March 7, 2014

To: Amy Ho
Puget Sound Regional Council
1011 Western Ave, Suite 500
Seattle, WA 98104
Transportation2040@psrc.org

Re: Public Comments -- Transportation 2040 Update for 2013

Thank you for the opportunity to comment on the subject update. The Greater Maple Valley Unincorporated Area Council (GMVUAC) is an elected local body which serves approximately 18,000 unincorporated area residents in southeast King County.

We fully support the Puget Sound Regional Council’s (PSRC’s) Transportation 2040 planning efforts to ensure our region stays on track to develop a sustainable transportation system and infrastructure to meet the needs of people and business for the long term.

Our comments are organized into General and Specific--by Chapter and Appendix Section.

General Comments

We applaud the PSRC for an excellent framework to provide for future growth in a sustainable manner. This will ensure a good quality of life and vibrant economy. However, we remain concerned with followthrough and consistency among planning, funding, and implementation. The objective of having funding available for needs is admirable. The movement to use-based revenue system makes sense and we support its implementation.

The objectives for a sustainable transportation infrastructure and a balanced financial plan appear sound. However, as pragmatic as the inclusion of a prioritization process is to assure alignment in the Update, this could risk being out of alignment with the objectives. To achieve both a sustainable system and balanced financials, it must be ensured both the cost of the whole system is known and plans beyond prioritization be identified to create financial balance.

With the apparent focus on the “regional” transportation system, we remain concerned sufficient planning is focussed on rural local and collector roads. For example, does the full $173B plan include these road segments? If this is something local jurisdictions are to deal with, are there policies at either the PSRC or the GMPC level which guide/require it be addressed?

We would like to see more discussion on how to meet funding objectives, include fairness, on many rural roads principally used by urban commuters. This is a sustainability issue for King County and we expect for some of the other counties as well.

Tolling alternatives appear to be focussed on limited-access facilities, yet such alternatives could be useful on major connectors as well. We request these be added to the mix under study for tolling for the 2018 Update.

There is little discussion about transportation concurrency. This tool is extremely important in maintaining the integrity of the transportation infrastructure as the region grows, especially under revenue constraints. For example, are jurisdictions meeting concurrency requirements? How are they meeting those requirements? Are they upgrading their infrastructure, downgrading their
levels of service, or denying development proposals that cause their infrastructure to fail? How is this accounted for in the Update? These all are the options available to jurisdictions through the State’s Growth Management Act. We believe answers to these questions is data necessary to long-range planning. For example, if many jurisdictions are simply relaxing their standards, then there is more development then is predicted in the Transportation Needs Reports and planned infrastructure most likely would fall short, thus challenging the goals to have both a sustainable transportation infrastructure and a balanced financial plan.

The objectives are very appealing, but the Update seems to dwell on prioritized segments. This seems contradictory to the other goals. If anything, the Update should result in a holistic definition of a transportation infrastructure that includes all roads. It is not clear whether the objective would have to include all public road segments. Plus, it is not clear if the Update adequately addresses rural roads. We believe a sustainable infrastructure plan should include funding for all transportation components.

The discussion of rural roads focuses on corridors and arterials, but doesn’t adequately address local rural roads, which are the vast majority of rural public roads (at least in King County). Also, it doesn’t directly address the issue of urban use of rural roads, although the overall objective is to move to a “use and impact” revenue system—a laudable goal. Consequently, the objectives and the reality, in places like King County, appear to conflict. These comments may be more appropriately addressed to King County officials, but the Update does not appear to address rural roads that are not arterials (e.g., Issaquah-Hobart Rd. is a connector between southeast King County cities and I-90).

**Specific Comments**

Although we reviewed the entire Update, we provide below comments only on those Chapters and Appendices that are of direct interest to our Rural Area constituency.

**Chapters**

3. Core Elements

- **Prioritization (prioritizing plan investments to better meet VISION 2040)**

  The nine Prioritization Measures used to evaluate how well system improvement projects implement VISION 2040 (Air Quality; Freight; Jobs; Multimodal; Puget Sound Land & Water; Safety and System Security; Social Equity and Access to Opportunity; Support for Centers; and Travel) are good; however, we recommend adding Comprehensive Long-Term Population/Development Growth.

  We are concerned King County (possibly all four counties) does not have a central database to which all cities and areas inside or outside the Urban Growth Boundary are required to report not only current actual numbers of building permits or completed residential units, but to report the projected numbers of residential units or population growth due to commercial activity that may be expected in 15 or 20 years. This appears essential for meaningful long-term planning.

  Failure to capture accurate and complete data for current and long-term growth puts the entire region and the PSRC in a precarious position of developing a VISION based on faulty analyses. This issue also is applicable to Potential Core Plan Elements and Issues to be Included in 2018 Update, 1. Prioritization, - Revisiting the Prioritization Measures.

- **State of Good Repair (maintaining and preserving the transportation system)**
While we support policies that first address the infrastructure we have and ensuring it be maintained for safety and longevity, we are surprised to see future needs simply being extrapolated from historical data and not also good cost estimates. To that end we are encouraged to see the approach for estimating pavement preservation based on pavement condition scores and standard project costs. More such rigor is necessary to fully address our infrastructure needs.

We are encouraged by progress in the areas of Stormwater Drainage, Pavement Preservation, and Local Signal Operation and Intelligent Transportation System (ITS).

**- Financial Strategy Update**

The objective of having funding available for needs is admirable. The movement to use-based financial methods makes sense and we support its implementation.

The largest current sources of revenue are eroding. New sources of reliable funding rely on a transition to user-based financing. We support the integration of user fees with traditional tax financing beginning in the first decade of the plan through the implementation of toll-financed state highway projects and transitioning to a network of express toll lanes on the region’s limited-access facilities by the mid-2020s. This leads to, in the final years of the plan, managing and financing the limited-access highway network as a system of fully tolled facilities.

It is important that guidance is provided with regard to the uses of toll revenues, including a commitment they be used for the purpose of improving mobility, including transit as congestion relief, through direct investment or offsetting other existing transportation taxes and fees.

It’s not clear, how rural roads, other than those identified as part of the “regional transportation system”, will be addressed. In King County, the overwhelming majority of use of rural connectors (e.g., Issaquah-Hobart Rd) is urban traffic. Since these roads apparently are not intended to be tolled, it’s not clear how revenues for these segments will be addressed and financial sustainability assured.

4. Statutory and Ongoing Plan Elements

**- Transportation Demand Management and Commute Trip Reduction Elements**

We fully support both the Transportation Demand Management (TDM) and Commute Trip Reduction (CTR) programs, as each contains strategies expected to help alleviate the traffic loads on our local roads.

Encouraging people to use lower cost and higher efficiency transportation options is a strong strategy to ensure a sustainable transportation system. We support TDM activities that are both center based and corridor based and that can be coordinated across modes.

Aiming towards a decrease in the number of commute trips made by people driving alone as a means to both reduce congestion/delay and conserve resources is the right strategy to ensure a sustainable system.

**- Rural Transportation Study**

Although PSRC consulted “local agencies and user groups,” we are not aware any of the Unincorporated Area Councils (UACs) were contacted. When it comes to studying and understanding the Rural Area transportation infrastructure, the UACs possess unique knowledge and need to be at the table. We strongly recommend this be rectified in for the 2018 Update.

The funding of the Rural Town Centers and Corridors Program in 2012, with its primary purpose to support rural towns with state routes as their “Main Street,” is a proactive step. Although a large majority of Rural Area workers commute to jobs inside the urban growth boundary, it must be recognized many urban commuters in northeast, east, and southeast King County commute through the Rural Area to get to their jobs inside other cities.
We strongly support that the following Rural Area issues require further study, especially as the PSRC readies for the 2018 Update: “lack of transit service; deteriorating condition of roads and bridges combined with declining tax revenues; freight traffic on local roads.” These issues must be addressed to have any hope of achieving a “sustainable” transportation system in the Rural Area. We urge the PSRC to engage with rural residents when addressing these issues.

The approach of placing transit service where it has the highest usage is good business, but would harm those living in rural areas that can’t afford a car and have the furthest to travel, as evidenced by PSRC’s own data. Public transit has the responsibility to serve the public as a whole.

We are concerned there is misplaced attention to increased car collision data in rural areas and relating this data to transportation needs. The graph “Central Puget Sound Fatal and Serious Injury Collisions by Contributing Circumstance 2002-2009” indicates the primary reasons for collisions are: “distracted driving, speeding, impaired driving or intersection collisions.” These causes are more likely to be issues of personal judgment or lack of proper education, whereas we believe more attention should be placed on clear visibility, proper signage, and road maintenance to improve safety on rural roads.

5. Supporting Information

- Project List including changes for 2013
   Although the projects list has been updated, including alignment with the Federal requirement for financial constraint whereby costs and revenues should be reasonably balanced, some plans were moved from constrained to unprogrammed status. This indicates a policy that is not anticipating any new revenue sources or efficiencies. Is that an internal or external constraint placed on the Update?

-- Documentation of Analysis Results and Tools
   Tables for the Regional Network Measures--Vehicle Miles Traveled, Vehicles Hours Traveled, Delay, and Average Speed--and Travel Mode Shares--Drive Alone, Shared Ride, Transit, and Non-Motorized, are both informative and useful in recognizing trends. However, we would like to see more detailed examination of the results and potential impacts. For example, how is this data used and how are impacts identified?

- Summary of MAP-21 provisions
   Moving Ahead for Progress in the 21st Century (MAP-21) expands the National Highway System (NHS) to incorporate principal arterials not previously included, adding ~800 miles for a total of approximately 1,250 miles of designated NHS facilities to the central Puget Sound region. Although that is a large change, those ~800 miles are not identified.


- Draft scope of work – “Pre-scoping”
   Of the initial list of possible issues we request the following be included:
   • Monitoring/Congestion Management Process (CMP)/T2040 report
   • MAP-21 performance-based planning, ITS architecture update, and Regional ITS Implementation Plan Update
   • Incorporation of the latest Target Zero priorities.
   • Rural Study.

- Potential core plan elements
We find the Potential Core Elements listed to be of value. We further request two of the items under 3. Financial Strategy be given particular emphasis: (1) Adding more rigor for projects entering the regional transportation plan and (2) Additional areas to explore to refine revenue estimates.

We recommend that “more rigor” include a focus on identifying current traffic conditions of surrounding areas. This would result in a more accurate reflection of the impact new projects could have on those areas.

- Other potential plan elements and issues

While we agree with the listing of potential plan elements and issues, we seek particular emphasis on the following:

1. Federal guidance – Implications of MAP-21 requirements on the 2018 Update, such as performance planning in a collaborative process with WSDOT to set targets.
2. The future transit network would be developed in close coordination with the region’s transportation operators, and make use of updated Transit Tools and models, as appropriate. This task will develop a future transit network that incorporates future land use.

Universal collaboration, not only with WSDOT, but other entities contributing to or affected by the 2018 Update and future projects, as well as projecting future land use, are critical elements in resolving the current costly and time consuming reactive mode to correct issues. Collaboration encourages proactive planning, which should lead to more timely project implementation.

Appendices

B: Projects and Programs by SMART Corridor

In the Southeast Corridor, currently, there is an inadequacy with the two-lane section (one lane each way) of SR-169 between SE 231st St in Maple Valley and SE Jones Road between Renton and Maple Valley. This section is inadequate to accommodate current traffic loads. While there are some plans to widen other sections of SR-169 south of this section, those only will exaggerate the issue and result in further bottlenecks.

The amount of development approved or in the pipeline in the entire SR-169 corridor is not adequately accounted for in the Transportation Improvement Plans (TIPs) of the cities of Black Diamond, Covington, and Maple Valley, whose residents are the primary users.

There is no meaningful sustainable SR-169 corridor plan, yet more development continues to be approved with city TIPs listing an inordinate amount of Grants (with no sources identified and precious little available) to attempt to meet Transportation Concurrency. This is a failing proposition with no clear sustainable solution even contemplated.

C: Multicounty Planning Policies

We understand this Appendix simply lists the MPPs that guided the development of Transportation 2040. However, we have a concern with those MPPs that define Growth Targets and how they permeate through the forecasting and development approval system, as they often serve as the base from which critical decisions are made that directly affect traffic loads.

F: Financial Strategy Background

This is an excellent summary of a variety of good financial strategies. The section on tolling is particularly interesting and informative going forward. The analysis suggests a move to financing through fees and use. We support this approach and recognize much still needs to be learned to ensure successful implementation.
We support a general funding scenario with the three primary elements listed:
1. Early revenue actions that support state, local, and regional investments.
2. A phasing in of new revenue sources based on use of the transportation system.

H: Analysis Tool Documentation
We support PSRC’s analysis efforts to forecast Vehicle Miles Traveled (VMT), Vehicle Hours Traveled (VHT), Time Delays, Average Speeds, and Mode Shares, as well as Macroeconomic Forecasting Models and Land-Use Spreadsheets to feed Traffic-Demand Modeling. Such modeling and analyses serve as the bases for what various land-use developments will generate in terms of traffic loads and where they will concentrate. Consequently, great attention must be given to this area and continuous improvement and refinement are musts.

It is encouraging the PSRC Traffic-Demand Models will be taking advantage of increased computer resources and capabilities to enable much finer detail (e.g., 4-fold increase in analysis zones, 3+-fold increase in network links). There are many instances where such capabilities are necessary.

The PSRC Cost-Benefit Analyses are a step in the right direction. However, the key is finding and using good data to conduct the analyses, then using the results to actually modify decision paths, which are all too often driven by politics. This area must be given increased attention.

P: Prioritization
This appendix addresses the pragmatic reality of current funding falling far short of identified transportation needs. There’s no question a prioritization method is required for decision making, if for no other reason than assuring alignment with policies and objectives. We can’t ignore the possibility that revenues won’t be sufficient to address needs. The Update identifies a fairly large amount of “unprogrammed” needs. It should be made clear the prioritization template does not trump the objective of revenues addressing needs. The inclusion of a prioritization template should not result in jurisdictions having the option to not include underfunded segments, thus possibly losing their significance in the holistic transportation system.

Ensuring financial “sustainability” requires an understanding both near- and long-term total system costs. It appears the objectives of a sustainable transportation infrastructure, a “balanced financial plan,” and the reality in places like King County are in conflict. The objectives are very appealing, but the Update dwells on prioritized segments. This seems contradictory to the other goals. If anything, the Update should use a holistic definition of a transportation infrastructure that includes all roads. A sustainable infrastructure funds all transportation components. Yet, the discussion of rural roads focuses on corridors and arterials, and doesn’t adequately address local rural roads, which are the vast majority of rural public roads (at least in King County).

