

Ride Free Express

CALL TO ACTION

We stand today at a turning point in our battle against traffic congestion and our pursuit of a transit system for the future. With the costs and delay of Sound Transit's light rail plan growing, it's time to stop, step back and take a second look at our transportation options.

We should look at all the alternatives – including a plan we call Ride Free Express.

Revised costs for building the Link light rail line have ballooned by over \$1 billion, bringing the total bill to **at least \$3.6 billion**. Completing it will take a minimum of three extra years, with the first train arriving in 2009 – or **nearly a decade** from now. Yet, at a December 14 public meeting, the Sound Transit board told skeptical citizens that they are committed to staying the course.

Growing costs and delays might be acceptable if Link promised to relieve congestion. But even Sound Transit officials concede that Link will not do this. Executive Director Bob White said his agency has never “argued (light rail) would reduce congestion or solve congestion.”¹

Why should we pay more for a plan that doesn't do enough? We need to put Link and all the alternatives to the test. Whatever plan Sound Transit develops, we should ask ourselves these questions:

- **Does it tackle our number one problem: Congestion?**

The current Link plan doesn't: According to Sound Transit's own documents, “the light rail system will not result in a significant difference in regional traffic volume.”²

Ride Free Express does: *Ride Free Express* attacks traffic congestion by putting 100 more express buses and 4,000 free vanpools on the road at rush hour. By attracting more riders through free fares on fast routes, *Ride Free Express* will have an actual impact on traffic congestion – eliminating about 10% of commute trips. And by adding more ride choices, improving signal timing, streamlining traffic in carpool lanes, and eliminating fare-collection delays, it will help riders – and traffic – move faster.

- **Does it take cars off the road?**

The current Link plan doesn't: Link attracts only 30,800 new riders per day. Most of Link's riders would have taken the bus instead, so the number of cars taken off the road is minimal. It only removes one car in 1,000 at rush hour, or the equivalent of one car from a two-lane traffic jam two miles long.

Ride Free Express does: *Ride Free Express* attracts 192,000 new riders per day, removing more cars from the road. A great majority of these cars would be removed from peak period traffic.

- **Is it cost-effective?**

The current Link plan isn't: Link has many times the cost per new ride of *Ride Free Express* – \$18 per ride compared to about \$3 – and it still won't reduce congestion.

Ride Free Express is: At \$3 per ride, *Ride Free Express* is much more cost effective.

¹ *The Seattle Times*, October 5, 2000, “Light-rail opponents outline objections”

² Sound Transit, Central Link FEIS, pg. 3-5

- **Does it serve growing areas that need transit most?**

The current Link plan doesn't: Link would only serve a fixed central corridor in Seattle, but not the growing areas of congestion in our region - the areas north and south of Seattle and on the Eastside.

Ride Free Express does: Ride Free Express, with 100 new free express buses and 4,000 new free vanpools, would serve all of King County,* including the increasingly important suburb-to-suburb routes.

(* NOTE: The current scope of the plan is King County, although it could easily be expanded to serve urban areas in Pierce and Snohomish counties as well.)

- **Does it help now?**

The current Link plan doesn't: Under the new projections, Link will not be in operation for nine more years – nearly a decade.

Ride Free Express does: Ride Free Express could begin to work immediately and be fully functional within two years, after the new buses and vans arrive.

- **How great is the risk?**

The current Link plan carries enormous risk: Once one mile of rail is laid, area taxpayers will be committed to paying \$3.6 billion or more for the entire Link system or lose their investment.

Ride Free Express carries minimal risk: Buses and vans can be sold, while rail lines can't. Bus and vanpool routes can be adapted or added; the rail line, once set, is permanent, regardless of growing or changing needs. Ride Free Express therefore carries significantly lower risks and better adaptability.

Ride Free Express tackles congestion fast, at a fraction of the cost of light rail. And it uses free express buses and vanpools to get there.

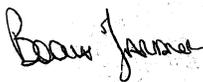
As supporters of **Ride Free Express**, we urge you to join our efforts as we ask Sound Transit to stop and take a second look at this critical investment. We are asking for:

A full review of light rail and its alternatives, including Ride Free Express, based on whether they cost-effectively attack traffic congestion and meet our region's transportation needs.

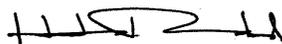
Join us. There is too much at stake for us to spend billions of dollars on a proposal that doesn't work. Together, we can choose a course that's better, faster and cheaper. Let's urge our community leaders to invest our tax dollars in a solution that moves us closer to solving our transportation problem. If you have any other questions or concerns please email us at ridefree@seanet.com.

Sincerely,

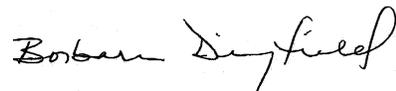
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Draft Plan

Presented by Supporters of Ride Free Express

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Note: As this report went to press, a finance plan of the \$1 billion cost overrun announced by Sound Transit was not available. As a consequence all the financial analysis contained in this report is based on the earlier budget. Obviously Link’s costs will be higher than described in this report.

1. Executive Summary

Rethinking Our Regional Transit Solutions Ride Free Express: Better, Faster, Cheaper

Consider Los Angeles: The billion dollar cost over-run and low ridership of the L.A. subway project led to Los Angeles Mayor Richard Riordan's comment, "We wish we had never started the whole thing. Fixed rail is not the answer to the transportation needs of our city."

A. The Goal

- **A fast, cost-effective, efficient transit system that actually attacks congestion.**

B. The Proposal

Ride Free Express is an alternative to Sound Transit's current Link light rail plan. For about the same annual expenditure – just over \$160 million a year - it would serve *six times* the number of new riders, eliminating about 10% of the daily commute trips by single passenger vehicles. By adding 100 express buses and 4,000 vanpools offering fare-free service, it would attract 192,000 new riders daily, as opposed to Link's 30,800. It could start now, serve the entire region and do so at considerably less financial risk. *Ride Free Express* is an alternative that Sound Transit should consider in planning for the region's transportation needs.

C. The Situation

Despite years of effort to reduce traffic congestion in the Puget Sound area, the problem continues to worsen. This threatens our economy and our quality of life and calls for immediate action. We need a cost-effective solution that will really have an impact on congestion.

In 1996, voters passed a measure creating Sound Transit, the agency charged with building and running a regional transit system. The plan for the transit system includes regional express buses, commuter rail on existing tracks, and Link, a system of light rail to be built from scratch. Of the \$3.9 billion in funding approved, more than \$2 billion was targeted for Link.

Link: Failure to Fight Congestion and Huge Question Marks

Seventy-three percent of people who voted for Sound Transit light rail in 1996 said they were voting to reduce congestion.¹ However, the environmental impact statement (EIS) prepared for Link, the \$2.5 billion rail component of Sound Transit connecting the University District to SeaTac Airport, concedes: "...based on traffic forecasts, the light rail system will not result in a significant difference in regional traffic volumes..."² Sound Transit Director Bob White recently said his agency has never "argued (light rail) would reduce congestion or solve congestion."³

¹ Hebert Research, Inc.

² Sound Transit, Central Link Final Environmental Impact Statement (FEIS), pg. 3-5

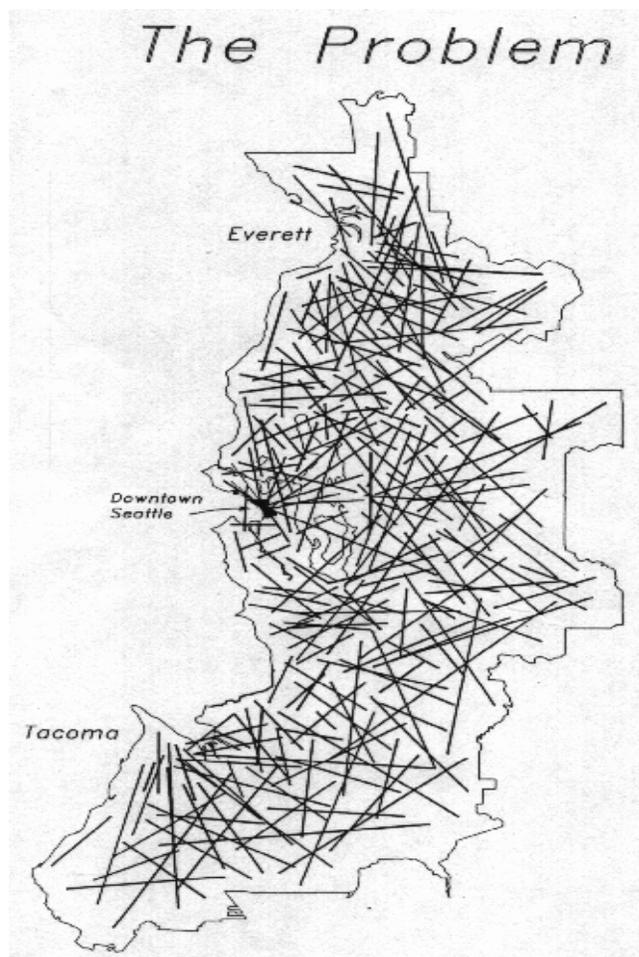
³ *The Seattle Times*, October 5, 2000, "Light-rail opponents outline objections"

In November 2000, Sound Transit staff conceded that the Link system would cost more than \$1 billion in excess of the estimate – or \$3.6 billion – and it would take three years longer to build, meaning that the first trains will not run for almost a decade. This announcement followed months of turmoil surrounding the expected costs of a Capitol Hill tunnel and the at-grade route through the Rainier Valley.

All of this has drawn a huge question mark over the Link plans. Yet, at a December 14 public meeting, the Sound Transit board told skeptical citizens that they are committed to staying the course.

