7712 Stanmore Drive
Beltsville, MD 20705
(301) 210-5200

January 6, 2010

Mike Monson
Fred Halenar

Re: Report on Financial Analysis of Fiber Business Plans

Gentlemen:

Following is a report that describes the work that CCG Consulting performed in the analysis of various fiber business plans in Champaign and Urbana. In a separate report we discussed the business plan that would result if the cities accept the ARRA grant. This report looks at the options of a business plan if the cities together were to become a retail provider of services, a wholesale business plan where the cities would build a network and then invite others to provide service on your fiber network, and finally, separate business plans looking at the feasibility of each city getting into the fiber business alone without the other city.

Please call me at 202 255 7689 if you have any questions or comments about this report.

Doug Dawson
President
CCG Consulting LLC

DRAFT

Executive Summary

CCG looked at several additional scenarios for operating a fiber business in the Cities beyond the grant-only model. We looked at a retail model that covers both cities with one combined business, we looked a wholesale scenario where the cities would build the network and invite service providers to bring services. Finally we looked at the feasibility of either Champaign or Urbana offering services without the other city.

Some of the findings from these studies include:

- There is a very good business plan for providing retail services for both cities combined. Such a business could breakeven with a 35% customer penetration in cable TV and data services. At a 50% penetration the business plan generates $26 million in excess cash after 10 years and $95 million of cash after 20 years. The business plan is conservative in that it assumes some of the following:
    - The model uses the same data rates for the larger business as used in the grant business plan. These rates can be increased for greater revenues.
    - The model assumes a 5.5% bond issue on a 25-year bond. The current market rate for this type of bond is below 5%.
    - The model is limited to selling data, telephone and cable TV revenues. Industry experts expect other new sources of revenue on fiber networks over the next few decades.
    - The model predicts no outside revenue source from carriers and other large businesses. As a comparison, a similarly sized fiber network in Lafayette Louisiana generates about $2M per year in fiber sales to carriers, wireless companies and large businesses.
- There does not seem to be any reasonable business plan for operating an open access network. An open access network would be a business plan where the Cities built a fiber network and then sold access to customers to other companies that would provide data, telephone and cable services. We looked at two options – one where open access was provided for all services, and a second option where the Cities sold retail data services and sold access for telephone and cable services. Both business plans did not generate enough cash to cover debt service.
- There is a very solid business case for Champaign to enter the retail business without Urbana. Such a business could breakeven with a 40% customer penetration in cable TV and data services. At a 50% penetration the business plan generates $16 million in excess cash after 10 years and $78 million of cash after 20 years. The business plan uses the same conservative assumption used in the study for both cities combined.
- There is a business case to be made for Urbana to enter the fiber business without Champaign. However, such a business would require a 51% customer penetration rate to breakeven and is thus somewhat risky. At a 50% penetration the business plan generates $3 million in excess cash after 10 years and $14 million of cash after 20 years. The business plan uses the same conservative assumption used in the study for both cities combined.
- Next Steps. The first step we always recommend before thinking seriously about a full-City business plan is to conduct a statistically valid survey to find out the interest of fiber

DRAFT

products in the communities. We have found that residential surveys are a very good indicator of how a well-run fiber business will succeed in terms of customer penetration rates.

Retail Model

After looking at the grant model, CCG then looked at the feasibility of building a FTTH network to serve all of the homes and business in both cities. The model assumed that this would be a joint business owned by both cities.

The business plan assumed that you would begin building the additional FTTH network at the end of the three year grant period and that you would get your first new customer outside the grant area in the year after starting construction. The new business would be a full retail model where the new business will sell voice, video and data to customer

Results of the Study

The retail model produced the following results:

- EBITDA positive in 2015, the third year after getting the bond. EBITDA (Earnings before interest, taxes, depreciation and amortization) positive means that operating revenues are greater than operating expenses.
- Net Income positive in 2017, the fifth year after getting the bond. This means that revenues are greater than all expenses including depreciation and interest.
- Cash positive in 2018, the sixth year after getting the bond. This means that the revenues cover all expenses, debt service and capital additions.
- Cash Generated by Year 10 - $26 Million
- Cash Generated by Year 20 - $95 Million

Assumptions in the Study

Following are some of the key assumptions in this model:

- Cash Basis. Revenues are presented on a cash basis, when earned.

