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Comment:

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I agree with your analysis that the 8 lane alternative is a bad idea for precisely the reasons you specify, namely, it will require widening or some other improvement to capacity for I-5 and I-405. I don't see you can do that for any reasonable sum of money: I-5 travels over a huge viaduct and then dives into a ditch through downtown Seattle.

However, I do not understand why the six lane alternative does not cause the same problem. If you have a wider SR 520, in any form, then you have to widen I-5 to get the traffic from the interchange to downtown Seattle. The Pacific Interchange option represents a worse solution to the problem, because now you have to get the traffic from the north side of the ship canal to the south side, and I just don't see how to do that for any kind of reasonable cost.

The real problem that you're struggling with is a fundemental issue of transportation. I think you know this in your hearts, but are unwilling to say so publicly because it is tremendously unpopular: it is incredibly expensive to drive a car. The problem is that the costs are buried in all sorts of ways:
* Capital costs for the right-of-ways (including grading, structures, paving, sinage, etc.) are spread out between various units of government (city, county, special governmental agencies (e.g. sound transit), state and federal. Private investment in infrastructure is also required: parking spaces, garages, maintenance facilities.
* Capital costs for the rolling stock (the cars and trucks) are paid for by the users.
* Costs for driving cars are frequently buried and frequently misunderstood. For example, people complain about the $3/gallon cost of gasolene. However, a car that is driven 12,000 miles/year and gets 30 MPG will consume 400 gallons of gas which will cost $1200. However, suppose that the purchase price of such a car is $20,000 at 0% APR (hah!) and it is straighline drepeciated over 5 years. In that case, the capital cost of the car is $4000/year. Insurance, of course, is expensive. Maintenance costs have to be considered. The fuel cost is relatively small.
* There are intangible costs, such as pollution, noise, and the value of time spent in congested traffic.

I propose an interesting thought experiment: consider a freeway. Now, in your imagination, get rid of the cars and just visualize the people in those cars. First of all, there is 12 feet from person to person sideways: the width of a lane. Second, if the cars are moving 60 miles an hour and are following the "three second" rule, then there is (88*3=) 264 feet between people fore and aft. Each person requires 3,000 square feet of road. 3000 square feet is a good sized house.

Here the heart break. If the capacity of the road is greater than the applied load, then traffic will move at the speed limit. However, as the road becomes overloaded, then the cars will slow down, but if they are still following the "3 second" rule, then a lane of road can only deliver about 1200 cars an hour. Of course, what happens is that traffic backs up until

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Comment Summary:

Freeway Operations (I-5 Area)

Response:

See Section 5.2 of the 2006 Draft EIS Comment Response Report.

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eventually, an equilibrium is reached. As the load decreases, the backup dissappates. (It would be an interesting master's thesis for somebody to investigate the effect of traffic reporters on traffic).

My thinking is that you have not done a good enough job of pushing transit. Of course, there are problems with transit: you don't have the freedom to go where you want to go when you want to go, the costs are much more visible both at the farebox and in taxes, and the operating agency(s) have to pay for the rolling stock, maintain them, and pay for somebody to run them. You should start by doing a better analysis of the costs of transit compared to the costs of cars.

I also have some advice for your consideration. People ask you "why does this cost so much, compared to the projects that these new projects replace?". I have some answers for you:

* The original projects were done in the cheapest way possible in terms of construction costs. The replacement projects have to work around substantially more development than the originals which means that they are going to use non-optimal routes.
* More attention is getting paid to safety issues. Is this cost effective? I read in Invention and Technology that the number of highway deaths in the US has decline by about 40% from the 1960s, even though the number of passengers miles has increased. In my mind, that means that investing in safety works. But is it cost effective? Is the spending on safety greater or less than the cost of all those lives saved?
* More attention is getting paid to environmental issues such as treating runoff water and reducing noise.
* New projects are better engineered to resist earthquakes, winds, other environmental factors. New construction techniques, better materials mean that the design lives of these projects can be longer.

Consider for example, the original Union Pacific railroad. It was built as quickly and as cheaply as possible. The enabling legislation created financial incentives to do that (due to bribery in high places, but that's another story). It has been subsequently rebuilt - several times, in fact. It is quite possible that I will not live to see a "third generation" SR 520.

The 8 line proposal just won't work because too much infrastructure is required beyond the ends of SR 520. I don't understand why you think the 6 lane alternative will. There is a fundemental problem with the way you estimate the costs of driving cars as opposed to transit alternatives - so spend more effort costing out transit options and push people to ride the bus. Finally, I gave you some advice to use in your discussions with stakeholders.

I hope you found this discussion... helpful.

Sincerely yours,

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