

**Internet Service in Nobleboro  
Current Service and How Residents Feel About It**

**Nobleboro Broadband Committee  
23 February 2022**

# Introduction

## Overview

The Nobleboro Broadband Committee researched the current status of internet service in Nobleboro, and how town residents feel about it. We did this in two ways:

- We asked the primary service providers, Tidewater and Spectrum, for information about addresses where they offer service, and whether that service is subscribed by customers.
- We conducted a survey of property owners.

One general observation that one can draw from this work is that Nobleboro is quite varied in the quality of service and residents' satisfaction with it.

- Some have good service, some mediocre, and some none at all.
- Service along town and state roads is reasonably economical to provide, but the many long camp roads are very expensive to serve.
- Many residents are desperate for better speed and reliability, and some don't want anything to do with the internet.
- While there is overwhelming support for using town funds to match infrastructure grants, about half are OK with this affecting taxes, and half are not.

## Sources and Quality of Information

This report is based on real-world data. As such it is not perfect, and there are occasional inconsistencies that the diligent observer may notice. It combines information from a variety of sources, with generally excellent but varying quality.

Tidewater	Tidewater was very cooperative. They gave us a list of every address in town according to their records, the currently subscribed service if any, and whether broadband (fiber) is available at that address. We significantly cleaned up the list by cross-referencing with other sources. The remaining misclassification rate is somewhere around 3%.
Spectrum	Being a large national company with policies that can't be circumvented at the local level, Spectrum was less cooperative. They did provide some good information, which we were able to refine based on other sources. The misclassification rate is higher than Tidewater, maybe around 10%.
Tax roll	We used the publicly available Nobleboro tax roll to get property owner mailing addresses, remove non-existent addresses from other sources, and correlate assessed value with other information. The tax roll is assumed accurate because it is used to send bills to property owners, and so errors would be corrected quickly.

- Survey** Survey responses are very accurate in most ways: people know where they live, whether they are paying for internet, and how they feel about it. Some respondents don't fully understand the service they have, which can sometimes be corrected if there is strong evidence from other sources.
- Voter List** We used the state voter registration list to identify survey responses from people who have legally established Nobleboro as their primary residence, rather than a vacation or summer spot. This is not necessarily perfect, but the misclassification rate is pretty low. We only considered whether there are registered voters at a given address, not how many, because removing names of people no longer living at that address is inconsistent. Thus a household may represent more than one vote.

### **Editing of Source Data**

The source data was very lightly edited:

- Street names are corrected to use a consistent spelling across all sources, and to correct data entry errors. For example, we found nine different names for US Route 1.
- Tidewater and Spectrum addresses that do not appear in the tax roll, and do not have a service subscription, are removed.
- A few survey responses were removed because they are clear duplicates. Responses are never removed for any other reason.
- Survey responses are used to correct some Tidewater and Spectrum service information.
- Inconsistencies in survey responses are corrected if there is strong evidence in support of the correction.

### **Thank You**

The Nobleboro Broadband Committee would like to thank the over 350 people who took the time to fill out and return our community internet survey. We tallied every response, and read every one of the over 200 additional comments that you included with the responses.

## Town Map

For much of this report, service and survey results are displayed on a standard Google satellite map of Nobleboro. On these maps dots are placed at property locations, and colored to indicate service or survey opinion at that location. For each of these maps there are some dots that cannot be placed, either because the address was not provided in the survey response, or because Google does not know that the address exists (there are 21 private roads in Nobleboro that Google does not know about, as well as some individual address on known streets that befuddle Google). These unplaceable dots are shown in a grid elsewhere on the map, so that their status, as indicated by the dot color, can be seen.

Dot placement is approximate. Google's knowledge of where addresses are located in rural Maine is imprecise.

Here is the map before any dots are placed. The town outline is a rough hand drawing. State roads are highlighted in gray, and town roads in a lighter gray.



