Berkshire Connect: 
A Case Study of Demand Aggregation

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Introduction

Berkshire County is home to about 135,000 people on the far western edge of Massachusetts. It is perhaps best known as the scenic mountainous region that is home to cultural institutions such as Tanglewood (the summer home of the Boston Symphony Orchestra). Although a rural, low-density county, average education and income levels are on par with national averages.  

Despite the favorable demographics of its population, Berkshire County found itself facing the “new” economy with mediocre telecommunications service choices compared to other regions of Massachusetts. The lack of state-of-the-art, affordable infrastructure was perceived as a competitive disadvantage for the region, making it harder to retain the existing workforce and attract new employers to the region.

First Steps

The Berkshire Connect project grew out of discussions that started taking place in 1997 among people who knew each other through their participation in Berkshire Capital Investors (BCI), a private venture fund contributed to by Berkshire Life (a large local insurance company), Williams College and others. BCI had begun funding dot-coms, partly as a way to attract professors and executives to the region by providing professional opportunities to their spouses. Through this process, lack of affordable telecom/datacom services had emerged as an issue hindering entrepreneurial activity in the region.

Although the connectivity issue was first identified by “techies” in the region, it soon became apparent that the key issues involved were not primarily technical but rather political and economic. The problem was brought to the attention of state representatives from the region, especially those who served on key telecom and education committees. The politicians tasked the Massachusetts Technology Collaborative (MTC, www.mtpc.org), a quasi-public economic development organization run by a state-created corporation, to work with in-region partners to explore the nature of the problem

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1 This white paper is based primarily on interviews with William Ennen at the University of Massachusetts Donahue Institute, Don Dubendorf, and publicly available information. The Berkshire Connect web site can be found at http://www.bconnect.org. Ms. Gillett’s email is sharoneg@mit.edu; more information about MIT’s Program on Internet & Telecoms Convergence (ITC) is available at http://itc.mit.edu.

and potential solutions. The primary political justifications for these efforts were economic development and geographic equity within the state.

In-region partners in what became known as the “Berkshire Connect Task Force” included the University of Massachusetts Donahue Institute, (www.donahue.umassp.edu), a part of the U. Mass President’s office chartered to do community outreach work, and the Berkshire Regional Planning Commission (BRPC). Eventual funding for the Task Force’s activities came in the form of a $250,000 state grant made by Massachusetts Governor Cellucci in November 1997. Subsequent appropriations (on the order of an additional $250,000) were approved by the administration and the state legislature.³

The process of exploring solutions needed a leader who could engage with the broader community as well as the techies. Don Dubendorf, a Williamstown attorney and passionate civic leader, took on this role, using the public engagement process to educate himself about the technology as needed. Dubendorf assembled and chaired a steering committee⁴ that met for an hour and a half each week for 16 months. Approximately half of this time was needed to zero in on the problem definition and solution approach, and the other half to pursue the chosen solution.

**Focusing the Effort**

One of the key factors in Berkshire Connect’s successful outcome was its eventual clear focus on one narrowly identified problem: the need for affordable, high-speed (T1 or better) Internet connectivity for small-to-medium enterprises (SMEs). Berkshire Connect did not try to solve the residential or SOHO (small office/home office) broadband problem. Although this decision opened the initiative’s political backers to some forms of criticism (because the initiative does not directly benefit consumers), it was equally critical to Berkshire Connect’s success in helping businesses in the region.

Several different solutions were explored along the way, including formation of a cooperative, and construction of new telecom facilities by the Initiative itself. Although both of these solutions were rejected, exploring them required assessing the extent of demand in the region as well as gaining firsthand knowledge of the costs involved in providing service. These demand and cost inputs were combined into a business plan that proved critical to the success of the Initiative.⁵

Also rejected were traditional approaches within the regulatory framework of the telecommunications industry, such as suing the incumbent Local Exchange Carrier (Verizon) for better service or filing complaints with Massachusetts public utility

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⁴ Steering committee membership is listed at http://www.bconnect.org/steeringmem.htm

⁵ The business plan is available at http://www.bconnect.org/bplansummarywebsite.html. Demand surveys were conducted using the available state funding and resources from the Massachusetts Technology Collaborative and the U. Mass. Donahue Institute. These surveys were critical to organizing and educating demand.
commissioners (now known as the Department of Telecommunications and Energy, DTE) or the Federal Communications Commission (FCC). Private discussions between the ILEC and the Initiative did not prove fruitful.

**The Chosen Solution**

Ultimately, the committee concluded that their best options lay with the opportunities recently opened up by the Telecommunications Act of 1996. Based on the business plan they had developed, the committee issued an RFP in 1999 inviting companies to propose solutions to the T1 connectivity problem in the region.

