

# Final Report

# **Burlington Telecom**

A Report to the  
Blue Ribbon  
Committee

By HBC

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TO: David Provost, Chair  
Clarence Davis (Ward 3), David Parker, Karen Paul (Ward 6), Patrick Robins, Bill Shuttleworth, Joan Shannon (Ward 5)

FROM: Gary Evans, President and CEO, Hiawatha Broadband Communications  
Bob Bartz (Vice President for Finance), Dan Pecarina (Vice President for Technical Operations)

REGARDING: Burlington Telecom Analyses

DATE: January 27, 2010

Ladies and gentlemen, please allow us to take just a moment to thank you for the opportunity to examine the operations, statistics and plans of Burlington Telecom and to provide the insights and recommendations we formulated during our visit last week to Burlington and following hours of reading and research.

We also want to thank the managers and employees of Burlington Telecom and of the City of Burlington for their willingness to provide us with the time we needed to gather pertinent information and to obtain answers to our questions. We found everyone interested in helping. In fact, many of the people at Burlington Telecom talked to us about wanting to know every idea we have to make B.T. a more successful business. No one was reticent or unwilling to provide candid answers to our questions, even if those answers were difficult to deliver.

Although the moments were few and far between (and sometimes seen through the window of an airplane), we realize that you live in a beautiful area of the world. We thank you for sharing it with us, if even for a few days.

We also recognized more similarities than differences between Burlington and our home in Winona (which we hope will make our work even more helpful). We can only imagine how beautiful your area must be in the autumn of the year.

In closing, let us again extend our thanks to you for your willingness to take time to make us feel comfortable and to make certain we were getting the answers to our questions, along with any information we requested.

Should it be the desire of the Committee and the City of Burlington, we would look forward to additional opportunity to work with the employees of Burlington Telecom to help with the course adjustments we recommend in our report.

## Executive Summary

The people who planned and built Burlington Telecom have provided Vermont's largest city with a marvelous asset that is, as its evaluators have said, superior to any other communications network in place in the community – superior, in fact, to most in the nation. The network will occupy that premium position far into the future.

The hard truth, however, is that far too much was spent constructing the fiber-to-the-home (FTTH) plant (roughly \$1,000 too much per passing), leaving the business in a position of vulnerability. Moves must be made now to re-finance the debt to add an additional \$15 million in resources for the business over the next 24 months, and to rapidly and dramatically accelerate customer and revenue growth.

That is the bad news, but there is also a multitude of good news that can lead to course corrections that will provide needed financial relief.

Burlington has a telecommunications system in place today that is capable of handling virtually every current application as well as those likely to emerge over the short-term future. A community with that kind of connectivity power in place is well positioned to leverage economic development and attract telecommuters who will enjoy the Burlington quality of life while maintaining jobs elsewhere.

The network is first class but it is not free of challenges. There are things to be accomplished in every sector of the business. With public sentiment seemingly positioned against B.T. because of investments already made and the need for resources to either correct challenges or leverage new-business opportunities, Burlington Telecom employees have to feel as if they are swimming against a tsunami.

HBC found them to be a hard-working group, hungry for suggestions and anxious to make the moves needed to put the business on a path to success. But there is a certain paralysis that affects them, too, because of the scrutiny they have faced.

The City of Burlington cannot afford, HBC believes, to abandon the asset its funds have created. Instead, the City should begin to aggressively market Burlington Telecom as the engine for economic development that it should be.

If the two-pronged initiative recommended by HBC is begun (marketing of the network and moving it toward sustained viability), the extent of the opportunities and challenges must be known. HBC has attempted to identify them. If the opportunities are grasped and the challenges met, networks such as the one in Burlington can be successful, thus contributing to an improved future in Burlington as well as to U.S. connectivity and global competitiveness.

HBC carefully examined the business plan authored in December 2009 as well as the assumptions submitted on January 15, 2010, as part of the Burlington-only plan. HBC then built a financial model for Burlington based on HBC history and experience. As that was completed, several critical factors emerged:

1. The Burlington Telecom business plan underestimates financial impacts from interest payments, depreciation and working capital movement, delaying positive cash flow until the middle of the third year of operation following refinancing.
2. Necessary upgrades, routine maintenance and operational needs will require infusion of an additional \$15 million to move the business toward its potential.
3. Ways must be found to drive revenue upward sharply if the trend of financial losses is to be reversed.

Definitive moves by both the City of Burlington and Burlington Telecom are needed.

The City of Burlington must:

- Restructure the company's current \$50 million debt, erasing in the process the \$17 million borrowed from its pooled cash fund;
- Meet its obligation to build out all of Burlington by building network to the 3,000 unpassed units;
- Secure a private-sector partner for Burlington Telecom that will help the business by providing financial and human resources, in addition to utilizing its assets to shore up areas of the company in need of help (sales and marketing, in particular);
- Take the steps necessary to diffuse the negative outcry, restore confidence in the company and end microscopic public scrutiny, allowing the business to implement its strategies without first disclosing them to the community and its competitors; and,
- Aggressively market Burlington Telecom.

Burlington Telecom must:

- Put aside its preoccupation with legal and public scrutiny and re-focus its efforts on building a solid business that is valuable to all Burlington residents;
- Start the effort by identifying its key differentiators and using them as the foundation for a strategic planning exercise designed to increase the number of customers from the current 4,600 to more than 9,000 by the end of the first quarter of 2012;

- Realign its organizational structure to match its growth goals, including consolidating sales and customer service teams under a single manager and eliminating contract installers and replacing them with Burlington Telecom employees;
- Determine precisely what areas can be served so inquiries by prospective customers can be answered quickly and definitively and installations accomplished without delays;
- Overhaul its customer care processes and procedures and remodel its facilities to make the company more attractive to Burlington residents;
- Leverage more effectively the “buy local” sentiment and the firm’s fiber asset to secure additional revenue from improved video content, enhanced and re-configured Internet packages, and the advantages its unused voice over Internet protocol (VoIP) capabilities offer;
- Create partnerships with key Burlington institutions, especially the University of Vermont and Champlain College, secondary and technical education, hospitals, nursing homes, assisted living complexes and apartment complex owners and managers to tap a market segment still untouched; and,
- Open its network to other businesses that can benefit from the B.T. fiber infrastructure, including telecommunications providers, home and business security companies, health care providers and entertainment and gaming firms.

While nothing can be done to recover the \$15 million of overspending on the network (HBC’s estimate), there are a number of enviable opportunities that can be tapped to drive revenue and reduce expenditures. These moves, properly planned and executed, can immediately begin to drop proceeds and savings to the bottom line.

