
Minutes
November 4, 2021 6:30 p.m.
Town of Fairhaven Broadband Study Committee

Affiliations	Name	Present
Fairhaven Staff Appointee	Derek Frates	Yes
Committee Members	Bob Espindola, Select Board representative	Yes
	Sean Powers, Chairman	Yes
	Alyssa Botelho	No
	Cathy Melanson	Yes
	Nicole Antonio	Yes
EntryPoint	Devin Cox	Yes
	Jeff Christensen	Yes
	Bruce Patterson	Yes
Recording Secretary	Stephanie Fidalgo	Yes

Minutes:

Mr. Powers opened the meeting at 6:35 PM.

Review/Approve last meeting minutes:

Motion: Mr. Powers made a motion to approve the minutes of September 23, 2021.

There was a request for amending those minutes to correct the amount of drop cable from 4,000,270 to 4,270,000 as well as correcting any misspelling of Mr. Espindola's name from Ms. Fidalgo and Mr. Espindola respectively.

Motion: Mr. Powers made a motion to approve the minutes as amended and was seconded by Mr. Espindola. Passed unanimously.

Biarri Analysis Spreadsheet:

Mr. Patterson presented an Excel spreadsheet covering the estimated project cost. The first spreadsheet presented contained the common costs, covering all materials as well as labor costs. He clarified that common costs encompass what is needed to have fiber installed "down the street," and do not cover the costs for individual property installations. Common costs will need to be covered regardless of what the final take rate ends up being.

The second page of the spreadsheet then covered Individual costs to install the fiber into homes and businesses, referred to as "drops." Mr. Patterson stressed that the take rate will affect the final individual costs.

The third sheet covers the costs of building the various fiber shelters required for the project, at a price of roughly \$130,000 per shelter.

Mr. Patterson then brought up the summary page which covers the broad costs of the project based on the calculations of the other pages. Noted here are figures presented for Maximum (fully underground installation) and Minimum (fully aerial installation) costs.

	Maximum (Fully Underground)	Minimum (Fully Aerial)
Common Materials	\$4,900,762	\$3,994,837
Common Labor	\$12,772,248	\$8,926,848
Common Total	\$17,673,010	\$12,921,685
100% Take Rate Drop Total	\$10,110,578	\$6,578,914
100% Take Rate Grand Total	\$27,783,589	\$19,500,599
Average Price Per Drop	\$1254	\$816

Mr. Espindola verified that the costs are based upon a 100% take rate, while the estimate is for roughly 50%-60%.

Mr. Patterson also noted that the presented budget is on the high side, approximately 10-15% higher than current real-world costs. He added that fully aerial is not feasible since some amount of cable has to be run underground. A more realistic number for the Aerial Common Total is \$15,297,348.

A discussion ensued between Mr. Powers, Mr. Espindola, and Mr. Patterson in regards to the ownership of the existing underground cable and electrical pipelines in the town and whether or not this project could make use of those existing pipelines. Mr. Patterson clarified that anything existing is already owned by private corporations and building the new fiber network would entail adding another underground pipeline. There was a noted exception that aerial installations can share poles.

Mr. Patterson demonstrated the savings of using aerial systems over underground, suggesting that the percentages would be fairly similar for both common and individual/drop - for example, 40% common aerial installation would translate to roughly 40% drop aerial installation. The spreadsheet also automatically calculates a price per participant based on the take rate. Also included on the summary page is a way to calculate how any grants will affect the total costs.

Ms. Antonio inquired about the advantages and disadvantages of both underground and aerial methods, specifically noting the risks for aerial installations as a concern.

Mr. Patterson confirmed that aerial installations will have higher costs over a 20 to 50 year period as compared to underground. He noted that the city of Ammon, Idaho had their fiber installation fully underground to cover the costs upfront.

Mr. Espindola noted that the take rate will probably depend on finding the right balance of costs to be able to attract enough takers - too high of a cost per installation will lower the number of takers, but too low will mean higher maintenance costs in the future. But this spreadsheet shows the real costs of this project and along with other project modeling resources provided by EntryPoint, all of this helps to lay the groundwork for possible grant opportunities. He went on to note that while the spreadsheet does include a way to factor grants into the total project, the committee is currently focused on grants solely for the pilot project.