A key component of this RFP was the requirement that service be made available to any business in the county, regardless of its size or location, with a uniform (same price for same service regardless of customer), distance-insensitive pricing scheme. This pricing scheme creates an implicit subsidy from larger and/or easier-to-reach companies to smaller and/or more remotely located companies. Therefore, part of the process required to issue this RFP was to convince the larger companies that they should be good corporate citizens, letting smaller businesses ride on the coattails of their buying power, for the overall good of the region’s economic development (which of course, ultimately benefits the larger companies as well). This argument was best made by local civic leadership, building on personal connections as well as introductions to business leaders that were facilitated by political leadership in Boston and Washington DC (Senator Kerry, and then FCC-chairman William Kennard).

Seven companies responded to the RFP, including the local ILEC (Verizon, formerly Bell Atlantic, formerly NYNEX). The contract was awarded in February, 2000 to Global Crossing, the only respondent that proposed to build new facilities in the region.

Using infrastructure provided by CLEC Equal Access Networks, Global Crossing built an “egress” network (meaning, links from customers to places where Global Crossing aggregates traffic) consisting of fixed point-to-point wireless (microwave) links with some fiber redundancy. County-wide traffic is aggregated in Pittsfield and transported over redundant fiber and wireless links to Springfield, the nearest major point of presence for major IXCs and ISPs.

It is estimated that Global Crossing invested $3 million to build the network and that the Initiative was able to guarantee demand for 3 years based on its initial demand surveys (although it offers service on a short-term contract basis, i.e. monthly, to all customers – terms not typically available to smaller companies). By the fall of 2001, Global Crossing was receiving an estimated $350,000 in monthly revenue from over 50 businesses in 15 of the 32 towns in Berkshire County. KayBee Toys, a large retail business based in the region, fills the role of “anchor” customer.

Pricing is extremely favorable, ranging from $550-$750/month for Internet connectivity depending on the desired connection speed (up to full T1). The Initiative estimates these prices to be a 70% reduction from ILEC prices at the time the Initiative began, and a 50% reduction from current ILEC prices (reduced in response to the Initiative). Any business in Berkshire County is eligible to become a member in Berkshire Connect. Membership fees are minimal and cover the cost of a part-time staff person who administers the Initiative.
Because the Initiative is so recent, it is too early to judge its staying power and economic impact. However, one preliminary result that should be considered especially encouraging is the experience of Berkshire Medical Center, the largest hospital in the region. In its first year of membership, the hospital reduced its telecommunications costs by 60%, or $470,000. Given the razor-thin margins of the health care industry, this result is extremely significant financially. In addition, the availability of advanced telecommunications services has improved the hospital’s delivery of medical care – allowing radiologists to view remote X-rays they simply wouldn’t have seen before, because of the large number of travel hours that would have been required. Similarly, Berkshire Life has made use of the newly-available communication services for videoconference, leveraging the expertise of particular individuals to explain various life insurance complexities to current and potential clients.

**Replication**

Can the Berkshire Connect model work elsewhere? Other areas of the U.S. are considering it: the governor of Georgia has sent a delegation to learn from Berkshire Connect. Within New England, three recent spin-off efforts have achieved varying degrees of success to date.

**Cape Cod Connect** ([http://www.ccconnect.org](http://www.ccconnect.org)) seems to have made minimal progress, apparently reflecting a lack of early focus on business infrastructure as the key problem to be solved.

**Franklin-Hampshire Connect** ([http://www.franklinconnect.org](http://www.franklinconnect.org)) followed the Berkshire Connect model more closely and concluded its own RFP process in the summer of 2001 with the selection of Global Crossing from a field of 5 respondents, including Worldcom and Verizon. Their August 17, 2001 press release (see Figure D.1) gives an excellent overview of the goals, process, types of companies and civic leaders involved in such a project. Their hyphenated name reflects a key reality involved in making a “connect” project work: the region must be defined in such a way that it provides an attractive business opportunity. Franklin County lies just east of Berkshire County but has only about half the population, and seems not to have been large enough to stand on its own in attracting new telecommunications service providers. (Hampshire County, however, is comparable in population to Berkshire County.) The combined region’s ability to attract 5 bidders in a difficult economic climate is especially noteworthy.
August 17, 2001
Franklin-Hampshire Connect ANNOUNCEMENT

On August 17, 2001, the Franklin-Hampshire Connect Steering Committee agreed to start negotiations with Global Crossing and Equal Access Networks to become the endorsed telecommunications provider for Franklin-Hampshire Connect. This decision was made at the conclusion of a Request for Proposal (RFP) process that started in June. The intent of the RFP was to attract a provider willing to deploy facilities-based voice and data telecommunications services to the Franklin and Hampshire county region at lower costs and higher levels of service quality and ubiquity.

In early July, five proposals were submitted by the following organizations: Choice Once Communications, ION Consulting with e-Tropolis Partners Inc., Verizon Communications, WorldCom and Global Crossing with Equal Access Networks. A Technical Review Committee of regional information technology professionals was assembled and charged by the Steering Committee to review the RFP proposals and present a recommendation to them. After several meetings and an interview with the top two proposal contenders, the Technical Review Committee recommended the proposal by Global Crossing and Equal Access Networks. Steering Committee and Technical Review Committee member, David West of Cooley Dickinson Hospital stated, “While we (the Technical Review Committee) truly appreciate the other submissions, the Global Crossing and Equal Access Networks proposal significantly met the criteria outlined in the Request for Proposal.” David West continued, “Specifically, they have committed to construct new infrastructure in the region and to offer uniform services throughout the region. In addition, they propose to provide the best combination of competitive pricing, including flat rate pricing for the entire region on specific products and services.”

