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DEPARTMENT OF ECOLOGY

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February 6, 2018

Kelly McGourty
Senior Program Manager-Transportation Planning
Puget Sound Regional Council
1011 Western Avenue, Suite 500
Seattle, WA 98104-1035

Re: Puget Sound Regional Council draft Transportation Plan

Dear Kelly McGourty:

Thank you for the opportunity to comment on the Puget Sound Regional Council draft Transportation Plan. The Department of Ecology (Ecology) reviewed the Transportation Plan and has the following comments:

WATER QUALITY PROGRAM:

Karen Dinicola, karen.dinicola@ecv.wa.gov (360) 407-6550

The plan doesn't articulate actions to operationalize any of these Water Quality (WQ) policies. Overall, though, the plan offers an ambitious vision for reducing vehicle miles traveled and reducing other pressures on and from the transportation system that contribute to water quality problems. It promotes environmentally sensitive land use and development approaches and aims to minimize sprawl and preserve/enhance open spaces; the population growth centers envisioned by the plan are all within current UGA boundaries.

From our program's perspective, this type of planning is needed to address many aspects (transportation related and beyond) of the stormwater problem appropriately and meaningfully at a regional level.

A couple other comments:

- The plan also highlights the backlog in maintenance activities, but does not mention the water quality benefit of these activities (or costs of not doing them).
- The plan aims to reduce reliance on the general fund which could stabilize funding for many other state government agencies and functions.

AIR QUALITY PROGRAM – CLIMATE POLICY:
Gail Sandlin gail.sandlin@ecv.wa.gov (360) 407-6860

Climate Mitigation

On page 20 of the Plan Document, it states that the ‘Plan results in 24% reduction in GHG emissions from 2006 levels.’ A suggestion is to add more clarity for the layperson reading this document; in other words,

- Provide the 2006 baseline value
- Explain the source (s) of GHG emissions i.e. all vehicles? Light-duty only?

On page 21 it states that to achieve even greater emissions reductions, the Four Part Strategy could be pursued that could potentially reduce emissions an additional 30 to 50% below 2006 values by 2040.

Without actual data, this is quite confusing. Does this mean in addition to the 24% originally stated on page 20?

For more information, one is directed to Appendix E which again provides a forecasted GHG reduction of 24% below 2006 levels by 2040 based on current RTP (regional transportation plan) policies, but then on page 5, suggests more aggressive actions could have the potential to reduce emissions 52-75% below 2006 levels. This statement does suggest additive emissions reductions. One is then directed to Appendix R, for a review of modeling tools but little information can be gleaned from this Appendix. Again clarity in the Plan Document would be useful and may be accomplished with a simple data table.

Appendix E might also consider including the goals in HB 2294 of the Paris Climate Agreement, that is, if the Bill moves forward and timing of the PSRC document allows.

On page 2 of Appendix E is an interesting Text Box with limited information on Vehicle Miles Traveled Reductions. Is the performance measure, VMT / capita, a proxy for driving alone? There is no discussion of this Text Box within body of Appendix E and one is directed to Appendix K, the Systems Performance Report where there is an array of data offered on page 15 - Figure 10 / 11 and Text Box. Again there is very little mention of VMT per capita in the Plan Document itself and only the Text Box presented in Appendix E on climate Analysis.

Also are there any thoughts on aligning the PSRC transportation metrics with Results Washington or vice versa?

Climate Resilience

The Executive Summary has a brief statement on climate adaptation

“...addressing transportation’s role in reducing greenhouse gas emissions and adapting to climate change”

This is the only time the concept of adaptation is mentioned...subsequent comments in the Plan Document and Appendices discuss *resilience*, which assumes the layperson understands the relationship between adaption and resilience.

On page 30 of the Plan Document, there is a discussion on resilience where it is stated that there is a working partnership with Central Puget Sound Climate Preparedness Collaborative,

“to foster collaboration and leverage opportunities to ensure the region is prepared and economically resilient in the face of climate-related impacts.”

The Plan Document refers one to Appendix O for more information on resiliency efforts. The discussion on page 5 on the impacts of climate change, including a discussion of potential effects on transportation infrastructure, would be informative in the ES or Plan Document.