King County has recently adopted a “tier” priority-rating system to determine which roads would receive funding. This system essentially eliminates all tier 2-5 roads from funding unless there are safety issues. King County has assigned tier numbers to 1,482 mi of roads. Only 7% of the county roads have a service level of 1.

R: Rural Transportation Study
We emphasize again that although PSRC consulted “local agencies and user groups,” the Unincorporated Area Councils (UACs) were not contacted. This is a big concern, since when it comes to understanding the Rural Area transportation infrastructure, the UACs are invaluable. This must be rectified as the 2018 Update approaches.
Also, the Stakeholder Involvement list appears to have not included cities within the Urban Growth Area. This is evidenced by the following bullet in the Update: “Staff and elected officials at King, Kitsap, Pierce, and Snohomish counties.” We will assume this does include those cities.

PSRC’s distinction between “contiguous UGA” and “freestanding cities and towns,” causes us pause. By this distinction, what we may consider outlying cities (e.g., Black Diamond, Covington, and Maple Valley) are by PSRC’s definition within the “Contiguous UGA,” since they all touch and there is no Rural break. (Note the only King County “freestanding cities and towns” by PSRC’s definition are: Carnation, Duvall, Enumclaw, North Bend, Skykomish, and Snoqualmie.) This distinction causes PSRC to miss a critical problem—that of many urban commuters using King County roads to crisscross the Rural Area to get to other parts of the Urban Growth Area and their places of employment. An excellent example of this is the Issaquah-Hobart Rd which essentially serves as the only north-south connection between SE King County cities and Issaquah, Bellevue, Redmond, and Seattle.

Regarding “Roadway System – State of Good Repair,” we fully agree there is a big disconnect, since much of the region’s transportation system outside the contiguous urban growth boundary is managed and maintained by the counties. In King County, the available funding has declined precipitously resulting in much less revenue. This has resulted in many roads outside the contiguous urban growth boundary being in poor or failing condition. This is unsustainable and must be addressed to maintain any integrity of our Rural transportation infrastructure going forward.

**S: State of Good Repair**

As stated earlier, we support maintaining the safety and long-term integrity of infrastructure already in place. However, we would like to see better techniques to measure and predict state-of-good-repair projects.

**T: Transportation Demand Management Action Plan**

The Transportation Demand Management (TDM) Action Plan provides a good overall strategy, but is focussed on the region’s major transportation corridors. As such, we see few opportunities here that might help our Rural Area constituents. Taking a global perspective should some or all of the TDM strategies outlined here be successfully implemented, they can only help reduce the traffic loads on our local roads and, thus, reduce the need to seek funds which are in short supply.

We respectfully request the PSRC take our comments, herein, into consideration as it deliberates the subject Update. Thank you.

Sincerely,

Steve Hiester (gmvac_chair@hotmail.com)
Chairman, Greater Maple Valley Unincorporated Area Council

cc: King County Executive Dow Constantine: Dow.Constantine@kingcounty.gov
March 10, 2014

PSRC
1011 Western Avenue, Suite 500
Seattle, WA 98104-1035

To Amy Ho,

We originally submitted comments in July 2009 on the Draft EIS for the Transportation 2040 plan, and are writing today to comment on the update to this plan. Our organization represents over 4,500 membership households and has a mission to protect, connect, and restore the wildlife and wildlands of the northwest. We engage in transportation policy, planning, and specific projects where there is a clear intersect to Washington’s wildlife and their habitats. The best opportunity to ensure that the needs of wildlife are considered properly in our transportation system is in the planning phases of a regional system or specific project. Therefore, we continue to review the Transportation 2040 proposal with an eye towards its potential to allow growth in the Puget Sound area for people while conserving our remaining wildlife and wild places. At issue in our comments is not whether to grow our community and economy in Puget Sound, but how and where we should grow.

Our original comments weighed in favor of Alternative 5 that had specific measures to reduce the contribution of transportation to climate change. We appreciate the backgrounder in the T2040 update that addresses the important issue of climate change, but are not clear from a read of the document whether the trajectory of decreasing the contribution of the transportation system to greenhouse gas emissions will continue to meet our states 2050 goals. “The 2014 Transportation 2040 Update makes further progress towards meeting the state’s VMT benchmark reductions, with a 39% reduction from the state’s baseline by 2040 for the Constrained plan, and 40% for the full plan.” This an important progress, but it is crucial that it continues to not only meet but exceed our states goal of 50% by 2050.

The other issue that remains from our original comments through this Transportation 2040 update is the inclusion of SR 704 – the Cross Base Highway and its individual components in the project list. The Cross-Base Highway is a brand new, four-lane highway proposed for development through the last and best remaining oak-woodland prairie left in our state—home to many threatened wildlife and plants. This project has been surrounded in controversy since the initial planning phases, and currently we are involved in litigation that is under a Stay Agreement with the Washington Department of Transportation. The stay agreement is lifted should any construction dollars be allocated to this project or construction activity to begin. Some reasons why the Cross Base Highway should be removed from the Transportation 2040 list include:
Only 3% of our state’s oak woodland prairies remain, and the Cross-Base Highway would destroy 162 acres and fragment 1,600 acres of habitat; In July 2013 Agriculture Secretary Tom Vilsack, Interior Secretary Sally Jewell and Defense Acting Deputy Under Secretary for Installations and Environment John Conger announced a federal, local and private collaboration that will preserve agricultural lands, assist with military readiness and restore and protect wildlife habitat through a National Sentinel Landscape Designation that includes investment of over $12 million to protect base, preserve environment recognizing “Once covering 150,000 acres, only three percent of the original native prairie habitat remains due to development. Several of the at-risk species in this area include Taylor’s checkerspot butterfly, the streaked horned lark, and the Mazama pocket gopher. A rare native plant, the golden Indian paintbrush, is already listed as "threatened" under the Endangered Species Act.” The Cross Base would contradict this new land designation, more information at http://www.usda.gov/wps/portal/usda/usdamediafb?contentid=2013/07/0142.xml&printable=true

Pierce County’s Biodiversity Network Assessment describes the wetlands, prairie, and oak savannah on the military bases as “the most biologically and ecologically rich areas remaining in the lower elevations of Pierce County.” The County predicts that these diverse habitats support 20 state or federally listed species, 24 Priority Habitat and Species, and 10 at-risk species, and dozens of other plants and animals. https://www.piercecountywa.org/xml/services/home/property/pals/pdf/biodiversityreport.pdf

In contradiction to the climate change goals discussed above, the project would increase miles traveled by individual drivers. In the words of the environmental impact statement for the project, “Overall, people would travel a little farther to use the new Cross-Base Highway project to avoid other congested highways and arterials; this would increase miles driven” (Cross-Base Highway FEIS, p. 4-201).” Also the Cross Base Highway’s environmental assessment did not consider its contribution to greenhouse gasses into account.

In the T2040 Update Appendix N – Project List, SR-704/Cross Base Highway is still listed as a project in the Unprogrammed plan. The appendix states:

<table>
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<th>WSDOT</th>
<th>SR 704 - Cross Base Highway, I-5 to Spanaway Loop Rd</th>
<th>Roadway Related - State Route</th>
<th>2035</th>
<th>Unprogrammed</th>
<th>$407,147,721</th>
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</thead>
<tbody>
<tr>
<td>112</td>
<td>SR 704 - Cross Base Highway, I-5 to Spanaway Loop Rd</td>
<td>Roadway Related - State Route</td>
<td>2035</td>
<td>Unprogrammed</td>
<td>Construct new four-lane, limited access facility between Fort Lewis and McCoard Air Base. Includes reconstructed interchange at I-5. Includes Gravelly Thorne Connector: Construct one mile single lane SB roadway connecting Gravelly Lake Drive to Thorne Lane west of the Sound Transit/Burlington Northern Railroad tracks. Also includes</td>
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Although we appreciate it is not programmed for funding, we repeat our request to remove this project from the list altogether. It should not be considered for funding at anytime, and should be removed from the workplan of future transportation investments.

Additionally, we see confusion in T2040 Update Appendix N – Project List between components of the JBLM Traffic Improvement Projects and components of SR-704/Cross Base Highway. We support the plans underway now through 2015 to complete the “I-5/JBLM Corridor Planning and NEPA documentation” that includes interchange analyses and proposed designs. We have met with regional WSDOT staff and understand that this effort is addressing a separate traffic challenge than SR-704/Cross Base Highway, and therefore the proposed final interchange designs will have independent utility to addressing the north-south I-5 traffic congestion while NOT attempting to integrate proposed future traffic flow from the unfunded and unbuilt east-west SR 704/Cross Base Highway. While we support taking a clear look at the north-south traffic challenges, we see concerns with two projects listed within your “constrained” budget that are associated with both the JBLM Improvement Package and SR 704/Cross Base Highway: (1) I-5/JBLM, Thorne Lane Interchange and (2) I-5: Thorne Lane to Gravelly Lake Dr. - Frontage Road. Since the JBLM Improvement Package is still under development, we are left to assume that the price tags associated with these projects and the “levels of traffic anticipated in the future” are from the SR 704/Cross Base Highway. **T2040 should remove these components of SR 704/Cross Base Highway from the constrained funding portion of the plan, or clearly separate them from this controversial east-west highway.**

In Transportation 2040, SR-704/Crossbase Highway was described to "Construct new four-lane, limited access facility between Fort Lewis and McCord Air Base. Includes reconstructed interchange at I-5. **Includes Gravelly Thorne Connector: Construct one mile single lane SB roadway connecting Gravelly Lake Drive to Thorne Lane** west of the Sound Transit/Burlington Northern Railroad tracks. Also includes bike/ ped separated path." Our understanding of the Gravelly-Thorne Connector during the SR 704/Cross Base Highway project development was that it was a requirement by Federal Highways during the original EIS process associated with construction of the highway. Unlike the interchange justification report, we are unaware of document that justifies the independent utility of the connector road. If that documentation exists or is in development, please share it with us.

To clearly separate these projects from implementation of SR 704-Cross Base Highway (and its associated litigation currently under a Stay Agreement), the projects should be listed with a final price tag and design to emerge in 2015 from the JBLM Traffic Improvement Package that addresses north-south traffic congestion and specifically does not include capacity.
additions consistent with the proposed future east-west SR 704/Cross Base Highway. These new designs will not only be supported by a fresh and updated look at traffic flow through the JBLM geography, but will go through an environmental analysis process before any construction that separates the components from SR 704/Cross Base Highway by showing their independent utility. There is no final decision that has been agreed upon or environmentally analyzed to fund at this time, and if these components were to be funded as they are designed and analyzed under the SR 704/Cross Base Highway project they would trigger a lawsuit.

Updates to planning documents such as this provide an opportunity to re-evaluate priorities for both projects and components of projects. We suggest this provides another opportunity for PSRC to recognize that SR 704/Cross Base Highway contradicts multiple PSRC goals for the region, while potentially noting that individual components of that larger highway project may have utility in addressing current north-south traffic issues along the I-5 corridor around JBLM. To understand if those components offer independent utility to addressing the north-south traffic issues, we support and plan to stay engaged in the discussion and analysis ongoing at the WSDOT regional office.

Sincerely,

Jen Watkins
Conservation Northwest
206.675.9747 ext 203
jwatkins@conservationnw.org
To: PSRC Transportation 2040  
From: American Lake Gardens Equestrian Alliance

We respectfully submit the following comments on Transportation 2040:

1.) Please remove the I-5 Thorne Lane to Gravelley Lake Frontage Road from Transportation 2040. $30 million is a waste of taxpayers money for a less than mile long road that will only benefit a few local residents who want to go from Thorne Lane or Tillicum to the Lakewood Mall. In addition, your Transportation 2040 document lists this project as a segment of SR 704, the crossbase highway. During the EIS process, this frontage road was a requirement by Federal Highways to alleviate traffic IF THE CROSSBASE HIGHWAY WAS BUILT, and it received an inadequate rating in the Supplemental EIS. $30 million would go a long way in restoring the huge budgets cuts to Pierce Transit bus service, and this project is in the middle of one of Pierce County's largest environmental justice populations, these people need bus service, not a frontage road to a shopping mall.

2.) Either remove the I-5 JBLM Thorne Lane interchange or re-design it. The cost is twice as much as any of the other JBLM interchanges due to the fact the design is the old one which was for the crossbase highway, four lanes expandable to six. The JBLM logistics gate and 150th St. SW are only two lanes, and do not need this supersized interchange. It will be a waste of taxpayer money to build a four lane interchange that feeds into a two lane JBLM logistics gate which is closed every night and on weekends and 150th which is a two-lane road that goes to Spanaway on the east side.

3.) Please remove SR 704 the crossbase highway from Transportation 2040. This project, as well as the Thorne Lane to Gravelley Lake Frontage Road and the I-5 JBLM Thorne Lane Interchange are subject to a federal lawsuit which is currently "stayed." Any funding for any of these three projects will trigger the lawsuit, and could hold up the JBLM congestion relief package.

During the last big transportation package that went to the voters, Prop One, the crossbase highway was listed by the Sierra Club as the number one worst transportation road project in the state. The crossbase highway was cited as one of the reasons Prop One failed with the voters. There is an alternative and parallel road to the crossbase footprint, Perimeter Road, which could be used instead. While we understand that Pierce County has a need to alleviate the urban sprawl that is currently going on in east Pierce County, we believe better alternatives, such as the use of Perimeter Road instead of the crossbase highway, is viable.

Of real troubling concern is the new development in Orting, Tahelah, the old Cascadia master planned community. 5,900 homes are planned and currently under construction, and the only way in and out of Orting is already a heavily congested two
lane road. The original footprint for the crossbase highway had it extend all the way to Orting, as a way to allow the thousands of car trips a day from Cascadia to get to I-5. Since it's emergence from bankruptcy, there is local pressure from these urban sprawl areas to have taxpayers pay for these roads that the developers who are profiting from them should have paid for. Master planned communities are supposed to be built near transportation hubs as Snoqualmie Ridge was, not expect taxpayers to pay for highways to reach them 20 miles from the nearest freeway.

Thank you.

