

# JAMES W. MACISAAC, P.E.

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**DATE:** January 5, 2007  
**TO:** Sound Transit ERP  
**FROM:** Jim MacIsaac  
**SUBJECT:** ST2 Considerations

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As you approach final reviews of the Sound Transit ST2 proposals, please accept the following for consideration in your reviews. You are this region's only hope for restoring financial reality to Sound Transit's political march of the public into what is little more than a high-capital-cost light rail overlay of existing Seattle-centric express bus transit services. Despite ST's claim that the emerging Maximum Rail ST2 program "will offer an alternative to driving on congested highways", it will not provide a transit alternative to anyone who does not already have excellent transit service – to central Seattle and to all points along the rail routes.

Because if its mission to build a 125-mile light rail transit system, the emerging ST2 program has dismissed over 350 REX and Sounder-type projects that would provide new and improved transit services to the vast majority of the region outside of Seattle. I'm sure you have all received Joni Earl's November 22 Memo and attachments. On page 1 Joni states that the Board "has narrowed a list of over 400 potential projects down to those projects that will deliver the greatest mobility benefit to the public." I challenge you to challenge Sound Transit to provide backup for this statement.

So far as I know, Sound Transit has continually rejected any effort to model and evaluate an alternative ST2 program that would optimize a BRT on HOV bus system without a major extension of the *Sound Move* (Phase I) light rail system from S. 200<sup>th</sup> to Northgate. You are well aware of the sleazy analysis ST prepared for a BRT on HOV alternative for East King. It forced the BRT system to emulate all of the faults of rail transit (such as follow the rail routes and stop at every station), and added \$billions of unnecessary transit-only ramps at major freeway interchanges to force capital cost estimates to approach that light rail extensions.

## **ST2 Program Costs Not Understood, even by the ST Board**

Sound Transit has gained its public survey support for rail transit without any true public education on the program costs, or even its Board's education. Until recently it has released capital cost estimates in terms of current (2005/6) dollars, whereas highway project costs have been released in terms of YOES\$. Its current push for a Maximum Rail program alternative has been grossly published as a \$10 billion program, but with fine print admission of YOE \$17.1 billion not even noticed by the press. It has released a new tax cost estimate of only \$125 per year per household. But if you take ST's estimated 3.1 million persons within its tax/service area divided by the average household size of about 2.4, the real estimate is \$250 per average household in 2006\$. That will add to \$250 in Phase I taxes that approval of ST2 will allow to continue in perpetuity.

Joni's memo stated that in addition to the tax increase, ST would need to commit to \$9.8 billion in additional bonding to complete the program by 2027/8. The Board will likely approve the sale of 30-year bonds with a 10-year interest-free "grace period". That means the public must support about \$13.6 billion in bond interest costs thru bond retirements.

And as we all know, transit enhancements impose a substantial public subsidy commitment for O&M expenses. A very rough and minimal net cost estimate (net of federal subsidies and fare-box revenue) of local tax subsidy of ST2 O&M costs is over \$12 billion thru bond retirement. So, adding capital costs, financing costs and O&M public subsidy costs, the emerging ST2 Maximum Rail program investment proposal will cost the taxpayers over \$50 billion thru 2056. You need to take this into serious consideration as to whether or not this is an advisable public transit program commitment (in addition to the costs of local county-supplied transit).

### **Rail Program Benefits Need Quantification**

Sound Transit has silently admitted that its ST2 rail program will have an insignificant effect on this region's highway congestion problem. Yet it allows public statements (even by its Board members) to the effect that it would be a major factor in addressing highway congestion. It continues to make official statements that the rail program "will provide an alternative to driving on congested roadways". But its ridership forecasts show that it provides little to no new transit service for the currently unserved or poorly served travel patterns in this region.

I ask you to challenge Sound Transit to substantiate its assertion. The current and proposed rail lines merely overlay the best-served Seattle-centric bus and express bus routes that already exist. Light rail will provide no new transit alternative for the vast majority of this region's travel patterns that are not already well-served by public transit. Furthermore, Sound Transit has not offered any information as to what bus services might be eliminated by the rail transit overlays. Nor has it given the public any indication as to how difficult rail access may be compared to existing express bus services.