## Current Internet Service in Nobleboro (Mapping)

### Mapping Highlights

#### General

- 1202 properties considered, chosen from lists supplied by Tidewater, Spectrum, and the Nobleboro tax roll
- Properties include residences and some commercial and non-profit establishments

#### Properties with broadband

- Have either a Tidewater fiber or Spectrum cable paid subscription
- For this report, “broadband” means at least 50 Mbps download, 10 Mbps upload. Note that granting authorities use differing and changing definitions.
- 132 pay for Tidewater fiber subscriptions (11%), green on maps and pie charts
- 430 pay for Spectrum cable subscriptions (36%), blue on maps and pie charts

Properties without broadband, but where Tidewater fiber or Spectrum cable could be hooked up with an installation fee, sometimes nominal but often considered unaffordable by resident

- 379 properties (31%), yellow on maps and pie charts, called *unsubscribed* (service is accessible but not connected)
- Predominantly on town/state roads, with registered voters, lower range of property values
- 69% on town/state roads, 31% private
- 20% North, 56% Central, 24% Mills
- 67% have registered voters (probably an undercount), 33% don't
- 50% of properties are in lowest 40% of assessed property value, 31% in highest 40%

Properties without broadband, where neither Tidewater fiber nor Spectrum cable are available

- 261 properties (22%), red on maps and pie charts, called *unserved*
- Predominantly private roads, with fewer registered voters, upper range of property values
- 29% on town/state roads, 71% private
- 20% North, 52% Central, 27% Mills, 1% unknown
- 46% have registered voters, 54% don't
- 24% in lowest 40% of assessed property value, 57% in highest 40%

## Mapping Details

The pie chart and map show current service at 1202 locations in Nobleboro. The colors of the dots correspond to the colors in the pie chart. The grid of dots in the lower right of the map are locations that cannot be placed, because Google does not know that the address exists.

**Fiber (green):** A Tidewater fiber subscription exists at that location.

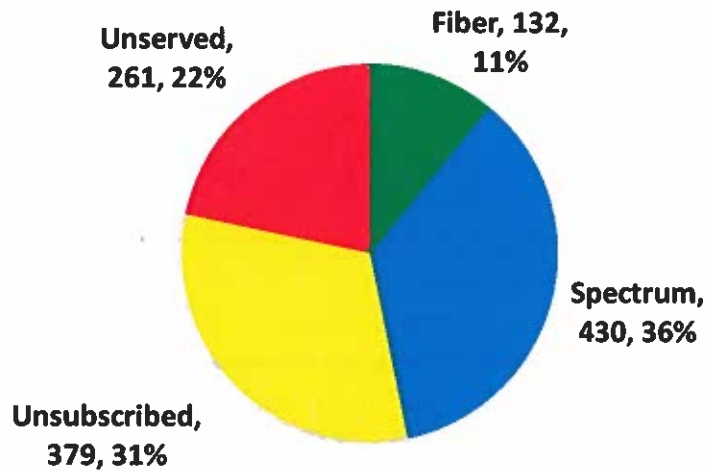
**Spectrum (blue):** A Spectrum cable internet subscription exists at that location.

**Unsubscribed (yellow):** Properties where Tidewater fiber or Spectrum cable is available but not subscribed. These locations could be hooked up, usually with an installation fee, and often considered unaffordable to install.

**Unserved (red):** Tidewater fiber and Spectrum cable are unavailable.

Many residents at unsubscribed or unserved locations have lower speed, less reliable service, such as Tidewater DSL, satellite internet, or cell phone. Some have no service. While most want broadband service, some do not.

