

SOUND TRANSIT FOCUSES ON THE FUTURE

Sound Transit, the Central Puget Sound Regional Transit Authority in the greater Seattle, Wash., area, is expanding its light-rail, commuter-train, and bus services using concrete designs and creative approaches

by Craig A. Shutt



University Link will extend light-rail service from the airport and downtown Seattle to Capitol Hill and the University of Washington. The project includes 3.15 miles of new concrete tunnel track and two underground stations. All Photos: Sound Transit.

The recent completion of the guideway superstructure for Sound Transit’s South 200th Link Extension of their light-rail project (see page 16) represents only the latest milestone in a series of expansion projects for the agency. Those programs involve a variety of construction projects, including the use of a precast concrete “floating slab” design in the University Link Extension that will open in the first quarter of 2016. As with all of the agency’s projects, the new structures will feature concrete designs.

The University Link project is 6 to 9 months ahead of schedule and \$150 million under budget. The key challenge was constructing the 23 cross passages between tunnels, which went smoothly.



“Finishing the guideway moves us one step closer to extending light rail to the Angle Lake community,” said Dow Constantine, Sound Transit board chair and King County executive, after the contractor completed hoisting the final 35-ton concrete segment in mid-July.

The South 200th Link Extension adds to the agency’s 15 miles of dual-operating track and includes 6 miles of dual-track elevated guideways, which use concrete designs. “All of our elevated guideways are concrete,” says Kimberly M. Reason, public information officer for communications and external affairs. “Sound Transit prefers concrete to steel because of lower maintenance costs and less concern about stray currents and corrosion issues.”

Federal Funding Aids Work

Much of the funding for these programs comes from competitive federal grant monies along with locally generated tax revenues. “Sound Transit values its federal partnerships, which are the key to funding its capital projects,” Reason says. Funding for recent projects has included:

- \$74.99 million in the proposed 2016 federal budget to expand the Tacoma Link line.
- \$10 million in Transportation Investment Generating Economic Recovery (TIGER) funding awarded in 2013 for the Tacoma Trestle project.
- \$10 million in TIGER funding awarded in 2011 for the South 200th Link Extension light-rail project.



The University Link Extension features a 440-ft-long stretch of vibration-damping rails under Capitol Hill that “float,” or rest, on 7.5-in.-thick elastomeric isolation bearing pads.

- \$813 million in a Full Funding Grant Agreement in 2009 from the Federal Transit Administration for the University Link Extension project now under construction.

The public has responded to this expansion of infrastructure. In April, Link light rail served nearly 34,000 riders on an average weekday, while Sounder commuter rail served an average of 13,600 riders per weekday. More than 64,000 riders used ST Express buses each weekday. Ridership will continue to grow as more people continue to move to the area, Reason notes. By 2040, population in the central Puget Sound area is expected to rise 40%, adding 1 million residents.

Sound Transit’s concrete projects are designed to handle that influx, with innovative structures created. The University Link Extension, for instance, includes a 440-ft-long stretch of vibration-damping rails under Capitol Hill that “float,” or rest, on 7.5-in.-thick elastomeric isolation bearing pads. The vibration-damping rails are testing how a twin 3675-ft-long stretch of “floating” rail for the Northgate Link tunnels will function when trains pass under the University of Washington’s Physics Department.

Sound Transit also is constructing light-rail extensions for the cities of Seattle and Tacoma, and the Northgate area, with planning underway for extensions to Kent-Des Moines, Lynnwood, and Bellevue. In July, the legislature granted Sound Transit \$15 billion in new funding authority to place another ballot measure before voters in November. Known as ST3, it will fund mass-transit expansions to Everett, Redmond, and Tacoma, among other areas. Clearly, Sound Transit’s work has just begun. 