

COSTQUEST

Executive Summary

Advanced Broadband Business Case – Fiber Build-out in Morgantown, WV

Introduction

CostQuest Associates presents this Executive Summary of the business case for High-Speed Broadband deployment across Morgantown. The purpose of this summary is to present a full fiber deployment (FTTp) scenario for all residential, business and anchor institution locations across the City. The Advanced Broadband Model and resulting report includes a financial model and business case for build out of Gigabit-speed broadband deployment in Morgantown. The questions that are intended to be answered with this analysis include:

- Is it economically feasible to build and maintain fiber to the home and business throughout the community?
- How do the economics of this deployment work for each neighborhood/area in Morgantown?
- What is the upfront investment to build the network?

The results are, in fact, a feasibility study that can be used to support policy making and economic development work for the community.

The model assumes a 10-year business case that includes all aspects of deploying and maintaining an advanced broadband network across the community. This includes capital deployment costs, operations and maintenance costs, recurring and non-recurring revenue and success-based capital costs related to a growing subscriber business. The model uses the most advanced geospatial and network modeling available today. CostQuest's modeling approach is the same used by the FCC and many national and local broadband providers.



Summary of Approach

The methodology used to model broadband deployment across the City is data-driven and based on the same geospatial and economic modeling used by the FCC and the telecommunications industry. This Gigabit City Model drives the results of the study.

- The Gigabit Broadband Model estimates the costs and potential profitability and ultimately the viability of the network
- The underlying geospatial/mapping model determines an efficient routing and architecture of the network
- The underlying cost model's use of an extensive demand and demographic database provides the ability to understand potential take rates, costs and the revenue flows related to the network plan to understand the economics of each "fiber-hood"
- The Study looks at deployment costs, the costs to maintain the network and the expected revenue

Summary of Results - Morgantown, WV

The results of the financial modeling are driven by a core set of assumptions on take rate, engineering parameters, costs inputs and revenue models. These assumptions can be changed and the results can be updated instantly. Key assumptions for these results can be found on the following page of this summary.

Business Case Summary

CostQuest Associates, Inc.



Business Case Summary

Inputs Used for Scenario (from "Key Use Assumptions" tab)						
Discount Factor			8.0%			
Length of Study			10			
Average		20.5				
		Customer Type				
			Residential		Business	
Video & High Speed Data	Install Charge	\$	300.00	\$	300.00	
	Monthly	\$	120.00	\$	150.00	
High Speed Data	Install Charge	\$	300.00	\$	300.00	
	Monthly	\$	70.00	\$	100.00	
Low Speed Data	Install Charge	\$	300.00	\$	300.00	
	Monthly	\$	-	\$	-	

Demand/Subscribers

Total Locations:	14,285.00	Housing Units:	11,187.00	Business Locations:	3,098.00		
Assumed Take Rate:	Assumes a market-wide average take rate levelized over 10 years. Take rates vary across rate plans/services and locations types such as residential and businesses.						
Total Subscribers:		Residential:			1,502.55		

Initial Investment with Success Capital

Total Initial Investment (upfront and success based capital costs) to Deploy Network: \$18,628,961.93

Summary of Business Case (levelized multi-year run rate)

Total Annual Costs:	\$4,489,644.53	Annual Capital Costs:	\$2,116,364.79	Annual Operational Costs:	\$2,373,279.74	
Annual Revenue:	\$3,279,708.36	Annual Contribution Margin:		(\$1,209,936.17)		
Total 10-Year Net Present Value of Business:				(\$8,327,846.90)		

Subscriber Statistics

	Capital Per Line	\$ 5,710.81
	Net Non-Recurring Cost ("Customer Turn Up") per Line TOTAL	\$ (61.54)
	Total Monthly Revenue Run Rate	\$ 83.78
Per Active Subscriber Statistics	Total Monthly Cost per Line Run Rate	\$ 114.69
	Monthly Capital Costs per line	\$ 54.07
	Monthly Operating Expenses Per Line	\$ 60.63
	Levelized Monthly Contribution per Line Run Rate	\$ (30.91)

Area Summary



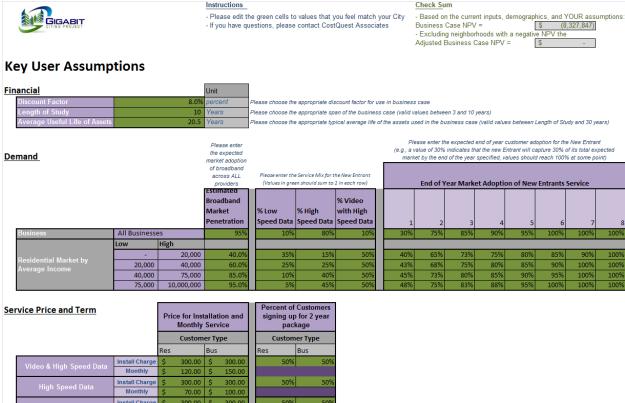
Region ("Fiber-hood") Summary

	Total Locations	Estimated	Total Annual	Total Annual	Annual Contribution	Total 10-Year Net Present
	Passed:	Subscribers:	Costs:	Revenue:	Margin:	Value of Business:
All Regions	14,924	4,332	\$4,489,644.53	\$3,279,708.36	(\$1,209,936.17)	\$ (8,327,846.90)
FLDCWV01	348	23	\$112,707.81	\$19,188.87	(\$93,518.94)	\$ (650,356.68)
SNCRWV01	9,188	2,646	\$2,898,934.00	\$2,021,365.02	(\$877,568.98)	\$ (6,028,933.98)
STHHWV01	5,388	1,663	\$1,478,002.72	\$1,239,154.47	(\$238,848.25)	\$ (1,648,556.23)
31111144401	5,500	1,003	\$1,470,002.72	Ģ1,233,134.47	(9230,040.23)	ý (1,040,000.20

Key Assumptions and Inputs

The following are the key assumptions and inputs that drive the outcome of the model. These parameters, and others, can be adjusted.