Respectfully,

Melody Miller Fleckenstein
American Lake Gardens Alliance
TO: Transportation2040@psrc.com

SUBJECT: Comments of the Draft Report and Appendices for the Transportation 2040 Update

Dear Ladies and Gentlemen,

ETA has reviewed the draft report and appendices. We recognize the daunting task you have in addressing the complex Federal, State, and local requirements. You seem to do it well. We also appreciate the effort Board members must put forth to review over a thousand pages of resulting material.

We have a few comments. For each, the document and page number are indicated.

1. P.2, Appendix H. The table “travel mode shares” shows updated transit shares:
   a. For the Updated Full Plan, it shows a transit share of 4.5%. The adopted Full Plan in 2010 showed a transit share of 5.3%. What factor/s contributed to this reduction?
   b. The Updated table does not show a 2040 updated Baseline. What is the mode share and person-trip difference between the 2040 Updated Full Plan and a 2040 Updated Baseline. If there is no 2040 Updated Baseline, why not?

2. P. 2, Appendix H. What are the person-trip numbers corresponding to the percentage shares shown in the “Travel Mode Shares” table? Percentage shares are only part of the picture.

3. P. 7. Appendix H. Under Key Assumptions, what is meant by, “The fleet mix and age distribution remain constant in future years”? Don’t the characteristics of vehicles within the fleets change with time?

4. P. 37, Update Draft Report. Investments are shown in the table “Financial Summary 2010-2014”.
   a. The table shows a total of $79.2 billion for Local Transit plus Sound Transit. What portion of the $79.2 billion transit investment goes to support the rider increase from the updated 2010 Baseline to the updated 2040 Constrained Plan and the 2040t Updated Full Plan? (See 1.b., above).
   b. Devoting nearly 50% of regional funding to transit is grossly out-of-balance with transit’s 4.3% to 4.5% market share. How can this be justified?

5. P. 6, Appendix T. The figure cites an “8% reduction in traffic delay resulting from worksite based CTR programs.” How was that estimated? What data and procedures were used? Is it for the AM or PM peak hour? What trips are included?

6. P. 8, Appendix T. The figure shows 235,000 drive-alone trips reduced since 2008… Is this the total since 2008? For the same time period and geographic area, how many total person-trips were there? The 235,000 are what percentage of total person-trips?
7. P. 7, Attachment D, Appendix O. The last column of Table 3 is labeled “3hr Total”. Does it refer to the 6-hour total bike count of the AM plus PM 3-hour periods?

Thank you for the opportunity to comment.

Respectfully,

Dr. Bill Eager
ETA Chair

The Eastside Transportation Association ETA is a private-sector group dedicated to improving our quality of life and the environment by reducing traffic congestion in the Puget Sound Region through increased mobility. Its members include citizens who have worked in both public and private sectors, career transportation engineers and planners.
Dear Ms. Ho,

Thank you for the opportunity to submit comments on the PSRC update of T2040. We appreciate the work of staff and boards on this important update. Please find our comments attached and do not hesitate to contact me if you have questions.

Jeff

Jeff Aken  
Principal Planner  
Cascade Bicycle Club  
Cascade Bicycle Club Education Foundation  
p: 206-300-5932  
"Creating a Better Community Through Bicycling."

Come spin your legs for Major Taylor! The 4th annual Spinathon is taking place March 20. Sign up today!
March 10, 2014

Amy Ho
Puget Sound Regional Council
1011 Western Avenue, Suite 500
Seattle, WA 98104

Dear Ms. Ho:

Cascade commends the Puget Sound Regional Council (PSRC) staff and boards for the tremendous amount of work that went into the Draft Transportation 2040 Update. On behalf of Cascade Bicycle Club’s (Cascade) nearly 16,000 members, I want to thank you for the opportunity to comment on Transportation 2040 Update Draft Report. Cascade is focused on improving and increasing transportation options for those who want to travel more often by bike.

Cascade believes that everyone in the region should have transportation options and the ability to safely and comfortably ride a bike for some or all of their trips. Approximately 35 percent of the population does not drive for a myriad of reasons (age, cost, preference etc.) and 50 percent of all trips are less than two miles, so the region needs to ensure that safe, comfortable and equitable transportation choices exist. Research has shown that nearly 60 percent of the population would like to bike more often, but they don’t feel safe riding with fast moving traffic. Cascade’s mission is to build better communities through bicycling and as such, we offer the following comments on the 2014 Transportation 2040 (T2040) Update.

Active Transportation Plan: We are pleased to see the inclusion of the Active Transportation Plan (ATP) and appreciate the work staff and the Bicycle and Pedestrian Advisory Committee have contributed to this document. The ATP will help advance discussions around the multiple benefits of biking and walking along with working with PSRC jurisdictions to develop and improve measurement and monitoring systems which can be used in the future to further refine prioritization systems. The ATP and the Regional Bike Network will provide a roadmap for improving biking and walking throughout the Puget Sound and Cascade is pleased to see the development of this document.

Growing Transit Communities: We appreciate the commitment to The Growing Transit Communities (GTC) effort, which is an important step forward in creating livable communities. By intertwining land use, transportation, and equity, the region can reduce sprawl and the resulting environmental and social impacts of dispersion. In the future updates, the lessons learned in GTC should be applied beyond the three light rail corridors and be used in all centers served by high capacity transit. The opportunity mapping, completed under GTC, seeks to highlight the types of investments different station areas will need to become more equitable transit communities and how access to opportunity can be improved. These transit communities need to ensure safe, comfortable facilities for biking and walking to transit, and other
destinations, are an integral part of their transformation.

**Project and Program Prioritization Criteria:** Federal requirements for financial constraint of the project list make prioritization criteria extremely important. PSRC needs to ensure that prioritization criteria will create walkable, bikable, vibrant communities and help the region reach its environmental goals around climate change, Vehicle Miles Traveled (VMT) reduction, air quality, and protection of forest and farmland. Based on the high percentage of active transportation projects moved from constrained to unprogrammed, Cascade is concerned that current prioritization might not reflect the importance of investments in biking and walking, especially in light of 17 percent of the bike/pedestrian projects being moved to the unconstrained project list.

**Multimodal:** Cascade is glad to see multimodal included as part of the prioritization criteria. We suggest this criterion be modified to ensure it accurately captures the walkshed and/or bikeshed around major transportation facilities. Additionally it should score two points as it provides connections for both biking and walking in addition to making it easier to access transit.

The section currently reads: “The project improves pedestrian/bicycle access within ¼ mile of a (MTS) transit stop.” Cascade recommends PSRC incorporate FTA guidance, which suggests improvements within three miles of a transit station for bike access and ½ mile for pedestrian access.

A great example of multi-use development that Cascade would like to see more of is the Eastside Rail Corridor, which includes recreational and commuting facilities for bikes, high capacity transit, and utility infrastructure that help provide transportation opportunities and realize regional policy goals.

**Safety & System Security:** A focus on safety is needed for all of the region’s transportation investments. Cascade recommends that off-street bike and pedestrian projects score prioritization points for improving safety and system security. Please consider adopting additional criteria that factor in Complete Streets, like investments in protected bike lanes for all users, not just vehicles on arterial and highway projects.

**Health:** Health, the built environment, and transportation choices go hand-in-hand. We cannot separate the impacts of how we build our communities on the health of people who live there. The Transportation 2040 Update should prioritize health and safety. Please address this concern and include health as the tenth factor in the prioritization framework.

**Social Equity and Access to Opportunity:** Cascade appreciates the commitment to increase access for all residents to opportunity. With transportation costs as the second largest household expense, improved transit and active transportation connections to areas of opportunity are extremely important. Additionally, the scoring should ensure that all centers in the region are receiving investments in bike/walk facilities to improve mobility for all. USDOT Secretary, Anthony Foxx recently cited work that shows that 30 percent of people riding
bicycles make under $30,000 dollars annually, highlighting the need to ensure all residents have access to affordable transportation options.

**State of Good Repair:** Cascade believes that the region must adopt a “fix it first” attitude before building new roads and expanding vehicle capacity on existing roads, and we strongly support PSRC focus on State of Good Repair. To build on that, all maintenance and preservation projects should use, depending on context, Complete Streets and NACTO Urban Street Design Guide checklists to ensure that they work for users of all ages and abilities to travel both along and across them. Any significant maintenance and or preservation project can provide an opportunity to install bike lanes, improved pedestrian accommodations, and green infrastructure that will increase mobility and access in and around centers.

**Balancing the Financial Strategy:** Cascade is surprised to see that the largest percentage of projects (31/184 or 17 percent) moved from the constrained budget to unprogrammed were active transportation projects. In general, these projects have lower costs than road expansion or capacity projects and bring environmental, economic and health benefits to the communities and centers they connect. As pointed out in PSRC’s Environmental Justice Summary, these improvements are desired by many community leaders. Additionally the report suggests that changes “could adversely affect low-income and minority residents if no funding source is identified for bicycle and pedestrian trails serving these communities.” Cascade asks that you continue to refine the prioritization framework and how projects are moved from constrained to unprogrammed to ensure that the process will help the region meet its goals around access.

**Focus on connecting walkable/bikeable neighborhoods and transit:** T2040 highlights the financial challenges that have faced regional transit providers. In the event of service cutbacks, having safe, comfortable bicycle routes to major transit stops and stations will increase the ridership and help to solve the “last mile” problem which becomes more acute as service is reduced. The Draft T2040 Update maintains the commitment to doubling transit service by 2040; in order to serve the greatest number of people with that service, we need to ensure that transit station and stop access is improved for those walking or biking.

Again, Cascade commends the PSRC staff and boards for the tremendous amount of work that went into the Draft T2040 Update and is grateful for the opportunity to submit comments. Please contact us if you have any questions on this letter. Cascade has recently put together a presentation on changing trends in bicycling and we would like to present to the full regional council in the fall of 2014.

Sincerely,

Elizabeth Kiker, Executive Director,  
Thomas Goldstein, Policy and Government Affairs Director,  
Jeff Aken, Principal Planner
March 10, 2014

Amy Ho  
Puget Sound Regional Council  
1011 Western Avenue, Suite 500  
Seattle, WA 98104-1035

Dear Ms. Ho:

Since 2001, Feet First has been working to ensure all communities in Washington are walkable. We appreciate the time and dedication Puget Sound Regional Council has made to elevate the conversation about the importance for walkable communities that provide safe, easy, and inviting places for people of all ages abilities to choose to go by foot. It should be noted, that like all plans, this is a visioning document to guide the region. This sets the tone for supporting future criteria of projects to advance this document and implementing the set out.

Please find below Feet First’s comments on Draft Transportation 2040 Update, Active Transportation Plan. We look forward to working together alongside the Puget Sound Regional Council to ensure that multimodal transportation solutions are readily supported in order to allow people to have real choices to walk, bike, and take the bus.

Please note that some of these comments below are more grammatical and stylistic, whereas others are more substantive in nature.

1. For Goal 2, "Improve safety and comfort for active transportation users" there needs to be more explicit actions.
2. Under Health benefits, add childhood obesity.
3. Under 4.1 "congestion issues around schools" is listed twice.
4. Include Bike Works as another organization working to promote bicycling for youth.
5. All of the links in the document should return the reader to the page you were on not the beginning of the document. Makes me as a reader less inclined to select any of the links.
6. The Walk Bike Schools site has not been updated in a while, especially worth noting since it's mentioned many times in this document as a resource.
7. Page 9, Goal 2: Be more specific about what kinds of safety materials are envisioned, or what opportunities are envisioned. For example, PSRC and BPAC could help facilitate sharing of best practice information between local communities around bicycle and pedestrian safety issues. If one city develops a brochure advising new
bicyclists how to ride safely on city streets, this brochure could be disseminated through PSRC/BPAC’s networks and adapted to help other cities in the region. Another “opportunity” could be identifying changes to state law that might be necessary for local communities to make bicycling and walking safer. We are not sure this kind of “action item” is within the scope of this report, but the current wording is so vague, it not be worth including it.

8. Page 9, Goal 2, bullet point 1: should be “identify,” not “identifying”
9. Page 9, Goal 2, bullet point 2: delete “collaborate regionally to,” which is redundant.
10. Page 14: Transportation benefits: Change to “also reduces the need for as many parking spaces” to “reduces the demand for parking spaces.” The existing wording implies that a certain number of parking spaces “need” to be provided and this number will be reduced if more people walk. In reality, the degree to which people want space to park cars fluctuates based on many factors. Eliminating the word need and using the word demand better captures this reality.
11. Page 14: Environmental benefits: Please clarify this statement, “pedestrian walkways that use impervious surfaces” as an environmental benefit. Impervious surfaces increase run-off problems? Please consider rewording this to make it more clear.
12. Page 17: Latent demand and mode shift: The author may consider buttressing this argument with research showing a decline in VMT in recent years. Sightline has been reporting on this for some time: 
   http://daily.sightline.org/2014/02/10/odot-is-going-broke/?utm_source=Sightline+Newsletters&utm_campaign=f49df2120f-SightlineWeekly&utm_medium=email&utm_term=0_18df351f8f-f49df2120f-291903925
   http://daily.sightline.org/2014/02/26/declining-traffic-through-seattle/
   http://daily.sightline.org/2013/09/15/peak-driving-in-oregon/
   http://daily.sightline.org/2013/07/29/has-motorization-peaked/
While this included in “Rates of walking and bicycling,” later in the report, it makes more sense to include this information in this section.
13. Page 20: Bicycle Facilities Inventory: Apparently, there are only 2 miles of “protected bicycle lanes” in the entire region. This is surprising and for the reader it would be helpful to have some sort of definition included to provide context. However, later in the report (pages 56 and 80), protected bike lanes are defined as cycle tracks. If that is the definition used, it should appear here first.
14. Page 21: In the paragraph about block size, the last sentence is puzzling: "Eleven of the regional growth centers, including the smaller historic downtowns and large metropolitan centers, have an average block size.” The sentence is incorrect to any reader that doesn’t have their vocabulary down. All urban areas have an average block size. Suggested change to “and a fine network of streets” to “an adequate street network” or “a basic street network” or something to that effect.
15. Page 21-22: Sidewalk completion ratio table. This table a bit surprising and we question the underlying data and/or its statistical interpretation. For example, in the Seattle Northgate regional growth center, sidewalk completion is listed at “100%” (higher than First Hill/Capital Hill), yet we know that many residential streets within a short distance of 1) Northgate businesses, 2) the current transit center, and 3) the future light rail station do not have sidewalks. Moreover, pedestrian access to the transit center area is severely curtailed by I-5 and the lack of a pedestrian/bicycle overpass. We suspect similar points could be made for the other regional growth centers. I do not know what data the authors are working from, but I would hope there is a way to show that walking infrastructure near growth centers is considerably less developed than this chart implies. Most area show ratio’s >95%, which looks great on paper, but fails to account for the difficulty pedestrians experience in these areas in reality.
16. Page 28: Policy and program examples that support Active Transportation: Admittedly, this is a personal pet peeve, but it would really be better to say “can be used to support the
development...” rather than “can be utilized...” The latter is bureaucrat-speak and completely unnecessary. The word “utilize” appears in many places in the draft plan and in every case can be substituted with “use.”

