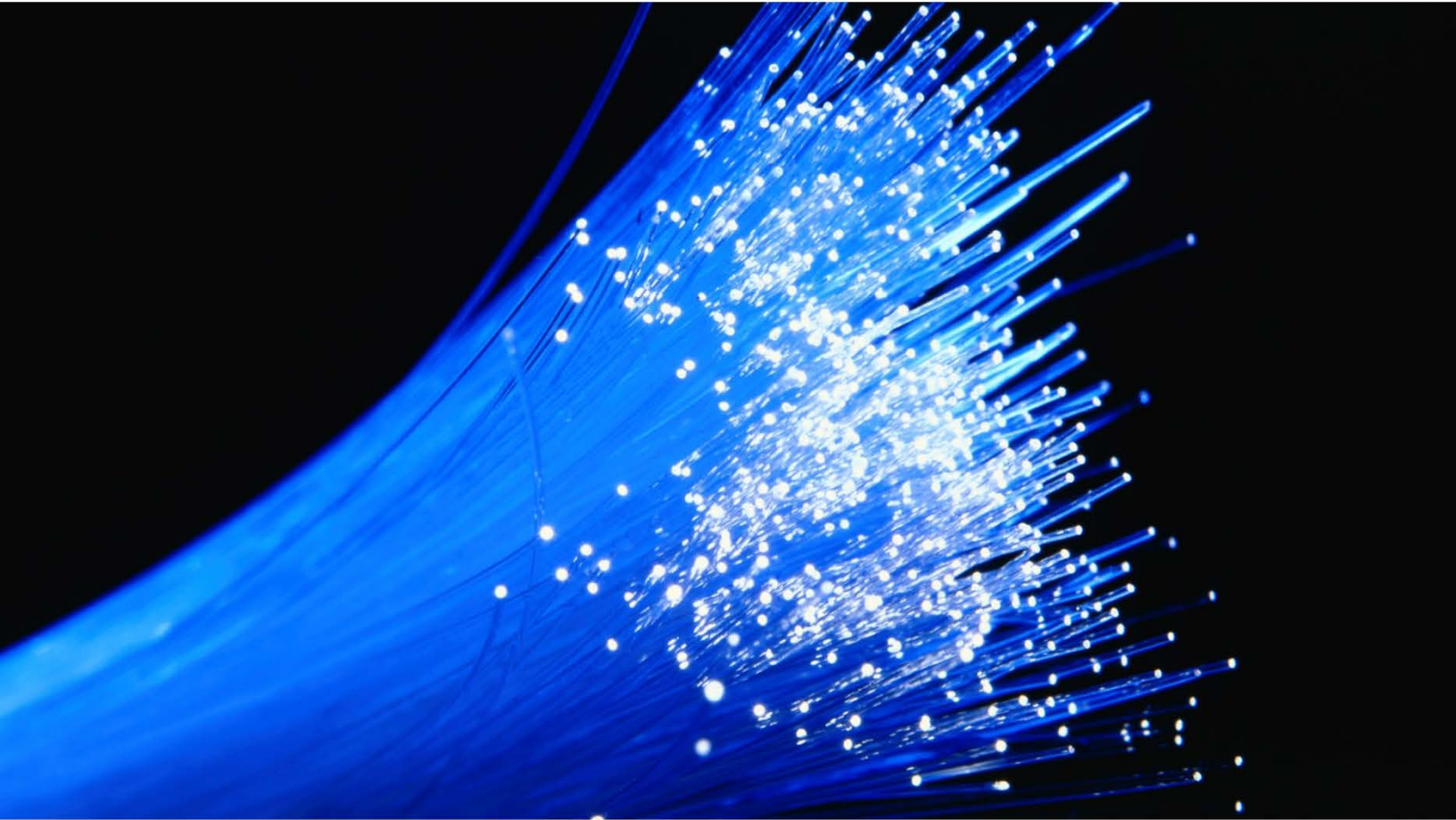


ctc technology & energy

engineering & business consulting



Fiber-to-the-Premises Financial Forecast and Partnership

Addendum

**Prepared for City of Santa Cruz, California
November 2015**

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1 Executive Summary

In an initial report prepared in mid-2015, CTC presented the City of Santa Cruz with a framework of objectives and partnership models for a fiber-to-the-premises (FTTP) network. The report provided guidance for City officials as they began to negotiate a partnership arrangement with Cruzio Internet (Cruzio), an independent Internet Service Provider (ISP) located in Santa Cruz and serving Santa Cruz County.

The purpose of this addendum is to provide updated analysis of the proposed partnership arrangement, and to highlight key considerations moving forward.

1.1 Contents of the Addendum

City officials have developed an arrangement that exposes the City to substantially less financial risk than the initial proposal would have exposed it to. While the City will retain ownership of and responsibility for maintaining the fiber network, Cruzio has agreed to operate and maintain the network electronics. Cruzio has demonstrated in the negotiations a willingness to share risk with the City in the pursuit of a mutually beneficial partnership.

Section 2 provides an overview of what portion of the network assets the City will control and maintain, and what Cruzio has agreed to take on in the current arrangement.

Section 3.1 provides an updated discussion of the cost of construction of the City's portion of the network based on this demarcation. Section 3.2 analyzes the City's operating costs and Section 3.3 comments on the principal and interest costs of the initial bond, as well as any subsequent operating loans the City may need to obtain.

Section 4 provides a discussion of how the structure of the fees that Cruzio will pay to the City will impact the City's ability to reach positive cash flow.

Section 5 concludes with a discussion of how the arrangement can fairly account for price escalation over time.

1.2 Reaching Positive Cash Flow Is a Shared Risk for the City and Cruzio

The City's potential partnership with Cruzio presents an opportunity for shared risk and shared rewards. In addition to the range of educational, economic development, and societal benefits that drive the City's interest in ubiquitous broadband, a successful Fiber-to-the-Premises (FTTP) network deployment would be self-sustaining and would deliver sufficient cash flow to service the City's network construction debt and its annual operational costs. Cruzio would in turn benefit from access to a state-of-the-art FTTP network, and the competitive advantage of being able to deliver a level of broadband service well beyond what any other Internet service provider (ISP) currently offers in the City of Santa Cruz.

The City and Cruzio would share the risk that the network might not achieve positive cash flow for both entities. To fully cover the City's costs, Cruzio will need to aggressively sign up new subscribers in the early years of the network. Based on the potential fee structure presented in Section 4, Cruzio will need to reach a roughly 34 percent take rate,¹ or approximately 7,500 subscribers, in order for enough revenue to flow into the partnership for both parties to reach positive cash flow. This is roughly double Cruzio's current customer base in the proposed FTTP footprint.

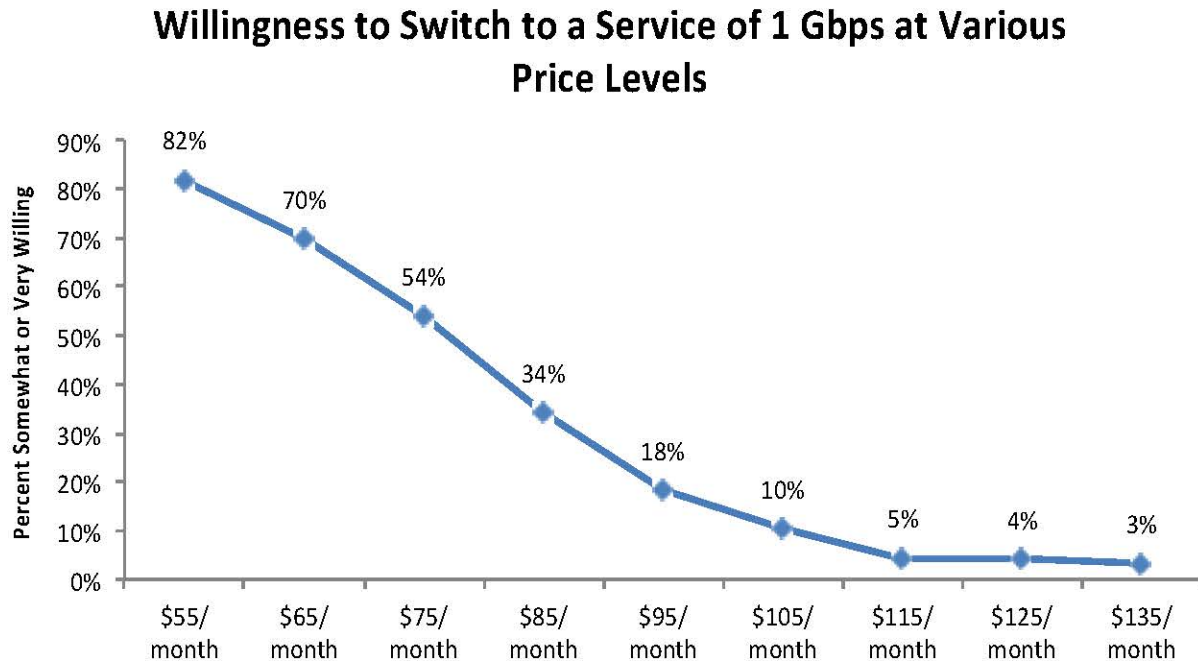
The City and Cruzio still need to agree on the rates that Cruzio will pay the City for each premises the City's FTTP network passes, as well as for each subscriber that Cruzio adds. These rates will impact the City's ability to service the debt it will take on to finance network construction. In Section 4 we present a detailed discussion of how the fee structure impacts the City's cash flow, and offers considerations on how to set the rates.

If Cruzio's adoption rate lingers well below 34 percent for an extended period of time, there will likely not be enough cash flowing into the partnership for both the City and Cruzio to cover their costs, even if the City is able to negotiate favorable rates. If the rate structure guarantees the City sufficient cash to cover the principal and interest payments on the network construction bond, Cruzio may not retain sufficient cash to cover its operating costs—potentially forcing the private partner into a risky financial position.

Once the take rate surpasses the 34 percent range, the City should be positioned to potentially achieve positive cash flow while charging rates that Cruzio should be able to pay while covering its costs. The take rate will primarily be influenced by the price Cruzio charges for data services, though other factors like the aggressiveness of the company's marketing efforts will also impact it. Market research conducted by the City and Cruzio indicates that 34 percent of customers are somewhat or very willing to switch to a 1 Gbps service at \$85 per month. At lower prices, the research indicates that the potential take rate is significantly higher. A graph summarizing the market research is shown below.

¹ To derive take rate, divide the number of municipal customers served by the total number of network passings. If the network passes 100 premises and 30 buy service, the network take rate is 30 percent.

Figure 1: Market Research on Pricing



Please note that these results are not guarantees, and effective sales and marketing efforts will be required to capture subscribers. In Section 4 we present the impact of projected take rates on the fee structure required for the City to maintain positive cash flow.