Business Case Inputs



Other Key Inputs/Parameters

Depreciation, cost of money and income taxes

Revenue

Customer Prem equipment -- (Modem, Set top, remote, etc)

Structure Sharing -- Sharing of feeder and distribution cable on same structure

Fiber -- Drop Material Prices/ft

Fiber -- Fiber Cable Material Prices/Ft

Fiber -- Material Prices for Termination of Fiber on Panel in Node Location

Eqpt Material Prices and Capacities -- ONT

Eqpt Material Prices and Capacities-- Fiber Splitter

Eqpt Material Prices, Labor and Capacities -- Fiber Drop Terminal

Equipment Material Prices and Capacities -- OLT

Labor Rates

Miscellaneous Loadings
Buildings -- Free Building Space
Buildings -- Land and Building CAPEX
Fiber -- Cable placement and splicing hours
OPEX Factors -- Operating Expense factors

Plant Mix - Mix of Aerial, Buried and Underground plant Structure -- structure (incl Buried) Sharing with other Parties

Installation Expenses -- Data Only

Installation Expenses -- Video / High Speed Data

Conduit -- Underground conduit/duct/innerduct placement hours for owned conduit systems

Excavation costs -- Buried Excavation Hours
Excavation costs -- Underground Excavation Hours

Poles -- Pole Placement Hours for owned poles

Conduit -- CAPEX if conduit is rented

Conduit -- UG Material prices for conduit, duct/innerduct, manholes if conduit is owned

Poles -- CAPEX for attaching cable to non-owned pole Poles -- Pole/Anchor/Guy Material Prices if owned poles

Conduit -- Duct Rental Rates

Pole/Conduit -- Mix of Free vs Non-Free

Poles -- Attachment Rates

% Customers Choosing each offering: LowData, HighData, Video&HighData

CircuitPowerFactor SwitchPowerFactor

UseRegionalCostAdjustment FLEC to Book Capex adjustment

AssumedAreaDensity AssumedCompanySize

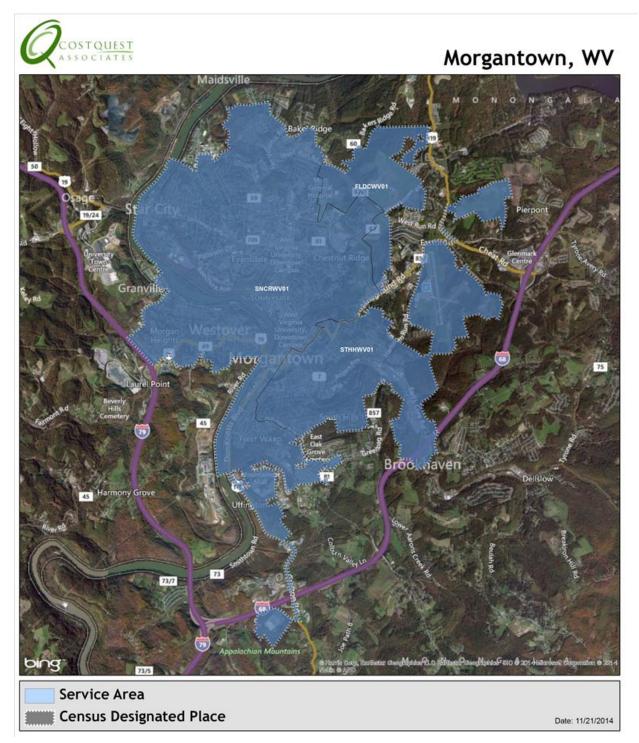
Conduit
CarrierType
Company
Length of Study
DiscountFactor

Poles

Geographic Area

The geographic area modeled for the network deployment includes only those areas within the city limits, defined as a Census Designated Place. A process was also developed to aggregate neighborhoods together into common fiber service areas – or "fiber-hoods". This allows the financial analysis to be done on a neighborhood-by-neighborhood basis.

MAP – SOURCE TAB CDP MAP



Next Steps - Full Advanced Broadband Study Report

CostQuest will be releasing a full report on the feasability of Advanced Broadband service for the community. This report will include full financials for each community, network design mapping and data, documenation on methodology, and a report on guidance for steps the community should consider taking given the information presented.

The Advanced Broadband Report can help to support the following:

- Help community stakeholders develop an understanding of the economic feasibility of a gigabit speed network –
 City-wide or otherwise
- To support advocacy to policy makers and stakeholders on the value of such a network
- To manage procurement of a private partner to deploy or manage the network and business
- Manage leverage that the city might have, such as Right-of-way, city assets/equipment, permitting and franchising
- To manage architecture issues and other matters that may serve to expedite build-out
- Neighborhood demographics, demand and economic data will help to effectively manage deployment and adoption
- Can be used to advise applications for grant, loan and subsidy programs