Mr. Patterson did point out that even a grant that covers only some of the pilot project will help to lower costs overall for the whole project. An example given was a \$684,396 grant covering just 3% of the full installation costs would still help to lower the individual costs by roughly \$90 per installation.

Mr. Espindola stated that the current goal is the pilot project as a proof of concept before the full build-out, as he agreed that a grant opportunity that covers portions of the pilot would help to apply to both the pilot project and the final build-out. The first grant would need to be narrowly focused on getting the pilot project up and running, but there will be further grant opportunities to lower the final total.

Mr. Patterson reasserted that the spreadsheet EntryPoint created will help with tracking how grants will help to lower costs to the residents on an individual basis.

Ms. Melanson's questions in regards to the take rate then led to a more in-depth discussion of the pilot project.

Pilot Project and Funding:

Mr. Patterson explained that the pilot project would involve getting a grant from the state to help fund the building of three shelters. Then the town would select 50-100 homes to be the test installations. The pilot project homes would have to sign a contract confirming that they understand that this is a pilot project is a proof of concept, participation is voluntary, that the town reserves the right to not go forward with the utility, and if the town does go forward, the homes will have to repay the town.

Mr. Espindola stated that residents would be able to participate in the pilot with no upfront costs but then would have to pay to sign on in permanence to the final project. For costs to be affordable at an individual household level, the take rate is critical and thus the town is hoping for around 60%. The project estimate presented at this meeting helps to better educate about costs and the pilot will help to prove out the system. The state won't give out the grant money if they think the system isn't viable, so it is up to the town to prove that it is via the pilot project.

Ms. Melanson inquired about what the cost per participant would cover, specifically wishing to know if that covered both common and individual installation costs or only individual installations.

Mr. Espindola explained that the cost per participant would go to cover both common and individual installation costs.

Mr. Patterson further elaborated that the property owners will be the ones who eventually pay for the project. This project should be seen as an investment on the part of the homeowners and it is up to the town to communicate the amount of value that is being added to the homes. The value added should be roughly the same as the cost per participant. He noted that in Ammon, Idaho they had the pilot homes speak at town hall meetings about the quality of the fiber service and their support led to a 73% take rate across the town.

Ms. Melanson sought to clarify that the plan would be that the town would pay a proposed \$22 million (an example total shown in the spreadsheet based on a blended underground and aerial installation) upfront and then residents would pay back their costs either in a lump sum or as a monthly fee.

Mr. Christensen suggested while a lump sum payment would be possible, most likely it would be paid back via be a monthly fee.

Mr. Patterson calculated that it would be roughly a \$22 a month fee. Using Ammon as an example, residents in that town pay \$16.50 for the fiber, and then their ISP is an additional \$2-\$25 per month. For a theoretical Fairhaven resident, they would pay \$19 to the town for the fiber and then \$10 to an ISP for a total cost of roughly \$30 per month. If billed annually as part of property taxes, this could be closer to \$50-\$60.

Mr. Espindola remarked that the original survey put that number at \$80 - \$90.

Ms. Melanson noted that the payback model was for over 10-15 years.

Mr. Cox remarked that the fiber network would provide 1000 Mbps download by 1000 Mbps upload speeds as compared to the current 100/10 speed that the ISPs presently provide, and thus would offer better service in addition to saving money.

Mr. Patterson brought up that the original modeling for the project was based on the estimate of \$4000 per home with a 60% take rate using a blended underground and aerial installation. The current model comes within 10% of that price per home, ranging from \$4,600 to \$4,100.

Ms. Melanson asked if the town would have to borrow the projected project cost.

Mr. Christensen first asserted that when it comes time to present at town meetings, accurate answers will be required but there are complexities to take into account. A Municipal Light Plant structure needs to be set up as that legal structure is required. Before the town writes the big checks, there will be the pilot project to prove that ISPs can be brought in. Community engagement will also be very important to raise the take rate, which could be done via good marketing but a door-to-door effort would be preferable to talk to everyone and answer their questions. The town would need to know the take rate before entering into heavy construction. Town would act as a mechanism to finance the construction, functioning like a revenue bond because people have signed up, signed on, and would help pay for it over time.