Despite all the various climate adaptation initiatives listed in Appendix O, the Plan Document only references *Central Puget Sound Climate Preparedness Collaborative* which curiously has only a brief mention in this Appendix (page 11) where no link is provided in order to access more information yet it is suggested that this initiative will be,

“valuable as a forum for information, knowledge exchange, partnerships and regional coordination to facilitate resilience across a wide range of sectors”

For public understanding and participation in climate adaptation the Transportation plan could:

- Explain the relationship between climate adaptation and resilience
- More thoroughly develop information on climate adaptation within the ES or Plan Document
- Offer public participatory information on the *Central Puget Sound Climate Preparedness Collaborative*

AIR QUALITY PROGRAM:

Anya Caudill – Environmental Planner, anya.caudill@ecv.wa.gov (360) 791-5499

Transportation planning has significant implications for air quality including regional impacts as well as local and personal exposure. We recognize and appreciate the PSRC’s commitment to incorporate healthy air goals into the long-range transportation planning and collaborate with state, local, and federal partners to ensure best air quality outcomes. We hope our comments and observations provided below facilitate achieving healthier air for all commuters and residents in the four-county region as well as down-wind.

Appendix D, “Regional Air Quality Conformity Analysis”.

The RTP approach to measuring air quality impacts and compliance has been historically through reliance on the federal requirement known as “transportation conformity”. In

Appendix D, PSRC has done an outstanding job outlining the purpose of the transportation conformity requirement. Appendix D provides an excellent review of the work PSRC accomplished in calculating total transportation-related emissions and comparing them to the emission budgets Ecology allocated for areas that at one time or another violated one of the federal ambient air quality standards.

Appendix D, p. 2:

There are a few outdated references to Tacoma PM_{2.5} nonattainment area that has been redesignated to attainment in Appendix D. Suggested revisions:

- Add the language in bold: “**In 2009, EPA designated parts of Tacoma-Pierce County as nonattainment for PM_{2.5}.**”
- The name of the maintenance area was changed from Wapato Hill-Puyallup River Valley to Tacoma-Pierce County.
- Revise reference to Tacoma nonattainment area and change to maintenance area “Within the Puget Sound region, there is currently a PM_{2.5} **maintenance** area...”
- Revise references to “Clean Air Washington Act” to the “state Clean Air Act”
- You may want to consider a reference to Ecology’s interactive map showing maintenance area boundaries online at <https://arcg.is/1G84Sj> and update the map in Figure 1 using Ecology layers.
- Consider including links to maintenance plans: Seattle Kent Tacoma 2nd 10 year PM₁₀ maintenance plan Tacoma-Pierce County PM_{2.5} Maintenance Plan.

Appendix A, p. 9-10 and in the main document, p7-8:

- Suggest clarifying that the MVEBs are for the Tacoma-Pierce County PM_{2.5} maintenance area, in pounds per winter day, using MOVES 2010b instead of 2014.

At the bottom of p. 19 of the main document, there is a reference to exceedances of the federal ambient air quality standards: “At various points in the past, the region had exceeded the federal standards for several pollutants, but PSRC has worked closely with the region’s air quality consultation partner agencies...” An exceedance of the standard means any time the monitored values are above the established limit, for any reason including natural exceptional events. A violation of the standard means the rate of exceedances over a three-year period is such that that area is not complying with the standard. In other words, an exceedance does not always lead to violations of the standard and regulatory actions. The statement in the document is unclear as to whether it refers to “violations” or “exceedances”. As the region continues to experience exceedances, the statement needs to be corrected for accuracy.

The transportation conformity determination is important for fulfilling federal obligations under the Clean Air Act. However, it may have a limited capacity in addressing emerging air quality concerns related to the long-term transportation planning. Our comments below focus on current air quality challenges facing the region as well as proposing to consider developing a new health / air quality metric(s) that focuses on reductions in commuters' exposure to transportation-related air pollutants.

Ozone and Regional Haze

The plan notes air quality considerations and criteria pollutants on p. 19 of the main document and on p. 5 in Appendix K "System Performance Report", where it provides a graphic showing dramatic decline in ambient air pollutants anticipated by 2025 and continuing decline between 2025 and 2040. While the improvements in transportation-related emissions show positive trends, the trends in monitored levels of ozone and visibility impairment in protected wilderness areas due to regional haze have yet to catch up.

We suggest the plan include discussions about challenges related to how transportation emissions contribute to formation of ozone and regional haze in the region. All partners and the public need to share the understanding that we need to do more to address ozone and regional haze.

Ozone (O₃): Interstate highway 5 (I-5) corridor and urban transportation-related emissions are a significant contributing factor in formation of ground-level ozone in central Puget Sound region. While the region maintains attainment, the levels of ozone have been balancing fairly close to the federal standard levels (see Figure 1. Puget Sound Region Ozone Design Values, 2000 - 2017.) State and local air quality agencies expressed concerns over the ozone trends and the risk of nonattainment as well as the role the transportation-related emissions play in the ozone formation. One of the challenges is possible increase in background concentrations of precursors coming from outside the area, contributing to increased ozone formation, and canceling out reductions due to technology and fuels.