Property and Depreciation. Property is recorded at original cost. Major property will be booked using work orders, meaning that some amounts of installation labor and overhead will be recorded as part of the asset value. Additions and major replacements are capitalized. If an asset is sold, retired or otherwise disposed of, the forecast follows Federal Communications Commission Part 32 accounting rules whereby an equal amount of depreciation reserve is retired along with the original book value of an asset. This preserves any gains or losses associated with retirements on the books for future ratepayers. Depreciation expense is calculated using straight-line rates based upon expected useful lives for each major category of asset.

Taxes. The business would be from State of Illinois and federal income taxes, so the forecast contains no income tax provision. Many of the revenues collected by the business are subject to taxation. The forecast assumes that such taxes will be added to customer bills, as is the standard in the communications industry, and that amounts collected from customers will be routed to the appropriate taxing authority. Since the forecasted financial statements assume that the business will have to submit taxes only as actually collected, such taxes are not reflected in the forecast.

- Bond Financing. The model assumes bond financing of $100 Million. The average interest rate is assumed to be 5.5%. The bond includes 3 years of capitalized interest. The bonds also include a bond reserve fund equal to one year of bond payments. Obviously the terms of an actual bond issue can be different than this, but this is typical for the current bond market. Most cities that have gotten into the fiber business have financed the projects using revenue bonds. These are bonds that are backed by the revenues from the project and not by the other tax revenues of the City.

  The bond issue to finance the project is estimated as follows:

Equipment	$ 68.0M
Software	$ 1.2M
Inventory	$ 0.5M
Bond Fees	$ 0.8M
Working Cash	$ 5.0M
Capitalized Interest	$ 16.6M
Bond Reserve Fund	$ 8.4M
Total Bond	$100.5M

Asset Additions. Forecasted assets additions are as follows:

	Fiber	Electronics	Voice & CATV	Other	Total
2013	$9,742,848	$4,145,787	$4,190,000	$4,276,127	$22,354,763
2014	12,072,952	1,773,523	629,427	488,153	14,964,065
2015	15,255,280	4,276,018	1,202,530	243,613	21,078,441
2016	5,274,454	3,689,624	1,776,010	79,500	10,819,587
2017	6,063,470	5,241,624	1,929,493	101,500	13,336,332

Assets purchased through 2015 will be funded with the bond financing. Assets after 2015 will be funded by cash generated from operations. The assets included in each category above are as follows:

Fiber – Builds from the backbone fiber created by the grant and builds fiber feeder cables to get to each neighborhood from the fiber backbone, and fiber drops to connect customers to the fiber network.

Electronics – Includes electronics needed to distribute the services from the headend to each customer's location.

Voice and Cable TV – Includes a voice switch, a cable TV headend and cable settop boxes.

Other – Includes a building at the headend, vehicles, furniture, computers, software, inventory and test equipment.

For depreciation purposes, asset lives are estimated as follows:

Building	25 years
Vehicles	5 years
Computers	7 years
Furniture	7 years
Voice Switch	8 years
CATV headend	8 years
FTTH electronics	7 years
Fiber	25 years

Other Assets and Liabilities

- Accounts receivable are assumed to equal one month of customer revenue.
- Inventory includes spare fiber and electronics sufficient to make routine repairs to the network.
- Accounts payable are assumed to equal one month of cash operating expenses.

Customer Penetration

Residential Customer Assumptions

- The cable TV service penetration rate is assumed to be 50 percent of residential households by 2018 and is arbitrarily set at that level thereafter**.**
- The telephone service penetration rate is assumed to be 42 percent of residential households by 2018 and then decreases each year thereafter**.**
- The high-speed Internet and data service penetration rate is assumed to be 51 percent of households by 2018.

Business Customer Assumptions

- The telephone service penetration rate is assumed to reach 48 percent of the businesses by 2018 and grows slowly thereafter.

- The cable TV service penetration rate is assumed to be 15 percent of the commercial customers by 2018.
- High-speed Internet and data service penetration rate is assumed to be 51 percent of the businesses by 2018.

- The following table shows the total assumed customers.

