

# Final Environmental Impact Statement — May 10, 2001

***Proposed***

## **DESTINATION** **2030**

**Metropolitan Transportation Plan  
for the Central Puget Sound Region**

### **Volume 1**

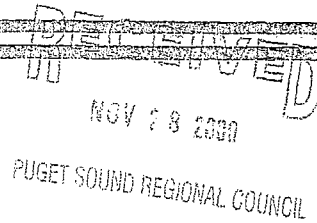
— Description of the Preferred Alternative and  
Environmental Impact/Mitigation Measures

Puget Sound Regional Council

# Least Cost Planning Comments



November 22, 2000



Mr. Norman Abbott  
Destination 2030  
Puget Sound Regional Council  
1011 Western Avenue, Suite 500  
Seattle, WA 98104-1035  
Fax: (206) 587-4825

**Re: Least Cost Planning Analysis**

Dear Mr. Abbott:

Thank you for the opportunity to comment on the Least Cost Planning Analysis as part of the MTP Alternatives Analysis and Draft EIS. Pierce Transit would like to express our support for least cost planning. It is a valuable planning tool and should receive more emphasis as we work towards our vision of a balanced, regional, multimodal transportation system.

We encourage PSRC to continue with the analysis in more detail in determining the mix of investments in the MTP's preferred alternative. The analysis found that *"significant investments in local transit service reduce future congestion problems, and help to decrease the growth of vehicle miles traveled. These investments also result in a more balanced multimodal transportation system that offers choices between single occupancy vehicles, carpools, and transit."* We encourage you to incorporate this finding in the preferred alternative and develop a plan that intensifies investments in local transit service. The system management and transit approach of the MTP Plus B alternative results in the lowest cost per new trip. We have previously indicated our support for a preferred alternative that incorporates these features of MTP Plus B.

We are supportive of the policy approach to further refine the regional plan using the least-cost planning approach as a key input to determining which major facilities, services, or program strategies and investments warrant policy action to change from Candidate to Approved status in the adopted plan. Least cost planning allows us to create a regional plan that will provide the greatest benefits to the region.

If you have any questions please contact me or Janine Robinson at (253) 984-8156.

Sincerely,



Don S. Monroe, CEO

c: Kevin Desmond, VP, Operations  
Commissioner Kevin Phelps  
Commissioner Doug Sutherland

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LP-1

LP-2

LP-3

LP-4

November 27, 2000

Norman Abbott  
SEPA Responsible Official  
Destination 2030  
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Seattle, WA 98104  
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Re: Least-Cost Planning Analysis: Supplemental Technical Appendix 11,  
Metropolitan Transportation Plan Alternatives Analysis and DEIS

Dear Mr. Abbott:

We have reviewed the least-cost planning analysis and offer the following comments and recommendations from the perspective of transportation professionals with an interest in cost-effective transportation solutions for our region.

1) Appendix 11 demonstrates that least-cost analysis can be accomplished with available cost and transportation system data, and that it is an important tool for the selection of separate elements of the Metropolitan Transportation Plan. The preferred alternative that is selected will have to be composed of elements, both investment policies and strategies, that effectively address the region's serious mobility and air quality problems, and that do so within challenging fiscal constraints. Least-cost analysis is the best available instrument to identify the most cost-effective investments and strategies, and state law requires its use.

LP-5

2) Unfortunately, the least-cost analysis performed so far by PSRC for the 2001 MTP update is limited to alternative system-level planning packages and is not applied to individual plan components as called for by state law. The law (RCW47.80.030) requires that regional plans be "based on a least-cost planning methodology that identifies the most cost effective facilities, services, and programs." We find no analysis of separate facilities, services and programs that could be assembled as a preferred alternative.

LP-6

3) Appendix 11 recommends as a "Next Step" a policy commitment to further refine the regional plan using the least-cost planning approach, but this does not appear to allow for consideration and analysis of facilities, services, and programs proposed by citizens. In suggesting a further policy commitment to utilize least-cost planning analysis, the appendix refers to a procedure adopted in the 1995 Metropolitan Transportation Plan. This procedure allows capital projects and programs to be advanced from "candidate" to "approved" status through a formal environmental review process. However, according to the 1995 MTP, a candidate project must meet three requirements: is regionally significant, has been endorsed by a sponsor, and has been derived from a formal planning process. Thus it appears that proposals without an official governmental sponsor (i.e.,

LP-7

city, county, transit operator, WSDOT, port or special purpose transportation agency) have no opportunity to be analyzed for their cost-effectiveness and considered for inclusion in the MTP. Feasible proposals that originate from non-governmental groups appear to have no standing as a candidate project/program under this process. In the Puget Sound region, serious citizen-initiated transportation solutions like the various monorail proposals and the bus/van-pool proposal from a former Metro Director deserve to be analyzed in a fair, routine process of consideration.

4) The procedure advocated by PSRC as a "Next Step" that applies least-cost analysis to only certain candidate projects after the MTP is adopted is not in compliance with state law. The law clearly indicates that least-cost planning must be the basis for the MTP, and not just a procedure that might be utilized to analyze components added after the MTP is adopted. We understand "based on" to mean precisely what the dictionary meaning for the word "base" suggests: the fact, observation, or premise from which a reasoning process is begun. Thus the law requires that least-cost analysis be applied to all components, not just components that are candidates for inclusion in a previously approved list. Since the law must be fully implemented with any transportation plan adopted after July 1, 2000 (WAC 468-86-080), least-cost analysis must be applied to all 2001 MTP components even though they may have been previously "approved".

LP-8

5) The purpose and extent of the "Next Step" procedure is unclear. Appendix 11 states that the procedure would "better discriminate among the differences in character and scope of major proposed future modal and system investments and policy and program strategies." The law clearly requires that least-cost analysis be used to determine cost-effectiveness. Appendix 11 does not define "character" and "scope", but these words are far more subjective than "cost" and "effectiveness" and imply a much more limited application of least-cost analysis than the law intended.

LP-9

6) Further, the procedure outlined in the 1995 MTP would seem to preclude policies and programs requiring the involvement and cooperation of a number of governmental entities, such as those that would meld disparate capacity investment and demand management strategies to encourage more efficient utilization of the existing transportation system. The 1995 MTP speaks of candidate and approved "capital projects/programs" that are sponsored by individual government agencies. It does not recognize that a complex mix of elements, both build and non-build, under various lead agencies could constitute a system efficiency alternative that produces significant transportation and other social benefits.

LP-10

We assess the current use of least cost planning by PSRC to be deficient with respect to state law. We make the following strong summary recommendation which would correct the deficiency:

Least-cost analysis of all potential transportation plan components, whether investments or strategies, whether additions to system capacity or policies that produce more efficient utilization of current capacity, and whether sponsored by a governmental agency or a group of citizens, should be accomplished prior to

LP-11

selection of the preferred alternative and adoption of the MTP. The results of this analysis should serve as the basis for selection of the preferred alternative plan and should be incorporated in the final DEIS.

To be clear, this recommendation means that we believe considerable rework of the 2030 Metropolitan Transportation Plan by PSRC is required before adoption.

Sincerely,

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**DATE:** November 26, 2000

**TO:** Norman Abbott, SEPA Responsible Official

**FROM:** Jim MacIsaac

**SUBJECT:** Comments on MTP Least Cost Planning Analysis

1) Appendix 11 of the Draft MTP Update EIS is inadequate in its failure to address separate elements of the MTP packages. The packages need to be separated into at least three sub-packages: Transit systems, HOV lane systems, and Freeway/Arterial GP lane systems.

LP-12

**Transit Systems**

2) The MTP action packages predominantly focus upon only one transit direction for this region – a massive light rail transit development program. The MTP packages are devoid of any alternative transit futures that may be more productive in attracting travel to transit and far less expensive to implement and operate. Why are there no alternative public transit packages?

LP-13

3) It is absolutely essential that the MTP alternatives include a transit package without light rail extensions beyond ST Phase 1. As a minimum an alternative transit system needs to be evaluated that provides a long-range projection of the regional all-bus transit plan that this region had been pursuing for over 20 years prior to the post-1990 MTP updates that discarded that emerging plan. That plan focused on developing regionwide networks of suburban transit centers and park-ride lots with all such centers and "urban nodes" interconnected by a system of express bus services operating on an extensive Transit/HOV lane network along our freeway system.

LP-14

4) The Current Law (No-Action) transit package is estimated to cost \$23.3 billion over the next 30 years. It is predicted by PSRC to attract 4.7% of the 16.4 million trips made in the four-county region by 2030. The MTP and MTP+A packages call for \$12.4 billion of additional capital and operating cost investments over current Law, mostly in extensions of the Sound Transit LLR system. For this investment the transit share of total trips per day by 2030 is predicted to increase by only 0.3%, or about 51,000 daily riders (see table). Compared to the Current Law package, the cost per added trip would be \$54 under MTP and MTP+A. We need to see justification as to how these transit packages offer a least-cost option for moving more people by public transit.

LP-15

**HOV System**

5) In 1998 nearly 35% of all person trips were eligible to utilize HOV lanes where available (see table). By 2030 with minimal additions to the HOV lane system under Current Law, that proportion is predicted by the PSRC to increase to 38.7% of 16.4 million trips per day. Admittedly by 2030 with the current HOV definition of 2+ occupants some HOV lanes would be overloaded.

LP-16

The MTP and MTP+A packages would add between 400 and 450 lane-miles of HOV lanes at an added cost of about \$6.5 billion compared to Current Law (MacIsaac estimate; PSRC needs to provide a breakdown between costs of HOV lane additions versus GP lane additions). However, HOV lane use eligibility would be changed to vehicles with 3 or more occupants. Only about 17.8% of 16.4 million person-trips per day would be eligible to use this vastly expanded HOV lane system (again MacIsaac estimate; PSRC needs to subdivide HOV estimates into estimates of 2-OVs versus 3+ OVs). The HOV lanes would accommodate fewer eligible users than existed in 1998. How does the LCP analysis demonstrate that the investment in HOV lanes is justified?

LP-17

6) The greatly expanded HOV lane system would also have little transit use compared to 1998. The MTP packages would eliminate nearly all express bus services using HOV lanes and transfer the bus passengers to the proposed system of new rail facilities. The LCP process needs to better address how this investment in HOV lanes is justified when the MTP action packages greatly reduce the numbers of predicted HOV-lane users by 2030 compared to No-Action (Current Law), or even compared to the number of eligible users in 1998.

LP-18

### Freeway and Arterial GP lanes

7) Traffic volumes allocated to the GP roadway system are estimated to increase by 49% between 1998 and 2030 under the Current Law package. With all 2-occupant vehicles relegated back to the GP lanes under the MTP action packages, the demand for GP lane use will increase by 63% to 66% over 1998 (see table). Yet capacity enhancements of the GP roadway system, in terms of added GP lane-miles, are proposed to be less than 10% under MTP and MTP+B and 15% under the MTP+A compared to No-Action.

LP-19

It would appear that freeway GP lane congestion would be far worse by 2030 under the Action packages than in 1998. Yet the way the PSRC data is presented, there appears to be little to no increase in freeway congestion compared to 1998 (see bottom line of table). PSRC needs to better explain how 2030 traffic congestion can range from only slightly worse than in 1998 to better, given the large difference between added traffic demand versus added traffic capacity. Any revised findings could have a significant effect on the LCP Analysis.

### Other Comments (Refer to Tables 1 and "2" from Appendix 11)

9) The LCP Analysis methodology should base comparisons of the Action packages to the No-Action alternative, which is basically the Current Law package. The basis of comparing all packages to the increase in total person trips over 1998 appears to be erroneous and results in very spurious findings.

LP-20

10) Attached Table 1 is a reproduction of Table 1 on page 26 of Appendix 11. Table 2 is a summary of "Performance Data" prepared from the "leastcost.xls" spreadsheet that accompanies Appendix 11. Comments on that data:

LP-21

- a) Table 1 in Appendix 11 shows a 17% increase in Auto Ownership costs compared to the data supplied in "leastcost.xls". What is the explanation for these increases?



- b) Table 1 shows some rather dramatic decreases in the costs of Auto Ownership, Operations and Parking for the Action packages (-9% to -21%) compared to Current Law. Yet Table 2 shows NO reduction in registered vehicles, minimal reductions in Auto Trips, and only -2% to -4% reductions in VMT. What is the rationale for these reductions in costs? LP-22
- c) Direct Private Freight costs remain constant across all alternatives (Table 1). Does that mean that none of the alternatives does anything to reduce private freight costs? LP-23
- d) The costs of transit shown in Table 1 do not appear to include any allocation of highway and HOV lane costs to transit. Transit vehicles are comparable to trucks in terms of impacts on roadbed structures, particularly on the county and city roads. HOV lanes are important guideways for express bus services, just as separate guideways are to rail systems. It would seem appropriate to allocate some street and highway expenses to transit. LP-24
- e) Table 2 shows dramatic increases in Walk and Bicycle trips compared to Current Law, yet Auto Trips are reduced little (presumably by transit). Therefore it appears that these trips are new trips created by the bike/ped Direct Public investments included in Streets/Roads investments (Table 1). Table 1 includes Direct Private costs of bike/ped circulation. Though relatively minor in effect, it would seem that the bike/ped modes should be removed to a separate LCP analysis for those modes. LP-25
- f) Table 2 shows that Average Vehicle Occupancy (AVO) changes little as a result of the Action packages compared to Current Law. This supports the questions raised in comments 5 and 6 above – what is the LCP value that can be placed on HOV lane development? Particularly when the HOV lanes will be largely abandoned from transit use in the Action Alts? LP-26
- g) Are all Indirect Public and Private costs shown on Table 1 attributed to the street and highway system? Noise costs are based on VMT; but do not most freeway projects include noise mitigation? What proportion of noise costs applies to the mitigation of rail lines? Why does MTP+B cause such a decrease in noise costs? LP-27
- h) The costs of Congestion shown in Table 1 are presumably all related to the inability of Transit, HOV, and Highway Capacity improvements to reduce congestion. It is apparent that very expensive Transit and HOV action elements produce no relief (when 2-OVs are relegated back to GP lanes) to reduce highway congestion. Why are these estimated costs of congestion not transferred to additional improvements of highway capacity in the Action packages to reduce congestion? Is not a major goal of the MTP to reduce congestion? LP-28
- 11) Based upon the LCP methodology used in Appendix 11, the findings on pages 6 and 7 show minimal difference in outcome between investing \$51.2 billion under Current Law and investing \$98.5 billion under MTP+B. Furthermore, though the public transit performance differs little between these two cost extremes, and HOV lanes will serve far fewer users under all Action packages, the LCP analysis finds that the more invested in Transit and HOV facilities the better the purported outcome on cost effectiveness. Does this not defy logic? LP-29
- 12) If the PSRC LCP methodology were to be applied to the public transit elements only, it would provide a much better comparison of the transit packages. In Table 1, if we select only the Direct Private and Direct Public Costs (including 25% of City & County Services) and ignore all LP-30

other Indirect Costs (assuming they mostly apply to highways), the cost per new transit trip would calculate as follows:

Cost Per New Trip:	<u>Cur Law</u>	<u>MTP</u>	<u>MTP+A</u>	<u>MTP+B</u>
Excluding Travel Time	\$1.92	\$3.74	\$3.77	\$3.62

The Current Law package would appear by far the most cost effective; however, the investments may not be adequate to accommodate the projected rider demands. If even more bus service were added to an enhanced Current Law package, it would likely achieve the same ridership as estimated for the three Action packages – still at far less cost than the Action packages. If some shares of road costs and congestion costs were to be included in the costs of transit, these findings would be higher, particularly for the Current Law package.

