THE AXIOM MODEL- Hampden

Axiom is operating or is set to operate several municipally owned or privately funded networks in Maine. The benefit of this model is that municipalities retain ownership and therefore operational oversight of the network. This feature allows a much more collaborative approach with the Internet Service Provider where the goals of the ISP and the community are aligned, and success is mutually beneficial. This model corrects the inequity that has been created by DSL and co-axial cable technology by providing the same world class connectivity and reliability to every home and business in the community. Because it is community driven (owned by Town) and will have superior service to current providers, the formula that this model offers can be very successful- and likely not raise taxes, paying for itself and producing surplus revenues in the future years.

Ownership- Benefits of Municipally owned

There are several elements that are important to this model that the Broadband Committee and the Town should consider.

Municipally owned

- If the network is owned by the community, a new law **exempts you from utility pole make ready cost** in areas with less than 25/3Mbps a potential for savings off the cost of the construction

- Town would fully control the asset, and would have leverage over Axiom, as the operator- examples in other partnership agreements include:
  - **Negotiate Service Agreements** that can specify hours of technical support operations, network monitoring and service standards
  - Work closely with Axiom to find funding to **create an Affordability Fund**, to support disadvantaged families
  - Work together to **discuss various pricing models**
  - Axiom's model would **return a percentage of revenue back to the town** to support the bond payback with **no new taxes** needed to help construct the system (more in other section of this response)

- Town must be willing to fund with low-cost capital
  - Our model is **based on a municipal bond**- the lowest cost interest rates available
  - Other communities have considered low-cost bank financing, but our experience is the cost of bonding is extremely low and beats even the best bank finance option, that said, the numbers are encouraging and might support a bank interest rate depending on the cost of that money

- Town must be willing to **enter into a partnership agreement with Axiom** to provide exclusive service over the network under a long-term contract, typically 12 years, with a kick-out clause every 3 years, or at any time Axiom fails to meet its obligations.
  - This ensures a robust payback of the bond, with no tax dollars needed, over the 20-year term of the bond
  - In exchange for exclusive operating rights on the system, Axiom would provide a per customer payback to the town to support the full cost of the bond payments

Obligations of each party

Municipal responsibilities

- Own and insure the main backbone and fiber equipment (est. yearly cost of $10,000-$15,000) or Axiom can insure on behalf of the Town- likely at a lower cost
- Work closely with ISP on marketing efforts and take rates
- Promote ISP and early commitments to the new system
- Commit to a long-term contract with the ISP to exclusively serve the community
- Develop and maintain expectations for ISP engagement and pricing for citizens

ISP responsibility

- Repair and maintain all fiber drop and home equipment at Axiom's cost
- Employ a local technician to support timely responses to customer issues
- Coordinate all operational and managerial responsibility for the system
- Return a per customer portion of revenue back to the community to service debt
- Maintain proper insurance as required of an ISP

Questions typically asked about municipally owned networks:

1. What are the risks?

- Subscribers are critical to the success. One risk is the estimated subscribers falls short.
    - Currently Axiom has modeled a 50% take rate in Year #1 of service- approximately 938 subscribers- converting the areas of non-Spectrum served areas should help reach this take rate significantly
    - We have priced the service very competitively
- During the year of construction, Town will owe bond payments, without subscriber revenue
    - Grants, American Rescue Funds, and other sources should eliminate this first-year cost
- Some residents may not be able to afford subscription fees
    - Axiom will work closely with the town to identify funding sources to reduce monthly subscription fees to needy families
        - Axiom has successfully attracted funding to establish a $20,000 fund which we are using in Washington County now
- Cost of hookup after the initial construction year will be prohibitive
    - Axiom is working closely with a couple of towns to provide lower-cost hookup periods after construction is complete
    - Town could use surplus revenues in future years to defray some or all hook up costs
- Spectrum undercuts Axiom pricing and keeps a large portion of customers
    - First, we think this is very unlikely… however…
    - We would switch people to fiber and allow them to keep the same plan that they currently have with Spectrum internet, if Spectrum decides to offer a lower cost offering

Upfront Costs

- The objective is a project fully paid for by subscribers, not taxpayers
- Because Axiom will generate subscriber fees and use a portion of those fees to pay back the bond- the initial cost of the project is not the true cost- it's over 90% less
- The belief is that any "gaps" in the cost could be covered by grants, Rescue plan funds - to be determined.