17. Page 29: Walkable Communities: The author might consider adding something on about pedestrian zoning to the section on Pedestrian Priority Zones. Seattle is looking into this now: http://www.seattle.gov/dpd/cityplanning/completeprojectslist/mainstreetmapping/whatwhy/

18. Additionally, on page 29 Walkable Communities are also places where businesses do not have large parking lots out front that pedestrians have to cross.

19. Page 30: Awareness and Safety: “places that are poorly lighted” is not incorrect, but “poorly lit areas” is less wordy.

20. Page 31: Walking Audits paragraph could have a better explanation of Feet First's mission we prefer: Feet First works to ensure all communities in Washington are walkable, and also better explain the role of a more clear explanation of what a walking audit is. We prefer assess the community's infrastructure, identifying barriers and opportunities for walking, so that measures for improving walkability can be made.

21. Statistics about the different driving situations (e.g. alone vs. two people) sounds disjointed, if anything, it has the effect of seemingly underestimating the percentage of short car trips vs. walking trips. More comprehensive reasons can be given for the benefits of walking (perhaps linking to health, economic and safety that are supported by walkable communities) and no need to consistently bring up limitations for walking (e.g. weather, topography), when this isn't mentioned in the biking section (for which conditions more adversely affect trips made).

22. Page 31: The end of the walkability section should have "additional resources" like the end of the biking section that follows (see page 34). This section should list Feet First.

23. Page 34: Bike Sharing: Add a sentence to the first paragraph: “Other regions have had considerable success with bike sharing programs. For example...” Then add sentence about Washington DC’s program (along with the pictures, if that’s where they are from) up to the end of the first paragraph. The way it’s worded now is disjointed.

24. Page 36: I would add a sentence explaining the pictures from NYC regarding complete streets, or move it up further in this section. The current wording would make a casual reader think these pictures are examples of greenways or accommodating all users within a roadway, which they really aren’t.

25. Page 39-40: Give credit to Feet First for the programs mentioned: Neighborhood Street Stories, Neighborhood Walking Ambassadors

26. Page 40: Neighborhood Walking Ambassadors and Safe Routes to School: Add concrete numbers from Feet First’s program on the number of walks and participants in 2013. In 2013, Neighborhood Walking Ambassadors in the Puget Sound region led 100 walks brought out over 1,400 people. Feet First features annual signature walks including Stairway Walks and Jane’s Walk. Additionally, the Feet First Walking School Bus program and International Walk to School month-long event in October are successful in increased walking rates at elementary schools.

27. Page 42 under Resources has an error should be "The Role of Law Enforcement" not "Roll"

28. Page 45: Picture of Walking School Bus (bike picture is also on the next page)

29. Page 51 "to take a walk trip" in the first paragraph? Perhaps "...making a choice to go by foot?"

30. Page 52 second paragraph should be "proposed pedestrian and bicycle bridge" (esp. given the title of the graphic below)

31. Page 56: Facility Types on the Regional Bicycle Network: some definition for “rumble strips” should be provided to avoid excessive use of jargon.

32. Page 60: Considering Health and Equity: add something here on the recent research that has been done about social mobility and geography. There have been numerous articles on the impact of
transportation options on these issues, generally contrasting Atlanta with San Jose. Here is one:


33. Page 68: Overcoming barriers to biking and walking for special needs and aging populations. Specifically add something about snow and ice removal from sidewalks to the third paragraph. In addition to our policy paper (http://www.feetfirst.org/wp-content/uploads/2013/02/Sidewalk-Snow-Removal.pdf), here is a video on the issue from a group in Massachusetts with a particular focus on the impact on vulnerable populations.

http://www.youtube.com/watch?v=Wc-OCJ1vLAs

34. Page 72: Traffic Speeds and Vulnerable Users: Add something about the demographics of the pedestrians injured in these collisions. Seniors make up a large percentage of those injured, which would be useful information to include.

35. Page 82: Walking Audits—please incorporate better language to make this section more clear.

36. Page 91: While it might be too complicated to come up with an accurate split of how much money overall is being spent on active transportation a compared to transportation overall, if it is feasible, it would certainly be useful to the reader to put that right upfront in the introduction to the funding section on page 91, if not the introduction to the entire report.

37. Page 103: Is there a way to mention Feet First with the Universal Design Policy Paper:


Thank you again for your review of our comments. We look forward to working with you to ensure there are places for people of all ages and abilities to walk. Should you have any questions, feel free to contact me by emailing lisa@feetfirst.org or calling 206.652.2310 ext. 6.

Sincerely yours,

Lisa Quinn
Executive Director
To whom it may concern,

Thank you for the opportunity to provide comment on the 2040 Transportation Plan Update. PMSA represents container shipping lines, marine terminal operators and ship agents on the West Coast. We are members of PSRC’s Regional Freight Roundtable and have participated in many transportation planning forums at the state level as well.

We are pleased that the PSRC has included stormwater drainage as a central issue in the update of the plan. Our marine terminal operators have struggled with these issues for some time and are in many instances required to treat stormwater that runs off of state, city, and county transportation facilities on to terminal docks. We are working with the Department of Ecology, Non Governmental Organizations and the Washington Public Ports Association to develop a study of reasonable options for dealing with stormwater and complying with Ecology’s industrial stormwater permit. The fact that PSRC is also prioritizing these issues is a positive sign both for waterfront jobs and economic activity and the environment.

In addition to stormwater, maintenance and repair of existing transportation infrastructure is incredibly important if the state desires to continue to be a trade economy. Our members make decisions on cargo routing based on several key metrics: cost, reliability, and regulatory certainty. Because the ports of Seattle and Tacoma are largely discretionary ports for imported cargo, these three metrics are extremely important to get right. That’s why maintenance and some sort of certainty around stormwater runoff compliance is key to the competitive position of Puget Sound’s ports.

Thank you for the opportunity to comment. Please contact me in the Seattle office at (206) 441-9700 if you have questions.

Thank you.

Jordan Royer
Vice President for External Affairs
Pacific Merchant Shipping Association
2200 Alaskan Way, Suite 160
Seattle, WA 98121
206.441.0182 direct
206.604.1850 cell
March 10, 2014

Attention: Comment on Transportation 2040 Update
Amy Ho
Puget Sound Regional Council
1011 Western Avenue, Suite 500
Seattle, WA 98104-1035

Dear Ms. Ho,

Thank you for the opportunity to comment on the Transportation 2040 Update.

Transportation Choices Coalition, Washington Bikes, Futurewise, OneAmerica, and Puget Sound Sage have worked together to bring Washingtonians of all ages, abilities and backgrounds more and better transportation choices. The ability to offer -- and to continue to offer -- good transportation choices for our region rests on the development of a sustainable transportation system, one that prioritizes environmental and community health for this and subsequent generations. It is with this in mind that we offer the following comments on the PSRC Transportation 2040 Update.

1. Incorporate health into Prioritization Framework

We strongly recommend that PSRC incorporates public health as a measure in its project prioritization framework.

The federal requirement for financial constraint makes project prioritization especially important for Transportation 2040. With unending need for transportation investments across the region but limited revenue, this evaluation process determines which projects will ultimately become part of the PSRC’s constrained plan. Projects with low prioritization scores are often moved into the unprogrammed part of the plan, which consists of projects without identified sources of funding.

Transportation 2040 Update incorporates a prioritization framework that comprises nine measures derived from VISION 2040, which are used to evaluate projects: Air Quality, Freight, Jobs, Multimodal, Puget Sound Land & Water, Safety and System Security, Social Equity & Access to Opportunity, Support for Centers, and Travel. While we applaud the use of these important measures in scoring projects, we believe that public health is also a critical consideration in transportation projects, and one by which any project should be explicitly measured.

As PSRC itself states in the adopted Transportation 2040 Plan, “Multicounty planning policies call for improving opportunities for walking and biking, as well as for addressing health in regional and local planning and decision-making processes.” (http://www.psrc.org/assets/4847/T2040FinalPlan.pdf, p. 38). And although the current prioritization framework evaluates projects on measures that may affect health, such as Air Quality and Puget Sound Land & Water, we believe that explicitly evaluating impacts on public health will allow the region to prioritize projects that not only maintain our region’s enviable fresh air and drinkable water, but also encourage people to make more trips by foot, bike, and transit, helping to prevent obesity, diabetes, osteoporosis, pulmonary and cardiac diseases and even depression. (Center for Disease Control and Prevention resources on built environment: http://www.cdc.gov/healthyplaces/)

Additionally, encouraging projects that are beneficial to community health has important economic impacts. Plan Bay Area has done impressive work in collecting data on the valuation of health benefits.
For example, the plan valuates "the cost of physical inactivity" at $1,220 -- representing "the savings achieved by influencing an insufficiently active adult to engage in moderate physical activity five or more days per week for at least 30 minutes. It reflects annual Bay Area health care cost savings of $326 (2006 dollars), as well as productivity savings of $717 (2006 dollars)." Increased emissions, such as fine particulate matter, are tied to increased medical costs, loss of productive time at work and school due to related illness, and more. Some of the numbers are particularly striking: per ton, Diesel PM2.5 (Fine Particulate Matter) is estimated to cost society $490,300.

In Appendix P, Attachment C of the Transportation 2040 Update, PSRC lists the above nine measures that make up the prioritization framework. For each measure, there are several stated goals, and questions relating to how well a project might meet a certain goal. (e.g. “How well does the project use alternative energy, cleaner fuels, or less energy?”) A range of answers is provided and each answer is awarded a certain number of points. The more points awarded, the better the project is assumed to meet that goal.

In order to ensure that, as a region, we reward projects making great strides toward community health (and de-prioritize projects with negative effects on public health), we suggest that PSRC make the following changes to their prioritization framework:

1. **Add Public Health as a tenth measure**
   Under this measure, PSRC should consider including goals that explicitly target the improvements of public health (e.g. Purpose: reduce instances of obesity; reduce premature deaths from exposure to air pollution; increase the number of minutes of walking/bicycles per person). Most of these explicit health goals can then be measured by metrics PSRC may already be tracking under separate measures: whether a project promotes active transportation; reduces VMTs, etc. This measure should also include criteria that are currently unaccounted for in the prioritization framework: Does a project improve a community’s access to healthy food and parks or other recreational areas? Does a project increase or decrease noise pollution in an area? Including many of these criteria may soon be considered best practices: The Metropolitan Area Transportation Planning for Healthy Communities report suggests MPOs include public health related project selection criteria such as “a requirement for Complete Streets features such as bicycle and pedestrian infrastructure” and an assessment of access to grocery stores, healthy food, or parks.

2. **Strengthen existing criteria that target public health**
   PSRC should also consider strengthening the measures and goals that already directly or indirectly target health in the prioritization framework. For instance, one opportunity for earning points under the Multimodal measure asks whether project “improves opportunities for bicycle and pedestrian travel.” Projects that meet this criterion get one point. We recommend that opportunities for pedestrians and bicyclists should be tracked separately. This will reward doubly projects that have both pedestrian and bicycle components, and it will also make it easier to measure and tease apart what could be two very different outcomes: think of a bike lane on a street, which serves only bicyclists, versus a multi-use trail, which serves pedestrians as well.

PSRC would not be the first metropolitan planning organization (MPO) to include an explicit, overarching policy goal or measure for public health. Mid-America Regional Council’s Transportation Outlook 2040 awards points to projects that meet a “Public Health” policy goal with criteria such as “Promotes increased non-motorized travel” and “Reduces ozone precursor emissions.” These public health criteria are weighted almost equally with eight other policy goals, making up 10% of the total points a project
could be awarded. ([http://www.to2040.org/assets/plan/AppendixC_ProjectSolicitationEvaluation.pdf](http://www.to2040.org/assets/plan/AppendixC_ProjectSolicitationEvaluation.pdf), p.3)

For examples of criteria that address public health explicitly, PSRC might look to the Metropolitan Transportation Commission’s Plan Bay Area Performance Assessment Report, which determines support for projects in part by their ability to meet the following health targets. Note that rather than “Reduce particulate emissions,” the plan’s target is to “Reduce premature death from exposure to particulate emissions.” A portion of the criteria table is excerpted below:

<table>
<thead>
<tr>
<th>Target</th>
<th>Criteria for Project Support</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduce premature deaths from exposure to particulate emissions</td>
<td>• Provides a VMT reduction</td>
</tr>
<tr>
<td></td>
<td>• Increases walk/bike trips</td>
</tr>
<tr>
<td></td>
<td>• Increases transit trips</td>
</tr>
<tr>
<td>Increase the average daily time walking or biking per person for</td>
<td>• Advances clean fuels and/or vehicles beyond CARB</td>
</tr>
<tr>
<td>transportation</td>
<td>targets</td>
</tr>
<tr>
<td></td>
<td>• Provides an alternative to driving alone</td>
</tr>
<tr>
<td></td>
<td>• Provides a VMT reduction</td>
</tr>
</tbody>
</table>


Other MPOs have acknowledged the importance of access to parks and fresh food in regional transportation plans. Both Sacramento Area Council of Governments (SACOG) and the San Diego Association of Governments (SANDAG) use access to recreational spaces and healthy foods to measure performance of the plan over time. SANDAG measures the percentage of population within 15 minutes of travel time to parks and beaches, by both transit and automobile ([http://www.sandag.org/uploads/2050RTP/F2050rtp_all.pdf](http://www.sandag.org/uploads/2050RTP/F2050rtp_all.pdf), p. 4-41). SACOG, on the other hand, measures park acreage per person:

> Another new measure added by SACOG is transit access to parks. Access to parks is important for youth and adult physical activity, health and recreation opportunities. Access to parks in this analysis is defined as access to park acres. Future park acreage is projected through 2035 using a standard park ratio of 5 acres per 1,000 population for areas with new growth. ([http://www.sacog.org/2035/files/MTP-SCS/MTPSCS%20WEB.pdf](http://www.sacog.org/2035/files/MTP-SCS/MTPSCS%20WEB.pdf), p. 202)

Similarly, the Nashville MPO evaluates projects on “the proximity of grocery stores to proposed roadway improvements. Similar to the goal of increasing multi-modal access to schools, the MPO is interested [in] providing increased multi-modal access to fresh foods, particularly in areas of poverty.” ([http://www.nashvillempo.org/docs/lrtp/2035rtp/Docs/2035_Doc/2035_Chapter9.pdf](http://www.nashvillempo.org/docs/lrtp/2035rtp/Docs/2035_Doc/2035_Chapter9.pdf), p. 205). The MPO points to a recent Canadian study showing that “when a full service grocery store is located within a neighborhood, there is a 50 percent increase in consumption of fresh fruits and vegetables and customers arrive on foot or bicycle up to 50 percent of the time.” ([http://www.nashvillempo.org/docs/lrtp/2035rtp/Docs/2035_Doc/2035_Chapter9.pdf](http://www.nashvillempo.org/docs/lrtp/2035rtp/Docs/2035_Doc/2035_Chapter9.pdf), p. 201). A report from Translink, on the health issues related to transportation points to studies that also show that “Individuals living in neighbourhoods with good access to healthy food options [also] have a lower average Body Mass Index (BMI).” ([http://www.translink.ca/~/media/Documents/plans_and_projects/regional_transportation_strategy/Research/Transportation_and_Health.ashx](http://www.translink.ca/~/media/Documents/plans_and_projects/regional_transportation_strategy/Research/Transportation_and_Health.ashx) p.15-16)
We believe that only by explicitly ranking projects based on criteria that promote public health can we ensure that such projects are prioritized and put into action. Already a recognized national leader in connecting health and active transportation, Nashville Area MPO’s 2035 plan, which prioritizes active transportation projects by explicitly evaluating projects on health criteria such as “Project Promotes Physical Activity,” has resulted in an increase of adopted transportation projects with bicycling/walking components from 2% in the 2030 plan to 70%.