We suggest that PSRC include a discussion in the plan of proactive approach to monitoring and mitigating transportation-related activities contributing to ozone formation. For example, PSRC may want to consider planning for commuters' awareness campaign during high ozone days. Other strategies can be found through EPA's Ozone Advance program.

Appendix D, p. 2:

Suggest adding language in bold: "The region is currently designated as Unclassifiable/Attainment for the 8-hour ground-level ozone standard **EPA issued in 2015.**" You may want to clarify that current ozone levels from 2015 – 2017 exceed the standard, partly due to wildfire smoke in 2017.

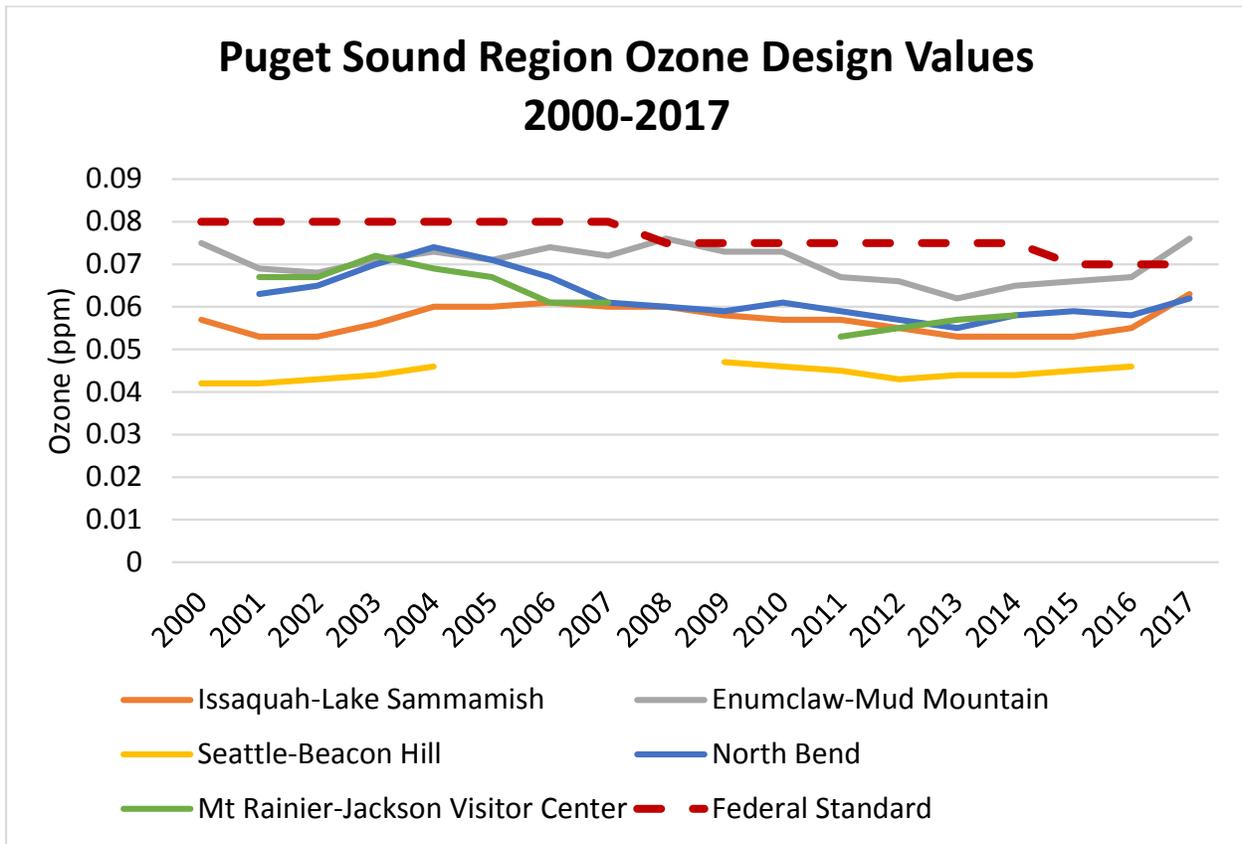


Figure 1. Puget Sound Region Ozone Design Values, 2000 - 2017.

Regional haze: The Pacific Northwest is the home to several Class I wilderness areas that have visibility protections. The Interagency Monitoring of PROtected Visual Environments (IMPROVE) program has been developed to study the components of visibility degradation in Class I wilderness areas. The federal Clean Air Act also established the Regional Haze program aiming at preserving natural visibility conditions in our beloved wilderness areas. Transportation-related pollution from central Puget Sound region plays a noticeable role in visibility degradation in several Class I areas.

