



The Portland-Milwaukie Light Rail Project

Connecting a metropolitan area, one segment at a time

BY LESLIE FINNIGAN, SR/WA

It has now been over a decade since the Portland-Milwaukie Light Rail Project (PMLR), which connects downtown Portland, Oregon, inner Southeast Portland, Milwaukie, Oregon and north Clackamas County, got off to its controversial start. Still, despite the long journey, construction is now underway. When it opens in September 2015, this \$1.49 billion project will represent one of the largest public works projects in the area in several decades.

The PMLR is a 7.3-mile addition to an existing transit system that connects the north and south portions of the metropolitan Portland region, which includes the 5.8-mile MAX Yellow Line in North Portland, which opened in 2004, and the downtown portion of the 8.3-mile MAX Green Line, which opened in 2010. It is considered the largest right of way program undertaken by the Tri-County Metropolitan Transit District (TriMet), the Portland region's public transportation provider. In a departure from the original plan, the line is being built

in segments, and the project is placing a high importance on establishing partnerships.

PMLR will link areas that are of critical importance to the local economy - the University District, home to Portland State University; the Markham Hill and South Waterfront Districts, home to Oregon Health Sciences University (OHSU) and the site of a 120-acre redeveloping brownfield; and the Central Eastside Industrial District, which supports 16,000 diverse jobs; the Oregon Museum of Science and Industry; and a Portland Community College Workforce Training Center. These areas are known as the "Innovation Quadrant," a reputation that the light rail will reinforce by facilitating physical connection between them. In addition, the 480,000-square-foot OHSU/Oregon University System Collaborative Life Sciences Building, which combines research, education and clinical experiences, is already under construction and will be integrated with a new light rail station.

MEETING DEMAND

The PMLR was originally planned as part of a longer extension into Washington State, but in 1995, Washington voters rejected financing their segment of the line. Three years later, a proposed property tax increase to pay for the project was also rejected. But with long-term population and workforce projections predicting explosive growth for this part of the Pacific Northwest, it was crucial that the region's transportation investment network received funding despite the public's resistance. Growth expectations anticipate approximately 22,000 households and 85,000 employees within walking distance of the project by 2030. This extension of service will eventually carry between 22,500 and 25,500 riders each weekday. The PMLR will serve one million new residents and create 100,000 new jobs within the project corridor.

The highest-profile element of the project, and the one that will present the most engineering challenges, is construction of a new bridge, which will provide a second light rail connection across the Willamette River. The cable-stayed Portland-Milwaukie Light Rail Bridge will be distinctive in the United States, carrying light rail trains, buses, cyclists, pedestrians, and eventually streetcars. The bridge will not accommodate private vehicles, although the structure will be designed to allow emergency responders, if necessary. Additionally, this bridge will add capacity to the region's overall transportation system by adding a second light rail connection across the Willamette River, reducing gridlock on other bridges, decreasing both travel time and operating costs for three heavily used bus lines, and providing bike and pedestrian access to existing and planned greenways and bike routes on either side of the river.

APPROVAL AND FUNDING

The Portland region's strategy of using existing resources to fund large transportation investments—especially given that Oregon does not have a sales tax—required a patchwork of creativity. Initial financial planning anticipated the project would receive 60

percent of its funding from the Federal Transit Administration's (FTA) New Starts program. When the FTA capped its participation at 50 percent, the region had to dig deeper and eliminate some project scope.

TriMet's reputation for delivering projects that achieve the goals of local governments and regional growth plans helped obtain funding from a broad spectrum of public and private donors. Of note were significant contributions of land from Oregon Health Sciences University and Zidell Companies. Both organizations need reliable transit in order to realize redevelopment plans for the South Waterfront area of Portland. The university donated land valued at \$15.1 million and Zidell's donation was valued at \$7.1 million. The 120-acre former industrial area on the western shore of the Willamette River represents the largest supply of developable land in the central city. Both organizations now have buildings under construction in anticipation of light rail service.

OVERCOMING CHALLENGES

In assembling the project team, TriMet expanded its own staff, contracted with nearly all the major right of way-related service providers in the Portland area and formed partnerships with a variety of organizations to augment its investment. In-house, TriMet elevated leadership in their Real Property Department from managers to directors to ensure right of way was represented in the project leadership team. Supported by three in-house attorneys, TriMet also added the new position of right of way engineer, and expanded the team to include five realty specialists and staff from its transit-oriented development program. In addition, a large number of consultants were needed for critical work in the field.