Ms. Melanson asked if the town would have legal rights to recoup the money if a resident declines to pay.

Mr. Christensen answered that the bond council said yes. It would be a voluntary opt-in and residents would be required to pay the town back. Thus, the town could recapture money and charge interest.

Mr. Espindola explained that the town could get better costs and interest rates than a co-op or a private developer. If a lot of people express interest after the pilot, knowing the costs per participant depending on which direction is taken - municipal, co-op, or private developer - will be very important. The pilot is a very important step to demonstrate how it works and obtain feedback, be it positive or negative. If the pilot is successful, then further decisions can be finalized.

Ms. Melanson wished to know if people will still have to get other services such as cable TV.

Mr. Christensen pointed out that with 1000/1000 speed and no data caps, residents would most likely choose an "Over the Top" streaming service for television.

Town Meeting Scheduling:

Mr. Espindola, when prompted about the scheduling of the fall town meeting, noted that December or earlier is not possible due to several factors. The current discussion among the select board is for a town meeting in January or February. This is an item that will be brought up at the Select Board Meeting on Monday, November 8th. There is the possibility of skipping the January/February meeting and only having a meeting in May. However, a January/February meeting would be best for time-sensitive issues.

Ms. Antonio inquired if any grants that could apply to this project were time-sensitive.

After Mr. Espindola confirmed that some grants are time-sensitive, Mr. Christensen requested that any previous discussion of the planning spreadsheet be wrapped up first before moving on to other agenda items.

Mr. Patterson offered to go back over the spreadsheet and the information from the previous meeting from Biarri, but mainly noted that the current information does validate the original estimates.

Mr. Espindola wanted to know if there is an easy way to use the spreadsheet to help plan for the pilot project and its estimated budget of \$684,000 to \$750,000.

Action Item: Mr. Patterson will create a condensed version of the spreadsheet that will apply to the pilot project, covering the construction of three fiber access shelters and the installation to 50-100 homes.

Meeting with Rep. Straus and Pilot Project Details:

Mr. Espindola had a meeting with State Rep. William Straus one week prior to this committee meeting to discuss a number of different projects (wastewater treatment, public safety facility, etc). Rep. Straus was interested in how “shovel ready” this project was. Mr. Espindola assured him that with the help of Biarri and EntryPoint, significant steps have been made regarding the planning of this project.

He went on to note that requests for construction for the pilot would be another major step forward. This would require selecting the shelter locations, finding a project manager, and then requesting proposals for construction and operations. The committee is now comfortable with the concept of a pilot, Rep. Strauss also expressed interest in the project, and residents have already been requesting to be a part of the pilot.

After a question from Mr. Patterson about locations for the pilot homes, Mr. Espindola explained that the pilot homes would need to be in close proximity in order to keep costs down. Additionally, shelters would need to be close to the existing fiber backbone and would have to be on town property. Thus, those shelters may need to be located on school or public works property. The economics, the density of the neighborhoods nearby, and other limiting factors will determine which of the three shelters could be built. Therefore, these shelter locations need to be determined as part of defining the scope of the project. Mr. Espindola has already reached out to the school department in regards to the pilot project and would be fine to coordinate the effort to define which of the three shelters would be built.

Mr. Espindola outlined the major steps as follows:

- Select the shelter locations.
- Request proposals for construction costs and schedule.
- Use that information to then apply for a grant.
- All of which would put the town in a position to be shovel ready for the pilot.

Ms. Melanson asked for confirmation that the shelters must be built on town property.

Mr. Espindola confirmed that is the case as it would be unwieldy to contract with a private property owner for this purpose.

Ms. Melanson then proposed that in theory, shelters could be at Wood Elementary School, East Fairhaven Elementary School, and Fairhaven High School. This would then allow the pilot project to be spread out over different areas, rather than condensing the pilot to a single area.

