

*Creating  
Transportation's  
Future*

## Signs Are Talking In The Northwest

ITS Oregon member and Sound Transit Program Manager, Lana Nelson, is working on an Intelligent Transportation Systems project in the Northwest which will significantly benefit visually impaired transit customers. The technology consists of an infrared wayfinding communication system originally developed by engineers at the California Pacific Medical Center's Smith-Kettlewell Eye Research Institute in San Francisco, CA. The system is now distributed under the registered trademark, Talking Signs®, by Talking Signs, Inc. of Baton Rouge, LA. Specifically, the system consists of infrared transmitters and receivers used by the blind, visually impaired, and persons with cognitive disabilities to identify environmental features making more independent travel possible.



**Rebecca Bell of Sound Transit's Citizens Accessibility Advisory Committee (CAAC) wears a battery powered infrared receiver in Seattle.**

There are 3 basic components of the system: a transmitter, a communication signal, and a receiver. The infrared transmitter produces basic speech messages which are frequency modulated at 25 kHz. The communication signal consists of an infrared wavelength transmitting at 850 to 950 nanometers. The infrared receiver produces a 12 decibel signal-to-noise ratio frequency modulated tone and is designed for a high dynamic range capable of operating in full sun background illumination.

Each infrared transmitter sends out a signal from the sign or structure to which it is attached. The signal is picked up as a repeating voice message such as "Elevator down, Bay C, east I-90" by the infrared receiver which is held or worn by the visually impaired user. The user can then judge signal strength and clarity and "home" towards the transmitter. Research supported by the American Council of the Blind has demonstrated this technology's superiority over other way-finding tools for the visually impaired such as inductive loop systems.

Efforts are currently underway by the American National Standards Institute to provide a uniform communication protocol for transmission of information by Remote Infrared Audible Signs (RIAS). Standardization will eliminate the

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need for users to carry more than one receiver for each application and enable manufacturers to design basic functionality around one standard RIAS communication protocol.

Talking Signs® was recognized as early as 2000, by ITS America as an ITS technology with great potential to improve the quality of life for transportation users. At the federal level, funding for research and deployment of this technology is being coordinated by the US DOT Intelligent Transportation Systems Strategic Planning Group.



Sound Transit Program Manager, Lana Nelson [nelsonl@soundtransit.org](mailto:nelsonl@soundtransit.org) points a handheld receiver at the Talking Signs® transmitter installed at Sound Transit's King Street Station.

In Seattle, the RIAS demonstration project was successfully completed in 2003 by Talking Signs Services, Inc. as part of Sound Transit's Mobility Initiative Program, coordinated by Michael Miller of Sound Transit. Subsequently, funding has been allocated for permanent installation at several locations. In May of 2004, Talking Signs Services, Inc. submitted their cost feasibility study to Sound Transit for installation of Talking Signs® at nine Sound Transit stations plus Sound Transit facilities at Sea-Tac airport. A public request for proposal (RFP) will follow.

Efforts are also underway to conduct a demonstration project at Union Station in Portland, Oregon as part of a multi-modal effort between Sound Transit, TriMet, AMTRAK, and ODOT.

For more information on Sound Transit's Regional Accessibility Plan, refer to [www.soundtransit.org](http://www.soundtransit.org).

For more information on Talking Signs, refer to [www.talkingsigns.com](http://www.talkingsigns.com).

## Upcoming Events



Watch for information on our upcoming ITS Oregon Annual Meeting this Fall in Portland, OR. Details will be posted on the [www.itsoregon.org](http://www.itsoregon.org) website soon.

Next *ITS Oregon* meeting at David Evans and Associates (DEA) [www.deainc.com](http://www.deainc.com) on Friday, June 25, 2004, from 10:00 a.m. to 11:30 a.m.

LOCATION: 2100 River Parkway Building, 2100 SW River Parkway, Portland, Oregon 97201. PHONE: (503) 223-6663. There is free street parking for visitors on the west side of the building, metered parking between the two buildings on River Parkway, and overflow parking near the Marquam Bridge.