Eastside elected officials have been cajoled into strong support of a Seattle-centric rail line between the Eastside and Seattle. But not only would the proposed line preempt two badly needed traffic lanes on I-90, but it would only provide a rail overlay of the 10 to 15 percent of trans-lake trips between Seattle and the Eastside. And an alignment via I-90 serves less than 40 percent of the trans-lake travel choice between the two bridge crossings.

Please review again the attached Sound Transit summary of 2030 transit rider estimates that was released as a result of your demand last year for a more full disclosure of trans-lake transit ridership estimates among alternative transit system modes for the East King subarea. And please again reassert your concern about lack of a realistic Express Bus (BRT on HOV) alternative to the East Link rail program (and the full regional transit program).

### **Rail Ridership Estimates are Misleading**

Please note the 2030 weekday (rail) ridership bars shown on page 2, Attachment B, of Joni's November 22 Memo. The "Do Nothing" bar represents a 2030 extension of the 157,000 2020 ridership estimates for Central Link from S.200<sup>th</sup> to Northgate. But keep in mind that about \$1

billion of the ST2 rail program is dedicated to completing this so-called “Do Nothing” scenario. The 1998 supplemental EIS disclosed that over 75% of this rail boarding estimate was merely a transfer of riders from bus to rail.

The “Medium Rail” ridership bar mostly represents a diversion of bus riders to rail riders with forced mode transfers. As with the attached estimates of alternative ridership among East Corridor transit mode options, please ask Sound Transit as to what proportion of these “Medium Rail” riders would be merely diverted from bus transit routes.

The “Maximum Rail” ridership represents the increased transit ridership estimated with an additional \$7 billion of light rail investment compared to the “Medium Rail” scenario. Please question if the addition of a \$7 billion rail capital investment can be justified with only an increase of 7,000 rail transit rides out of 16 million total trips per day by 2030.

### **Consider a More Sensible ST2 Program Proposal**

I accept, though not support, light rail from S.200<sup>th</sup> to Northgate as a politically done deal. Sadly it also preempts the nationally acclaimed downtown Seattle flagship BRT tunnel for eventual exclusive rail transit use. Rail transit from downtown Seattle to Northgate has always been a strong justification for rail transit. However, the strong 1960s justification of rail between downtown Seattle and the Eastside “bedroom communities” has dissolved over time with the substantial dispersion of central Seattle economy to the Eastside. Justification of South Corridor rail has never been strongly justified. But the political push for rail to the Airport (though unjustified in national experience) has justified that politically approved rail line.

I implore you to strongly question whether or not this region should pursue further downtown Seattle-centric rail extensions. Not unlike central cities across the nation, downtown Seattle now represents only about 8 percent of the region’s jobs. Over 80 percent of this region’s job access patterns are now associated with travel access needs outside of central Seattle. I’m sure as experts you all recognize this transportation problem for metro areas throughout this nation and worldwide. I hope you also recognize that our nationally noted system of express bus transit on freeway HOV lanes is outperforming the transit share of home-work trips served by transit in all metro areas with New Start light rail systems.

If you are willing to accept these observations, I implore you to recommend that Sound Transit retrench in its **ST2 program to no more than the +0.3% Bus/Rail Extension option**. This would allow completion of the original Central Link light rail system from S. 200<sup>th</sup> to Northgate to meet political needs. But it would include many Sounder and REx system improvements that could serve new transit riders that do not currently have any reasonable transit alternatives to auto transport.

For the East King subarea, I suggest that the rail transit project be totally eliminated from the Bus/Rail scenario. The Eastside travel patterns could be far better served by a BRT system in the I-405 corridor, as strongly recommended and adopted in the I-405 Corridor Program. WSDOT has prepared two post-study analyses of potential BRT programs in the I-405 corridor. These have been totally ignored by Sound Transit in its ST2 program options.

Over 85 percent of Eastside job access needs come from the Eastside and along the I-405 corridor. I entreat you to restore this adopted I-405 corridor BRT plan in your ST2 recommendations.

Likewise for the South Corridor, I suggest that the cost of extending light rail from S. 200<sup>th</sup> to Kent-DM Road be eliminated to substitute extension of the I-405 corridor BRT program south via the SR-167 corridor to Sumner and southward to Puyallup's South Hill where affordable housing is now exploding. By 2030 East King will be providing as many jobs as does Seattle. The ST2 focus should be on providing transit commuting options where they do not currently exist.