It should be noted that with the exception of the estimated \$6,000 a month savings as the result of Internet bandwidth negotiations, none of the anticipated moves to drive revenue up and reduce expenditures have been placed in the HBC model because quantifying specific revenue and cost savings were not possible without actual steps being adopted.

Having said that, here is the range of anticipated changes in revenue and expenditures based on actual HBC history:

- Installation costs: \$600 less per installation.
- Bulk contract video revenue: \$29,925 per month
- Business hosted services: \$45 per customer

- Wholesale VoIP services: \$8 per line
- Converged services: \$2 per line
- Business VoIP services: \$2 per line
- Co-located Internet services: \$250 per customer
- Co-located carriers: \$750 per customer
- Add-on video services: \$2 per customer.

While some of those elements have costs associated with them, most do not. Even where there are associated costs there is offsetting generation of revenue. For example, the bulk video effort would require \$48,000 to convert 80 channels to Radio Frequency delivery, but in exchange, there is revenue. In HBC's case there is annual revenue of \$300,000, more than a third of which drops to the bottom line.

In summary, given the telecommunications asset it possesses, the number of untapped opportunities that exist and the commitment of the work force to make Burlington Telecom successful, HBC believes that if City of Burlington and Burlington Telecom personnel work closely together, acceptable progress can be made. The work will be demanding, but HBC saw no evidence in its visit of people unwilling to work hard to get the job done.

# Assessment of Business Plan Review (Deliverable No. 1)

## Baseline Financial Model

As HBC gathered information on Burlington Telecom through site visits, interviews with B.T. employees, and management and examined financial reports, it became clear that the City of Burlington has a tremendous asset in its fiber network, as well as in staff knowledge and experience. It also was readily apparent that B.T. faces a steep uphill battle to reach a self-sustaining financial performance level. Historic spending levels coupled with the slow rate of customer acquisition have placed the business in a precarious position.

To quantify the achievements and the work yet-to-be-done, HBC created a B.T. financial model with a five-year projection that includes some changes to the existing plan. Those changes are based on facts gathered by the HBC team while in Burlington, the information provided by B.T. and HBC experience. We believe the HBC-created model responds effectively to the Blue Ribbon Committee's request for a sensitivity analysis based on sales projections, average revenue per user trends, customer churn, headcount, operating expenses, capital expenditures and technology trends.

Customer acquisition in a quality manner should be the top priority for this new business. While customer acquisition costs will add to capital expenditures in the short term, failure to secure the customer additions outlined in the business plans will place B.T. in a negative long-term financial position.

The B.T. business should plan to double its customer and Services In Place (SIP) counts as quickly as possible. The current management team has been successful in growing the customer and SIP base. We believe, however, that additional growth to nearly double the current customer base within a 27-month period is essential. Achieving that goal will require some changes in operations that are focused in customer service and differentiation.

These changes do not include a proverbially silver bullet, but, rather, a series of minor "tweaks" that have a cumulative effect. Some examples of these "tweaks" include elimination of the automated phone answering system currently employed at B.T., accepting cash payments from customers, setting time specific customer installations, the elimination of contract installers in favor of installers employed directly by B.T., the remodeling of the customer service area of the business building to create a more inviting and friendly atmosphere, the elimination of the three-day installation waiting period, and simplified bundling offers with higher data speeds and local video content.

Additionally, to grow the customer base at the proposed plan rate, a significant marketing initiative will be needed. This initiative should include the offering of unmatched and symmetrical data speeds, unless using faster download speeds is needed to combat offerings by Comcast.

The current ratio of services among voice, video, and data is beneficial to B.T.'s gross margin level, and is quite different from the ratio of most triple-play providers, where cable is the leading SIP and the driver of consumer decision-making. This balance of SIP should be expected to shift over time as new customers are acquired.

The current B.T. gross margin performance is at 75.2% of net revenue. This is excellent and compares to HBC's current performance of 65.2% of net revenue. Again, the fact that the current B.T. SIP ratio is tilted toward Internet service greatly contributes to this performance level. However, the fact that B.T. is seen primarily as an Internet Service Provider (ISP) does detract from acquiring more video customers. And, from what HBC heard during its visit to Burlington, B.T. has fewer video customers because of its lack of desired programming, specifically hockey coverage. To gain the customer levels outlined in the HBC financial proforma, B.T. will need to enhance its video line-up.

There is also significant room for improvement in BT's backbone and bandwidth costs. Based on HBC's experience, B.T. should be able to renegotiate prices for bandwidth that would result in an approximate savings of \$6,000 per month.

Operating and administrative expenses are viewed as being acceptable and well within acceptable parameters at their current level of slightly more than \$4.4 million per year, though we note that how that money is used will be different than that currently outlined in B.T. management's latest business plan. Contract installers should be eliminated and direct employees should be utilized starting immediately. This creates a swing between expense categories from Contractor Services to compensation and benefits. Marketing expenses should be increased in the short-term to equal the savings in installation costs.

In the HBC financial model, depreciation and interest expenses that were missing from the B.T. financial model were added. Also included was the impact of working capital in the cash flow section of the HBC financial model. This item was also missing from the B.T. financial model.

Finally, HBC made adjustments to the capital expenditure requirement levels based on completing the citywide build-out requirement (there are still approximately 3,000 passings to complete as outlined in the CPG requirements), on minimum levels of maintenance capital based on HBC experience, on replacement of the delivery platform that is discontinued and no

longer supported, and on an upgrade from the video compression and delivery format from Mpeg2 to Mpeg4. The capital expenditure schedule also includes the cost of connecting new customers, though we believe there is upside potential to this spending level, given that B.T.'s connection cost is roughly \$600 per customer higher than HBC's experience (a total of \$2.4 million potential savings to the HBC financial model capital spending figures if B.T. can reduce its costs).

Having outlined these components of the business financial model, HBC has created a model that we believe is realistic and achievable. But additional capital in the amount of \$15 million is needed. The additional capital requirement should be clearly delineated and communicated by the B.T. management team and employees in a way that is acceptable to City leaders and citizens.

The following is a summary of the business plan and financial model as reviewed and/or modified by HBC:

1. The plan is achievable but requires an additional \$15 million to complete.
2. Customer growth projections are achievable with upside potential. At the height of the plan, market share is at 43.85% for Internet, 37.79% for video, and 32.51% for voice. These levels are below those achieved by HBC in the markets it serves. Of course, additional growth will require additional capital for new customer connectivity. However, if current one- or two-service customers add additional services, there is either no additional connectivity cost or, in the case of video service additions, there is only the cost of the set-top box.
3. The current B.T. performance in services per customer at 2.61 is excellent (HBC's performance is 2.36). This performance level, however, is probably driven by the unwillingness of B.T. to connect single-service customers. This policy may be leading citizens to not try the B.T. offerings before committing to an all out switch.
4. The customer churn level of 1.4% is on par with industry benchmarks, and is viewed by HBC as being very good given the transient nature of the college/university population. The majority of B.T.'s churn occurs at the beginning and end of the "normal" education cycle.
5. Capital expenditures over the forecasted five-year period total \$14,913,330. This total includes the completion of the city build-out, the connectivity of the new customers, replacement of the service platform, replacement of the video compression and delivery platform, and maintenance capital.