LP-31

13) Likewise, the LCP analysis could show the separated costs of highway trips. If the PSRC LCP methodology were to be applied as in Table 1, and all transit, bike and pedestrian costs were to be removed from the table, the findings would be as follows:

Cost Per New Trip:	<u>Cur Law</u>	<u>MTP</u>	<u>MTP+A</u>	<u>MTP+B</u>
Excluding Travel Time	\$2.62	\$2.32	\$2.51	\$2.42

LP-32

These results include all Direct Private costs, Public costs, and assume all Indirect Public and Private costs shown in the table are attributable to auto and freight trips. These findings reflect no allocation of road costs nor congestion costs to public transit. If travel time were added to both sets of calculations above, the differences between transit and auto costs would likely be greater, since the average door-to-door transit trip is about twice as long as the same auto trip.

14) Since the differences in transit ridership are relatively small amongst the alternative packages, it is presumed that public transit has little effect on the costs of congestion. A very important sensitivity analysis should be made of the three Action packages holding transit constant at the Current Law level of supply to find out how the various highway packages respond to congestion reduction. In making these tests, care must be taken as to how 2-OVs are handled in the modeling processes.

LP-33

### Summary of Key Points

- 15) The LCP analysis should be subdivided by mode of travel as well as for total packages.
- 16) Comparisons should be made to a No-Action alternative, presumably Current Law package.
- 17) More cost-effective transit packages should be devised and evaluated.
- 18) More detailed analyses of the HOV-lane system and its estimated users is needed.
- 19) Congestion and congestion costs appear to be underestimated for the Action packages.
- 20) An additional package should be tested that transfers the costs associated with congestion to added highway capacity enhancement to further reduce congestion.
- 21) The substantial reductions in Direct Private costs for autos needs to be explained.

LP-34

Public Cost Per Trip for Various Segments of the MTP Packages (Without Present Worth Reductions)						
1998		2030				Data Source:
Existing		Cur Law	MTP	MTP+A	MTP+B	
<b>Total Transport System</b>						
Daily Person-trips	10,229,000	16,349,200	16,387,000	16,387,000	16,381,700	DEIS Vol 2, Appendix 9, page 28
30-yr Public Costs (\$M)		\$51,200	\$79,150	\$97,600	\$98,500	DEIS Vol 1, Tables 9, 6, 12
Increase (\$M)		Base	\$27,950	\$46,400	\$47,300	Increase over Current Law
Public Cost per Trip <sup>1</sup>		\$0.43	\$0.66	\$0.81	\$0.82	MacIsaac Calculation
Cost per Added Trip		Base	\$1.01	\$1.67	\$1.71	MacIsaac Calculation
<b>Public Transit</b>						
Daily Person-trips	283,400	773,600	826,300	822,200	955,700	DEIS Vol 2, Appendix 9, page 28
% of Total Trips		4.73%	5.04%	5.02%	5.83%	DEIS Vol 2, Appendix 9, page 28
Increase		Base	52,700	48,600	182,100	Increase over Current Law
30-yr Public Costs (\$M)		\$23,300	\$35,650	\$35,650	\$41,150	DEIS Vol 1, Tables 9, 6, 12
Increase (\$M)		Base	\$12,350	\$12,350	\$17,850	Increase over Current Law
Public Cost per Trip <sup>1</sup>		\$4.90	\$7.14	\$7.17	\$7.38	MacIsaac Calculation
Cost per Added Trip		Base	\$52.08	\$56.47	\$21.78	MacIsaac Calculation
<b>HOV Lane-Use Eligibility (Excluding Transit Use)</b>						
Daily "Carpool" Trips:	3,554,500	6,331,300	6,452,200	6,486,600	6,544,400	DEIS Vol 2, Appendix 9, page 28
% of Total Trips	34.75%	38.73%	39.37%	39.58%	39.95%	DEIS Vol 2, Appendix 9, page 28
2-Occ Vehicles	2,488,200	4,136,300	0	0	0	2-OVs sent to GP Lanes
3+ Occ Vehicles	<u>1,066,300</u>	<u>2,195,000</u>	<u>2,903,500</u>	<u>2,937,900</u>	<u>2,995,900</u>	MacIsaac estimates of splits.
Total Eligible	3,554,500	6,331,300	2,903,500	2,937,900	2,995,900	
30-yr Public Costs (\$M)		\$1,000	\$7,500	\$7,650	\$13,400	DEIS Vol 1, Tables 9, 6, 12
Increase (\$M)		Base	\$6,500	\$6,650	\$12,400	With HOV-lane costs prorated out of Road Costs on lane-mile basis
Public Cost per Trip			Investments serve fewer trips than in 1998			
<b>GP Lanes (Freeway &amp; Arterial)</b>						
Daily Person-trips:						
1-Occ Veh & CVs	6,391,100	9,244,300	9,108,500	9,078,200	8,881,600	DEIS Vol 2, Appendix 9, page 28
SOV Reduction		Base	-1.5%	-1.8%	-3.9%	MacIsaac Calculation
2-Occ Vehicles <sup>2</sup>	<u>1,244,000</u>	<u>2,100,000</u>	<u>3,548,700</u>	<u>3,548,700</u>	<u>3,548,700</u>	MacIsaac Calculation
Total Loading	7,635,100	11,344,300	12,657,200	12,626,900	12,430,300	MacIsaac Calculation
% Incr over 1998	Base	49%	66%	65%	63%	MacIsaac Calculation
Total Lane-miles	11,400	11,560	12,650	13,240	12,700	DEIS Vol 1, Tables 8, 5, 11
% Incr over 1998	Base	Base	9.4%	14.5%	9.9%	MacIsaac Calculation
30-yr Public Costs (\$M)		\$24,100	\$30,700	\$46,750	\$36,400	DEIS Vol 1, Tables 9, 6, 12
Increase (\$M)		Base	\$6,600	\$22,650	\$12,300	Excluding HOV Lane Costs
Public Cost per Trip <sup>1</sup>		\$0.28	\$0.34	\$0.51	\$0.40	MacIsaac Calculation
% of Frwys Congested?? <sup>3</sup>	34%	62%	37%	28%	32%	DEIS Vol 1, Tables 18, 14, 22

<sup>1</sup> Cost per Day = 30-year costs / 30years / 305 days/year; 30-yr Average Daily Trips = 1998 trips + (2030 trips - 1998 trips) / 2.

<sup>2</sup> Assumes half of 2-OV trips use GP lanes in 1998 and under current Law; ALL 2-OV trips must use GP lanes in Action Packages.

<sup>3</sup> 2030 PM Peak Period; these findings need to be revisited by PSRC staff.

<sup>1</sup> Cost per Day = 30-year costs / 30years / 305 days/year; 30-yr Average Daily Trips = 1998 trips + (2030 trips - 1998 trips) / 2.

<sup>2</sup> Assumes half of 2-OV trips use GP lanes in 1998 and under current Law; ALL 2-OV trips must use GP lanes in Action Packages.

<sup>3</sup> 2030 PM Peak Period; these findings need to be revisited by PSRC staff.

**Table 1. Present Value of Total Costs of Alternatives** (Appendix 11, page 26)

Cost Category	Current Law	Updated MTP	MTP + A	MTP + B
<b>DIRECT PRIVATE</b>				
Auto				
Auto - Ownership	\$18,106,733,369	\$15,375,429,977	\$16,331,910,667	\$13,750,287,699
Auto - Operations	\$4,139,123,565	\$3,513,893,982	\$3,732,844,491	\$3,141,878,167
Auto - Parking	\$5,374,190,656	\$5,025,853,670	\$5,009,106,600	\$4,906,210,260
Total Auto	\$27,620,047,590	\$23,915,177,630	\$25,073,861,758	\$21,798,376,126
Comparison to Current Law	Base	-13.4%	-9.2%	-21.1%
Freight	\$22,172,636,334	\$22,172,636,334	\$22,172,636,334	\$22,172,636,334
Transit Fares	\$933,828,962	\$1,019,378,664	\$1,012,683,023	\$1,221,630,823
Pedestrian	\$106,159,772	\$115,885,254	\$115,124,078	\$138,877,733
Bike	\$33,137,836	\$36,173,650	\$35,936,049	\$43,350,766
Subtotal Direct Private	\$50,865,810,493	\$47,259,251,532	\$48,410,241,242	\$45,374,871,782
<b>DIRECT PUBLIC</b>				
Capital/Debt				
- Highways	\$439,484,401	\$4,326,812,370	\$11,231,116,847	\$9,544,839,238
- Streets/Roads	\$5,312,817,621	\$6,483,868,935	\$6,953,287,258	\$6,545,097,412
- Transit	\$2,907,672,338	\$6,586,369,941	\$6,586,369,941	\$7,188,676,736
- Ferries	\$453,544	\$453,544	\$468,964,779	\$468,964,779
Maintenance and Preservation				
- Highways	\$624,101,625	\$886,055,825	\$886,055,825	\$886,055,825
- Streets/Roads	\$515,978,974	\$515,978,974	\$515,978,974	\$515,978,974
- Transit	\$294,239,193	\$1,531,284,724	\$1,537,980,365	\$2,587,802,220
- Ferries	\$15,647,782	\$795,620,516	\$1,150,315,777	\$1,150,315,777
City & County Services	\$678,561,238	\$575,814,007	\$611,795,309	\$514,678,605
Subtotal Direct Public	\$10,788,956,716	\$21,702,258,836	\$29,941,865,075	\$29,402,409,566
Total Direct Costs	\$61,654,767,208	\$68,961,510,368	\$78,352,106,317	\$74,777,281,347
<b>INDIRECT - PUBLIC AND PRIVATE</b>				
Congestion				
Cong.-Wasted Fuel	\$1,654,334,781	\$746,466,692	\$494,494,173	\$615,502,868
Cong.-Personal Time	\$15,071,594,832	\$6,987,041,276	\$4,703,333,157	\$5,845,201,301
Total Congestion	\$16,725,929,613	\$7,733,527,968	\$5,197,827,330	\$6,460,704,169
Accidents	\$85,658,856	\$72,688,457	\$77,230,593	\$64,970,968
Air Pollution	\$3,073,834,332	\$1,606,109,484	\$1,024,513,231	\$1,117,407,679
Water Impacts	\$122,989,224	\$104,366,289	\$110,887,900	\$93,285,497
Solid Waste Disposal	\$12,496,836	\$10,604,575	\$11,267,230	\$9,478,664
Noise	\$256,043,774	\$217,273,819	\$230,850,763	\$194,205,394
Total Indirect Costs	\$20,276,952,636	\$9,744,570,592	\$6,652,577,047	\$7,940,052,371
Travel Time Costs	\$25,086,828,395	\$26,260,507,657	\$23,677,908,906	\$22,798,463,116
TOTAL Excl Travel Time	\$81,931,719,844	\$78,706,080,960	\$85,004,663,364	\$82,717,333,719
TOTAL Incl Travel Time	\$107,018,548,239	\$104,966,588,617	\$108,682,592,270	\$105,515,796,835
<b>New Person Trips</b>				
Per Day	3,245,382	3,294,563	3,292,011	3,367,676
Per Year	1,184,564,398	1,202,515,555	1,201,583,999	1,229,201,846
Over 30 Years	35,536,931,929	36,075,466,648	36,047,519,961	36,876,055,388
<b>Cost Per Trip</b>				
Excl travel Time	\$2.31	\$2.18	\$2.36	\$2.24
Incl Travel Time	\$3.01	\$2.91	\$3.01	\$2.86

Table 2. Summary of Input (Performance) Data for LCP Analysis<sup>1</sup>

Characteristic	Current Law	Updated MTP	MTP + A	MTP + B
personal income (mil\$\$) 2000\$\$	160,559	160,559	160,559	160,559
seattle CPI-U	3.33	3.33	3.33	3.33
population	4,190,368	4,190,368	4,190,368	4,190,368
population 20-64	2,566,361	2,566,361	2,566,361	2,566,361
unemployment rate	5.84	5.84	5.84	5.84
personal consumption deflator (92=	2.29	2.29	2.29	2.29
average car price (2000\$\$)	25,621	25,621	25,621	25,621
auto fuel mileage (miles/gallon)	26.18	26.18	26.18	26.18
truck fuel mileage (miles/gallon)	11.82	11.82	11.82	11.82
<b>Total vehicle miles traveled</b>	<b>35,959,273,026</b>	<b>35,079,959,314</b>	<b>35,387,388,145</b>	<b>34,558,864,997</b>
Compared to Current Law	Base	-2.4%	-1.6%	-3.9%
non-commercial	30,277,707,888	29,537,325,743	29,796,180,819	29,098,564,828
auto	23,778,116,952	23,197,779,976	23,400,680,589	22,853,859,024
light truck	6,499,590,936	6,339,545,767	6,395,500,229	6,244,705,304
freight	5,681,565,138	5,542,633,572	5,591,207,327	5,460,300,670
average vehicle occupancy	1.36	1.38	1.38	1.38
Travel time pers hrs (in vehicle)	1,433,530,082	1,367,713,032	1,290,902,773	1,293,430,543
travel time person hours (wait)	12,640,195	12,463,281	12,464,338	12,490,795
travel time (commercial)	130,721,453	128,336,749	127,456,467	127,088,392
Total Travel Time	1,576,891,730	1,508,513,063	1,430,823,578	1,433,009,730
Compared to Current Law	Base	-4.3%	-9.3%	-9.1%
Registered vehicles	3,977,507	3,977,507	3,977,507	3,977,507
passenger cars	2,583,395	2,583,395	2,583,395	2,583,395
gas trucks	792,846	792,846	792,846	792,846
diesel trucks	61,049	61,049	61,049	61,049
other vehicles	540,217	540,217	540,217	540,217
<b>Congested time (person hours)</b>	<b>171,078,965</b>	<b>117,504,397</b>	<b>102,843,081</b>	<b>110,326,929</b>
Compared to Current Law	Base	-31.3%	-39.9%	-35.5%
congested time (commercial)	19,395,290	13,193,610	11,548,302	12,333,445
congested time (vehicle hours)	129,301,934	87,957,397	76,988,681	82,222,965
Compared to Current Law	Base	-32.0%	-40.5%	-36.4%
<b>Auto trips</b>	<b>4,677,997,710</b>	<b>4,675,625,491</b>	<b>4,676,289,263</b>	<b>4,653,764,168</b>
Compared to Current Law	Base	(2,372,220)	(1,708,447)	(24,233,542)
Compared to Current Law	Base	-0.1%	0.0%	-0.5%
transit trips	179,226,132	186,303,244	185,747,710	203,208,746
Compared to Current Law	Base	7,077,112	6,521,578	23,982,613
Compared to Current Law	Base	3.9%	3.6%	13.4%
bicycle trips	29,170,550	30,322,409	30,231,992	33,073,921
walk trips	306,287,894	318,382,300	317,432,923	347,272,900
Total Trips	5,192,682,287	5,210,633,444	5,209,701,888	5,237,319,736
Compared to Current Law	Base	17,951,157	17,019,601	44,637,449
CO tons/year	582,618	548,120	532,664	537,105
HC tons/year	66,525	63,069	62,124	61,798
NOX tons/year	82,144	79,868	80,756	78,790

<sup>1</sup> Source: PSRC "leastcost.xls" spreadsheet; 30-year totals for each line of each package divided by 30.