2 Network Demarcation

According to the current partnership arrangement, the City will construct, own, and maintain the underlying dark fiber network, while Cruzio will be responsible for providing, operating, and maintaining network electronics. This arrangement leverages the City's strengths as a public sector entity and Cruzio's private-sector strengths. The City will use its ability to access sources of long-term financing without requiring a large return on investment to cover the cost of the core infrastructure. Cruzio will then lease the fiber and use its operating and marketing expertise to light up the network and provide data services to residential and business customers.

The City is responsible for the fiber optic cable itself, fiber termination panels, handholds, conduit, fiber taps, and fiber distribution cabinets, as well as the fiber drop connection to the customer premises and the network interface devices (NID) that will be mounted on the wall of customers' premises. The fiber drop connection and NIDS are the two key variable costs to the City. The total amount that the City will spend on these two items is entirely dependent on the adoption rate that Cruzio achieves.

Cruzio is responsible for network electronics and optical network terminal, and—following negotiations with the City—has agreed to take responsibility for purchasing and maintaining the network's optical splitters.

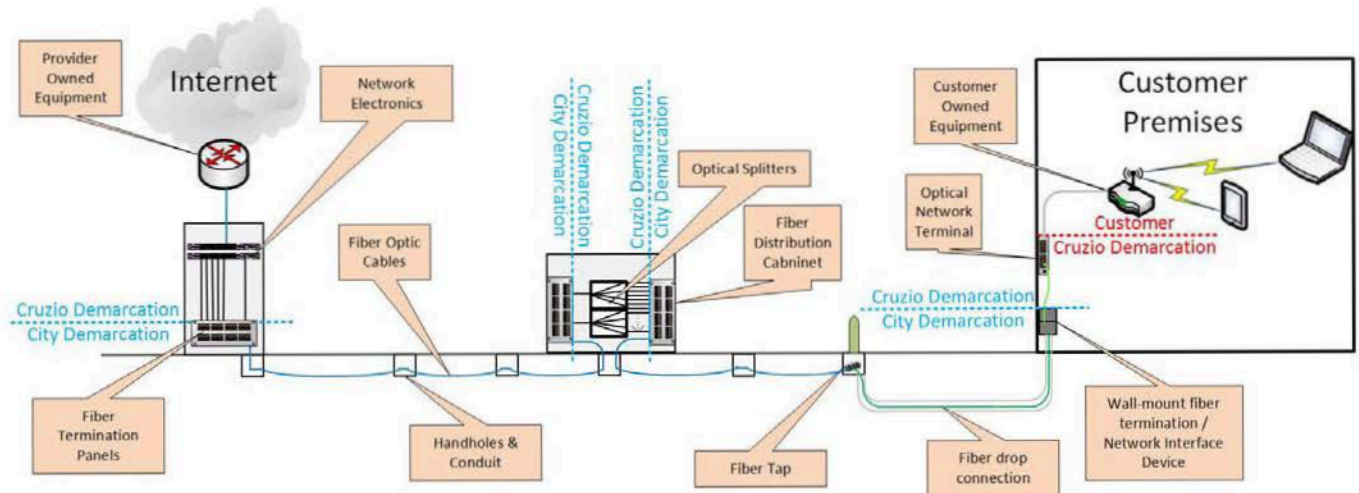
Cruzio had originally suggested that the optical splitters should be part of the Layer 1 assets that the City is responsible for providing and maintaining. However, as we explained to the City, there are operational and financial reasons for Cruzio to have that responsibility.

As operator of the electronics, Cruzio will need to be able to determine and control the split ratio on the GPON network to meet the performance needs of the network. This may involve moving power users to a GPON port with a lower split ratio or moving users around to different splitters to manage the capacity of the GPON ports. The City would not want to get involved in this level of network management.

Also, if the City were to have responsibility for the optical splitters, the City would have needed to maintain an inventory of various sized splitters—and would have had to swap them in and out as Cruzio's network changes. Indeed, even if the City were to decide to purchase some of the optical splitters for the network, it should be the responsibility of Cruzio to manage and maintain the splitters.

A diagram of the proposed network demarcation is provided in Figure 2.

Figure 2: Network Demarcation Diagram



3 Cost Estimates

3.1 Estimated Capital Expenditure

In May 2015, CTC completed a cost estimate for the construction and implementation of an FTTP network for the City of Santa Cruz. The CTC report estimated the total cost of the network to be just under \$52 million, including construction, network electronics, and customer premises equipment (CPE).

Under the current proposed partnership arrangement with Cruzio, the City would be responsible for construction costs (approximately \$42 million) but not for network electronics and CPE costs.

However, in the proposed arrangement, the City is responsible for the fiber drop to the customer premises, as well as the Network Interface Device (NID)² that will be mounted on the outside wall of the customer premises. The total costs of fiber drop construction and NIDs will depend on the adoption rate. While a high adoption rate is desirable for the City, it could push the City's expenses beyond what a \$45 million bond can cover.

If a high take rate were to increase the City's cost above its initial bond amount, the City could take out another loan to cover the additional capital costs. Alternatively, the City may decide to increase the amount of the original bond to provide sufficient cash to cover the capital costs that the City would incur at a higher take rate.

3.2 Estimated Operational Expenditures

Under the proposed partnership arrangement, Cruzio will be responsible for operating and maintaining the electronics needed to provide lit services to customers, while the City will be responsible for operating and maintaining the fiber outside plant. We estimate the City's total operating cost will be just under \$500,000 per year. This represents a relatively small portion of the annual costs associated with the FTTP.³

Labor costs make up a substantial portion of the total operating costs at an estimated \$177,240 per year. The next biggest cost will likely be fiber and network maintenance. Once the network is built, maintaining the fiber network will be the City's major ongoing responsibility. This cost is estimated at \$93,000 per year. The City plans to contract this responsibility out to a fiber maintenance vendor through a competitive RFP process.

² The Network Interface Device (NID) is a junction box typically mounted on the outside of the customer premises. It is a non-powered box that is used to connect the fiber drop cable (cable from the fiber tap to the premises) to the fiber cable extending from the NID to the Optical Network Terminal (ONT) located in the customer premises.

³ At a 34 percent take rate, the City's total annual costs are estimated at \$3.4 million, which includes \$2.9 million in a principal and interest payments for financing the FTTP network.

Locates and ticket processing will be another significant operational expense. Whenever anyone wants to dig in an area where the City has fiber buried, the City will need to deploy a staff person to locate and mark the fiber to help assure it is not accidentally severed. We estimate this will add a cost of roughly \$75,000 per year.

Insurance will also cost the City roughly \$75,000 per year. Other ongoing expenses include legal fees, consulting fees, and office expenses.

A complete set of assumptions and financial projections are shown in Appendix A.

3.3 Estimated Principal and Interest

The city is currently considering a \$45 million bond to cover the cost of construction and operating expenses in the early years, when the adoption rate will likely be low. In order to service that bond (assuming a 30-year term and an annual interest rate of 4.75 percent), the City will need to make payments of roughly \$3 million per year to cover the principal and interest.

As the adoption rate begins to climb, the City may find that the additional cost of fiber drops and NIDs could force the City to take out an additional loan. For example, if the network achieves a 34 percent take rate by year 3, we estimate the City would need an additional \$1.5 million to cover the drop and NID costs. This would not be a bad problem to have, because a high adoption rate would ensure that the City receives sufficient fees from Cruzio to service its debt. The City may decide to increase the initial bond amount in order to avoid needing to take out additional loans.

4 Impact of Fee Structure

City officials are still in the process of negotiating a fee structure with Cruzio. The rates that are set through negotiations will have a major impact on the City's ability to service its debt while retaining a positive cash flow. However, higher service fees also translate to higher service prices for consumers, which typically cause a decrease in take rate.

In the proposed partnership arrangement, there are two separate fees that Cruzio will pay to the City. One fee will be based on the number of premises⁴ that the City's fiber network passes. As the network is built out, Cruzio must pay a fee for every potential customer that the network passes. This fee is meant to incentivize Cruzio to pursue an aggressive marketing strategy in order to obtain a high adoption rate. It also guarantees revenue for the City, independent of the take rate that Cruzio is able to achieve.

The second fee is based on the number of subscribers that sign up for Cruzio's data services. This is a basic revenue-sharing agreement that allows both partners to benefit from new customer acquisitions.

The final fee structure will have an impact on how risk is shared between the City and Cruzio. For example, if the City were to lean heavily on the per passing fee as a revenue source while minimizing the per subscriber fee, it would guarantee a steady source of income for the City no matter how many customers Cruzio signs up. This approach would place a heavy financial burden on Cruzio in the early years of operation, however, and would limit the potential upside to the City if Cruzio manages to achieve a high adoption rate.

We recommend considering initial minimum monthly fees of \$6 per passing and \$30 per subscriber. These rates should provide enough revenue to the City to cover debt service payments and ongoing operational costs while still allowing Cruzio to earn enough from each subscriber to cover its costs.

4.1 Potential Discounts at Higher Take Rates

Once Cruzio achieves certain take-rate benchmarks, the City could choose to discount Cruzio's required fees and still meet its cash flow requirements.

Offering a discount structure provides Cruzio incentives to reach and maintain subscriber benchmarks at sufficient take rates to maintain the City's cash flow. The discounts do come at a cost to the City, but as the take rate increases, the City should be able to cover its costs while charging Cruzio lower rates.

⁴ In the proposed arrangement, a premises is defined as a billable address rather than a parcel.

Based on our financial analysis (which assumes that take rate grows in years one through four, and plateaus in year five) and the minimum fees described above (\$6 per passing, \$30 per subscriber), the City could provide up to a 25 percent discount on the per subscriber fee once Cruzio reaches a 34 percent take rate. This would drop the monthly per subscriber fee from \$30 to \$22.

Table 1 illustrates the potential discounts that the City could offer to Cruzio while maintaining its required cash flow at various take rates.

Table 1: Potential Discounts on Cruzio's Fees to City as Take Rate Rises

Take Rate	Per Passing (Years 1 – 4)	Per Passing (Year 5)	Per Subscriber (Years 1 – 4)	Per Subscriber (Year 5)
18%	\$6.00	\$6.00	\$37.25	\$37.25
34%	\$6.00	\$6.00	\$30.00	\$22.00
40%	\$6.00	\$6.00	\$30.00	\$19.25
50%	\$6.00	\$5.00	\$30.00	\$18.00
54%	\$6.00	\$4.40	\$30.00	\$18.00
60%	\$6.00	\$4.15	\$30.00	\$17.00
70%	\$6.00	\$4.00	\$30.00	\$15.50

4.2 Impact of Fees on Cruzio's Margins

The goal of the fee structure is to motivate Cruzio to sign up enough customers that the fees Cruzio pays to the City are sufficient to service the City's debt and operating expenses. By charging a per passing fee, the City creates a baseline amount that Cruzio will pay to the City each year, regardless of how many subscribers Cruzio has.

