



— CASE STUDY

Making remote learning possible in rural Oregon

The pandemic served as a perfect acid test for connectivity around the world: bottlenecks and points of weakness in infrastructure were quickly exacerbated as everyone moved almost overnight to remote work and learning. In the Mid-Willamette Valley area in Oregon, the decades-old, substandard home Internet infrastructure stood out in stark relief very quickly. Local K-12 students were particularly affected.

Theresa Peltier, a resident of the area, was shocked at the difficulty her son Hank was having with his remote homework assignments. He would spend hours of extra time just trying to log in to get his work done.

Julie Ragan, a teacher for the local Lebanon Community School District, knew of kids in deep rural areas that didn't have Internet access at all. "Rural kids were being left behind," she notes disquietingly.

As an organization committed to caring for the communities it serves and working to improve quality of life, PEAK Internet had to find a way to make big changes to the local infrastructure in its Mid-Willamette Valley service area.

“Rural kids
were being
left behind.”

— JULIE RAGAN,
Teacher at Lebanon
Community School District



The Issues

The Willamette Valley is an idyllic elevated river valley in West Oregon stretching 150 miles from Eugene to Portland. In the mid-nineteenth century, it was the shining, green beacon at the end of the Oregon Trail that seduced intrepid settlers out to the great, wild West. For current Mid-Willamette residents, there are plenty of lakes, rivers and outdoor recreation to enjoy. Karen Grant loves living in the Willamette. “It’s just a nice, quiet, peaceful place to live,” she says.

But while its geological features make the Mid-Willamette a fertile and beautiful place, they also make Internet connectivity in the region difficult. Most of PEAK Internet’s service area is rural farmland crossed by intervening foothills and canyons and bordered by the Cascade and Pacific Coast mountain ranges. Homes are sometimes spread too far apart to recoup infrastructure build cost. Certain types of service are simply not economical. “With terrain in some areas, wireless or satellite service is really not possible,” says PEAK Internet President and CEO Rick Petersen. As a result, subscribers in the area had grown accustomed to poor Internet speeds in their homes while standard speeds in the rest of the world rose dramatically.

For local businesses, low-speed connections to homes imposed limitations on remote work. Lorlee Engler, an area resident, describes the extent of the dysfunction: “We live in what’s called a bandwidth exhaustion area. We would get dial-up speed even though we’re paying for DSL.”

For many communities around the world, remote learning was the apparent path forward for schools. However, the lack of bandwidth in the Mid-Willamette created a substantial barrier to implementing a remote learning environment.

Administrators at the Lebanon Community School District were concerned about how the interruption in learning would affect students in its community. The majority of families served by LCSD qualify as low-income under the Federal Title 1 program. “We’re constantly trying to figure out how to help kids be successful,” says LCSD Superintendent Bo Yates. Low-income families were disproportionately impacted by the pandemic¹, and children from these homes with less support were at a higher risk of falling behind in school. Yates knew that low-income families would need extra support for home connectivity. “We still have kids that are probably a half year behind in school.”



The Solutions

PEAK CEO Petersen explains that the lack of home density in the area makes reaching each new subscriber expensive. “When you’re trying to serve those areas, there’s not a viable business model that makes sense to an investor.” Then a breakthrough came: the Federal CARES act. “The CARES grant was critical,” Petersen says. In September 2020, it provided funding that enabled an emergency expansion of PEAK’s infrastructure.

In order to expand its service to the under-served families in their community, PEAK needed a fiber partner to increase backbone and middle-mile IP transit while they provided last-mile service. They found a partner in Zayo.

Pritam Kerkar, PEAK Internet’s Chief Technology Officer, says that it is important to provide new rural subscribers with the same high-speed service they would expect in an urban market. Because building each new circuit is so expensive, rural infrastructure should be future-proof so it won’t need to be replaced anytime soon. Importantly, working with Zayo enabled PEAK to provide these services cost-effectively.

Zayo had recently built a new IP point-of-presence at an exchange in Eugene and a dark fiber ring around the city at the Southern end of the Willamette. This provided a natural connection point into PEAK’s service area. PEAK uses Zayo’s Dedicated Internet Access. “We started with 10GB and now have two 10GB connections with Zayo,” says Kerkar. “As a service provider, we need to have a reliable up-link to the world.”



The Results

Zayo's ever-expanding, carrier-grade network helped PEAK provide redundant, affordable and reliable service to under-served rural communities in Oregon. But what makes Zayo a valuable provider for PEAK was the partnership attitude. "We don't want to be treated as a customer," explains Kerkar, "we want to be treated as a partner. The team was very prompt in getting things done for us. The commitment makes a big difference to me." Kerkar says he looks forward to further projects to work on with the Zayo team.

As a result of their collaboration during the pandemic, Petersen says that PEAK was able to pull off a pretty incredible feat with Zayo's help: "The initial goal of the CARES grant was to serve 350 homes; we had 100 days to do it. Our team rallied in a big way, working tirelessly to extend broadband to families with K-12 students."

¹ <https://aspe.hhs.gov/sites/default/files/2021-09/low-income-covid-19-impacts.pdf>



Zayo's commitment to network expansion supports local communities everywhere.

Learn more about Zayo: zayo.com

Learn more about PEAK Internet: peakinternet.com

About Zayo

Zayo Group Holdings, Inc. provides mission-critical bandwidth to the world's most impactful companies, fueling the innovations that are transforming our society. Zayo's 126,000-mile network in North America and Europe includes extensive metro connectivity to thousands of buildings and datacenters. Zayo's communications infrastructure solutions include dark fiber, private data networks, wavelengths, Ethernet, dedicated internet access and datacenter connectivity solutions. Zayo owns and operates a Tier 1 IP backbone and through its CloudLink service, Zayo provides low-latency private connectivity that attaches enterprises to their public cloud environments. Zayo serves wireless and wireline carriers, media, tech, content, finance, healthcare and other large enterprises. For more information, visit zayo.com.