"Compared to Current Law" entries added by MacIsaac by simple direct calculations from table data.

To: Puget Sound Regional Council  
1011 Western Avenue, Suite 500  
Seattle, WA 98104

From: Chris Nelson  
15142 Beach Dr. NE  
Lake Forest Park, WA 98155

RECEIVED  
NOV 27 2006  
PUGET SOUND REGIONAL COUNCIL

There are currently 3 major plans that are being discussed in the area of Destination 2030. Since PSRC has asked for public input on which plan would be the best, I have decided to give my input. The plan that I think would be the best for the region is the Updated MTP plan. One of the reasons that I believe that this is the best plan is that it is more cost efficient for what we are getting out of it. By increasing the funding from each person per month \$19, we are lowering congestion levels 25% more than if we kept with the current plan. Also by increasing the funding \$19 per month per person we are saving 13.4% pollution more than the existing plan. By increasing the funding a further \$14 a month per person we are only lowering the congestion 5-9% as stated in the MTP Plus plan. Also by using the MTP plus plan we are raising funding \$14 more dollars a month per person than the Updated MTP plan and only saving pollution levels by 4.2-5.9%. The Updated MTP plan is definitely the most cost efficient of the 3 by giving the taxpayers more "bang for their buck". Thank you very much for your time and your willingness to give an opportunity for the public to speak out in what they are spending their money on.

LP-38

Sincerely,  
Chris Nelson



RECEIVED

NOV 27 2000

PUGET SOUND REGIONAL COUNCIL

8546 20th Ave NW  
Seattle, WA 98117  
November 18, 2000

Destination 2030  
Puget Sound Regional Council  
1011 Western Avenue, Suite 500  
Seattle, WA 98104

Puget Sound Regional Council:

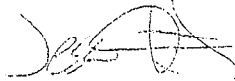
I am endorsing the "MTP Plus" alternative, as presented in your monthly newsletter.

I have chosen the "MTP Plus" option because (after careful review of your newsletter and the supplemental materials available on your web site) I am convinced that it, of the three alternatives that the Puget Sound Regional Council has offered, presents the lowest total cost to the public. While the short run costs of adding transportation infrastructure to the region under "MTP Plus" are significant, they are far exceeded by long run savings in social, environmental, and travel time costs.

These long run savings will help to reduce traffic congestion, accident rates, and insurance premiums. The reduction of single occupancy vehicle miles traveled will provide benefits to local air and water quality. Reduced congestion and travel times may also result in increasing sales for local merchants.

In contrast, the "Current Law Revenue" plan holds very significant long run social, environmental, and travel time costs (such as: increased congestion, higher accident rates, increased air and water pollution, and increased travel times), which far outweigh any short run direct savings.

Thank you,



Jesse Tarbert

LP-39

LP-40

LP-41

LP-42

Diana Lau  
12303 Harbour Pointe Blvd.  
Apt. T-303  
Mukilteo, WA 98275  
BeBeDi19@prodigy.net

RECEIVED  
NOV 27 2000  
PUGET SOUND REGIONAL COUNCIL

November 21, 2000

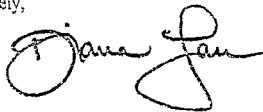
To: The Puget Sound Regional Council,

I believe that the Puget Sound region will benefit the most under the MTP Plus plan in the "2030 Destination" project. The MTP Plus could significantly decrease pollution: it would only be 2.7-4.4% over the carbon monoxide budget. There will be dramatic expansion of bus and ferry services that will benefit those who do not drive. The MTP Plus is the only plan that offers bus and ferry service expansion; the other two plans have limited or cuts to those services. Compared with the Current Law Revenue, which would not change much of what we have now, the MTP Plus plan may possibly cut congestion down to 28-32% compared to the 62% under the Current Law Revenue. The expanded bus service combined with the new light and commuter rail lines will help ease the congestion throughout the region even with the 1.5 million population increase.

Even though the MTP Plus is the most expensive to fund, I believe it will provide the most benefit in the long run. I would be willing pay the extra \$33 from what we pay now per month to cut the commuting time I spend on the road to go to school and to work. I bet that those who do not drive would be willing to pay the extra to get the expanded bus and ferry services and the new rail lines.

In conclusion, I think the MTP Plus will decrease pollution, congestion, and will save more time compared to the other two plans.

Sincerely,



LP-43

LP-44



**From:** "Dawn Marie Maurer" <lutien-t@home.com>  
**To:** PSRC.STAFF(destination2030)  
**Date:** Mon, Nov 27, 2000 11:54 AM  
**Subject:** Support for MTP Plus

I support the MTP Plus transportation proposition set forth by the PSRC. I am a native of Seattle, and I've watched for thirty years as our roadways have become more congested and our commuting time has increased while opportunities for lightrail, solid urban planning, and better transit options have passed us by. For the four years that I lived in Europe, I learned the joys of car-free living. Here, a person without a car is like a person without legs (unless you live in one of the lucky few high transit/pedestrian friendly areas such as the U-district or Capitol hill). I know that our history and culture will make it unlikely that the 5-6% transit traffic projected in the MTP Plus proposal will increase to a more environmentally friendly 20%+, but I'll keep hoping. The smart growth option to help bring jobs and workers closer together to reduce commuting miles also earns kudos from me. The MTP Plus proposal is the best thing we've got going and I'll stand behind it with my tax dollars tomorrow if the PSRC adopts it.

LP-45

Dawn Marie Maurer  
Seattle

12104 NE 140th St.  
Kirkland, WA 98034  
(425) 823-1655

November 27, 2000

Puget Sound Regional Council  
1011 Western Ave. Suite 500  
Seattle, WA 98104-1035

To whom it may concern:

I've recently reviewed your ideas regarding transportation in the future of the greater Puget Sound region. I am twenty one years old and have lived in the Seattle area for most of my life. I too am concerned with the current and future status of traffic congestion and pollution facing our community. I am a student at Shoreline Community College where I am currently enrolled in Microeconomics. In this course we discussed "Destination 2030" and the three proposals that you came up with. I feel that the third plan on your list, the MTP Plus(Additions to existing plan) is the best solution to the traffic and pollution problems in our area.

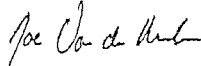
LP-46

According to the figures that I viewed in the "Destination 2030" pamphlet our congestion levels will be between 28-32% if you chose the MTP Plus plan as opposed to 62% if we use the Current Law Revenue Plan(within existing funding). The pamphlet also stated that our pollution levels would only rise between 2.7% and 4.4% as opposed to 22% in our existing plan. To me the benefits of MTP Plus plan far out weigh the cost of paying an extra thirty three dollars a month in taxes. I feel that saving our environment and the time we would all lose because we are sitting in traffic is well worth an extra thirty three dollars a month.

LP-47

I appreciate your willingness to listen to public opinion on this matter. I will continue to check your website in hopes of staying informed on your decisions. Thank you for your time.

Sincerely,



Joe Van de Mark

**From:** <RinoaSoohyun@aol.com>  
**To:** PSRC.STAFF(destination2030)  
**Date:** Sun, Nov 26, 2000 4:53 PM  
**Subject:** my opinion

my choice for destination2030 is the 1995 MTP plan. We will be paying about twenty more dollars a month but that isn't too bad. With this plan we will improve our roads significantly. The MTP plus costs too much in every aspect. Although we will be improving air quality and congestion in our roads. I believe that the plan is just too much. If we drastically improve our roads than millions of more cars will be on the roads.

So I believe that that the MTP update plan is the most effective plan. We should also try to encourage more carpooling and community transit transportation by letting people know about our traffic problems.

LP-48

Rishanne Swanson  
1019 NE 98<sup>th</sup> St  
Seattle Wa 98115

November 26, 2000

Puget Sound Regional Council  
1011 Western Avenue, Suite 500  
Seattle, Wa 98014

Dear Sir or Madam

My name is Rishanne Swanson. I am writing to you in regards to the "Destination 2030: Alternatives" proposal. I have read over the information on your website and also looked over the plans in the pamphlet that included the maps of the projections. In my review I have come to believe that the MTP Plus plan. The plan that includes raising our taxes.

LP-49

I feel that this plan is good because though there are raised taxes, there is also a better effect on our environment. With this plan it seems that a lot of the things that pollute our environment would be lessened, even with the projected increase of population. Also, there is less stress on the drivers who use those roads, because of the road widening and the better transit system. There would be a greater ferry system, causing the need to use roads to go around the land to decrease. The monetary contribution that the taxpayers would need to pay seems so small with all of the benefits that we, as taxpayers and residents of the Seattle area would.

LP-50

Thank you for your time.

Rishanne Swanson

From: "naL naL" <prophetess0sibyl@earthlink.net>  
To: PSRC.STAFF(destination2030)  
Date: Sun, Nov 26, 2000 2:52 PM  
Subject: Destination 2030 - MTP Plus

Lan Lan Chen  
16011 8th Ave. NE  
Seattle, WA 98155

Destination 2030  
Puget Sound Regional Council  
1011 Western Avenue, Suite 500  
Seattle, WA 98104

To Whom It May Concern:

I believe for the betterment of all Seattle drivers, the MTP Plus plan is the best choice. With increasing population over the next 30 years, if new roads are not created, the freeways will become parking lots. With the MTP Plus plan, there will be more roads to ease congestion and lessen road-stress. Less road-stress will probably reduce the amount of road-rage, not to mention make people happier. Less stress will also mean that people may live longer.

The plan will also reduce the amount of pollution produced per car per day. With more roads, not only will there be less traffic jam, but the air will also be cleaner. Traffic jams ruins the quality of air outside the cars as well as inside, because the cars are just sitting on the road not moving. With more roads and new routes, cars will not be sitting on the roads emitting harmful elements, instead, these cars will be driven home and shut off so that they do not emit anything.

MTP Plus also provide more buses so that instead of driving, people will ride the bus to work/school. Riding the bus will also reduce the amount of traffic jams and improve the environment, it will also reduce the amount of road-stress because there are less drivers.

There is only one flaw in the MTP Plus plan, I do not believe that the residents of Seattle that do not use the ferries at all should pay for new ferry service. Those charges should be imposed on those who depend on the ferry. I.e. there should be a local tax placed on the heads of the people living on Bainbridge Island and other like places.

Sincerely,

Lan Lan Chen

Ego qui idem peccaverim, te tamen culpo.....quid dicem?

--Null Hannac--

LP-51

LP-52

LP-53

LP-54

From: "Matthew M. Warren" <mattinsky@email.msn.com>  
To: PSRC.STAFF(destination2030)  
Date: Sun, Nov 26, 2000 10:53 PM  
Subject: Least Cost Planning, Cost Benefit Analysis, and Prioritization

LEAST COST PLANNING, COST BENEFIT ANALYSIS, and PRIORITIZATION

SUMMARY: Transportation planning for the Puget Sound area fails to provide solid examples of cost benefit analyses and least cost planning. Effective transportation planning should specifically address the means to generate revenue in a rational, non-coercive manner, while, at the same time, eliminate wasteful and inefficient spending. Good transportation planning should clearly communicate priorities and their bases. In other words, INCREASE REVENUE and REDUCE COSTS. I will endeavor to provide specific examples of how society can do both. Furthermore, I will show how society can increase revenue WITHOUT RAISING TAXES OR COERCIVE FEES.

LP-55

EXAMPLE #1: I organized, and currently operate a Pierce Transit vanpool van (# 4495). I currently use the limited amount of HOV lanes on I-5, between I-405 and Federal Way. I have concluded, based on my personal observations, that the HOV system should be converted into a fee-for-use system.

LP-56

Currently, the HOV system is currently under-utilized, as most of the vehicles carry only two people. Furthermore, since I estimate that my vanpool passengers currently receive an annual subsidy of \$500 (per passenger), I do not see why it would be unreasonable to expect my passengers to pay an extra \$10/mo. for the privilege of using the HOV lane.

LP-57

I also estimate that bus passengers receive annual subsidies (again, per person) ranging from \$1500 all the way to \$10,000!!! So, is it unreasonable to ask bus passengers to pay an extra \$25 to \$50 a month for the privilege of using the HOV lane?

LP-58

Therefore, I recommend converting the HOV system into a fee-for-use system. I recommend issuing special license plates to vehicles for a fee. The fee would be based on a vehicle's weight, mileage, and fuel type (it is my opinion that diesel fuel does the most damage to the environment and the quality of our air).

LP-59

Note that the recommendation generates revenue for society, which can then be used to expand the now fee-for-use system. By adding road capacity, even a roadway for which one must pay to use, all of society benefits from increased traffic flow. Furthermore, by charging a fee based on a vehicle's weight, society provides a powerful incentive for people to drive fuel efficient vehicles. And, basing the fee, in part, on a vehicle's mileage, provides an incentive for people to buy newer vehicles, which generates sales tax revenue for society.

LP-60

Finally, as demand for use of the non-congested roadway increases, the fee will readily rise, as it will be a market-based mechanism. Eventually, the fee will reach such lofty levels, providing people with a strong, economic incentive to recruit paying riders for their vehicle. Hence, society will experience a steadily increasing level of ridesharing, WITHOUT ANY INCREASE IN TAXPAYER MONIES!!!

LP-61

NOTE: Any attempt to convert the HOV system into a fee-for-use system should get voter approval.

LP-62

EXAMPLE #2: One of the major problems with transportation policy in the Puget Sound area is the lack of cost benefit analysis. The Puget Sound Regional Council should strongly recommend the elimination of weekend bus service. Running buses on the weekend is a waste of money. It's one thing to promote the belief that buses during rush hour reduce congestion and improve air quality. Does anyone seriously believe this to be true during the weekend? My own personal observations show the buses to be nearly empty on the weekend.

LP-63

Also, light rail should be compared to the cost of expanding the HOV (or fee-for-use road system). Which is a better investment for society - billions for light rail? Or, billions for an HOV system, which people will pay ever-increasing amounts to use?

LP-64

EXAMPLE #3: Cities like Seattle, Bellevue, and Tacoma can expand the fee-for-use road system to include streets or lanes within the city. This would allow privately run jitneys or taxis to ferry people about the city, thus giving citizens an option other than driving their personal vehicle. Of course, the cities should probably share some of the revenue stream with the affected businesses and residences fronting the affected streets.

LP-65

EXAMPLE #4: I commute every day from Gig Harbor to South Seattle. Without a doubt, the most dangerous stretch of roadway I've ever observed in my life is the stretch of I-5 northbound between the Tacoma Mall and the northern-most exit in Fife. It makes no sense to have a transportation policy which consistently avoids addressing this stretch of highway. It shows your processes to be inept and corrupt.

LP-66

As a result of this omission, I recommend that an effective transportation policy rank stretches of roadways based on the number and/or severity (fatalities; ambulances dispatched; etc.) of accidents. For example, rank different sections of I-5 based on 1-mile increments; 2-mile increments; and 5-mile increments. And, see what sections of roadway pop out as the MOST DANGEROUS. I suppose common sense would tell us that wherever there is an intersection of I-5 (or I-405) with another highway, then we should expect to see a sharp increase in the number of severe accidents.