At a low take rate, Cruzio will need to pay the City almost all of the revenue it takes in from subscribers, leaving little left to cover the company's capital and operating costs. Without knowing exactly what Cruzio's costs will amount to, it is clear that the company's business model will not work if the take rate remains at 18 percent.

If the City negotiates too demanding a rate structure, or if Cruzio fails to add enough subscribers, the company's financial position could be severely impacted. Even with the minimum fees we recommend (\$6 per passing and \$30 per subscriber), Cruzio will likely not see a reasonable margin until it captures over 30 percent take rate.

The table below shows the net monthly fee that Cruzio would pay the City per subscriber (i.e., taking into account the fee Cruzio pays per passing for the entire network, and the fee Cruzio

pays for all of its subscribers at the given take rate). Using data from Santa Cruz' market research, we have included the monthly service fee that corresponds to each take rate as a point of comparison. The greater the difference between the service fee and Cruzio's net monthly fees, the greater the company's margin.

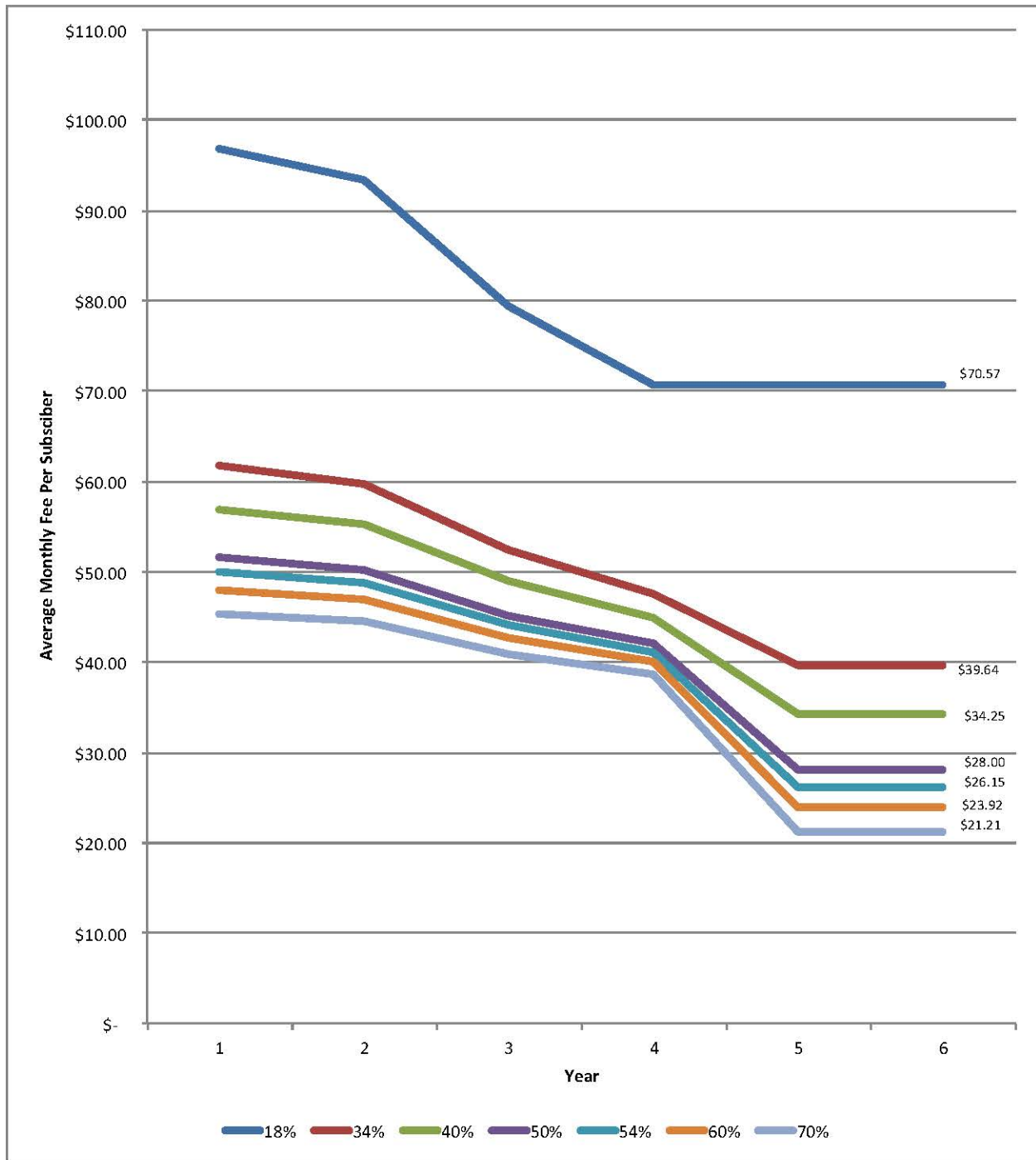
Table 2: Cruzio's Effective Monthly Fee per Subscriber

1 Gbps Price Point Per Month	Take Rate	Effective Monthly Fees Paid to City per Subscriber					
		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
\$95.00	18%	\$96.92	\$93.44	\$79.47	\$70.57	\$70.57	\$70.57
\$85.00	34%	\$61.66	\$59.77	\$52.35	\$47.64	\$39.64	\$39.64
TBD	40%	\$56.91	\$55.31	\$49.00	\$45.00	\$34.25	\$34.25
TBD	50%	\$51.54	\$50.25	\$45.20	\$42.00	\$28.00	\$28.00
\$75.00	54%	\$49.92	\$48.74	\$44.07	\$41.11	\$26.15	\$26.15
TBD	60%	\$47.95	\$46.87	\$42.67	\$40.00	\$23.92	\$23.92
\$65.00	70%	\$45.38	\$44.46	\$40.86	\$38.57	\$21.21	\$21.21

At a 34 percent take rate; Cruzio may have sufficient revenue per subscriber to position itself to obtain reasonable operating margins, especially if the City discounts the rates as a reward for the company reaching certain benchmarks.

Figure 3 illustrates the impact of higher take rates on Cruzio's effective monthly fee per subscriber.

Figure 3: Impact of Higher Take Rates on Cruzio's Effective Monthly Fee



5 Escalation Considerations

The contract that the City signs with Cruzio will span a number of years, and many costs will increase during this period. However, the bulk of the City's ongoing expenses are tied to the principal and interest payments on the bond, and these costs will be fairly constant. A fair escalation rate must take into account what percent of the City's ongoing expenses are likely to increase.

To calculate the net escalation rate, the City should multiply the desired escalation rate by the percentage of its annual expenses that are expected to increase over time. Using year seven to represent a year when construction is complete and the business model has stabilized, our model predicts that 85.8 percent of the City's annual expenditures will go toward covering debt payments (i.e., the fixed principal and interest payment). The remaining 14.2 percent of expenses are the portion of the yearly budget that we expect to increase over time. A 4 percent escalation rate on 14.2 percent of expenses gives a net escalation rate of 0.57 percent. Increasing the rates the City charges Cruzio by this net escalation rate (rather than the full CPI) each year will ensure that Cruzio fairly covers the expected escalation on the City's variable expenses.

Appendix A – Financial and Cost Analysis

This Appendix is attached as a separate Excel file.

**City of Santa Cruz
Santa Cruz, California
FTTP IRU
November 17, 2015**

First is to ensure that all assumptions are clearly understood and their impact to the projected results. Second is to present a plausible outcome of the proposed broadband business. Third is to provide a guide to judge the progress of the broadband business as it unfolds. CTC does not warrant the analysis, the assumptions, or the success of the broadband business. CTC only offers this tool as a means of providing consultative advice. There will usually be differences between the projected and actual results, because events and circumstances frequently do not occur as expected, and those differences may be material.

**City of Santa Cruz
FTTP IRU**

November 17, 2015

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City of Santa Cruz
FTTP IRU

November 17, 2015

Income Statement

	Year	1	2	3	4	5	6	7	8	9	10	
a. Revenues												
Internet - Residential	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-
Internet - Business		-		-		-		-		-		-
Enterprise		-		-		-		-		-		-
Connection Fee (net)		-		-		-		-		-		-
Per Passing		286,420		1,074,060		1,511,640		1,591,200		1,591,200		1,591,200
Per Customer		271,440		1,082,520		2,029,320		2,705,400		1,983,960		1,983,960
Upfront Payment (Ring "0")		-		-		-		-		-		-
Backbone Completion Payment		-		-		-		-		-		-
Hub Completion Payment		-		-		-		-		-		-
Provider Fee		-		-		-		-		-		-
Ancillary Revenues		-		-		-		-		-		-
Total	\$	557,860	\$	2,156,580	\$	3,540,960	\$	4,296,600	\$	3,575,160	\$	3,575,160
b. Content Fees												
Internet	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-
Enterprise		-		-		-		-		-		-
Total	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-
c. Operating Costs												
Labor Costs	\$	200,480	\$	177,240	\$	177,240	\$	177,240	\$	177,240	\$	177,240
Support Services		-		-		-		-		-		-
Insurance		75,000		75,000		75,000		75,000		75,000		75,000
Utilities		-		-		-		-		-		-
Office Expenses		2,400		2,400		2,400		2,400		2,400		2,400
Facility Lease		-		-		-		-		-		-
Locates & Ticket Processing		19,000		38,000		75,000		75,000		75,000		75,000
Contingency		10,000		25,000		25,000		25,000		25,000		25,000
Billing Maintenance Contract		-		-		-		-		-		-
Fiber & Network Maintenance		77,090		93,870		93,870		93,870		93,870		93,870
Vendor Maintenance Contracts		-		-		-		-		-		-
Legal and Lobby Fees		60,000		20,000		20,000		20,000		20,000		20,000
Consulting		100,000		20,000		5,000		5,000		5,000		5,000
Marketing		-		-		-		-		-		-
Education and Training		4,010		3,540		3,540		3,540		3,540		3,540
Customer Handholding		-		-		-		-		-		-
Customer Billing (Unit)		-		-		-		-		-		-
Allowance for Bad Debts		-		-		-		-		-		-
Churn (acquisition costs)		-		-		-		-		-		-
Pole Attachment Expense		-		-		-		-		-		-
Total	\$	547,980	\$	455,050	\$	477,050	\$	477,050	\$	477,050	\$	477,050
d. EBITDA	\$	9,880	\$	1,701,530	\$	3,063,910	\$	3,819,550	\$	3,098,110	\$	3,098,110
e. Depreciation	\$	1,569,040	\$	2,470,920	\$	3,132,100	\$	3,604,230	\$	3,604,230	\$	3,377,070
f. Operating Income (EBITDA less depreciatio	\$	(1,559,160)	\$	(769,390)	\$	(68,190)	\$	215,320	\$	(506,120)	\$	(278,960)
g. Non-Operating Income												
Interest Income	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-
Interest Expense (10 Year Bond)		-		-		-		-		-		-
Interest Expense (20 Year Bond)		(2,137,500)		(2,137,500)		(2,101,760)		(2,064,330)		(2,025,120)		(1,984,050)
Interest Expense (Loan)		-		-		(75,000)		(75,000)		(72,540)		(69,970)
Total	\$	(2,137,500)	\$	(2,137,500)	\$	(2,176,760)	\$	(2,139,330)	\$	(2,097,660)	\$	(2,054,020)
h. Net Income (before taxes)	\$	(3,696,660)	\$	(2,906,890)	\$	(2,244,950)	\$	(1,924,010)	\$	(2,603,780)	\$	(2,332,980)
i. Facility Taxes	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-
j. Net Income	\$	(3,696,660)	\$	(2,906,890)	\$	(2,244,950)	\$	(1,924,010)	\$	(2,603,780)	\$	(2,332,980)