Addressing a Changed Regional Commuting Picture

Over the past 20 years, things have changed significantly in the way people commute in the Puget Sound area. While, at one time, commuters generally traveled to downtown Seattle and back again, commutes from city to suburb or suburb to suburb have become increasingly common as jobs have developed throughout the suburban areas. The diagram below illustrates the new commuting pattern faced by today's commuters. While commuters know it well, regional transportation planners have so far failed to confront this reality.



Over this changed commuting pattern, Link would overlay a fixed central spine, serving downtown Seattle and SeaTac and having no impact on the diverse needs of the region and with no ability to adapt to them. This pattern, which some describe as “pickup sticks,” is the basis of our most serious congestion problems. It should not be surprising that I-405, SR-167 and SR-520 are our most congested freeways. Attacking this problem with transit will require literally thousands of discrete routes, a task which traditional, fixed route transit, whether bus or rail, is simply not able to perform. Commute origins and destinations have become enormously diffuse; that is the plain reality here, in the rest of North America and in much of Europe.

Time to Reconsider

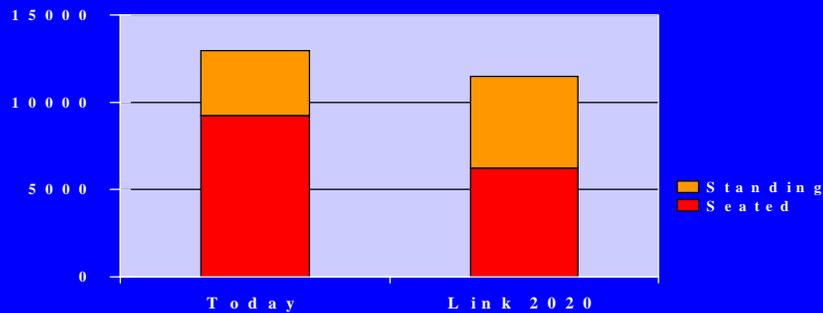
If light rail does not address our area’s most pressing problem – traffic congestion – it is time for us to put the light rail system or any transit proposal to the test. Before we spend \$3.6 billion or more on a project that doesn’t ease congestion, all of us, elected leaders, citizens and taxpayers should take a step back and look at whether Link light rail gives us what we need out of a transit system. It also makes sense to examine alternatives to light rail so that we can adopt the most effective and timely answer available.

With Sound Transit’s light rail plan now in disarray, regional officials need to reconsider this massive expenditure of taxpayer billions. Sound Transit has said that, three years after Link light rail begins service, Link will carry 30,800 new riders each day, an increase of approximately 10% over 1999 Metro Transit ridership. To carry these new riders on Link, Sound Transit will spend at least \$168 million annually, including interest and capital repayment. Each new Link rider will cost Sound Transit \$18.19 per ride.⁴ (*This does not include the impact from the \$1 Billion cost overrun announced in December.*)

Symptomatic of Link’s shortcomings is the situation at the downtown transit tunnel, where Link would displace bus service and force buses onto crowded city streets above. In fact, the net result of using the bus tunnel for light rail is a reduction in transit capacity passing through it, as the following chart illustrates. Twenty years from now, the tunnel will have less operating capacity than it has now. As a consequence, downtown Seattle will have less transit capacity than it has now.

⁴ See “Cost/New Rider Comparison,” and Notes in Appendix B

DOWNTOWN TRANSIT TUNNEL AM Peak Hour



It is time to step back and re-evaluate Link. Link should be compared objectively to its alternatives, including buses, vanpools, monorail and an I-5 rail line. The comparison should start with the fundamentals. This is an investment to which normal investment criteria can be applied. First, the fundamental objective, how many new riders does each alternative generate? If future rail riders are current bus riders, no traffic improvements will occur. Second, what is the cost per new rider? Third, what is the comparative risk in each alternative? A better option to Link is *Ride Free Express*.

D. Ride Free Express – An Alternative to Link

An alternative to Link exists that can be implemented immediately, costs less per ride and is far more effective. It is called *Ride Free Express*; it takes the same money that would go to Link – somewhat over \$160 million a year – and uses it to have a much greater impact on traffic congestion.

Ride Free Express has two primary components: *Express Plus* and *Custom Commute*. *Express Plus* would eliminate bus fares and add 100 express buses at rush hour, serving routes with the greatest demand. *Custom Commute* would create a new fleet of 4,000 fare-free vanpools, featuring the flexibility that commuters require to get to and from their homes and destinations. These new ride choices would be combined with improved signal timing, streamlined traffic in carpool lanes, and elimination of fare-collection delays to help riders – and traffic – move faster.

Ride Free Express Major Features

Express Plus

- 100 new buses operating on express routes
- Fare-free service

Custom Commute

- 4,000 new vanpools
- Driver incentives
- Fare-free service

Traffic Speed Enhancements

- More express buses and vanpools operating at rush hour
- Carpool/HOV lane improvements
- Signal timing improvements
- Elimination of fare-collection delays on buses

One important feature of both components is fare elimination – free buses and free vanpools. Through fare elimination, *Ride Free Express* addresses two of the toughest problem with existing transit: weak demand and traffic delays.

Boosting Weak Demand

The region's highways are becoming increasingly congested at the same time as transit's share of the travel market is declining. Despite increases in the number of rides provided by transit in recent years, transit's share of the commute trips has fallen, resulting in increased congestion. For example, in the 10 years between 1982 and 1992, traffic congestion in the Seattle-Everett area nearly quadrupled to over 97 million annual hours of delay, while transit's share of commute trips within King County fell from 11.3 to 8.8 percent.⁵

With its addition of 100 new express buses serving busy routes, *Express Plus* would boost demand. Formulas for calculating the effect of free fares on ridership project a potential increase of 35 percent (although experience with free fares here and in other cities has often produced much greater results). Importantly, *Express Plus* takes a different approach from conventional transit thinking; rather than create new routes to stimulate demand, *Express Plus* stimulates demand by eliminating fares and lets the subsequent increase in demand dictate additional service. This would generate 112,000 new riders a day (from *Express Plus* alone) at a cost of \$2.73 per trip.⁶ This is 3.6 times the number of new riders forecast for Link at a fraction of Link's \$18.19 cost per trip.⁷

⁵ U.S. Census Journey to Work data, excerpted from Puget Sound Trends, Puget Sound Regional Council, October 1993

⁶ See "Cost/New Rider Comparison," and Notes in Appendix B. Estimates are based on a King County *Ride Free Express* system. Scoping for urban areas of Pierce and Snohomish counties remains to be completed; but on current costs for those systems, the cost per ride should be lower.

⁷ See "Cost/New Rider Comparison," and Notes in Appendix B.

Custom Commute directly addresses the fact that hundreds of thousands of jobs in the region are located in suburban areas where there is no effective transit service. The Seattle area already has one of the most successful vanpool programs in the country. This customized express service expands that program using the regional HOV system and a new fleet of 4,000 vanpools. These vanpools would also be fare-free and operate directly from residential neighborhoods to employers outside downtown Seattle. It would be difficult to develop a more effective method to join jobs and workers. *Custom Commute* would attract 80,000 new daily riders at a cost of \$3.92 per trip. This alone is nearly 2.6 times as many new riders as are forecast for Link.

The two primary *Ride Free Express* initiatives together should attract 192,000 new daily riders, more than *six* times the number of riders attracted by Link. All this is accomplished at less than one-sixth the cost per new rider of Link light rail. It also is accomplished years earlier and with immeasurably less risk. Instead of waiting a decade for the first trains to arrive, we can implement *Ride Free Express* now – with the full system operational in two years. Regional officials need to measure any plan against common-sense investment criteria. By doing this the difference between Link and *Ride Free Express* will become clear.

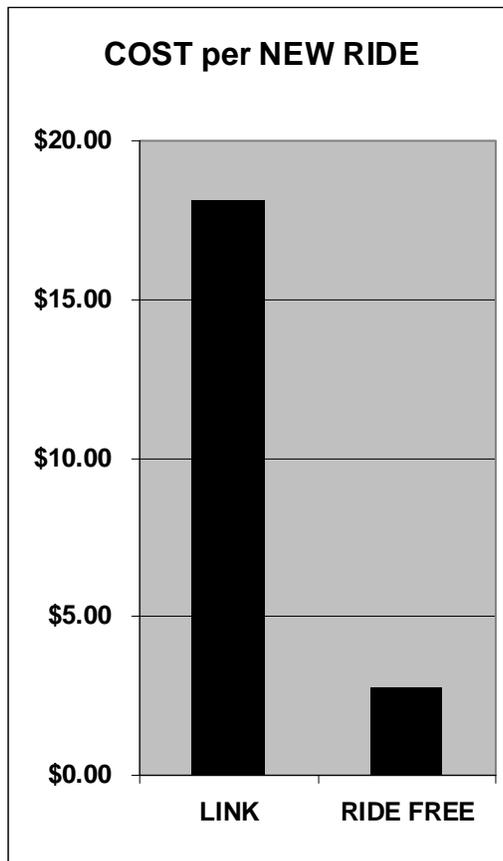
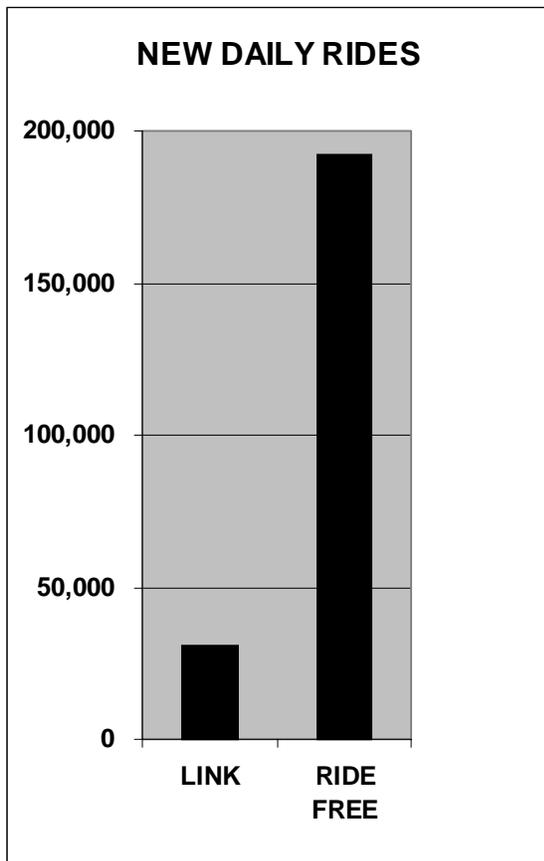


Table 1.⁸
New Daily Riders

Service	Estimated New Daily Riders
Express Plus	112,000
Custom Commute	80,000
Total Ride Free Express Plan	192,000
Link Light Rail	30,800

Table 2.⁹
Cost per New Daily Trip

	Annual Cost	New Daily Trips	Cost/New Daily Trip
Express Plus	\$91.572m	112,000	\$2.73
Custom Commute	\$71.563m	80,000	\$3.44
Total Ride Free Express	\$163.135m	192,000	\$2.98¹⁰
Link	\$168.074m	30,800	\$18.19

⁸ See "Cost/New Rider Comparison," and Notes in Appendix B for details.

