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I. Overview

This section presents Uptown's quantitative analysis of the key operating metrics from other municipal broadband and cable systems. The objective of this analysis is to confirm the key assumptions within the business case. Uptown has used the following two sources of information to benchmark LAC's business case forecasts against the following:

- The actual operating metrics of a major multiple system operator (MSO). A top-five MSO market of 600,000 cable subscribers has been used as the benchmark. Because of this, some key performance indicators (KPI's) can be skewed due to scale efficiencies when compared to the Los Alamos market. This should be taken into consideration.
- The business plan of a similar municipal broadband project. A market of very similar size will be used as a municipal utility benchmark. This market represents a fiber-to-the-premises (FTTP) architecture, and some capital and revenue (especially Internet) metric differences arise from this.

Our intent in reviewing these metrics is to assess the Los Alamos business case for reasonableness and achievability. This analysis attempts to answer such questions as; are the operating targets achievable compared to the actual performance of similar ventures in this industry? Are operating expense budgets sufficient compared to industry benchmarks? Are capital budgets sufficient for achievement of investments specified in the business case?

II. Definition of Metrics

A. *Subscriber Metrics*

Uptown believes the following subscriber metrics are most indicative of the financial health of a broadband operation:

- **Average Revenue Per User (ARPU):** Total monthly operating revenues divided by the number of subscribers for each line of business (LOB).
- **Penetration:** Units in service divided by serviceable homes.
- **Boxes per Subscriber:** Digital converter boxes divided by digital subscribers.
- **Subscription to Premiums:** Premium households divided by basic video subscribers.
- **Pay Per View (PPV):** Percent of total video revenues.
- **Subscriber Churn:** Monthly disconnects divided by number of subscribers.
- **Digital Penetration:** Digital subscribers divided by basic video subscribers.
- **Internet Availability:** Internet serviceable homes divided by homes passed.

B. *Operating Metrics*

Uptown believes the following operating metrics are most indicative of the financial health of a cable operation:

- **Operating Cash Flow Margin:** EBITDA divided by total revenue.
- **Operating Cash Flow Annual Growth Rate:** Percent change in operating cash flow from previous year.

- **Salary and Employee Costs:** Total Revenue generating Units (RGU's) from video, digital, Internet, and phone divided by LOB employees. Also expressed as employee expenses divided by total revenues.
- **Bad Debt:** Uncollectable write-offs divided by total revenue.
- **Advertising Budget:** Marketing and promotions operating expenses divided by total revenues. Excludes direct sales expenses (e.g. labor).
- **Gross Margin:** Equals 1 minus programming expenses (reflects cost of goods sold) divided by total LOB revenues.
- **Revenue Growth Rate:** Percent change in revenue from previous year.
- **Programming Cost:** License fees expressed as a % of revenues or as a monthly amount per subscriber.
- **Customer Acquisition Cost:** Advertising, marketing, and sales operating expenses divided by connects.

C. Capital Metrics

Uptown believes the following capital metrics are most indicative of the financial health of a cable operation:

- **Fibers Per Node:** Number of fibers available for each node.
- **Homes Per Node:** Number of homes passed divided by number of nodes.
- **Cost Per Node:** Marginal cost to construct a node. Includes electronics and excludes distribution plant.
- **Construction Cost per Home Passed:** All capital costs (outside plant) divided by homes passed.
- **Cost per Subscriber Served:** Marginal cost to connect a household to the network. Includes drop and premises electronics (e.g. NIU's).
- **Headend Cost:** Total capital outlays for sourcing the video signal.

III. Analysis of Subscriber Metrics

A. Video

The Los Alamos business case assumes significant unit growth from its video and Internet lines of business during the first few years of operation. A summary of these operating targets is presented in Exhibit 1.

Exhibit 1 – Subscriber Metrics (Video)

	Muni HFC Actual (2003)	Cable Operator (2003)	LAC FTTP (Year 1)	Muni HFC Business Plan (2008)	Muni FTTP Business Plan (2008)	LAC FTTP (Year 5)
ARPU	\$39.00	\$47.40	\$47.18	\$65.98	\$59.91	\$48.72
Penetration	29.8%	54%	21.6%	42.2%	28%	36%
Boxes Per Sub	1.69	1.54	1.5	NA	1.2	1.5
Subscription to Premiums (Of Basic Video)	36%	48%	50%	NA	46%	75%
Pay Per View (% of Video Revenues)	1.6% ⁱ	3.7%	2.1%	1.5%	1.7%	3.0%
Subscriber Churn	2.2%	3.5%	2.1%	2.0%	3.2%	2.1%
Digital Penetration (Of Basic Video)	33%	33%	50%	NA	67%	75%

Source: Municipal utility business plans and reports, MSO quarterly reports, MSO system metrics, Uptown analysis.

B. Internet

Internet subscriber metrics are presented in Exhibit 2.

