From:	Jim Ferrell
To:	SAMP Public Comments
Cc:	Yarden Weidenfeld; Ryan Call; Mark Orthmann; Stephanie Courtney; Tyler Hemstreet
Subject:	Sustainable Airport Master Plan (SAMP) Scoping Public Comment Letter - City of Federal Way
Date:	Thursday, September 27, 2018 6:22:37 PM
Attachments:	LETTER-Port-of-Seattle-Steve-Rybolt-9-27-18.pdf

Dear Mr. Rybolt:

Attached is our official Sustainable Airport Master Plan (SAMP) scoping public comment letter for the City of Federal Way.

Thank you,

Jim Ferrell
Mayor
CITY OF Federal Way
33325 8th Ave So., Federal Way, WA 98003
Ph: 253.835.2402 | Fx: 253.835.2409

CITY OF Federal Way

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Jim Ferrell, Mayor

September 27, 2018

Mr. Steve Rybolt
Port of Seattle
Aviation Environment and Sustainability
P.O. Box 68727
Seattle, WA 98168

Re: Sea-Tac Sustainable Airport Master Plan Environmental Review

Dear Mr. Rybolt:

Thank you for this opportunity to comment on scoping for environmental review of the Sustainable Airport Master Plan (SAMP). With the unanimous approval of our City Council, I am writing this comment letter on behalf of the City of Federal Way.

As you probably know, Federal Way residents have been expressing an increasing number of concerns about the impacts of aircraft flying to and from Sea-Tac International Airport ("Sea-Tac"). The SAMP is based upon a projection of an increase in annual passengers handled from 46.9 million last year to 56 million in 2027 to 66 million by 2034. Just to handle the increased passenger demand projected through 2027, the SAMP's "short-term" proposal involves construction of a 19-gate new passenger terminal, new taxiway extensions, additional air cargo facilities, and approximately thirty other infrastructure projects. Meanwhile, the Port has stated that the twenty *additional* airport expansion and redevelopment improvement projects that would be necessary to meet "long-term" demand (i.e. through 2034) are not "ripe for review."

Needless to say, these expansion plans have only exacerbated the concerns of our constituents, many of whom are already burdened by excessive aircraft noise. With this background in mind, I am offering the following comments on SAMP environmental review scoping under the National Environmental Policy Act (NEPA) and the Washington State Environmental Policy Act (SEPA).

Fuel

I. Alternatives to massive expansion plans must be evaluated.

As noted above, our community is *already* facing an unbearable level of air traffic over our homes at all hours of the day and night. The resulting noise and aircraft emissions are greatly affecting our quality of life. According to a presentation by the Port of Seattle at a Highline Forum meeting in May of 2017, the number of operations at Sea-Tac has increased substantially in recent years. Specifically, aircraft operations have increased from 317,186 operations in 2013 to 412,170 in 2016. This translates to approximately 260 more aircraft going over homes daily, which in turn means an increased noise burden to residents.

For this reason, it is imperative that the Port analyze the following alternatives:

A. No Project

The Environmental Assessment/Environmental Impact Statement (EA/EIS) for the SAMP must include a detailed analysis of a "No Project" alternative to the current expansion plans. What would that mean, and how would Sea-Tac operations be managed if expansion is not an option? What would be done in that case to improve efficiency? What would be changed in terms of how passengers are processed? In other words, this alternative must analyze the absolute capacity of Sea-Tac *without* any expansion.

B. "Constrained" Alternatives

The current plans are based on *unconstrained* demand. However, in addition to "No Project," the EA/EIS must analyze at least one or more scaled back alternatives that do *not* meet all projected demand. One reason this is necessary is that projections are only estimates. It is already apparent that SAMP projections are inaccurate because they show 398,210 operations in 2019,[1] a number that was *already* exceeded in 2016, when Sea-Tac reported a total of 412,170 aircraft operations. Future projections could be equally over- *or* under-estimated.

FW-1

Secondly, demand itself can be constrained by how the Port chooses to proceed. The current forecasts, as the Port stipulates, "do not include physical, regulatory, environmental or other impediments to aviation activity growth."[2] Therefore, the Port should conduct a detailed analysis of lesser "constrained" alternatives, such as, for example:

- Reduced additional air cargo facilities and/or diverting cargo to other airports in our region
- Without a new passenger terminal, with a reduced increase in gates, and/or with a diversion of passenger growth to other existing airports in our region
- With a voluntary curfew, as is being discussed in the Sea-Tac Airport Stakeholders Roundtable (StART) Aviation Noise Working Group
- With a limit on use of the third runway to what was originally promised (inclement weather). Again, the StART Aviation Noise Working Group is examining the possibility of a new runway use agreement.

[1] "Forecasts of Aviation Activity" (Technical Memorandum No. 4 at Page 6-24 (Table 6-8))

[2] SAMP "Executive Summary" at Page 2-1.

FW-1

- With constrained facilities for a constrained number of operations. An alternative of constrained facilities is important because, as we have seen with the third runway, once facilities are built, they are available for use long into the future and can be used to an even greater extent than is initially planned.

FW-2

II. Scoping must include current projects.

There are a number of current or recent construction projects that have already gone through environmental review with a finding of non-significance, including the North Satellite Modernization Project, the International Arrivals Facility (IAF) Project, and the Runway 16C/34C Rehabilitation Project. *All* current or recently completed projects should be evaluated together with the "short-term" projects under the SAMP, in order to analyze *cumulative* impacts. Segmenting the projects only serves to hide their overall impact.

FW-3

III. Scoping must include future projects.

SAMP documents state that the Sea-Tac airfield/airspace system has "insufficient capacity to meet the unconstrained 20-year forecast demand."[3] The documents do contain a Long-Term Vision that would satisfy the SAMP 2034 forecasted demand by describing an operationally efficient airport layout, which would be achieved by twenty specific airport expansion and redevelopment improvement projects (in *addition* to the SAMP's 30 Near-Term projects).[4] However, SAMP documents go on to state that these "longer-range projects are not ripe for conducting detailed environmental impact analysis" and that "[o]nce those projects are ripe for review, the Port will be required to comply with NEPA and SEPA."[5] Furthermore, SAMP documents speak of a "comprehensive study of airfield/airspace operations to commence following completion of the SAMP."[6]

We strongly object to this approach. As noted above, segmenting the environmental review of projects only serves to hide their overall impact. *Cumulative* impacts of *all* future projects must be analyzed *now*, even if the "long-term" projects cannot be analyzed in as much detail as the "near-term" projects. Also, the "comprehensive study of airfield/airspace operations" cannot be deferred. It must be conducted *now,* as *part* of SAMP environmental review.

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[3] Id. at Page 5-12.

[4] "Facilities Implementation and Financial Feasibility" (Technical Memorandum No. 7) at Pages 6-1 – 6-4.

[5] "Environmental Overview" (Technical Memorandum No. 8) at Page 1-2.

[6] SAMP "Executive Summary" at Page 4-2.

E20-4

IV. Scoping must incorporate the results of other relevant studies, even if this delays issuance of EA/EIS.

Due to the many concerns raised regionally about the increasing number of aircraft over our communities, there are a number of studies that have been launched this year and last. It is imperative that environmental review of the SAMP include an evaluation of the results of these studies, even if this delays issuance of the SAMP Environmental Impact Statement (EIS). These studies include:

A. State-funded University of Washington study on the levels of ultra-fine particles (UFPs) in areas impacted by Sea-Tac.

This study, due to be completed on December 1, 2019 "must attempt to distinguish between aircraft and other sources of ultrafine particulate matter, and must compare concentrations of ultrafine particulate matter in areas impacted by high volumes of air traffic with concentrations of ultrafine particulate matter in areas that are not impacted by high volumes of air traffic."[7] Preliminary data does appear to support Sea-Tac as a primary source of UFPs. Thus, the environmental impact of SAMP plans cannot be fully evaluated before the final results of this University of Washington study are taken into account.

Furthermore, the State of Washington budget proviso funding this study also mandates that in its conclusion, "the university must report study findings, including any gaps and uncertainties in health information associated with ultrafine particulate matter, and recommend to the legislature whether sufficient information is available to proceed with a second phase of the study."[8] This "second phase" will be on the health effects of UFPs. A bill to fund this "second phase" is expected to be introduced in the 2019 session of the State Legislature by State Rep. Mike Pellicciotti. The results of this "second phase" must also be evaluated as part of SAMP environmental review because not only the prevalence of UFPs, but also their toxicity must be taken into account.

B. State of Washington Department of Commerce study on the community impacts of Sea-Tac operations.

The State of Washington Department of Commerce is currently engaged in a study, funded by the State of Washington and by six South King County cities, on the "impacts that the current and ongoing airport operations have on quality of life associated with air traffic noise, public health, traffic, congestion, and parking in residential areas, pedestrian access to and around the airport, public safety and crime within the cities, effects on residential and nonresidential property values, and economic development opportunities, in the cities of

[7] Budget Proviso contained in Washington State Operating Budget passed by the State Legislature in 2017.

[8] Id.

SeaTac, Burien, Des Moines, Tukwila, Federal Way, [and] Normandy Park."[9] Since these impacts are at the core of our community's concerns, the results of this study must be included as part of SAMP environmental review. This is the first study in more than twenty years on local impacts of the airport. Its results must inform the SAMP analysis and be used to determine feasible alternatives and mitigation. The study is currently due to be completed in December 2019.