6. The plan does not allow for B.T. to meet its interest expense obligations on its debt level until month 31.
7. The plan indicates that in Year 5, the business would produce enough cash to pay its interest expense obligations and \$740,978 towards its principal balance.
8. The plan performance would not allow complete pay-off of existing and new debt for decades.

The longer term industry trends, as perceived by HBC, indicate that at some point within the next five to ten years, companies like HBC and BT will become “pipes” to residences and businesses. Individuals and businesses will be able to procure, and push, content/bandwidth/dial-tone from the Internet and/or their mobile devices. The B.T.’s and HBC’s of the world will then need to find new differentiators in order to keep their competitive advantage.

B.T. should also consider, given the voice trend of customers moving away from landline voice service, offering a mobile voice service to compliment its land-line services.

In summary, B.T. is in an unenviable position. There has clearly been considerable overspending to-date to construct and operate the business. But what is done is done. The City has a considerable asset in B.T. and should not give this asset away at a fire sale price. B.T. is too important to be jettisoned. It is important to the City’s economic development by way of new business attraction, it is important to keeping current businesses competitive in the marketplace, it is important for offering educational opportunities over such a network, and it is important to keeping the incumbent providers “honest” .

The HBC recommendation is that the City invest the additional \$15 million required to make the system whole, current, and self-sustaining. Once that investment is made, and the goals in the business plan are met, the City should then consider expansion into surrounding communities to leverage its existing physical and human assets to continue to improve BT’s financial performance.

## Debt Load Analysis (Deliverable No. 2)

### Based on Baseline Financial Model

Given the current state and performance of the Burlington Telecom business and the baseline financial projections for the next five years, Burlington Telecom is not able to sustain any debt load level until month 31 of the five-year financial model projections.

During the first 30 months, Burlington Telecom would need to borrow an additional \$13,250,323 in order to grow the business, complete its statutory build-out requirements for the City of Burlington, update its hardware and software technology platforms, meet its maintenance capital needs, and sustain its operating cash flow losses.

Beginning with month 31, Burlington Telecom would begin to generate cash flows to meet its interest expense obligations on its debt load in addition to having some excess cash flow to begin paying down the principal component of its debt load. In Year 5, after paying all of its operating bills and its interest expense obligation, Burlington Telecom would generate an additional \$740,978 in cash to apply to principal.

HBC's suggestion would be for B.T. to obtain a \$15 million line-of-credit financing for the next 30 months in order to complete its system build-out and other capital and operating expense needs. At the end of the period, B.T. should look to convert its entire debt load, which at that time will total \$63,250,323, to a 30-year repayment schedule. That schedule will allow for payments of \$275,000 per month for the first 22 months of the debt schedule. With month 23, the monthly payment amount should be increased to \$330,000. These monthly payment amounts would fall short of the 30-year amortization schedule. Assuming a five-percent interest rate, that would call for an approximate \$341,000 per month payment. At the end of the 30-year period, B.T. would still have an approximate \$15.6 million debt balance. (Please reference the debt sheet on the financial model Excel spreadsheet.)

Since HBC's financial model for B.T. covers a five-year time frame, the time following the five year outlook may reap additional cash flows beyond what is outlined. This may allow for monthly repayment levels above the \$330,000 level outlined. If this happens, the debt can possibly be repaid in total within the 30-year time period.

Also, assuming the modeled financial performance is achieved, and HBC believes it can be, then after six or seven years, B.T. should explore expansion opportunities which would require additional capital expansion funds. Those additional funds and the then current debt load balance could be refinanced into a new loan and subsequent amortization schedule.

## Valuation (Deliverable No. 3)

While the HBC team members do not consider themselves capable of determining an accurate valuation of Burlington Telecom, they agreed to supply the valuation of HBC, completed in 2006 by a Stifel Nicolaus Investment Banking team headquartered in Baltimore, MD, as well as relaying any opinions they formed as the result of their visit to Burlington. These agreements were based on the HBC valuation being kept confidential. In addition to supplying the valuation, HBC is also supplying the underlying assumptions.

It was inevitable, given the relative size of the two companies, that the HBC team would make comparisons between Burlington Telecom and HBC. Each company now has about the same number of passings. However, HBC has more than three times as many customers (roughly 11,000) as B.T. Burlington Telecom, however, enjoys greater potential than HBC, given the relative size of the markets served. Based on customer counts, the key metric in determining price at the time of exit, HBC likely today would be valued higher than B.T.

HBC passes roughly 18,000 units in its eight (Winona, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton and Wabasha) franchised markets. B.T., on the other hand, now passes roughly 20,000 units in the City of Burlington. Burlington is located in Chittenden County, the estimated population of which in 2009 was 152,000. By comparison, population in the two counties in which HBC operates is 73,000. In addition, HBC's markets are, from a telecommunications perspective, more mature. HBC commercial service began in 1999, compared to 2006 for B.T.

While HBC in 2006 was valued at between \$13.7 and \$20.6 million, it has grown considerably since that time. Given the growth in customers, revenues (more than \$2 million ahead of Stifel's estimate of \$11.2 in revenues for 2009), HBC management believes the company today is worth approximately \$30 million, based on merger and acquisition details from transactions within the last year.

Since the Burlington Blue Ribbon Committee has employed a consulting firm to formally evaluate B.T., the HBC team will make no estimate on valuation. It will note, though, that key valuation metrics include the number of units passed, operating revenues, earnings before interest, taxes, depreciation and amortization (EBITDA), and subscribership.

In each of the critical metric areas, B.T. has great potential, leading to the central recommendations of the HBC team: (1) Burlington Telecom is an asset with which the City of Burlington should not part. (2) However, the city should seek a private enterprise partner for its municipal telecommunications company. In that way, HBC believes, the potential will be

realized faster, because investments are needed to prepare the company for more rapid growth.

In lieu of providing a formal valuation and in addition to supplying the 2006 valuation completed by the Stifel team, HBC agreed to supply its benchmark metrics. That has been done under separate cover, with proprietary items, as agreed, marked confidential.

## Strategic Partner/Buyer Analysis (Deliverable No. 4)

We were told time and again during our visit by a diverse group of people – including those within city government, at Burlington Telecom and the city at-large – that they believed it had been the initial intent to create B.T. as a public-private partnership. Regardless of whether those reports are, in fact, accurate, it is our opinion that such a structure would benefit all parties: the City of Burlington, Burlington Telecom, and any partner that is chosen.

