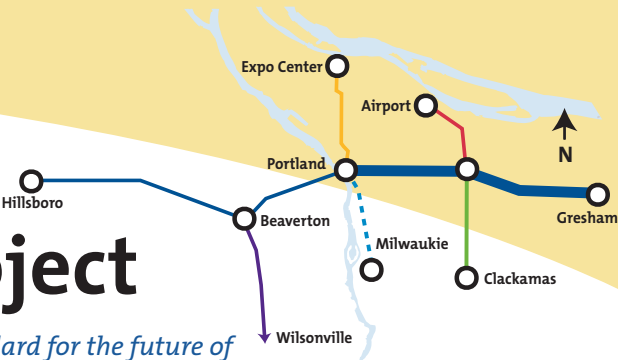


Eastside MAX Blue Line the Banfield Light Rail Project



One of the first light rail systems in the nation, Eastside MAX helped set the standard for the future of American light rail design. It also marked a pivotal point in Portland's history, as the region broke away from automobile-focused urban design to become a civic innovator in land use and transportation.

Background

Breaking the mold

In 1975, the region adopted an Interim Transportation Plan, rejecting previous plans for 54 new highway projects at a cost of \$2 billion (in 1969 dollars). The new plan proposed modest roadway projects and a network of transitways along major travel corridors to meet future demand. By 1976 the Banfield Freeway corridor was selected as the top priority.

The Oregon Department of Transportation asked the federal government to transfer funds under the 1973



Federal Aid Highway Act from the Mt. Hood Freeway project to the Banfield. The City of Portland and Multnomah

County had rejected the freeway project in 1974 after public outcry over its expected cost and destruction of neighborhoods. Many remember its defeat and the Interim Transportation Plan as a benchmark in Portland's evolution toward a new kind of American urban planning and civic development.

The move to light rail

Originally the Banfield was conceived as a bus transitway. A Banfield Transitway Study compared alternative transit scenarios for a busway, carpool/bus (HOV) lanes, low-cost road improvements and "no-build." As the study progressed the community asked that light rail be added as an alternative. In 1979 light rail was selected by the community and participating jurisdictions. Federal approval followed in 1980, making it one of the first federally funded light rail projects.

Senator Mark Hatfield turned the first spade of dirt for the Ruby Junction Maintenance Facility in 1982, declaring that effective transit in the cities should be as much a national priority as the Interstate Highway system. Later that year, construction of the trackway began in Gresham. In September 1986, only a month after the line was completed, the Eastside MAX line opened for revenue service.

After the Westside extension opened in 1998, the entire MAX line stretched 33 miles from Hillsboro and Beaverton in the west, through downtown and out to Gresham to the east. When the Airport MAX Red Line extension opened in 2001, the Eastside/Westside line was renamed MAX Blue Line.

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Snapshots

Timeline

- 1979 Local community and jurisdiction approval
- 1980 Federal approval
- March 1982 to August 1986 Construction
- September 1986 Opened

Facilities

- Length 15 miles
- Stations 30
- Park & Rides 4, with nearly 1,668 spaces total
- Parking garages 2, with more than 1,230 spaces
- Maintenance facility Ruby Junction

Annual ridership (entire MAX Blue Line)

- FY03 - 21.55 million
- FY04 - 20.77 million
- FY05 - 21.14 million
- FY06 - 20.88 million
- FY07 - 21.23 million
- FY08 - 21.91 million

Bus connections

Includes 45 connections with TriMet bus lines along the Eastside alignment, as well as with numerous bus lines downtown. Also connects to the C-TRAN bus to Vancouver, Washington.

Frequency

Every 15 minutes during peak hours, and every 30 minutes during early morning and evening hours.