City of Santa Cruz
FTTP IRU

0

November 17, 2015

Income Statement

	Year	11	12	13	14	15	16	17	18	19	20	
a. Revenues												
Internet - Residential	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-
Internet - Business		-		-		-		-		-		-
Enterprise		-		-		-		-		-		-
Per Passing		1,591,200		1,591,200		1,591,200		1,591,200		1,591,200		1,591,200
Per Customer		1,983,960		1,983,960		1,983,960		1,983,960		1,983,960		1,983,960
Upfront Payment (Ring "0")		-		-		-		-		-		-
Backbone Completion Payment		-		-		-		-		-		-
Hub Completion Payment		-		-		-		-		-		-
Provider Fee		-		-		-		-		-		-
Ancillary Revenues		-		-		-		-		-		-
Total	\$	3,575,160	\$	3,575,160	\$	3,575,160	\$	3,575,160	\$	3,575,160	\$	3,575,160
b. Content Fees												
Internet	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-
Enterprise		-		-		-		-		-		-
Total	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-
c. Operating Costs												
Labor Costs	\$	177,240	\$	177,240	\$	177,240	\$	177,240	\$	177,240	\$	177,240
Support Services		-		-		-		-		-		-
Insurance		75,000		75,000		75,000		75,000		75,000		75,000
Utilities		-		-		-		-		-		-
Office Expenses		2,400		2,400		2,400		2,400		2,400		2,400
Facility Lease		-		-		-		-		-		-
Locates & Ticket Processing		75,000		75,000		75,000		75,000		75,000		75,000
Contingency		25,000		25,000		25,000		25,000		25,000		25,000
Billing Maintenance Contract		-		-		-		-		-		-
Fiber & Network Maintenance		93,870		93,870		93,870		93,870		93,870		93,870
Vendor Maintenance Contracts		-		-		-		-		-		-
Legal and Lobby Fees		20,000		20,000		20,000		20,000		20,000		20,000
Consulting		5,000		5,000		5,000		5,000		5,000		5,000
Marketing		-		-		-		-		-		-
Education and Training		3,540		3,540		3,540		3,540		3,540		3,540
Customer Handholding		-		-		-		-		-		-
Customer Billing (Unit)		-		-		-		-		-		-
Allowance for Bad Debts		-		-		-		-		-		-
Churn (acquisition costs)		-		-		-		-		-		-
Pole Attachment Expense		-		-		-		-		-		-
Total	\$	477,050	\$	477,050	\$	477,050	\$	477,050	\$	477,050	\$	477,050
d. EBITDA	\$	3,098,110	\$	3,098,110	\$	3,098,110	\$	3,098,110	\$	3,098,110	\$	3,098,110
e. Depreciation	\$	1,677,360	\$	1,677,360	\$	1,677,360	\$	1,677,360	\$	1,677,360	\$	1,677,360
f. Operating Income (EBITDA less depreciatio	\$	1,420,750	\$	1,420,750	\$	1,420,750	\$	1,420,750	\$	1,420,750	\$	1,420,750
g. Non-Operating Income												
Interest Income	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-
Interest Expense (10 Year Bond)		-		-		-		-		-		-
Interest Expense (20 Year Bond)		(1,747,500)		(1,693,230)		(1,636,400)		(1,576,860)		(1,514,490)		(1,449,170)
Interest Expense (Loan)		(55,000)		(51,550)		(47,920)		(44,110)		(40,110)		(35,910)
Total	\$	(1,802,500)	\$	(1,744,780)	\$	(1,684,320)	\$	(1,620,970)	\$	(1,554,600)	\$	(1,485,080)
h. Net Income (before taxes)	\$	(381,750)	\$	(324,030)	\$	(263,570)	\$	(200,220)	\$	(133,850)	\$	(64,330)
i. Facility Taxes	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-
j. Net Income	\$	(381,750)	\$	(324,030)	\$	(263,570)	\$	(200,220)	\$	(133,850)	\$	(64,330)

City of Santa Cruz
FTTP IRU

November 17, 2015

Cash Flow Statement

	1	2	3	4	5	6	7	8	9	10
a. Net Income	\$ (3,696,660)	\$ (2,906,890)	\$ (2,244,950)	\$ (1,924,010)	\$ (2,603,780)	\$ (2,332,980)	\$ (1,720,840)	\$ (1,011,750)	\$ (489,430)	\$ (436,850)
b. Cash Outflows										
Debt Service Reserve	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Interest Reserve	-	-	-	-	-	-	-	-	-	-
Depreciation Reserve	-	-	-	-	-	-	-	-	-	-
Financing	(900,000)	-	-	-	-	-	-	-	-	-
Capital Expenditures	(27,973,480)	(9,541,450)	(3,305,910)	(2,360,650)	-	-	-	-	-	-
Total	\$ (28,873,480)	\$ (9,541,450)	\$ (3,305,910)	\$ (2,360,650)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
c. Cash Inflows										
Interest Reserve	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Depreciation Reserve	-	-	-	-	-	-	-	-	-	-
Investment Capital	-	-	-	-	-	-	-	-	-	-
Start Up Funds	-	-	-	-	-	-	-	-	-	-
Grants (infrastructure)	-	-	-	-	-	-	-	-	-	-
Grants (customer premises)	-	-	-	-	-	-	-	-	-	-
10-Year Bond/Loan Proceeds	-	-	-	-	-	-	-	-	-	-
30-Year Bond Proceeds	45,000,000	-	-	-	-	-	-	-	-	-
Loan Proceeds	-	-	1,500,000	-	-	-	-	-	-	-
Total	\$ 45,000,000	\$ -	\$ 1,500,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
d. Total Cash Outflows and Inflows	\$ 16,126,520	\$ (9,541,450)	\$ (1,805,910)	\$ (2,360,650)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
e. Non-Cash Expenses - Depreciation	\$ 1,569,040	\$ 2,470,920	\$ 3,132,100	\$ 3,604,230	\$ 3,604,230	\$ 3,377,070	\$ 2,810,670	\$ 2,149,490	\$ 1,677,360	\$ 1,677,360
f. Adjustments										
Proceeds from Additional Cash Flows (10 Year Bond)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Proceeds from Additional Cash Flows (20 Year Bond)	\$ (45,000,000)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Proceeds from Additional Cash Flows (Loan)	\$ -	\$ -	\$ (1,500,000)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
g. Adjusted Available Net Revenue	\$ (31,001,100)	\$ (9,977,420)	\$ (2,418,760)	\$ (680,430)	\$ 1,000,450	\$ 1,044,090	\$ 1,089,830	\$ 1,137,740	\$ 1,187,930	\$ 1,240,510
h. Principal Payments on Debt										
10 Year Bond Principal	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
30 Year Bond Principal	-	752,320	788,060	825,490	864,700	905,770	948,800	993,860	1,041,070	1,090,520
Loan Principal	-	-	-	49,120	51,570	54,150	56,860	59,700	62,690	65,820
Total	\$ -	\$ 752,320	\$ 788,060	\$ 874,610	\$ 916,270	\$ 959,920	\$ 1,005,660	\$ 1,053,560	\$ 1,103,760	\$ 1,156,340
i. Net Cash	\$ 13,998,900	\$ (10,729,740)	\$ (1,706,820)	\$ (1,555,040)	\$ 84,180	\$ 84,170	\$ 84,170	\$ 84,180	\$ 84,170	\$ 84,170
j. Cash Balance										
Unrestricted Cash Balance	\$ 13,998,900	\$ 3,269,160	\$ 1,562,340	\$ 7,300	\$ 91,480	\$ 175,650	\$ 259,820	\$ 344,000	\$ 428,170	\$ 512,340
Depreciation Reserve	-	-	-	-	-	-	-	-	-	-
Interest Reserve	-	-	-	-	-	-	-	-	-	-
Debt Service Reserve	-	-	-	-	-	-	-	-	-	-
Total Cash Balance	\$ 13,998,900	\$ 3,269,160	\$ 1,562,340	\$ 7,300	\$ 91,480	\$ 175,650	\$ 259,820	\$ 344,000	\$ 428,170	\$ 512,340
Un-depreciated Value of Capital Assets	\$ 26,404,440	\$ 33,474,970	\$ 33,648,780	\$ 32,405,210	\$ 28,800,980	\$ 25,423,900	\$ 22,613,240	\$ 20,463,750	\$ 18,786,390	\$ 17,109,040
Debt Service Balance (10 Year Bond)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Debt Service Balance (20 Year Bond)	\$ 45,000,000	\$ 45,000,000	\$ 44,247,680	\$ 43,459,620	\$ 42,634,130	\$ 41,769,430	\$ 40,863,660	\$ 39,914,860	\$ 38,921,000	\$ 37,879,930
Debt Service Balance (Internal Loan)	\$ -	\$ -	\$ 1,500,000	\$ (49,120)	\$ (51,570)	\$ (54,150)	\$ (56,860)	\$ (59,700)	\$ (62,690)	\$ (65,820)
Debt Service (P&I)	\$ 2,137,500	\$ 2,889,820	\$ 2,964,820	\$ 3,013,940	\$ 3,013,930	\$ 3,013,940	\$ 3,013,940	\$ 3,013,930	\$ 3,013,940	\$ 3,013,940
Debt Coverage Ratio	-	(10.42)	(0.31)	1.67	3.38	3.23	3.08	2.94	2.81	2.68
Debt Service Coverage Ratio	-	(13.26)	(3.07)	(0.78)	1.09	1.09	1.08	1.08	1.08	1.07

City of Santa Cruz
FTTP IRU
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Cash Flow Statement