	Phone	CAT V	Data
2014	3,780	4,226	5,207
2015	9,920	10,292	12,115
2016	14,868	16,262	18,023
2017	19,973	22,211	24,483
2018	20,992	23,810	25,346
2019	20,657	23,926	26,220
2020	20,303	24,058	26,607

- Revenues and Expenses
  Following is a description of the significant revenue and expense assumptions:

Operating Revenues

Telephone services are forecasted based upon an assumed basic residential monthly rate of $17.45, a 15% discount from existing rates. A long distance with unlimited minutes will also cost an assumed $20. In addition to basic telephone service, the financial forecast assumes an array of features, the ability to connect IP telephones to the network and advanced business features. The forecast predicts no increases in telephone rates into the future.

- Cable TV rates are forecasted based upon a 15% discount of the various rates of the incumbent provider, Comcast, as of December 2009. In addition to basic service FiberNet will be offering advanced features such as Video on Demand. The forecast assumes that cable rates will be increased by 4% every second year.

- Interest income is calculated on the bond reserve fund and the operating cash fund at 2%.

- Assumed data rates in the forecasted financial statements are as follows:

Residential and Business	
5 Mbps upload and download	$ 20.00
10 Mbps upload and download	$ 30.00
20 Mbps upload and download	$ 40.00
30 Mbps upload and download	$ 50.00
40 Mbps upload and download	$ 60.00

The forecast assumes over time that speeds will increase but that rates will be held constant, with no increases.

Operating Expenses

- The business would be operated by a direct employees hired by the new business.
- The business plan assumes that the business will acquire cable TV programming through NCTC, the National Cable Television Cooperative. NCTC sells programming to a large number of cable providers and its rates are significantly lower than buying programming directly from the programmers.
- A significant expense is labor. The business is projected to launch with 16 employees, growing to 74 employees five years after adding retail customers initially the plan assumes the use of external helpdesk employees, with this group brought in house when there would be a savings.
- The business must obtain Internet access. The forecasted financial statements assume that this will be provided free for five years as part of the matching funds for the grant. After that the business will pay for the bandwidth.
- The model assumes that there will be a local storefront that will house the customer service representatives and that will give a place for customers to make local contact. Rent is assumed to cost $17.50 per square foot for rent and utilities.
- The remaining expenses are bet estimates for the routine costs of operating a fiber network and would include such costs as vehicle expense, computer expense, maintenance and repairs to assets, training, etc.

Breakeven Case

One question that is always asked for any business plan is how poorly can the business perform, in terms of customer penetration and still remain self-sustaining. I have created a version of the business plan with lower customers and that still retains a decent working cash balance of just over $500,000.

One thing to note about a breakeven scenario. When bond funds are used to finance a project those funds can mostly only be used to finance infrastructure. Thus, if the business did more poorly than anticipated, there would be unspent bond money. The covenants of most bonds require that leftover bond money be put into the bank and used to retire bonds. This cash cannot be used to support the operations of the business. In this scenario there was $5.3 Million unused bond proceeds that I show being used to reduce principle.

The breakeven case has the following customer penetration rates:

- Residential telephone service penetration rate reaches 29% by 2015 and decline thereafter.
- Residential cable TV service penetration rate reaches 35% by 2014 and remains there for the life of the bonds.
- Business telephone service penetration rate reaches 50% of the businesses by 2017.
- Business cable TV service penetration rate never exceed 22% by the end of the bond payment period.
- Residential high-speed Internet penetration rate reaches 38% by the end of 10 years.
- Business high-speed Internet penetration rate reaches 38% by the end of 10 years.

Wholesale Model

Attached is a wholesale model. What I mean by wholesale is that the Cities would own the core network but then some other carrier or carriers would provide service on the network. In a wholesale model the Cities would be selling access to the network and I have used the industry term of selling 'loops' to describe this revenue stream.

I first looked at the concept of allowing the retail providers to sell the triple play. Under this scenario the City might collect something like $30 for a loop. This scenario lost tens of millions of dollars and there was no loop price that ever made this business plan come close to a breakeven. One might ask why this idea fails so dramatically? The issue is one of generating enough revenue to cover debt service. Under a wholesale model the Cities still need to build the entire fiber network including all of the drops and electronics. There is some savings from not having to construct a cable TV headend and a voice switch, but this lowers capital requirements only around $5M. Thus, the size of the bond under a wholesale model is only a little smaller than a bond under the retail scenario.