C. Puget Sound Regional Council (PSRC) Regional Aviation Baseline Study

Recently, the Puget Sound Regional Council (PSRC), for which I serve on the executive board, accepted approximately $1 million in funding from the Federal Aviation Administration (FAA) to conduct a regional aviation baseline study. The objective of this study "is to provide a clear picture of the aviation activities and needs in the central Puget Sound region (King, Kitsap, Pierce, and Snohomish) and set the stage for future planning."[10] This study is due to be completed in December 2019. Once again, SAMP environmental review cannot be considered complete without an evaluation of the results of this study, as it "is expected to produce information critical for understanding the region's aviation needs and options for policy makers to consider for meeting those needs in the future."[11]

FW-4

D. Washington State Legislature Joint Transportation Committee Air Cargo Study

The Washington State Legislature Joint Transportation Committee (JTC) is currently engaged in a study that is evaluating "the current and future capacity of the statewide air cargo system."[12] One objective of the study is to "[e]xplore possibilities for accommodating the growing air cargo market at more airports around the state."[13] Since the continued projected increase in air cargo at Sea-Tac is a critical component of the SAMP,[14] and the Port's stated goal is to "[t]riple air cargo volume to 750,000 metric tons,"[15] it would behoove the Port to first examine the JTC study results as part of SAMP environmental review. This study is expected to be completed by the end of *this* year (2018).

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[9] Budget Proviso contained in Washington State Operating Budget passed by the State Legislature in 2018.

[10] "Regional Aviation Baseline Study—Scope of Work Summary"

[11] Id.

[12] Washington State Air Cargo Movement Study (November 15, 2018 Power Point at Slide 3).

[13] Id.

[14] SAMP "Executive Summary" at Page 2-3 (Table 2-1)

[15] "Port of Seattle 2018-2022 Long Range Plan" Objective 3 (slides 9 and 12).

V. Relevant impacts of past actions must be evaluated *versus* what was projected at the time.

Under NEPA, environmental review of the SAMP must include an analysis of the relevant effects of past actions *versus* what was projected at the time. In particular, construction of the third runway was projected not to have a significant impact on South King County communities like Federal Way, because it was supposed to be used only in inclement weather. However, we all know that it is now used routinely. In fact, the Port's own data show that its usage has gone from 10,079 "Northflow" landings in 2011 to 57,287 such landings in 2017[16], a nearly six fold increase in six years. This change puts many planes directly over homes in the Marine Hills and other neighborhoods of Federal Way, where there were none ten years ago. This experience has generated a certain amount of distrust in our community that could be alleviated if SAMP environmental review analyzes the true impacts of the third runway as compared with what was projected, how those affects would be exacerbated should the full SAMP plans go forward, and how we can be assured that this time, impacts are accurately projected, fully acknowledged, and properly considered.

FW-5

VI. Foreseeable changes relevant to Sea-Tac operations must be included in the SAMP environmental review.

There are many changes taking place in aviation unrelated to the Port's SAMP. Critically, foreseeable changes that will take place with implementation of NextGen Required Navigation Performance (RNP), Optimized Profile Descent, and decreased separation distance requirements from wake re-categorization must be incorporated into the SAMP. While many people in south King County report lower flying and more frequent aircraft and more streamlined flight paths (both to be expected with the implementation of NextGen Required Navigation Performance (RNP), Optimized Profile Descent, and decreased separation distance requirements from wake re-categorization), we have been told repeatedly by the Port that NextGen procedures have in fact *not* yet been implemented for final approaches at Sea-Tac. If so, eventual implementation of NextGen will further exacerbate what is already an unacceptable situation for our residents. Thus, SAMP environmental review must include the impact of unrelated foreseeable changes, such as full implementation of NextGen, together with the changes projected by the SAMP itself.

FW-6

VII. All impacts of noise must be evaluated.

We have all been educated as to the Day-Night Average Sound Level (DNL) formula that is used by the FAA to evaluate the impacts of noise. According to the FAA:

> Day-Night Average Sound Level (DNL) is a 24-hour equivalent sound level. DNL is expressed as an average noise level on the basis of annual aircraft operations for

[16] "Runway Use Statistics" (Port of Seattle report run on June 4, 2018 and provided to City of Federal Way Mayor's Office)

a calendar year. To calculate the DNL at a specific location, Sound Exposure Levels (SELs) (the total sound energy of a single sound event) for that particular location are determined for each aircraft operation (landing or takeoff). The SEL for each operation is then adjusted to reflect the duration of the operation to arrive at a "partial" DNL for the operation. The partial DNLs are then added logarithmically — with the appropriate penalty for those operations occurring during the nighttime hours — to determine total noise exposure levels for the average day of the year.[17]

FW-7

However, DNL as an annoyance level is fundamentally flawed. Humans do not perceive a single, short, loud sound event as an average over a much longer period of time. The Yale University Office of Environmental Health and Safety places the decibel level of a vacuum cleaner at 75 dBA.[18] At that amount of sound pressure, the vacuum could run for twenty minutes ***of every hour*** and not fall within the 65 DNL established by the FAA as the point when people become annoyed by noise. The very concerns raised by residents of Federal Way, which lies entirely outside of the FAA's 65 DNL "noise contour," show the inadequacy of this metric. Therefore, in addition to DNL, the following impacts of noise must be evaluated as part of SAMP environmental review.

FW-8

Furthermore, in the interest of transparency and as part of building trust with area communities, we request that the public have full access to all tools and data inputs that are used in determining the impact of noise so we can independently confirm the results of the analyses presented.

A. Single event noise ("SEL") must be evaluated.

As noted above, people do not experience average noise. They experience *each* loud event separately. For this reason, the Port must carefully evaluate the appropriate method of analysis for SEL. We request that the Port conduct a nationwide survey of recent state-of-the-art airport analyses of SEL and present the results of the survey in a public white paper, to be released prior to the environmental review document. The Port should consider public input and then select the most appropriate method of analysis for the Sea-Tac SAMP environmental review.

B. Evaluation must not be limited to the "noise contour."

The increase in overflights and corresponding increase in significant noise events point to the inadequacy of the FAA's 65 DNL noise contour, which excludes all of Federal Way.

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[17] "Aircraft Noise & Noise Monitoring" (Published by Federal Aviation Administration) at Question 4; https://www.faa.gov/airports/airport_development/omp/faq/Media/Noise_Monitoring.pdf

[18] "Decibel Level Comparison Chart" (Yale Office of Environmental Health and Safety); https://ehs.yale.edu/sites/default/files/files/decibel-level-chart.pdf

Evaluation of the noise impacts of the SAMP must extend, at minimum to twelve miles beyond the paved end of any airport runway and two miles from the centerline of any runway or from an imaginary runway centerline extending twelve miles from the paved end of such runway, as would be included in the State noise abatement zone under amendments to RCW 53.54 proposed in the 2018 legislative session by Rep. Mike Pellicciotti.

C. **Noise as "quality of life" and *health* issue must be considered, not just nuisance.**

For too long, aircraft noise has been evaluated merely as a "nuisance". However, it is increasingly clear that aircraft noise results in *not* just a nuisance but also in a severe erosion of people's quality of life. These effects *must* be evaluated, including an analysis of the extent to which people's sleep is affected by middle-of-the night heavy freight flights, and people's ability to have outside activities or even open windows during the day ruined by the constant overhead flights preventing even casual conversation. Resulting drops in property values must also be evaluated.

EW-7

Furthermore, noise must be considered also as a *health* issue. For years, scientists have warned that ever-increasing environmental noise has a negative impact on people's health. These effects can be physical, psychological, and even intellectual. For example, one almost forty-year-old study found that after the installation of rubber cushions and noise-absorbing ceilings in classrooms, children's reading scores increased.[19] And more recent research found a correlation between exposure to airplane noise and heart attacks, chest pain, hypertension, and strokes amongst those living near and around airports.[20] A study published just last year linked loud noises to hearing loss.[21] This author asked:

> . . . [W]ill the outcry from citizens concerned about the deleterious effects of noise on health convince governments to pass policies to address noise pollution? Will public officials recognize that sound data already exist to justify passing and enforcing such policies? I will urge public officials to heed former Surgeon General William H. Stewart's quote: "Must we wait until we prove every link in the chain of causation? I stand firmly with Surgeon General Burney's statement of 10 years ago. In protecting health absolute proof comes late. To wait for it is to invite disaster or to prolong suffering unnecessarily.[22]

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[19] "The effect of a noise abatement program on reading ability" by A. L. Bronzaft. Journal of Environmental Psychology, 1, 215-222. doi: 10.1016/S0272-4944(81)80040-0 (1981)

[20] "Residential exposure to aircraft noise and hospital admissions for cardiovascular diseases: Multi-airport retrospective study" by A. W. Correia, J. L. Peters, J. L. Levy, S. Melly, and F. Dominici. British Medical Journal, *347*, f5561. doi: 10.1136/bmj.f5561 (2013)

[21] "Impact of noise on health: The divide between policy and science" by A. L. Bronzaft. Open Journal of Social Sciences, 5, 108-120. doi: 10.4236/jss.2017.55008 (2017)

[22] Id.