The Bus/Rail alternative should also include some new REx routes that have been totally ignored. One such route should provide express bus services between downtown Bellevue and the Monroe/Goldbar corridor via SR-522 and SR-2. Another should extend from downtown Bellevue via the I-405 and SR-9 corridors to Lake Stevens. These are both hugely developing corridors for lower cost housing that have been poorly recognized in regional transportation planning. Another totally ignored need is transit service between the Eastside and the Duwamish Industrial strip that is totally bypassed by all rail transit systems. A REx route from Redmond's Union Hill via downtown Bellevue thru the Duwamish/Boeing Industrial strip to downtown Renton should be a strong consideration in a useful ST2 program.

These are but a few examples as to where our ST2 efforts should be focused – on new transit services, not merely on a rail overlay of existing transit services.

## **Your Help is Badly Needed**

In its mission to build light rail transit, Sound Transit is proposing a badly flawed and excessively expensive plan to simply overlay our already best existing Seattle-centric transit services with light rail transit. We need the ERP to reassess the Sound Transit railroading program into a more cost-effective and much more new transit rider productive program to serve the unserved transit needs for this region.

Sincerely,

**James W. MacIsaac, P.E.**

Professionally involved in this region's transportation planning since 1964.  
Transportation Engr with the Puget Sound Regional Transportation Study from 1964 to 1966.  
Senior transportation engineer after transition of the PSRTS to the PSGC in 1967.  
Senior Engineer with international transportation firm from 1968 to 1975.  
Owner and Principal Engineer of transportation planning specialty firm thru 1995.  
Consulting Engineer to major regional transportation project advisory groups since 1995.

**2030 Total Daily Transit Ridership -- Five East King System Alts**

Scenario	Total	Boardings Local Bus	Boardings HCT <sup>1</sup>	Total Boardings	Transfer Ratio
	Linked Trips				
HOV/BRT	653,700	680,600	346,400	1,027,000	1.57
Busway/BRT	654,400	677,400	368,500	1,045,900	1.60
<b>LRT</b>	<b>658,000</b>	648,000	387,600	<b>1,035,600</b>	1.57
Monorail	650,100	664,500	368,500	1,033,000	1.59
RC BRT	652,600	663,800	379,000	1,042,800	1.60

<sup>1</sup> Includes Regional Express Bus boardings.

Source: Sound Transit, supplement to Issue Paper E-1: I-90/East King County High Capacity Transit Analysis, March 2005.

**2030 Transit Ridership on I-90 Across Lake Washington**

	Total Daily		Pk Hour, Pk Direction	
	4-Lane	6-Lane	4-Lane	6-Lane
	SR-520	SR-520	SR-520	SR-520
HOV/BRT	38,800	29,500	3,700	2,800
Busway/BRT	37,900	29,400	3,700	2,900
<b>LRT</b>	<b>58,800</b>	<b>51,500</b>	<b>5,500</b>	<b>4,500</b>
Monorail	43,200	35,600	4,200	3,200
RC BRT	47,400	39,400	4,600	3,600

**2030 Transit Ridership on SR-520 Across Lake Washington**

	Total Daily		Pk Hour, Pk Direction	
	4-Lane	6-Lane	4-Lane	6-Lane
	SR-520	SR-520	SR-520	SR-520
HOV/BRT	24,000	39,500	2,200	3,900
Busway/BRT	25,900	41,000	2,300	3,800
<b>LRT</b>	<b>9,100</b>	<b>18,600</b>	<b>700</b>	<b>1,900</b>
Monorail	16,700	28,600	1,400	2,800
RC BRT	15,000	26,900	1,200	2,600

**2030 Transit Ridership on Both Bridges Combined**

	Total Daily		Pk Hour, Pk Direction	
	4-Lane	6-Lane	4-Lane	6-Lane
	SR-520	SR-520	SR-520	SR-520
HOV/BRT	62,800	69,000	5,900	6,700
Busway/BRT	63,800	70,400	6,000	6,700
<b>LRT</b>	<b>67,900</b>	<b>70,100</b>	<b>6,200</b>	<b>6,400</b>
Monorail	59,900	64,200	5,600	6,000
RC BRT	62,400	66,300	5,800	6,200

Source: Sound Transit, Presentation to ERP on April 3, 2005.