Because the bonds are so large there are still significant annual debt payments required. The reason this business plan doesn't work is obvious when one takes a quick glance at the difference in revenues – maybe $100 per customer on average with the retail model with something much smaller, say $30 with the wholesale model. That is not enough revenue to generate the cash needed to make the debt payments.

One might ask about raising the loop rate higher than $30, but this still does not solve the problem. If the loop rate is too expensive, then the wholesale providers are going to engage what is known as cherry picking. For example, if the loop rate is raised to $50, then the wholesalers will only sell to customers who will buy an expensive package of products. This kills the business plan since the customer penetration rate is so low.

The scenario we are describing is the identical scenario that was in place in the Provo, Utah municipal network. Prove sold $30 loops to wholesalers and never earned enough money to make bond payments. The City had to subsidize the system for a number of years before they finally sold it.

I then considered the scenario where the City continues to be the provider of data services and somebody else provides voice and cable TV services.

This scenario reduces the size of the borrowing from over $100M in the retail model down to $84M. I then looked at various loop prices. I started by looking at a $15 per month loop to give a wholesaler access to a customer. At that loop cost the business loses around $2M dollars per year. I then started increasing the loop price. At $30 dollars per loop it looks like the model could work, assuming a 50% penetration. However, here is where the catch 22 kicks in and this is exactly the same dilemma faced by Provo Utah. The higher the loop price, the smaller the sales by the retail providers. If the retail providers must pay $30 to get onto the network, then they are only going to want to cherry pick and sell services to the homes who buy big packages.

Thus when I say that this works with a $30 dollar loop I must modify that and say that it works with a $30 loop and with selling cable TV to a 30% customer penetration. However, that is not a realistic penetration rate when considering that loop cost. In my experience, no more than 15% of the customers in any town will buy an expensive package of the triple play products. With a $30 loop rate the wholesale provider is only going to want to sell the most expensive cable packages and will not contemplate selling basic cable to anybody. This is exactly what happened to Provo. They had loops of around $30, but they only got about half the customers on the network that were needed to break even. The wholesale providers selling on their network were cherry picking only the best customers. I call this a catch 22 because it has a classic no win scenario. If we charge a small amount for loops the network doesn't generate enough cash to make bond payments. However, if we raise loop prices, then the number of the customers on the network will drop dramatically and there is still not enough cash to cover debt payments. There does not seem to be any loop price that offers a hope of success with this business plan.

This finding differs from the advice that I gave in the grant-only report. In that report I said that the Cities should try to sell loops to wholesale customers on the grant network. The reason this works in the grant business plan is because the grant pays for the network and there are no debt payments needed. The reason the wholesale model doesn't work in a whole-city network is that the loop costs don't generate enough revenue to cover debt payments. This means that if the Cities allow a wholesaler to get onto the grant network that you must be very careful to make it clear that this same right is not going to extend to any network that you build using bond money.

There is one scenario that might make the wholesale model work, and that would be to have the retail provider pick up the $1,300 cost to get to each customer. I don't believe a retail provider exists who would dump that much capital into somebody else's network, but such a scenario would lower the risk of the business plan.

One City Models

Finally, I was asked to look at a model to see if Urbana alone or Champaign alone could go into the retail FTTH business. Following are my findings from those two scenarios.

Champaign Only Scenario

It looks like Champaign could successfully enter the retail FTTH without Urbana.

Results of the Study

The retail model produced the following results:

- EBITDA positive in 2015, the third year after getting the bond. EBITDA (Earnings before interest, taxes, depreciation and amortization) positive means that operating revenues are greater than operating expenses.
- Net Income positive in 2017, the fifth year after getting the bond. This means that revenues are greater than all expenses including depreciation and interest.

- Cash positive in 2018, the sixth year after getting the bond. This means that the revenues cover all expenses, debt service and capital additions.
- Cash Generated by Year 10 - $16 Million
- Cash Generated by Year 20 - $78 Million

Assumptions in the Study

Following are some of the key assumptions in this model:

- Bond Financing. The model assumes bond financing of $60.1 Million. The average interest rate is assumed to be 5.5%. The bond includes 3 years of capitalized interest. The bonds also include a bond reserve fund equal to one year of bond payments. Obviously the terms of an actual bond issue can be different than this, but this is typical for the current bond market.

