



## Case Study - Keewatin-Patricia School Board

*"Overriding goals to increase bandwidth and performance drove our decision to implement Redline's AN-50e. The AN-50e has helped us improve educational services and efficiencies across our network. And that's good news not only for us and our students, but also for our communities."*

**-Del Schmucker, Keewatin-Patricia District School Board**



### Challenge:

The Keewatin-Patricia District School Board needed to increase bandwidth for the 27 schools within its 70,950 km<sup>2</sup> (44,000 miles<sup>2</sup>) district, while maintaining tight cost controls

### Solution:

Keewatin chose Redline's AN-50e non-line-of-sight broadband fixed wireless system to establish links of up to 200 kilometers (124 miles) to reach each of its local communications hubs that service its schools

### Result:

In just 4 months, Keewatin increased the bandwidth available to each of its schools, and reduced operating costs to \$120,000/year, versus \$1M/year for wireline

### Rural Canadian school board gives Redline's AN-50e high marks for speed and cost reduction

Keewatin-Patricia District School Board in Northwestern Ontario is one of Canada's largest school board districts, serving a geographic area of more than 70,950 square kilometres (44,000 miles). The Board is responsible for public education of more than 7,000 students each year at its 27 schools. The Keewatin-Patricia School Board includes schools in the towns of Kenora, Keewatin, Sioux Narrows, Vermilion Bay, Eagle River, Oxdrift, Dryden, Ignace, Sioux Lookout, Hudson, Ear Falls and Red Lake.

By building its own network and implementing Redline's AN-50e broadband fixed wireless equipment, the Keewatin-Patricia School Board increased its bandwidth and was able to improve services for its students and teachers, while managing its operating costs. Following the success of its initial implementation, Keewatin-Patricia School Board now operates its own network and is able to deliver more bandwidth to its 27 locations and offer advanced learning tools.

### Reduce operating costs while increasing services to students

The Board needed to increase its bandwidth to support more advanced services for its students and faculty. At the same time, the Board needed to reduce its operating expenses.

The Keewatin-Patricia School Board had struggled with delivering high-speed services to its schools. Its 27 schools are clustered in remote locations, with vast geographic distances and extremely rugged terrain separating them.

The Board concluded that installing a traditional wired network in this type of environment would be cost-prohibitive, and decided to investigate wireless solutions that would meet its bandwidth needs, serve its entire jurisdiction and help it to reduce costs.



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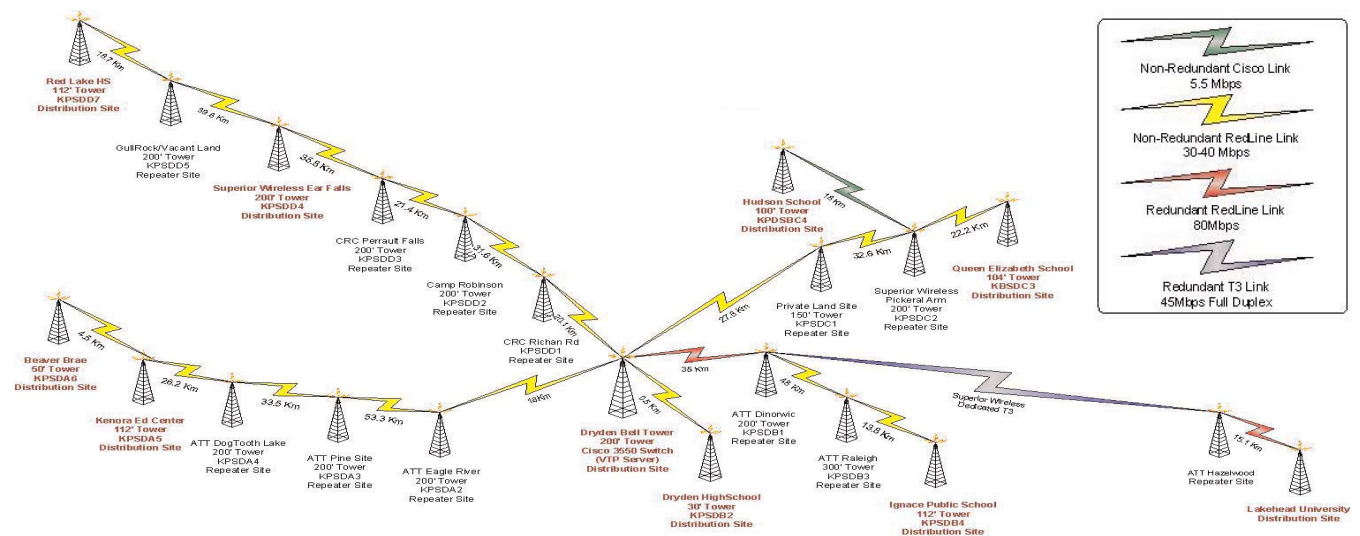
### High Performance Wireless Solution

After weighing several options, the Keewatin-Patricia School Board concluded that Redline's award winning AN-50e non-line-of-sight (NLOS) broadband fixed wireless system offered the right combination of power, reliability, ease of installation and cost-effectiveness. The AN-50e also provided the added benefits of low latency, and extended reach, and could also be customized to meet Keewatin's specific needs.

The Board worked closely with Redline and its Partners to develop its network, which consists of a central hub or base station, with wireless links extending to the Board's local hubs, each of which serves a small number of area schools (see diagram). The links were established by installing AN-50e's at intervals, to enable links up to hundreds of kilometres long.

To further reduce costs, the Board received approval to use existing hydro and cellular towers in the area to install the links. The robust non-line-of-sight capabilities of the AN-50es allow them to be installed low on the towers, where they do not take up space normally reserved for cellular or hydro communications equipment.

The Keewatin broadband wireless network was up and running within 120 days of the project launch and was able to deliver the bandwidth required to offer the advanced services their students and staff needed.



### Reduced Costs, Improved Education Service

"Redline's AN-50e has delivered significant cost savings and strengthened our regional backbone," said Del Schmucker, Director Network Management at Keewatin-Patricia District School Board.

Within four months, the Board successfully transitioned from a small, locally-leased network to a large centralized wireless network designed to reduce operating costs and increase bandwidth and services. The new network has delivered:

**Improved education and services:** With new wireless capabilities, Keewatin runs a plethora of applications including: data, distance learning, video conferencing, VoIP, student administration and human resources applications.

**Increased network capacity:** network capacity increased by 85% vs. the old network. With average bandwidth rates of 48 Mb/s, the school board still has room to grow.

**Increased network capacity and lower costs:** By choosing Redline's wireless equipment, the Board reduced its costs to 75% of what it would have cost to deliver the required bandwidth via traditional wireline technologies.



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