	11	12	13	14	15	16	17	18	19	20
a. Net Income	\$ (381,750)	\$ (324,030)	\$ (263,570)	\$ (200,220)	\$ (133,850)	\$ (64,330)	\$ 8,520	\$ 84,830	\$ 164,770	\$ 248,540
b. Cash Outflows										
Debt Service Reserve	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Interest Reserve	-	-	-	-	-	-	-	-	-	-
Depreciation Reserve	-	-	-	-	-	-	-	-	-	-
Financing	-	-	-	-	-	-	-	-	-	-
Capital Expenditures	-	-	-	-	-	-	-	-	-	-
Total	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
c. Cash Inflows										
Interest Reserve	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Depreciation Reserve	-	-	-	-	-	-	-	-	-	-
Investment Capital	-	-	-	-	-	-	-	-	-	-
Start Up Funds	-	-	-	-	-	-	-	-	-	-
Grants (infrastructure)	-	-	-	-	-	-	-	-	-	-
Grants (customer premises)	-	-	-	-	-	-	-	-	-	-
10-Year Bond/Loan Proceeds	-	-	-	-	-	-	-	-	-	-
30-Year Bond Proceeds	-	-	-	-	-	-	-	-	-	-
Loan Proceeds	-	-	-	-	-	-	-	-	-	-
Total	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
d. Total Cash Outflows and Inflows	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
e. Non-Cash Expenses - Depreciation	\$ 1,677,360	\$ 1,677,360	\$ 1,677,360	\$ 1,677,360	\$ 1,677,360	\$ 1,677,360	\$ 1,677,360	\$ 1,677,360	\$ 1,677,360	\$ 1,677,360
f. Adjustments										
Proceeds from Additional Cash Flows (10 Year Bond)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Proceeds from Additional Cash Flows (20 Year Bond)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Proceeds from Additional Cash Flows (Loan)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
g. Adjusted Available Net Revenue	\$ 1,295,610	\$ 1,353,330	\$ 1,413,790	\$ 1,477,140	\$ 1,543,510	\$ 1,613,030	\$ 1,685,880	\$ 1,762,190	\$ 1,842,130	\$ 1,925,900
h. Principal Payments on Debt										
10 Year Bond Principal	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
30 Year Bond Principal	1,142,320	1,196,590	1,253,420	1,312,960	1,375,330	1,440,650	1,509,090	1,580,770	1,655,850	1,734,510
Loan Principal	69,110	72,570	76,200	80,010	84,010	88,210	92,620	97,250	102,110	107,220
Total	\$ 1,211,430	\$ 1,269,160	\$ 1,329,620	\$ 1,392,970	\$ 1,459,340	\$ 1,528,860	\$ 1,601,710	\$ 1,678,020	\$ 1,757,960	\$ 1,841,730
i. Net Cash	\$ 84,180	\$ 84,170	\$ 84,170	\$ 84,170	\$ 84,170	\$ 84,170	\$ 84,170	\$ 84,170	\$ 84,170	\$ 84,170
j. Cash Balance										
Unrestricted Cash Balance	\$ 596,520	\$ 680,690	\$ 764,860	\$ 849,030	\$ 933,200	\$ 1,017,370	\$ 1,101,540	\$ 1,185,710	\$ 1,269,880	\$ 1,354,050
Depreciation Reserve	-	-	-	-	-	-	-	-	-	-
Interest Reserve	-	-	-	-	-	-	-	-	-	-
Debt Service Reserve	-	-	-	-	-	-	-	-	-	-
Total Cash Balance	\$ 596,520	\$ 680,690	\$ 764,860	\$ 849,030	\$ 933,200	\$ 1,017,370	\$ 1,101,540	\$ 1,185,710	\$ 1,269,880	\$ 1,354,050
Un-depreciated Value of Capital Assets	\$ 15,431,680	\$ 13,754,320	\$ 12,076,970	\$ 10,399,610	\$ 8,722,250	\$ 7,044,900	\$ 5,367,540	\$ 3,690,180	\$ 2,012,830	\$ 335,470
Debt Service Balance (10 Year Bond)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Debt Service Balance (20 Year Bond)	\$ 36,737,610	\$ 35,541,020	\$ 34,287,600	\$ 32,974,640	\$ 31,599,310	\$ 30,158,660	\$ 28,649,570	\$ 27,068,800	\$ 25,412,950	\$ 23,678,440
Debt Service Balance (Internal Loan)	\$ (134,930)	\$ (207,500)	\$ (283,700)	\$ (363,710)	\$ (447,720)	\$ (535,930)	\$ (628,550)	\$ (725,800)	\$ (827,910)	\$ -
Debt Service (P&I)	\$ 3,013,930	\$ 3,013,940	\$ 3,013,940	\$ 3,013,940	\$ 3,013,940	\$ 3,013,940	\$ 3,013,940	\$ 3,013,940	\$ 3,013,940	\$ 3,013,940
Debt Coverage Ratio	2.56	2.44	2.33	2.22	2.12	2.03	1.93	1.85	1.76	
Debt Service Coverage Ratio	1.07	1.07	1.06	1.06	1.06	1.06	1.05	1.05	1.05	

City of Santa Cruz
FTTP IRU

November 17, 2015

Capital Additions

	1	2	3	4	5	6	7	8	9	10
Network Equipment										
Core & Base Equipment	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Incremental (Switches & OLTs)	-	-	-	-	-	-	-	-	-	-
Additional Annual Capita	-	-	-	-	-	-	-	-	-	-
Total	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Outside Plant and Facilities										
Total Backbone and FTTP	\$ 26,837,700	\$ 6,709,430	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Additional Annual Capita	-	-	-	-	-	-	-	-	-	-
Total	\$ 26,837,700	\$ 6,709,430	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Last Mile and Customer Premises Equipment										
NID (medium commercial)	\$ 4,600	\$ 13,900	\$ 16,100	\$ 11,500	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
NID (residential and small commercial)	70,800	211,400	246,900	176,300	-	-	-	-	-	-
Enterprise CPE and Drop	-	-	-	-	-	-	-	-	-	-
Average Drop Cost	872,380	2,606,720	3,042,910	2,172,850	-	-	-	-	-	-
Additional Annual Replacement Capita	-	-	-	-	-	-	-	-	-	-
Total	\$ 947,780	\$ 2,832,020	\$ 3,305,910	\$ 2,360,650	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Miscellaneous Implementation Costs										
Splicing	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Vehicles	50,000	-	-	-	-	-	-	-	-	-
Emergency Restoration Kit	50,000	-	-	-	-	-	-	-	-	-
Work Station, Computers, and Software	3,000	-	-	-	-	-	-	-	-	-
Fiber OTDR and Other Tools	85,000	-	-	-	-	-	-	-	-	-
Generators & UPS	-	-	-	-	-	-	-	-	-	-
OSS	-	-	-	-	-	-	-	-	-	-
Additional Annual Capita	-	-	-	-	-	-	-	-	-	-
Total	\$ 188,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Replacement Costs for Depreciation										
Network Equipment	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Last Mile and Customer Premises Equipment	-	-	-	-	-	-	-	-	-	-
Miscellaneous Implementation Costs	-	-	-	-	-	-	-	-	-	-
Total	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Capital Additions	\$ 27,973,480	\$ 9,541,450	\$ 3,305,910	\$ 2,360,650	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
		\$ 40,820,840								
Depreciation Reserve Contribution	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Draws from Depreciation Reserve	-	-	-	-	-	-	-	-	-	-
Net Depreciation Reserve Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

City of Santa Cruz
FTTP IRU
November 17, 2015

Capital Additions

	11	12	13	14	15	16	17	18	19	20
Network Equipment										
Core & Base Equipment	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Incremental (Switches & OLTs)	-	-	-	-	-	-	-	-	-	-
TBD	-	-	-	-	-	-	-	-	-	-
TBD	-	-	-	-	-	-	-	-	-	-
Additional Annual Capita	-	-	-	-	-	-	-	-	-	-
Total	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Outside Plant and Facilities										
Total Backbone and FTTP	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Additional Annual Capita	-	-	-	-	-	-	-	-	-	-
Total	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Last Mile and Customer Premises Equipment										
NID (medium commercial)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
NID (residential and small commercial)	-	-	-	-	-	-	-	-	-	-
Average Drop Cost	-	-	-	-	-	-	-	-	-	-
Additional Annual Replacement Capita	-	-	-	-	-	-	-	-	-	-
Total	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Miscellaneous Implementation Costs										
Splicing	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Vehicles	-	-	-	-	-	-	-	-	-	-
Emergency Restoration Kit	-	-	-	-	-	-	-	-	-	-
Work Station, Computers, and Software	-	-	-	-	-	-	-	-	-	-
Fiber OTDR and Other Tools	-	-	-	-	-	-	-	-	-	-
Generators & UPS	-	-	-	-	-	-	-	-	-	-
Additional Annual Capita	-	-	-	-	-	-	-	-	-	-
Total	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Replacement Costs for Depreciation										
Network Equipment	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Last Mile and Customer Premises Equipment	-	-	-	-	-	-	-	-	-	-
Miscellaneous Implementation Costs	-	-	-	-	-	-	-	-	-	-
Total	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Capital Additions	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

**City of Santa Cruz
FTTP IRU**

November 17, 2015

Financial Summary Tables

	Year 1	Year 5	Year 10	Year 15	Year 20
Operating Expenses					
Support Services	\$ -	\$ -	\$ -	\$ -	\$ -
Insurance	75,000	75,000	75,000	75,000	75,000
Utilities	-	-	-	-	-
Office Expenses	2,400	2,400	2,400	2,400	2,400
Locates & Ticket Processing	19,000	75,000	75,000	75,000	75,000
Contingency	10,000	25,000	25,000	25,000	25,000
Billing Maintenance Contract	-	-	-	-	-
Fiber & Network Maintenance	77,090	93,870	93,870	93,870	93,870
Vendor Maintenance Contracts	-	-	-	-	-
Legal and Lobby Fees	60,000	20,000	20,000	20,000	20,000
Consulting	100,000	5,000	5,000	5,000	5,000
Marketing	-	-	-	-	-
Education and Training	4,010	3,540	3,540	3,540	3,540
Customer Handholding	-	-	-	-	-
Customer Billing (Unit)	-	-	-	-	-
Allowance for Bad Debts	-	-	-	-	-
Churn (acquisition costs)	-	-	-	-	-
Pole Attachment Expense	-	-	-	-	-
Internet	-	-	-	-	-
Sub-Total	\$ 347,500	\$ 299,810	\$ 299,810	\$ 299,810	\$ 299,810
Labor Expenses	\$ 200,480	\$ 177,240	\$ 177,240	\$ 177,240	\$ 177,240
Sub-Total	\$ 200,480	\$ 177,240	\$ 177,240	\$ 177,240	\$ 177,240
Total Expenses	\$ 547,980	\$ 477,050	\$ 477,050	\$ 477,050	\$ 477,050
Principal and Interest	\$ 2,137,500	\$ 3,013,930	\$ 3,013,940	\$ 3,013,940	\$ 3,013,940
Facility Taxes	-	-	-	-	-
Sub-Total	\$ 2,137,500	\$ 3,013,930	\$ 3,013,940	\$ 3,013,940	\$ 3,013,940
Total Expenses, P&I, and Taxes	\$ 2,685,480	\$ 3,490,980	\$ 3,490,990	\$ 3,490,990	\$ 3,490,990

