

The TSM alternative is designed to respond to the problems we see in our region. These include separating buses from traffic congestion and filling the gaps in the current HOV lane system. One of our more challenging problems is providing better direct access to the different employment centers. This problem is likely to be the greatest point of comparison between our alternatives and where our TSM alternative is weakest.

We have received some direction from the Council in defining this TSM alternative. For example, we include a 40% to 50% increase in transit services by 2010. Much of this increase in service will be directed at suburban employment centers, areas of high growth, adding service to productive routes, and improving circulation within activity centers. In addition, our annual service level would grow from 2.6 million hours in 1990 to 3.85 million hours in 2010.

The transit system in the Seattle area has evolved from one serving primarily radial trips focused on the downtown area to a multi-destination system. As you will see on the tours this afternoon, much of the southern portion of the county has lower densities, making its travel patterns difficult to serve with regular route transit. The city of Bellevue, to the east, is a major employment and activity center which needs its own radial system.

The service design guidelines being used in the analysis include route design, service coverage, frequency, speed and reliability, simplicity, and productivity. We are looking at a mix of services including regular route, demand-responsive and customized service, and carpooling and vanpooling. The capital components of the TSM alternative include expansion of the bus fleet, HOV priority treatments, park-and-ride lots, transit centers, and other

support facilities, in addition to the HOV system itself. Arterial HOV lanes are key to this system's future productivity, given the prominence of our transit passenger miles on arterials versus freeways. Connectivity of freeway and arterials has to be achieved to make TSM successful as a future integrated system.

We hope to complete the system planning activities during 1991 and develop a specific 2020 system and financial plan. This plan will then be taken to the voters for their consideration. Based on voter approval, AA and preliminary engineering would be initiated.

Downtown Seattle Transit Tunnel

Rick Walsh

*Deputy Transit Director
Seattle Metro*



I would like to provide a brief overview of the Downtown Seattle Transit Project, which we fondly refer to as our bus tunnel. I really have two tasks; to tell you about the tunnel, and to give you some background on why the tunnel was developed.

Seattle has experienced a steady growth in the downtown area. Like many metropolitan areas, this presents a problem with increased congestion. The geography of the Seattle area makes this congestion even worse. In many cases our buses reach average operating speeds of only 3 to 4 miles an hour in the downtown area -- you can walk faster. The solution for us was a 1.3 mile bus tunnel in the downtown area.

There were several reasons why we chose to build a tunnel rather than utilize a surface treatment. First, we have limited streets and thus capacity in the downtown area. This, compounded with short blocks, would make it virtually impossible to convert a surface mall or other surface treatment to rail at some point in the future. However, the tunnel provides both future capacity for buses and the ability to convert to rail.

The major components of the project are the tunnel, the surface circulation system, surface improvements, and the dual-powered bus technology. The tunnel starts in the south end of the downtown area in the International District. There are 5 stations along the tunnel, each with its own architecture and design, reflecting the main activities in the surrounding area. At the north portal there is a direct connection to the I-5 HOV lanes and at the southern most station there is a connection to an exclusive busway. By early 1992 there will also be a connect to the I-90 HOV lanes.

Routes serving the major activity centers, high ridership routes, and routes from many different neighborhoods and communities in King County are currently using the tunnel. The bus tunnel obviously creates a focal point for our service. In addition, we have helped reduce congestion in the downtown area by removing many of our buses from the surface streets. Eventually we will have 235 dual-powered buses in service. The

ridership response has been very good, especially from the University district to the north of downtown.

I would like to walk you through a typical bus trip using the tunnel. You enter the in-bound staging area from the surface streets or one of the HOV connections. The bus will pull to a platform, the driver presses a button to kill the diesel engine, the trolley poles are extended to the electric wires above, and the electric motor comes on. With a smooth mode-change only about 30 seconds elapses before the coach is ready to proceed through the tunnel in the trolley mode. In the future, buses will move through the tunnel in platoons of 3 to 5 buses. At the other end, the process is just reversed and the bus continues its route using diesel power.

We are currently operating 13 routes in the tunnel with about 15,000 passengers a day. It appears that we have attracted new riders to the system since the tunnel opened and we hope this trend will continue as more routes are able to use the tunnel. I hope you enjoy the tour of the HOV facilities this afternoon and have an opportunity to see the bus tunnel.

The HOV System In the Seattle Area

Ron Anderson

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One of the things I have learned in the short time I have been in the Puget Sound region is that people have strong feelings -- both positive and negative -- about the HOV lane system. One thing that has been pointed out at this conference is that different agencies and groups have different