While we understand the issues swirling around B.T. in the community and appreciate the interest that members of the Blue Ribbon Committee and the public have in getting answers to their questions, we also shudder at the amount of information already shared that seems destined to harm the company still further.

Having to transact all of its business in public creates a significant advantage for B.T.'s competitors, providing them with virtually complete corporate intelligence without having to do more than open a newspaper or turn on a television set. While we understand the right of citizens "to know," we also understand how difficult it would be for Hiawatha Broadband to transact all of its business in public. Contrary to posts on the Burlington Free Press blog, Hiawatha has never been subsidized by the public, nor has it received any kind of government funding. That means it is free to make its strategic decisions without having to disclose them to the public prior to implementation.

Few people outside the telecommunications industry understand how difficult it is for a competitive entrant to first survive and then thrive in today's environment. In most cases, and certainly in the case of Burlington Telecom, competitive entrants or overbuilders, as they are more commonly known, must fight major providers with deeper pockets to gain the market share they need to be successful. Burlington Telecom competes against the largest triple-play (voice, video and data) company in the nation in Comcast.

In addition, Fairpoint delivers voice and data services and re-sells DirectTV. There also are in Burlington a myriad of wireline and wireless providers of data services and business voice services.

To compete and win, we believe the people operating Burlington Telecom must, as a first step, decide what currently makes the company different from its competitors, in addition to determining what the key differentiators will be in the future. They must also determine what assets B.T. possesses that can be further leveraged. We asked those questions of most people with whom we came in contact in Burlington. Frequently we were told of the strong "buy local" sentiment of the community's residents. To a person, people told us the fact that Burlington Telecom is a local company is a major strength, and nearly everyone cited the existence of the

fiber-to-the-home network and its capabilities as another asset that can be leveraged, although there seems to be confusion as to exactly what the latter strength means and how to take advantage of it.

Carefully defining its differentiators and aligning them with resident wants and needs should be an initial exercise. It should be done by company personnel with the involvement of the residents of Burlington.

When that step is completed (and, in fact, while it is being done), the City of Burlington and the management of Burlington Telecom should work together to find a private partner interested in helping to leverage the assets the company possesses, which are considerable.

By way of example, let us note that even before HBC's not-for-profit predecessor Luminet (a privately funded initiative begun in 1992 to connect the city's education, government and health care institutions) was legally moved to for-profit status, Luminet's board of directors spent a full day debating and determining what would make HBC different from its competitors, principally Charter and Qwest.

The board initially had determined that the new network (hybrid fiber-coaxial, because the cost of fiber construction was still too expensive in the mid-1990s) would be built to: 1) continue Luminet's education mission; 2) provide Winona, for economic development reasons, with a state-of-the-art telecommunications network; and, 3) give consumers a choice in areas (voice, video and data) served by monopolies. HBC was among the first competitive entrants created in the United States. Helping rural America solve its connectivity issues was later added as a fourth driving tenet.

The differentiators that emerged after a day of vigorous discussion were: 1) unparalleled customer service; 2) involvement in and leadership of community betterment initiatives; and, 3) the production and broadcast of quality local television programming (Winona does not have a commercial television station).

HBC was built entirely with private funds, the initial stock purchase donated to Winona not-for-profit communities (principally education) by unnamed benefactors. Winona not-for-profits currently own 39.03 percent of the company.

The company has never deviated from those early goals and they have served it well. Positive cash flow was achieved in the sixth year of customer operation. That is average for telecommunications companies. However, HBC did it in a competitive environment while the average was set by monopoly providers. The company became profitable in 2007 and has paid dividends in each of the last three years. The payment of two dividends has been approved for 2010

## Burlington Options

Given the assets that have been put in place in Burlington, it is our belief that the Burlington network and its potential could be attractive to private-sector companies **if** their involvement can privatize the company sufficiently to allow it to operate on a level playing field with the competition.

Vermont law allows public entities to engage in joint ventures with private enterprise. There is apparently no limit on the percentage of ownership that private enterprise can hold. That was determined in a discussion with Burlington City Attorney Kenneth A. Schatz.

It is our assumption (and would be our position, were we interested) that potential private partners will be looking for, in exchange for any investment made, an outstanding economic deal and controlling interest in Burlington Telecom.

We recommend that the Blue Ribbon Committee, which is comprised of both public and private sector members astute in the matters of business, be kept in place to handle negotiations with firms interested in obtaining interest in Burlington Telecom.

We further recommend, assuming Vermont law and city statutes will allow it, that these negotiations be held in private to allow full exploration of all of the facts and positions that must be discussed to put a win-win deal into place.

Once the deal is made, full details should be made public, with the understanding of all the parties about what will be released and when.

Although it is our opinion that more money than necessary was spent developing Burlington Telecom, the fiber network represents a marvelous asset that can be leveraged. The head end components, however, pose financial challenges that must be dealt with to allow the network to deliver its potential.

It is our estimate that needed changes to the head end and plant(something that must be completed by 2014) will cost an estimated \$2,125,000. Converting high definition channels to Mpeg 4 will require between \$495,000 and \$726,000. Additional expenditures will be needed to expand the network to unpassed sections of Burlington and to adjacent communities in Chittenden County.

These expenditures are, in our opinion, most likely to be made if a private partner is secured. While the management of B.T. is equipped, we believe, to operate the business, the helping hands private enterprise can offer will be necessary to overcome the business atmosphere that recent and angry public scrutiny has created.

It is our opinion that negotiation with private enterprise can solve the most immediate problem: repayment of the \$17 million borrowed from Burlington taxpayers. Re-financing of the capital lease that put the network in place is also necessary to allow room to move B.T. along the path to success.

Investments in the business (technical upgrades and network expansion) are likely to total more than \$6 million, in addition to annual capital investments of \$600,000. Given the current mood of Burlington residents, it seems unlikely the money will come from City of Burlington coffers. And without the strength of a private partner, it is not likely to come from re-negotiation of the capital lease.

In our opinion, the City of Burlington would be shortsighted to divest the network, because any such action is likely to resemble a "fire sale." While selling the asset might satisfy repayment of the \$17 million, that action will deprive Burlington of an asset that, appropriately marketed, can be an engine for economic development.

We further believe that rather than issuing a request for proposals, the Blue Ribbon Committee should identify potential partners and visit with them about the potential of creating a win-win solution for the City of Burlington, Burlington Telecom and the private sector partner. We recognize the problems inherent in this recommendation but we also believe it will lead to a better deal for the City of Burlington.