⁹ See "Cost/New Rider Comparison," and Notes in Appendix B for details.

¹⁰ This figure is not a straight average but is based on different days of operation between buses and vanpools. See "Cost/New Rider Comparison," and Notes in Appendix B for details.

Traffic Speed Enhancements: Speeding Riders and Traffic

Ride Free Express is more than free service. The plan also incorporates several traffic speed enhancements.

By providing additional express buses and vanpools the plan offers ride choices that would help decongest and streamline traffic. The plan would add new highway improvements to remove significant bottlenecks in the area's HOV/carpool lane system and improved signal timing for quicker bus, vanpool and carpool flow.

Finally, by eliminating the time spent fumbling for fares, *Ride Free Express* would move buses faster, expediting all traffic on busy streets. These measures would provide further incentives for transit use and improve the overall traffic picture.

E. Conclusion: The Test

With Sound Transit's Link light rail plans in turmoil and with so much riding on the outcome, all of us need to stop and take a second look at our transportation solutions. *Ride Free Express* provides a viable option that addresses our regional transit needs in many ways. We encourage our regional leaders to put all of the possible options – light rail, buses/van pools, monorail and others – to a straightforward test by answering the following questions about each:

- **Does it tackle our number one problem: Congestion? (Does it take cars off the road?)**
- **Is it cost-effective?**
- **Does it serve growing areas that need transit most?**
- **Does it help now?**
- **How great is the risk?**

Only by addressing these essential issues can we satisfy ourselves that the investment we are making will *effectively* serve the entire region. Our economy and our quality of life rely on a fast, cost-effective, efficient transportation system. We owe it to ourselves, our children and our grandchildren to make certain that our investment today creates just such a system now and for decades to come.

2. Putting Our Options To The Test

With so much at stake, all alternatives, including Link and *Ride Free Express*, should be put to a rigorous test to be sure they will meet our region's transit needs for today and tomorrow. The following is an analysis of how these two options stack up against some very important standards – standards we believe should guide our transportation choices.

For the purpose of this analysis it is important to understand our definitions:

Link is the light rail component of Sound Transit. This analysis considers the proposed first-phase, Central Link, anticipated to run from Seattle's University District through downtown Seattle to SeaTac Airport.

Sound Transit's three other primary components are: the Sounder rail service on existing Burlington Northern tracks connecting Tacoma to Everett; regional bus service, and a number of HOV improvements on the state highway system outside Seattle. *Ride Free Express* assumes all three components are implemented. The *Ride Free Express* concept is proposed only as an alternative to Link.

For purposes of illustrating the concepts of *Ride Free Express*, this analysis covers only King County. In actual implementation, these concepts should be extended across the entire Sound Transit service area.

A. Tackling Traffic Congestion (Attracting New Riders and Getting Cars Off the Road)

On October 5, 2000, Sound Transit Director Bob White told *The Seattle Times* his agency has never "argued (light rail) would reduce congestion or solve congestion."¹¹ This admission may come as a surprise to the 73 percent of people who voted for Sound Transit light rail in 1996 in the belief that they were voting to reduce congestion.¹²

Today, many Link supporters argue that the light rail line is intended as a start toward a future vision. But if that future vision does not reduce traffic volumes then what is its purpose? And, with costs increasing and delay mounting, what is the likelihood that our children or grandchildren will reap any benefits, aside from having a fixed rail line from the University District to SeaTac or a similarly limited line?

We would all benefit by looking at the facts regarding Link and traffic congestion, and the real potential impacts of *Ride Free Express*. A basic premise is that, in order to attack traffic congestion, any transit system must attract new riders *and* get cars off the road. The facts show that Link does not accomplish these tasks, while *Ride Free Express* would.

¹¹ *The Seattle Times*, October 5, 2000, "Light-rail opponents outline objections"

¹² Hebert Research, Inc.

The Current Link Plan Doesn't Attack Traffic Congestion

- *Link has no perceptible impact on regional traffic volumes.* According to Sound Transit documents, Link's impact on Seattle traffic volumes is *one less car in one thousand*¹³. This is equal to removing one car out of a two-lane traffic jam two miles long. This is no improvement at all.
- *Link's depth and reach is extremely limited.* In 2010,¹⁴ Link trains will carry a total of only 4218¹⁵ seats and serve just 17 new stations. Even in 2020 with the extension to Northgate, Link still would operate only 5550¹⁶ total seats. In contrast, the *Ride Free Express* plan would provide 54,400¹⁷ additional seats with destinations all across the county.
- *Most Link passengers will be former bus riders rather than new riders.* Sound Transit estimates that over 70 percent of Link passengers will be bus riders shifting to more expensive rail service by the time the downtown Seattle bus tunnel is converted to rail.
- *At the local level, the 1999 Sound Transit EIS shows that traffic congestion will be made worse at many intersections where Link operates along city streets.* This is especially so in the Rainier Valley, where 21 out of 28 street intersections with track will experience increased delay.¹⁸
- *Link takes the downtown Seattle tunnel out of bus service.* Yet, Link in 2020 will provide less peak hour seated and standing capacity through the bus tunnel than the existing bus service in the tunnel. Link takes us backward rather than forward. The displaced bus routes will be forced up to the congested surface streets. The capacity fallacy of Link, often overlooked, is that while it does increase capacity north and south of downtown Seattle, it preempts greater existing bus tunnel capacity at the most critical point -- the Seattle Central Business District itself. The result is something like what would occur if a new, wider I-90 floating bridge were built without also building a new Mount Baker tunnel: the net capacity would not increase. In the case of Link's impact on downtown Seattle the undesirable side effect will be more traffic congestion and slower, less reliable bus service.

Ride Free Express Does Attack Traffic Congestion

- *Ride Free Express stimulates transit demand by offering faster, fare-free bus and vanpool service, increasing ridership by six times over the projections for the Link system.* Where Link projections are for 30,800 new riders daily by 2010, *Ride Free Express* would have six times that number, with the most conservative estimates pointing to a gain of 192,000 new riders.

¹³ Sound Transit, Central Link Final Environmental Impact Statement (FEIS), Figure 5.2-1

¹⁴ Dates are based on Sound Transit projections prior to the November announcement of a three-year delay. These may need to be adjusted by approximately three years, making 2010 equivalent to 2013 on the new timetable.

¹⁵ Sound Transit, Fleet Management Plan, July 10, 2000, Pg. 19.

¹⁶ Sound Transit, Fleet Management Plan, July 10, 2000, Pg. 20

¹⁷ 4000 12-seat vans plus 100 64-seat articulated buses.

¹⁸ Sound Transit, Central Link Final Environmental Impact Statement (FEIS), Table 3.3-13

- *Most of the increased ridership will be passengers who would have taken cars. Aside from those riders who would not have otherwise traveled, all of the new riders on the Ride Free Express system would have commuted by car had the new, free service not been available.*
- *Ride Free Express would add as many new riders in the next four years as Metro Transit has added in the past 25 years. Ride Free Express would increase Metro's total current ridership by almost 60%.*
- *Ride Free Express combines improvements to speed riders and traffic on their way. By adding ride choices, improving signal timing, streamlining traffic on HOV lanes, and eliminating fare-collection delays, Ride Free Express would result in overall traffic flow improvements and faster rides for everybody.*

B. Cost-Effectiveness

Sound Transit's Link plans have ballooned in cost by over \$1 billion, to \$3.6 billion. Future cost changes are unpredictable because building the rail line through highly developed Seattle is complex and the nature of required tunneling, demolition, and other construction is uncertain. Even further cost increases seem likely.

Ride Free Express is predictable because new construction is minimal and operating buses and vanpools on existing roadways is a known quantity. A careful look at the figures from Sound Transit, even given existing assumptions, shows that it is much less cost-effective than *Ride Free Express*.

Link Is Not Cost-Effective.

- *Link entails huge up-front capital costs. Well over three billion dollars will be spent before Link carries a single rider. Interest and capital repayment alone will exceed \$115 million per year for 30 years. Operating deficits will add another \$28 million per year and rise as the system ages.*
- *Cost per ride is over \$18. Given the estimated 30,800 new daily trips provided by Link and the enormous annual costs including debt service, the cost per new ride on Link will be \$18.19, more than six times the cost of a new ride on Ride Free Express.*

Ride Free Express Is Cost Effective.