Linda Dunlavy, Chair of the Franklin-Hampshire Connect Steering Committee and Executive Director of the Franklin Regional Council of Governments stated, “We look forward to the negotiations process with Global Crossing and Equal Access Networks. They have presented a great desire to serve the businesses of Franklin-Hampshire Connect and are committed to building new telecommunications infrastructure in the region.”

Figure D.1: Franklin-Hampshire Connect Provider Selection Announcement

Monadnock Connect (http://www.monadnockbroadband.org/index.html), located in rural, southwestern New Hampshire, is the furthest along, having signed a contract with Global Crossing in July, 2001 at the conclusion of an 8-month, $200,000 proposal process. The following excerpts from their press release illustrate the key synergies between knowledge networking and demand aggregation as strategies for improving a region’s telecommunications infrastructure:

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6 Source: http://www.franklinconnect.org/, visited 8/24/01.
Members of the Monadnock Connect Association will be able to receive prices for T-1 access at rates as much as 50% less than they have been paying and that are less dependent on distance or volume and without long term contracts.

MCi – a consortium of business, cultural, academic and community leaders – and Global Crossing Telecommunications, Inc., a unit of Global Crossing Ltd., and Equal Access Networks, Inc. will create a market by aggregating demand from all sectors without having to rely on public infrastructure investment. T-1 rates in the Monadnock Region are now comparable to rates in Manchester, Portsmouth, Nashua, Boston and New York.

[...]

Monadnock Connect began in January of 2000 under the name Monadnock Broadband Initiative to address the need for high quality, reliable, state-of-the-art and cost-effective telecommunications services for large and small users. The initiative received financial support from three sources: first, a grant approved by the Governor's Council and Governor Shaheen through the Department of Resources and Economic Development (DRED), second from the Community Development Finance Authority, and third, other public and private matching contributions including the Monadnock Community Foundation and PSNH.

"The inclusive, region-wide nature of the MCi approach was purposely chosen to provide access for organizations throughout the region at a uniform price," said Vance. "This process has brought the business, health care, educational and non-profit segments of our economy together in a profound way and is a good example of a regional collaboration that worked. The benefits to the region, for competitiveness and economic development are great."

"The name of the game in making such an initiative as MCi work is aggregation of demand. In the process of developing an affinity group we first determined that market potential is there. Then, in aggregating demand, we build the market," said [Executive Director of MCi John F.] Vance. [http://www.monadnockbroadband.org/news.html, visited 8/24/01]
Conclusions

The experiences of the New England “connect” projects suggest the following lessons for any region considering demand aggregation as a strategy for encouraging economic development through the provision of telecommunications infrastructure:

• **The focus of any initiative must be well-defined and narrow.** Berkshire Connect’s focus on business access to the Internet at T1-class speeds was critical to its success. Cape Cod Connect, in contrast, has suffered from lack of clear definition of the problem to be solved.

• **Significant preparatory work is involved in demonstrating the region’s attractiveness as a business opportunity for service providers.** In other words, the numbers have to work in order to attract private sector investment. In underserved regions, the burden of proof typically lies on the region to demonstrate its market potential. The necessary process involves assessing demand, estimating costs, and defining a region that is large and heterogeneous enough such that cost-averaging can work. This process, which includes a combination of volunteer and paid staff labor that typically costs on the order of $150-250,000, needs to be undertaken before inviting proposals from communications providers.

• **The results are not without risk.** Critics complain that demand aggregation contracts are just another form of lock-in, albeit temporary; whether this criticism is important in the long-term will be more apparent when contracts start coming up for renewal in 2-3 years. Other risks include dependence of the strategy on the general economic environment (other regions may not attract as many bidders depending when they issue their RFPs), and volatility in the political environment (e.g. the Tauzin-Dingell Bill, HR1542) that may substantially change the rules under which competitive local exchange carriers operate.

• **Initiative leadership must be local and passionate.** Demand aggregation means getting people from different sectors, such as business, government, and other non-profit (e.g. health care, education), to work together in an “all for one and one for all” fashion. This requires a committed local champion with the credibility and connections to induce cooperation through appeals to civic virtue in addition to individual interests. These political and personal skills are more important to this role than technical understanding, which can be augmented by others as needed.

• **High-level political support is essential.** Any demand aggregation project must involve local politicians from the beginning, not least as a way to deflect criticism (or more) from incumbent carriers who may perceive new infrastructure as inimical to their interests. Local governors and legislative delegations can also help with securing funding for the required preparatory work. Finally, their leadership and commitment is a key part of bringing CEOs and other business and community leaders to the table.