With the recent economic downturn and subsequent drop in available revenue for transportation, more projects will be competing for fewer funds. In this most recent update, almost 80 projects with lower prioritization scores were moved out of the constrained portion of the plan. In times like these, a prioritization framework that reflects our values is especially important. By adding public health to the set of measures incorporated into the framework, we can ensure that we’re committed to funding regional projects that encourage healthy communities and boost our region’s economy.

2. Emphasize connections between Active Transportation and health

One benefit of funding non-motorized, active transportation projects is the potential for great improvements to community health. We strongly recommend that PSRC update language in the adopted plan that would show the full extent of this connection between health and active transportation.

A 2011 technical report from the California predicts a strong correlation between regional plans that prioritize active transportation and a reduction in disease burdens.

The main findings are that active transport scenarios generate significant health co-benefits and carbon reductions for the SF Bay Area. For the scenario with the highest levels of physical activity (ATC), ITHIM predicted a 15% reduction in disease burden due to cardiovascular diseases and diabetes, a 10% reduction due to dementia, and approximately 5% reductions each for breast cancer, colon cancer, and depression. Risk reduction of this magnitude would rank among the most notable public health achievements in the modern era, and reduce the estimated $34 billion in California annual costs from cardiovascular disease and other chronic conditions such as obesity. ([http://www.cdph.ca.gov/programs/CCDPHP/Documents/ITHIM_Technical_Report11-21-11rev3-6-12.pdf](http://www.cdph.ca.gov/programs/CCDPHP/Documents/ITHIM_Technical_Report11-21-11rev3-6-12.pdf), p. 19)

Currently, in the “Health Benefits” section of the proposed Transportation 2040 Active Transportation Plan (Appendix O, p. 15), readers are reminded that “[e]xpanding the availability and access to active transportation has the potential to save lives by preventing chronic diseases, reducing and preventing motor vehicle related deaths and injuries, and by improving air quality.” ([http://www.psrc.org/assets/10555/T2040UpdateAppendixO.pdf](http://www.psrc.org/assets/10555/T2040UpdateAppendixO.pdf), p. 15) Indeed, when we make it easier, safer, and more desirable to bike and walk in a community, we improve the chances that community members will use these modes of transportation (and use them more often), getting more exercise as a result, decreasing their risk of developing chronic diseases. As PSRC suggests, fewer cars on the road also means fewer particulate emissions and improved air quality.

However, to say only that increasing active transportation prevents “chronic diseases” and “improv[es] air quality” is to downplay the vast benefits to public health that active transportation can yield. Therefore, we recommend that PSRC expand the “Health Benefits” section of the ATP to do the following, and make similar changes to relevant areas throughout the 2040 plan.

1. Expand on “chronic disease” -
The CDC has drawn connections between active transportation and a reduction in obesity, diabetes, osteoporosis, pulmonary and cardiac diseases, and even cancer. (Center for Disease Control and Prevention resources on built environment: http://www.cdc.gov/healthyplaces/).

2. Tie “air quality” to health - Where PSRC mentions “improving air quality” as a health benefit of active transportation, we recommend explicitly drawing the connection between improved air quality and the potential for reductions in adverse birth outcomes, asthma, diminished lung function, and cancer, all of which have been linked to exposure to traffic emissions. (http://www.cdc.gov/healthyplaces/healthtopics/airpollution.htm).

3. Show links to mental health benefits - The kinds of projects that promote active transportation also have the potential to improve health in less obvious but equally important ways. For instance, active transportation, and areas designed to promote it, can have a profound effect on mental health. Numerous studies show that exercise can not only impact physical health, but it has been proven ease the symptoms of depression and anxiety (http://atl.sites.olt.ubc.ca/files/2011/06/physical-activity-and-transportation-benefits.pdf, p. 9). As an added benefit, communities built in such a way that both work and non-work trips can be made easily by bike or on foot likely have a density that prevents the kind of isolation that happens when communities or residences are connected to others only by a long stretch of highway or limited bus routes. Studies show that people (especially those with limited mobility such as the elderly, those with disabilities, or families that can’t afford a car) can suffer from depression as a result of this social isolation when their transportation system makes it more difficult to visit friends or family, or engage in other social opportunities. (http://www.translink.ca/~/media/Documents/plans_and_projects/regional_transportation_strategy/Research/Transportation_and_Health.ashx, p 23).

4. Add “water quality” and tie to health - Lastly, a region that encourages mixed use paths over parking lots and widened highways will have far fewer square footage of impervious surfaces, which can lead to stormwater runoff that puts sediment and household toxics in our drinking water. Ingesting this polluted water can make people sick. (http://water.epa.gov/action/weatherchannel/stormwater.cfm)

For inspiration, PSRC might look to the Nashville Area MPO’s 2035 plan for generally strong language emphasizing the tie between active transportation and health:

“Improving walking and bicycling conditions across the Nashville area will provide numerous benefits to the region including increased recreational and leisure opportunities, increased roadway safety, and even increased access to and from existing and future mass transit services; but, perhaps the most significant reason for the recent emergence of active transportation initiatives relates more directly to personal health, and more specifically, the increasing costs to our nation associated with an overall decline in public health, of which a share of the blame can be attributed current and former public policies for transportation infrastructure that have shaped the built environment. The issue is so important, the Nashville Area MPO has adopted as one of its three major policy initiatives an emphasis on supporting active transportation and the development of walkable communities.” http://www.nashvillemopo.org/docs/lrtp/2035rtp/Docs/2035_Doc/2035_Chapter6.pdf (p. 116)

SANDAG’s 2050 Regional Transportation Plan, on the other hand, is a good example of an RTP that is more explicit in enumerating the health benefits of active transportation:

“The benefits of walking and bicycling are many, while the costs of supporting active transportation are relatively minor. The 2050 RTP fully funds the identified needs for bicycling and
In short, the connections between active transportation and public health benefits are well documented, and promoting active transportation in a regional transportation plan has been shown to be an effective way of reaping these benefits. We suggest that PSRC follow in the footsteps of Nashville Area MPO and SANDAG by taking a bold stance on active transportation and its connection to health.

In order to help measure the impact of active transportation on health in Puget Sound, we also recommend that PSRC include health metrics in the models used to analyze regional project scenarios. Metrics that forecast and measure the incidence of certain diseases, reductions in premature deaths, and healthcare savings that are tied either to a decrease in emissions or an increase in physical activity will help PSRC continue to build the case for active transportation projects, both in terms of overall community health and economic savings. When PSRC next updates their models they should again look to Plan Bay Area’s Final Performance Assessment Report (http://onebayarea.org/pdf/final_supplemental_reports/FINAL_PBA_Performance_Assessment_Report.pdf), which describes potential methodologies and has done great work in collecting benefit valuation information on a number of air quality and health data points.

### 3. Emphasize connections between environmental justice and health

We commend the PSRC for its commitment to environmental justice. Environmental justice in transportation means ensuring that lower-income and minority communities, as well as other vulnerable populations, do not disproportionately bear the negative effects of transportation projects across the entire lifecycle of a project. Effective environmental justice also entails ensuring that these same communities receive an equal share of the benefits of transportation projects.

In both the adopted version of Transportation 2040’s Environmental Justice appendix and its proposed updates (Appendix G, p.1), PSRC illustrates possible negative impacts from transportation projects as follows:

> “Negative effects can include disruptions to communities, restricted access to publicly-funded facilities, safety concerns, higher exposures to hazardous materials, increased noise levels, and increased water and air pollution.”

(http://www.psrc.org/assets/10660/T2040UpdateAppendixG.pdf, p. 1)

Nearly each and every one of these negative effects has impacts to human health, although these connections are left to the reader to infer at this point in the plan. While we are a proponent of clarifying transportation’s effects on public health, we believe it is especially critical in the context of environmental justice, as lower-income and minority communities are already at greater risk for large health disparities. For this reason, the Nashville MPO’s Pre-Evaluation Assessments of Nutrition, Physical Activity, and...
Obesity Programs and Policies report calls out predominantly minority and low-income neighborhoods as “High Health Impact Areas:"

“One of the project scoring areas is the High Health Impact Area, which is made up of census tracts in the MPO region which have higher than average presence of populations who are impoverished, minority, or elderly. Households in these areas may have higher rates of health disparities and chronic diseases such as heart disease, hypertension, diabetes, and obesity.”

(http://www.nashvillempo.org/docs/Health/Nashville%20MPO%20Summary%20Report_FINAL.pdf, p. 9)

While the Transportation 2040 plan goes into more detail on the health impacts of some of these effects later in the document, we recommend that PSRC expand the “Potential negative effects of transportation projects” section of the Environmental Justice appendix (Appendix G, p. 1) to clarify upfront the relationship between environmental justice and health impacts in the following ways, making similar changes to relevant areas throughout the 2040 plan.

1. Tie “disruptions to communities” to health -
One example of “disruptions to communities” by transportation projects is displacement of community members. For example, communities may be disrupted and residents displaced by a new highway, for which houses or neighborhoods may be razed to clear space. A less extreme cause of displacement - but equally distressing at an individual level - can occur when transportation projects increase real estate value in an area, displacing community members that may no longer be able to afford to live there.

Either way, displacement can have several negative health outcomes, including “increases in infectious disease, chronic disease, stress, and impeded child development,” due to change in living conditions, ability to meet basic needs, or sense of stability/belonging.
(http://www.policylink.org/atf/cf/%7B97c6d565-bb43-406d-a6d5-eca3bbf35af0%7D/HEALTHY%20CORRIDOR%20TECHNICAL%20REPORT_FINAL_20120111.PDF, p. 61)

2. Tie “restricted access to publicly-funded facilities” to health -
If we take parks, community centers, and other recreational spaces as an example of “publicly-funded facilities,” it is easy to conclude that reduced access to these facilities will impact public health. Access to parks (in particular, access by transit, bicycle, or foot), is important for youth and adult physical activity, especially for designated environmental justice communities, where transit-dependency is often high.
(https://www.fhwa.dot.gov/planning/health_in_transportation/resources/healthy_communities/mpohealth12122012.pdf, p. 3)

3. Tie “higher exposures to hazardous materials” to health -
In a report prepared for the EPA, Brender et al gather evidence from an extensive literature review to show not only that ethnic/racial minorities and persons of lower socioeconomic status are more likely to live near potential environmental hazards, but that these hazards are indeed correlated with several different negative health effects. Several studies showed positive associations between proximity to waste sites and central nervous system defects in children. Residential proximity to roadways or increased exposure to traffic-related pollution were associated with increased risk of childhood leukemia in several European studies, and proximity to gas stations was also associated with an increased risk for childhood leukemia. (http://www.epa.gov/ncer/events/calendar/2010/mar17/abstracts/brender.pdf)

4. Tie “increased noise levels” to health -
Transportation projects can be responsible for increased ambient noise both during the construction phase and throughout the remainder of the project’s lifespan, due to the addition of new roadways or increased traffic. According to a report from Translink, there is mounting evidence that “cardiovascular health is harmed by exposure to traffic noise. Loud noises produced by typical traffic sounds have been
shown to contribute to general irritation throughout the day, having impacts extending even as far as contributing to the loss of sleep and exacerbating hypertensive conditions. In addition, loud noises can engage many other senses through synergistic action with vibration. The effects of vibration make sound more acutely perceived and have been shown to act upon diastolic blood pressure.”

5. Tie “increased water and air pollution” to health -
As we stated above, we recommend explicitly drawing the connection between air pollution and adverse birth outcomes, asthma, diminished lung function, and cancer, all of which have been linked to exposure to traffic emissions. The possibility of contracting illnesses by ingesting polluted water should also be mentioned.

6. Add “reduced accessibility and mobility” and corresponding health impacts as a potential negative effect -
Any changes to the regional transportation system that result in a decrease in transit service or reductions in pedestrian or bicycle infrastructure can have a particularly disproportionate impact on vulnerable populations, who are often less likely to own cars, due to financial or physical limitations. Transit dependent communities whose mobility and accessibility are restricted can suffer subsequent negative health impacts in several ways: limited access to healthy food can result in obesity; limited access to hospitals and medical facilities can make it more difficult to get to doctor’s appointments, making small health problems more likely to go untreated, after which they may need much larger medical interventions; difficulty in getting to school or place of employment can cause stress and anxiety; and isolation from friends and family can increase the symptoms of depression.

Additionally, if a previously transit reliant, lower-income family’s access to transit becomes compromised and purchasing a car becomes a necessity, transportation costs as a percentage of overall household income will likely increase, leaving fewer funds available for groceries, rent, and healthcare.