FW-7

It should also be noted that the FAA Reauthorization Bill passed by the House of Representatives on April 27, 2018 adds Seattle to cities being analyzed in a study of the health impacts of airport noise.[23]

This evidence can no longer be ignored. As part of environmental review of the SAMP, the *health* implications of increased aircraft noise *must* be analyzed.

FW-9

VIII. All impacts of aircraft emissions must be evaluated.

Airplane pollution has been linked to respiratory-related issues. In 2015, researchers collected and examined data from twelve of California's largest airports.[24] Health effects from pollution readings around the airports were measured using the California Emergency Department and Ambulatory Surgery data for emergency room visits and inpatient discharge data for overnight hospital admissions. Daily admissions of all people with a diagnosis associated with respiratory illnesses were included.

The study found a large proportion of local air pollution is caused by congestion from airports. In terms of the link between health and pollution, admissions for respiratory problems were strongly related to airplane emissions. Pollution also increased admissions for chronic obstructive pulmonary disease (COPD) and heart problems. Increases in pollution levels had a negative impact on the whole population, but greater effects were seen in children and the elderly.

In particular, impacts associated with increased nitrogen oxides, fine particulate matter and ultra-fine particulate matter must be analyzed as part of SAMP environmental review.

A. Nitrogen Oxides

Nitrogen Oxides (NOx) affect the way we live and breathe and are being emitted at a much greater level by newer jet engines. Nitrogen Oxides (NOx) are "one of the main ingredients involved in the formation of ground-level ozone, which can trigger serious respiratory problems," including "damage to lung tissue and reduction in lung function."[25] According to the United States General Accounting Office (GAO), "our estimate of emissions

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[23] Presentation of Port of Seattle Federal & International Government Relations Senior Manager Eric Schinfeld at June 27, 2018 meeting of Sea-Tac Airport Stakeholders Roundtable (StART) (held at Sea-Tac Conference Center)

[24] *See* "Airports, air pollution, and contemporaneous health" by W. Schlenker and W.R. Walker. The Review of Economic Studies, 83(2), 768-809. doi: 10.1093/restud/rdv043 (2015)

[25] "NOx--How Nitrogen Oxides Affect the Way We Live And Breathe" (Published by the United States Environmental Protection Agency Office of Air Quality Planning and Standards EPA-456/F-98-005 September 1998) at pages 2-3; https://nepis.epa.gov/Exe/ZyPURL.cgi?Dockey=P10006ZO.TXT

produced by the U.S. commercial aircraft fleet in 2001 indicates that the engines used on the newest Boeing 737 models, which are widely used for domestic flights, average over 40 percent more nitrogen oxides emissions during landings and takeoffs than the engines primarily used on older-model Boeing 737s."[26]

B. Fine Particulate Matter

"Fine" particles are under 2.5 microns in diameter.[27] In a presentation to the Highline Forum, Port of Seattle Aviation Environmental Sustainability Manager Leslie Stanton stated that there are existing environmental standards for "fine" particles. [28] Stanton also stated that "fine" particles are regulated and have been found to "[c]ause direct adverse health effects in humans."[29]

FW-9

Although the SAMP documents identify air quality as one of the environmental impact categories to be analyzed in the draft EIS, they go on to state that Sea-Tac currently meets federal, state and regional air quality standards for fine particulates (PM 2.5),[30] despite aircraft engines currently pumping 13 tons of PM 2.5 into the air each year. The health impacts of fine particulate matter must be analyzed as part of SAMP environmental review, whether or not the legal standards are met.

C. Ultra-fine particulate matter (UFPs)

Ultra-fine particles (UFPs) are particles less than 100 nanometers in diameter.[31] The relationship of UFPs to air traffic and their effects on health is an emerging field of study. The number of studies on UFPs and airports appears to be gradually increasing from zero to three per year until 2013 to an average of over six studies per year since 2014.[32]

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[26] Aviation and the Environment—Strategic Framework Needed to Address Challenges Posed by Aircraft Emissions (Report by United States General Accounting Office (GAO) to the House of Representatives Chairman of Subcommittee on Aviation, Committee on Transportation and Infrastructure, GAO-03-252, February 2003) at page 4; https://www.gao.gov/assets/240/237430.pdf

[27] "Ultrafine Particles Near Airports" by Dr. Tim Larson and Dr. Edmund Seto (Power Point Presented at November 15, 2017 meeting of Highline Forum in Tukwila, Washington) at Slide 5.

[28] Oral Presentation of Port of Seattle Aviation Environmental Sustainability Manager Leslie Stanton at July 26, 2017 meeting of Highline Forum at Seatac City Hall.

[29] Id. (quoting "Air Quality Initiatives at Sea-Tac Airport" by Stanton (Power Point presentation) at Slide 5)

[30] "Environmental Overview" (Technical Memorandum No. 8) at Page 2-1

[31] "Ultrafine Particles Near Airports" by Dr. Tim Larson and Dr. Edmund Seto (Power Point Presented at November 15, 2017 meeting of Highline Forum in Tukwila, Washington) at Slide 5.

[32] "Ultrafine Particles Near Airports" by Dr. Tim Larson and Dr. Edmund Seto (Power Point Presented at March 28, 2018 meeting of Highline Forum in Federal Way City Hall) at Slide 7.

As noted above, the University of Washington is currently engaged in a state-funded study on the levels of UFPs in areas impacted by Sea-Tac Airport. A similar study was released on August 4, 2016 with respect to Logan International Airport in Boston, Massachusetts.[33] That study found that "aviation impacts on PNC [ultrafine particle number concentrations] extend many kilometers downwind of Logan airport," that "PNCs were positively correlated with flight activity," and that "when winds were from the direction of the airport, PNCs increased with increasing wind speed, suggesting that buoyant aircraft exhaust plumes were the likely source."[34]. The study concluded that "PNC exposure assessment studies [need] to take aircraft emissions into consideration, particularly in populated areas near airports."[35]

FW-9

Prior studies on health effects of UFPs were "limited largely to roadway traffic studies" but suggested "associations with cardiovascular, respiratory, and possibly cancer health effects."[36] For instance:

- A California study released in 2015 found a "[p]ositive association . . . between UFP and ischemic heart disease mortality, but not respiratory mortality (including lung cancer)."[37]

- A Canadian study released in 2017 found a "[p]ositive association . . . between UFP and incident Chronic Obstructive Pulmonary Disease (COPD), but not asthma or lung cancer."[38] The abstract for this study stated that "'[l]ittle is known about the long-term health effects of ambient ultrafine particles. . . including their association with respiratory disease.'"[39]

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[33] "Aviation Emissions Impact Ambient Ultrafine Particle Concentrations in the Greater Boston Area" by N. Hudda, M. C. Simon, W. Zamore, D. Brugge, and J.L. Durant (Environ. Sci. Technology., 2016, 50 (16), pp 8514-8521); https://pubs.acs.org/doi/full/10.1021/acs.est.6b01815

[34] Abstract of Id.; https://pubs.acs.org/doi/full/10.1021/acs.est.6b01815

[35] Id.

[36] "Ultrafine Particles Near Airports" (March 28, 2018) at Slide 13.

[37] "Ultrafine Particles Near Airports" (November 15, 2017) at Slide 25.

[38] Id. at Slide 26.

[39] Id. (quoting Abstract of "Long-term exposure to ambient ultrafine particles and respiratory disease incidence in in [sic] Toronto, Canada: a cohort study" by Scott Weichenthal, Li Bai, Marianne Hatzopoulou, Keith Van Ryswyk, Jeffrey C. Kwong, Michael Jerrett, Aaron van Donkelaar, Randall V. Martin, Richard T. Burnett, Hong Lu, and Hong Chen (Environmental Health (2017) 16:64))

- Another Canadian study released in 2017 found a "[p]ositive association . . . between UFP and prostate cancer."[40] The abstract for this study stated as "[b]ackground" that "epidemiological studies ha[d] yet to evaluate the relationship between UFPs and cancer incidence."[41]

- Another Canadian study released in 2017 found a "[w]eak, non-significant association between UFP and breast cancer."[42]

Other recent studies have "[s]uggest[ed] [a]cute [h]ealth [e]ffects in [s]usceptible [p]opulations."[43] For instance:

- A North Carolina study released in 2014 found that "'[c]ontrolled [e]xposure of [h]umans with [m]etabolic [s]yndrome to [c]oncentrated [u]ltrafine [a]mbient [p]articulate [m]atter [c]auses [c]ardiovascular [e]ffects.'"[44]

- A study released in 2015 found that in diabetic individuals, "[e]levated particle number concentrations induce immediate changes in heart rate variability."[45]

Finally, the only *airport*- related study on the health effects of UFPs known to the scientists working on the University of Washington study was "conducted in Los Angeles on a group of asthmatic adults" and "observed an increase in inflammatory blood markers and a reduction in lung function with short-term exposures."[46]

Despite the emerging evidence, there do not (yet) appear to be any official environmental standards with respect to UFPs.[47] In a presentation to the Highline Forum, Port

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[40] Id. at Slide 27.