  The bond issue to finance the project is estimated as follows:

Equipment	$ 40.4M
Software	$ 1.2M
Inventory	$ 0.5M
Bond Fees	$ 0.6M
Working Cash	$ 3.0M
Capitalized Interest	$ 9.9M
Bond Reserve Fund	$ 4.5M
Total Bond	$ 60.1M

Asset Additions. The business plan assumes the base fiber network is constructed using grant funds. Forecasted assets additions are as follows:

	Fiber	Electronics	Voice & CATV	Other	Total
2013	$7,247,534	$ 835,202	$4,260,000	$4,003,358	$16,346,094
2014	9,257,082	1,565,751	399,181	319,925	11,541,938
2015	10,486,014	2,278,440	982,857	11,333	13,758,644
2016	3,335,857	2,106,032	1,617,554	68,333	7,125,776
2017	3,836,133	2,978,440	1,235,090	72,333	8,121,996

DRAFT

Assets purchased through 2015 will be funded with the bond financing. Assets after 2015 will be funded by cash generated from operations. The assets included in each category above are as follows:

Fiber – Builds from the backbone fiber created by the grant and builds fiber feeder cables to get to each neighborhood from the fiber backbone, and fiber drops to connect customers to the fiber network.

Electronics – Includes electronics needed to distribute the services from the headend to each customer's location.

Voice and Cable TV – Includes a voice switch, a cable TV headend and cable settop boxes.

Other – Includes a building at the headend, vehicles, furniture, computers, software, inventory and test equipment.

For depreciation purposes, asset lives are estimated as follows:

Building	25 years
Vehicles	5 years
Computers	7 years
Furniture	7 years
Voice Switch	8 years
CATV headend	8 years
FTTH electronics	7 years
Fiber	25 years

Other Assets and Liabilities

- Accounts receivable are assumed to equal one month of customer revenue.
- Inventory includes spare fiber and electronics sufficient to make routine repairs to the network.
- Accounts payable are assumed to equal one month of cash operating expenses.

Customer Penetration

Residential Customer Assumptions

- The cable TV service penetration rate is assumed to be 50 percent of residential households by 2018 and is arbitrarily set at that level thereafter**.**
- The telephone service penetration rate is assumed to be 42 percent of residential households by 2018 and then decreases each year thereafter**.**
- The high-speed Internet and data service penetration rate is assumed to be 50 percent of households by 2018.

DRAFT

Business Customer Assumptions

- The telephone service penetration rate is assumed to reach 52 percent of the businesses by 2018 and grows slowly thereafter.
- The cable TV service penetration rate is assumed to be 15 percent of the commercial customers by 2018.
- High-speed Internet and data service penetration rate is assumed to be 50 percent of the businesses by 2018.

The following table shows the total assumed customers.

	Phone	CATV	Data
2014	3,756	3,620	4,192
2015	9,919	9,062	8,320
2016	14,568	14,421	12,038
2017	16,008	15,532	16,100
2018	15,872	15,615	16,671
2019	15,594	15,710	17,249
2020	15,321	15,802	17,501

Revenues and Expenses

Following is a description of the significant revenue and expense assumptions:

Operating Revenues

Telephone services are forecasted based upon an assumed basic residential monthly rate of $17.45, a 15% discount from existing rates. A long distance with unlimited minutes will also cost an assumed $20. In addition to basic telephone service, the financial forecast assumes an array of features, the ability to connect IP telephones to the network and advanced business features. The forecast predicts no increases in telephone rates into the future.

- Cable TV rates are forecasted based upon a 15% discount of the various rates of the incumbent provider, Comcast, as of December 2009. In addition to basic service FiberNet will be offering advanced features such as Video on Demand. The forecast assumes that cable rates will be increased by 4% every second year.

- Interest income is calculated on the bond reserve fund and the operating cash fund at 2%.