**City of Santa Cruz
FTTP IRU**

November 17, 2015

Financial Summary Tables

	Year 1	Year 5	Year 10	Year 15	Year 20
a. Revenues					
Internet - Residential	\$ -	\$ -	\$ -	\$ -	\$ -
Internet - Business	-	-	-	-	-
Enterprise	-	-	-	-	-
Connection Fee (net)	-	-	-	-	-
Per Passing	286,420	1,591,200	1,591,200	1,591,200	1,591,200
Per Customer	271,440	1,983,960	1,983,960	1,983,960	1,983,960
Provider Fee	-	-	-	-	-
Assessments	-	-	-	-	-
Ancillary Revenues	-	-	-	-	-
Total	\$ 557,860	\$ 3,575,160	\$ 3,575,160	\$ 3,575,160	\$ 3,575,160
b. Content Fees					
Internet	\$ -	\$ -	\$ -	\$ -	\$ -
Total	\$ -	\$ -	\$ -	\$ -	\$ -
c. Operating Costs					
Operation Costs	\$ 347,500	\$ 299,810	\$ 299,810	\$ 299,810	\$ 299,810
Labor Costs	200,480	177,240	177,240	177,240	177,240
Total	\$ 547,980	\$ 477,050	\$ 477,050	\$ 477,050	\$ 477,050
d. EBITDA	\$ 9,880	\$ 3,098,110	\$ 3,098,110	\$ 3,098,110	\$ 3,098,110
e. Depreciation	1,569,040	3,604,230	1,677,360	1,677,360	1,677,360
f. Operating Income (EBITDA less Depreciation)	\$ (1,559,160)	\$ (506,120)	\$ 1,420,750	\$ 1,420,750	\$ 1,420,750
g. Non-Operating Income					
Interest Income	\$ -	\$ -	\$ -	\$ -	\$ -
Interest Expense (10 Year Bond)	-	-	-	-	-
Interest Expense (20 Year Bond)	(2,137,500)	(1,799,300)	(1,799,300)	(1,514,490)	(1,155,310)
Interest Expense (Loan)	-	(58,300)	(58,300)	(40,110)	(16,900)
Total	\$ (2,137,500)	\$ (1,857,600)	\$ (1,857,600)	\$ (1,554,600)	\$ (1,172,210)
h. Net Income (before taxes)	\$ (3,696,660)	\$ (2,603,780)	\$ (436,850)	\$ (133,850)	\$ 248,540
i. Facility Taxes	\$ -	\$ -	\$ -	\$ -	\$ -
j. Net Income	\$ (3,696,660)	\$ (2,603,780)	\$ (436,850)	\$ (133,850)	\$ 248,540

**City of Santa Cruz
FTTP IRU**

November 17, 2015

Financial Summary Tables

	Year 1	Year 5	Year 10	Year 15	Year 20
Net Income	\$ (3,696,660)	\$ (2,603,780)	\$ (436,850)	\$ (133,850)	\$ 248,540
Cash Flow	\$ 13,998,900	\$ 84,180	\$ 84,170	\$ 84,170	\$ 84,170

	Year 1	Year 5	Year 10	Year 15	Year 20
Principle Payments	\$ -	\$ 916,270	\$ 1,156,340	\$ 1,459,340	\$ 1,841,730
Interest Payments	2,137,500	2,097,660	1,857,600	1,554,600	1,172,210
Total Debt Service	\$ 2,137,500	\$ 3,013,930	\$ 3,013,940	\$ 3,013,940	\$ 3,013,940

	Year 1	Year 5	Year 10	Year 15	Year 20
Unrestricted Cash Balance	\$ 13,998,900	\$ 91,480	\$ 512,340	\$ 933,200	\$ 1,354,050
Funded Depreciation	-	-	-	-	-
Restricted Cash Balance (Interest Reserve)	-	-	-	-	-
Restricted Cash Balance (Debt Service Reserve)	-	-	-	-	-
Total Cash Balance	\$ 13,998,900	\$ 91,480	\$ 512,340	\$ 933,200	\$ 1,354,050

**City of Santa Cruz
FTTP IRU**

November 17, 2015

Financial Summary Tables

Capital Additions

	Year 1	Year 2	Year 3	Total Years 1 to 3
Network Equipment				
Core & Base Equipment	\$ -	\$ -	\$ -	\$ -
Incremental (Switches & OLTs)	-	-	-	-
TBD	-	-	-	-
TBD	-	-	-	-
Additional Annual Capital	-	-	-	-
Total	\$ -	\$ -	\$ -	\$ -
Outside Plant and Facilities				
Total Backbone and FTTP	\$ 26,837,700	\$ 6,709,430	\$ -	\$ 33,547,130
Additional Annual Capital	-	-	-	-
Total	\$ 26,837,700	\$ 6,709,430	\$ -	\$ 33,547,130
Last Mile and Customer Premises Equipment				
NID (medium commercial)	\$ 4,600	\$ 13,900	\$ 16,100	
NID (residential and small commercial)	\$ 70,800	\$ 211,400	\$ 246,900	\$ 529,100
Enterprise CPE and Drop	-	-	-	-
Average Drop Cost	872,380	2,606,720	3,042,910	6,522,010
Total	\$ 947,780	\$ 2,832,020	\$ 3,305,910	\$ 7,085,710
Miscellaneous Implementation Costs				
Splicing	\$ -	\$ -	\$ -	
Vehicles	50,000	-	-	
Emergency Restoration Kit	50,000	-	-	
Work Station, Computers, and Software	\$ 3,000	\$ -	\$ -	\$ 3,000
Fiber OTDR and Other Tools	85,000	-	-	85,000
Generators & UPS	-	-	-	-
OSS	-	-	-	-
Additional Annual Capital	-	-	-	-
Total	\$ 188,000	\$ -	\$ -	\$ 188,000
Total Capital Additions	\$ 27,973,480	\$ 9,541,450	\$ 3,305,910	\$ 40,820,840

City of Santa Cruz
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Scenarios

Scenario 1 - Base Case.

Income Statement					
	1	5	10	15	20
Total Revenues	\$ 557,860	\$ 3,575,160	\$ 3,575,160	\$ 3,575,160	\$ 3,575,160
Total Cash Expenses	(547,980)	(477,050)	(477,050)	(477,050)	(477,050)
Depreciation	(1,569,040)	(3,604,230)	(1,677,360)	(1,677,360)	(1,677,360)
Interest Expense	(2,137,500)	(2,097,660)	(1,857,600)	(1,554,600)	(1,172,210)
Taxes	-	-	-	-	-
Net Income	\$ (3,696,660)	\$ (2,603,780)	\$ (436,850)	\$ (133,850)	\$ 248,540
Cash Flow Statement					
	1	5	10	15	20
Unrestricted Cash Balance	\$ 13,998,900	\$ 91,480	\$ 512,340	\$ 933,200	\$ 1,354,050
Depreciation Reserve	-	-	-	-	-
Interest Reserve	-	-	-	-	-
Debt Service Reserve	-	-	-	-	-
Total Cash Balance	\$ 13,998,900	\$ 91,480	\$ 512,340	\$ 933,200	\$ 1,354,050
Investment Metric					
Internal Rate of Return (IRR) - 20 year					-5.17%
Net Present Value (NPV) at a 4 percent discount rate - 20 year					\$ (28,189,780)
Discount Rate					4.00%

Bonds (Year 1 to Year 3)	\$ 45,000,000	End of year 20 balance	\$ 22,587,920
Loans (Year 1 to Year 3)	\$ 1,500,000		

Revenue Assumptions					
ISP Payment - per passing per month	\$ 6.00	Drops to	\$ 6.00	in year 3.	
			\$ 6.00	in year 5.	
ISP Payment - per subscriber per month	\$ 30.00	Drops to	\$ 30.00	in year 3.	
			\$ 22.00	in year 5.	
Take Rate	34.0%	Residential	34.0%	Business	
Net Revenue (per month per subscriber)	\$ 1 61.66	\$ 2 59.77	\$ 3 52.35	\$ 4 47.64	\$ 5 39.64
Subscribers	754	3,007	5,637	7,515	7,515

Scenario 2.

Income Statement					
	1	5	10	15	20
Total Revenues	\$ 605,740	\$ 3,633,240	\$ 3,633,240	\$ 3,633,240	\$ 3,633,240
Total Cash Expenses	(547,980)	(477,050)	(477,050)	(477,050)	(477,050)
Depreciation	(1,602,480)	(3,937,330)	(1,677,360)	(1,677,360)	(1,677,360)
Interest Expense	(2,137,500)	(2,131,520)	(1,884,800)	(1,573,320)	(1,180,100)
Taxes	-	-	-	-	-
Net Income	\$ (3,682,220)	\$ (2,912,660)	\$ (405,970)	\$ (94,490)	\$ 298,730
Cash Flow Statement					
	1	5	10	15	20
Unrestricted Cash Balance	\$ 13,879,600	\$ 106,350	\$ 528,010	\$ 949,670	\$ 1,371,320
Depreciation Reserve	-	-	-	-	-
Interest Reserve	-	-	-	-	-
Debt Service Reserve	-	-	-	-	-
Total Cash Balance	\$ 13,879,600	\$ 106,350	\$ 528,010	\$ 949,670	\$ 1,371,320
Investment Metric					
Internal Rate of Return (IRR) - 20 year					-5.10%
Net Present Value (NPV) at a 4 percent discount rate - 20 year					\$ (28,457,120)
Discount Rate					4.00%

Bonds (Year 1 to Year 3)	\$ 45,000,000	End of year 20 balance	\$ 22,587,920
Loans (Year 1 to Year 3)	\$ 2,200,000		

Revenue Assumptions					
ISP Payment - per passing per month	\$ 6.00	Drops to	\$ 6.00	in year 3.	
			\$ 6.00	in year 5.	
ISP Payment - per subscriber per month	\$ 30.00	Drops to	\$ 30.00	in year 3.	
			\$ 19.25	in year 5.	
Take Rate	40.0%	Residential	40.0%	Business	

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Scenarios

Scenarios	1	2	3	4	5
Net Revenue (per month per subscriber)	\$ 56.91	\$ 55.31	\$ 49.00	\$ 45.00	\$ 34.25
Subscribers	887	3,537	6,630	8,840	8,840

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Scenarios

Scenario 3.