Exhibit 2 – Subscriber Metrics (Internet)

	Muni HFC Actual (2003)	Cable Operator (2003)	LAC FTTP (Year 1)	Muni HFC Business Plan (2008)	Muni FTTP Business Plan (2008)	LAC FTTP (Year 5)
ARPU	\$36.62	\$43.34	\$49.55	\$49.29	\$65.35	\$52.80
Penetration	11.7%	21.6%	12%	23.5%	33%	36%
Availability	72%	81% of Video Homes	50%	100%	100%	100%
Subscriber Churn	2.4%	4.5%	2.1%	2.0%	4.0%	2.1%

Source: Municipal utility business plans and reports, MSO quarterly reports, MSO system metrics, Uptown analysis.

IV. Analysis of Operating Metrics

The next set of metrics is intended to evaluate the financial efficiency of the venture when compared to peers. The overall financial picture as defined by the business case is presented in Exhibits 3, 4, and 5.

Exhibit 3 – Operating Metrics (All LOBs)

	Muni HFC Actual (2003)	Cable Operator (2003)	LAC FTTP (Year 1)	Muni HFC Business Plan (2008)	Muni FTTP Business Plan (2008)	LAC FTTP (Year 5)
Operating Cash Flow Margin	Negative	36.5%	Negative	27.2%	42%	49%
Operating Cash Flow Annual Growth Rate	NA	25%	NA	236%	31%	22%
Salary & Employee Costs ⁱⁱ	501 RGUs/ FTE	468 RGUs/ FTE 30% of Total Revenues	63 RGUs/ FTE 466% of Total Revenues	1,129 RGUs/ FTE	966 RGUs/ FTE ⁱⁱⁱ 20% of Total Revenues	225 RGUs/ FTE 8% of Total Revenues
Advertising Budget	4.2% of Revenue	2.5% of Revenue	177% of Revenue	NA	2.8% of Revenue	6.0% of Revenue

Source: Municipal utility business plans and reports, MSO quarterly reports, MSO system metrics, Uptown analysis.

Exhibit 4 – Operating Metrics (Video)

	Muni HFC Actual (2003)	Cable Operator (2003)	LAC FTTP (Year 1)	Muni HFC Business Plan (2008)	Muni FTTP Business Plan (2008)	LAC FTTP (Year 5)
Gross Margin	44%	70%	58%	NA ^{iv}	55%	56%
Annual Revenue Growth Rate	43%	5.2%	NA	25.7% (All LOB's) ^v	10%	8%
Programming Cost	53% of Video Revenues \$20.81 / Sub/ Month	37.7% of Video Revenues \$17.48 / Sub/ Month	41.8% of Video Revenues \$19.70 / Sub / Mo.	NA	45% of Video Revenues \$25.13 per Sub/ Month	43.9% of Video Revenues \$25.67 / Sub/ Mo.
Customer Acquisition Cost	\$121	\$20 to \$60		NA	\$91	

Source: Municipal utility business plans and reports, MSO quarterly reports, MSO system metrics, Uptown analysis.

Exhibit 5 – Operating Metrics (Internet)

	Muni HFC Actual (2003)	Cable Operator (2003)	LAC FTTP (Year 1)	Muni HFC Business Plan (2008)	Muni FTTP Business Plan (2008)	LAC FTTP (Year 5)
Gross Margin	81%	70%	67%	NA ^{vi}	71%	71%
Annual Revenue Growth Rate	97%	57%	NA	25.7% (All LOB's) ^{vii}	12%	11%
Customer Acquisition Cost	\$187	\$20 to \$90		NA	\$91	

Source: Municipal utility business plans and reports, MSO quarterly reports, MSO system metrics, Uptown analysis.

V. Analysis of Capital Metrics

Los Alamos's capital metrics are all within peer ranges or better. Exhibit 6 presents the metrics for 2003 spending. Uptown sees minimal risk relative to capital budget support within the business plan.

Exhibit 6 – Capital Metrics

	Muni HFC Actual (2003)	Cable Operator Actual (2003)	Muni FTTP Business Plan (2008)^{viii}	LAC FTTP (Year 5)
Fibers Per Node	6	4 to 6	12 to 24	12 to 24
Homes Per Node	458	~ 500	192 to 288	192 to 288
Cost Per Node	\$38,000	\$51,000	\$65,000	\$65,000
Construction Cost Per Home Passed	\$492	\$580	\$759	\$900
Cost Per Subscriber Served	\$271	~ \$200	\$850	\$1,000
Head End Cost	\$2.2 M	~ \$3 M	\$1.5 M	\$1.9 M

Source: Municipal utility business plans and reports, MSO quarterly reports, MSO system metrics, Uptown analysis.

ⁱ Pay per view represents 2004 versus current actual.

ⁱⁱ RGU's are defined as basic video plus digital video plus Internet units. For this metric, digital subscribers are counted twice, first as a basic video subscriber and then again as a digital video subscriber.

ⁱⁱⁱ Represents a venture offering local telephone in addition to Internet and video services.

^{iv} Programming costs are not separated between video and Internet in the business plan. Venture level gross margin is 66% in 2008.

^v LOB-specific revenues are not defined for 2007. Accordingly, the 2008 revenue growth is at the venture level, versus LOB level.

^{vi} Programming costs are not separated between video and Internet in the business plan. Venture level gross margin is 66% in 2008.

^{vii} LOB-specific revenues are not defined for 2007. Accordingly, the 2008 revenue growth is at the venture level, versus LOB level.

^{viii} Capital expenditures are generally higher due to fiber to the home architecture.