LP-67

Specifically, I would expect an effective transportation policy to address the expansion of I-5 northbound (between the Tacoma Mall and Fife), as well as the redesign of the I-405 and Hwy 167 interchange, with emphasis on I-405 south. Of course, we should not leave out a redesign of I-5 northbound, near I-90. And let's not forget I-5 southbound near Hwy 520.

LP-68

The fact that the Puget Sound Regional Council allows these flashpoints to fester year after year is quite shocking, to say the least.

LP-69

Matthew M. Warren  
5911 Reid Dr. NW  
Gig Harbor, WA. 98335  
253-851-5911

From: "Mark C Simpson" <mcs@n2tennis.com>  
To: PSRC.STAFF(destination2030)  
Date: Sun, Nov 26, 2000 9:58 PM  
Subject: Least Cost Comment

Dear Puget Sound Regional Council,

I recently heard that you are asking for feedback from the general public of the Puget Sound area regarding decisions on the proposed plan: !!Destination 2030.¶ I am a local college student in the North Seattle area and I am part of the transportation problem in our community. Every day I get in my car and drive alone to my school where I hassle with parking, and go to class. (This is often a ten-minute walk if I can even find a place to park) Around noon I again fire up my car, drive to get lunch, and then return to school for my last class. I then, via the afternoon gridlock on Aurora Ave, go to work. On my average day I get in my car at least five times and drive approximately 30 miles. (Keep in mind that both school and work are within a 5-mile radius of my house) I believe however, I am not a typical citizen; many citizens in our area travel further than me, and spend even more time in their cars. As a taxpayer and a citizen, I dream of a transportation system that is efficient and can get me where I want to go quickly, easily, and inexpensively though I do understand that this is probably too much to ask and that this might never happen. Now I will get to my point.

I support the most extensive of the three plans proposed in destination 2030. Even if this plan doesn't solve our problems, it will be a step in the right direction for our community. I think we need more alternatives to !!SOVs¶ in our society and we need a plan that encourages multimodal transportation systems. The opposition to this plan argues that this plan isn't worth the investment and that an increase in taxes isn't worth the benefits of a more complete plan. (Approximately \$33 to the average taxpayer more per month than the existing plan) I believe that this plan will save the average taxpayer money because it will result in less time spent in our cars. Less time in our cars will show savings on our car's upkeep costs, save us money on parking, take away some of the stresses caused by driving in gridlock, produce less pollution which is a cost often overlooked, and might save us time which is also a very valuable commodity. Please, help provide me with an alternative to driving in my car everywhere I need to go, and push for a 2030 plan including sufficient alternatives to the Single Occupant Vehicle.

Thank you,  
Mark Simpson  
mcs@n2tennis.com  
103 N. 193rd st.  
Shoreline, WA 98133

LP-70

LP-71

What are you N2? Choose from 150 free e-mail addresses.  
<http://www.n2mail.com>



From: "amos wong" <niceguy\_4ver@yahoo.com>  
To: PSRC.STAFF(destination2030)  
Date: Sat, Nov 25, 2000 5:10 PM  
Subject: Destination 2030

Dear Puget Sound Council

Hello, my name is Amos Wong and I am writing to you to express my input on the Destination 2030a plan. After carefully reviewing and reading the information provided, I have chosen to go with the MTP Plus plan. The reason I choose this plan is because of the main concern of all people in the Puget Sound is how much congestion we have here. With this plan we are reducing our congestion to 28-32%. Compared to the other two plans, this plan will give us less congestion on our freeways. Plus the population rate will be reduced to 2.7-4.4%. So that is a benefit for us and for the environment. Also with the additions of more modes of transportation, this could give some people more incentive to go to Downtown Seattle to go shopping. Thus giving businesses in Downtown more profits.

LP-72

The only cost that I see with the MTP Plus plan is the cost of \$68.00/month per person. But considering the benefits we get from this plan, I would be willing to pay that much to get to my destination faster and not have to wait in traffic for that long. Thank you for your time and hope you have a nice day.

LP-73

Sincerely,  
Amos Wong

-----  
Do You Yahoo!?  
Yahoo! Shopping - Thousands of Stores. Millions of Products.

1633N 175<sup>th</sup> Street  
Shoreline WA 98133  
(206)-542-3593  
bridgetng@hotmail.com

25<sup>th</sup> November 2000

Destination 2030  
Puget Sound Regional Council  
1011 Western Avenue, Suite 500

E-mail: Destination2030@psrc.org

Dear Director,

My name is Bridget Ng. I am a resident in Northwest King County. Experiencing the serious traffic congestion daily, I really want to share my analysis and opinion with you after I read the least cost planning analysis for 2030.

I believe that MTP Plus is the least cost plan compared to the other two plans, even though the dollar amount it costs more than them. It is because the advantages we can obtain from this plan are largely understated in the regional view newsletter. First of all, congestion is dramatically decreased from 59% to 26-29% in the next 30 years. This leads to save about 30 minutes per day in traveling across the city to work and back home. So, that means save us 4.5 workweeks per year in average. We can use this saved time to make more money. Except for the economic aspect, saving time from traffic is a universal solution to many social problems. For example, people are easily under pressure and emotional when they have to stay in a tiny car and breathe the exhaustion of carbon monoxide on the road without any movement. Therefore, if we can solve the congestion problem, our citizen will be much happy to drive their car smoothly. Moreover, we can spend more time with our family each day. The benefit from this cannot be value with money.

LP-74

The improvement in air quality is essential to our health. If we use the Current Law Revenue, the emission of carbon monoxide will be 22%. That endangers our health. But, if we spend about \$33 per person each month in the MTP Plus, the carbon monoxide level will be about only 2-4%. If we can have a longer life expectancy, is that worth much more than we spend?

LP-75

Moreover, to the need of the aging population, we'd better have a more safety transportation system. As the losing ability to drive, senior people would prefer to take transit, which is more save. And the teenager drivers cause most of the traffic accidents due to speeding. But, they don't like taking bus, as it is slow and not easy assess to many places. However, transit system is efficient and convenient transportation. The system would encourage teenagers to take public transport more. Since the transit system meets the needs for these particular age categories, it is important to spend money to development a better coverage of transit system.

LP-76

As MTP Plus brings us so much great benefits, so I highly recommend taking this plan in the consideration to our citizen's health and our society. We can have a better health and a better society order, our government will not need to spend so much money to social welfares, medical and maintain public harmony.

LP-77

Thanks for your time and concern.

Yours sincerely,  
Bridget Ng

November 24, 2000

Diana Alderman  
1303 N. 175<sup>th</sup> St. A306  
Shoreline WA 98133

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

My choice for Destination 2030 is the Updated Existing Plan (1995 MTP). My reasoning for this is because with the Updated Existing Plan (1995 MTP) the cost does go up but the increase over time will be relatively small compared to the MTP Plus Plan. I like how the plan showed that even though the cost of driving per month goes up it still stay at a reasonable rate; the per month cost would go up by \$19 over the next thirty years. The other financial cost in this plan would be a increase of 20.3 million in the System Expansion, an increase of 6.8 million Basic Needs, a 27.9 million increase in the Total Planned Investments and no change in the Current Law Revenue. The shortfall funding would be at 27.9 million. I also choose this plan because I think it would best fit the Puget Sound Area.

LP-78

The benefits to the Updated Existing Plan (1995 MTP) is that there will be a decrease in congestion on our roads, other services i.e. transit, train, light rail, and pollution will have gone down by 13.6%. With a decrease in congestion means that people will be able to have more time with families, friends or to just relax. With more services there will be fewer people who will drive if they could take a bus or train from where they live to work. With there being more transit, train, light rail then people who are not easily able to get to the city will be able to get there with less frustration. And with pollution down then there will be less smog in the city and the air will also be cleaner for everyone else.

LP-79

Sincerely,

Diana Alderman

From: "Griffin, Matt" <matt@pinest.com>  
To: PSRC.STAFF(destination2030)  
Date: Fri, Nov 24, 2000 4:02 AM  
Subject: LCP

Least Cost Analysis is an effective tool to judge alternative transportation solutions. I would encourage Sound Transit and any other agency to test their solutions against the other alternatives.

LP-80

Matt Griffin  
Pine Street Development  
520 Pike Street, Suite 2200  
Seattle, WA 98101  
Tel: 206-340-9208  
Fax: 206-340-9201

From: <Hiflyindad@aol.com>  
To: PSRC.STAFF(destination2030)  
Date: Fri, Nov 24, 2000 11:14 AM  
Subject: Additional Comments for Destination 2030

My name is Matt Thompson and I live in Everett. I'm interested enough in what you guys are doing to have made previous written commentary regarding DESTINATION 2030. Glad you extended the deadline, as I have additional remarks. Since I last wrote, I've been to the City of Everett's Public Works Department, spoke with Dave Davis (the City Engineer), and got their 6-year TIP. How come their TIP doesn't agree with your TIP? Some projects are the same, but generally I'd say there hasn't been a very good job of coordination. They haven't even have listed your project number RTA-44, which is the East Everett Park-n-Ride Lot. Hardly makes sense to reconstruct the 41st Street I-5 Interchange if you don't build the Park-n-Ride. Also, their plans show the bridge over the railroad tracks directly east of 41st Street, not in the vicinity of 38th as you've described in your project number EVT-30. And please, make sure their Riverfront Parkway project gets funded at the same time as the 41st Street Interchange. You see, this new interchange will feed traffic through the Lowell community and eastward across the Snohomish River Valley as soon as the dike repairs are completed on the Lowell-Snohomish River Road. I've heard that there will be 12,000 trips per day down that road when it reopens and community of Lowell is not geared for that. Neither is the railroad crossing that this route will take if it follows existing roads through Lowell. The objective of creating a "fast corridor" over the BNRR tracks will not be met if you don't complete the connector from the east end of the new 41st Street BNRR overcrossing, to the Lowell-Snohomish River Road.

LP-81

And what's up with an undercrossing of I-5 at 100th Street? First I'd heard of that is when I read it on the City's list! One of the VISION 2020 goals is to encourage citizen participation in the planning process and ensure coordination among jurisdictions. It sure doesn't seem like you're making an effort to meet your own goals. I think it's time for a media blitz...at the local level...so the people can see what you've got in store for us. Then hold some more public meetings and come prepared to listen to what the local residents have to say. Believe it or not, some of us are pretty smart.

LP-82

The attached Word file is the summarized City of Everett 6-year TIP. Hope my comments have been helpful, and you can get the discrepancies worked out. It would also be nice to receive acknowledgement from you folks that you received my comments, both this email and my previous letter of October 19th.

LP-83

Sincerely,  
Matt Thompson

CITY OF EVERETT  
2001 TO 2006 SIX-YEAR TRANSPORTATION IMPROVEMENT PROGRAM

Interstate

1. 1-5 Corridor Improvement Study
2. 1-5 Median HOV Lanes & Auxiliary Lanes
3. 1-5 / 41st Street Interchange
4. 1-5/ 100th Street SE HOV access / under-crossing
5. 1-5/ 112th Street SE Direct Access HOV Ramps
6. 1-5/ 112th Street SE Park & Ride Flyer Stop
7. 1-5/ US 2 Interchange

Freeways

1. SR 526 / Hardeson Road Interchange
- Principal Arterials
1. 19th Avenue SE (SR 527) Improvements
  2. East Marine View Drive Improvements
  3. Pacific Avenue Overcrossing
  4. Evergreen Way Widening, 112th St. SW to Airport
  5. Evergreen Way Widening, 4151 Street to 47th Street
  6. Broadway / Beverly Blvd. Intersection Improvements
  7. Broadway Corridor Study
  8. Arterial Needs Study
  9. SR 525 Corridor Projects
  10. Evergreen Way HOV Emphasis Improvements
  11. 19th Avenue SE HOV Treatments

Minor Arterials

1. 41st Street Over-crossing
2. Riverfront Parkway
3. 112th Street SW Street Improvements
4. 112th Street SW-SE Street Improvements
5. 112th Street SE Street Improvements
6. 100th Street SW Street Improvements

Local Access

1. Interurban Trail, northern extension
2. Annual Street Overlays (city-wide)
3. Neighborhood Traffic Mitigation Projects
4. Pedestrian Improvements (city-wide)
5. Neighborhood Block Grants
6. Traffic Signal Interconnect
7. Pavement Marking Project
8. Traffic Signal Improvements
9. Developer Traffic Signals
10. Hazard Elimination & Safety Projects
11. Roadway Hazard Elimination Projects
12. Neighborhood Traffic Studies
13. Riverfront Walkway Phase 1
14. Riverfront Walkway Over-crossing
15. Riverfront Walkway Phase 2
16. 13th Street Bicycle-Pedestrian Improvements
17. 10th Street Pedestrian Improvements
18. 106th Place SE Improvements

19. Terminal Avenue Pedestrian Improvements
20. Norton Avenue Pedestrian Improvements
21. Olympic Drive Pedestrian Improvements
22. 1-5/ Snohomish River Bike-Pedestrian Bridge
23. Port of Everett Public Access Walkway
24. 41st Street Bike-Ped Connector Trail
25. City Entryway landscaping and signs
26. Neighborhood Street Improvements
27. 3rd Avenue SE Street Improvements
28. California Street Improvements
29. Upper & Lower Ridge Road Street Improvements
30. Everett Non-Motorized Transportation Projects

Transit

Collector Arterials

1. 36th Street Park and Ride Improvements
2. California Street Over-crossing
3. 52nd Street Improvements
4. Everett Avenue BNSF Over-crossing
5. 16th Street Improvements
6. 37th Street Improvements
7. Holly Drive Pedestrian Improvements
8. Smith Island Roadway Improvements

Projects shown in bold type were not included in The City's 2000-2005 Six Year TIP

1. Bus Replacements -2001 to 2006
2. Vehicle Maintenance Capitalization
3. Regional Fare Coordination Project
4. Transit Operations & Maint. Facil. Siteing Study
5. Boeing Mitigation Park & Ride Lots, 2002
6. Operations Support Vehicle Replacement

HOV Projects

1. Everett Station Construction
2. Everett Station Commuter Rail Improvements
3. South Everett Transit Center (Everett Mall)
4. North Everett Transit Center (Everett Community College)
5. Implementation of State CTR Law



Jennie Husby  
2829 Gibson Rd  
Everett, WA 98204

To: Puget Sound Regional Council  
1011 Western Avenue, Suite 500  
Seattle, WA 98104-1035

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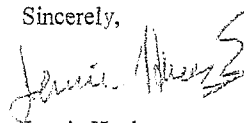
NOV 22 2000

PUGET SOUND REGIONAL COUNCIL

My choice for Destination 2030 is the "MTP Plus" plan. Even though the cost in dollars will be much higher than in the other two plans, it is obviously made up easily in the benefits that are so crucial to our population. The major cut in CO2 emissions is vital to human health and the health of the critters, plants, and of course water that we live among. The time spent in traffic is time less spent with our families, and has a lost dollar value to some that the travel time is part of their job. The "MTP Plus" plan is the responsible, most valuable choice and I would like to see it happen.

LP-85

Sincerely,



Jennie Husby

Joy Gerhard  
18521 6<sup>th</sup> Ave NW  
Shoreline, WA 98177

RECEIVED

November 18, 2000

NOV 21 2000

PUGET SOUND REGIONAL COUNCIL

To: Puget Sound Regional Council  
1011 Western Avenue, Suite 500  
Seattle, Washington 98104-1035

To Whom It May Concern;

I believe that the best choice for Destination 2030 is the MTP Plus plan.