Income Statement					
	1	5	10	15	20
Total Revenues	\$ 685,300	\$ 3,712,800	\$ 3,712,800	\$ 3,712,800	\$ 3,712,800
Total Cash Expenses	(547,980)	(477,050)	(477,050)	(477,050)	(477,050)
Depreciation	(1,658,040)	(4,492,930)	(1,677,360)	(1,677,360)	(1,677,360)
Interest Expense	(2,137,500)	(2,187,140)	(1,929,490)	(1,604,070)	(1,193,050)
Taxes	-	-	-	-	-
Net Income	\$ (3,658,220)	\$ (3,444,320)	\$ (371,100)	\$ (45,680)	\$ 365,340
Cash Flow Statement					
	1	5	10	15	20
Unrestricted Cash Balance	\$ 13,681,360	\$ 100,400	\$ 444,070	\$ 787,750	\$ 1,131,410
Depreciation Reserve	-	-	-	-	-
Interest Reserve	-	-	-	-	-
Debt Service Reserve	-	-	-	-	-
Total Cash Balance	\$ 13,681,360	\$ 100,400	\$ 444,070	\$ 787,750	\$ 1,131,410
Investment Metric					
Internal Rate of Return (IRR) - 20 year					-5.07%
Net Present Value (NPV) at a 4 percent discount rate - 20 year					\$ (29,067,760)
Discount Rate					4.00%

Bonds (Year 1 to Year 3)	\$ 45,000,000	End of year 20 balance	\$ 22,587,920
Loans (Year 1 to Year 3)	\$ 3,350,000		

Revenue Assumptions					
ISP Payment - per passing per month	\$ 6.00	Drops to	\$ 6.00 in year 3. \$ 5.00 in year 5.		
ISP Payment - per subscriber per month	\$ 30.00	Drops to	\$ 30.00 in year 3. \$ 18.00 in year 5.		
Take Rate	50.0%	Residential	50.0% Business		
Net Revenue (per month per subscriber)	\$ 1 51.54	\$ 2 50.25	\$ 3 45.20	\$ 4 42.00	\$ 5 28.00
Subscribers	1,108	4,420	8,289	11,050	11,050

Scenario 4.

Income Statement					
	1	5	10	15	20
Total Revenues	\$ 765,220	\$ 3,805,620	\$ 3,805,620	\$ 3,805,620	\$ 3,805,620
Total Cash Expenses	(547,980)	(477,050)	(477,050)	(477,050)	(477,050)
Depreciation	(1,713,850)	(5,048,520)	(1,677,360)	(1,677,360)	(1,677,360)
Interest Expense	(2,137,500)	(2,242,750)	(1,974,190)	(1,634,820)	(1,206,010)
Taxes	-	-	-	-	-
Net Income	\$ (3,634,110)	\$ (3,962,700)	\$ (322,980)	\$ 16,390	\$ 445,200
Cash Flow Statement					
	1	5	10	15	20
Unrestricted Cash Balance	\$ 13,482,230	\$ 108,080	\$ 440,060	\$ 772,050	\$ 1,104,030
Depreciation Reserve	-	-	-	-	-
Interest Reserve	-	-	-	-	-
Debt Service Reserve	-	-	-	-	-
Total Cash Balance	\$ 13,482,230	\$ 108,080	\$ 440,060	\$ 772,050	\$ 1,104,030
Investment Metric					
Internal Rate of Return (IRR) - 20 year					-4.98%
Net Present Value (NPV) at a 4 percent discount rate - 20 year					\$ (29,546,010)
Discount Rate					4.00%

Bonds (Year 1 to Year 3)	\$ 45,000,000	End of year 20 balance	\$ 22,587,920
Loans (Year 1 to Year 3)	\$ 4,500,000		

Revenue Assumptions					
ISP Payment - per passing per month	\$ 6.00	Drops to	\$ 6.00 in year 3. \$ 4.15 in year 5.		
ISP Payment - per subscriber per month	\$ 30.00	Drops to	\$ 30.00 in year 3. \$ 17.00 in year 5.		
Take Rate	60.0%	Residential	60.0% Business		

**City of Santa Cruz
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Fiber Bond Repayment Schedule

Amount	\$	45,000,000
Principal Repayment Period Start		2
Term in Years		30
Annual Rate		4.75%

	<u>Balance</u>	<u>Principal</u>	<u>Interest</u>
FY 1	\$ 45,000,000.00	\$ -	\$ 2,137,500.00
FY 2	\$ 45,000,000.00	\$ 752,320.00	\$ 2,137,500.00
FY 3	\$ 44,247,680.00	\$ 788,060.00	\$ 2,101,760.00
FY 4	\$ 43,459,620.00	\$ 825,490.00	\$ 2,064,330.00
FY 5	\$ 42,634,130.00	\$ 864,700.00	\$ 2,025,120.00
FY 6	\$ 41,769,430.00	\$ 905,770.00	\$ 1,984,050.00
FY 7	\$ 40,863,660.00	\$ 948,800.00	\$ 1,941,020.00
FY 8	\$ 39,914,860.00	\$ 993,860.00	\$ 1,895,960.00
FY 9	\$ 38,921,000.00	\$ 1,041,070.00	\$ 1,848,750.00
FY 10	\$ 37,879,930.00	\$ 1,090,520.00	\$ 1,799,300.00
FY 11	\$ 36,789,410.00	\$ 1,142,320.00	\$ 1,747,500.00
FY 12	\$ 35,647,090.00	\$ 1,196,590.00	\$ 1,693,230.00
FY 13	\$ 34,450,500.00	\$ 1,253,420.00	\$ 1,636,400.00
FY 14	\$ 33,197,080.00	\$ 1,312,960.00	\$ 1,576,860.00
FY 15	\$ 31,884,120.00	\$ 1,375,330.00	\$ 1,514,490.00
FY 16	\$ 30,508,790.00	\$ 1,440,650.00	\$ 1,449,170.00
FY 17	\$ 29,068,140.00	\$ 1,509,090.00	\$ 1,380,730.00
FY 18	\$ 27,559,050.00	\$ 1,580,770.00	\$ 1,309,050.00
FY 19	\$ 25,978,280.00	\$ 1,655,850.00	\$ 1,233,970.00
FY 20	\$ 24,322,430.00	\$ 1,734,510.00	\$ 1,155,310.00

City of Santa Cruz
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Loan Repayment Schedule - Year 1 Loan

Amount	-
Principal Repayment Period Start	4
Term in Years	20
Annual Rate	5.00%

	<u>Balance</u>	<u>Principal</u>	<u>Interest</u>
Loan Year 1	\$ -	\$ -	\$ -
Loan Year 2	\$ -	\$ -	\$ -
Loan Year 3	\$ -	\$ -	\$ -
Loan Year 4	\$ -	\$ -	\$ -
Loan Year 5	\$ -	\$ -	\$ -
Loan Year 6	\$ -	\$ -	\$ -
Loan Year 7	\$ -	\$ -	\$ -
Loan Year 8	\$ -	\$ -	\$ -
Loan Year 9	\$ -	\$ -	\$ -
Loan Year 10	\$ -	\$ -	\$ -
Loan Year 11	\$ -	\$ -	\$ -
Loan Year 12	\$ -	\$ -	\$ -
Loan Year 13	\$ -	\$ -	\$ -
Loan Year 14	\$ -	\$ -	\$ -
Loan Year 15	\$ -	\$ -	\$ -
Loan Year 16	\$ -	\$ -	\$ -
Loan Year 17	\$ -	\$ -	\$ -
Loan Year 18	\$ -	\$ -	\$ -
Loan Year 19	\$ -	\$ -	\$ -
Loan Year 20	\$ -	\$ -	\$ -

City of Santa Cruz
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Loan Repayment Schedule - Year 2 Loan

Amount	-
Principal Repayment Period Start	3
Term in Years	20
Annual Rate	5.00%

	<u>Balance</u>	<u>Principal</u>	<u>Interest</u>
Loan Year 1	\$ -	\$ -	\$ -
Loan Year 2	\$ -	\$ -	\$ -
Loan Year 3	\$ -	\$ -	\$ -
Loan Year 4	\$ -	\$ -	\$ -
Loan Year 5	\$ -	\$ -	\$ -
Loan Year 6	\$ -	\$ -	\$ -
Loan Year 7	\$ -	\$ -	\$ -
Loan Year 8	\$ -	\$ -	\$ -
Loan Year 9	\$ -	\$ -	\$ -
Loan Year 10	\$ -	\$ -	\$ -
Loan Year 11	\$ -	\$ -	\$ -
Loan Year 12	\$ -	\$ -	\$ -
Loan Year 13	\$ -	\$ -	\$ -
Loan Year 14	\$ -	\$ -	\$ -
Loan Year 15	\$ -	\$ -	\$ -
Loan Year 16	\$ -	\$ -	\$ -
Loan Year 17	\$ -	\$ -	\$ -
Loan Year 18	\$ -	\$ -	\$ -
Loan Year 19	\$ -	\$ -	\$ -
Loan Year 20	\$ -	\$ -	\$ -

**City of Santa Cruz
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Loan Repayment Schedule - Year 3 Loan

Amount	1,500,000
Principal Repayment Period Start	2
Term in Years	20
Annual Rate	5.00%

	<u>Balance</u>	<u>Principal</u>	<u>Interest</u>
Loan Year 1	\$ 1,500,000.00	\$ -	\$ 75,000.00
Loan Year 2	\$ 1,500,000.00	\$ 49,117.52	\$ 75,000.00
Loan Year 3	\$ 1,450,882.48	\$ 51,573.39	\$ 72,544.12
Loan Year 4	\$ 1,399,309.09	\$ 54,152.06	\$ 69,965.45
Loan Year 5	\$ 1,345,157.03	\$ 56,859.66	\$ 67,257.85
Loan Year 6	\$ 1,288,297.37	\$ 59,702.65	\$ 64,414.87
Loan Year 7	\$ 1,228,594.72	\$ 62,687.78	\$ 61,429.74
Loan Year 8	\$ 1,165,906.94	\$ 65,822.17	\$ 58,295.35
Loan Year 9	\$ 1,100,084.77	\$ 69,113.28	\$ 55,004.24
Loan Year 10	\$ 1,030,971.50	\$ 72,568.94	\$ 51,548.57
Loan Year 11	\$ 958,402.56	\$ 76,197.39	\$ 47,920.13
Loan Year 12	\$ 882,205.17	\$ 80,007.26	\$ 44,110.26
Loan Year 13	\$ 802,197.91	\$ 84,007.62	\$ 40,109.90
Loan Year 14	\$ 718,190.29	\$ 88,208.00	\$ 35,909.51
Loan Year 15	\$ 629,982.29	\$ 92,618.40	\$ 31,499.11
Loan Year 16	\$ 537,363.89	\$ 97,249.32	\$ 26,868.19
Loan Year 17	\$ 440,114.57	\$ 102,111.79	\$ 22,005.73
Loan Year 18	\$ 338,002.78	\$ 107,217.38	\$ 16,900.14
Loan Year 19	\$ 230,785.40	\$ 112,578.25	\$ 11,539.27
Loan Year 20	\$ 118,207.16	\$ 118,207.16	\$ 5,910.36