[41] Id. (quoting Abstract of "Spatial variations in ambient ultrafine particle concentrations and the risk of incident prostate cancer: A case-control study" by Scott Weichenthal, Eric Lavigne, Marie-France Valois, Marianne Hatzopolou, Keith Van Ryswyk, Maryam Shekarrizfard, Paul J. Villeneuve, Mark S. Goldberg, and Marie-Elise Parent (Environmental Research 156 (2017) 374-380))

[42] Id. at Slide 28.

[43] Id. at Slide 30.

[44] Id. (quoting "Controlled Exposure of Humans with Metabolic Syndrome to Concentrated Ultrafine Ambient Particulate Matter Causes Cardiovascular Effects" by Robert B. Devlin, Candice B. Smith, Michael T. Schmitt, Ana G. Rappold, Alan Hinderliter, Don Graff, and Martha Sue Carraway (Toxicological Sciences 140(1), 61-72 2014))

[45] Id. (quoting "Elevated particle number concentrations induce immediate changes in heart rate variability: a panel study in individuals with impaired glucose metabolism or diabetes" by Annette Peters, Regina Hampel, Josef Cyrys, Susanne Breitner, Uta Geruschkat, Ute Kraus, Wojciech Zareba, and Alexandra Schneider (Particle and Fiber Toxicology (2015) 12:7))

[46] "Ultrafine Particles Near Airports" (March 28, 2018) at Slide 13.

of Seattle Aviation Environmental Sustainability Manager Leslie Stanton confirmed that "UFP studies from L[os] A[ngeles], Atlanta and other airports show UFPs from airports."[48] While she claimed that there is "[n]o clear connection between exposure levels [of UFPs] and adverse health impacts," she mentioned that "UFPs penetrate deep into the lungs" and that the "[e]merging literature suggests health impacts similar to PM 2.5 [fine particulate matter]," which is regulated and has been found to "[c]ause direct adverse health effects in humans."[49] Finally, she stated that the Port is using "[e]xisting studies," "[t]racking emerging science [of] Ultrafine particulates (UFPs)," and "[s]trongly support[ing] additional research into exposures and health impacts of UFPs," including the University of Washington study.[50]

Given the emerging nature of this field of study and the indications that (a) aircraft are a primary cause of the prevalence of UFPs and (b) UFPs may have serious negative health impacts on people, it is all the more important for the SAMP environmental review to include an analysis of the results of *both phases* of the University of Washington study on UFPs—the first on the levels of UFPs in areas impacted by Sea-Tac Airport and the second on the health effects of UFPs.

FW-9

Although there do not appear to be environmental health official standards on UFPs, that does not necessarily preclude an examination of their prevalence, potential harm, and mitigation. As an example, the United States Court of Appeals for the Second Circuit once upheld a requirement that heliport operations be reduced by 47 percent, even though that percentage "was not backed by any study reflecting the appropriate scenario or demonstrating that such specific percentage of noise reduction was the ideal" because "the proprietor was entitled to eliminate a portion of the Heliport's operations upon reaching a conclusion that a problem of excessive noise existed."[51]

D. Air Quality Study

A robust air quality study must be conducted, also out to at least twelve miles beyond the paved end of any airport runway and two miles from the centerline of any runway or from

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[47] See, e.g., "EPA will consider whether to propose ultrafine particle air quality standard" by Baker & Hostetler LLP – Justin J. Schwab (April 27, 2014) stating that ""[r]ecent comments by EPA officials suggest that the agency will consider whether it should, **for the first time,** set a standard for 'ultrafine' particles when it reviews its particulate matter national ambient air quality standard ('NAAQS') under the Clean Air Act" (emphasis added); https://www.lexology.com/library/detail.aspx?g=901ed86c-2932-4852-8aa8-7df0b5b69152

[48] Oral Presentation of Port of Seattle Aviation Environmental Sustainability Manager at July 26, 2017 meeting of Highline Forum at Seatac City Hall (quoting "Air Quality Initiatives at Sea-Tac Airport" by Stanton (Power Point presentation) at Slide 12)

[49] Id. (quoting "Air Quality Initiatives at Sea-Tac Airport" at Slides 5 and 12)

[50] Id. (quoting "Air Quality Initiatives at Sea-Tac Airport" at Slides 3 and 16)

[51] Nat'l Helicopter Corp. of Am. v. City of New York, 137 F.3d 81, 90 (2nd Cir. 1998)

an imaginary runway centerline extending twelve miles from the paved end of such runway, as would be included in the State noise abatement zone under amendments to RCW 53.54 proposed in the 2018 legislative session by Rep. Mike Pellicciotti. It must include, but not be limited to, an analysis of metals, aerosols, and fuel venting.

E. Risk Analysis

A risk analysis must be conducted identifying the risks of air traffic to the residents below and how to protect the residents in terms of the cumulative impact of noise and emissions.

F. Impact of Transition to Biofuels

Part of SAMP environmental review should be an analysis of how transitioning to sustainable aviation biofuels would mitigate the impact of aircraft emissions.

G. Transparency

FW-8

As part of building trust with our community, we request that the public have full access to all tools and data inputs that are used in determining the impact of emissions.

IX. All feasible mitigation and abatement measures and alternatives to address impacts to the community must be considered

SAMP environmental review must consider all feasible mitigation and abatement measures and all feasible alternatives that will ameliorate impacts to the community. Some examples include:

A. <u>Changing Glide Slope</u>

All runways on the north side (i.e. south flow approaches to Sea-Tac) use the international standard three-degree glide path. Three degrees is the optimum profile descent to minimize fuel burn and emissions.

FW-10

However, the north flow approaches to the longest runway (34R) are on a lower 2.75-degree glide path. A shallower glide path means not only that the aircraft is lower and closer to the homes, schools, and businesses below, but it is also no longer in the optimized profile descent and may be forced to increase power and emissions to stay on its shallow path. This has a compounding effect on residents on the ground.

Changing the glide slope will also make the approach safer. The wake turbulence risk analysis by the Federal Aviation Administration (FAA) on Runways 34C and 34R was conducted using a three-degree glide slope for both runways, and the procedure is already authorized at

three degrees.[52] By publishing the procedures using the lower 2.75-degree glide slope, planes are lower and at higher risk of hitting a crane or obstacle. Therefore, aircraft landing on Runway 34R are lower and louder, burn more fuel, expel more pollution, and are less safe than if they were flying on the authorized three-degree glide path.

Raising the glide slope beyond three degrees would further reduce the noise impact. Frankfurt Airport has tested to 4.5 degrees[53] solely for noise mitigation prior to settling on 3.2 degrees.[54] Sea-Tac should investigate raising all glide slopes above three degrees. San Diego's approaches to Runway 27 are at 3.5 degrees. While this glide slope was set for obstacle reasons, it shows that it is possible routinely to have a steeper glide slope.

B. Changing Flight Tracks

FW-1D

South of the airport flight tracks go out of their way over the residential areas,[55] when flying over the Puget Sound would be more efficient with a greatly reduced noise impact.

Using well-designed Required Navigation Performance (RNP), approach flight paths could take advantage of the unpopulated areas (Puget Sound) to reduce track miles, fuel burned, emissions, and time spent for airline carriers flying from Asia and Alaska. FAA criteria state that the final turn should be completed by 1000-feet above the threshold. On a standard three-degree glide path, that is 3.1 nautical miles (nm) from the threshold. However, exceptions to these criteria are granted. For example, at Reagan National Airport, the RNP path completes its final turn at 0.6 nm from the airport. At Sea-Tac, the ideal rollout for the fewest number of homes to be impacted is 2.2 nm, which is *four times further than the Reagan National RNP to runway 19.*

RNP approaches from the south and from the east could follow I-5 straight toward the airport over the South 272nd Street Park and Ride and then the uninhabited former dump north of it. I-5 is ten lanes of concrete with shoulders, a median, and ditches on both sides and has significant ambient noise.

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[52] *See* FAA Order JO 7110.308C "Simultaneous Dependent Approaches to Closely Spaced Parallel Runways" (January 26, 2018) at Page A1 (Appendix A, Note 3)

[53] "Tests at Frankfurt airport of steeper approach path at 4.5 degrees –details awaited" (October 11, 2013); http://www.airportwatch.org.uk/2013/10/tests-at-frankfurt-airport-of-steeper-approach-path-at-4-5-degrees-details-awaited/

[54] "Frankfurt Airport pioneers active noise abatement" (www.internationalairportreview.com Volume 19, Issue 4, 2015); https://ec.europa.eu/transport/sites/transport/files/modes/air/ses/ses-award/projects/doc/internationalairportreview_2015_q4_frankfurtgbas.pdf

[55] "Noise Programs & NextGen Briefing" (Port of Seattle Power Point Presentation at May 24, 2017 meeting of Highline Forum held in Sea-Tac International Airport Conference Center) at Slide 12

But even using *standard* criteria, a 3.1nm Final Roll Out Point (FROP) would allow an approach to Runway 34L that avoids flying over all residents of Federal Way by flights coming from Alaska and Asia. Today, most approaches flying over Federal Way have a FROP of more than six nm.

FW-10

Aircraft departing for Alaska and Asia should also be taking advantage of the unpopulated areas instead of flying over the most populated. But the Sea-Tac Airport Noise Mitigation plan for south flow departures does the opposite by restricting departing aircraft from turning until they have reached five nautical miles.[56] This restriction prevents them from turning out over the water and pushes them to fly over Federal Way. By contrast, they are forced to fly over the water north of the airport.