Our further opinion is that Burlington negotiators should enter talks knowing their bottom-line on several critical components:

- Amount of money needed to restore contentment among Burlington residents and confidence that B.T. has the resources (financial, human and strategic) it needs to grow and prosper;
- Extent of the ownership percentage the city will sell and for what amount of money; and,
- Public disclosure rules that will affect the partnership, because it is unlikely a private sector partner will be interested in playing out all of its strategies in public.

While we understand the importance of the citizens' right to know, accurate quarterly reports should be sufficient, we believe. These reports should disclose carefully created measures that identify the performance and direction of the business.

In the case of HBC, those measures are:

- Revenue growth (targeted at 15 percent per year);

- Profit growth (targeted at 20 percent over three years previous); and,
- Line of credit performance (limited to the current borrowing maximum of \$7.5 million).

If measures such as these can be agreed upon between the City Council and Blue Ribbon Committee, the generation of quarterly (or even monthly) reports will be simple and clear, and the results will allow everyone with an interest to assess the progress.

Where might a partner be found?

As the HBC Board of Directors was told this week, if Burlington were 800 miles nearer Winona, MN, HBC would work hard to be that partner.

Having said that, here are firms that the HBC team believes should be consulted. They are, listed in priority order:

- Sovernet Communications, founded in 1995 and headquartered in Bellows Falls, VT, offers residential and business telephone and Internet services. Sovernet is a subsidiary of Atlantic Tele-Network, Inc. (NASDAQ: ATNI), headquartered in Salem, MA, that provides wireline and wireless service to under-served markets in North America and the Caribbean. ION HoldCo, LLC, a partnership that is majority owned by Sovernet, along with 12 independent telephone companies, has received a \$39.7 million stimulus grant to augment its 2,200-mile fiber network with 1,300 miles of additional broadband capacity. ION, Albany, NY, will use its grant funds in upstate New York, Pennsylvania and Vermont. Sovernet is headed by President and CEO Rich Kendall.
- RCN, founded in 1996, incorporated in 1997 and headquartered in Princeton, NJ, (NASDAQ: RCNI), serves more than one million customers in major markets such as New York, Boston, the Lehigh Valley of Pennsylvania, Washington, DC, and Chicago. RCN has during its history acquired companies such as B.T. RCN is headed by President & CEO Peter Aquino.
- Knology, Inc., founded in 1896 as Interstate and Valley Telephone Company to serve residents in Georgia and Alabama, emerged in 1994 to use fiber-optic technology to deliver voice, video and data services. Knology, headquartered in West Point, GA, (NASDAQ: KNOL), has grown its business through aggressive marketing in its territories and through acquisitions, including Prairie Wave in South Dakota in 2007 and Graceba

in Alabama in 2008. Rodger L. Johnson is the chairman and chief executive officer of Knology and M. Todd Holt is the president and chief financial officer.

- Venture capital firms also offer potential as sources of contacts for B.T. Companies such as FundingUniverse exist to connect companies like B.T. with active venture capitalists in various market segments, including telecommunications. Headquartered in South Jordan, Utah, near Salt Lake City, FundingUniverse is headed by Blake Johnson, its chief executive officer who joined the company in 2005.

RCN and Knology, like HBC, are members of the Broadband Service Providers Association (BSPA), a collection of overbuilders who have banded together to explore items of mutual interest and to make certain their existence and needs are known to policymakers in Washington, D.C. BSPA Executive Director John Goodman might also be helpful to Burlington. Goodman lives in Edina, MN.

## Analysis of B.T. Excess Capacity (Deliverable No. 5)

The Burlington Telecom fiber network has the potential to be the network of choice for all homes and businesses in Burlington. It is already capable of delivering better broadband speeds, more television channels and better quality voice services than other providers in the Burlington market. If B.T. continues to keep its network current, it will continue to have the best network in Burlington well into the future.

While the company operates with superior technology, it has stiff challenges to gain the business market share it needs and is capable of achieving. Business services typically offer higher margins and lower churn rates than residential services, so mounting an initiative focused on business customers should be a priority...but not at the total expense of ignoring or avoiding residential customers.

As a first step in the process of examining B.T.'s excess capacity, HBC Vice President for Technical Operations Dan Pecarina looked at the current status before moving on to assets in place that could be further leveraged. He found two areas where significant cost savings can be realized, identified two technical challenges and determined that potential opportunities for synergies, savings, and additional business exist.

### Current Status

The head end/central office is well designed and capable of delivering competitive voice, data and video services to residential and business customers. Power redundancy is covered by battery and generator backup. Connectivity to the Internet is provided by two tier one providers that use separate routes. The Internet Protocol Television (IPTV) system is now solid and stable. Telephone services are delivered through a Class 5 switch using the legacy TDM standard. The Calix FiberDrive access system is used to transmit voice, data and video services to optical network terminals (ONTs) at homes and businesses.

While the fiber network was not designed and built in a manner that follows standard engineering and construction procedures, it does provide excellent FTTH services to connected customers. Fiber passes through most areas of the city, but B.T. personnel do not have a clear and consistent understanding of what can be connected, when connection can occur or how many homes and businesses have been passed. This makes sales and marketing difficult and is a weakness that must be addressed.

Burlington Telecom also has four huts in the city that are used to aggregate fiber bundles from outer areas of town. The hut at 250 Main Street has an additional purpose of major importance to the future of Burlington Telecom. Several regional fiber-optic networks are co-located in this

hut. This will provide B.T. with connectivity to communities throughout a multi-state area and should provide reduced transport costs for Internet access.

HBC's Pecarina observes that each of the leaders on the technical side – Chris Burns, Jim Wemette and Michael Flora – has solid technical knowledge, but he sees a disconnect between their areas and the direction of the business. It seems, he says, as if various areas of the business sometimes pull in different directions. This may be due to the political influences now buffeting the business and/or the fact that the skills of the management team are heavily weighted toward the traditional telecom technical side.

In looking at what is in place and what technologies are being used to deliver services currently, the HBC team found a number of capabilities that can be leveraged to build revenue production.

## Opportunities

### Voice

VoIP Services – B.T. is not currently utilizing its VoIP capabilities. The company is providing TDM service but will need to add VoIP services in order to retain the customers it has. VoIP can also help B.T. expand its market share, particularly when used with converged services.

Business Hosted Services – A partition can be created for each business customer that will allow customers to manage their own telephone services the same way they would if they owned a PBX. These features, HBC has found, represent an easy sell to businesses because they have all the functions and features they would have if they owned a PBX, but they save thousands of dollars in capital and operating costs. By utilizing this capability, B.T. would receive monthly payments for telephone lines in addition to receiving per-line hosting fees. If the customer desired, B.T. could also earn extra revenue by managing customer service changes, including adds and drops.