**City of Santa Cruz
FTTP IRU**

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Projected Total Customers

Year	1	2	3	4	5
Total Video Customers	-	-	-	-	-
Total Data Customers	754	3,007	5,637	7,515	7,515
Total Voice Customers	-	-	-	-	-

Bundling Take Rates

Minimum Number of Customers	754	3,007	5,637	7,515	7,515
Maximum Number of Customers	754	3,007	5,637	7,515	7,515

Total Number of Customers	754	3,007	5,637	7,515	7,515
New Subscribers	754	2,253	2,630	1,878	-
Take Rate	3.41%	13.61%	25.51%	34.00%	34.00%

Year	11	12	13	14	15
Total Video Customers	-	-	-	-	-
Total Data Customers	7,515	7,515	7,515	7,515	7,515
Total Voice Customers	-	-	-	-	-

Bundling Take Rates

Minimum Number of Customers	7,515	7,515	7,515	7,515	7,515
Maximum Number of Customers	7,515	7,515	7,515	7,515	7,515

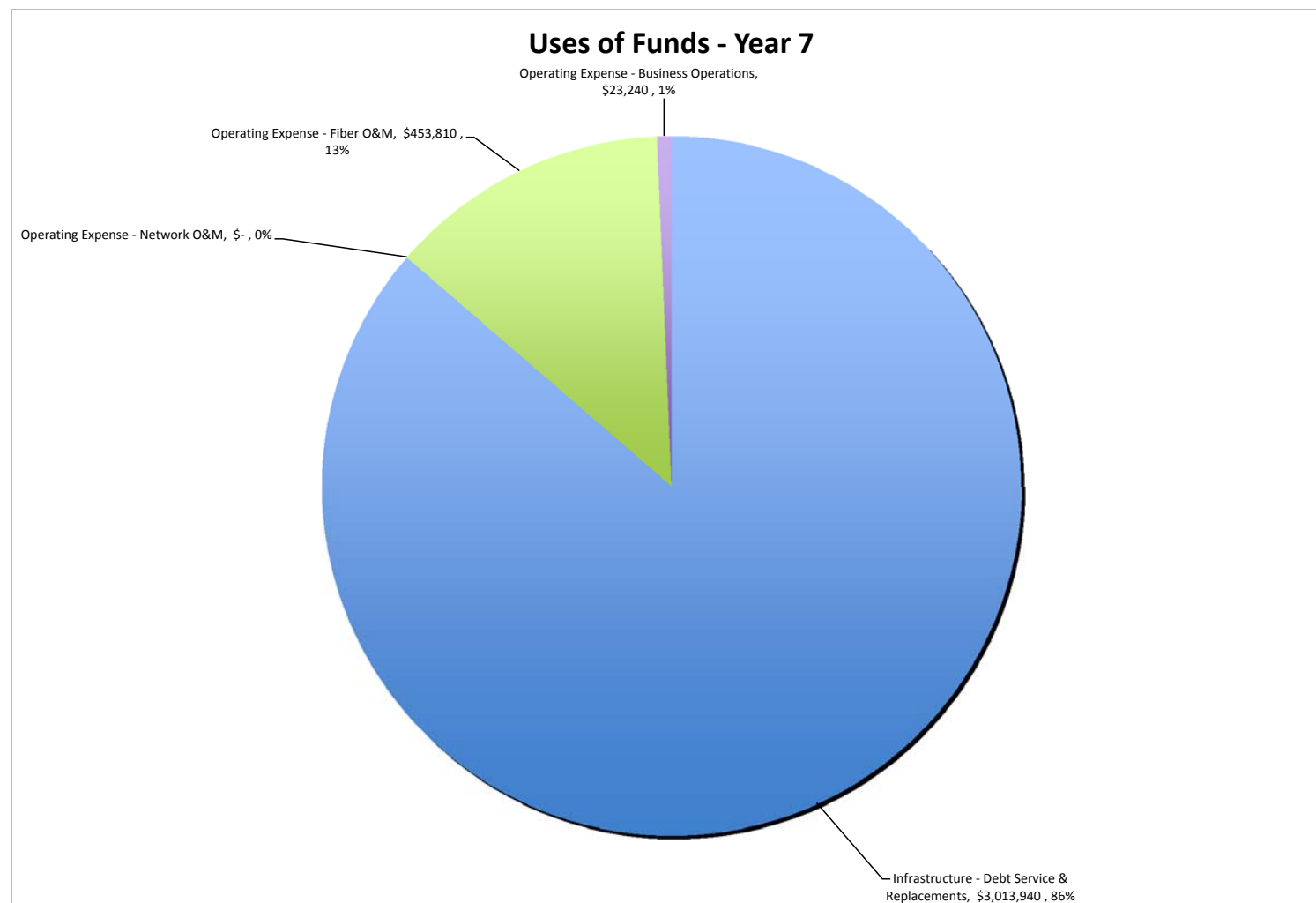
Total Number of Customers	7,515	7,515	7,515	7,515	7,515
New Subscribers	-	-	-	-	-
Take Rate	34.00%	34.00%	34.00%	34.00%	34.00%

Total Passing 22,100

6	7	8	9	10
-	-	-	-	-
7,515	7,515	7,515	7,515	7,515
-	-	-	-	-
7,515	7,515	7,515	7,515	7,515
7,515	7,515	7,515	7,515	7,515
7,515	7,515	7,515	7,515	7,515
-	-	-	-	-
34.00%	34.00%	34.00%	34.00%	34.00%
16	17	18	19	20
-	-	-	-	-
7,515	7,515	7,515	7,515	7,515
-	-	-	-	-
7,515	7,515	7,515	7,515	7,515
7,515	7,515	7,515	7,515	7,515
7,515	7,515	7,515	7,515	7,515
-	-	-	-	-
34.00%	34.00%	34.00%	34.00%	34.00%

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Expense Charts



**City of Santa Cruz
FTTP IRU**

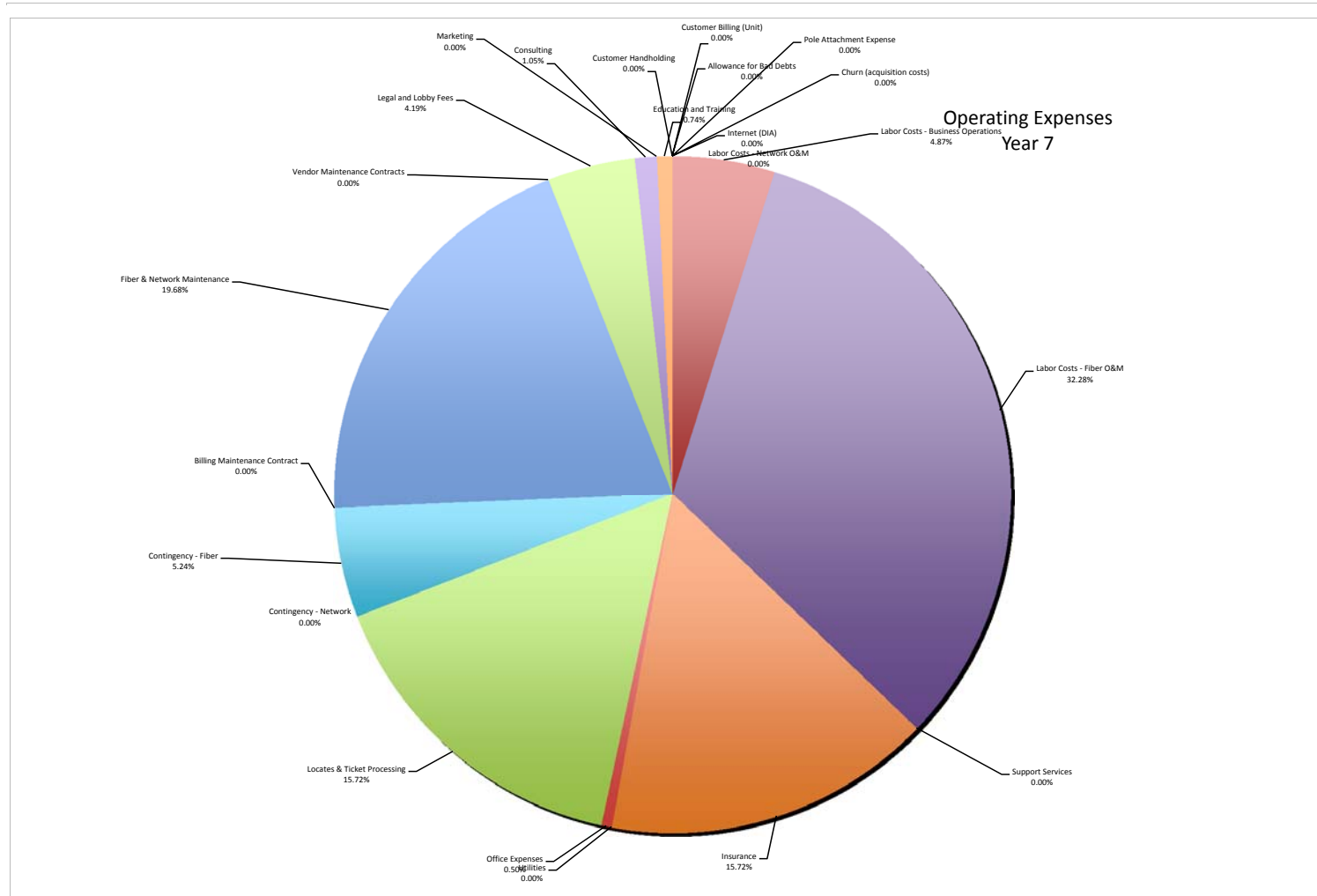
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Expense Charts

City of Santa Cruz
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Expense Charts



**City of Santa Cruz
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OSP Cost Estimate Summary

Item	Cost
OSP Engineering	\$ 2,223,800
Quality Control/Quality Assurance	575,460
General OSP Construction Cost	25,998,830
Special Crossings	171,800
Backbone and Distribution Plant Splicing	813,990
Backbone Hub, Termination, and Testing	2,219,980
FTTP Service Drop and Lateral Installations (see note below)	<u>1,543,270</u>
Total Estimated OSP Cost	\$ 33,547,130

Please note the above estimate does not include the drop costs to individual residences and small businesses. These drop costs are included in the per subscriber costs.