Compared with the Current Law Revenue and MTP plans, the MTP Plus would more significantly improve the transportation in the Puget Sound Area. Though the per capita cost of the MTP Plus is significantly more than the other existing plans, I believe the money will be well invested with the MTP Plus.

LP-86

The benefits of the MTP Plus plan are great: increased transit service will be put into use as more light rail and commuter rail lines are built and utilized, cutting down on the amount of personal automobile travel; compared with the other existing plans, the MTP Plus will greater serve the different areas of the Puget Sound; total pollution from automobiles will decline with MTP Plus, as will the traffic congestion on many of the freeways throughout the area, more so than with the other plans; ferry lines will be continued and expanded, whereas in the Current Law Revenue Plan, the lines would be mostly discontinued; the HOV system will be completed with the MTP Plus, allowing for greater efficiency in transportation; the MTP Plus also puts into effect the "smart growth" idea which is a marvelous concept and will greatly increase the efficiency of the transportation services in the Puget Sound Area.

LP-87

I believe that, despite the high personal monetary cost of the MTP Plus plan, the benefits are worth the cost and will greatly improve the transportation in the Puget Sound Area in the future.

Sincerely,



Joy Gerhard

RECEIVED

November 18, 2000

Jeanne Gerhard  
18521 6<sup>th</sup> Ave NW  
Shoreline, WA 98177

NOV 21 2000

PUGET SOUND REGIONAL COUNCIL

To: Puget Sound Regional Council  
1011 Western Avenue, Suite 500  
Seattle, Washington 98104-1035

To Whom It May Concern;

I am writing to express my views on the proposed plans (1995 MTP, Current Law Revenue, and MTP Plus) currently under consideration. After reviewing the material, I believe MTP Plus is the most desirable of the three.

LP-88

It is imperative that we think long range. Short-sighted planning only does harm. The problems addressed in this plan are huge, and the solutions will only become increasingly difficult to implement the longer we wait.

LP-89

Although the cost of implementing MTP Plus is greater than the other alternatives, the advantages in years to come will make it worthwhile. The reduction in congestion on the roads, and the cleaner air we will enjoy will more than compensate for the cost.

LP-90

My family and I recently moved from an area where traffic was a significant issue. It was distressing to see the issues left unaddressed, or only half-heartedly addressed. We can do a great service to ourselves, and leave things measurably improved for our children and grandchildren, if we act responsibly on this subject.

LP-91

Thank you for considering my views. I look forward to seeing how things develop.

Sincerely,

Jeanne Gerhard

**From:** "Dwight Sutton" <DSutton@ci.bainbridge-isl.wa.us>  
**To:** PSRC.STAFF(destination2030)  
**Date:** Thu, Nov 2, 2000 2:56 PM  
**Subject:** Destination 2030 Transportation Plan

I've studied the least cost plan (Appendix 11), with the following comment.

MTP Plus (alternative B) is the preferred strategy. It acknowledges the importance of enhanced ferry transportation....an efficient, large volume carrier in our overall transportation system.

Dwight Sutton  
Mayor  
City of Bainbridge Island

LP-92



King County  
Department of Transportation  
201 South Jackson Street  
Seattle, WA 98104-3856

RECEIVED

NOV 28 2000

November 27, 2000

PUGET SOUND REGIONAL COUNCIL

Mary McCumber, Executive Director  
Puget Sound Regional Council  
1011 Western Avenue, Suite 500  
Seattle, WA 98104-1035

Dear Ms. McCumber:

This letter is sent in response to the least-cost planning analysis presented in the Metropolitan Transportation Plan (MTP) Alternatives Analysis and Draft Environmental Impact Statement, Volume 2 - Appendices. The Regional Council's effort to conduct a least-cost analysis of the MTP is the first such effort for a regional transportation plan in Washington state. King County supports the commitment in Destination 2030 to further refine the regional plan using the least-cost planning approach as a key element in determining future transportation investments in the Puget Sound region. The comments and questions in this letter are intended to clarify, support and refine this process.

LP-93

1. The "General Methodology" sections on pages 6/19 state that all existing infrastructure and trips are part of the baseline and therefore excluded from the least-cost analysis. If major investments have already been made in some parts of the transportation system, but other parts have not had such investment, does this assumption tend to bias the costs in favor of the system parts that already have significant infrastructure in place? Are there parts of our existing system that can still accommodate growth without significant cost so that some of the trip growth should be discounted from the infrastructure costs as well?

LP-94

For example, if significant investments have been made in infrastructure for one mode, including system connectivity, the costs to improve that system may be less because of prior investments. However, a system that has had no prior investment may appear to cost significantly more because it is "starting from scratch," buying land, building the system, etc. Should this be factored into this analysis?

LP-95

2. The "Findings" on page 25 compare the relative costs across the alternatives and summarize information found in Table 1. The third finding states that the social costs are highest under the Current Law Revenue alternative and lowest under the MTP Plus A alternative. Most of these indirect costs appear to be directly related to congestion measures, i.e., if congestion is reduced, the alternative will have lower social costs. Other social costs, not directly associated with congestion, e.g., noise and solid waste disposal, seem to have a very different patterns of cost. This, we believe, lessens the impact of this finding to a point where it may be meaningless.

LP-96

MOBILITY FOR THE REGION

Should other social costs be considered, e.g., housing, health, and economic growth?

3. Table 1 indicates transit capital costs about \$600 million greater for the MTP Plus B alternative, yet operating and maintenance costs \$1 billion dollars greater for the same alternative as compared to the 1995 MTP and MTP Plus A alternative. What is the rational for such significant increases in operations and maintenance?

LP-97

Why do the costs of operations and maintenance remain constant for highways and streets/roads for three of the four alternatives? They appear to have significant differences in miles of travel, which would suggest significant differences in operations and maintenance costs.

LP-98

4. The number of new person trips (over 30 years) at the bottom of Table 1 is very important to this analysis. Even minor variations in any one of these numbers could alter the conclusions about the least cost alternative because they become the denominator in the cost calculation. Please explain more fully here the source of these numbers.

LP-99

Further, in regard to this cost per trip analysis, is it fair to value all person trips, whether long or short, by motor vehicle or foot, at equal value? At some point it seems as if the analysis must look at the cost and benefits of measures that achieve similar purposes, achieve similar access at variable costs, or, on the other hand, eliminate trips. For example, a trip to the grocery store requiring a vehicle could be assessed against a trip to the grocery store via walking, thereby allowing comparison of land use actions versus roadway construction to achieve access to goods and services, work and play.

LP-100

5. Page A-38 in Exhibit A indicates that only parking away from residences was considered in this analysis. Although non-home costs are significant costs to businesses, residential costs for "housing" of vehicles both on and off private property seem to be potentially significant private and public costs. Vehicle ownership, which would establish vehicle storage requirements, could be used to quantify land area devoted to this function and, hence, costs.

LP-101

6. Given its rising significance in transportation decision-making, we question the exclusion from this analysis, as described on page A-41, of the costs of maintaining endangered salmon species. This and other potential legal actions should somehow be factored into the discussion, even if only as a range of costs under a category of implementation difficulty. Is this analysis likely in the future, even if it is not included in this initial review?

LP-102

7. The discussions on air quality and public infrastructure would be more complete with a mention of the potential for losing federal funding for transportation projects in the event that the region does not meet federal air quality conformity requirements. Future investment levels in public infrastructure would be seriously curtailed if federal funding were lost. Is it possible to include an alternative analysis of potential public cost impacts with respect to meeting air quality conformity requirements (or at least an analysis of each alternative's level of probability of meeting air quality conformity requirements)?

LP-103

8. The sensitivity analysis presented in Exhibit B helps to put into context the areas of uncertainty in this analysis. However, much of the information seems irrelevant since the basis for variation remains constant. Changes in the discount rates, value of travel time, and cost per trip result in similar patterns through various assumptions so long as the underlying assumption, i.e., number of new trips, remains constant. Capital costs per trip vary because the basis is not new trips but the underlying proportion of capital improvements. For this reason, the sensitivity analysis does not significantly contribute to the understanding of the overall analysis. Ranges of costs might be better characterizations of uncertainties in this regard.

LP-104

It would seem that one major uncertainty among the alternatives is the number of new trips. How might varying the number of person trips under each alternative affect its cost and function? Land use assumptions are probably another uncertainty that would have varying effects on the alternatives.

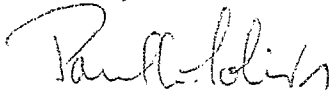
LP-105

In closing, we appreciate the work the Regional Council has done in beginning this important analysis. The tools under development will undoubtedly help this region and others as we work toward broad use of this type of analysis to help us shape our transportation decisions.

LP-106

Again, thank you for your attention to our comments and concerns. If you have any questions about these comments, please contact Harold Taniguchi at (206) 684-1132 or Roy Francis at (206) 684-1644.

Sincerely,



Paul Toliver, Director  
King County Department of Transportation

cc: Harold Taniguchi, Deputy Director, King County Department of Transportation (KCDOT)  
Ron Posthuma, Assistant Director, KCDOT  
Roy Francis, Manager, Office of Regional Transportation Planning, KCDOT  
David Hopkins, Regional Transit Manager, King County Executive Office

Kemper Development Company  
10500 NE 8<sup>th</sup> St. – Suite 600  
Bellevue, WA. 98004

November 28, 2000

Norman Abbott  
Responsible Official – Destination 2030  
Puget Sound Regional Council  
1011 Western Ave., Suite 500  
Seattle, WA 98104

Reference: Destination 2030 Transportation Plan / Least Cost Planning (LCP)  
Comments

Dear Mr. Abbott:

LP-107

I have reviewed The 2001 Least-Cost Planning Analysis, Supplemental Technical Appendix 11, Metropolitan Transportation Plan Alternatives Analysis and Draft Environmental Impact Statement, Volume 2 – Appendices, October 26, 2000. During this review I have had the benefit of two consulting engineers to help understand and interpret the Least Cost Planning Analysis. The following are my observations and comments concerning this report:

1.) **Least-Cost Planning** – There is a difference in applying LCP to a range of alternatives being considered for the Region's transportation needs and only applying LCP to the alternatives contained in the Draft Environmental Impact Statement (DEIS). How are you to know if you screened out an alternative that would be of greater benefit than the alternatives selected if you did not apply LCP to other alternatives? It would seem the current limitation of LCP to only the DEIS Alternatives violates the spirit of LCP.

LP-108

2.) **DEIS Alternatives - Separate Analysis** - The major components of each alternative should be analyzed using LCP. This would allow comparisons between the modes i.e. Rail, buses, cars on High Occupancy Vehicle lanes and cars on Freeway or Arterial lanes. The analysis presented does not provide a justification for the inclusion of any component of any alternative.

LP-109

3.) **Bus & Vanpool Network** - The absence of a Bus and Vanpool Network alternative is a gross disservice to the Elected Officials and the Public. At a minimum it does not provide an alternative should the voters turn down Phase II of Sound Transit.

LP-110



3) **Table 1 - Basis** - The Appendix does not contain sufficient information for the reader to determine how each of the items was calculated. An explanation of the methodology should be provided

LP-111

4) **Cost per Trip (Table 1)** - The differences in Costs per Trip at the bottom of Table 1 are less than the accuracy of the forecasts upon which the plan is based i.e. \$3.01, \$2.91, \$3.01, & \$2.86. The maximum difference is 5 % and the reader still does not know which of the components contributed to the lower trip cost. Therefore, this LCP Analysis does not tell the decision-maker any meaningful information.

LP-112

5) **High Occupancy Vehicle (HOV) Lanes** - It seems that the value of HOV is being diminished by building a larger rail system which will reorient the buses from HOV lanes to rail terminals thereby reducing the transit use of HOV lanes. At the same time the HOV lane requirement for occupancy is being increased from 2+ to 3+ persons per vehicle which I understand decreases the actual number of person trips in HOV lanes at 2030 below the 1998 level. How could this result justify the investment in additional HOV lanes.

LP-113

6) **Freeway Lanes** - With the 2+ vehicles moving to the general capacity lanes it seems that the representations of congestion increases are simply not correct. The projection in traffic growth (+43%) plus moving 2+ HOV to the general purpose lanes (+25%) with only a 15 % general capacity addition in MTP +A is not a correct or reasonable representation of congestion.

LP-114

I hope there is time for you to include these questions in the Final Environmental Impact Statement for the Metropolitan Transportation Plan.

Sincerely,

Bruce L. Nurse, Vice President  
Kemper Development Company

November 27, 2000

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DEC - 4 2000  
PUGET SOUND REGIONAL COUNCIL

Mary McCumber  
Executive Director  
Puget Sound Regional Council  
1011 Western Avenue, Suite 500  
Seattle, WA 98104-1035

Subject: Comments on *Destination 2030* - Least-Cost Planning Analysis

Dear Ms. McCumber:

Thank you for the opportunity to comment on the Least Cost Planning Analysis for the Metropolitan Transportation Plan (MTP) titled: *Destination 2030*. The City of Renton compliments the Regional Council staff on this first attempt at developing a least-cost approach to the MTP. Keeping this in mind, the City of Renton has the following comments on the Least Cost Planning Analysis component of the Metropolitan Transportation Plan.

- 15 1. Please include a glossary of key terms used within the Least Cost Planning Analysis.
- 16 2. To interpret the Least Cost Planning Analysis requires at least some understanding of macroeconomics. Our concern is that not all individuals using the information possess that education. Therefore, sensitivity should be applied to the use of language in the document, while not losing any nuggets of knowledge.
- 17 3. The Least Cost Planning Analysis fails to assess the effects of pricing on system level demand. This is a major gap in the analysis. The full cost of providing one additional unit of transportation is not currently reflected in the actual price paid by a transportation consumer. Until pricing reflects more of the true full cost of providing an additional unit of transportation, market distortions (e.g.: congestion) will continue. While pricing transportation at higher levels to help reduce demand may not be politically viable at this time, the absence of this analysis, even for discussion purposes, weakens the credibility of the Least Cost Planning Analysis.
- 18 4. Table 1 on page 26 shows the same "Public Cost" for Maintenance and Operations (M & O) for "Highways" and "Streets/Roads" for MTP Plus A, as for MTP Plus B. Yet, there is an additional 431 lane miles of roadway (both GP freeway, HOV and arterial) in MTP Plus A as compared to MTP Plus B. So, how can the Maintenance and Operational costs be the same when the lane miles in MTP Plus A are substantially more than MTP Plus B?
- 19 5. Least cost planning should be used as a tool to discriminate among the differences in character and scope of major proposed system investments and strategies that might be considered for "candidate" status in the adopted plan.
- 20 6. Least cost planning should also be used as a tool to refine the regional plan and help influence which facilities, services or program strategies and investment warrant an "approved" status in the adopted plan.

1055 South Grady Way - Renton, Washington 98055

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Mary McCumber  
Puget Sound Regional Council  
November 27, 2000

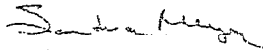
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Re: Comments on the Metropolitan Transportation Plan Draft EIS

- 11 7. Least cost planning efforts should continue to include and refine cost factors typically not considered when evaluating alternatives. These cost factors would include, but would not be limited to: environmental, social and private sector costs.

The Least Cost Planning Analysis component of the Metropolitan Transportation Plan is a first step in developing an additional tool to help decision makers. The City of Renton understands that this is a first, and important step forward. We commend the work done on this difficult subject and look forward to the evolution of this tool. If you have any questions, please contact Nick Afzali at (425) 430-7245.