Wholesale VoIP Services – Much the same as business-hosted services, wholesaling VoIP services would open telephone service markets outside Burlington. The company's VoIP switch can easily be used to serve other CLECs providing services to communities throughout Vermont and New York, creating a steady stream of revenue for B.T.

Revenue from VoIP Features – There are a number of features that can be added to services received by residential and business customers to increase revenue. The first features added should include: Caller-ID on TV, Find Me Follow Me, and Converged e-mail and voice-mail

## Data

Co-Location Service – While B.T. does some equipment and service co-location, this service could be expanded in a number of ways. With the space available at the B.T. head-end, the available power redundancy and the dual Internet backbone providers, B.T. is the best location in Burlington to grow a hosting center. Fees for the rental of space and maintenance of the equipment provide an excellent source of revenue.

Server Co-Location – Co-locating servers in the B.T. facility can be another excellent source of revenue, but it must be actively marketed. While there is a reference to co-location on the company's website, HBC suggests making the message more visible and more definitive. It is HBC's opinion that developing this service can create significant revenue.

Carrier Co-Location – B.T. has put some effort into co-locating other carriers in its facility. Level 3, Sovernet, Teljet, VTel and Fairpoint all have equipment in B.T. facilities. This is a great start, but the firm could take additional advantage of what is in place and gain even more with the things that might be added. There is great value in cutting costs to Internet POPs as well as partnering to provide services in communities these carriers reach. The co-location of a number of fiber transport companies at the 250 Main St. hut provides B.T. with new business opportunities. The easy access to the Sovernet fiber is especially interesting. Sovernet has a broad-reaching fiber network in Vermont and recently purchased 51 percent of ION, a company with a fiber optic network throughout New York that recently received \$38 million in stimulus dollars to do additional network development. Sovernet also provides telephone and Internet services to residential and business customers throughout Vermont.

Internet Service – B.T. needs to lower its cost of sales, primarily in the area of backbone costs. This will open up much-needed higher-end Internet download packages.

Internet Packages - The symmetrical packages in place are good but download speeds of 20 megabits, 40 megabits or more are necessary to compete against the perception created by DOCSIS 3 marketing. In addition to the current high-end 8-megabit symmetrical package, the addition of a 20- or 40-megabit download and 2-megabit or 4-megabit upload package will clear up the misconceptions that exist in the Burlington market regarding whether Comcast's higher download speeds actually represent a better deal to the customer.

Value-Added Services – Adding over-the-top services such as ESPN 360 will help Internet marketing efforts and make the service more valuable to the customer.

## Video

Stability, Reliability in Place – The foundation of the B.T. video service is now stable and reliable, but there is work to do to gain the confidence of the community after a shaky start. With high definition (H.D.), digital video recording (DVR) and video-on-demand (VOD) services now in place, there are a few logical next steps. These could include opening B.T.'s offices to the community on several weekends and evenings to: show customers the equipment currently in place (the head end is an impressive asset that will, we believe, excite people), tout services and sign up customers. The enticement of food could be used to encourage people to participate.

Advertising Insertion – With the size of the local business community, selling and inserting local advertising could be a profitable service, but it requires a capital investment that has not been included in the financial models HBC has completed on B.T. Eventually this could be a partnered service since B.T. has no ability at this time to do advertising production work. Pre-roll advertising on VOD also has good revenue-generating potential.

IPTV Add-on Features – These features are easy to add and will help to reduce churn: Caller ID on TV, Widget applications (available in Minerva 4), Games, Social Networks

## Additional Applications

Education – B.T.'s fiber-rich network offers great opportunities for emerging education applications. Distance learning features currently include a number of two-way, interactive applications, among them on-line tutoring, interactive testing, virtual worlds, and simulations. In addition, the network's capability, including its backbone services to the Internet, offers opportunities to both the University of Vermont and Champlain College. These opportunities should be part of proposals made to Burlington's higher education institutions.

Security – With the number of fiber strands available, the B.T. network should be attractive to both home and business security and monitoring firms. Sales proposals should be authored to such firms in and outside of Burlington. Integrated with security is home monitoring and automation. A home or business could install a variety of sensors, cameras and other related equipment and monitor them through a web portal or cell phone application.

Health Care – Winona's broadband network has been attractive to many health care information firms, including Cerner and A-Vu Media. Cerner's electronic medical record and personal health record capabilities have been available to Winonans since 2000 and the newly created A-Vu Media will offer promising features to make technology less intimidating to senior citizens and handicapped residents, enabling them to live independently longer. The network also offers opportunities for remote diagnostics, including the reading of X-rays, CAT scans and

MRI's. There are entities within Burlington (the University of Vermont medical complex, by way of example) that should be encouraged to use these applications, all of which could provide an additional revenue stream to them and to B.T.

Gaming – Interactive entertainment is now one of the largest industries in the world. These applications require the high bandwidth and low latency for which FTTH is known. Multi-player games with voice chat, text chat and other interactive features are growing at a rapid rate. Subscription gaming in 2008 generated more than \$1.4 billion with virtual world entertainment revenue expected to reach \$3 billion by 2012. With an FTTH network in place, B.T. is in prime position to market special gaming packages that other providers cannot match. These packages are typically premium priced but the service is essential to the gamer community. With the growth of interactive entertainment, there is the opportunity for revenue to B.T. B.T.'s competitors do not have the capability to access this revenue. That means that gaming could quickly become another B.T. differentiator.

## Cost Savings

There are two areas where significant cost savings are possible and necessary: 1) installing new customers; and, 2) Internet backbone.

Burlington Telecom should immediately concentrate attention on these areas. Currently installation costs for new customers total approximately \$1,600, which is 75 percent higher than the industry average of \$900 for an FTTH installation. In addition, B.T. utilizes a 200-megabit backbone at a cost of \$6,000 a month and a 350-megabit backbone at a monthly cost of \$16,331. It is the HBC team's belief that backbone costs can be reduced considerably.

Reducing installation and backbone costs is essential if customer counts are going to grow in a manner that is cost effective for Burlington Telecom.

Here are the comparisons between the costs paid per install by HBC and B.T.:

	HBC Average Unit	Burlington Telecom Average Unit
<u>Materials</u>	<u>Cost</u>	<u>Cost</u>
Calix – ONU	300.00	
Calix – UPS	46.00	
Calix - Power Cord	20.00	
Calix – Enclosure	36.00	
SD Set Top Box	114.00	125.00
HD/DVR Set Top Box	267.00	375.00
Remote	6.50	6.50
Clear Access Router		
IP Switch	50.00	
HPNA	60.00	
Total Materials	899.50	1,033.60
Loaded Labor Rate	135.00	
Eustis drop (Average)	0.00	
Eustis In-Home wiring	0.00	
Total Labor	135.00	557.00
Total New Installation Cost	1034.50	1590.60

On the installation cost issue, HBC recommends that moves begin immediately to bring installation labor in-house and to reduce reliance on the contracting firms now employed. As pointed out in the viability analysis, setting the company's goal at essentially doubling its customer count by the end of the first quarter of 2012 is a key recommendation. If that is followed, the employment of five installation technicians could handle the growth. Since B.T. already employs two people who inspect the contract installers' work, that number should be sufficient to plan, schedule, inspect and evaluate the field techs' work.