- *Ride Free Express will not require costly capital construction. Because it uses the existing roadways, with modest modifications to improve speed on HOV lanes and city streets, Ride Free Express can begin right away, without the huge capital investment of a rail line.*
- *Ride Free Express will cost about \$3 per new ride, one-sixth the cost of Link. Express Plus will cost about \$2.73 per ride for 112,000 new rides per day, while Custom Commute will be \$3.44 each for 80,000 new rides. All told, Ride Free Express would provide 192,000 new rides per day at \$2.98 per ride.*

C. Serving Areas With The Greatest Needs

Our traffic problems are regional and will require a regional solution. For this reason, Sound Transit was set up through a regional vote in areas of King, Pierce and Snohomish Counties. Unfortunately, phase one of Link will only serve Seattle and the Tukwila/SeaTac area.

With the delay now projected, phase one will not be completed for about a decade. Expansion of light rail to serve other populations, then, would seem to be a distant prospect at best.

New commuting patterns (*see Diagram on page 2*) establish the need for a flexible, highly decentralized system that serves commuters who are increasingly traveling from city to suburb or from suburb to suburb. Commuters today are not moving from concentrated residences to concentrated employment centers. Yet, Link, the major investment of the Sound Transit system, would not address these needs even in the unlikely event that taxes could be raised to complete the 125 miles of rail that some now envision. Light rail is a system designed for commute patterns that existed 30 years ago.

While *Ride Free Express* has yet to be scoped for Pierce and Snohomish counties, analysis of its application to King County shows that it would serve areas of the county that would not be served by Link, thus going further toward addressing the changing needs of the region.

The Current Link Plan Does Not Serve Growing Areas That Need It Most.

- *Most of the region's employment will not be served by light rail.* The geographic constraints of the rail system and its small number of stations limit the potential market. For example, only 13% of Link riders traveling through the tunnel are forecast to have origins or destinations outside Seattle.¹⁹
- *Rail inflexibility prevents a balance of capacity and demand.* Sound Transit forecasts that the seven miles of light rail between Henderson Street and SeaTac will operate more than 70% empty. This segment has an estimated cost in excess of \$400 million. A plan based on buses, vans and incentives is not faced with that dilemma. Service levels can be adjusted to match the demand.
- *The rail plan does not address equity among taxpayers in various areas of the region.* The Sound Transit Board makes a commitment to maintaining subregional equity. This policy states that: "local tax revenues will benefit the five subareas, based on the share of revenues each subarea generates."²⁰ Substantial cost over-runs now call into question whether the construction of Link can be financed in accordance with this equity policy. In an effort to increase the funding available for Link, Sound Transit has assigned all costs for Regional Express Bus service to the outlying subareas. This is despite the fact that many of the routes serve Seattle. Similarly, all Commuter Rail costs have been assigned to the Snohomish, South King and Pierce subareas, even though when fully implemented the service will also serve Seattle residents traveling in the off-peak direction. The use of the entire Sound Transit taxing district's bonding capacity to back Link's heavy debt is another large hidden subsidy. The effect is very much like a billion dollar no-interest loan from the

¹⁹ Maclsaac, James W., P.E., *Understanding Public Transit*, First Draft, August 25, 2000

²⁰ Sound Transit, Central Link Final Environmental Impact Statement, pg. 5-1

entire region, without which the Seattle/North King County subarea could not afford such a massive capital project.

These infringements of the subarea equity policy might be excusable if Link provided significant regional benefits. However, only 13% of Link riders traveling through the tunnel are forecast to have origins or destinations outside Seattle.²¹ This is in contrast to the current bus service, which includes routes to the East and South King County subareas as well as Seattle and North King County. If the tunnel is converted to rail operation many bus routes from the East subarea will become slower and less reliable as a result of surface street congestion. Rather than gaining “regional” benefits from Link, these subareas will be subsidizing a project that diminishes regional service quality.

Ride Free Express Does Serve Growing Areas That Need It Most.

- *Ride Free Express distributes services more widely than Link.* While Link would effectively serve only a fixed central spine, *Ride Free Express* would, through fare-free buses and vanpools, serve destinations in all subareas, thus better addressing the area’s changing needs.
- *Ride Free Express is adaptable to changing needs.* Unlike the Link fixed rail line, bus and vanpool routes are easily changed to adapt to changing needs. If the employment pattern further shifts in the future, routes could be altered virtually immediately to ensure efficient service.
- *Ride Free Express better addresses issues of subarea equity.* The lower costs and wider distribution of benefits enable the *Ride Free Express* plan to fit far more easily within the subarea equity policy.

²¹ See Footnote 20

D. Urgency

Attacking Today's Traffic Problems Today

Our traffic congestion is threatening our economy and our quality of life today. The Puget Sound area has fallen from the top of prestigious national places-rated rankings largely on the basis of our increasing traffic problem. In considering transit options it is important to consider whether they begin to confront our problems soon enough to have the necessary and desired effect.

The Current Link Plan Does Not Go into Effect for Nearly a Decade (at Best).

- *Link's delay keeps growing.* Sound Transit recently reported that there would be an additional three-year delay in Link construction. Combined with the expected construction time that means that the first trains won't arrive for nine more years or *almost a decade*. Given the uncertainties of construction planning already experienced, further delays appear highly likely. Unless immediate action is taken, with a plan such as *Ride Free Express*, this region's congestion will continue to worsen, light rail or no light rail.

Ride Free Express Attacks Today's Traffic Today.

- *Ride Free Express could begin work now and could be in full operation within two years.* With *Ride Free Express*, off-peak free fares could be eliminated immediately; peak free fare when 100 new buses arrive, an estimated two years. By attacking congestion immediately, *Ride Free Express* could give regional planners breathing space to implement a well-thought-out long-range transit plan that thoroughly serves our region's needs.

E. Risk

Puget Sound area taxpayers are being asked to invest \$3.6 billion or more up front for a Link light rail line.

In the private investment market, such an investment would routinely be subjected to rigorous risk analysis. But in the public sector, taxpayer exposure to risk is rarely determined. Even in those instances where a public agency turns to the private market for financing, the analysis of risk focuses on whether the investors will be paid, not on whether the public will realize the promised benefits.

With so much at stake, it makes sense to consider whether the risk is worth it, especially considering that even Link proponents concede that it will not attack traffic congestion.

The Current Link Plan Has Extremely High Risk.

- *Link is fraught with risk in the form of large up-front capital costs, the pressure to continue once construction starts, the need to commit to projects before costs are known and the likelihood of further delays.* Until Link is complete in late 2009 at the earliest, not one passenger will ride, the costs may skyrocket and the only way to secure any rider benefit is to finish, regardless of cost. Given the recent experience of unforeseen costs and

significant delay, it would seem that the risk of further cost overruns and delays is extremely high.

Ride Free Express Carries Significantly Lower Risks for a Higher Payoff.

- *Because Ride Free Express operates on existing roadways and uses buses and vans that could be sold, the corresponding risk is minimal in comparison to that of Link. New buses would cost \$45 million. Fare elimination is another \$62 million per year. If the free fares do not increase ridership, fares can be restored and the buses sold. Vans are bought only as vanpools form. The entire capital requirement including buses, an expanded bus base, HOV improvements and signals is less than \$325 million. That compares well with Link's \$3.6 billion. And unlike Link the risk is incremental; it is not an all-or-nothing proposition. On the other hand, the prospect of 192,000 new riders per day and corresponding reductions in traffic indicate that *Ride Free Express* would be an extremely sound investment.*

3. The Ride Free Express Plan

*[NOTE: For purposes of illustrating the concepts of Ride Free Express, this analysis covers only King County. In actual implementation, these concepts **should** be extended across the entire Sound Transit service area.]*

Ride Free Express uses existing surplus capacity, and implements service improvements and incentives that have proven cost-effective at increasing ridership, thereby gaining the greatest possible increase in ridership for the funds invested.

Traditional versus Market-driven Approach

Traditionally, fixed-route transit system plans identify a corridor with high travel volumes. Then a route is devised that serves a large number of destinations along the corridor. The problem with this approach in urban areas is that such corridors are usually already well served by buses. As a result, if a rail line is built, most of the passengers are pre-existing bus riders who are merely shifted to rail at very great taxpayer expense. When considering this reality, it isn't surprising that only thirty percent of trips on Link are forecast to be made by new riders.

The *Ride Free Express* market-driven approach responds only to actual demand. It provides the means and the incentives to attract new riders where transit service has been noncompetitive. For bus riders, the means consist of more frequent service on high demand routes, new traffic signals and HOV improvements to speed service. For commuters to suburban employment destinations, the means consist of 4,000 vans, which respond only to actual demand. The market determines the routes and destinations. For all commuters, the fundamental incentive is free fare.

Ride Free Express does not attempt to predict new routes and bus service levels. As fares are eliminated, ridership counts on the buses will dictate where more service is needed. Vanpool groups will figure out the best route and schedule for their members. In this way, travel demand can be translated into 4,000 separate routes, each tailored to the needs of a particular group of commuters. In this way, *Ride Free Express* has the flexibility to respond to changes in this rapidly growing region.

Far-reaching Public Transportation Benefits

Everyone benefits when a commuter chooses to take public transportation. In King County, taxes already cover about 75 percent of operating costs. If capital costs are included, the subsidy probably exceeds 90 percent. If eliminating fares altogether is the most cost-effective way to encourage people to use transit, then insisting users pay the last 10 percent actually interferes with good public policy. It certainly interferes with good investment policy.

More than commuters benefit from fare elimination. Low-income and transit-dependent individuals receive large proportional benefits compared to the status quo. Fares often preclude visits by the poor to job interviews, medical and social service agencies. Free fares and custom vanpool routes are a key to providing lower-income people with access to the rapidly expanding suburban job market. Dependable access for these employees is a critical need for many suburban employers. Ruling out potential employees who have no reliable car is simply undesirable in a tight labor market. For all income classes, free fare is urban mobility writ large.

Lowest Risk, Highest Flexibility

The *Ride Free Express* proposal has minimal risk. It accomplishes this by investing primarily in incremental service additions and demand incentives which are highly flexible and thus can adapt to changing conditions. The buses and vans in this proposal can be used to serve an almost unlimited variety of origins and destinations across the region. This is especially important in an age of rapid technological advancement where it is entirely possible that future travel patterns and technologies will be very different from what planners now assume.