- Assumed data rates in the forecasted financial statements are as follows:

DRAFT

Residential and Business	
5 Mbps upload and download	$ 20.00
10 Mbps upload and download	$ 30.00
20 Mbps upload and download	$ 40.00
30 Mbps upload and download	$ 50.00
40 Mbps upload and download	$ 60.00

The forecast assumes over time that speeds will increase but that rates will be held constant, with no increases.

Operating Expenses

- The business would be operated by a direct employees hired by the new business.
- The business plan assumes that the business will acquire cable TV programming through NCTC, the National Cable Television Cooperative. NCTC sells programming to a large number of cable providers and its rates are significantly lower than buying programming directly from the programmers.
- A significant expense is labor. The business is projected to launch with 16 employees, growing to 74 employees five years after adding retail customers initially the plan assumes the use of external helpdesk employees, with this group brought in house when there would be a savings.
- The business must obtain Internet access. The forecasted financial statements assume that this will be provided free for five years as part of the matching funds for the grant. After that the business will pay for the bandwidth.
- The model assumes that there will be a local storefront that will house the customer service representatives and that will give a place for customers to make local contact. Rent is assumed to cost $17.50 per square foot for rent and utilities.
- The remaining expenses are bet estimates for the routine costs of operating a fiber network and would include such costs as vehicle expense, computer expense, maintenance and repairs to assets, training, etc.

- Breakeven Case

One question that is always asked for any business plan is how poorly can the business perform, in terms of customer penetration and still remain self-sustaining. I have created a version of the business plan with lower customers and that still retains a decent working cash balance of just over $400,000.

The breakeven for Champaign only is around a 40% market penetration in cable and data customers. This is a little higher than the breakeven for both cities combined of around 35%. One would expect this result since the fiber business has economy of scale, meaning the larger the business the easier it is to make it work.

Urbana Only Scenario

DRAFT

It is also possible for Urbana to enter the retail FTTH without Champaign. However, since this is a smaller business it would have a harder time being successful.

Results of the Study

The retail model produced the following results:

- EBITDA positive in 2015, the third year after getting the bond. EBITDA (Earnings before interest, taxes, depreciation and amortization) positive means that operating revenues are greater than operating expenses.
- Net Income positive in 2017, the fifth year after getting the bond. This means that revenues are greater than all expenses including depreciation and interest.
- Cash positive in 2019, the seventh year after getting the bond. This means that the revenues cover all expenses, debt service and capital additions.
- Cash Generated by Year 10 - $3 Million
- Cash Generated by Year 20 - $14 Million

Assumptions in the Study

- Bond Financing. The model assumes bond financing of $40.3 Million. The average interest rate is assumed to be 5.5%. The bond includes 3 years of capitalized interest. The bonds also include a bond reserve fund equal to one year of bond payments. Obviously the terms of an actual bond issue can be different than this, but this is typical for the current bond market.

  The bond issue to finance the project is estimated as follows:

Equipment	$ 26.8M
Software	$ 1.2M
Inventory	$ 0.4M
Bond Fees	$ 0.5M
Working Cash	$ 2.0M
Capitalized Interest	$ 6.7M
Bond Reserve Fund	$ 2.8M
Total Bond	$ 40.3M

Asset Additions. The business plan assumes the base fiber network is constructed using grant funds. Forecasted assets additions are as follows:

	Fiber	Electronics	CATV	Other	Total
2013	$4,143,202	$1,533,702	$4,260,000	$3,539,460	$13,476,480
2014	5,223,060	808,744	398,474	224,228	6,654,506
2015	5,870,383	1,185,019	791,109	8,167	7,854,678
2016	1,776,414	1,177,318	850,667	38,167	3,842,565
2017	2,023,793	1,678,214	483,455	45,167	4,230,630

Assets purchased through 2015 will be funded with the bond financing. Assets after 2015 will be funded by cash generated from operations. The assets included in each category above are as follows:

Fiber – Builds from the backbone fiber created by the grant and builds fiber feeder cables to get to each neighborhood from the fiber backbone, and fiber drops to connect customers to the fiber network.

Electronics – Includes electronics needed to distribute the services from the headend to each customer's location.

Voice and Cable TV – Includes a voice switch, a cable TV headend and cable settop boxes.

