

# LastMile Connectivity Grant Application Helix School District Helix, Oregon

Contact: Darrick Cope, Superintendent  
[Darrick.cope@helix.k12.or.us](mailto:Darrick.cope@helix.k12.or.us)

**1. Project Description:** *(describe the telecommunication challenge you seek to overcome, and how your proposal provides a viable, long-term solution)*

Helix School District is a rural school district located 20 miles east of Pendleton. We fully utilize a T-1 connection to the Internet that is a meet-point as served by Helix Telephone and Qwest to UMESD in Pendleton. This proposed project will build upon infrastructure already established and increase the Helix School District connectivity capacity to a 45mb connection. The challenge being addressed is the current inadequate capacity to meet our demands in educating the students of Helix school District. Currently, day-to-day operation requirements such as Business Information and Student Information Systems, Oregon Department of Education Reporting, OAKS (fka TESA) and ELPA testing are compromising our hopes of successfully delivering digital curriculum, video streaming, and mobility.

In the past the only available solution was to add additional T-1 capacity. This would be very costly and only provide minimal resolve. The district now has an unprecedented opportunity to take advantage of a solution that will provide the bandwidth necessary to meet the education needs that is more affordable and sustainable.

This project will enhance the delivery of K-12 instruction by supporting learning environments that engage students through heretofore unavailable educational

activities. Under the current conditions, the ability to utilize streaming media, video conferencing, distance education, or in-building wireless technologies is NOT an option in an efficient or effective manner. The bandwidth is essential to instructional efforts such as a collaborative project with UMESD to place a data projector and document camera in every classroom. In summary, Helix School District is always alert to any opportunity that will help achieve their educational and instructional technology goals.

**2. Description of how the proposal satisfied the Criteria outlined in Section E:**

This solution provides for the essential “last mile” to establish a high bandwidth connection to Pendleton (20 miles) where Umatilla-Morrow Education Service District (UMESD) interconnects with NERO (Network for Education and Research in Oregon) for Internet access. It is a long term solution that is both scalable and sustainable.

This falls in the OSI model physical link and will build upon existing infrastructure.

**3. Description of site(s) covered and projected numbers of students and educators served:**

Helix is a small rural farming community with a population of approximately 200.

<sup>1</sup>According to the US Census Bureau the median income is below both Umatilla County and State of Oregon average. Helix School District serves 171 students in K-12 in two buildings. The District office is housed within the main school building. The student population has remained steady the past several years. The percent of students receiving free or reduced lunches is 33.3%.

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<sup>1</sup> 2000 US Census Bureau

<sup>2</sup>According to the latest Report Card from the Oregon Department of Education, Helix School District has met Federal Adequate Yearly Progress (AYP) and received an overall rating of Excellent including academic achievement/student performance; attendance-dropout/student behavior; and school characteristics. Helix School District has a 1 FTE administrator serving as Superintendent and Principal and 16 FTE teaching staff. The teaching staff has an average of 11 years of experience with 41% having a Master's Degree or higher.

Helix School District is committed to technology resources and to maintaining the ratio of students and staff to functioning networked computing devices. The current student to computer ratio is 2.22 and each classroom district-wide has access to at least one computer. There are two labs of twenty Pentium IV workstations. One is located in the elementary wing and the other in the high school. In the library there is also a mini-lab consisting of five workstations. Technology needs of the district are supported by UEMSD staff in collaboration with Helix School District.

#### **4. Key ESD and/or school staff involved in Proposal:**

<sup>3</sup>Information Technology support is provided through the UEMSD team. This includes, but not limited to Networking support-including Internet access, desktop support; and Instructional Technology Support (2 FTE).

The Helix School District recognizes both the Oregon Technology Common Curriculum Goals and the National Educational Technology Standards (NETS) for

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<sup>2</sup> Oregon Department of Education 2006-2007 State Report Card

<sup>3</sup> UEMSD Local Service Plan 2008-2009

Students as guidelines for planning technology-based activities in which students can achieve technology literacy and success in learning, communication and life skills.

Through the UMESD Educational Initiatives division, Instructional Technology provides opportunities in all elementary levels and secondary content areas. Schools are offered customized professional development sessions on topics such as data projectors and document cameras. The UMESD hosts the popular regional Ed Tech Cadre that promotes information sharing for classroom technology based solutions. The UMESD also provides access to all teachers in the UMESD bi-county area to video streaming services through an online subscription to both Discovery Education and Learn 360. The Instructional Technology department continues to enthusiastically support professional development in support of component school districts including a regional Ed Tech Cadre which showcases successful integration of emerging technologies to enhance existing curriculum.

**5. Description and role of any contractors involved in Proposal:**

Helix School district would secure services from the selected vendor to deploy the proposed project.

**6. If applicable, a description of how the grant funds leverage other resources and their value:**

This solution involves purchasing carrier-grade wireless equipment for the transport of 45Mbps full-duplex. Helix School District will continue to participate in the Federal E-Rate program to leverage discounts on telecommunications costs.

Students and teachers will have access to digital curriculum and professional development resources that are dependent on adequate bandwidth.

**7. If Equipment is part of the funding request, a description, manufacturer and make of equipment is required.**

The project includes the purchase and installation of a TrangoLINK Giga high performance point to point wireless microwave system. This is carrier grade equipment with an estimated 15 year minimum lifespan. It is a proven technology that will deliver 11GHz licensed full duplex. It will be over-engineered to allow for with the worst case scenario under extreme environmental conditions. We would be running 150 Mbps although the equipment is capable to 240 Mbps with an antenna upgrade.

**8. Proposal Budget Page**

Item	Description	Cost
TrangoLink Giga	Includes Power supplies	\$9,000.00
AD11G3	3 Ft 11 GHz Antenna	\$2,600.00
Shipping		\$600.00
Microwave Path License	11 Ghz Path Analysis and FCC Filing	\$2905.00
Non Penetrating Roof Mount	Mounting Hardware	\$250.00
Cable Installation	LMR-400	\$200.00
Installation	Radio Installation	\$2,500.00
<b><u>TOTAL Requested</u></b>		<b><u>\$18,055.00</u></b>