Ride Free Express also offers ultimate flexibility in terms of under- or over-realized demand. If demand has been under estimated and Express Plus results in crowded buses, the proposal will have succeeded beyond expectations and the 100 additional articulated buses will be well used. Very few transit systems in North America have the problem of too many customers. If demand has been over estimated and ridership increases by only 16% (as experienced in a New Jersey free-fare experiment, the lowest rider increase known nationally) the increase will still be 60% greater than the new-rider forecast for Link and the total cost would be far less than Link's. Further, the benefits will have been gained years earlier, without construction impacts or neighborhood disruption. For example, in the unlikely event there is only enough demand to fill two thousand vans, then no additional vans need to be purchased and the funds can be used for other transit or HOV improvements.

The primary components of *Ride Free Express* are:

1. Express Plus
2. Custom Commute
3. Other Traffic Speed Enhancements, including improvements in HOV lanes and signal timing

Component #1: Express Plus

In the morning rush hour, the most heavily used hour of the day, an average of 31% of capacity or 9,300 seats on Metro buses entering downtown Seattle are empty.²² **Those empty seats are** nearly double the seated capacity of Link's peak service planned for year 2010. Filling those empty seats can be accomplished at far lower cost, and far sooner, than building a rail line through Seattle.

Public transportation is unable to compete with the private auto on the basis of comfort and convenience. Transit *can* compete on the basis of cost to the user and speed. Express Plus does that by eliminating fares and improving the speed, reliability and frequency of service. The specific elements are:

- Fares on Metro in King County would be eliminated
- 100 articulated buses would be added to the fleet to accommodate potential demand greater than the projected 35% increase on existing routes during rush hour.
- Metro service would be modified to increase trolley and dual-mode bus scheduling through the downtown tunnel. Bus and trolley service is faster and more reliable operating through the tunnel. This would free street space for the additional 100 peak hour express buses.
- A countywide signal synchronization system would be implemented that would allow buses to move through intersections on a priority basis. As a consequence, the traffic running

²² King County Metro database, Spring 2000

parallel with buses will also flow more freely. New signalization will also help prevent intersection gridlock.

- HOV modifications which allow buses and vanpools to enter and exit without having to weave across two or three lanes of car traffic. This will also improve auto flow and speed.

Costs of *Express Plus* are summarized in the table below.

**Table 3.²³
Express Plus**

Program Element	Cost	Description
Debt Service/Depreciation	\$16.401m	\$45m 105 articulated buses; \$50m Countrywide signal priority and synchronization, \$201m HOV improvements, \$20m Base expansion
Operating	\$14.871m	Operating expense for 100 articulated peak hour buses in service for six hours/day, 260 days/year
Fares	\$60.300m	Lost Metro farebox revenue plus contract revenue (not including advertising) minus cost of fare collection
Annual Cost	\$91.572m	

Ride Free Express builds on and supplements Metro’s existing service. With a fleet of over a thousand buses providing 3.2 million hours of service annually, King County Metro is far and away the region’s largest public transportation provider. At current service levels Metro provides approximately 320,000 rides a day. Obviously, any regional transit system must be carefully integrated with Metro’s service network. Because *Express Plus* would provide additional service on existing routes to meet new demand, it is completely compatible with the current system.

Phased-in Free Fare, Improved Service

Fare-free service in the Puget Sound region should be implemented over a period of two years, to avoid system overloads experienced by other fare-free projects nationally. Fares can be eliminated immediately for all but peak hours. Peak hour fare-free service can be initiated in two years, at which time the 100 additional articulated buses will be available to respond to overloads. A common problem with fare elimination in other cities has been a lack of buses in reserve to respond to large peak-hour commute increases. If articulated buses for some reason are not available within two years, the service could begin with conventional 40 foot buses, which would be phased out as articulated buses become available and 40 foot buses are needed in Metro’s regular fleet. Signal priority systems and other transit/HOV improvements also will be in place to increase bus speeds.

Fare-free bus speeds are also increased because passengers are able to board and get off much more quickly. Because passengers no longer have to pay a fare, they are able to enter and exit using either front or rear doors. Fare-free service also eliminates delays for searching for correct change, asking the driver for a transfer, waiting for the farebox to accept a crinkled dollar bill, or any of the other common occurrences involved in fare payment. Avoiding these small delays, multiplied by tens of thousands of riders per day, adds up to a considerable

²³ See “Cost/New Rider Comparison,” and Notes in Appendix B.

increase in bus productivity. This convenience not only speeds up service it has the added benefit of eliminating fare disputes. This allows the coach operator to concentrate more fully on driving the bus.

Results of Other Fare-free Programs

To predict the change in ridership likely to result from a change in fares, the transit industry uses a ratio. This ratio, expressed as a percentage, is referred to as the elasticity of demand. For example, an elasticity of .30, means that for a 10 percent decrease in fares, ridership would increase 3.0 percent. Concerning elasticities for fare-free programs, a recent Transportation Cooperative Research Program study found that "...the average for non-CBD [Central Business District] applications becomes 0.35."²⁴ This indicates ridership should increase by 35 percent if fares were eliminated. Further, a 1994 study of fare-free transit programs prepared for the Washington State Transportation Commission concluded that, "...for most systems that change to a fare-free policy, ridership can be expected to increase by at least 25% and more likely closer to 50%."²⁵ But a better indicator is probably actual experience, outlined in the table below.

**Table 4.²⁶
Fare-Free Program Results**

Location	Year	Description	Results
Denver, CO	1978-79	System wide, initially all day; subsequently off-peak only, <u>one year</u>	Ridership increased more than 50% over prior year
Austin, TX	1989-90	System wide, all day, <u>15 months</u>	Ridership increased by approx 75%
Burlington, VT	1991	One route	Ridership increased by 56%
Salt Lake City, UT	1979	System-wide, one month	Ridership increased by 13%
Trenton, NJ	1978-79	Demonstration project, off-peak service only, one year	Ridership increased by 16%
Topeka, KS	1988	System-wide for one month	Weekday ridership increased by 83%

Each of the programs listed above succeeded in increasing ridership, often with little or no increase in service. Amherst, Mass., provides another example of a highly successful on-going program. In 1976, fare-free service was extended to the community surrounding the University Campus. The service attracted 4,000 daily riders, 40% of whom were prior auto drivers.²⁷

After implementing fare-free service, an anticipated drop in ridership was not experienced in either Denver or Austin. Capital Metro in Austin reported, "Ridership remained high during the

²⁴ Transportation Cooperative Research Project, *Traveler Response to System Changes, Interim Handbook*, March 2000, pg. 12-32

²⁵ Hodge, David C., *Fare Free Policy: Costs, Impacts on Transit Service and Attainment of Goals*, prepared for Washington Transportation Commission, March 1994, pg. 21

²⁶ Transportation Cooperative Research Project, March 2000, pg. 12-33

²⁷ Kouneski, Anthony M., *General Manager's Memorandum to Capital Metro Board of Directors*, August 17, 1998

program and rose gradually during each quarter until leveling off at just over 79,000 average weekday boardings in the third quarter of 1990.”²⁸

Many of the programs in table 4 were initiated as demonstration programs, or promotional efforts of limited duration. Some of the programs were funded through Federal grants for a specified period. Because most transit agencies rely on fare revenue to help defray operating costs, few have had the option of permanently offering fare-free service system-wide while maintaining service levels. Sound Transit funding enables this region to eliminate fares and expand service.

The Northwest has been a leader in initiating fare-free service. For twenty-five years Metro has provided a ride-free zone in downtown Seattle. This ride-free area accounts for more than five million boardings per year. Ridership increased 200% the first year. In Portland, Trimet provides free service in a ten-block by twenty-block “Fare-less Square.” Ridership increased 800%. This has proven so popular that Trimet is now considering a proposal to greatly expand the size of the fare-free zone.

Effective Pass Programs

Good examples of ridership response from reducing fares and improving commute options are found with Metro’s Flex Pass and the University of Washington’s U-Pass program, which offer deeply discounted transit passes and other HOV incentives. These programs are a useful indicator of the potential transit market since they involve local commuters who face the same traffic conditions, gas prices and other factors that influence their transportation choices. The results from these programs strongly suggest that a significant share of the commute market is responsive to discounted fares, especially in the presence of other incentives and improved service (see the following table).

²⁸ Transportation Cooperative Research Project, *Traveler Response to System Changes, Interim Handbook*, March 2000

**Table 5.²⁹
Pass Programs**

Program	Description	Results
Flex Pass	An assortment of incentives and discounted transit passes offered through employers. Can include vanpools, bus passes and subsidized HOV parking	The typical program has achieved an increase in transit use of 140%.
U-Pass	A program that provides deeply discounted, unlimited use transit passes, carpool and vanpool incentives, guaranteed ride home, etc. Offered through the University of Washington to students, faculty and staff.	Transit ridership increased by 35% <i>in one</i> year. Service improvements and higher parking fees implemented along with discount transit passes. Transit ridership has continued to increase.

Because there is no perfect ridership forecasting tool, it is also useful to consider the parameters imposed by market potential and system capacity:

Market Potential: Bus service currently provides about 35% of commute trips to downtown Seattle. This is a decrease from the 46% share of the commute market achieved by Metro in the late 1970's. Between 1970 and 2000, Seattle Central Business District employment increased by over 75%, but transit ridership has not come close to keeping pace. According to Census Journey to Work data, the number of commuters in King County increased by more than 167,000 between 1980 and 1990. Over that same span of time, transit's share of the commute market in King County declined from 11.3% to 8.8%.³⁰ Clearly the potential market is large and the volume of commute travel is still growing.