Sincerely,



Sandra Meyer  
Transportation Systems Director

cc: Sue Carlson, Administrator, EDNSP  
Gregg Zimmerman, Administrator, PBPW  
Nick Afzali, Transportation Planning Supervisor

Cindy Ng  
636 N.W 88st  
Seattle, WA 98117  
Nov 25, 2000

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DEC - 4 2000

PUGET SOUND REGIONAL COUNCIL

To Puget Sound Regional Council:

LP-122

I strongly believe that it's essential and it's also our responsibility to learn more and help shaping Destination 2030 in order to minimize traffic congestion at Seattle.

After reading all of the alternatives that proposes in Destination 2030, I choose one of the plans that mostly focus on several factors which includes bringing the most significant impacts to improve traffic congestion and minimizing emission which release from cars.

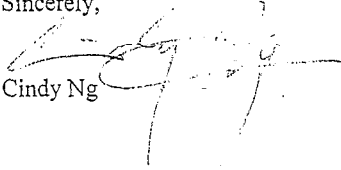
When I consider about the costs and benefits of these alternatives, I choose the Updated Existing Plan (1995 MTP).

The most important cost for the 1995 MTP is the monthly payment. Most of the people can afford the payment of the 1995 MTP which costs people to pay \$54/month and on the per person price tag basis. Comparing with another two alternatives, the payment of Current Law Revenue costs lower price but it doesn't help to improve the traffic congestion problem. The payment of the MTP Plus is too expensive to costs people for paying \$68/month, and some people can't afford that much. In addition, there are several benefits for choosing the 1995 MTP. First, the alternative will bring a great improvement on freeway congestion. According to the report of Puget Sound Regional Council, Northwest King County is the most congested area of the region. The 1995 MTP improves significantly to the certain areas with most congestion sub-region. For instance, while the Current Law Revenue decreases to 82% of traffic relief, the 1995 MTP dramatically goes down to 37 % of traffic relief in Northwest King County. Another

instance is that the 1995 MTP will experience 9% of traffic congestion in Kitsap and the Current Law Revenue will have more than a double of the congestion in the same sub region. Third, the performance indicator of the 1995 MTP shows more advantages and improvements than the other two alternatives. For instance, daily vehicle miles traveled is only 111,677, 502 miles in the 1995 MTP when MTP Plus have total traveled miles up to 113, 564, 276 miles. Another instance is that 1995 MTP provides 9, 108, 530 SOV lanes and MTP Plus can only provides 8, 881, 607 to 9, 078, 246 SOV lanes. Finally, effects on air quality is also another important consideration as the region prepares Destination 2030 because it will influence the region's air quality in the long term. The Current Law Revenue alternative exceeds the maintenance plan budget for on road mobile sources by 22%, and it is nearly 30% more carbon monoxide emissions than we have today. However, the 1995 Updated will decline the CO emission to 8.7% which is triple times less than the Current Law Revenue.

Thank you for your concern.

Sincerely,

  
Cindy Ng

Alvin Chu  
20002 3<sup>rd</sup> Ave N.W  
Shoreline, WA 98177  
Nov 26, 2000

To Puget Sound Regional Council:

LP-123

I will choose the alternative MTP Plus (Additions to Existing Plan) as the new plan for Destination 2030.

According to the statistics from these alternatives, it seems to have greater and better improvements than other two alternatives. MTP Plus does a significantly better job reducing congestion than the other two alternatives, bringing freeway congestion levels down to below what they are today in most parts of the sub-regions.

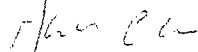
Even though the cost of the monthly payment, \$68, is quite expensive to most of the people and some people may not afford it. I think it's worth it because it will bring significant improvement to our traffic congestion and provide better service. In addition, we seem to gain more the benefits than its costs. First, it will attract more people to trip due to more lanes of freeways and arterials will be built, and people won't worry about getting into traffic congestion during the peak time. Second, our traffic will go more smoothly and it will lead us to be able to do our work more efficiently. For example, we can go to work on time without causing problems to our work place. Another example, people can transport their products faster and efficient.

The freeway congestion results show that MTP Plus is the best projects to solve our traffic congestion problem. Especially in the Northwest King County, it decreases about 30%. Also, the alternative is the fewest exceeds criteria pollutant budgets for carbon monoxide.

More people use carpool lanes and transit travels. Why? The reason is that transit service is up by 50% over today's level, and ferry service is substantially expanded. The alternative also include "smart growth" tools to help local governments attract housing and job center that can be efficiently served by transportation; therefore, people will be offered more jobs opportunities. For the future, more freeways is going to be helpful to solve traffic congestion due to the increased population.

Thank you for your concern and attention.

Sincerely,



Alvin Chu

Puget Sound Regional Council,

P-124

My name is David Marshall and I am currently a student attending Shoreline Community College. Recently I had the opportunity to learn about Destination 2030 in one of my classes and I felt that the transportation plans that are currently being discussed might play an important role in my future. I am currently twenty-one years of age, and I have lived in NW King County my entire life. In recent years, I have personally witnessed great increases in traffic on both highways and arterial roadways. I plan on spending the better years of my life here in Seattle, so I agree that something should be done about the congestion problem. We currently have the third worst congestion in the United States, and I do not want to see Seattle get any worse.

I have attended your website to familiarize myself with the three plans that are in consideration, and I have come to the conclusion that the "Current Law Revenue" plan should not even be considered. The only benefit that we gain from adopting this plan is that we would save a couple of bucks a month. However, saving a couple of bucks a month is not worth the price of such an action. If the "Current Law Revenue" plan is adopted, the congestion on our roadways will increase by nearly 50% from where we stand today. I consider traffic to be bad right now; so I cannot imagine what it would be like if it increases by 50%. If this is not enough reason to reject the "Current Law Revenue" plan, then the increase in pollution caused by the plan is. I take pride in keeping our environment as clean as possible. I want my children to be able to enjoy the same standard of living that I enjoy today, however, if this plan is adopted our children will instead have to pay for our mistakes. If by adopting this plan pollution is predicted to increase some 22%, then I say it should not be adopted. Other reasons why I do not like this plan are; ferry services are largely discontinued, and local transit service is cut by nearly 25%.

I like the remaining two plans in consideration because they both try to plan for the future. We know that the population in Seattle is going to continue to increase, and both of these plans work on solving future problems before they occur. I prefer the "MTP Plus" plan over the "MTP Update" plan because it produces better results for the future. Both plans produce less congestion and pollution than would be seen under the "Current Law Revenue" plan. However, the "MTP Plus" plan reduces congestion from the baseline of 32% congestion to an astonishing 28-32% congestion despite the dramatic increase in population, while the "MTP Update" plan allows the congestion to increase to 37%. As a result, the "MTP Plus" plan maintains traffic conditions at the same levels that are seen today, and should not get any worse. As I stated before, pollution is a very important issue for me, and the "MTP Plus" plan does a better job at solving future pollution problems than does the "MTP Update" plan. Pollution under the "MTP Update" plan increases by 8.6%, whereas, under the "MTP Plus" plan it only increases by 2.2-4.4%. Other benefits that attract me to the "MTP Plus" plan are; ferry services are expanded, and the transit service is increased by nearly 50%.

Both the "MTP Plus" plan and the "MTP Update" plan are better for solving some of the problems that we will face in the future than the "Current Law Revenue" plan. The "Current Law Revenue" plan does nothing to stop pollution and congestion from increasing, but it only costs \$35/month. The "MTP Update" plan does allow congestion and pollution to increase slightly, but not nearly as much as the "Current Law Revenue" plan, and costs \$54/month. And the "MTP Plus" plan allows very little increase in pollution, and traffic congestion gets no worse than it is today, but costs \$68/month. I believe that we need to do what we can today to make Seattle a better place to live for the future. Money is important to me, but if I can use my money to reduce pollution and congestion, then I will. Therefore the "MTP Plus" plan sounds better to me than the other two. It may cost more per person, but the long-term benefit of having cleaner air, and less congestion outweigh the costs.

Thanks for your time,

David Marshall



4635 138<sup>th</sup> Ave. S.E.  
Bellevue, WA 98006  
October 18, 2000

Norman Abbott  
SEPA Responsible Official  
Puget Sound Regional Council  
1011 Western Ave., Suite 500  
Seattle, WA 98104

Dear Mr. Abbott:

I am writing to request that the DEIS for the 2001 Metropolitan Transportation Plan, which is presently out for public comment, be rejected and sent back for additional work. In my view the current DEIS does not provide a valid basis for regional transportation decision making nor does it comply with the least cost planning requirements of Washington State law.

**Summary:**

Least cost planning (LCP), as well as common sense, require that proposed transportation projects be selected primarily on the basis of their cost-effectiveness in solving regional transportation problems. To do otherwise would obviously waste taxpayer money. In order for decision makers to make such a selection, and thus create a regional plan, it is necessary that they know the cost-effectiveness of each project, element, or alternative that might constitute part of an overall solution. The role of the Alternative Analysis and Draft EIS is to provide this data, but in its current form it doesn't. The document is thus of no real value to the public or to decision makers. In addition it violates State Law RCW 47.80.030 which mandates the use of "least cost planning" in the preparation of transportation plans. PSRC claims to be in compliance with the law; however the facts argue otherwise. This is not an academic point. The subject document is directing the region toward spending tens of billions of dollars on what appear to be non-cost effective projects. The current document must be rejected and the PSRC must be mandated to adhere to the spirit and letter of least cost planning before issuing a revised version. Likewise the process whereby public officials develop and adopt the actual Metropolitan Transportation Plan must be put on hold until this homework has been completed.

I-167

**Detailed Analysis:**

In what follows it will be clear that the key issue is the level of granularity at which cost effectiveness measures are computed. They can be computed at three major levels. The first is at the level of scenarios or major alternatives each one of which comprises a market basket of road, transit, and other projects. The second level would be for alternative classes of projects such as: bus projects, rail projects, freeway projects, TDM projects, and so forth. At the third level cost effectiveness would be computed for alternative individual projects such as: a freeway interchange at 520 and NE 45<sup>th</sup>, or a light rail line from Sea Tac to downtown, or some specific program for traffic light coordination. As a practical matter there would be some point at which it would not make sense to compute cost effectiveness for very small projects or sub projects. The issue is at what level has the spirit and letter of least cost planning been satisfied.

The PSRC apparently feels that applying cost effectiveness measures to complete market baskets of projects, which they often call scenarios or alternatives is adequate. I argue that doing so violates the spirit and letter of the law because, to be useful, cost effectiveness measures must be computed for each class of facility, service, or project; if not indeed for each major project. If this is not done it is impossible to rationally select which 'facilities, services or projects' should become part of the overall scenario or plan. More detail follows.

**The DEIS does not comply with State Law.--** RCW 47.80.030 states: "Each regional transportation planning organization shall develop....a regional transportation plan that: (a) is based on a least cost planning methodology that identifies the most cost-effective facilities, services, and programs;..."

On page 194 of the DEIS, PSRC states "The formal analytical process established by SEPA, and conducted for the 2001 Update effort is completely consistent with the strategic planning principles that are traditionally part of a least-cost planning exercise"

The PSRC is mistaken. The 'facilities, services, and programs' in the RCW are things like bus transit, rail transit, roads, freeways, and various transportation demand management (TDM) and Intelligent Transportation Systems (ITS) projects. The RCW states that the methodology must identify the most cost effective of these. This can only be done if the cost effectiveness of each is separately computed and published in the DEIS. PSRC did not do this. Instead they computed cost effectiveness of several different scenarios or market baskets each containing various types of facilities, services, and programs. This fails meeting the letter of the law. Even more clearly it fails to meet the intent or spirit of the law.

**The PSRC seems even to violate the guidelines for LCP cited in it's own report.--** For instance on page 194 the DEIS states: "A Federal Highway Administration publication, Evaluation of Transportation Alternatives: Least cost Planning: Principles, Applications and Issues, describes these principles as follows: 1) Application of benefit-cost analysis in the evaluation of alternative transportation systems and projects;" Clearly roadways constitute one system and a light rail line constitutes another system or project. How can these alternatives be evaluated unless the benefit-cost of each is separately computed?

On page 195 it says: "Again the Federal Highway Administration publication summarizes initial steps involved in conducting a least-cost planning exercise: ...\* Bundle resources (investments) into competing portfolios; \* Estimate the costs of all resources in comparable terms (cost per unit of output)...." Clearly the FHA was saying that LCP must compute cost effectiveness at the individual resource (e.g.: project) level and not at the portfolio level as PSRC has done.

#### **Why Does it Matter**

- 1) If we don't know the cost effectiveness of individual classes of projects or even major individual projects it is impossible to rationally determine which, or how much of each, should be included in an overall transportation plan such as the MTP. We are at risk of spending too much on a project that contributes minimally to overall goals, or spending not enough on one with high "bang for the buck". The alternative scenarios in the DEIS just represents a compilation of everyone's wish list projects subject only to political considerations. Granted, subjective and political criteria should play a role in selecting projects, but the roll of the DEIS is to provide objective data to help guide the decisions. Since it groups all projects into large relatively similar scenarios the merits of individual elements are masked and the DEIS is essentially useless. Actually it is worse than being simply useless. The lists of projects contained in the DEIS gain credibility simply by appearing in such a high visibility document. The DEIS and the MTP to follow begin to cast in concrete the way the region will spend billions of dollars. It's a matter of step by step endorsement, and we need to start out with scenarios that make sense since only the scenarios on the table today are likely to be the ones continuing on. Having something in the plan which does not pull its weight in terms of cost effectiveness does actual harm to the regions financial health and to the public trust. It is important that the DEIS provide value by providing data not available elsewhere. And it is important that the DEIS not seem to advocate spending in some manner that is not proven cost effective.
- 2) The DEIS does in fact seem to advocate spending in ways that are not cost effective, especially in the area of mass transit. For instance the table on page xxiv indicates that the MTP Plus scenario would allocate over 40% of total spending to public transit (\$41 billion out of \$98 billion) in spite of the fact that public transit will be handling only about 5% of all trips (per page xvii). And, looking at the difference between the Current Law Scenario and the MTP Plus A scenario it appears that spending

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Continued

\$17.8 billion more on transit will only increase the percentage of trips made by transit by 1%. This is equivalent to saying that it will cost about \$18 billion to remove about one car out of 100 from the roads by means of investing in transit. It is quite clear that this would have little impact on travel delay which is the main way PSRC measures effectiveness. It also seems clear that this huge investment in transit, which PSRC implicitly endorses by placing in every scenario, would not meet any cost effectiveness test. That is why it is so vital that PSRC compute and publish cost effectiveness values for each plan element. Every plan element should need to earn its way into the plan by proving it's more cost effective than the other options.