We suggest the plan include some discussion of regional haze as part of air quality metrics used to measure improvements from transportation planning decisions. Ecology is required to develop a 10-year plan, due to EPA in 2021, demonstrating improvements in visibility. PSRC’s involvement in identifying transportation planning strategies to facilitate visibility improvement in the next planning period is welcomed and encouraged.

Additional Health and Air Quality Considerations.

On p. 23 of the main document, the plan highlights the health implications related to physical inactivity from people spending a lot of time in the car. The plan makes it a priority to promote “programs and investments that provide alternatives to driving, especially to improve the walkability and bikability of the region’s communities.”

While many studies have found that physical activity benefits outweigh possible adverse health effects from exposure to unhealthy air¹, those studies often measured exposure to ambient concentrations recorded away from heavy traffic. Newer studies focusing on commuter exposure to traffic-related air pollution find significant health impacts including heightened risk for developing cardiovascular disease, obesity, and type 2 diabetes^{2,3,4} and that active commuters receive a greater PM_{2.5} dose and have higher rates of exposure than commuters using cars or public transportation.

In the light of these findings, we suggest PSRC consider expanding the RTP's air quality section to incorporate strategies to minimize commuters' personal exposure to traffic-related pollutants. The concept of transportation conformity, while extremely important, may not be the best tool to monitor and improve health outcomes for commuters. The PSRC is in an excellent position to consider alternatives that minimize the risk of air pollution and noise exposure for active- and public-transport commuters⁵.

Information on healthier routes, including levels of traffic-related pollution, may help the public to make informed choices especially if they have predisposing health conditions and are at increased risk from air pollution impacts.

Ecology's Air Quality Program staff are available to answer questions regarding our comments and provide additional review of the updated language related to criteria pollutants and transportation conformity in the plan. We are also available to brainstorm ways to incorporate air quality and transportation improvement strategies that may not be addressed by the federal Clean Air Act requirements as they were last updated in 1990.

¹ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4893018/> Preventative Medicine. 2016 Jun; 87: 233–236. **Can air pollution negate the health benefits of cycling and walking?** Marko Tainio,a, Audrey J. de Nazelle, Thomas Götschi, Sonja Kahlmeier, David Rojas-Rueda, Mark J. Nieuwenhuijsen, Thiago Hérick de Sá, Paul Kelly, and James Woodcocka.

² <https://doi.org/10.2337/db16-1416> Diabetes 2017 Jan. Longitudinal Associations Between Ambient Air Pollution with Insulin Sensitivity, β-Cell Function, and Adiposity in Los Angeles Latino Children. Tanya L. Alderete, Rima Habre, Claudia M. Toledo-Corral, Kiros Berhane, Zhanghua Chen, Frederick W. Lurmann, Marc J. Weigensberg, Michael I. Goran and Frank D. Gilliland.

³ <http://www.fasebj.org/doi/pdf/10.1096/fj.201500142> Journal of the Federation of American Societies for Experimental Biology (FASEB), March 2016. **Chronic Exposure to Air Pollution Particles Increases the Risk of Obesity and Metabolic Syndrome: Findings from a Natural Experiment in Beijing.** Yongjie Wei, Junfeng (Jim) Zhang, Zhigang Li, Andrew Gow, Kian Fan Chung, Min Hu, Zhongsheng Sun, Limin Zeng, Tong Zhu, Guang Jia, Xiaoqian Li, Marlyn Duarte, Xiaoyan Tang.

⁴ <http://www.nejm.org/doi/full/10.1056/NEJMoa040203> Peters A, von Klot S, Heier M, Trentinaglia I, Hrmann A, et al. 2004. Exposure to traffic and the onset of myocardial infarction. *New Engl J Med* 351(17): 1721-1730

⁵ <https://www.ncbi.nlm.nih.gov/pubmed/28088011> Environmental Research. 2017 Apr;154:181-189. Particulates and noise exposure during bicycle, bus and car commuting: A study in three European cities. Okokon EO1, Yli-Tuomi T2, Turunen AW3, Taimisto P4, Pennanen A5, Vouitsis I6, Samaras Z7, Voogt M8, Keuken M9, Lanki T10.

Kelly McGourty
February 6, 2018
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Thank you for considering these comments from Ecology. If you have any questions or would like to respond to these comments, please contact the commenter listed above or myself at (360) 649-7128 or by email at meg.bommarito@ecy.wa.gov.

Sincerely,



Meg Bommarito
Regional Planner

Sent by email: Kelly McGourty, KMcGourty@psrc.org

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