Available Capacity: During the three-hour evening commute, Metro buses leaving downtown Seattle operate at an average of 61% of seated capacity. In the morning peak hour Metro operates at 69% of seated capacity.³¹ The 31% that are empty represent over 9,000 peak hour seats inbound to Seattle. These empty seats have more seated capacity by 50% than Link will provide to Seattle in 2020. This total does not include any of the surplus capacity on Pierce Transit, Community Transit and Sound Transit. Off-peak capacity varies considerably by route, but generally the current system has much greater surplus capacity in the off-peak hours.

Therefore it is reasonable to conclude there is both the potential market and the capacity for the system to accommodate a significant increase in ridership.

²⁹ Transportation Cooperative Research Project, March 2000, pg. 12-26

³⁰ U.S. Census Journey to Work data, excerpted from Puget Sound Trends, Puget Sound Regional Council, October 1993

³¹ King County Metro database

Component #2: Custom Commute

Outside of downtown Seattle, fixed-route transit service is rarely competitive with commuting by single occupant vehicle for the simple reason that most suburban employment centers are not served by bus routes except with multiple transfers, if at all. As a result, transit's share of the commute market is very low while traffic congestion has grown steadily.

The number of suburban jobs has increased far more rapidly than those in central Seattle. But since there is no single employment center on the Eastside or in South King County, these are markets that traditional fixed-route transit service, whether bus or rail, serves poorly. Further diminishing the possible effectiveness of a fixed-route system are employment growth patterns, which are much stronger in King County outside the City of Seattle. For example, employment in the Redmond area has grown from 13,412 in 1980 to 63,944 in 2000. In the Bothell area, employment increased from just 1,786 in 1980 to 10,869 in 2000.³² Since 1970, Seattle's share of total county employment has fallen from two thirds to less than half.

Custom Commute attracts a larger share of commute trips to the region's dispersed employment centers by dramatically expanding a market-driven service concept that has already been successfully implemented in the region. Currently, Metro provides over seven hundred vanpools in King County. Custom Commute builds on this success by combining:

- A fleet of 4,000 vans.
- Fare elimination for all vanpools in King County.
- A \$4,000 annual stipend paid to van drivers; paid by employer through a contract with King County.
- Flexibility to re-allocate vans not achieving established utilization levels.
- A guaranteed ride home in case of emergency (consistent with existing programs).
- Availability on a first-come first served basis, with priority given to employment sites outside downtown Seattle.

Already High Vanpool Demand

The number of vanpools operating in the region has more than tripled in less than a decade. This growth has been accomplished despite fares that average over fifty dollars a month. As recently as the spring of 1999 there was over two hundred groups on agency vanpool waiting lists. A recent WSDOT market research study concluded that the potential market for enhanced vanpool service in King County is 86,299 vanpool riders³³, and this conclusion assumed passengers would pay a fare of at least \$30 and the driver would not receive direct monetary compensation.³⁴ Therefore demand for vans with free fares and compensated drivers could easily exceed the 44,000 (40,000 new) riders projected in this report.

Several characteristics of vanpools make them particularly effective in attracting former single-occupant-commuters and reducing vehicle miles traveled:

³² 1999 Population and Employment Working Forecasts, Central Puget Sound Region, prepared by the Puget Sound Regional Council, July, 1999

³³ Washington State DOT Puget Region Vanpool Market Assessment Technical Memorandum, 2000.

³⁴ Puget Sound Regional Vanpool Market Assessment, Draft Technical Memorandum, presented to WSDOT Office of Urban Mobility

- Because vanpools tend to operate between origins and destinations that are not well served by fixed-route transit, a high percentage of vanpool passengers are former single-occupant commuters.
- The average vanpool commute is much longer than the average trip in the region. As a result, the decrease in total vehicle miles traveled is commensurately greater for vanpools.
- Vanpools are highly efficient. On average, vanpools operate at about ninety percent of capacity. If a vanpool group no longer chooses to participate, the van can easily be re-allocated to another group that may have an entirely different commute.

Costs for Custom Commute are shown in the table below.

**Table 6.
Custom Commute**

Program Element	Cost	Description
Debt Service		Included in operating cost
Operating	\$67.645m	4000 vans at a cost of \$2.26/passenger/trip plus \$4,000/year driver's stipend.
Fares	\$3.918m	Current Metro vanpool revenue no longer received.
Annual Cost	\$71.563m	

Component #3: Traffic Speed Enhancements (System Improvements)

The Puget Sound region has one of the most comprehensive HOV highway systems in the country. This system is essential in making transit service and vanpools competitive with the single occupant vehicle. The favorable results already obtained from the regional HOV system strongly support completion of the system. Some of the pieces of the system yet to be built will be especially useful for enhancing transit performance. To address these needs, *Ride Free Express* includes the HOV/Transit projects listed below. These projects are from WSDOT and King County Metro plans and design studies. (For locations, see Appendix A)

1. Busway Extension and I-5 Transit Ramp. This would extend the E-3 busway south along Industrial Way connecting to the I-5 HOV lanes. Metro routes from Renton, Tukwila, SeaTac, Federal Way and Sound Transit routes from Pierce County would make use of this facility. By no longer having to weave across I-5 to reach the Spokane Street exit, each bus would save several minutes per trip and general purpose traffic flow would be improved. Approximately 6,700 current riders would benefit from this improvement. Estimated Cost: \$60.0 million.
2. I-5 Southbound Transit Lane. Create a barrier-separated transit lane along the west side of the Express lanes from Ravenna Blvd. to Stewart Street. The lane would operate southbound at all times. Transit service in the off-peak direction regularly becomes stuck in traffic in the general purpose lanes of I-5. This project would allow Metro, Community Transit and Sound Transit buses to bypass I-5 traffic congestion thus greatly improving speed, reliability and efficiency. Estimated Cost: \$58.8 million.
3. I-5/SR 520 HOV Ramp. This ramp would allow HOV traffic to and from SR 520 to use the I-5 express lanes and provide buses from the Eastside improved access to the Seattle bus tunnel. HOV traffic would be able to avoid weaving across I-5 traffic in the vicinity of

Mercer Street. This project received the highest rating in a WSDOT pre-design evaluation. Estimated Cost: \$12.2 million.

4. I-5 Northbound HOV Lane. A northbound HOV lane on the right shoulder of I-5 between the Olive Way on-ramp and the SR 520 off-ramp. Like the SR 520 ramp described above, this project would help alleviate the traffic weave that takes place on northbound I-5. Estimated Cost: \$17.0 million.
5. I-5/NE 50th Street Direct Access Ramp. This ramp would provide direct transit access to the University District from the express lanes. Currently transit service coming from the north must use the congested general purpose lanes from Northgate to the U. District. Estimated Cost: \$6.7 million.
6. County-wide Signal Priority and Synchronization. Upgrade signal controllers and install transit priority equipment at more than 700 intersections across the county. The upgraded traffic signal systems will enable transit and general purpose traffic to flow more efficiently. Estimated Cost: \$50.0 million
7. I-5/42nd Street Direct Access Ramp. This ramp would allow direct access to the proposed southbound transit lane on the west side of the I-5 express lanes. Travel times between the University District and downtown would become quicker and more reliable. Estimated Cost: \$28.4 million. If the proposed configuration proves infeasible, the funds for this project should be allocated to another design or to other HOV projects.
8. Trolley Substation. Shifting trolley routes into the tunnel will require an additional power substation and wiring. Estimated Cost: \$7.0 million.
9. I-90/Corwin Place Direct Access Ramp. This ramp would allow trolleys to connect with the south end of the Bus tunnel via the D-2 roadway. This would permit inter-lining trolley service through the tunnel. Estimated Cost: \$12.9 million
10. I-90 Bi-directional Transit Lanes. This project is already a part of Sound Transit's plan. There are two alternatives under consideration, one of which converts the center roadway to bi-directional transit lanes; the other would re-stripe the outer roadways to add HOV lanes in each direction. Either alternative would facilitate transit service across Lake Washington, especially by improving schedule reliability in the off-peak direction. Because funding for this project has been included in the Sound Transit East sub-area budget, no additional cost has been assumed here.

Approximate total cost of HOV/transit capital improvements: \$ 251 million.

Of the projects listed above, only the I-90 bi-directional transit lanes were included in the adopted Sound Transit plan. A number of the others, or closely related projects, were considered earlier in the planning process but the very high cost of the proposed light rail line exhausted the Seattle/North King subarea budget. As a result even the most beneficial HOV improvements were not funded in the Seattle/North King County subarea.

The Downtown Seattle Transit Tunnel

A key consideration of regional traffic flow is future use of the downtown Seattle Transit Tunnel. Initially Sound Transit planned to operate both buses and trains in the tunnel. Sound Transit plans now call for conversion of the tunnel to exclusive rail operation. This will force a large volume of buses onto surface streets through downtown Seattle. The exact number of buses is still the subject of discussion, but since it is apparent that Link in the form now proposed will replace very few of the tunnel routes, the number of buses displaced will be substantial. This increase in peak hour bus volumes will cause downtown traffic congestion to become worse and bus speeds through downtown Seattle will be slower. This deterioration in speed and reliability is not inconsequential. In 2010, bus ridership is expected to be more than triple light rail ridership.³⁵ Therefore any travel time savings for rail passengers must be weighed against the increased delay for the much larger number of bus riders.

Metro and the City of Seattle have recommended a variety of improvements to the street network to mitigate the impacts of tunnel conversion. However, even with the proposed mitigation, bus travel times will not approach the speed and reliability of operating through the tunnel. Metro has tentatively allotted approximately 40,000 additional service hours per year to offset the slower bus running times and less efficient routing resulting from the tunnel conversion.

Under the *Ride Free Express* proposal the tunnel would continue to be used for bus service. The tunnel was designed to accommodate at least three hundred buses per hour, more than double the current peak hour service level.