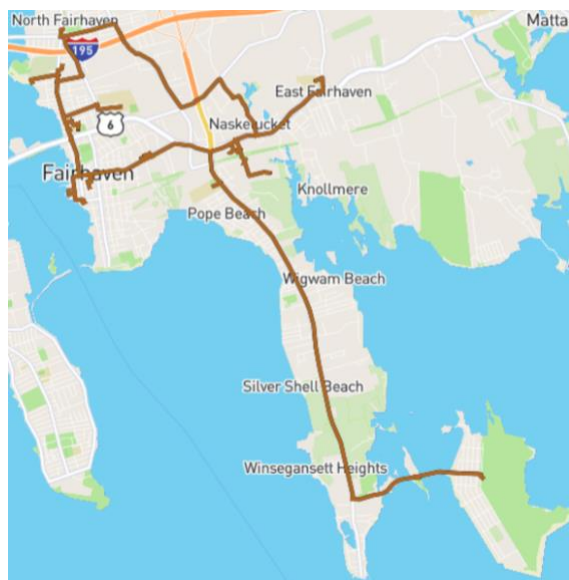
Mr. Espindola requested that slides from the presentation that was made to Rep. Straus be shown on screen in his discussion with Ms. Melanson. He noted that while a pilot project could be done with only a single fiber optic shelter, three is the proposed number as that would cover several different parts of town and cover half of the needed six. With that in mind, the top three areas of interested homes would probably be what would be selected.

Mr. Christensen noted that the key question is, "Can this project utilize the existing fiber network backbone?"

Mr. Patterson affirmed that the assumption used for the planning is that the backbone will be leveraged. He added that the location selection process can be run concurrently with making some of the material purchases.

After being prompted by Mr. Espindola if the use of the backbone applied to only the pilot or the project as a whole, Mr. Christensen noted that it would be used for both phases. He agreed that distributing the pilot across multiple neighbors in the town would be ideal, but that hinges entirely on utilizing the existing backbone to minimize construction.

Ms. Antonio asked for clarification as to where the backbone is located.



Mr. Espindola directed attention to the accompanying map of the backbone, which had been included in the presentation given to Rep Straus. He explained that the original fiber loop was created for the use of

public buildings such as the school, public safety, and town hall. As it is currently in use, there will be ongoing maintenance on this loop and the pilot cannot compromise this existing infrastructure.

Mr. Christensen commented that while the pilot could be done without a Municipal Light Plant legally, having one approved at a town meeting would send a loud message to the state that there is support for the project and it would be moving towards being shovel-ready.

Mr. Espindola remarked that in his discussions with Rep. Straus, he explained that a Municipal Light Plant is a procedural application process and one that doesn't have to go through the legislature.

Grant Applications:

Mr. Espindola explained to the committee that some of the grants we want to pursue would need to be applied for by late December. A major step to help with the grant application process would be to put out requests for proposals for the pilot. The committee would need to vote on if they wished to move in that direction and then would have to ask the town administration for help with drafting proposals.

Mr. Christensen would like to keep the Municipal Light Plant moving while additionally putting work towards the pilot project. He noted that while EntryPoint has not been selected as the vendor, they would continue to work with the town. The plan would be to frame it out on paper with Mr. Patterson to further refine the process. As part of the process, the committee would need to reach out to the original builder of the fiber optic backbone - ComTRACT - for support. RFP (Requests for Proposals) will be needed for the construction of the pilot and Mr. Patterson will need to work with representatives from the committee.

Mr. Espindola requested further clarifications on different RFPs and how many need to be done for the pilot.

Mr. Christensen suggested choosing the open-access partner as soon as possible. Entry Point cannot advise on creating the RFP for an open-access partner. The open-access partner would help decide what the network architecture would look like. Considering the options for the partner might be best done over the holidays, saving the final decision for the new year. Additionally, some further engineering work would be required for the pilot. It might be beneficial to do a two-stage RFP that included estimates for both the pilot and the whole project.

Mr. Patterson brought up that if expediting the timeline is important and the pilot will tap into the existing backbone, it may be beneficial to reach out to the previous company which created that network to see if they could be the sole source for the pilot. Having the original company as the sole source of the design and construction could help to expedite the process. It would not be required but could help with making sure that the technical aspects work with the existing infrastructure.

