



WES COMMUTER RAIL



WES (Westside Express Service) is a commuter rail line serving Beaverton, Tigard, Tualatin and Wilsonville. WES runs every 30 minutes during the weekday morning and afternoon rush hour.

Background

A unique, historic travel corridor

During the past 70 years, the north-south route ultimately chosen for the WES (Westside Express Service) Commuter Rail alignment has been used for freight service, but it was once home to two passenger lines. Oregon Electric Railway ran one set of tracks along the alignment from Portland to Salem in 1908 and later expanded service to Eugene. By 1914, Oregon Electric had 26 trains entering and departing Portland daily. The rise of the automobile, however, diminished service and the railway discontinued passenger service by 1933.

In 1918, Southern Pacific Railway also operated “The Red Electric” on the route. The steel trains were painted bright red and had three round porthole-like windows across the front. At the height of operations, “The Red Electric” ran 32 trains entering and departing Portland everyday, but service ended in 1929.

Today, Portland & Western Railroad owns the freight line and, in a groundbreaking agreement, provides contract services to the commuter rail project that became WES.

Transportation limits and pressures

Over time, traditional travel patterns shifted in Washington County. Rather than living in the suburbs and commuting to work in Portland’s downtown core, a significant number of people live and work within the I-5/Hwy 217 corridor.

From 1994 to 2000, the number of households in the corridor grew 34 percent faster than the rest of the Portland region, while the number of jobs rose at a rate 55 percent faster than anywhere else in the region. Furthermore, corridor employment is expected to increase more than 40 percent by 2025.

At the same time, Washington County also is bound by geographic constraints that restrict transportation options. Low mountains define the east and west sides of the corridor, and the Tualatin River and Fanno Creek run through the area.

Collaborating for success

Driven by the desire to improve transit options for residents and employees in the heavily traveled corridor, local officials began to explore various alternatives in 1996.



An Oregon Electric passenger train on the alignment in the early 20th century.

Washington County and its eastern cities identified a unique opportunity in the 100-year-old rail corridor, which was used primarily for freight transport. They saw the potential to use this resource for adding a commuter rail line to serve four cities: Beaverton, Tigard, Tualatin and Wilsonville.

Together with county leaders, the mayors of Beaverton, Tigard, Tualatin, Wilsonville and Sherwood championed commuter rail. Working with Metro, TriMet and the Oregon Department of Transportation, the team launched a feasibility study to consider commuter rail as a viable alternative. Then Oregon House member Tom Brian took a leadership role to secure funding for follow-up studies.

Obtaining or building a right-of-way in a high growth area is challenging and expensive. This concept took advantage of the existing railroad right-of-way to limit construction impacts.

Construction highlights

Using existing freight tracks in a dedicated corridor meant minimal construction impacts to businesses and residents along most of the new line.

The first phase of WES construction in 2006 involved the removal and installation of track, ties and ballast between Wilsonville and Beaverton. These necessary improvements allowed trackway upgrades to accommodate commuter rail train speeds of up to 60 miles per hour.

During construction, the project deployed a specialized track rehabilitation machine called the P811 to simultaneously dismantle existing track, pick up existing ties, plow existing ballast, place new concrete ties and thread new rail. The P811 was chosen to speed rail reconstruction, replacing 14 miles of trackway in 30 days.

Although the majority of the WES line uses existing freight alignment, a short section of new track was constructed on Lombard Avenue between Farmington Road and Beaverton Transit Center. State and local agencies simultaneously implemented planned street improvements in order to limit duration of construction.

Community outreach

Construction crews minimized the impact of noise and road closures to nearby businesses and residences. Advance notice of construction schedules and schedule changes were provided to local jurisdictions, businesses and residences.

The project also worked to capitalize on the line's unique setting. Characterized by parklands, wetlands and flood plains, the WES alignment takes riders through areas seldom seen by commuters. The Tualatin River and Fanno Creek crisscross the route. TriMet, the City of Tigard and Clean Water Services partnered on an 11-acre wetland mitigation project at Tigard's Fanno Creek Park, adjacent to the line. The project also refurbished a steel truss bridge built in the 1920s.

Project innovations

A new kind of rail car

WES vehicles share the track with freight trains and the project team installed a state-of-the-art signal system with computerized dispatch for vehicle coordination and safety.

Four diesel multiple unit (DMU) cars were built for the project, and TriMet maintains the vehicles at the WES Wilsonville Maintenance Facility. The railcars are self-propelled units, and don't require a locomotive engine or overhead electrical wiring. They also can pull a second car.

In January 2011, TriMet added two rail diesel cars (RDCs) to the WES fleet to serve as replacement cars when one of the DMUs needs maintenance or repair.

Built in 1953 by Budd Co., the two cars received repairs and modifications from WES mechanics to provide safe and comfortable contemporary service.



WES service debuted with four diesel multiple unit (DMU) vehicles.