- 3) PRRC seems to have deliberately avoiding systematic cost-effectiveness analysis at the component level (by component I mean for example that rail transit would be one component, bus transit another, and so forth). Consider for instance Appendix 5. Appendix 5 reports on what might be considered a partial cost-effectiveness study of one particular option, namely that of increasing road capacity considerably more than done in any of the main alternatives. The results in Table 1 and Figures 1 and 2 give us some understanding of the cost effectiveness of spending an additional \$6 billion on roads. That \$6 billion clearly yielded a significant reduction in delay, whereas the aforementioned \$18 billion for transit seems to have a very minor payoff. This being the case why didn't one of the major scenarios contain these additional roads with a corresponding decrease in transit spending? Clearly that would have been a more cost effective scenario. Consider also the mention (on page 56) of a "Package 2-B" analysis. That analysis would have probably provided direct cost effectiveness measures for transit spending. Why wasn't it published? Perhaps it would have showed transit to be rather ineffective in reducing delay. Perhaps PSRC avoided publishing that data in order to avoid embarrassing Sound Transit. In any case it is obvious that the DEIS has avoided providing any data about the cost effectiveness of the \$40 billion being proposed for transit.
- 4) It is even possible that had PSRC not allocated so much money to public transit an entire scenario capable of significantly reducing congestion could have been crafted within current law revenue, and the huge funding shortfall PSRC highlights wouldn't be the main message of the entire report.
- 5) I have focused so far on the distortion introduced by failing to apply LCP to the roads versus transit tradeoff. However it also applies to the many smaller TDM and ITS initiatives. A good LCP might show these are really the most cost effective ways to reduce congestion, just as LCP applied to Washington's energy situation showed low cost conservation measures were preferable to building more nuclear power plants.

#### Summary

It has been shown that by not conducting cost effectiveness analysis at the component level PSRC has not only failed to provide information needed for effective planning but also violated state law. It has also been shown that conducting such studies would have probably changed the relative emphasis given roads versus transit and thus angered certain stakeholders. Nevertheless PSRC has both the obligation and the charter to get the facts out however disturbing they may be. No other agency has this roll. Lacking the facts about cost effectiveness our region has no rational basis for spending our transportation dollars or solving the congestion problem so important to us all. For these reasons the DEIS must go back to the drawing boards and made to comply with both the intent and letter of least cost planning.

Sincerely,

Richard C. Harkness, Ph.D.  
Urban Systems Planning

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Continued

the next phase of planning. During environmental reviews of proposed rail projects, rail alternatives are compared to other alternatives including road expansion and comparative environmental impacts are analyzed and disclosed. The EIS does include plan level analysis with environmental conclusions comparing alternatives with more or less rail/roads. However the EIS is not the appropriate level of analysis to perform project-level evaluation of rail and road projects.

**TOM McDONALD**

**ACP-57:** The request to include more support and construction of facilities for bicycles in Destination 2030 is noted. Bicycle facilities are addressed in the non-motorized component of Destination 2030.

**ISKRA JOHNSON**

**ACP-58:** Comment noted. Destination 2030 contains an increase in local transit service. Also see FEIS Volume Two, Appendix II-A, Summary of Prior All-Bus and Rail/Bus Alternative Analysis: Conducted Prior to 1996 Adoption of the Sound Move Plan.

**TRACEY J. EIDS, WASHINGTON STATE SENATE**

**ACP-59:** See response to comments ACP-31 through ACP-43.

## **COMMENTS RECEIVED ON LEAST-COST PLANNING ANALYSIS**

**DON S. MONROE, PIERCE TRANSIT**

**LP-1:** The Regional Council plans to continue to use least-cost planning analysis as a tool to better understand the mix of transportation investments and management strategies that provide the greatest benefits to society at the least cost. The Regional Council will continue to refine benefit-cost analytical tools and methods in order to continually improve the state of the practice and provide policy-makers with information relevant to decision processes.

**LP-2:** Comment noted.

**LP-3:** Destination 2030 incorporates investments in local transit service consistent with levels of transit service analyzed under the MTP Plus B alternative.

**DICK NELSON, JOHN NILES, RICHARD HARKNESS**

**LP-4:** In the State of Washington, beginning in 2000, Regional Transportation Planning Organizations are required (RCW 47.80.030) to apply least-cost planning analysis to alternative transportation investment strategies. Within Washington Administrative Code (WAC 468-86-030 and WAC 468-86-080) least-cost planning is defined as "a process of comparing direct and indirect costs of demand and supply options to meet transportation goals and/or policies where the intent of the process is to identify the most cost-effective mix of options." Least-cost planning attempts to consider all of the reasonably identifiable resource costs associated with alternative investments, and to provide information relevant to decisions about investment selection and prioritization.

Destination 2030 adds a commitment to utilize additional least-cost planning analysis as input to regional decision processes. The Regional Council plans to conduct additional least-cost planning analysis at the appropriate programmatic level, where the relative benefits of discrete systems investment and management alternatives can be more properly assessed. Additionally, all major "Candidate" modal system components must conduct and document an enhanced benefit-cost analysis (appropriate to the scale and complexity of the study) that considers reasonable full costs (public and private) of transportation in its environmental analysis before a preferred option/alternative will be incorporated as "Approved" projects in the plan for implementation. In combination, regional least-cost analysis at the programmatic level and project or corridor level benefit-cost analysis, constitute the least-cost methodology for regional plan development.

**LP-5:** The Regional Council agrees that least-cost planning analysis, as it relates to metropolitan plan alternatives, is feasible and that "Appendix 11 demonstrates that least-cost planning analysis can be accomplished with available cost and transportation system data."

**LP-6:** In the State of Washington, beginning in 2000, Regional Transportation Planning Organizations are required (RCW 47.80.030) to apply least-cost planning analysis to alternative transportation investment strategies. Within Washington Administrative Code (WAC 468-86-030 and WAC 468-86-080) least-cost planning is defined as "a process of comparing direct and indirect costs of demand and supply options to meet transportation goals and/or policies where the intent of the process is to identify the most cost-effective mix of options." Least-cost planning attempts to consider all of the reasonably identifiable resource costs associated with alternative investments, and to provide information relevant to decisions about investment selection and prioritization. Also see response I-167.

**LP-7:** The objective of current planning work is to update and refine the 1995 MTP. A public scoping process identified the range of alternatives to be analyzed in the EIS. In the future, the region's transportation plan will be totally re-evaluated. At that time, a larger range of alternatives will be analyzed, including "serious citizen-initiated transportation solutions." These alternatives will be subject to least-cost planning analysis.

**LP-8:** The Regional Council believes it has complied with state law (RCW 47.80.030); any further refinement and utilization of a least-cost analysis methodology simply provides additional information that can be used in future decision processes as they arise. See also response I-167.

**LP-9:** See response LP-4.

**LP-10:** See response LP-8.

**LP-11:** See response LP-8.

**JAMES W. MACISAAC**

**LP-12:** See response LP-8.

**LP-13:** The objective of the current planning work is to update and refine the 1995 MTP. A public scoping process identified the range of alternatives to be analyzed in the EIS. Because Sound Transit's Phase I is in the 1995 MTP as light rail (and it has voter approval and is currently being implemented) the decision was not re-visited in Destination 2030. However, future phases of Sound Transit's program are not identified as light rail. These phases were analyzed on a technology neutral basis as simply "high capacity transit". See response to TO-60. Also, see FEIS Volume II Appendix II-A, Summary of Prior All-Bus and Rail/Bus Alternative Analysis: Conducted Prior to 1996 Adoption of the Sound Move Plan.

**LP-14:** Comment noted.

**LP-15:** The least-cost analysis contained in Appendix 11 does not evaluate transit systems separately from other components contained in the DEIS alternatives.

**LP-16:** Comment noted.

**LP-17:** The least-cost analysis contained in Appendix 11 does not evaluate the HOV system separately from other components contained in the DEIS alternatives.

**LP-18:** The least-cost planning analysis contained in Appendix 11 describes the application of least-cost analysis to the system level transportation alternatives contained in the *Metropolitan Transportation Plan Alternatives Analysis and Draft Environmental Impact Statement* released August, 31, 2000. Least-cost analysis of regional transportation planning alternatives is a new analytical requirement, and the analysis contained in this document should be viewed as a first step in addressing this new planning element, as well as incorporating economic evaluation methods more explicitly into the regional plan development process. The Regional Council looks forward to refining these methods over time, based on gained experience and public comment.

**LP-19:** Least-cost planning does not attempt to revise transportation performance data that are a product of transportation demand modeling. It is true that if transportation modeling were to result in revisions to the performance data these changes would have an influence on the outcomes of a least-cost planning analysis.

**LP-20:** In conducting least-cost analysis, or benefit-cost analysis, it is essential to compare all alternatives to a common base, and to ensure that only changes in benefits and costs are accounted for. Least-cost analysis is concerned with changes in transportation systems over the long run. In the long run, all transportation costs are variable and are appropriately considered to be influenced by the types of transportation system decisions made. Past investment decisions, however, and trip making activity currently satisfied by existing infrastructure, must be excluded from the analysis. This is done by netting out costs experienced in the base year from each future year's cost estimates. Base year trips are also netted out from future year's trip estimates; current trip activity is a function of the existing population base. What is left are costs and trips, accounted on an annual basis, that are above existing levels, or that are a function of growth. What is then analyzed is alternative means of serving these new trips.

Future costs are discounted to their present value and present value costs are factored on a per new trip basis. The cost per new trip is the least-cost measure employed in this analysis. The components of this analytical process are described in Section 3 of this document.

A least-cost analysis is interested in changes from today in transportation system investments and performance. According to transportation models, in the year 2000, people in the central Puget Sound region will make over 10 million trips each day (trips are a unit of benefit). By 2030 daily person trips will increase to over 16 million, reflecting the increase in population and employment that is expected. Least-cost analysis is interested in the increment of new trips taken each year above the number of trips taken in the year 2000. Each year, and for each plan alternative analyzed, this increment is slightly larger than the previous year's increment of growth. The same is true when considering the costs of serving these person trips. This means that Appendix 11 includes a stream of cost data, by cost category, for each year between 2000 and 2030 for each plan alternative, and assumes a steady phased investment in transportation systems over that same time period. These cost streams are the added new costs of serving additional trips.

**LP-21:** The Attached Table 2 was prepared by the comment provider. The Regional Council is unable to determine the nature of the question contained in this comment or the relationship between the table provided and the data contained in Appendix 11.

**LP-22:** All alternatives show increased auto ownership and operation costs above the base year. Each alternative has its own estimate of the cost categories based primarily on auto ownership and operation cost functions associated with vehicle miles traveled. These cost categories are described in *Exhibit A: Costs Factors Within the Full Cost Analysis*.

**LP-23:** Freight costs within the region are estimated as a function of personal income, based on nationally developed statistics. Personal income does not vary by plan alternative. The congestion cost category also includes an estimate of the travel delay that is estimated for freight vehicles as a percentage of all vehicle travel. As congestion increases, the congestion costs to freight vehicles increases as well.

**LP-24:** Facility investment costs are counted as part of the full cost analysis but are not allocated to any particular mode. The least-cost analysis is a full cost analysis and not a cost allocation exercise. Separate modal investments are not being analyzed individually, but rather as part of a package of investments.

**LP-25:** It is possible that a separate analysis for bicycle and pedestrian investments would be appropriate in the future.

**LP-26:** This least-cost planning analysis offers no answer to the question raised by the commenter.

**LP-27:** The least-cost analysis is a full cost analysis and not a cost allocation exercise.

**LP-28:** The conclusions of the comment are neither supported nor refuted by the least-cost analysis in Appendix 11.

**LP-29:** On the one hand, the *Current Law Revenue* alternative represents minimal public investment in transportation systems. Capital costs are low, but other costs (environmental, congestion, and private auto ownership) are high. On the other hand, the two variations of the *MTP Plus* alternative represents two distinct approaches to achieve major system expansion. Capital costs are high, in each approach, while environmental and congestion costs are lower than the *Current Law Revenue* alternative. Cost differences between the two approaches to *MTP Plus* are noteworthy, as they suggest that lower total costs are realized through a combined program of investments that reduce travel delay and pollution, while also reducing dependency upon the automobile for personal travel.

**LP-30:** Comment noted.

**LP-31, 32:** The least-cost analysis is a full cost analysis and not a cost allocation exercise. Also, the analysis does not support the kind of conclusions included in the comment.

**LP-33:** The Regional Council does not agree with the comment that public transit has little effect on the cost of congestion. According to the DEIS (p. 28), daily transit person trips are forecast to increase from 283,000 in 1998 to 955,000 in 2030. If these riders were traveling in SOVs they would add considerably to the cost of congestion.

Your comment regarding holding transit constant at the Current Law Revenue level does not appear to be relevant to the least cost planning topic. However, the Regional Council took a different approach in constructing the alternatives. The three alternatives were designed to build upon each other. The starting point was Current Law Revenue, then an increment of spending and projects was added to represent the Current MTP expanded to 2030. Finally, the MTP Plus alternative was tested that added spending and projects beyond the expanded 1995 MTP. Time and budget constraints restrict the number of model runs that could be generated to test various scenarios

**LP-34:** Comments noted. The Regional Council looks forward to refining these methods over time, based on gained experience and on public comment.

**LP-35:** Referenced table and comment noted.

**LP-36:** Referenced table and comment noted.

**LP-37:** Referenced table and comment noted.

#### **CHRIS NELSON**

**LP-38:** Thank you for endorsing the 1995 MTP Plan alternative.

#### **JESSE TARBERT**

**LP-39:** Thank you for endorsing the MTP Plus alternative.

**LP-40:** Comment noted.

**LP-41:** Comment noted.



**LP-42:** Comment noted.

**DIANA LAU**

**LP-43:** Thank you for endorsing the MTP Plus alternative.

**LP-44:** Thank you for your willingness to pay an additional \$33.00 per month to pay for needed transportation improvements.

**DAWN MARIE MAURER**

**LP-45:** Thank you for endorsing the MTP Plus alternative.

**JEO VAN DE MARK**

**LP-46:** Thank you for endorsing the MTP Plus alternative.

**LP-47:** Comment noted.

**NOT IDENTIFIED**

**LP-48:** Thank you for endorsing the 1995 MTP Plan alternative.

**RISHANNE SWANSON**

**LP-49:** Thank you for endorsing the MTP Plus alternative.

**LP-50:** Comment noted.

**LAN LAN CHEN**

**LP-51:** Thank you for endorsing the MTP Plus alternative.

**LP-52:** Comment noted.

**LP-53:** Comment noted.

**LP-54:** Comment noted.

**MATTHEW M. WARREN**

**LP-55:** Opinion, comment noted.

**LP-56:** Opinion, comment noted.

**LP-57:** Opinion, comment noted.

**LP-58:** Opinion, comment noted.

**LP-59:** Opinion, comment noted.

**LP-60:** Opinion, comment noted. The Regional Council has been evaluating various market methods for paying for transportation investments. A summary of this analysis is included in the DEIS document.

**LP-61:** See response LP-60.

**LP-62:** Opinion, comment noted.

**LP-63:** Opinion, comment noted.

**LP-64:** See response LP-4.

**LP-65:** See response LP-60.

**LP-66:** Opinion, comment noted.

**LP-67:** The Washington State Department of Transportation places a high priority on safety improvement investments. Accident data on roadways are tracked and do influence investment rankings.

**LP-68:** These projects are included in the Destination 2030 analysis.

**LP-69:** State highways are owned and operated by WSDOT, the Regional Council will continue to work with WSDOT to help prioritize projects in the central Puget Sound region.