Because negative impacts from transportation projects can have such profound, varied, and non-obvious effects on community health, it is particularly important to explicitly show the connection between the two in the context of environmental justice, which targets communities that are already highly susceptible to large health disparities.

In strengthening their own section on Environmental Justice, PSRC can look at SACOG’s 2035 plan, which has sections on access to medical care and parks, while the Volpe report provides good examples of language that ties community health to environmental justice.

As mentioned previously, the flip side of environmental justice entails ensuring that vulnerable populations receive a fair share of the benefits of transportation projects - economic vitality, reduced pollution and noise, and more and better transportation options, which in turn have the added benefit of reducing obesity, stress, exposure to pollutants, and related diseases. Because these communities have already been shown to disproportionately suffer from health disparities, we, as a region, will need to make more than just equal investments in our low-income and minority neighborhoods in order to help level the playing field. Instead, we will likely need to disproportionately increase the transportation
investments in these areas, with a special focus on projects that promote active transportation, reduce pollution, and increase mobility and access, in order to improve health outcomes in these areas.

To start, PSRC should do a rigorous analysis of transportation investments (in terms of revenue) by census tract (or smaller block groups or blocks, if possible) and compare that with the number and proportion of low-income and minority residents in those areas.

PSRC has already done the work to identify low-income populations and areas with a high proportion of minority residents, as shown in Appendix G of the adopted Transportation 2040 plan. (http://www.psrc.org/assets/4883/Appendix_G_-_Environmental_Justice_-_FINAL_-_August_2010.pdf, pp. 7-18). In fact, as part of Destination 2030 (Puget Sound’s long-range transportation plan adopted in 2001), PSRC made strides toward this type of analysis by providing maps of poverty concentrations, low-income populations, and minority population that concurrently show the location of transit and roadway projects (http://www.psrc.org/about/public/titlevi/ej-by-program/, see Appendix 2 Maps). A more detailed analysis was made available in 2012, when PSRC approved its 2013-2016 Regional Transportation Improvement Program. The program’s Environmental Justice Documentation (Appendix F, http://www.psrc.org/assets/8603/F_-_Environmental_Justice.pdf) looked at transportation projects that “touch” neighborhoods in the region, and the distribution of minority and low-income residents in those neighborhoods. The study then broke down transportation projects by type (e.g. “nonmotorized” or “transit”), finding that distribution of improvement types is roughly equivalent among minority and non-minority neighborhoods.

What we find missing from these previous analyses, however, are the amount of transportation revenue going into each of these environmental justice areas (revenue can vary wildly by project, so we do not believe that number of projects in an area is a true representation of investment), and a refinement of the methodology used to estimate the number and proportion of minority and/or low-income residents in an area affected by a project (by PSRC’s own admission, “a limitation of this tract-level analysis is that it counts all tracts equally, regardless of the size of the population within each tract.” (http://www.psrc.org/assets/8603/F_-_Environmental_Justice.pdf, p. 12)). Once this data is collected, PSRC will have baseline information on the amount of revenue being spent on projects that promote active transportation, reduce pollution, and increase access in vulnerable communities, which will provide a good roadmap for future investments.

4. Emphasize connection between Climate Change goals and health

We applaud PSRC’s commitment to reducing greenhouse gas emissions in the Puget Sound region, where the transportation sector accounts for roughly 50 percent of greenhouse gas emissions. Increased levels of greenhouse gas emissions in the atmosphere trap heat, causing surface warming of the earth, which, in turn, causes the climate to change. The consequences of this climate change are, as the PSRC points out in the adopted Transportation 2040 plan, “serious,” including “rising sea levels, increased flooding, and an increase in the frequency and severity of storms and other weather events, droughts, wildfires, impacts to water availability and quality, and impacts to crops.” (http://www.psrc.org/assets/4847/T2040FinalPlan.pdf, p. 36)

Although climate change is associated most strongly with its effects on environmental health, the impacts on community health can be just as consequential. We believe it is important that PSRC draw clear connections between climate change and its effects on human health by making the following changes to the section on climate change adaptation (Adopted Transportation 2040 Plan, Chapter 3, p. 36), and throughout the plan, as appropriate:

1. Draw connections between the listed environmental impacts and their health impacts
The projected changes to climate can affect human health directly and indirectly: the extreme
temperatures we can anticipate as part of a changing climate can cause heat stroke or hypothermia;
decreased water availability and quality can result in cases of dehydration in areas with limited fresh
water and diseases from ingestion of polluted water; overall warming can cause changes to the growing
season, which, especially in conjunction with more frequent droughts and floods can impact crops so
much as to cause food shortages and starvation. Sea-level rise can require economic dislocation and
related stress.

(Safetrec.berkeley.edu/sites/default/files/transportationandhealthpolicycomplete%20%282%29.pdf, p. 1-13)

SACOG takes the step of including a dedicated section on public health impacts of climate change in their
2035 plan:

Public Health
Higher temperatures would create additional, longer, and more intense climate conditions
leading to increased air pollution. An increase in global background ozone levels, as predicted in
some scenarios, would make it impossible to meet local air quality standards. Large wildfires
could become up to 55 percent more frequent, further increasing air pollution.
Under the higher warming scenario, in Sacramento there could be up to 100 more days per year
with temperatures above 95°F by 2100. Rising temperatures will increase the risk of death from
dehydration, heat stroke/exhaustion, heart attack, stroke, and respiratory distress caused by
extreme heat. It will also result in more GHG emissions from increased energy consumed from the
use of air conditioners. (Sacog.org/2035/files/MTP-SCS/MTPSCS%20WEB.pdf, p. 175)

Their RTP also includes an excerpt from California’s Health and Safety Code, which states that “the
potential adverse impacts of global warming include [...] an increase in the incidences of infectious
disease, asthma, and other human health-related problems.” (p. 174)

2. Explain co-benefits to human health from transportation projects aimed at slowing climate change.

Conversely, the kinds of transportation projects that reduce greenhouse gases also promote active
lifestyles and improve air quality, yielding great health “co-benefits.” For instance, one of the best ways of
reducing VMTs (and subsequently reducing GHGs) is to promote denser neighborhoods by way of infill
development. Dense neighborhoods put jobs, parks, and recreation within walking or biking distance of
their residents, inadvertently promoting active transportation. Similarly, projects that expressly promote
non-motorized modes of transportation (such as bicycle paths) are another way of reducing VMTs. Both
types of projects have the added benefit of reducing rates obesity, cancer, and diabetes from the
increased physical activity they promote.
(Who.int/hia/examples/trspt_comms/hge_transport_lowresurban_30_11_2011.pdf, p. 1)

Metropolitan Transportation Commission draws this connection clearly in its Plan Bay Area:

“One of the main goals of both Plan Bay Area and the Bay Area Air Quality Management District’s
2010 Clean Air Plan is to reduce greenhouse gas emissions from cars and trucks by focusing future
land development in existing urban areas that are easily accessible to transit, jobs, shopping and
other services. [Compact infill development] also encourages more walkable communities, which
can help to reduce obesity and diabetes.” -
(File.mtc.ca.gov/pdf/Plan_Bay_Area_FINAL/Plan_Bay_Area.pdf, p.123)
Reducing VMTs not only reduces GHGs, of course, but also other particulate matter emitted by cars and trucks. Reduce these airborne particulates and you make strides toward reducing asthma and other respiratory and cardiovascular diseases in the region.

Because evidence shows community health and projects that help halt climate change go hand-in-hand, we urge PSRC to adopt language in the Transportation 2040 plan that shows the strong connection between the two.

5. Environmental Justice Guidelines: Aligning Performance Measures and Public Involvement with Demographic Change

- With regard to demographic data, given demographic projections between now and 2040, it would be important for PSRC (at least for the big update) to model where low-income and minority populations now live and where they are projected to live based on an analysis of current and projected trends. It’s also important to note that demographers project that the region will near or exceed 50 percent people of color in 2040, which further underscores the importance of anticipating this demographic milestone through an environmental justice lens.
  - One factor to take into account is the ‘suburbanization of poverty’ referenced in the coordinated transit-human service transportation plan. It will be important to assess the impact transportation investments can have on affordability and transit access in city centers, and the challenges faced by transit-dependent communities living outside of city centers.

- With regard to the coordinated transit-human service transportation plan, while the Job Access and Reverse Commute program and the New Freedom Initiative no longer exist as stand-alone programs, PSRC should demonstrate how it has elevated the focus on transit dependent communities into its transit planning process across existing transit systems.

- Environmental Justice components of the plan require greater emphasis:
  - Public Involvement:
    - By what mechanism does PSRC intend to test, shape and implement stronger public involvement strategies?
    - Past approaches have emphasized advisory committees and public meetings. Another approach would be to invest directly into intermediary organizations and community-based organizations to strengthen their capacity to shape local and regional planning efforts.
    - We also urge PSRC to increase its financial support and long-term commitment to the Growing Transit Communities initiative. Not only should the program continue to support multi-stakeholder strategies to shape transit oriented development efforts within the region, but it should also seek to significantly increase the capacity of community-based organizations to support the development of the ‘big’ transportation planning update slated to begin in 2015.
    - How has PSRC demonstrated integration of its own performance measure and monitoring process with the initiatives focused on social and racial equity in King County and the City of Seattle, and how will this be integrated into the long range planning process?
    - Given rapid increases in immigrant and refugee populations in the Puget Sound Region, we also recommend a more robust coordinated strategy on outreach, translation and public involvement focused on limited English proficient individuals.
6. Clarify the presentation of draft documents

We are grateful for the opportunity to comment on PSRC’s Transportation 2040 plan. However, we would like to suggest that PSRC review and improve the presentation of draft documents in subsequent updates. The layout of the documents on the 2040 Update page (http://www.psrc.org/transportation/t2040/transportation-2040-update) nearly mirrors that of the operative plan. However, the documents themselves appear to be a mix of descriptions of how sections will be updated and drafts of entirely new sections. We recommend that PSRC do one of two things for future updates:

1. Provide and clearly label two full sets of documents: a) the newly updated Transportation plan - the proposed operative draft to be adopted in its entirety, and b) one or more documents that describe the updates.

2. If providing a full draft of the updated operative version is not possible, it would help readers if each document provided on the plan update web page were labeled to describe the nature of the document (e.g. “(Proposed new section to be adopted)” or “(Updated draft of existing section)”).

We thank the PSRC for all of their efforts developing this plan and improving it with each update. We look forward to working with PSRC and its member jurisdictions to help improve this vision and to implement it with criteria that allow us to prioritize the projects that improve community health, ensuring a more sustainable transportation system for the region.

Sincerely,

Rob Johnson
Executive Director
Transportation Choices Coalition

Barb Chamberlain
Executive Director
Washington Bikes

Rich Stolz
Executive Director
OneAmerica

Hilary S. Franz
Executive Director
Futurewise

Rebecca Saldaña
Program Director
Puget Sound Sage
March 10, 2014

Amy Ho
Puget Sound Regional Council
1011 Western Avenue, Suite 500
Seattle, WA 98104-1035

Response to Transportation 2040 Draft Update

Dear Ms. Ho:

The Eastside Rail Corridor Regional Advisory Council (RAC) is a consortium of the principal owners who have recently acquired the rights within the former BNSF rail corridor and have partnered together in the development of a long-term vision for the multi-use development of the corridor.

Consistent with the federal Rails to Trails Act, as partners, we recognize that the ERC is a regionally significant element of our transportation and utility infrastructure with a key role to play in a growing community. Last October, the RAC adopted a first phase report acknowledging that the ERC provides a rare and unique opportunity to develop a major north-south corridor for multiple, important purposes: mobility, high capacity transit, utility infrastructure, and recreation and that with careful planning will become a “Corridor for the Ages.” Hence our collective interest in commenting on PSRC’s Draft Update to Transportation 2040, the region’s long-range, multimodal transportation plan.

We want to reiterate the importance of the ERC as a corridor of regional significance and acknowledge the inclusion of ERC-related trail projects within the constrained portion of the Draft Update. The PSRC’s willingness to incorporate these projects within the constrained portion will allow the owners to move forward with the implementation of our shared, regional multi-use vision for this crucial corridor. Implementation of this vision and these projects will directly support connections between the regional growth centers in Redmond, Kirkland/Totem Lake, Bellevue and Renton.

Multi-use development of the ERC with recreational trails, high capacity transit, and utility infrastructure will help realize the Transportation 2040 evaluation measures, with a particular focus on the following measures: Air Quality, Jobs, Multimodal, Social Equity & Access to Opportunity, Support for Centers, and Travel. The ERC will help provide mobility and access to people and businesses throughout East King County, and will link to the trail and transportation networks in South King, Pierce and Snohomish Counties. In addition, the shared multi-use vision
will provide a utility corridor that will ensure the Eastside has the infrastructure necessary to achieve the growth anticipated in the PSRC Land Use Report. Work to implement the multi-use, multimodal vision for the ERC has already begun:

- Sound Transit is preparing to begin construction of East Link, which will traverse a portion of the ERC, with the Hospital Station being located on the corridor. Sound Transit is also conducting a technical analysis of high capacity transit modes on the ERC and updating the agency’s Long-Range Plan.

- The City of Redmond has completed Phase 1 of the Redmond Central Connector along its portion of the corridor, which currently includes a multi-use trail, an underground utility corridor, and new connections to a reactivated downtown street grid and other local and regional trails, and will ultimately include light rail when East Link comes to Redmond.

- The City of Kirkland is currently completing a master plan of its ownership area of the ERC called the Cross Kirkland Corridor. The section of the ERC from Bellevue to Kirkland and the Cross Kirkland Corridor should be changed from commuter rail to “High Capacity Transit” as those two segments of the ERC link the Totem Lake Urban Center to the soon-to-be-constructed East Link Light Rail line in Bellevue. The High Capacity Transit designation is more consistent with Kirkland’s vision and growth targets for the Totem Lake Urban Center as well as Sound Transit’s evaluation of transit options for these two segments of the corridor.

- Puget Sound Energy is conducting a community outreach process around Energize Eastside, its project and proposal to increase transmission capacity within East King County that may utilize portions of the ERC. Puget Sound Energy is also working on its Sammamish-Juanita 115 kV electric transmission project, which will build additional capacity and reliability for North King County.

- King County, consistent with the federal Rails to Trails Act, is preparing to begin master trail planning for its ownership portions of the ERC, with a particular focus on regional trail, transit, and mobility connections.