Among the 30 appraisal firms in greater Portland, TriMet used 26, along with six environmental consultants, four demolition contractors, three legal firms, various specialty consultants, two title companies, two surveyors, one landscape/property management firm and students from Portland State University's Business Outreach Program. In utilizing a deep pool of local

person-power, Jillian Detweiler, Director of TriMet's Real Property Group, noted, "The process required the deployment of nearly every person we could get our hands on. We employed most of the resources of the region."

Because most of the route's length traverses developed urban areas, right of way acquisition played a significant role. The project required the acquisition of 213 properties and the relocation of 120 residential and business occupants at a cost of roughly \$240 million. The Lower Northwest office of Universal Field Services (UFS) put its entire 22-person staff on the job, providing the acquisition and relocation services, with TriMet's own realty staff negotiating certain parcels. HDR Engineering provided a strategic assessment and a senior manager for the project.

Funding Sources	Millions
Section 5309 New Starts (Federal Transit Administration)	\$745.2
Oregon State Lottery Bonds	\$250.0
Metro MTIP-GARVEE	\$119.1
City of Portland (primarily tax increment financing)	\$50.0
In-Kind Property Donations	\$48.6
TriMet	\$49.8
Clackamas County	\$22.6
Oregon Transportation Funds	\$13.5
ODOT CMAQ	\$10.0
City of Milwaukie, OR	\$5.0
Metro Grant	\$0.3
CMAQ Grant for FEIS	\$0.2
Local Funds for Net Finance Costs	\$176.05
Total	\$1,490.35

The Portland Milwaukie Light Rail Project will add 10 stations and 7.3 miles to the TriMet MAXsystem serving the Portland, Oregon region.

CONQUERING THE SCHEDULING PROCESS

Three of PMLR's four major construction contracts were Construction Manager-General Contractor (CMGC), in which the contractor bids for the job and is selected before design is complete. Therefore, the contractor can provide expertise on the cost and constructability while the project is being designed, to ensure it stays within budget. It also allows the contractor to begin construction activities while design is being finalized.

The right of way team developed a schedule based on the likeliness of right of way availability. The onus was on the contractor to develop a construction phasing plan that aligned with the expected delivery dates for property, taking advantage of properties available early and working around those anticipated to be delivered later. However, pressure was on the right of way team to meet its expected dates.

The compact timeline called for delivering the first property in September 2011 and completing all property acquisitions and relocations by October 2013. Acquisition timelines also had to account for reviews by the FTA, which provides active oversight of those projects it funds. For example, FTA concurrence is required on appraisals of more than \$750,000 and administrative settlements that are \$50,000 more than the offer of just compensation.

“The cost of adding a year to the project schedule is \$50-60 million,” said PMLR Project Director Robert Barnard. “The Portland region does not have that money. Running design, property acquisition and construction concurrently was necessary to achieve a project we could afford.”

STRATEGIC COMMUNICATION

This CMGC approach required extraordinary communication among the acquisition and relocation agents, TriMet and the contractor. The right of way team worked diligently to ensure the contractor understood the likely availability of property and the complications that might be encountered that would delay completing an acquisition or relocation.

In order to facilitate communication, a two-day relocation seminar was held, led by UFS's Director of Training and Staff Development, Tamara Benson, SR/WA, R/W-URAC, R/W-RAC. There was also a two-day workshop where TriMet staff, UFS agents and the construction contractor addressed the circumstances of nearly every property to be acquired and the critical construction needs for each segment to meet the schedule. Weekly meetings were held with the TriMet Real Property staff, engineers, community affairs representatives, counsel, UFS managers and representatives of the contractor. A weekly summary report, organized by geographical area, established acquisition priorities by communicating the contractor's phasing plan, which allowed the contractor to easily identify properties ready for construction and the status of other properties within the acquisition and relocation processes.



“We needed the contractor to distinguish between ‘like to have’ dates and ‘must-have’ dates so that we could align our priorities,” Jillian Detweiler said. “In the end, our collective efforts paid off, and there were no unplanned delays of any significance due to property availability.”