Estimated construction cost: $5,318,000
15% of total cost in grant or mix of funds ($750,000)
Borrow amount ($5M-$500k)= $4,568,000

Assumptions

- Cost of make ready reduced because this would be municipally owned- savings estimated at $500,000
- Pole replacements are estimated and can flex lower or higher, potentially reducing the amount borrowed even further
- Drops to the home cost are determined at a 60% take rate- approximately 1125 potential customers
- You are eligible for a ConnectMaine grant in area not served by Spectrum that will reduce this estimate substantially- possibly beyond the 15% estimated reducing the cost of the bond to $4.5M (ConnectMaine grant of $750,000)
- Borrow $4,500,000 for 20 years

Date	Principal	Rate	Interest	Total Payment	FY Total Bond payment	Revenue from Subscribers returned to Town	GAP (in red) or Surplus
05/1/2022			$40,698.80	$40,698.80			
11/1/2022	$228,401.10	0.5500%	$39,513.40	$267,914.50	$308,613.30	$0	($308,613)
05/1/2023			$38,885.30	$38,885.30			
11/1/2023	$228,401.10	0.5800%	$38,885.30	$267,286.40	$306,171.70	$309,540	$3369
05/1/2024			$38,222.93	$38,222.93			
11/1/2024	$228,401.10	0.6200%	$38,222.93	$266,624.03	$304,846.96	$333,960	$29,114
05/1/2025			$37,514.89	$37,514.89			
11/1/2025	$228,401.10	0.6800%	$37,514.89	$265,915.99	$303,430.88	$345,840	$42,410
05/1/2026			$36,738.32	$36,738.32			
11/1/2026	$228,401.10	0.7900%	$36,738.32	$265,139.42	$301,877.74	$358,050	$56,173
05/1/2027			$35,836.14	$35,836.14			
11/1/2027	$228,401.10	0.9300%	$35,836.14	$264,237.24	$300,073.38	$358,050	$57,977
05/1/2028			$34,774.07	$34,774.07			
11/1/2028	$228,401.10	1.0800%	$34,774.07	$263,175.17	$297,949.24	$358,050	$60,101
05/1/2029			$33,540.71	$33,540.71			
11/1/2029	$228,401.10	1.2300%	$33,540.71	$261,941.81	$295,482.52	$358,050	$62,568
05/1/2030			$32,136.04	$32,136.04			
11/1/2030	$228,401.10	1.3900%	$32,136.04	$260,537.14	$292,673.18	$358,050	$65,377
05/1/2031			$30,548.65	$30,548.65			

11/1/2031	$228,401.10	1.5200%	$30,548.65	$258,949.75	$289,498.40	$358,050	$68,552
05/1/2032			$28,812.80	$28,812.80			
11/1/2032	$228,401.10	1.8780%	$28,812.80	$257,213.90	$286,026.70	$358,050	$72,024
05/1/2033			$26,668.12	$26,668.12			
11/1/2033	$228,401.10	2.1350%	$26,668.12	$255,069.22	$281,737.34	$358,050	$76,313
05/1/2034			$24,229.94	$24,229.94			
11/1/2034	$228,401.10	2.3180%	$24,229.94	$252,631.04	$276,860.98	$358,050	$81,190
05/1/2035			$21,582.77	$21,582.77			
11/1/2035	$228,401.10	2.4470%	$21,582.77	$249,983.87	$271,566.64	$358,050	$86,484
05/1/2036			$18,788.28	$18,788.28			
11/1/2036	$228,401.10	2.5680%	$18,788.28	$247,189.38	$265,977.66	$358,050	$92,073
05/1/2037			$15,855.61	$15,855.61			
11/1/2037	$228,401.10	2.6750%	$15,855.61	$244,256.71	$260,112.32	$358,050	$97,938
05/1/2038			$12,800.75	$12,800.75			
11/1/2038	$228,401.10	2.7320%	$12,800.75	$241,201.85	$254,002.60	$358,050	$104,048
05/1/2039			$9,680.79	$9,680.79			
11/1/2039	$228,401.10	2.7840%	$9,680.79	$238,081.89	$247,762.68	$358,050	$110,288
05/1/2040			$6,501.44	$6,501.44			
11/1/2040	$228,401.10	2.8310%	$6,501.44	$234,902.54	$241,403.98	$358,050	$116,647
05/1/2041			$3,268.42	$3,268.42			
11/1/2041	$228,401.10	2.8620%	$3,268.42	$231,669.52	$234,937.94	$358,050	$123,113
TOTALS	**$4,568,022.00**		**$1,052,984.14**	**$5,621,006.14**			

Explanation of Chart

This chart is derived from the Maine Municipal Bond Bank calculator. The calculator allows you to input the amount you are expecting to borrow ($4,568,000), the number of years (20) and the Town's fiscal year so that the payments correspond with town finances and expectation for payments.

The last three columns should be your focus. "FY Yearly bond payment" is the yearly borrowing cost of the bond. This is the payment that needs to be covered by the next column, which is the amount of subscriber revenue returned to the Town, to cover that payment.

The last column is the amount of deficit (Year 1 in RED) and the amounts of surplus that is returned above and beyond the amount needed to cover the bond debt payment.

In Year 1, when you borrow the money, no revenue would be derived because that is the year the system would be built. That is why that payment would not be covered. Because it is a relatively small amount, I believe that there would be funds that could be raised or applied for to cover that first-year gap.

Over the next 19 years, the payments create a total surplus of just shy of $1.1M.

These are the funds that could be used to create an Affordability Fund, pay for equipment spares and replacement and insurance.

In essence, the system pays for itself and then some after Year 1 of construction and revenue is starting to be derived by subscribers- AND the Town owns the system.