C. Changing Flight Schedules

Flight schedules offer another means of abatement. Reducing or minimizing flights between 10:00 PM and 6:00 AM would minimize unhealthy sleep interruptions to Federal Way residents. As noted above, the Sea-Tac Airport Stakeholders Roundtable (StART) Aviation Noise Working Group is looking right now at the possibility of a voluntary curfew.

X. Environmental Justice must be analyzed

"Environmental Justice" is listed as a NEPA resource category. This is relevant to Federal Way and other communities to the south of the airport. Our community often feels as if it bears the brunt of the negative impacts of the airport, while communities to the north only enjoy its benefits. With Federal Way containing low-income housing in the community, it becomes all the more important under NEPA for there to be a careful evaluation of the impact of airport operations on communities to the south of the airport versus those to the north of the airport since low-income groups should not bear a disproportionate share of the negative environmental impacts resulting from the SAMP.

FW-11

The authors of a 1997 study on the impacts of Sea-Tac International Airport on local communities observed as follows:

> There is an inequity regarding the benefit of the Airport to its immediate neighbors. While the study acknowledges the benefit of the Airport to the region and the State, these benefits are not experienced locally in the 5 impacted communities [of Burien, Des Moines, Federal Way, Normandy Park, and Tukwila]. Approximately 5% of the persons utilizing the Airport live in the area most impacted. The remaining 95% of Airport passengers and employees come from elsewhere in the region.

[56] "Sea-Tac Airport Noise Abatement Procedures for Jet Aircraft" at Port of Seattle website; https://www.portseattle.org/projects/sea-tac-airport-noise-abatement-procedures-jet-aircraft

Socio-economic impacts tend to blur across neighborhood lines and impact entire communities. In general, communities closer to the Airport are expected to experience a relative "depression" of residential property values (property values do not rise as fast relative to other similar properties in the region). This will have a cascading affect [sic] on the population mix in these areas. Single-family homes that cannot be sold will become rental properties. Studies have reported that non owner-occupied residential areas have a lower average household income and utilize more social services than other areas. While the property value and tax revenues are depressed in these areas, the cost of providing social services increases.

Overall, the 5 communities were projected to experience a loss of $39.9 million during the period 2000 through 2020 as a result of the proposed project. The loss of these revenues is compounded with the problem of increasing demand for community and social services.

FW-11

The discrepancy between these two trends contributes to the "blighting" of the area. This "blighting" impact has already been observed. Homes take longer to sell in the neighborhoods adjacent to the Airport, and the local real estate market already acknowledges the impact of aviation activity on neighborhoods.[57]

The upcoming Department of Commerce study is likely to show similar results, suggesting that while Federal Way does benefit from Sea-Tac, that benefit is substantially negated by the harmful impacts of aircraft operations from the airport. Most users of Sea-Tac enjoy its benefits while sharing few of its costs. But those living under flight paths are burdened with a decreased quality of life, sleep deprivation, increased exposure to health risks from emissions, and decreased property values.

Also, there are more south flow departures and north flow approaches bringing an inordinate amount of traffic over Federal Way. And the flight paths south of the airport were designed without regard to the number of people below them, causing flights to take a less efficient path that also impacts many more people than a modern short path. The approaches in the north flow (those going over Federal Way) to the longest runway are also on a lower and less safe glide path. The largest and heaviest aircraft typically favor the longest runway and therefore end up being lower over Federal Way. On the other hand, no approaches in south flow (those that do *not* go over Federal Way) are below the standard three-degree glide path.

[57] "Sea-Tac International Airport Impact Mitigation Study Initial Assessment and Recommendations" (Prepared in February 1997 under a grant from the State of Washington for City of Burien, City of Des Moines, City of Federal Way, City of Normandy Park, City of Tukwila, Highline School District, and Highline Community Hospital by Hellmuth, Obata & Kassebaum, Inc. and Raytheon Infrastructure Services, Inc.) at Page ES-6; http://www.seatacwa.gov/Home/ShowDocument?id=13083

FW-11

Thus, environmental justice *must* be analyzed with this context. This is also another reason why the SAMP environmental review must include an analysis of the results of the upcoming State Department of Commerce community impact study, a component of which is expected to be environmental justice in some form.

XI. Consider agreeing to allow the State Department of Transportation or other appropriate state agency to serve as the SEPA lead agency for preparation of the SAMP EIS.

FW-12

Under the Washington Administrative Code, "[a]ny agency may assume lead agency status if all agencies with jurisdiction agree."[58] While I am not questioning the ability of the Port of Seattle to serve as a neutral arbiter, it would, needless to say, go a long way toward restoring our community's faith in the Port should it voluntarily agree to relinquish control over the environmental review process. An agency regulating itself does, it must be said, create an awkward appearance. Thus, I would request that the Port consider agreeing to allow the State Department of Transportation or other appropriate state agency to serve as the SEPA lead agency for preparation of the SAMP EIS.

Thank you again for this opportunity to comment on scoping for environmental review of the Sustainable Airport Master Plan (SAMP). I look forward to continued involvement with this important environmental review process.

Sincerely,

Jim Ferrell
Mayor

[58] WAC 197-11-942

WSD

From: Alam, Nazmul
To: SAMP Public Comments
Cc: aszv461@ecy.wa.gov; reviewteam@commerce.wa.gov
Subject: WSDOT Comments on SAMP EIS Scope
Date: Thursday, September 27, 2018 2:20:10 PM
Attachments: WSDOT Comments on SAMP EIS Scope.pdf

Mr. Rybolt:

Thank you for providing the Washington State Department of Transportation (WSDOT) the opportunity to review and comment on the scope of the SEPA EIS/NEPA EA for the Sustainable Airport Master Plan Near-Term Projects. WSDOT has reviewed the scoping materials and provides the attached comment letter for your consideration.

The original letter will be mailed. This electronic version is being sent to ensure we meet the deadline for comments. For those being copied, the email attachment is your copy and no hard copy will be mailed.

Please let me know if you have any questions about this email.

Thank you,
Nazmul Alam
Corridor Planning Manager
WSDOT Management of Mobility Division
206-464-1267 (w)
425-272-3864 (c)

Washington State Department of Transportation

Office of Urban Mobility and Access
401 2nd Avenue South, Ste. 300
Seattle, WA 98104
206-464-1220 / FAX: 206-464-1189
TTY: 1-800-833-6388
www.wsdot.wa.gov

September 28, 2018

Mr. Steve Rybolt
Aviation Environment and Sustainability
Port of Seattle
P.O. Box 68727
Seattle, WA 98168

Dear Mr. Rybolt:

RE Comments on the SAMP environmental scoping document

WSDOT appreciates the opportunity to review and comment on the scope of the SEPA EIS/NEPA EA for the Sustainable Airport Master Plan Near-Term Projects. WSDOT has reviewed the scoping materials and provides the following comments for your consideration. As per the scoping materials our comments are focused on the scope of the environmental review, definition of the Proposed Action (Near-Term Projects), purpose and need, alternatives to be evaluated, and the environmental categories being assessed.

General Comments

WSD-1
- The scope of your environmental document should include detailed discussion of traffic impacts and proposed multimodal solutions to address those impacts. That discussion should be in both your NEPA and SEPA analysis. How will the airport facility and its on-site businesses encourage the use of multimodal trips and lessening of SOV demand?

WSD-2
- FAA and the Port of Seattle might wish to consider the value of extending an invitation to FHWA, FTA, WSDOT, and Sound Transit to be cooperating agencies to help work through traffic impacts and consider appropriate mitigation.

WSD-3
- Cumulative impacts of your proposal should be identified for all disciplines analyzed in your impact analysis.

Section II: Overview of Scoping

NEPA Resource Categories & SEPA Elements of the Environment

- **New NEPA Resource Category: Transportation**

  The NEPA Resource Categories should include a category for transportation-related issues similar to those listed under the SEPA Elements of the Environment. Areas of study should consider the effect that the projected growth in activity (passengers, aircraft operations, and cargo) would have on ground transportation, including the state highways that serve SeaTac Airport, and analyze the ability of the roadway transportation network to meet projected growth. Consider analysis and study area to include, at a minimum, the following roadways: Interstates 5 and 405, State Routes 99, 509, and 518, and focus on peak commute periods.

  The study should also evaluate the near-term projects' impacts and influence on the following WSDOT projects:

  - Puget Sound Gateway Program, specifically the SR 509 extension and the 28th/24th and 188th interchange operations
  - I-405 Renton to Bellevue Widening & Express Toll Lanes Project
  - SR 518 Corridor Study. The Washington State Legislature has directed WSDOT to conduct this study to analyze key existing and future performance gaps. It will recommend Practical Solutions-based improvement strategies and concepts in partnership with our study partners, including the cities of Burien, Des Moines, SeaTac, Tukwila, and King County Metro, the Port of Seattle, and Sound Transit. The final report must be delivered to the legislature by June 30, 2019. WSDOT recommends that the environmental analysis include relevant findings from the completed report and be adopted by reference in the EA/EIS.

- **Categories: Air Quality / Climate / Hazardous Materials, Solid Waste, & Pollution Prevention / Environmental Health**
  - What are the impacts on particulate matter and greenhouse gas emissions on air quality?
  - What mitigation and GHG reduction strategies are being considered in association with proposed solutions?