To make more efficient use of the tunnel this proposal would:

- Redeploy dual-mode buses to maximize service frequency through the tunnel. At present many dual-mode buses operate on long routes to the far corners of the county. As a result they may only travel through the tunnel once every three hours. This is not an efficient use of expensive and highly specialized equipment.
- Move selected North-South trolley routes into the tunnel. The Metro Six-Year Plan adopted prior to the Sound Transit vote included moving two trolley routes into the tunnel. Putting trolleys in the tunnel can be accomplished at low cost and it would have the added benefit of improving trolley speeds through Seattle while reducing transit volumes on the surface streets.
- Inter-line routes through the tunnel. At present buses arriving at the tunnel make one pass through to drop off passengers, then make a second pass through the tunnel to pick up passengers. Modifying routes and taking advantage of transit and HOV improvements will give buses sufficient reliability so they can make a single pass through the tunnel, both picking up and dropping off passengers. This type of service inter-lining has been used for routes operating on the surface streets for more than fifty years. Substantial improvement in service productivity can be gained from effective inter-lining of tunnel routes.

These improvements will decrease the number of buses operating on the surface streets and provide faster more attractive service to transit customers. At a rate of 120 buses per direction per hour, tunnel bus service would provide nearly double the seated capacity of rail service planned for 2010, significantly more than even the Link service plan for 2020.

³⁵ Sound Transit, Link Light Rail New Starts Report, September 3, 1999

4. Conclusion: The Investment Criteria Test

Transportation alternatives should be evaluated on:

1. The ability of each to reduce congestion and attract new riders
2. Their cost per new rider
3. Their ability to serve fast-growing areas that need transit
4. Their ability to have an immediate impact
5. Their risk

Link's projected reduction in traffic congestion is imperceptible and increase in new riders is modest. Its cost is high and its service limited in area. It will not begin service for a decade and its risks are great.

Ability to attract new riders

The two *Ride Free Express* initiatives, Express Plus and Custom Commute, together should attract 192,000 new daily riders. Sound Transit has said that, three years after Link light rail begins service, Link will carry only 30,800 new riders each day.

Cost per new rider

The table below presents a cost-effectiveness comparison for Link and the *Ride Free Express* plan. The cost per new daily trip for the *Ride Free Express* plan is under \$3. The cost per new daily trip on Link will be over \$18. The calculations for Link are based on an estimate of new daily trips provided by Sound Transit. The Link cost data has been collected from a number of sources in the public record, including submittals to FTA. For purposes of comparison, it has been translated into an annualized cost.

**Table 7.³⁶
Cost-effectiveness**

	Annual Cost	New Daily Trips	Cost/New Daily Trip
Express Plus	\$91.572m	112,000	\$2.73
Custom Commute	\$71.563m	80,000	\$3.44
Total Ride Free Express	\$163.135m	192,000	\$2.99
Link	\$168,074m	30,800	\$18.19

The cost for Link shown above includes a credit of \$500 million to reflect the anticipated Federal funding. No Federal funding has been assumed for the *Ride Free Express* plan. Because the complete light rail line has the potential to free up some amount of Metro bus service, the Link cost estimate has been credited with the value of 200,000 annual hours of Metro bus service, less the additional hours required by buses on congested surface streets. This estimate is at the upper end of the range of potential service hour savings and includes modifications to existing bus routes that have not yet been approved by King County.

The Link cost estimates used in this comparison are based on those identified and acknowledged prior to the November announcement of the \$1 billion cost overrun. They do not

³⁶See "Cost/New Rider Comparison," and Notes in Appendix B.

include these overrun costs nor any additional right-of-way expenses or utility relocation costs beyond those acknowledged prior to November by Sound Transit.

Serving Growing Areas

Ride Free Express will provide express bus and custom vanpool service to a wide area. Its service is adaptable to changing needs rather than fixed by a single light rail line.

Immediate Impact

Ride Free Express could begin having an impact now, with the full system in service within two years – a far cry from Link’s minimum of a decade of delay. Complex construction projects such as light rail are particularly vulnerable to further delay since a problem with one element of the project often causes many other aspects of the project to be delayed or modified. Because free fares and Custom Commute service can be implemented quickly the risk of delay is very small. The HOV system improvements included in the plan will take several years to build, but again, the risk is minimized because delays for any one project will not prevent implementation of the rest of the plan. This is in stark contrast to rail projects where every inch of track must be in place before the train can run and the first passenger can ride.

Risk

The *Ride Free Express* proposal has minimal risk. It accomplishes this by investing primarily in incremental service and demand incentives, which are highly flexible and thus can adapt to changing conditions. The buses and vans in this proposal can be used to serve an almost unlimited variety of origins and destinations across the region. This is especially important in an age of rapid technological advancement, where it is entirely possible that future travel patterns and technologies will be highly different from what planners now assume.

Another source of risk comes from committing to projects before their costs are known. Rail transit projects have an unfortunate track record of cost escalation and over-runs in the hundreds of millions of dollars are not uncommon. Obviously the additional \$1 billion cost estimate has not yet been put to the test of actual construction. This proposal largely avoids such risk by focusing investment on demand driven service and free fares. These costs can be established with great certainty in advance of the actual expenditure. Free fares are immune from cost overruns.

In a worst case scenario, where demand for transit service in the region falls below current levels, the vehicles acquired for this plan could easily be sold for use elsewhere, or integrated as replacements into Metro’s current fleet.

The bottom line

A closer look at the high costs and disappointing performance of recent urban rail systems around the nation confirm that light rail has not been a solution to traffic woes. Rather than imitating the mistakes made by others, this region should have a plan based on what works here. The Puget Sound region has the nation’s most successful vanpool programs, the nation’s most successful transit pass programs, and commuter bus service that has served as a national model. Building on these successes can deliver the transportation benefits voters expect.

In the final analysis, our transit investment should be intended to take cars off the road and attack congestion. *Ride Free Express* maximizes that investment by removing more than six times as many cars as Link, removing cars from the most congested corridors throughout King county, doing it sooner and with immeasurably less risk. If this project is an investment, the choice is clear. *Ride Free Express* is the way to go.

Answers to Frequently Asked Questions

Q. *Will going fare-free really get people, particularly commuters out of their cars?*

A. This proposal targets the peak hour commute market. The combination of significant service improvements including 100 peak hour express buses, 4000 commuter vanpools, faster service, and free fares will attract a large number of new commute riders. Experiences in other cities and in the downtown Seattle free-fare zone have shown that elimination of fares is an effective incentive (see Tables 4 and 5 above). Fare discounts work. That should surprise no one; it works in almost every other product and service. Metro has a long history of successful fare reductions and eliminations. 40% of Metro's current regular riders receive discounted or free fares. Ride Free would extend that to occasional and non-riders as an incentive to become regular riders. But there are also societal benefits from more frequent use by transit-dependent citizens. Fare-free service allows the economically disadvantaged greater access to employment opportunities, public services and education. These benefits from increased mobility are exactly what transit as a public service is intended to provide.

Q. *If fare-free is such a good idea why don't other systems use it?*

A. There are a number of systems that offer fare-free service in downtown areas, to universities, or to other defined markets. In Washington State there are three transit agencies that have operated fare-free. Most transit agencies rely on farebox revenues to help cover operating expenses. For them, converting to fare-free would require cutting service. The Puget Sound region is fortunate to have one of the highest levels of public transit subsidy in the United States. Instead of having to sacrifice service in order to offer free fares, Sound Transit funding enables this region to expand service *and* eliminate fares. This is economical. It would be financed by the savings from not building the phase-one Link light rail line at a cost of \$3.6 billion or more.

Q. *Doesn't the fact that many systems dropped fare-free service mean there are problems with it?*

A. Seattle and Portland have operated downtown free fare zones for more than 25 years. Most of the other transit systems had one-year federal grants or were using free fares temporarily as a loss leader to attract new riders. They then went back to charging them. Most of the problems agencies have experienced have come from much larger than anticipated demand. These systems lacked reserve fleets to handle overload and relieve crowded buses. This capacity is anticipated by *Ride Free Express*.

While it is true that charging riders does recoup a fraction of the cost of bus service, it also significantly lowers ridership. We should consider the benefits of maintaining the higher ridership when it comes to lowering traffic congestion. Also we should compare the costs to the much higher subsidies required by light rail.

Q. *Shouldn't the people who use public transportation pay for it?*

A. We all benefit when a commuter chooses to leave their car at home and take public transportation. Continuing to charge a fare for transit service while roads are 100% subsidized by taxes penalizes transit-dependent citizens and those people who reduce congestion by using transit instead of driving. In King County taxes already cover about 75% of operating costs. The subsidy probably approaches 90% when capital costs are included. If eliminating fares altogether is the most cost-effective way to encourage people to use transit, then insisting users pay the last 10% actually interferes with good public policy. It certainly interferes with good investment policy. Fare recovery of only 10% should not be the barrier to increasing ridership on a system which is at best 31% unproductive.

Q. *Won't homeless people take advantage of the free service by riding around endlessly?*

A. The growing numbers of homeless present issues for all public facilities, whether they are buses, libraries or some other facility. Even under the current system, any bus rider, including the homeless, who doesn't want to pay can generally avoid doing so. These problems can be handled through enforcement of policies to discourage objectionable activities aboard buses. *Ride Free Express* includes \$5.4 million to double existing transit security. It is noteworthy that Metro already has a ride-free zone that extends from Pioneer Square to Belltown. If homeless people joyriding on buses were likely to be a systemic problem, it would certainly be apparent in reduced ridership. In fact, Metro ridership has tripled in the years since the free fare zone was established. Over 70% of those riders take at least part of their trip in the free zone. The market evidence is that the homeless are not a significant problem for riders

Q. *What about vandalism and other security problems?*

A. None of the other systems testing fare-free service experienced these problems. However, again, *Ride Free Express* includes \$5.4 million to double existing transit security.