Other – Includes a building at the headend, vehicles, furniture, computers, software, inventory and test equipment.

For depreciation purposes, asset lives are estimated as follows:

Building	25 years
Vehicles	5 years
Computers	7 years
Furniture	7 years
Voice Switch	8 years
CATV headend	8 years
FTTH electronics	7 years
Fiber	25 years

Other Assets and Liabilities

- Accounts receivable are assumed to equal one month of customer revenue.
- Inventory includes spare fiber and electronics sufficient to make routine repairs to the network.
- Accounts payable are assumed to equal one month of cash operating expenses.

DRAFT

Customer Penetration

Residential Customer Assumptions

- The cable TV service penetration rate is assumed to be 50 percent of residential households by 2018 and is arbitrarily set at that level thereafter**.**
- The telephone service penetration rate is assumed to be 42 percent of residential households by 2018 and then decreases each year thereafter**.**
- The high-speed Internet and data service penetration rate is assumed to be 50 percent of households by 2018.

Business Customer Assumptions

- The telephone service penetration rate is assumed to reach 51 percent of the businesses by 2018 and grows slowly thereafter.
- The cable TV service penetration rate is assumed to be 15 percent of the commercial customers by 2018.
- High-speed Internet and data service penetration rate is assumed to be 50 percent of the businesses by 2018.

The following table shows the total assumed customers.

	Phone	CATV	Data
2014	3,660	3,606	2,085
2015	7,247	7,170	4,210
2016	8,325	8,104	6,192
2017	8,180	8,162	8,334
2018	8,025	8,200	8,627
2019	7,885	8,240	8,924
2020	7,736	8,290	9,057

Revenues and Expenses

Following is a description of the significant revenue and expense assumptions:

Operating Revenues

Telephone services are forecasted based upon an assumed basic residential monthly rate of $17.45, a 15% discount from existing rates. A long distance with unlimited minutes will also cost an assumed $20. In addition to basic telephone service, the financial forecast assumes an array of features, the ability to connect IP telephones to the network and advanced business features. The forecast predicts no increases in telephone rates into the future.

- Cable TV rates are forecasted based upon a 15% discount of the various rates of the incumbent provider, Comcast, as of December 2009. In addition to basic service FiberNet

will be offering advanced features such as Video on Demand. The forecast assumes that cable rates will be increased by 4% every second year.

- Interest income is calculated on the bond reserve fund and the operating cash fund at 2%.

- Assumed data rates in the forecasted financial statements are as follows:

Residential and Business	
5 Mbps upload and download	$ 20.00
10 Mbps upload and download	$ 30.00
20 Mbps upload and download	$ 40.00
30 Mbps upload and download	$ 50.00
40 Mbps upload and download	$ 60.00

The forecast assumes over time that speeds will increase but that rates will be held constant, with no increases.

Operating Expenses

- The business would be operated by a direct employees hired by the new business.
- The business plan assumes that the business will acquire cable TV programming through NCTC, the National Cable Television Cooperative. NCTC sells programming to a large number of cable providers and its rates are significantly lower than buying programming directly from the programmers.
- A significant expense is labor. The business is projected to launch with 16 employees, growing to 74 employees five years after adding retail customers initially the plan assumes the use of external helpdesk employees, with this group brought in house when there would be a savings.
- The business must obtain Internet access. The forecasted financial statements assume that this will be provided free for five years as part of the matching funds for the grant. After that the business will pay for the bandwidth.
- The model assumes that there will be a local storefront that will house the customer service representatives and that will give a place for customers to make local contact. Rent is assumed to cost $17.50 per square foot for rent and utilities.
- The remaining expenses are bet estimates for the routine costs of operating a fiber network and would include such costs as vehicle expense, computer expense, maintenance and repairs to assets, training, etc.

- Breakeven Case

One question that is always asked for any business plan is how poorly can the business perform, in terms of customer penetration and still remain self-sustaining. The Urbana business plan doesn't reach breakeven until around a 51% customer penetration rate for cable and data services. This is due to the smaller size of the City. I would note that there are municipal systems that have achieved a penetration rate higher than 50%. However,

DRAFT

having such a high breakeven threshold would put a lot of pressure on this business to succeed and there is no room for mistakes in operating the business.

DRAFT