The owners of the ERC have appreciated the opportunity to work together, as well as with neighboring jurisdictions, PSRC, and other local and regional partners, to develop a shared regional vision for the ERC. We are pleased that the trail projects needed to implement the next
steps of this shared vision are included in the constrained portion of the Transportation 2040 Draft Update. We look forward to continuing to work with the PSRC to find additional ways to support the development of the ERC as a multi-use corridor that will serve the needs of the region for generations to come.

Thank you for the opportunity to comment.

Sincerely,

Jane Hague
King County Council Co-Chair
RAC Co-Chair

Larry Phillips
King County Council Chair

Joni Earl
Sound Transit

David Namura
Puget Sound Energy

Christie True
King County Department of Natural Resources & Parks, RAC Co-Chair

Kathy Lambert
King County Council

Amy Walen
City of Kirkland

John Marchione
City of Redmond

cc:  Pat McCarthy, President. Puget Sound Regional Council
Claudia Balducci, Chair, PSRC Transportation Policy Board
Dave Somers, Chair, PSRC Growth Management Policy Board
Ed Stern, PSRC, Interim President, EDD
Josh Brown, PSRC Executive Director
Reagan Dunn, King County Council
Joe Mc Dermott, King County Council
Eastside TRailway Alliance

March 9, 2014

To: Puget Sound Regional Council
Josh Brown, Executive Director
(attn: Amy Ho, 2040 update coordinator)
From: Mayor Karen Guzak, Mayor, City of Snohomish
Les Rubstello, Woodinville City Council
Re: Transportation 2040 Update

As co-chairs of the Eastside TRailway Alliance, we are pleased to provide the following comments on the Eastside Rail Corridor to the Puget Sound Regional Council (PSRC) for the Transportation 2040 Update.
The Alliance is a public private partnership focused on joint rail, trail and utility development on the northern segment of the corridor. We have an ongoing interest in the development of the rest of the corridor and work directly with the corridor owner group - Eastside Rail Corridor Regional Advisory Council.

We encourage the Puget Sound Regional Council (PSRC) to incorporate three general policies in your update with regard to the Eastside Rail Corridor. These issues are spelled out in greater detail in the attached Position Statement.

First, because the planning for the Eastside Rail Corridor is relatively new since the Port of Seattle purchase, it represents a major opportunity to incorporate greater use of public private partnerships to leverage public road, transit and utility infrastructure around private retail, industrial, recreational and housing development at corridor stations and trailheads. The exciting new development in Bothell (connected to the corridor by trail and short spur track) is leveraging $250 million in private development with $150 million in public investment through the largest publicly led downtown revitalization in the state.

Second, the PSRC has a significant role in ensuring coordinated development in the corridor connecting King and Snohomish counties. We believe facilitating compatible transit technologies and trail standards will enhance the interoperability of the corridor. As representatives of the northern segment, we would welcome your active role with Snohomish County and our Alliance in planning for the corridor including economic development and freight mobility, trail and transit oriented development and financing of localized connectors to the corridor as envisioned in a Woodinville Trolley under discussion. We are specifically interested in the PSRC Growing Transit Communities program.
Third, we believe there is a continuing and important role for the State of Washington in coordinated corridor development. Replacing the rail and future trail overpass at Wilburton (removed for I-405 expansion) and “repurposing” of the rail corridor to support major transit and highway projects can reduce tax payer costs and add a public health value inherent in rail operations. In the State Rail Plan, support for critical short haul rail lines (such as the active north segment of the corridor) to connect local businesses to Class One main lines is listed and we are pursuing state funding for northern track enhancements. Finally, the state has an interest in retaining the Eastside Rail Corridor as a redundant transportation system for people and goods – and long term economic recovery for Boeing – in the likely event of major seismic event with potential losses to I-5 and the shoreside rail line of BNSF Railway.

We believe the Eastside Rail Corridor represents one of the few opportunities in this region and country to work from a blank canvas to develop a string of sustainable, job-creating, and community-oriented projects along a 44 mile corridor.
And we support PSRC taking an active role.

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206-228-4011

Eastside TRailway Alliance  
Position Statement on PSRC Transportation 2040 Update  
March 9, 2014

The Eastside Rail Corridor is a perfect regional laboratory for Public Private Partnerships (PPP). Many transit agencies around the country are moving toward public private partnerships (i.e. Denver’s FasTracks) as a way to leverage limited public dollars with private investment to expand the reach of transit. The Eastside Rail Corridor – with remarkable redevelopment opportunities at potential stations and trail heads – provides an ideal case study for PSRC and your next Growing Transit Community initiative (focused now on the East Link light rail line).

We look forward to working with the City of Kirkland, King County and Sound Transit around the Totem Lake redevelopment area focused on transit oriented development opportunities and rail/trail/utility connections to Woodinville and east Snohomish County. The City of Kirkland has comprehensively engaged their citizens in planning for the Cross-Kirkland Corridor and we had the pleasure of participating in their Advanced Transportation Solutions symposium at the Kirkland Google campus recently. The forum examined several case studies of public private partnerships.

The successful 2008 ballot measure for Sound Transit included up to $50 million in capital investments for track upgrades and equipment for the Eastside Rail Corridor. It was curtailed, unfortunately, due to
budget challenges from the recession. We have communicated to Sound Transit that the STIII plan should recommit to the same 2008 proposal for the Eastside Rail Corridor. We recommended they explore locomotive-less, DieselMultiple Unit (DMU) trains to connect riders from outside the ST taxing district – for east Snohomish County as well as communities to the north, southeast and south. With enhanced trackage a private commuter rail operator could finance operations through adjacent development and operate excursion trains and connect to local trolley operations without any ongoing public tax subsidy.

An intact Eastside Rail Corridor will be critical to economic recovery after a major earthquake. In today’s Seattle Times [http://seattletimes.com/html/localnews/2023084236_japanrecoveryxml.html], local emergency service leaders warn that the Cascadia subduction zone is likely to cause a major earthquake in the future and should be factored into all planning and development. “...we are being irresponsible if we do not make Cascadia one of the check boxes in every decision we make”.

There are several challenges to making the Eastside Rail Corridor useable after a major seismic event including restoring the Wilburton overpass at I – 405. A short term “repurposing” of the rail line with state funding to haul equipment and construction debris in and out of major Eastside highway and transit projects is a start. This could save significant tax dollars by lowering project costs and wear and tear on local roads while improving public health by replacing thousands of diesel burning double dump truck runs with lower emission trains.

Transportation 2040 needs to provide a new “resiliency overlay” for our regional transportation system in concert with new planning at the state level. If we lose our major I-5 highway/bridge and shoreside rail systems, retaining the Boeing Company – with facilities in Everett and Renton - will be critical to long term economic recovery. Up until 2007, Boeing hauled fuselages on the corridor.

Focusing on projects for the northern segment of the corridor...

Snohomish County is setting the standard for joint trail and rail development. Our Alliance is appreciative of the recent acquisition by Snohomish County of the northern segment of the corridor within the county. They have begun the environmental and engineering process to begin construction of a parallel trail. The completion of the 12 mile “South Centennial Trail” from Snohomish to Woodinville will connect 172 miles of trails from Pierce County to Skagit County. Passenger rail can also serve as a “trail extender” allowing bicyclists and pedestrians to expand the range of their travel in a safe travel lane away from highway traffic. We believe the PSRC Update should reflect a future coordination role for trail development with neighboring counties north to Canada and south to Olympia.

Interested in economic development, Snohomish County is also working with the current short haul freight rail operator (Ballard Terminal) and county economic development interests to find new rail customers in addition to current Boise Cascade and Spectra Glass operations. Finding new industrial businesses with a connection interest to the Burlington Northern Santa Fe Railway mainline in Snohomish fits the Prosperity Partnership “cluster” strategy and the 28 acre industrial zone at Maltby offers an
attractive hub for rail related job creation and retention.

**Woodinville Trolley and the tourism-related Upper Eastside.** Meanwhile, our Alliance has been working to introduce tourism related excursion trains featuring local wines and produce to book-end the proposed historic “Pilchuck District” in Snohomish and the fast growing wineries in Woodinville under the **Upper Eastside** marketing initiative. The most promising immediate initiative is a localized trolley service on the corridor in Woodinville connecting the winery centers with the downtown business district. We have broached the subject of using the retired Seattle Waterfront Streetcars for the service with King County leaders. We are engaging local wineries, the Port of Seattle tourism leaders, Northwest Cruise Ship Alliance, bicycling and other outdoor recreation interests to plan for the Trolley. We are also reaching out to Bothell, UW and Cascadia College leaders to explore better ways to include them in the campaign and connect with the Woodinville Trolley in additional ways to the current trail.
To: Puget Sound Regional Council  

Josh Brown, Executive Director  
(attn: Amy Ho, 2040 update coordinator)  

From:  
Lloyd Flem, All Aboard Washington  
Bruce Agnew, Cascadia Academy  

Re: Transportation 2040 Update  

As representatives of Washington state’s independent non-profit (501C3) rail advocacy organization, we of All Aboard Washington/Cascadia urge the PSRC’s support of a restoration of rail infrastructure on the 44 mile former BNSF Wilburton Sub, commonly known as the Eastside Rail Line. Given the existing and projected growth in population, residential, commercial and industrial development on the Eastside, it would seem to be in the region’s and even statewide interest to retain and utilize this railroad resource for rail as well as recreational uses.

BNSF’s non-retention of the Wilburton Sub does not mean it is not valuable for restored rail uses, freight and passenger. BNSF, like others of the major (Class One) American railroads, has chosen to focus on large unit trains traveling long distances, shedding these shorter branch lines, often to “short line” freight railroads and or for commuter rail purposes. The Wilburton Sub did not match current Class One railroad business plans, but still has great potential value as an active rail line.

We believe a glance at the map of the Central Puget Sound metro region simply but strongly depicts the value of preservation and use of the Eastside Line for rail uses. At this writing, the BNSF mainline through Mukilteo is again annulled for passenger trains, Amtrak and Sounder, because of the mudslides that are endemic during the rainy season. A week or two of heavy winter rains, coupled with a major earthquake (Cascadia Subduction Zone) could mean a long-time loss of economically-vital freight as well as passenger rail service. Having an alternative north-south rail route would seem essential. The Eastside Rail Line, if restored, would serve as that alternative as well as having inherent value as a short line for freight and regional passenger rail service.

The costs of restoring the Eastside Line would be dramatically less than the price of developing another Eastside transportation corridor, ”sometime in the future”. with the extremely high costs in time, trouble, and many millions associated with acquisition of new rights-of-way. Recent experience would suggest this existing corridor is a fiscally-prudent choice compared to other far-more-costly proposed alternatives.
Some have suggested the Eastside Rail line should become “The Grandaddy of all Trails” only. AAWA/Cascadia fully embraces the idea of rail AND trail, even coining the term “TRailway”. The right of way will easily and safely accommodate both rail and trail. Trail only would not be a responsible use of this resource.

The above case for Eastside Rail Line restoration has been presented to many members of the Washington State House and Senate Transportation Committees, and to those not currently on the HTC or STC who are members of the Legislative Rail Caucus, a strictly bi-partisan, Eastern and Western Washington group of 25-30 members who feel rail, freight and passenger, should have a larger role in our state’s transportation future. There is essential unanimity in the LRC in support for preserving rail infrastructure, including the Eastside Rail Line.

We believe the relatively reasonable costs of restoring the Eastside rail Line to use for rail, compared to the costs of other rail and road alternatives now proposed for the Eastside, plus the dual use utility of the “TRailway”, make it a wise decision for PSRC to now actively endorse the preservation and use of this singularly irreplaceable transportation resource a past generation has fortuitously left us.

Thank You
CATES

Center for Advanced Transportation and Energy Solutions

Comment for the record on the T-2040 update:

The Center for Advanced Transportation and Energy Solutions (CATES) (http://www.aboutcates.org) commends Puget Sound Regional Council for including consideration of autonomous vehicles in its plans for updating the Metropolitan Transportation Plan for central Puget Sound Region. We were especially pleased that the term “autonomous vehicle” is used on three different pages in the main Transportation 2040 UPDATE document subtitled “toward a sustainable transportation system,” as posted at http://www.psrc.org/assets/10550/T2040Update.pdf.

Present day technology development trends indicate that autonomous cars, trucks, and buses -- multi-passenger vehicles of all sizes operating on the present road network without human drivers -- are likely to be deployed in our region by 2045, and are likely to motivate changes in travel mode share among the various mobility choices that exist at that future time. These vehicles are likely to be almost totally crash proof, because sensors and computerized processing can cause them to slow and stop before a collision is physically possible to occur with another motor vehicle, a bicycle, or a pedestrian.

In addition to CATES’ research to outline a public policy response in our region to vehicle automation and associated wireless data connectivity, we are also working to make sure that the benefits of electric motors for road vehicle powertrains are understood. With a carbon-free electric power grid in place in Washington State, a growing proportion of vehicles that can refill their energy storage by plugging in to the grid rather than filling up at the pump would make our state a worldwide leader in demonstrating how to slow climate change and reduce the level of the six EPA-established criteria pollutants that kill as many Americans each year as car crashes do.

In support of PSRC’s work, I have attached FYI the pre-publication draft version of a short research paper from CATES that bears on your consideration of sustainable transportation and the opportunities that come from disruptive technology applications that improve how the future of mobility develops in our region.

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Connected, Automated, Zero-Emission Cars Are Essential for Improving Livable, Sustainable Communities

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ABSTRACT
One of the public policy goals for livable and sustainable communities is to minimize the use of automobiles. This paper focuses on introducing and justifying an important new policy principle. Even when car travel is minimized with smart growth land development policies, transportation demand management, and increased public transit, a significant level of automobile use will remain. As a result, reducing the environmental, economic and safety impacts of those remaining automobiles should be an essential element of a livable, sustainable community. Fortunately, fundamental and disruptive technological advances in new vehicles—automation, connectivity, and electrification—as described in this paper are fast emerging to make this new priority feasible.

KEY WORDS
livability, sustainability, smart growth, electrified vehicles, automated driving, connected vehicles, personalized mobility, traffic safety, smart cities, urban planning
One of the shared public policy goals for the two concepts of livable and sustainable communities is to minimize the use of automobiles (1). This paper focuses on introducing and justifying an important new policy principle: Even while car travel is reduced with smart growth land development policies, transportation demand management, and strong public transit, reducing the harmful environmental, economic and safety impacts of the remaining and irreducible vehicle use is essential – not optional, not merely desirable, but essential -- for livable and sustainable communities.