WSD-4
WSD-5
WSD-6
WSD-7

WSD-8

- We suggest consideration of items such as the following:
  - Inclusion of adequate secure long-term parking/locker facilities for bicycles
  - Installation of solar panels or other clean energy power generation sources in canopies over parking areas
  - Xeriscape (landscaping with low/no irrigation requirement) rooftops to reduce heat sink
  - Opportunities to install pervious surfaces
  - Etc.

WSD-9

- We also urge consideration of equalizing the criteria for all vehicles serving the airport. Taxis and Transportation Network Companies have existing restrictions requiring electric or hybrid-sourced fuel when serving the Airport. Consider also applying these same requirements to all transportation service vehicles such as buses, shuttles, limousines, etc. and to applying similar standards to Port-owned or contracted runway support and other vehicles used within the airport itself.

- **Categories: Historical, Architectural, Archeological, and Cultural Resources**

WSD-10

- Land Use / Socioeconomics, Environmental Justice, and Children's Environmental Health and Safety Risks

  We suggest including discussion of how well land uses around the airport encourage mobility for people with disabilities, people of low income, and other disadvantaged/marginalized populations.

Section IV: Purpose and Need, and Proposed Action (Near-Term Projects)

Generally speaking, WSDOT wishes to make the following comments:

WSD-11

- We are concerned that the Purpose & Needs are too narrowly construed. We would like to know how else the Airport will be integrating with the community and the multimodal transportation network. We recommend some focus on connections to other modes, possibly along the lines of a fully developed multimodal transition hub. How could users easily move between bus and rail?

WSD-12

- SeaTac Airport is a major source of freight and vehicle traffic to local state routes and the interstate. Expanding terminal capacity and cargo demand is likely to increase traffic on the existing infrastructure. The project's purpose and need

should therefore include a statement regarding congestion management of major multimodal nodes serving SeaTac.

WSD-13

- Organizing the suite of Near-Term Projects by the project's purpose in meeting identified needs is very helpful in understanding the projects. The projects of most interest to WSDOT would be those that impact the local roads and state highways that serve SeaTac Airport.

Comments related to specific projects are below.

Preliminary Statement of Need

1. **Insufficient passenger terminal capacity to accommodate projected passenger levels efficiently.**

   - *T02 – Second Terminal & Parking: New parking garage and passenger terminal facilities for passenger check-in; passenger and baggage screening; airline offices, baggage conveyance and claim; concessions; and restrooms.*

WSD-14

We encourage the Port to consider whether the building of multiple parking garages is the best solution, and to consider least-cost solutions if possible. We also encourage addressing how the airport will use technology to encourage more efficient use of parking, including lessening of parking demand.

Consider utilization of the following demand management strategies:
- Real-time variable pricing for access and parking to spread out demand
- Real-time space reservation and availability
- HOV-incentivized pricing and preferred/proximity parking for HOV vehicles

WSD-15

2. **Insufficient facilities to accommodate projected cargo levels efficiently**

   - How do the results of the Joint Transportation Commission's Air Cargo Study, which examines air cargo optimization across the state, affect this statement of need?

Preliminary Statement of Purpose

1. Meet Forecasted Passenger Demand

WSD-16

- *L02 – Elevated Busway & Stations: New elevated busway to provide a way for passengers to transfer among the Main Terminal, New Second Terminal, and Rental Car Facility.*

  Improvements to local roads and intersections should be addressed in this project.

WSD-17

- *L03 – Second Terminal Roads & Curbside: New and modified Airport roadways to access the new Second Terminal.*

  This project should address connectivity to the adjacent/surrounding non-airport road network. The improvements appear to change access points along SR 99/International Blvd at S 170th Street and to remove the Cell Phone Waiting Area.

WSD-18

- *L05 – North Ground Transportation Lot: Construction of a new ground transportation lot on Port property north of State Route (SR) 518 to accommodate increased demand and replace the S 160th St. parking lot displaced by the L02 - Elevated Busway.*

  Improvements to local roads and intersections should be addressed in this project.

WSD-19

- *L06 – Employee Parking Surface Lot: A new surface parking lot would accommodate increased demand for employee parking. The surface lot would be constructed on Port-owned property north of SR 518,* and *L07 – Employee Parking Structure: New parking structure north of SR 518 to provide additional capacity to accommodate increased demand for employee parking.*

  Traffic demand for transportation from offsite employee parking to SeaTac Airport should be analyzed to capture the impacts to local roads north of and across SR 518. Improvements to local roads and intersections should also be addressed in this project.

  WSDOT requests that any information related to this proposal be made available to the SR 518 Corridor Study.

WSD-14

- *T02 – Second Terminal & Parking: New parking garage and passenger terminal facilities for passenger check-in; passenger and baggage screening; airline offices, baggage conveyance and claim; concessions; and restrooms.*

  We encourage the Port to consider whether the building of multiple parking garages is the best solution, and to consider least-cost solutions if possible.

2. Meet Forecasted Cargo Demand

WSD-20

- *C02 – Off-site Cargo Phase 1 & C03 – Off-site Cargo Phase 2: Two new cargo warehouse buildings with truck access would be constructed on the Port-owned L-Shape property. No aircraft would utilize the L-Shape property because it is not located on the airfield.*

  How is the issue of truck parking addressed with the expansion of cargo facilities and development of two new cargo warehouse buildings away from the airfield?

WSD-5

WSDOT requests that any information related to this proposal be made available to the SR 518 Corridor Study, and should also be coordinated with the WSDOT Rail, Freight, and Ports Division and related WSDOT planning efforts such as the WSDOT Freight Mobility Plan, the State Air Cargo Plan, etc.

We appreciate the opportunity to review and comment on the scope of the SEPA EIS/NEPA EA. Please let us know if you have any questions or would like to discuss our scoping comments further as you proceed towards your environmental documentation.

Sincerely,

Robin Mayhew
Management of Mobility Director

cc: Annie Szvetecz, Department of Ecology (aszv461@ecy.wa.gov)
Commerce Review Team (reviewteam@commerce.wa.gov)

bcc: Nazmul Alam
Jason Beloso
Leah Bolotin
John Maas
Nhan Nguyen
Ramin Pazooki
Chris Regan
Jeff Storrar
Mike Swires
John White

EPA

From: Mbabaliye, Theogene
To: cayla.morgan@faa.gov
Cc: SAMP Public Comments
Subject: EPA Scoping comments on Sea-Tac SAMP near-term projects
Date: Friday, September 28, 2018 4:44:27 PM
Attachments: 18-0056-FAA Scoping for Sea-Tac Airport Sustainable Airport Master Plan project.pdf

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Cayla,

Attached please find the EPA scoping comments on the near-term projects identified in the Sea-Tac SAMP. A hard copy of the same comments is being mailed to your Office in Renton via the US Postal Service and should arrive soon. In the meantime, please let us know if you have questions about our comments for assistance.

Thank you for involving us in review of your projects proposal and look forward to continued involvement as the NEPA process for the projects moves forward.

I thank you.

Theo Mbabaliye, Ph.D.
US EPA Region 10
1200 6th Ave., Suite 900, OERA-202-3
Seattle, WA 98101-3140
Phone: (206) 553-6322
Fax: (206) 553-6984

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue, Suite 155
Seattle, WA 98101-3140

OFFICE OF
ENVIRONMENTAL REVIEW
AND ASSESSMENT

September 28, 2018

Cayla Morgan, Environmental Protection Specialist
Seattle Airports District Office
Federal Aviation Administration
1601 Lind Avenue, South West, Suite 250
Renton, Washington 98055

Dear Ms. Morgan:

The U.S. Environmental Protection Agency has reviewed the Federal Aviation Administration's announcement to prepare an Environmental Assessment for the proposed Seattle-Tacoma International Airport Sustainable Airport Master Plan near-term projects in King County, WA (EPA Region 10 Project Number 18-0056-FAA). The EPA comments are provided pursuant to the National Environmental Policy Act, Council on Environmental Quality regulations (40 CFR §§ 1500-1508), and Section 309 of the Clean Air Act. Thank you for informing us of your proposed action.

According to the July 30, 2018 request for scoping comments, the FAA, in collaboration with the Port of Seattle, is analyzing the potential environmental impacts associated with approximately 30 near-term projects at the Seattle-Tacoma International Airport to improve efficiency, safety, access to the airport, and support facilities for airlines and the airport. The activities would include construction of a second terminal, a centralized maintenance campus, off-airport cargo handling facilities, realignment of airport roadways, and expansion of the fueling facilities. As Sea-Tac is the primary air transportation facility for the Puget Sound region, the airport expects increased number of passengers (56 million) and aircraft operations (477,000) activity each year through 2027. The proposed projects therefore would assist in accommodating that projected growth, which would also occur with or without the projects. As a result of such growth, the 2018 Sea-Tac SAMP includes Long-Term Vision projects, which will also be subject to NEPA analysis in the future.

We appreciate the opportunity to provide early input and support the FAA decision to include scoping as a step in the EA process for the proposed action. In addition to the preliminary list of issues and resources that will be addressed in the EA, we offer the attached scoping comments to highlight the issues that we believe are important to consider in the NEPA analysis. Because this analysis would only involve up to 30 near-term projects only, we anticipate that the issues and impacts for each project will be fully analyzed and that mitigation measures will be incorporated. If the analysis reveals that significant impacts would result from the proposed action, then an Environmental Impact Statement should be prepared.