Q. *Isn't it unrealistic to assume that Express Plus will fill 100% of bus seats?*

A. *Express Plus* does not assume this. When the 100 additional peak hour buses are included, the projected 35% increase would result in a 77% average load in the peak one hour at the heaviest load point (entering the Seattle Central Business District). The 100 peak hour articulated buses have been added as a contingency against increases larger than 35%.

Q. *What if it doesn't work?*

A. The experiences of other cities and Seattle itself indicate a very high likelihood that *Ride Free Express* will work. However, in the unlikely event that the predictions don't pan out, *Ride Free Express* has the advantage that it entails very little in the way of capital construction costs outside of HOV lane and signalization improvements, which will be useful regardless. If free fare does not produce either the projected vanpool or bus ridership gains, fares could be reinstated immediately and excess buses and vans sold or integrated into the fleet as replacements.

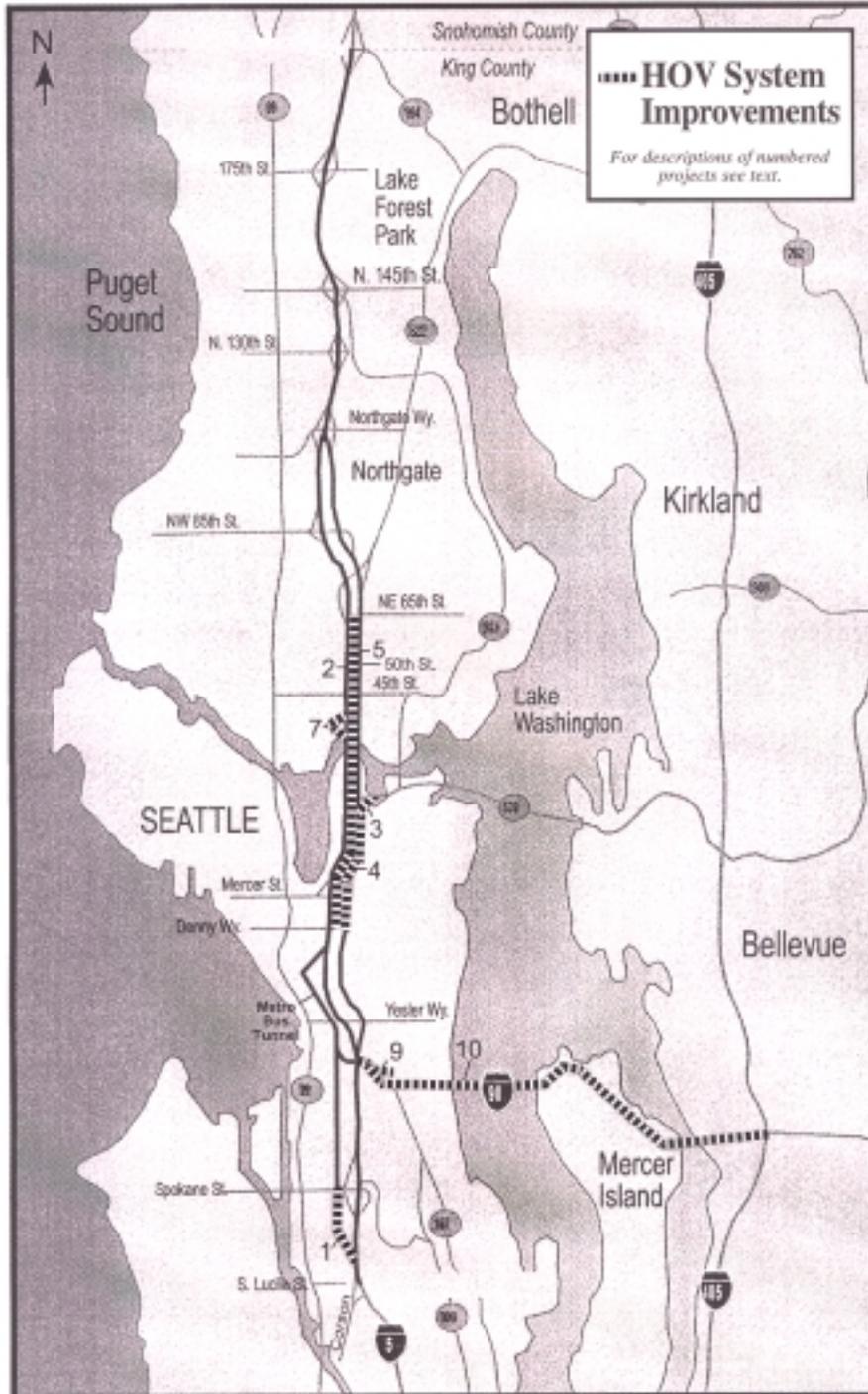
Q. *Wouldn't there be labor and liability problems with paying vanpool drivers? What about such issues as drug testing?*

A. *Custom Commute* anticipates that drivers would receive their \$4,000 stipends as part of their normal employer's payroll. King County would reimburse employers pursuant to mutually agreed contracts. Employers would be named as co-insured under a policy similar to the County's current vanpool liability insurance.

Q. *Isn't Metro already increasing ridership without having to eliminate fares?*

A. Yes, it is. Metro's record, both recently and on average since its inception, is an increase of about 4% annually. This is commendable. Nonetheless Metro's increases are not keeping pace with traffic growth and its market share continues to drop. If transit is to play any role in relieving congestion, this must change. *Ride Free Express'* projected new riders would increase Metro's current ridership by 60% over the next four years. That is an increase equal to all of Metro's ridership gains over the last 25 years.

Appendix A



HOV System Improvements

Appendix B

COST/NEW RIDER COMPARISON

\$(000)	<u>LINK</u>	RIDE FREE EXPRESS		<i>TOTAL</i>
		<u>PLUS</u>	<u>COMMUTE</u>	
DEBT SERVICE / DEPR.	\$ 135,402 ³⁷	16,401 ⁴²	0	16,401
OPERATING COST	39,876 ³⁸	14,871 ⁴³	67,645 ⁴⁷	82,516
FARES	-7,204 ³⁹	60,300 ⁴⁴	3,918 ⁴⁸	64,218
ANNUAL COST	\$ 168,074	91,572	71,563	163,135
NEW DAILY TRIPS	30,800⁴⁰	112,000⁴⁵	80,000⁴⁹	192,000
COST/NEW TRIP	\$ 18.19⁴¹	2.73⁴⁶	3.44⁵⁰	2.98⁵¹

NOTE: All figures are in 1999\$, discounted with inflation factors included in Sound Transit's New Starts Status Report.

³⁷ A) Source: Sound Transit 2001 Financial Plan Overview, Nov 2000; page 17.

1)) North King and South King taxes (allocated proportional to light rail construction costs as required by sub-area equity) are depreciated straight line over an average of 50 years.

2)) North King and South King bonds (allocated proportional to light rail construction costs as required by sub-area equity, less \$52M) are financed with an average maturity of 30 years and coupon rate of 6%, no financing charges included.

B) Source: Baseline Report, issued by Diversified Capital, Inc., August 9, 2000, page A-7

1)) \$400,515K(YOE), Grant Anticipation Notes projected to be repaid by unidentified "other than Section 5309 New Starts federal grants" financed with an average maturity of 30 years and coupon rate of 6%. These notes are refinanced because Sound Transit has committed that any additional grant funds will be used to construct the extension to Northgate which will in turn increase the project cost beyond the 2001 Financial Plan. This provision accounts for \$2.55 per Link new ride.

C) Sound Transit Downtown Transit tunnel debt obligation, 2009-2019, refinanced 30 years, 6%.

D) \$48M in right of way acquisition cost increases publicly acknowledged prior to \$ 1B overrun announced Dec.12, financed 30 years, 6%.

³⁸ Source: Baseline Report, issued by Diversified Capital, Inc., August 9, 2000, page A-8, FY2008, less credit for rail replacement bus hours saved by King County Metro plus additional hours incurred by Metro for former tunnel and other buses operating on a more congested surface streets.

³⁹ Source: Baseline Report, issued by Diversified Capital, Inc., August 9, 2000, page 11. \$0.69(95\$) x annual new rides.

⁴⁰ Current 2010 estimate, provided by Sound Transit staff member, Don Billen, October 3, 2000.

⁴¹ Annual Cost / New daily riders / 300 days (average effective days after accounting for reduced volumes on weekends and holidays).

⁴² \$20m Base expansion to accommodate 105 articulated buses, financed 30 years, 6%.
\$50m Signalization improvement, financed 20 years, 6%.
\$44.6m Bus acquisition, 105 articulated buses @ \$425K ea., financed 20 years, 6%.
\$201m HOV lane improvement, depreciated 30 years, straight line.

⁴³ \$60.71 per hr. x 100 buses x 260 weekdays per year x 6 hrs. per day, plus \$5.4M to double security.

⁴⁴ Lost revenue equals 1999 King Co. Metro and Sound Transit Fare box revenue, plus contract revenue, less advertising revenue and Metro cost of fare collection

⁴⁵ 35% increase in 1999 Metro rider count. Source: US DOT Transit Ridership and Fare study, quoted in Traveler Response to Transportation System Changes, published by Transportation Cooperative Research Project, March, 2000, Pages 12-31 to 12-34.

⁴⁶ Annual Cost / New Daily Trips/ 300 days.

⁴⁷ King County Van Pool cost per ride, \$2.20(98\$) x 88000 rides per day x 260 days, plus \$4000 driver stipend x 4000. Van capital costs expensed in \$2.20.

⁴⁸ Lost fare revenue equals King County's Vanpool revenue.

⁴⁹ Source of estimate, Washington State DOT Puget Sound Region Vanpool Market Assessment Technical Memorandum, 2000, King County Enhanced Market Potential: 9852 vanpools. Estimate 4000 Vanpools with 10 new riders each.

⁵⁰ Annual Cost / New Daily Trips / 260 days (weekdays only, less holidays).

⁵¹ Annual Cost / New Daily Trips / 285 days (weighted average of Custom Commute and Express Plus annual days).