Lincoln Leases Conduit, Forms Public-private Partnerships

Need for Better Business Broadband Drove Efforts

The lack of affordable access to business class broadband as well as the lack of competitive access to regional and international broadband providers led the City of Lincoln to partner with the Lincoln Partnership for Economic Development (LPED), Downtown Lincoln Association (DLA), Lincoln Chamber of Commerce and Unite Private Network to invest $700,000 in a downtown broadband conduit system. With the success of the initial project, the City of Lincoln has since partnered with 11 companies connect the entire city with competitive access to world class fiber-based broadband.

Strong Community Support was Key

Support from the mayor, the city council, and the business community was critical to the project's success.

Investing in a Conduit System Led to Partnerships

The City of Lincoln's investment in a conduit system resulted in an additional $1.4 million a year in new revenue, over 400 new jobs with $20 million in new annual salaries, over $200 million in private investment, and over 1,000 miles of public and private fiber installed. The number of carriers has grown from two to eleven.

NebraskaLink signed the first contract to utilize the city's conduit system in February of 2013. The City also partnered with local engineering firms and contractors to connect every downtown building to the conduit system, which was completed in 2018. In 2015 Allo Communications agreed to lease space in the city-owned conduit network to provide residential service at a minimum speed of 100 Mbps to every resident by 2019. According to the conduit lease agreement, Allo pays the city of Lincoln an infrastructure

Lincoln

Nebraska

Model: Investing in fiber conduit system and leasing space to telecommunications providers

Champions 7 Key Supporters: City of Lincoln (including the mayor and city council) and the business community

Funding: $700,000 initial investment in fiber conduit system downtown

Key Takeaways

Need for better business broadband drove efforts to improve broadband availability.

Support from the mayor, city council , and business community was critical to the project's success.

Investing in a conduit system led to public-private partnerships with multiple providers, improving broadband availability for businesses and residents.

Interview Date: December 2017

Putting in Conduit Can Reduce Costs, Attract Providers

Fiber is often placed in a reinforced tube called conduit. Conduit (with or without fiber) can be placed underground during road or utility construction. Conduit can then be made available to broadband providers via a lease agreement, reducing deployment costs and time. Some entities will also place fiber in the conduit. Fiber which is not lit or attached to any equipment is called dark fiber. In Nebraska, public entities can also lease dark fiber, although there are currently some restrictions regarding leasing dark fiber by public entities.

Information on available conduit or dark fiber should be documented and made available to prospective providers. Additionally, compiling and sharing information about existing utilities, locality infrastructure, rights-of-way, available easements, and locations that are potential co-location sites can also be helpful to providers.

support fee of $3 per customer per month. The City has invested $500,000 per year over four years to fund maintenance and upkeep on the city-owned conduit system.

Three contracts govern the construction of the system: a broadband franchise (the first of its kind in Nebraska), a cable franchise and a conduit lease agreement. The contracts are available from the City of Lincoln's website at Lincoln.ne.gov (keyword: fiber).

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Tower Square in Downtown Lincoln. Photo Credit Anne Byers.

Broadband Technologies

Digital Subscriber Line (DSL) provides internet access by transmitting digital data over a local telephone network with bandwidth capabilities ranging from 1.5 Mbps up to 50-100 Mbps. Speeds are distance dependent and are often provided as asymmetric bandwidth.

Fiber technology converts electrical signals to optical laser signals carrying data with bandwidth capabilities of up to 10 Gbps or more.

Cable modem technology delivers broadband using the same coaxial cable used to deliver cable TV service. This is a shared bandwidth service with broadband capabilities up to 10 Gbps down/1 Gbps up using DOCSIS 3.1.

Fixed wireless technologies using mid-band spectrums could potentially provide service of 100 Mbps or greater in rural areas.

TV white space may be suited for lower bandwidth agricultural internet of things applications. With Microsoft's support, the cost of customer service equipment has been coming down. Future reductions in the prices of customer service equipment to about $100 would likely make this technology economically feasible.

Low Earth orbit satellites could potentially provide 100 Mbps or greater service with low latency by mid-2020.