We appreciate the opportunity to provide scoping comments and look forward to continued participation in the project NEPA process. If you have questions about our comments, please contact me at (206) 553-6322 or electronically at mbabaliye.theogene@epa.gov.

Sincerely,

Theogene Mbabaliye, NEPA Reviewer
Environmental Review and Sediment Management Unit

EPA Scoping Comments on the proposed Sea-Tac Sustainable Airport Master Plan Projects King County, WA

Range and Comparison of Alternatives

The EA should include a range of reasonable alternatives that meet the stated purpose and need for the proposed action and that are responsive to the issues identified during the scoping process. The Council on Environmental Quality (CEQ) recommends that all reasonable alternatives should be considered, even if some of them could be outside the capability of the applicant or the jurisdiction of the agency. The environmental impacts of the proposal and alternatives should also be presented in comparative form, thus sharply defining the issues and providing a clear basis for choice among options by the decision maker and the public. The potential impacts of each alternative should be quantified to the greatest extent possible. It would also be useful to list each alternative action's impacts and corresponding mitigation measures. The EPA encourages selection of reasonable alternatives that will minimize environmental degradation.

Environmental Effects

The EA document should include the environmental effects of the proposed projects on natural resources and any necessary mitigation measures to reduce or cancel those effects. This would involve the delineation and description of the affected environment or analysis area, indication of the impacted resources, the nature of the impacts, and proposed mitigation measures to reduce those impacts. We recommend that providing adequate information in the EA on the following topics would be especially helpful for decision makers and the public.

a) Air Quality Impacts

The EA should provide a detailed discussion of ambient air conditions (baseline or existing conditions), National Ambient Air Quality Standards (NAAQS), and criteria pollutant non-attainment areas in the analysis area and vicinity, if applicable. The EA should estimate emissions of criteria pollutants for the airport area and discuss the timeframe for release of these emissions from construction through the lifespan of the near-term projects. The NEPA document should also include analysis of the potential impacts to air quality (including cumulative and indirect impacts) from the projects, especially during construction. The EA should specify all emission sources and quantify these emissions. Such an evaluation is necessary to assure compliance with State and federal air quality regulations, and to disclose the potential impacts from temporary or cumulative degradation of air quality. The EA should include the following:

- Detailed information about ambient air conditions, NAAQS, and criteria pollutant non-attainment areas in all areas considered for the airport and adjacent areas.
- Data on emissions of criteria pollutants from the proposed projects and discuss the timeframe for release of these emissions.
- Specific information about pollutant from mobile sources, stationary sources, and ground disturbance. This source specific information should be used to identify appropriate mitigation measures and areas in need of the greatest attention.
- An Equipment Emissions Mitigation Plan that identifies actions to reduce diesel particulate, carbon monoxide, hydrocarbons, and NOx associated with construction activities[1].

The potential effects from air pollutants, including air toxics, to airport personnel and users, ground crews, nearby residents, businesses, and any sensitive receptor locations, such as, schools, medical facilities, senior centers and residences, daycare centers, outdoor recreation areas (e.g., parks) should be identified.

[1] https://www.epa.gov/cleandiesel/construction-and-agriculture#construction

We know that greenhouse gas emissions can contribute to climate change. Impacts of climate change may include changes in hydrology, weather patterns, precipitation rates, and chemical reaction rates. The EA should discuss how changes in climate could potentially impact the proposed projects and how the projects can impact the climate. The EA should quantify and disclose emissions from the projects' activities and consider mitigation measures to reduce the emissions. Potential mitigation measures for greenhouse gas emissions could be the use of energy efficient equipment and limiting idling when possible.

b) Noise and disturbance effects

The Sea-Tac currently experiences noise and other flight-related disturbance to communities, which variously affects residents, visitors, schools, businesses, recreation areas and activities, natural areas and wildlife. The EA should address the direct, indirect, and cumulative effects from additional noise and disturbance that would potentially result for both human and wildlife communities. The analysis should include but not necessarily be limited to the following:

- Identification of the geographic location and area affected by projects construction and airport operations.
- Any differences in intensity/severity of effects with respect to the updated and additional air traffic, including height above ground and height above sea level for all effects.
- Any new effects on previously undisturbed areas and cumulative/increased effects (increased frequency, severity) on areas currently within the airport flight paths.
- Effects on birds, including migratory birds, raptors, shorebirds, waterfowl, marine birds, ground dwelling birds, passerines, and overall effects on habitat quality/suitability for nesting, rearing, foraging, roosting, particularly within important habitat/concentration areas, such as, Wildlife Refuges, Natural Areas/Key Conservation Sites, and other important habitat, and on threatened, endangered, candidate, sensitive, and other species of concern listed by Federal or State fish and wildlife agencies.
- Effects on other terrestrial or aquatic wildlife species, including marine mammals. For affected species and habitats, disclose the area, location, and accessibility of any remaining intact habitats and refugia currently unaffected by the airport operations, including new construction.
- Effects on children's health and safety, including effects of noise/disturbance on school and other learning environments, outdoor recreation areas, and other sensitive locales. See Executive Order 13045[2].
- Effects on other vulnerable/disadvantaged populations, including minorities, low income, elderly, disabled, and Native Americans.
- Effects on quality of life, recreation activities, and quietude. Churches and other community gathering environments may be affected by new or increased noise and frequency of military flights.
- Indirect and cumulative effects on sensitive human and non-human animal receptors.

c) Public Participation and Environmental Justice

The NEPA process should effectively engage the public in dialogue about the proposed projects and its potential environmental, social, historical, cultural, and economic impacts – both positive and negative. In compliance with NEPA and with the Executive Order12898[3] on *Environmental Justice (EJ)*, actions should be

[2] https://www.epa.gov/children/executive-order-13045-protection-children-environmental-health-risks-and-safety-risks
[3] https://www.epa.gov/laws-regulations/summary-executive-order-12898-federal-actions-address-environmental-justice

taken to conduct adequate public outreach and participation that ensures the public and Native American tribes truly understand the possible impacts to their communities and trust resources. Minority and/or low-income communities and tribes must be effectively informed, heard, and responded to regarding the projects impacts and issues affecting their communities and natural and cultural resources. The information gathered from the public participation process and how this information is factored into decision-making should be disclosed in the NEPA document.

The EPA requests the following information from lead agencies, at a minimum, when reviewing NEPA documents to determine the adequacy of analysis:

- Describe the efforts that have/will be taken to inform the communities about the impacts of the projects and to ensure "meaningful public participation" by the potentially affected communities/individuals.
- Identify low income and minority communities in the analysis area.
- Disclose in the NEPA document what was heard from the community about the proposed action during the public participation sessions by listing the impacts identified by the projects proponents and the communities.
- Address whether these impacts are likely to occur and to whom, and evaluate all impacts for their potential to disproportionately impact low income and/or minority communities.
- Describe how what was heard from the public was/will be incorporated into the decisions made about the projects (such as, the development or choice of alternatives).
- Propose mitigation for the impacts that will or are likely to occur.

Public health and safety impacts and other impacts of concern to the public should be analyzed and disclosed in the NEPA document. The potential for disproportionate impacts and need for special consideration should extend to any vulnerable population, including the elderly, disabled, and children, as well as low income and minorities. The EJ populations can be located using the EJSCREEN tool[4].

d) Water resources impacts

The EA should disclose waters in the analysis area and vicinity that proposed developments could impact, nature of the potential impacts, and pollutants likely to affect those waters. The EA should also assess whether proposed facilities would affect drinking water and sources. If they would be impacted, then, the EA would need to include contaminants of concern and measures to take to protect drinking water and related source areas, consistent with the 1996 amendments to the Safe Drinking Water Act.

The EA should address potential effects of facility discharges on surface and groundwater quality. If facilities would be zero discharge, the EA would need to disclose the amount of process water that would be disposed of onsite and explain methods of onsite containment. If evaporation ponds would be used for disposal of wastewater, indicate how seepage into groundwater will be prevented. Identify the storm design containment capacity of ponds, explain how overflow in larger storm events will be managed, and discuss potential environmental impacts (drainage channels affected, water quality, biological resources) in the event of overflow. Disposal of wastewater or other fluids into the subsurface is also subject to the requirements of the Underground Injection Control Program and permits may be required, depending on project specifications and federal and/or state requirements.

Please note that under the Clean Water Act, any project construction that would disturb a land area of one or more acres also requires a National Pollutant Discharge Elimination System (NPDES) permit for discharges to waters of the United States. The EA should document the projects' consistency with applicable storm water

[4] http://www.epa.gov/ejscreen

permitting requirements and should discuss specific mitigation measures that may be necessary or beneficial in reducing adverse impacts to water quality. We would also encourage the FAA to consider Low Impact Development techniques[5] during projects' activities due to their potential to reduce storm water volumes, and mimic natural conditions. Other measures to conserve energy and resources may include those under the Energy Independence and Security Act of 2007 and related EPA Technical Guidance on Implementing the Storm Water Runoff Requirements for Federal Projects under Section 438 of this Act[6].