We believe that by bringing installation work in-house, B.T. will be able to lower its labor costs significantly. In addition, re-negotiating prices on all equipment and supplies should accomplish modest savings on its material costs.

The cost reduction is necessary to make new connections cost effective, because viability of the business is based on accelerating growth in the number of customers and the volume of revenue while holding expense increases to a minimum.

In the area of Internet backbone costs, HBC recommends that B.T. personnel immediately and aggressively begin to re-negotiate contracts. It is the opinion of HBC that as much as \$6,000 per month should be saved through this re-negotiation. Costs should be in the neighborhood of

\$25 to \$30 per megabit, as compared to the \$40 per meg rate now being paid by B.T. By way of additional comparison, HBC buys twice as much bandwidth per month than B.T. and pays only \$7,000 more for the additional capacity. B.T. is advantaged by having its network co-located with backbone providers, which should help its efforts to renegotiate rates and reduce costs.

## Technical Challenges

While the network has more than enough capacity to double the number of applications flowing on it, there are two key needs that must be dealt with in the short-term future. The Calix FiberDrive platform used by B.T. has been discontinued. While Calix will support the platform until 2014, B.T. should begin now to address the conversion to a new access system. In addition, B.T. is delivering all of its video content in an Mpeg 2 format. Converting the high-definition channels to Mpeg 4 will reduce the firm's bandwidth consumption and the potential for channel digitization.

Access System – Calix has ceased manufacture of its FiberDrive access platform, something that HBC believes B.T. should begin to deal with now. B.T. should select a replacement platform. As soon as the replacement platform is selected, B.T. can begin purchasing the ONTs necessary for the long term. B.T. can also begin the process of replacing the already deployed ONTs, none of which will be compatible when the FiberDrive system is retired. HBC recommends that the decision on a new access platform be made in 2010. Implementing the new platform and purchase of compatible ONTs should begin in 2011. Full conversion to the new access platform should be completed by the first quarter of 2014. An example of a new access platform would be the Calix F7. The F7 configuration to handle the current 5,000 customers in Burlington would be approximately \$475,000. B.T. currently has approximately 5,000 ONTs deployed. It will cost approximately \$12,160 for every 128 customers added (or an average of \$95 per customer). Once the FiberDrive is retired, every existing ONT will have been replaced. That replacement cost is estimated at \$330 per ONT (a total \$1.65 million, plus labor, distributed over the next four years).

HD Conversion to Mpeg 4 – B.T. currently carries 66 H.D. channels. All of this content is delivered in Mpeg 2 format at approximately 20 megabits per channel. As customer growth for IPTV services accelerates, the bandwidth needed to deliver the H.D. content on the access network ( $20 \text{ Mbps} \times 66 = 1.3 \text{ Gbps}$ ) will burden the network and increase digitization on customer television sets. Additional network stress will occur as the result of bandwidth needed in the home. A home with three television sets, two using H.D./Digital Video Recorder set-top boxes and one using standard definition, for instance, could use as much as 125 mbps of bandwidth for video services. Adding Internet access, in-home data networks, gaming systems and more, many homes would be attempting to push more than 200 Mbps around the home. Such use will cause a major strain on the in-home infrastructure and will likely increase

B.T.'s service-related calls. By converting the HD channels to Mpeg 4, the 1.3 Gbps on the access network would be reduced to 460 Mbps. The in-home network for IPTV could be reduced from as much as 125 Mbps to 45 Mbps or less. Most IPTV providers have made this switch or are in the process of converting due to the service-related issues that Mpeg 4 eliminates. The cost of converting B.T.s 66 HD channels to Mpeg 4 will be an estimated \$575,000. This conversion should take place in the next 24 months.

## Viability Analysis (Deliverable No. 6)

As mentioned earlier and often, Burlington Telecom represents an asset that, in our opinion, the City of Burlington should neither relinquish nor spin off. However, B.T. is unlikely to emerge as a successful competitive telecommunications entrant without some course corrections. We note, happily, that those can be achieved.

The past has proven to be less than kind to the operation, but dwelling on how much too much has been spent constructing the network and other mistakes that have been made will expend energy that might better be pointed at moving B.T. toward a path to success.

Initially, because B.T. today is constrained by both the economic and political environment, a private partner must be found – and quickly – to satisfy repayment of the \$17 million borrowed from the City of Burlington cash pool.

The City of Burlington should seek to acquire a private-sector partner, divesting enough of its network ownership to more than satisfy repayment of the loan and to provide the reorganized company with sufficient capital to operate without having to disclose key strategies and goals before they are initiated.

Once repayment of the loan is complete and a private partner in place, a second key step is to renegotiate the capital lease that funded network construction. Although the current rate of 4.617 percent is excellent, the Piper Jaffray proposal is even more attractive. It is our hope that the proposals from lenders now being examined will offer additional benefits to B.T.

Once a partner is found and the political storm has calmed, B.T. must simultaneously work to control its installation costs, mount an aggressive customer acquisition program and seek to revolutionize its customer care practices.

The company's dependence on contractors for its installation work, we believe, harms the overall effort in a number of ways, including: 1) installations now cost 75 percent more than the national fiber-to-the-home (FTTH) average of \$900; 2) a customer's first face-to-face contact with B.T. is with someone other than a B.T. employee...and, moreover, with a worker essentially employed by the same company that Comcast uses for similar duties; and, 3) quality control is left in the hands of people who earn their money based on the number of installations they can complete in a day.

Restructuring the company's organizational chart to include field technicians will allow, we believe, B.T. to reduce installation costs, improve quality control and more effectively guide customer acquisition and early customer care efforts.

The opportunity to create a viable business depends largely upon the ability to acquire new customers at an accelerated rate. Every aspect of the company must be focused on this target, but it should be done as the result of careful planning after steps have been taken to reduce current installation costs.

We would recommend employment of a consultant (if no such person is currently employed by the City) to guide the company's employees through a strategic planning process.

We would suggest establishing a pre-planning goal of doubling the current customer count by the end of the first quarter of 2012. Given the fact that B.T. is local, that it has an abundance of fiber-optic strands available, and the fact that no current competitor can compete with it technologically, establishing a challenging goal should be embraced by current management staff and should focus the employees' energy on the target and the steps they together agree upon to reach the goal.