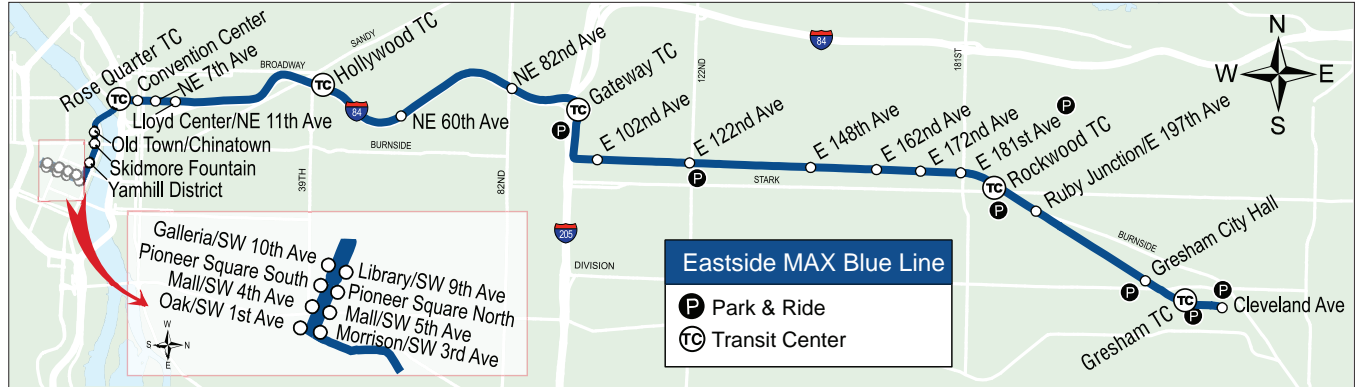
Travel times

- Downtown Portland (Pioneer Square) to Gateway Transit Center 25 minutes
- Gateway to Gresham end of line 22 minutes
- Downtown to Gresham end of line 47 minutes



See where it takes you.

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Design highlights

New territory

In 1979, modern light rail was still a new and largely untried concept in the U.S. TriMet assembled an in-house staff to learn light rail technology, and then managed the project with the assistance of engineering design consultants. The project needed to draw on the best practices in the U.S. as well as Europe—where most of the expertise in light rail resided at that time.

The entire Banfield project consisted of widening five miles of the Banfield (I-84) Freeway from four to six lanes, and constructing a 15-mile light rail line from Gresham to downtown Portland.

Traffic preempt system

Early on, TriMet adopted a design policy that trains should only stop at stations, and traffic crossings should be preempted whenever possible to prevent trains from being mired in traffic delays.

Pedestrian safety

The construction of the light rail median on Burnside Street created a pedestrian barrier through some neighborhoods. Between NE197th to NE 97th avenues, 13 uncontrolled pedestrian “zee” crossings were installed, the first modern application of this simple concept. The design forces pedestrians to slow down and take notice as they approach the crossing.



Gateway

Gateway Transit Center in east Portland is a major bus/rail transfer point and the midpoint of the line. Trains, buses, and pedestrian crossings were built at grade, on one level. This design was cost

effective and more comfortable for transit riders. The

MAX Red Line to the airport stops here, and the future MAX Green Line, which opens in 2009, will also stop at the transit center.

Downtown

The final segment of the Eastside half of the MAX Blue Line was built on reserved lanes through about two miles of the downtown core, with a turn-back loop at SW 11th Avenue. From



SW 1st Avenue, the line splits onto one-way streets, running west in the direction of traffic on Morrison Street and returning east on Yamhill Street. With-traffic operation allows the trains to run unimpeded from the station using the existing downtown traffic signal progression. As a result, trains have almost no effect on cross traffic—a vital consideration with some 300 trains a day running each way through downtown.

Technical Highlights

Vehicles

In 1980, TriMet placed an order for 26 light rail vehicles from Bombardier, based on a design used in Belgium and Rio de Janeiro. These were conventional, six-axle, articulated cars with steps at each door.

Vintage Trolley

As part of the agreement allowing light rail to operate through the downtown Historic District, TriMet constructed and operated four replicas of Portland's Council Crest streetcars. A small trolley barn was



constructed under Interstate 5 at Rose Quarter to house them.

Accessibility

The Eastside MAX line was built with lifts mounted on the platforms to accommodate passengers with wheelchairs. This design was chosen to ensure trains could continue to operate if a lift failed. When low-floor cars were introduced as part of the Westside line, these lifts were removed.



Fares

TriMet uses fareboxes to collect fares on the bus system. With light rail, TriMet became a pioneer in self-service fare

collection requiring proof of payment—a concept that has since become virtually standard on new light rail systems.

Steel Bridge

The massive Steel Bridge is one of America's great monuments to the railroad era. It carries Union Pacific rail tracks and a pedestrian path on the lower level, and four traffic lanes that include the light rail tracks on the upper level.

Both levels can lift to allow ships to pass, either the lower level alone or both at once. The light rail overhead system

moves out of the way when the bridge opens, copying the method originally installed in 1912 for Portland's first streetcars. The west approach to the Steel Bridge features a brief seven percent grade, the steepest on the MAX system.



Transit-oriented development

The Eastside MAX Blue Line was built mostly through existing neighborhoods and has proven a catalyst for redevelopment and infill projects along its route. More than \$5 billion in development has occurred along the entire Eastside MAX line since 1986, with development activity greatest in downtown Portland and the neighboring Lloyd District. MAX played an important role in revitalizing the city center. Virtually every parcel of vacant land adjacent to MAX has changed hands, been developed or had development plans announced.

Funding

Widening the Banfield (I-84) Freeway cost \$107 million, and constructing the light rail line cost \$214 million. Federal funds covered 83 percent of the project; state and local funds paid 17 percent. Federal dollars came largely from the allocation of funds slated for the failed Mount Hood Freeway project and investing in transit and smaller road projects.

Eastside MAX Funding