For water use and conservation, the EA should discuss conservation measures to implement to reduce water demands. Facility designs should maximize conservation measures such as appropriate use of recycled water for landscaping, xeric landscaping, and water conservation education. For information on those measures, you may consult two EPA publications, *Protecting Water Resources with Smart Growth*[7] and *Water Conservation Plan Guidelines*[8]. The EA should discuss water reliability for future development projects, factoring in the effects of climate change.

Construction of facilities and access roads and runways may also compact the soil, thus changing hydrology, runoff characteristics, and affecting flows and delivery of pollutants to waterbodies and ecological function of the area. The EA should therefore include a detailed discussion of the cumulative effects from this and other projects on the hydrologic conditions of the analysis area. The document should clearly depict reasonably foreseeable direct, indirect, and cumulative impacts to groundwater and surface water resources. For groundwater, the potentially affected groundwater basin should be identified and any potential for subsidence and impacts to springs or other open waterbodies and biologic resources should be analyzed.

e) Aquatic resources and impacts

The EA should describe all waters of the United States, including wetlands that could be affected by proposed development activities and their locations in the analysis area, preferably using maps. The document should include data on acreages and channel lengths, habitat types, values, and functions of the waters and related wetlands. If the projects would result in impacts to aquatic resources e.g., filling of wetland, then, the FAA would need to work with the U.S. Army Corps of Engineers to determine if projects would need a CWA §404 permit.

Please also note that activities affecting floodplains are also regulated under the CWA §404, Executive Orders 11988, *Floodplain Management* and 13690, *Establishing a Federal Flood Risk Management Standard and a Process for Further Soliciting and Considering Stakeholder Input.* The EA should include information explaining why activities would be located in floodplains, alternatives considered, and steps to be taken to reduce impacts to floodplains.

f) Solid Waste, Hazardous Materials and Wastewater Management

The EA should address potential direct, indirect, and cumulative impacts of use of hazardous and non-hazardous materials in the construction and operation of the projects. Because of the projects, hazardous materials such as compressed gas, petroleum products, and others may be used and/or stored in the community or at the airport site. Although their proper management is presumed to be safe, concerns remain about the possibility of accidents resulting in the release of hazardous materials to the environment. The EA should therefore describe measures that will be taken to minimize the chances of such an accident, and emergency response measures that would be taken should an accident occur.

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[5] http://www.epa.gov/polluted-runoff-nonpoint-source-pollution/urban-runoff-low-impact-development

[6] http://www.epa.gov/polluted-runoff-nonpoint-source-pollution/stormwater-management-federal-facilities-under-section-438

[7] http://www.epa.gov/sites/production/files/2014-04/documents/protecting-water-resources.pdf

[8] www.epa.gov/watersense/docs/app_a508.pdf

The EA should address the applicability of state and federal hazardous materials, pollution prevention, and solid waste requirements, and appropriate mitigation measures to prevent and minimize the generation of solid and hazardous materials. Consistent with the FAA guidelines[9] and EPA regulations (40 CFR 112[10]), the FAA may need to prepare and implement a Spill Prevention, Control, and Countermeasure (SPCC). We recommend that information addressing such SPCC be included in the EA document, if applicable.

If any pesticides and herbicides will be used during construction, operation, and maintenance of the projects, the EA should address any potential toxic hazards related to the application of the chemicals, and describe what actions will be taken to assure that impacts by toxic substances released to the environment will be minimized. See Executive Order 13112[11]. The EA should include a project design feature that calls for the development of an invasive plant management plan to monitor and control noxious weeds, and to utilize native plants for restoration of disturbed areas after construction.

As the airport operations usually require the construction of support and passenger facilities, we also recommend that the EA discuss how wastewater and solid waste generated at Sea-Tac will be managed.

g) Habitat, vegetation, and wildlife species impacts

During construction of facilities, clearance of vegetation and movement of soils may be necessary. The EA should describe the current quality and capacity of habitat, its use by wildlife in the proposed action area, especially fish. The EA should:

- Identify species, describe their critical habitat and potential impacts;
- Discuss blasting and excavation needs, methods, and control of effects, and mitigation of impacts;
- Indicate Best Management Practices (BMPs) to protect resources; and
- Include a vegetation management plan to address control of invasive plants, including prevention, early detection of invasion, and control procedures for the species. We recommend that the plan be consistent with the E.O. 13112.

Construction of the near-term projects may also have impacts on native and rare plants. We recommend that the EA include information about these plants and any related impacts, as well as measures to be taken to mitigate the impacts. As an example, the timing of projects' activities may be planned so that there would be little to no impacts to plants and animals during crucial seasons in their life cycle. We recommend that the EA specify BMPs to protect these resources in the analysis area.

h) Seismic and other risks

Construction and operation of the projects may cause or be affected by increased earthquake activity in tectonically active zones. Therefore, we recommend that the NEPA document discuss the potential for seismic risk and approaches to evaluate, monitor, and manage the risk. The document should include a seismic map or a reference to it. Construction of the projects should use appropriate seismic design and construction standards and practices to minimize impacts. One strategy would be to assess geologic faults in the analysis area because fault areas are vulnerable to movement, which makes them potential areas of risk for landslides and related impacts.

During construction of the projects, blasting may also be required in some areas, resulting in increased noise and related effects to residents and wildlife, including disruption, displacement, and potential species mortality.

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[9] https://www.faa.gov/airports/environmental/environmental_desk_ref/media/desk-ref.pdf
[10] https://www.epa.gov/sites/production/files/2014-04/documents/b_40cfr112.pdf
[11] https://www.environment.fhwa.dot.gov/env_topics/ecosystems/roadside_use/vegmgmt_rdus3_9.aspx

The EA should discuss where blasting would be needed, blasting methods that will be used, and how the adverse effects of blasting will be controlled and mitigated.

i) Endangered Species Act (ESA)

The EA should identify the endangered, threatened, and candidate species under ESA, and other sensitive species within the analysis area. It should also describe their critical habitats and how the proposed projects will meet all requirements under ESA, including consultation with the US Fish and Wildlife Service and, if applicable, the National Oceanographic Atmospheric Administration.

j) Land use impacts

Land use impacts would include, but not be limited to, disturbance of existing land uses within construction work areas during construction and creation of permanent-right- of ways for construction, operations, and maintenance of the airport and associated facilities. The EA should document all existing land cover and uses within the analysis area, anticipated impacts by the projects to the land cover and uses, and mitigation measures that would be implemented to reduce the impacts. The EA should indicate which land uses would be converted into airport use and acreages, and measures that would be taken to compensate landowners for loss of their resources because of the projects.

k) Cumulative and indirect effects

The proposed action should assess impacts over the entire area of impact and consider the effects of the proposed projects when added to other past, present and reasonably foreseeable future projects in and outside the analysis area, including those by entities not affiliated with FAA. Only by considering all actions together can one conclude what the impacts on environmental resources are likely to be. The EPA has issued guidance on how we are to provide comments on the assessment of cumulative impacts, *Consideration of Cumulative Impacts in EPA Review of NEPA Documents*[12]. The guidance states that to assess the adequacy of the cumulative impacts assessment, there are five key areas to consider:

- Resources, if any, that are being cumulatively impacted.
- Appropriate geographic area and the time over which the effects have occurred and will occur.
- All past, present, and reasonably foreseeable future actions that have affected, are affecting, or would affect resources of concern.
- A benchmark or baseline.
- Scientifically defensible threshold levels.

Indirect effects, which must also be analyzed in the NEPA document, are those that are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect effects may include additional development or other activity inducing effects and other effects related to induced changes in the pattern of land use, road systems and access, number and frequency of human visits/uses, and related effects on air and water and other natural systems, including ecosystems (40 CFR Part 1508.8).

Climate Adaptation

EPA recommends that the EA include a discussion of reasonably foreseeable effects that changes in the climate may have on the proposed projects and the analysis area, including its long term infrastructure. This could help inform the development of measures to improve the resilience of the proposed project. If projected changes could notably exacerbate the environmental impacts of the projects, EPA recommends these impacts also be considered as part of the NEPA analysis.

[12] http://www.epa.gov/compliance/resources/policies/nepa/cumulative.pdf

Coordination with Tribal Governments

The EA should describe the process and outcome of government-to-government consultation between FAA and tribal government(s) that would be affected by the projects, issues that were raised, if any, and how those issues were addressed. Executive Order 13175[13], *Consultation and Coordination with Indian Tribal Governments* (November 6, 2000), was issued to establish regular and meaningful consultation and collaboration with tribal officials in the development of federal policies that have tribal implications, and to strengthen the U.S. government-to-government relationships with Indian tribes.

Monitoring and Adaptive Management

The proposed projects have the potential to impact a variety of resources for an extended period. As a result, the EPA recommends that the projects be designed to include an environmental inspection and mitigation monitoring program to ensure compliance with all mitigation measures and to assess their effectiveness. The EA document should describe the monitoring program and how it will be used as an effective feedback mechanism, such as through adaptive management, so that any needed adjustments can be made to the projects to meet environmental objectives during the airport operations, maintenance, and any decommissioning including existing facilities. We would expect lessons learned from past practices and adaptive management efforts at Sea-Tac, combined with the need to account for new challenges, such as climate change, would influence management of the proposed projects.

[13] https://www.epa.gov/laws-regulations/summary-executive-order-13175-consultation-and-coordination-indian-tribal