## Service Status, All Properties

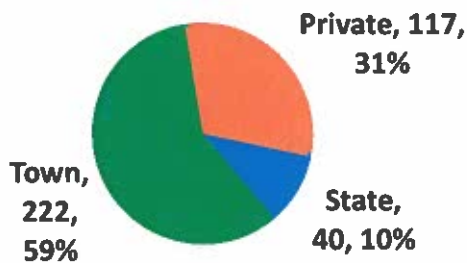




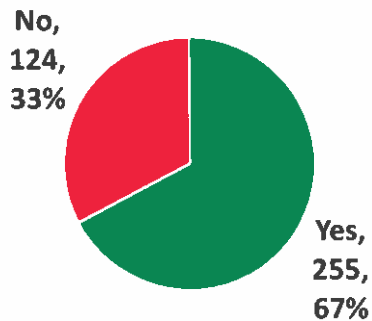
### Unsubscribed (yellow) Locations

Here is a more in-depth look at the unsubscribed locations. These are predominantly on town/state roads, with registered voters, and at the lower range of property values.

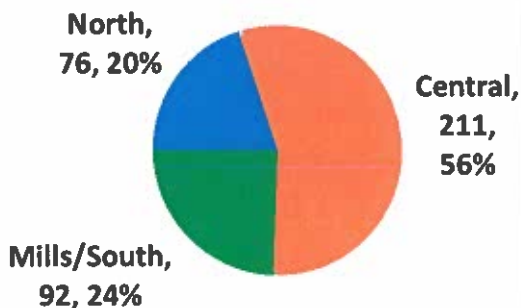
#### Road Ownership, Unsubscribed (Yellow)



#### Unsubscribed (Yellow), Household w/Registered Voter

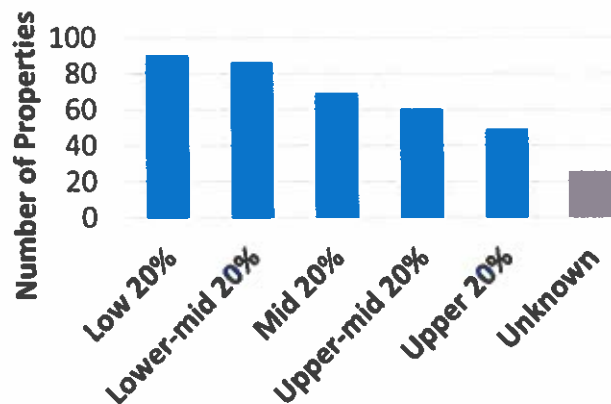


#### What Part of Town, Unsubscribed (Yellow)



(The chart on the left is probably an undercount of registered voters because a few addresses in our list have different house numbers than what's in the voter roll.)

#### Property Assessment, Unsubscribed (Yellow)



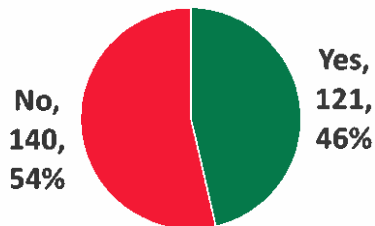
### Unservd (red) locations

Here is a more in-depth look at the unserved locations. These are predominantly on private roads, with fewer registered voters, and at the upper range of property values