COMPLEX RELOCATIONS AND ACQUISITIONS

Part of the PMLR alignment runs adjacent to freight rail and through industrial areas that developed around proximity to rail service. As a result, the business relocations were fairly complex, and concern about business impacts were heightened due to economic conditions. When the project completed its relocation plan in 2009, the recession was in full swing with no recovery in sight. Oregon's unemployment peaked at 11.6 percent in June 2009. Because values were low, very little property was on the market, and replacement options were limited for those relocatees who needed replacement property. The rental market was slightly better, but poor earnings hurt the credit-worthiness of many businesses seeking to become prospective tenants.

Collectively, the businesses eligible for relocation employed more than 900 people. TriMet convened several meetings with representatives of state and local economic development programs to get the word out about the challenges and opportunities faced by impacted businesses. This resulted in significant outreach to businesses, and the agency established relocation eligibility as early as possible to give businesses plenty of time to plan and execute moves.

Out of the 71 business relocations, several were particularly large and complicated moves. To properly manage these, TriMet formed special teams, and UFS and HDR staff worked together to ensure as much experience and creativity were brought to bear as possible. Engineering consultants were deployed to investigate how replacement personal property could be used to reduce downtime and still cost less than moving and reinstallation. Weekly meetings with relocatees helped ensure that reimbursements for eligible relocation claims were timely and that cash flow did not become an obstacle to relocation.

One of the more complex relocations was for PECO Manufacturing. With more than 200 employees, the company produces products for the military and commercial aircraft manufacturers. To plan and manage the move, PECO hired a full-time project engineer and a team of consultants, including architects, engineers, hazmat specialists, manufacturers' technicians, a general contractor and subcontractors to build-out the new space. The consultants helped obtain Federal Aviation Administration recertification of replacement and relocated equipment used for manufacturing airplane parts. The company also did extensive outreach to customers so that it could manage inventory to meet their needs. This particular move generated more than 250 relocation claims.

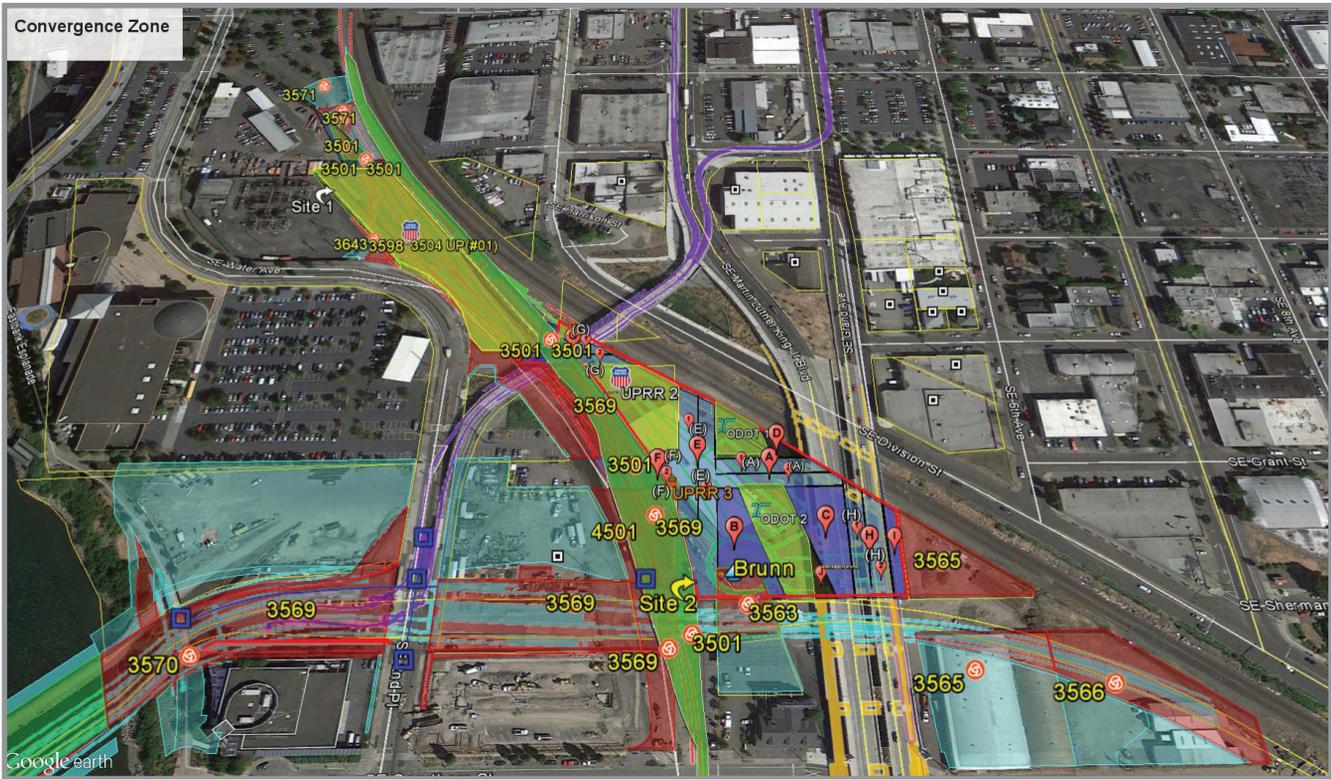
"To make determinations about whether proposed expenses were reasonable and necessary, we had to put together a team that understood PECO's business. PECO did an outstanding job communicating its intentions so that there were no misunderstandings when a claim was submitted," said UFS's Senior Relocation Agent Kathy Noltie.

