

Rapid Trolleybus Network Surface + Transit Hybrid Option

Project Numbers SO-1151/TB-151, SO-1152/TB-152, SO-1153/TB-153



Trolleybus in Vancouver, Canada

Definition

Trolleybuses that use overhead wire, such as the one pictured above, are an attractive, affordable mode of transportation that can operate in a similar manner as rail at a much lower cost. Seattle's electric bus system is one of the largest in the United States, and with some strategic investment, could become one of the best. Today, nearly 80,000 daily riders use Metro's network of Trolleybus routes. This project would leverage new and existing revenue streams to increase service investment in Trolleybus by 40%. The resulting ridership growth is projected to be 60% over today's ridership on Trolleybus, about 30,000 new daily bus riders.

Enhancements to Metro's Trolleybuses would improve upon some of the most productive, frequently used routes in the transit system to create a network of rapid Trolleybuses. This network would provide frequent, easy to use service; buses every ten minutes for eighteen hours a day, seven days a week. Traffic priority, improved passenger facilities and consistent branding would make the Rapid Trolleybus Network a noticeable travel asset. It would be simpler and more straightforward to use. This network would provide valuable service and connections that would enable people to go many places throughout Seattle at almost any time of day. (see network map)

Rapid Trolleybus Network



Benefits

- Improved environmental performance (60% less energy consumed than diesel buses)
- Lack of vibration, low noise and smooth ride would attract more riders
- Increased frequencies attract more riders and improve reliability
- More reliable cross-town connections
- No tracks are required, making service flexible and less expensive than fixed guideways
- Efficiencies in route design would reduce the overall number of buses required to provide service
- Network would reduce transit congestion on Third Avenue
- Electric power is superior for climbing Seattle's many hills

Ridership

- **Current:** 24 million annual rides
- **Rapid Network:** 38 million annual rides, a 60% increase

Cost Estimates

- Capital Costs Total (2008\$): \$125,802,000
 - Speed and Reliability/Passenger Amenities \$37.2M
 - Wire Extensions and Improvements \$42.8M
 - Substations and ROW for frequency adds \$45.8M
- Operating Cost (2008\$): \$9,842,000
 - In addition to approximately \$79 million in existing annual operating revenues that could be directed to the Rapid Electric Bus Network

Note: The estimated marginal cost of \$1.24 per new rider is lower than any other improvement.