Repayment Structure

Our repayment structure, which is in place and operational in other projects, provides for quarterly payments for year-round subscribers and a one-time bulk payment for all seasonal subscribers in June of each year (not sure you have many seasonal subscribers)

In this way, the town can expect a check from us in the following month of the Quarter for the previous 3 months of revenue collected. And once all seasonals have paid (they get billed in March for a May-October seasonal rate) we write a check for all seasonals in June once all revenue has been collected.

We would provide a list of customers, if requested, to match up the revenue return calculation and to check our work to ensure full payment is being received by the Town.

Repair Obligation

All repairs will be the responsibility of Axiom to coordinate and oversee. Axiom will repair all drops (lines from the utility pole to each home) and the customer premise equipment with no pass on cost to the Town.

For catastrophic repairs of the main trunk line, those types of issues are typically expensive and could trigger an insurance claim, whoever is holding this insurance would be responsible for the co-pay. It may be cheaper for Axiom to insure the system, but the responsibility of any claim would be on the owner. So, any co-pays (typically $1000) would be passed on to the Town. However, surplus revenues will easily cover any insurance claim. If you would like Axiom to insure the system, we would need to work with you to determine the cost of that and where the responsibility for the co-pay/deducible would be. Certainly, with a little discussion, I believe we can come to a reasonable solution for both parties. The liability here is relatively small ($1000 per claim).

Customer Service Offering

Our revenue modeling is based on these subscriber rates:

Year Round	
50/50Mbps	$59.99
100/100Mbps	$79.99
500/500Mbps	$149.99
1G/1G	$199.99

Seasonal	
50/50Mbps	$50.99/ $611.99 annually
100/100Mbps	$67.99/ $815.99 annually
500/500Mbps	$127.49/ $1529.99 annually

Seasonal service is fixed for 6 months from May 1st thru November 1st. Those requiring extended service are encouraged to take a year-round plan.

Business Rates

50/50Mbps	$99.99
100/100Mbps	$119.99
500/500Mbps	$199.99

Expected Speeds of Service

Axiom would build a world class fiber system that would bring best-in-class reliability and deliver unrivaled bandwidth to Hampden. Axiom would guarantee that each subscriber would receive their total bandwidth purchased- even in the heaviest usage times. This would not be an "up to" or "best effort" service. If you subscribe to receive 500/500Mbps- you will be able to test that and always receive your bandwidth, day or night, summer, or winter.

The system will be built to deliver symmetrical service to each home, meaning we are offering symmetrical (same speeds uploading and downloading) at no additional cost to the subscriber and each subscriber will be capable of receiving a 1Gig/1Gig (1000/1000Mbps) from day one. The system will include a handful of ports capable of delivering 10/10Gig service (10,000/10,000Mbps), making the system futureproof for many years to come without additional investments needed.

We are including pricing for a Gig tier of service, but from a practical matter, 500/500Mbps delivered through fiber is a level of connectivity that few in the world have had a chance to experience, but there may be a few Hampden residents who want to have the full Gig experience and we can customize rates for different types of service. We will work with you to determine if a different or expanded rate group is needed, or necessary.

Time to Install

Here is a general timeline from when money is received to construct the system.

- Pole licensing and make ready- 6 to 7 months
- Construction- 5-6 months
- Home connections- 3-5 months

Total time once money is secured- 14 months to 18 months for all subscribers to be hooked up and service is operational.

Assistance with Grants

Axiom has vast experience working with communities to identify, apply for and be awarded grants at the local, state, and federal level.

Axiom has been integral in supporting winning grants with USDA, EDA, Northern Border Commission, CARES Act, ConnectMaine planning and infrastructure funds, Island Institute, Microsoft Airband Initiative, and the Maine Community Foundation.

We obviously cannot "promise" success, but we have a very good track record. In our assumptions, we suggest that this project would have a good opportunity to attract $750,000 in funding. I believe you have all the ingredients to be successful and Axiom will stand side by side and heavily support any applications that would reduce the cost of the build or support ongoing operations, including an Affordability Fund.

Final Thoughts

In summary, Axiom is very much committed to municipally owned broadband and being a strong partner with the community. We are committed to municipally owned networks because we believe networks that are controlled by the community, produces better consumer experiences, and force the contracted ISP to be more responsive to issues. My desire is to bring better connectivity than Bangor, Portland or New York City and help the community own an asset that they can be proud of and give Hampden an investment that will last for generations.

- No increase in taxes
- Strong opportunity for grant funding to reduce the cost
- Competitive pricing for subscribers
- A community minded partner that cares deeply about the communities we serve

If you have any questions or wish to engage Axiom in further discussions, do not hesitate to reach out to me at (207)272-5617 (m) or mark@connectwithaxiom.com

The areas of Hamden not served by Spectrum are highlighted in red. These areas represent over 300 homes, the majority of which cannot receive adequate Broadband service, defined minimally as 25/3Mbps.

The yellow dots are home and business locations. The major roads are parts of Kennebec Rd (closer to newburgh) Sawyer road, Patterson Road, Meadow Road, Monroe Road and Caanan Road.