Some acquisitions were intricate for other reasons. For one section of the project, TriMet needed 3,000 square feet from the common area of a large downtown condominium building. The property was controlled by the condo ownership – which meant that each of the 351 owners in three high-rise towers had to sign a deed. What would normally be one simple right of way purchase expanded into separate negotiations with 351 different owners. To handle the volume, UFS's agents were assigned blocks of owners to contact. Setting up tables in the lobby of each high-rise tower enabled the team to meet with owners as they passed by. Town-hall type meetings were organized to explain details of the project. Getting agreement from all the owners was not an easy sell, even though the impact to them was minimal. Despite support by the condo's board of directors, there was a large group that disliked the project and had an exaggerated fear of the impacts of the light rail. They refused to sign, and lobbied other residents to do the same. Notwithstanding the strong resistance, the right of way team was able to reach amicable settlements with nearly every condo owner.

A significant part of the line was proposed to run in active right of way owned by Union Pacific Railroad (UPRR). The coordination became complicated when, in 2008, a commuter rail train collided with a freight rail train in Los Angeles, killing 25 people and setting off a reexamination of UPRR's standards for separating freight and passenger rail. UPRR officials determined that TriMet's proposed 20-foot setback from their tracks was too



The light rail route travels in the middle of SW Lincoln Street in downtown Portland and continues on a structure to the South Waterfront District. The acquisition of landscaped area from the condominium tower, center right, required offers to 351 separate owners.



An aerial overlay with acquisition file numbers and railroad ownerships, depicts the complexity of the acquisitions required for the project.

close for comfort, and decided to raise the setback requirement to 50 feet or mandate walls separating the tracks. The extra 30 feet created additional impacts to adjoining parcels, and increased the number of relocations.

A TRIBUTE TO PROFESSIONALISM

The PLMR project's agile right of way team managed to stay one step ahead of the bulldozers. As of July 2013, roughly 90 percent of the acquisitions and 50 percent of the construction had been completed. More than 4.8 million of the 5.2 million square feet of right of way needed for the project are currently in TriMet's possession. Just four impacted businesses chose not to relocate, several because the proprietors opted to retire. As a result, 97 percent of the jobs impacted by relocation were saved and several firms are now poised to expand. As of mid-July 2013, the project had already created 3,217 direct jobs, including 2,258 on-site construction jobs. In addition, it created 3,055 indirect or induced jobs with some estimates projecting even higher numbers.

The number of files, project schedule, and cost have all been moving targets that changed frequently due to factors outside of the project team's control. However, the overriding deliverable, to manage property acquisitions in coordination with construction, has facilitated a reasonable construction schedule, enabling the project to be completed on time. Key to success was communication with emphasis on the weekly meetings that brought right of way professionals together with construction management. The team used continual problem-solving and

creative thinking to ensure construction stayed on was on schedule without unreasonably pressuring property owners and relocatees.

Jillian Detweiler noted, "What is remarkable is that the entire process has not been that political. That is a tribute to the professionalism of the team we've had on the project." Of the 213 files for acquisition, TriMet expects that fewer than two percent may wind up in eminent domain proceedings, and nearly all of those are clients of one attorney.

The Portland-Milwaukie Light Rail is a vital element in helping the Portland region to manage growth and build livable communities. This project brings more than high-capacity transit to under-served communities - it is also about helping communities envision and achieve their aspirations. Combining infrastructure improvements, quality design features and new transit-oriented development along the alignment will connect neighborhoods, encourage walking and cycling, and create engaging public spaces where people want to be. 🌟



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