The U.S. Government supports livable communities through the Partnership for Sustainable Communities formed in June 2009 by the U.S. Department of Housing and Urban Development (HUD), the U.S. Department of Transportation (DOT), and the U.S. Environmental Protection Agency (EPA). As described by the Federal Highway Administration, “These three agencies have pledged to ensure that housing and transportation goals are met while simultaneously protecting the environment, promoting equitable development, and helping to address the challenges of climate change” (2). The Graham Environmental Sustainability Institute at the University of Michigan defines "livable communities" as "places that seek to balance economic and natural assets to meet the diverse needs of local residents in the present and in the future. These communities offer a variety of housing choices, convenient transportation options, healthy lifestyle options, reduced air and water pollution, and protection of natural landscapes. These communities also allow people to live closer to jobs and save money on personal transportation” (3).

As part of a Graham Institute-funded integrated assessment of innovative and disruptive vehicle technologies, a partnership of the University of Michigan Connected Vehicle Proving Center (CVPC) and the Center for Advanced Transportation and Energy Solutions (CATES) has explored the hypothesis that the broad deployment of cars with electric motors for oil-free propulsion, wireless data connectivity, and automation applications for driver assistance and eventual autonomous vehicle control is essential to the growth in the livability and sustainability in U.S. communities. This hypothesis has not been previously advanced to date, based on evidence from existing programs (4). This paper provides support for the hypothesis.

Because the design of livable, sustainable communities seeks to reduce automobile use by residents and visitors, the hypothesis is counterintuitive and perhaps surprising. As noted by the first Secretary of Transportation in the Obama Administration, Ray LaHood, "Livability means being able to take your kids to school, go to work, see a doctor, drop by the grocery or post office, go out to dinner and a movie, and play with your kids at the park - all without having to get in your car” (5).

SEATTLE AS AN EXAMPLE

Although the need to use a car may be minimized within a livable community, the experience in such communities to date is that cars still drive into and through the geographic extent of livable places that have roads.
An example of a U.S. city that strives to have livable, walkable neighborhoods is Seattle, Washington. Figure 1 is a map from Walk Score showing the high walkability of many neighborhoods in this city, depicted in green.

**Figure 1: Walkable Neighborhoods of Seattle, Washington Shown in Green**

Map from http://www.walkscore.com

For moving around without a car, Seattle has ubiquitous public transit (Fig 2) and an extensive bike lane network (Fig 3).
Figure 2: Public Transit Routes in Seattle, Washington

Map from King County Metro
Furthermore, parking at the curb throughout the city is controlled with time-metered pricing or residential permit requirements. Still, the Seattle Department of Transportation map of traffic volumes on roads throughout the city (Fig 4) illustrates that massive traffic flows are always close to or in some cases passing through walkable neighborhoods.
As long as significant car usage continues, how cars affect the environment remains pertinent to livability. Cars now and in the future are likely to provide a large share of the mobility in and between livable communities, as frequently noted by veteran transportation analysts (6).

Or consider the example of the entire four-county Seattle-Tacoma region. The creation of dense, transit-oriented livable communities is a major priority in the public spending and policies of the Metropolitan Transportation Plan of the Puget Sound Regional Council (PSRC), a plan that
prescribes government resource allocation to transportation programs out to year 2040. However, even with the emphasis on livability and half of all government spending on transportation allocated to public transit including a doubling of bus service, PSRC’s computer modeling of future travel demand forecasts the mode share of automobile use in trip making at 82.4% in 2040 (7).

Even considering the frequently observed ongoing decline in per capita miles of driving in North America over the past decade (8), there is no doubt from even the lowest car usage forecast scenarios that automobiles will remain a dominant mode for surface travel in urban environments and elsewhere (9).

Therefore, it is important to recognize and reduce the many present ways in which cars cause environmental damage that detracts from sustainability and the impacts that reduce livability. These impacts are several, to be described next. Fortunately, harm reduction in each area is in sight from new technology applications.

ENVIRONMENTAL DAMAGE FROM AUTOMOBILES, AND SOLUTIONS

A first and prominent negative impact of cars comes from the air emissions produced by the petroleum-burning internal combustion engines found in the majority of today's cars. These emissions are approximately proportional to the amount of petroleum fuel burned (10). Harmful air emissions include the six EPA-regulated pollutants plus greenhouse gases (GHG). These local emissions are now recognized as causing premature deaths at the same rate as car crashes (11).

Fortunately, a switch from petroleum fueled engines to zero-emission electric motors is an increasingly available power train option. Plug-in hybrids and battery-only electric car sales are growing rapidly, currently doubling year over year (12). Along with improvements in internal combustion engines, an increase in the proportion of cars using batteries and electric motors for propulsion reduces air emissions. The reduction of the need to use increasingly expensive petroleum fuels is another community economic benefit of automobility that trades out gas station fill ups for plug-in recharging at home, at work, in shopping centers, and at other common destinations or roadside stops.

The U.S. Government has mandated higher fuel economy in cars and light trucks, which is forecast by a recent National Academy of Science panel to be an important step to reduce air emissions, along with improvements in internal combustion engines and new fuels like natural gas and biofuels, plus evolution of the electric power grid to zero carbon. (13). The new 54.5 miles per gallon Corporate Average Fuel Economy (CAFÉ) standard for 2025, along with emission control rules at the multi-state level following the leadership from California is going to force car makers to produce and sell more cars that are electric powered (14). A further benefit of electric cars is their quietness compared to cars with internal combustion engines, so quiet that government is intervening to make sure they make some noise for the sake of safety (15).

A second obvious negative impact of cars is fatalities, injuries, and property damage from traffic accidents of all sorts. 33,561 drivers, passengers, pedestrians, and cyclists died in 2012 in motor
vehicle mishaps in the U.S. There were 2.36 million serious injuries. Costs from vehicle accidents exceed $70 billion per year. Vehicle crashes are the leading cause of death for Americans aged 11 through 27. According to the NHTSA, most mishaps involve driver error or incapacitation (16).

But thanks to development of computers, software, and sensors over the past decade, the prospect is now at hand for vehicle automation to substantially reduce vehicle mishaps large and small. This was clearly revealed by industry presentations at the Transportation Research Board (TRB) Road Vehicle Automation Workshops in July 2012 and July 2013 (17), and has been affirmed by the National Highway Traffic Safety Administration (NHTSA) in a policy statement (18). Cars with automation capabilities – such as lane-keeping and automatic braking – are going to be increasingly deployed over the course of the decade just ahead, with capabilities by the mid 2020s for periods of no-hands, no-feet, safe driving.

Automation technology has already been developed and deployed by some manufacturers that keeps cars from colliding with other vehicles, with bicycles, and with pedestrians (19), as well as lane-keeping to prevent vehicles leaving the roadway. How fast this technology deploys onto the streets of USA is dependent upon its price to end users, as influenced by incentives and regulations from governments, suggesting an important public policy role.

A third negative impact from autos is the extensive occupation of street space and parking lot space by cars, manifested in the worst case as traffic congestion and packed parking lots, which typically occupy an average of about half the land area in urban commercial development (20). Advanced vehicle automation provides the capability of reducing street traffic and parking demand in communities where leaders are seeking livability.

First of all, automation to the extent that cars can move autonomously to new locations could mean fewer cars needing parking. But even if the number of cars used does not decrease with expansion of automation, there is the prospect of taking some parking capacity in dense areas out of service because automated cars can be parked closer together or in lots that are less proximate to walkable, livable community zones. Outside of parking, simply reducing the number of vehicle collisions removes a significant cause of road congestion. Automation of vehicles also supports smoother driving patterns in vehicles with internal combustion engines, which improves energy efficiency and thus reduces air emissions (21).

At the same time, vehicle automation opens up the potential for improving the performance and sustainability of public transit, a signature element of livable urban communities. Automation of vehicle control yields new options for reducing the cost of transit operations by offering mobility with a lower requirement for highly skilled human operators than has been the traditional pattern. Vehicle automation also provides opportunity for new forms of transit – for example, driver-less, multi-passenger shuttles making multiple trips with no driver salary cost – that could efficiently serve lower density suburban residential zones better than fixed route buses (22).

Automated vehicles have capabilities that fit well with the denser residential zones characteristic of smart growth and livability. Speed limits can be electronically maintained and enforced. Electric urban vehicles can be smaller and lighter, thus more compatible with narrow streets and
less space dedicated to parking. Increased opportunity for shared vehicle use and non-owned multi-passenger shuttle vans could also potentially lead to fewer vehicles requiring parking (17). These are all potentials that will require public policy guidance.

In summary, new vehicle technology in motor cars with associated new capabilities such as car sharing, ride sharing, and driverless transit, could potentially take down air pollution, GHG emissions, crashes, traffic congestion, and parking space. All of these issues are on the list that sustainable, livable communities try to deal with by reducing vehicle ownership and car use. In a future scenario where some level of car use remains in livable communities, new vehicle technologies in the residual vehicles can reduce the same negative impacts that reducing the number of vehicles per capita addresses.

**CONCERNS AND CONCLUSION**

Concerns have been raised that future autonomous driving that lets drivers do other things besides paying attention to the road while on daily commuting trips could make cars more popular at the expense of public transit. This might make sprawling land use more attractive by facilitating easy, comfortable travel in cars that are safer and greener. In response we would note that smart growth is often well incentivized by land use controls, the rising cost of travel from fuel prices, and provision of urban amenities that support higher density residential zones.

At the same time, suburbanization continues to expand (23) inexorably even with the automobile fleet in very early stages of electrification and automation. The safety and GHG reduction benefits that accrue from the expanded deployment of new vehicle technologies are compelling and may come to enlarge the popular definition of livability to include safer, cleaner, more comfortable motorized personal mobility when it is desirable, such as in family trips during off-peak periods.

Whether cars become more attractive or less attractive in any segment of a community, they are still going to be a major mode of travel even if motor car use were to end up decades from now at half or less of today’s levels. Outside of livability programs, widely-accepted public policy steps are being taken to lower the damage that cars do to the climate and to people on the planet, no matter where people live.

For this reason plus the inevitable ubiquity of cars in all American communities, we conclude that the expanded deployment of clean, safe cars is not benign and neutral in the context of livability and sustainability, but rather essential. This is true for those who reside in livable communities of intentionally dense design with convenient transit service, and as well, obviously, for everybody else.

**ACKNOWLEDGEMENT**

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Useful review comments on earlier drafts were provided by Steve Marshall at CATES, Steve Underwood at Connected Vehicle Proving Center at University of Michigan – Dearborn, Clark Williams-Derry at Sightline, and anonymous reviewers selected by the Energy Committee of the Transportation Research Board. Nothing in this paper should be construed as endorsed or confirmed by any individual or institution except for the author and CATES itself.

REFERENCES


Thank you for the opportunity to comment. Save Our Communities (SOC) represents a broad coalition throughout a number of communities interested in promoting aerospace manufacturing at Paine Field while opposing actions that undermine that economic activity, specifically scheduled commercial air service.

The economic impact of aerospace manufacturing is a huge part of our economy. Your document includes the statement “Snohomish County Airport/Paine Field is a general aviation reliever airport with 570 based aircraft and 150,000 annual take-offs and landings”. This statement does not include the largest contribution of Paine Field to the region’s economy. Aerospace manufacturing tied to Paine Field makes significant contribution to Paine Field’s $19.8 billion worth of annual economic impact to the region’s economy. Promoting use of Paine Field for aerospace manufacturing and opposing actions that threaten such use is in sync with the adopted approach of the Regional Economic Strategy (a federally required comprehensive economic development strategy) to grow and sustain our region’s leading industry clusters.

When WSDOT conducted their 2012 Aviation Economic Impact Study, the role of aerospace manufacturing was not going to be considered. We successfully recommended they include the aerospace manufacturing role for airports including Paine Field. The $19.8 billion impact at Paine Field dominated the economic impacts of airports in the State of Washington and for context was 53% more than SeaTac economic impact.

PSRC plans and recommendations should support and encourage this role at Paine Field and discourage competing uses and we urge you to modify PSRC 2040 plan accordingly. We believe that subsidizing scheduled commercial flights at Paine Field coupled with the FAA approach of disallowing any local control of scheduled commercial service levels conflicts with the best role of Paine Field and should be opposed. Five years ago Boeing leadership declined to take a position on commercial service at Paine Field but later expressed the need to use every bit of Paine Field to park their planes and then expanded their building footprint on Paine Field to support their manufacturing activity. Now the 777x announcement will bring even more activity to the airport region.

We recommend that PSRC be consistent with past PSRC and Snohomish County positions on Paine Field’s role and include recommendations and actions that support growing the aerospace manufacturing role of Paine Field while opposing public policies and subsidies that would undermine and threaten such growth. We urge PSRC to join us in recommending that Paine Field be designated by the federal government as an "Aerospace Manufacturing Center of National Significance" with preferential consideration for federal grant money for capital investments and protection from the unintended adverse consequences of FAA scheduled service.
advocacy rules and support. Thank you for your consideration and we’d be happy to provide follow up information on this important issue.

Sincerely,

Mike Moore
SOC President

--- Sent via Blue Utopia Webmail ---
Greetings,

Please accept our comments on the PSRC Transportation 2040 Plan.

This is to address the discrepancy between page 13, “Supporting the Regional Economic Strategy” and the statement on page 84, “Regional Aviation System” regarding Paine Field. The economic impact to the community from Paine Field (dollar amounts from Appendix C of the WSDOT 2012 Aviation Economic Impact Study) is not included in the description of Paine Field.

The statement on page 84 “Snohomish County Airport/Paine Field is a general aviation reliever airport with 570 based aircraft and 150,000 annual take-offs and landings” does not reflect the main contribution of Paine Field to the region’s economy. Boeing and aerospace industries tied to Paine Field contribute $19.8 Billion to the region’s economy as well as $14.8 Billion in direct output due to direct jobs. Aerospace is clearly more in sync with PSRC’s adopted approach of a Regional Economic Strategy (a federally required comprehensive economic development strategy) to grow and sustain our region’s leading industry clusters (specifically aerospace) than any other use, including use as an airport for scheduled commercial flights.

Paine Field holds the unique position of being responsible for 53% more direct economic output than Sea-Tac and more than double the direct output due to direct jobs than Sea-Tac thanks to Boeing and aerospace activity. Any PSRC plans and recommendations should not only support and encourage aerospace use of Paine Field, but discourage competing uses such as scheduled commercial flights.

Sincerely,
Victor Coupez
Vice President,
Save Our Communities
www.socnw.org