**MARK SIMPSON**

**LP-70:** Comment noted.

**LP-71:** Thank you for endorsing the MTP Plus alternative.

**AMOS WONG**

**LP-72:** Thank you for endorsing the MTP Plus alternative.

**LP-73:** Thank you for your willingness to pay \$68.00 per month to fund an improved transportation system.

**BRIDGET NG**

**LP-74:** Thank you for expressing support for the MTP Plus alternative.

**LP-75:** Comment noted.

**LP-76:** Comment noted.

**LP-77:** Comment noted.

**DIANA ALDERMAN**

**LP-78:** Thank you for expressing support for the MTP Plus alternative.

**LP-79:** Comment noted.

**MATT GRIFFIN**

**LP-80:** The Regional Council plans to continue to use least-cost planning analysis as a tool for better understanding the mix of transportation investments and management strategies that provide the

greatest benefits to society at the least cost. The Regional Council will continue to refine benefit-cost analytical tools and methods in an attempt to continually improve the state of the practice and provide policy-makers with information relevant to decision processes.

**MATT THOMPSON**

**LP-81:** Thank you for your detailed comments and the research you have done. We would not expect the 6-year TIP for the City of Everett to be the same as the regional TIP because most local projects are not in the regional document. However, the regional project you mentioned, RTA-44, should be in Everett's TIP. We will coordinate with Everett and address any issues. We also noted your specific comments on the Riverfront Parkway project.

**LP-82:** The Regional Council agrees that public participation is important. It takes place at several levels and times during the planning and implementation process. Specific projects go through local and/or state planning process. In addition, they receive extensive analysis in the SEPA and/or NEPA review. The objective of Destination 2030 is to set in place a overall vision for transportation that identifies broad decisions on how best to serve the region with an efficient multi-modal transportation system. Destination 2030 has benefitted from extensive public review during the scoping and draft environmental impact statement process. The Regional Council has continued to encourage public involvement during all phases of the adoption process.

**LP-83:** Comment noted. Thank you for enclosing the City of Everett's 6-year TIP with your comments.

**LP-84:** Thank you.

**JENNIE HUSBY**

**LP-85:** Thank you for expressing support for the MTP Plus alternative.

**JOY GERHARD**

**LP-86:** Thank you for expressing support for the MTP Plus alternative.

**LP-87:** Comment noted.

**JEANNE GERHARD**

**LP-88:** Thank you for expressing support for the MTP Plus alternative.

**LP-89:** Comment noted.

**LP-90:** Comment noted.

**DWIGHT SUTTON, CITY OF BAINBRIDGE ISLAND**

**LP-91:** Comment noted.

**PAUL TOLIVER, KING COUNTY DEPARTMENT OF TRANSPORTATION**

**LP-92:** Thank you for expressing support for the MTP Plus alternative.

**LP-93:** Comment noted.

**LP-94:** It is true that parts of our transportation systems have greater existing levels of infrastructure intensity than others. The least-cost analysis does not, however, "bias the costs in favor of the system parts that already have significant investments in place." Least cost analysis simply evaluates the cost implications of making alternative investments over the long run. This is not an analytical bias, this is the cost reality of making investments in systems with varying degrees of maturity.

**LP-95:** See response LP-94.

**LP-96:** The other costs mentioned in this comment were included in this least cost analysis and are described in greater detail in *Exhibit A: Costs Factors Within the Full Cost Analysis*.

**LP-97:** The "other" social costs (housing and economic growth) are secondary effects of transportation investments and travel behavior and should be included only if these secondary effects are greater than the initial effects of the investment. These issues are discussed in greater detail in Appendix 11 under the heading *General Methodology*.

**LP-98:** Initial cost estimates, due to data limitations, did not include revised costs of maintenance and preservation due to the added marginal increment of infrastructure that would need to be maintained and preserved. These costs, for the state highway category, would indeed vary by alternative and the analysis would benefit from inclusion of these costs. However, the cost variation would be rather small due to the fact that the majority of maintenance and preservation costs arise as a result of maintaining and preserving currently existing infrastructure, not the relatively small marginal increment of infrastructure added in each alternative.

**LP-99:** Initial land use assumptions feed into travel demand modeling. At this stage in the analysis all alternatives have the same trip generation characteristics. Plan alternatives include varying levels of investment in transportation systems which would influence the ease or difficulty in moving throughout the region. Since these differences might have influences on land use decisions, land use modeling is redone using the travel impedances that are the result of travel demand modeling. These new land use forecasts result in different trip generation rates for each of the alternatives, travel demand modeling is once again performed utilizing these new land use assumptions.

**LP-100:** The analysis described in this comment is a more focused type of benefit-cost analysis that has merits, but is beyond the scope of the least-cost analysis used to analyze plan alternatives. In transportation analysis, a simple evaluation of cost per unit of output is not usually a robust benefit-cost measure since benefits to users associated with a non-standardized unit of output (person trip) are not explicitly treated. However, within the limits of the models employed, travel demand modeling allows user benefit calculations to be implicitly treated. Not all person trips are the same, and yet, it is reasonable to standardize benefits to a person trip unit. Demand models assign trips to different modes (auto, transit), on different transportation facilities based on observed survey data reflecting the travel choices of the residents of the region, and based on the relative utility of the different

travel alternatives. This, in effect, is a calculation which takes into account the variable user benefits associated with different types of person trips.

**LP-101:** It is true that parking one's vehicle at home has costs. It is difficult, however, to determine that the opportunity cost associated with providing residential parking is solely a transportation cost that can vary by level of investment in transportation systems. Residents who use the automobiles less may not choose a house without vehicular storage, while a business that experiences lower access by customers or workers in automobiles is more likely to reduce available parking (at the owner's expense) over the long run. Residential vehicle storage areas (garages) are used for other purposes besides storing vehicles and it is difficult to disentangle residential parking from other estimates of value in residential real estate markets. Resident parking cost estimates could be included in a benefit-cost analysis, but the Regional Council chose to not include these costs at this time for the above stated reasons.

**LP-102:** The Regional Council plans to continue to use least-cost planning analysis as a tool for better understanding the mix of transportation investments and management strategies that provide the greatest benefits to society at the least cost. The Regional Council will continue to refine benefit-cost analytical tools and methods in an attempt to continually improve the state of the practice and provide policy-makers with information relevant to decision processes. Costs associated with maintaining endangered salmon species could be included in future analysis as the regulatory details become more certain. A particular challenge facing the inclusion of such information is establishing some consistent basis for linking these costs to transportation investment decisions as opposed to other non-transportation related development factors.

**LP-103:** The potential loss of federal dollars for transportation investments due to failure to meet air quality requirements is a financial issue which does not influence the cost-effectiveness of transportation alternatives. Destination 2030, however, meets federal air quality requirements.

**LP-104:** The sensitivity analysis attempts to account for uncertainty in cost input assumptions that might influence the outcome of the analysis. Discount rate and unit cost assumptions are crucial variables that potentially change the outcome. Number of trips is indeed an area of uncertainty which, if different numbers were assumed, would change the cost per trip for each alternative but would not change the rank order of the alternatives.

**LP-105:** Land use assumptions, and land use modeling precede the transportation demand modeling. Changes in the land use assumptions could indeed change the results of the least-cost analysis. Initial land use forecasts are consistent with local growth management plans and regional econometric modeling in an attempt to reflect regional land use policy and to provide a consistent basis for travel demand modeling. Analyzing the cost consequences of different land uses is a useful analysis that is beyond the scope of the current least-cost analysis and Destination 2030.

**LP-106:** Comments are noted.

**BRUCE L. NURSE, KEMPER DEVELOPMENT GROUP**

**LP-107:** Observations and comments are noted.

**LP-108:** In developing the planning alternatives for the *Metropolitan Transportation Plan Alternatives Analysis and Draft Environmental Impact Statement*, a broad range of investment and management options were narrowed using demand modeling analysis and a review of policy compatibility. The three alternatives developed for SEPA review reflect various levels, and combinations, of transportation investments originally examined during sketch planning. The process that resulted in a definition of three EIS alternatives began in August 1999, and was formalized in December 1999 when the Regional Council's Transportation and Growth Management Policy Boards approved the *Scope of the Environmental Review for the 2001 Update of the Metropolitan Transportation Plan*. This scoping document, a result of extensive public outreach, set in motion an analysis structure that, over six months, examined a number of "test packages" and used what was learned to help define three EIS alternatives.

**LP-109:** The Regional Council believes it has complied with state law (RCW 47.80.030); any further refinement and utilization of a least-cost analysis methodology simply provides additional information that can be used in future decision processes as they arise. Also see response I-167.

**LP-110:** An "all bus" alternative was not among the three alternatives. There was no call for developing an alternative during the SEPA scoping process and such an alternative lies beyond the scope of this update. Also see response to TO-60, and FEIS Volume Two Appendix II-A, Summary of Prior All-Bus and Rail/Bus Alternative Analysis: Conducted Prior to 1996 Adoption of the Sound Move Plan.

The objective of the current planning work is to update and refine the 1995 MTP. A public scoping process identified the range of alternatives to be analyzed in the EIS. Because Sound Transit's Phase I is in the 1995 MTP as light rail (and it has voter approval and is currently being implemented) the decision was not revisited in Destination 2030. However, future phases of Sound Transit's program are not identified as light rail. These phases were analyzed on a technology neutral basis as simply "high capacity transit" and all options will be fully evaluated by Sound Transit in future corridor work.

**LP-111:** Appendix 11 contains a description of the methodology and two Exhibits that provide greater detail into cost assumptions and sensitivity analysis. In addition, detailed spreadsheets are included that contain annual cash flow analysis.

**LP-112:** Opinion, comment noted.

**LP-113:** Least-cost analysis does not attempt to "justify" any particular transportation investment.

**LP-114:** Least-cost planning analysis assigns resource costs to estimates of travel delay due to congestion that are the result of demand modeling. Least-cost planning analysis does not independently develop estimates of travel delay due to congestion.

**SANDRA MEYER, CITY OF RENTON**

**LP-115:** A glossary of terms is included in Destination 2030.

**LP-116:** Comment noted.

**LP-117:** The least-cost analysis contained in the DEIS relates to the particular plan alternatives developed for environmental review purposes and does not evaluate all possible futures. The absence of least-cost analysis of marginal cost pricing in no way compromises the results of the analysis contained in the DEIS. The Regional Council agrees that marginal cost pricing of transportation services and infrastructure would most likely reduce market distortions, such as congestion. Since subsequent to initial screening of plan options, a policy commitment to use marginal cost pricing was not included in any plan alternative, a least cost analysis of marginal cost pricing was not performed. Marginal cost pricing is an important subject of future study and policy analysis and discussion.

**LP-118:** The Regional Council acknowledges that lane mile total for the MTP Plus A and MTP Plus B alternatives are not the same. This would in all likelihood result in slightly different maintenance and operation costs. Maintenance and operational cost estimates are programmatic in nature and do not reflect specific projects. In the real world, maintenance requirements are a function of both time and use, suggesting that maintenance costs are not a simple linear relationship to number of lane miles in operation. The difference in lane miles between MTP Plus A and B is approximately 3 percent, so for simplicity purposes the maintenance and operational costs were estimated to be equivalent. A more accurate representation would capture a cost difference somewhere between 0 percent and 3 percent.

**LP-119:** Least Cost Planning analysis will be applied to projects as they are considered for "approved" status in the adopted plan.

**LP-120:** Comment noted.

**LP-121:** Comment noted.

**CINDY NG**

**LP-122:** Support for the updated existing MTP alternative is noted.

**ALVIN CHU**

**LP-123:** Support for the MTP Plus alternative is noted.

**DAVID MARSHALL**

**LP-124:** Support for the MTP Plus alternative is noted.

**DONALD W. JOHNSON**

**I-151, 152:** The Regional Council has published research reports on the full cost of transportation, and is currently exploring ways to make people aware of those costs on a trip-by-trip basis. The current transportation models are based on observable individual behavior, so they only reflect the immediate cost of each trip without addressing full private costs. Further research is on-going to address how to better capture and reflect these full costs in models.

**I-153:** Support for buses is noted.

**I-154:** This comment illustrates the importance of reliable transit for accessing medical care, especially for non-drivers. Destination 2030 includes policies to address this.

**I-155:** Support for reliable transit is noted.

**I-156:** The DEIS and FEIS consider global warming and the importance of preserving open space in VISION 2020.

**JAMES T. SMITH**

**I-157, I-158:** Comment noted.

**DONALD F. PADELFORD**

**I-159:** Comment on the benefits associated with revenue neutrality of pricing methods noted.

**I-160:** See response to comment B-69.

**I-161:** Comment noted.

**I-162:** Comment noted.

**I-163:** Comment noted. User based financing will be addressed in Destination 2030.

**I-164:** Comment noted.

**I-165:** This attachment contains notes to the preceding comments from Donald F. Padelford.

**I-166:** Thank you for submitting the attachment, *Analysis of the Regional Council Draft 2001 MTP Update by James W. MacIsaac, P.E.*

**RICHARD C. HARKNESS**

**I-167:** Washington State DOT has adopted regulations pursuant to RCW 47.80.070 to establish minimum standards for development of regional transportation plans. WAC 468-86-030 defines "least-cost planning" as "a process of comparing direct and indirect costs of demand and supply options to meet transportation goals and/or policies where the intent of the process is to identify the "most cost-effective mix of options." The Regional Council believes that this phrasing supports doing least-cost planning for the "mix of options" rather than on each option separately; if it required a least-cost analysis for each of the components, this phrase would read "the mix of the most cost-effective options."



The Regional Council believes that the best way for the least-cost methodology to "treat demand and supply resources on a consistent and integrated basis" is to put the alternatives into packages based on consistency and integration, and then do a least-cost analysis to see which package is most cost-effective. This was the methodology employed in Appendix 11. It appears that the intent of the statutory amendment (WAC 468-86-080) was for the regional transportation planning organizations to implement least-cost planning methodologies incrementally and for WSDOT to lead the way in how that should be accomplished. The Regional Council's Destination 2030 plan requires that enhanced benefit-cost analysis be conducted on all future corridor projects before a given project can be "approved" for implementation.

**RICHARD E. PARTIN**

**I-168 through I-170:** Support for growth control, a cost/benefit review of light rail, investment in roads, a second airport, and opening carpool lanes is noted. See response to comment I-103 for additional information about planning for a second airport.

**I-171:** See response to comment I-103 and CC-114.

**I-172:** See response to comment I-168 through I-170.

**GREG HOUGH**

**I-173:** Support for the 1995 MTP Update alternative is noted.

**I-174 through I-179:** Suggestions for expanding the current plan (1995 MTP Alternative) to include elements such as transportation pricing, transit and road improvements, are noted. Destination 2030 addresses these issues.

**GUY S. SPENCER, COUNCILMEMBER, CITY OF NORMANDY PARK**

**I-180:** See response to comment CC-114.

**I-181:** The region is in compliance with the provisions of the Growth Management Act. The Destination 2030 Aviation Component provides new analysis for regional general aviation airports; it does not include any additional analysis of commercial air capacity needs. In 1996 the Regional Council adopted Resolution A-96-02 which amended the 1995 Metropolitan Transportation Plan by including plans for a third runway at Sea-Tac Airport. The Regional Council is not revisiting that decision in this planning cycle. Destination 2030 carries forward the decisions and policies regarding Sea-Tac Airport that were adopted in 1996. Also see response to comment I-103.

**I-182:** The Regional Council's decision to include planning for the third runway at Sea-Tac Airport occurred in 1996. State-mandated least cost planning requirements became effective on May 16, 1997. Destination 2030 does not revisit the Sea-Tac decision in this planning cycle. Therefore, this past decision is not subject to the least cost planning requirements under state law.