Public art

The Commuter Rail Art Advisory Committee, composed of representatives from every station area, guided the public art program. The committee selected Northwest artists Frank Boyden and Brad Rude to develop artwork for the stations. The artwork created consists of a series of interactive sculptures, titled *The Interactivators*. Sited at all five WES stations, each sculpture speaks to the natural environment of the surrounding community, while remaining linked to the other sculptures along the rail line.

Additionally, a mural at the Tigard Transit Center depicts the diverse flora and fauna of the Tualatin River watershed, through which the line passes.

Safety

To prepare local communities for WES service and an increase of 32 trains per day with the ability to go 60 miles per hour through 29 crossings, TriMet developed a safety outreach campaign. Safety presentations and printed safety materials were provided to motorists, residents, potential trackway trespassers, K–12 students, law enforcement officials, emergency responders, social service agencies and professional drivers, including delivery and school bus drivers.

Materials containing core safety messages consisted of direct mailings, fact sheets, posters, billboards and two versions of a safety video—one for a general audience and one for middle and high school students. Safety materials were sent to and published by:

- Community newsletters
- City and county websites
- School newspapers and sports programs
- Parent newsletters
- Local newspapers

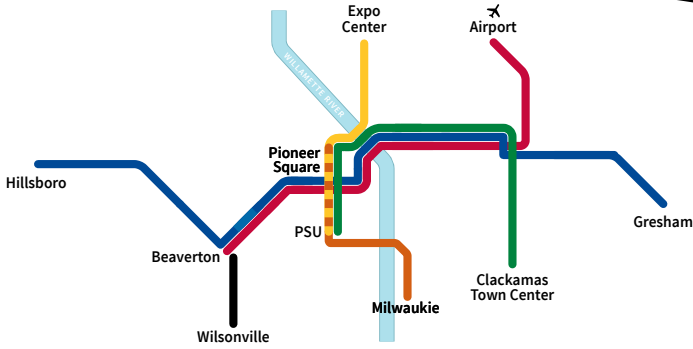
Ultimately, more than 50,000 individuals and households were reached by the safety campaign.

Train horn mitigation

In January 2011, a quiet zone and wayside horns became operational along the WES and freight alignment in Tualatin. The quiet zone stretches 2.4 miles and encompasses four crossings, while the wayside horns are installed at four downtown crossings. These train horn mitigations were installed at the request of community members, and funded by WES project partners and the American Recovery and Reinvestment Act.



WES safety materials, such as these posters, appeared at public venues along the commuter rail alignment.

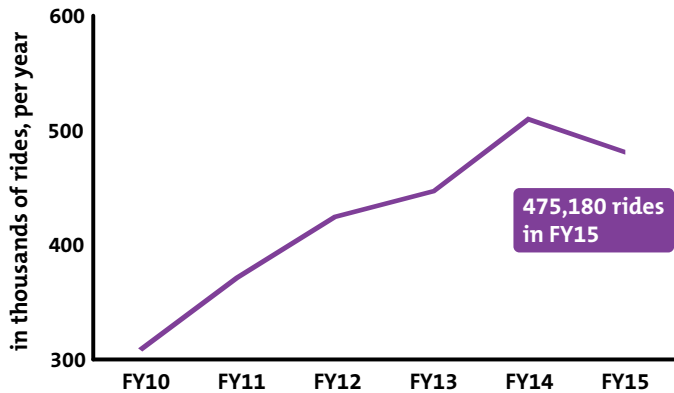


Snapshots

Timeline

- 1996–1999** Preliminary studies
- 1999–2002** Local community and jurisdiction approval
- 2006** Federal approval (FFGA)
- October 2006–January 2009** Construction
- February 2009** Service begins

Annual Ridership



Facilities

- Length** 14.7 miles
- Stations** 5
- Park & Rides** 4, with nearly 700 spaces
- Maintenance facility** Wilsonville

Frequency

Weekdays every 30 minutes during morning and afternoon rush hours.

Travel times

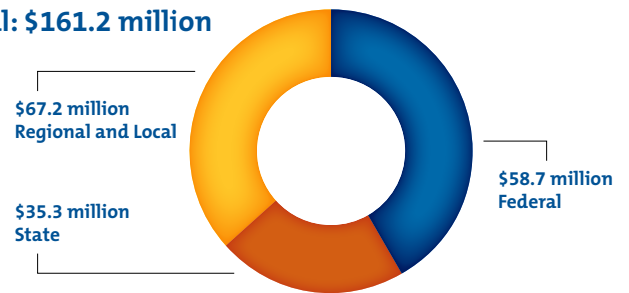
- Beaverton to Wilsonville** 27 minutes
- Beaverton to Tigard** 11 minutes
- Wilsonville to Tigard** 18 minutes

Bus and light rail connections

Connects with 15 TriMet bus lines along the WES route. At Beaverton Transit Center, connects with MAX Red and Blue lines light rail service. At Wilsonville, connects with bus lines serving Salem (Cherriots), Canby (CAT) and Wilsonville (SMART).

Funding

Total: \$161.2 million



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