Mr. Espindola countered that he is not sure if the town has that option and a check will need to be done to confirm first. He was concerned that the project isn't ready for a two-phase RFP with such a vague

concept for the final, whereas the pilot would be very well-defined. To obtain any grants in December, the committee needs to get moving on the pilot now.

Mr. Christensen encouraged to move the project as quickly as possible as the pilot will create a big leap forward in momentum and make people in the state and region take things more seriously.

Mr. Espindola noted that after the boil water order and residents learning more about the water district, it made the town as a whole more aware of how interconnected the region is. Thus, there is a discussion to be had in regards to making this local broadband project into a regional one. But currently, the focus is solely on Fairhaven with the main goal of the pilot project to prove the concept.

Mr. Powers used Tauton as an example of expanding out a broadband project.

Mr. Espindola agreed that a regional collaborative effort with multiple communities could help to create economies of scale for a later project.

Action Item: Mr. Espindola and Mr. Powers volunteered to work with EntryPoint to determine where the three pilot shelters would be built.

Mr. Espindola explained that this process will first require some recommendations of where the shelters would be built. Thus, there need to be discussions with other departments such as School, Public Works, and Administration to have more information on what is possible by the next town meeting. He suggested that running parallel to this process, there can be work done on drafting the RFP and framing out the documents. While EntryPoint cannot help with the open access partner portion, the question was posed if they could with the construction RFPs.

Mr. Patterson assured that EntryPoint will provide templates for the construction RFPs.

Mr. Espindola then suggested setting up a meeting with ComTRACT about what will be needed to connect into the system and identify any hurdles that might be encountered. While they may have to bid on working on the pilot project, ComTRACT would still need to be contacted about making use of the backbone so as not to disrupt it. The School Department would also need to be a part of this discussion as they led the original fiber loop project. He noted that if the backbone is not used, then the possible locations for any shelters would have to be close to Route 6 and the middle mile / back hall.

Mr. Christensen pointed out that leveraging the back hall may cause the project to run into issues with Comcast.

Mr. Espindola decided that as part of the meeting with EntryPoint, he and Mr. Powers would need to discuss any type of constraints. The first is whether the pilot project can hook into the existing backbone. The second is the back hall question just brought up.

Mr. Powers brought attention to the OpenCape website (<https://opencape.org/>), and how they are requesting assistance with their own project. Mr. Christensen informed him that EntryPoint is already in discussions with them and that they are watching the Fairhaven project with interest.

Mr. Christensen then pivoted to talk about how the Infrastructure Investment and Jobs Act would provide \$65 billion for improving broadband infrastructure. The rules set by the Treasury Department are becoming more favorable for community broadband. That money will go to the states and then to the towns from the state. Thus it benefits Fairhaven to have a dialogue with the state.

Mr. Espindola noted that the committee had been given a grant summary from the Grants Office LLC consultant, which had been hired to help to look at all the different grant opportunities. Their reports suggested talking to the state broadband institute. With that in mind, Mr. Espindola emailed the Massachusetts Broadband Institute at the Massachusetts Technology Collaborative over a week prior but had yet to receive a response at the time of the meeting. He had mentioned to Rep. Straus that he was unsure if there was a state agency to help guide this project. He posited that perhaps there is an opportunity to advocate for the creation of such an agency at the state level.

Mr. Christensen suggested seeking out a state broadband office and promised that EntryPoint will help with that research.

Mr. Espindola brought up the Massachusetts Municipal Association as a resource. Additionally, Fairhaven could network with other communities to try to advocate for a state broadband agency.

Mr. Christensen promised to talk with other communities that Entry Point has connections with, naming Stoneham, Quincy, and Brockton specifically. He would also provide links with information about the broadband provisions in the Infrastructure Investment and Jobs Act.

Next Meeting:

Motion: Ms. Melanson made the motion to adjourn and was seconded by Mr. Espindola. Unanimously passed at 8:15 PM

Just after the motion to adjourn there was a brief discussion of scheduling the meeting via email, tentatively planned for the first Thursday of December, which would be December 2nd.