The planning exercise should also give managers sufficient information to realign the current organizational chart to focus attention on the redefined strategies.

Reaching that target, we believe, will require major changes in current practices and some physical changes as well.

Burlington Telecom must seek to make itself indispensable to its current customers and attractive to those people who are not yet customers. Part of the planning exercise must focus on what ingredients are not yet in place to endear the company to the community.

It is our hope that political issues can quickly be dealt with, because the ill winds currently blowing across Burlington are, in our opinion, retarding the company's growth. But that situation is surely not the only issue that needs attention.

Everyone with a stake in the success of Burlington Telephone – staff, Blue Ribbon Committee, City of Burlington and residents of Burlington – should be enlisted in efforts to make the company successful. Focus groups and surveys should be used to determine those things that are needed. We imagine that the University of Vermont and Champlain College likely have resources that could be employed to get cost-effective answers to questions about content desires in the voice, video and data areas, the things that people like and do not like about all the current providers and what sort of changes might be made to increase the attractiveness of B.T. to its non-customers.

During our visit to Burlington, we reached several conclusions about changes or additions that should be considered to make B.T. a recognized community asset, including:

- Changing its phone protocols so “real” people answer calls, eliminating the confusing set of options now put before callers;
- Examining its product bundles to make certain it is offering the fewest, most attractive options to customers...options that are easily understood;
- Making every follow-up call to customers a strategic and planned effort to sell additional services;
- Evaluating all of its customer experiences to see which ones can be improved at the lowest cost with the greatest positive impacts.
- Remodeling its customer service area to create a friendly atmosphere that will make customers want to visit and sign up for service;
- Accepting cash payments rather than sending people who come in with cash somewhere to purchase a money order;
- Eliminating the three-days-to-service program now touted and let the customer decide what timeframe is acceptable;
- Establishing time-specific installations as an additional company differentiator, rather than scheduling by “morning” or “afternoon;”
- Uniting sales and customer service functions under a single sales manager and making it the job of everyone to sell, sell, sell – including seizing every opportunity to either make a sale or upgrade the number of services a customer has;
- Instituting a Refer-A-Friend program that rewards both the new customer and referring customer (HBC provides a \$50 credit to each party for a three-service referral, \$20 each for a two-service referral, and \$10 each for a single-service referral);
- Making work fun by encouraging and rewarding teamwork through incentives, celebrating successes and recognizing disappointments as an educational opportunity;
- Getting more involved with the community in every way possible (HBC employees are expected to be involved in community efforts, no matter where they live) and determining what company assets exist that can reinforce the efforts by individuals (HBC uses its bucket trucks to put up and take down Winona’s holiday decorations, donating the stipend it gets from the City of Winona to charity);

- Seeking employees who live in the company's service territory and making certain they have B.T. services (how else can they be expected to offer solid advice to friends and neighbors?);
- Developing a strategy for securing multiple-dwelling-unit (MDU) customers; and,
- Using revenue-per-employee as a key metric in helping to keep the number of employees, salaries and benefits in check (HBC generates annual revenue of \$200,458 per employee).

The HBC team believes that Burlington Telecom should increase its employee load to include installation technicians. Doing that, it feels, will lower expenses while increasing control over the total customer experience. How many field techs should be employed must depend upon the sales targets established in the strategic planning session. Installation techs in the FTTH environment, we believe, should be able to complete two installations a day, at a minimum. Using two installations per day as a guide, each tech should be able to complete 10 installations a week or 480 a year, allowing for four weeks of paid time off (vacation, holidays, sick days and personal days [if applicable]). Five field techs kept busy with two installations a day would allow B.T. to cross the 9,000-customer mark by the end of the first quarter of 2012.

We also believe that B.T. must develop partnerships with those institutions in Burlington that can help the company succeed. Among those institutions are the University of Vermont and Champlain College, neither of which currently is a full-services customer.

To make that happen, B.T. must find a way to provide, at a minimum, service to the residence halls at the higher education institutions. Both institutions currently bid out the services they provide, either in total or in part. The University of Vermont has dropped wireline voice services to residence hall rooms because of the popularity of cell phones. If B.T. can solve the technology complexities of its video system, it will represent a very quick way to gain several hundred customers, assuming the bids can be won.

(HBC estimates that converting 80 video channels from Internet Protocol to Radio Frequency will cost \$48,000. This solution would allow service to schools, hospitals, nursing homes, assisted living complexes and likely other multiple dwelling units, too. If more than 80 channels must be converted, the cost per channel will be in the \$500 range. Delivering data and voice services will need little in the way of equipment.)

HBC, by way of example, serves 3,810 units in multiple-dwelling housing complexes, most of them at Winona's two universities, and, under the programming payment option, is allowed to accomplish bulk bids that limit payment to 468 subscribers. Although changing,

programmer rules still allow the value of the bid to be divided by the expanded cable rate to determine the number of subscribers for which a company pays. Under this formula, certain content is excluded from being shown in general gathering places, but can be shown in individual rooms.

HBC also works with owners of apartment complexes to develop programs that allow various services to be built into the rent structure. This permits several customers to be served under a single bill, eliminating non-payment problems for a market segment that frequently represents the most risky of customers.

The higher education institutions also represent fertile ground for local content. We were pleased to be told that B.T. has initiated contact with Burlington Technical Center, which produces Burlington high school events.

We also were told that the University of Vermont is willing to consider giving B.T. the rights to produce and broadcast its activities. While local programming is a costly endeavor, it is also an effective differentiator.

Before deciding to enter the production business, we believe B.T. should see if some form of partnership with Burlington Technical Center can be forged that would allow the Center's students to produce programs for B.T. to broadcast. Such a relationship could be helpful to Technical Center students and to B.T. Students involved in the cooperative program will expand their ability to author more effective applications to educational institutions. In addition, some form of minimal compensation might be considered, along with grants to the Center to improve its program and equipment.

HBC currently spends more than \$700,000 a year on its local programming efforts. B.T. cannot yet afford such an expenditure, but it should look for more cost-effective alternatives to differentiate itself from Comcast.

If the partnership with the Technical Center can be expanded, over time it might be leveraged to include expanded programming of interest to Burlington residents. HBC produces programs involving athletics, the performing arts, cultural and community events, something its competition is not willing to do.

These types of initiatives do what B.T. most needs: drive revenue upward.

The sale and insertion of local advertising should also be examined. HBC generates more than \$250,000 a year in local advertising sales. While that does not offset the cost of local programming, it does help.

In the opinion of the HBC team, if through careful planning and execution the installation costs can be reduced to near the national average of \$900 and if the resources can be secured to make the necessary technical upgrades and to allow customer counts to increase to 9,000 by the end of the first quarter of 2012, Burlington Telecom will be on its way to viability.