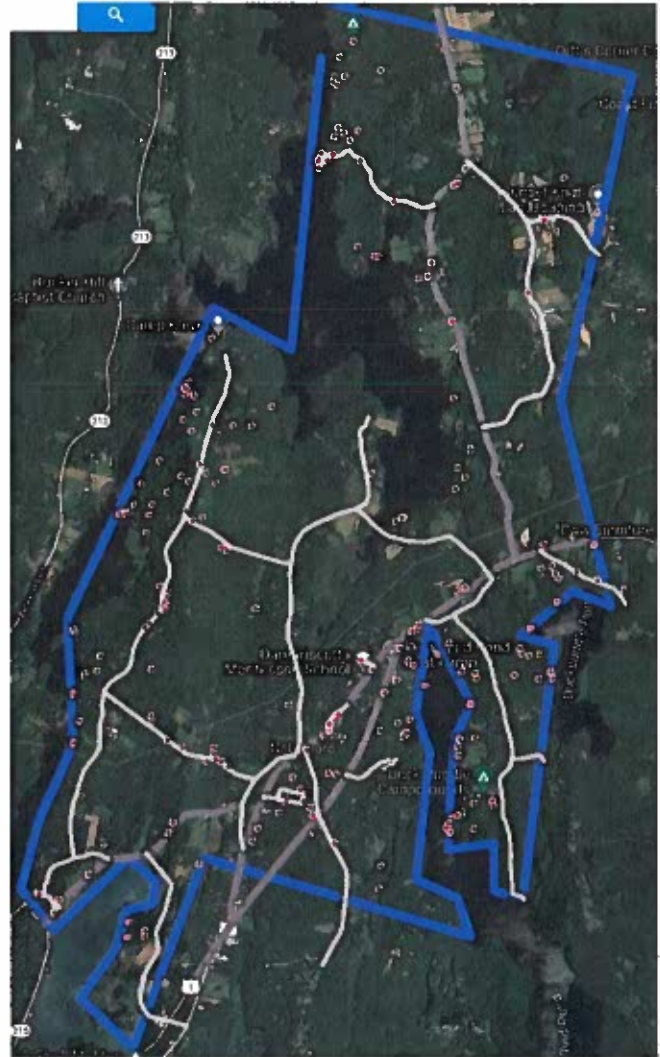
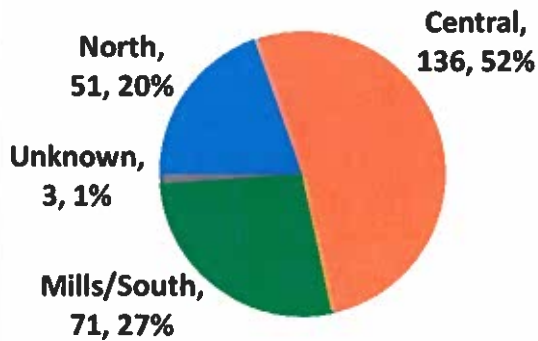
#### Road Ownership, Unservd (Red)



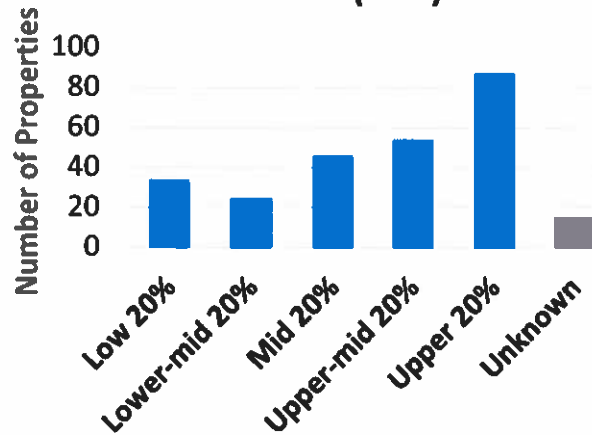
#### Unservd (Red), Household w/Registered Voter



#### What Part of Town, Unservd (Red)



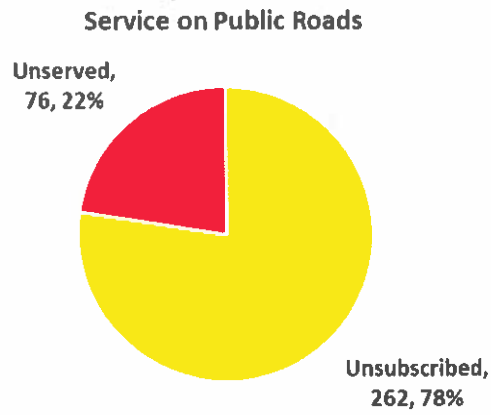
#### Property Assessment, Unservd (Red)





## Unsubscribed and Unserved on Public Roads

Here are the unsubscribed and unserved locations on public (town and state) roads. These are the easiest properties to reach.



# Survey Results

## Survey Highlights

### Residents care about internet service

- 356 surveys returned
- 238 sent by US Mail, or dropped off at Town office, requiring some effort and, in most cases, the cost of a stamp
- 28% response rate
- Almost all questions that applied to everyone were answered.
- We received over 200 additional comments

### Balanced cross-section of Town

- Good geographic balance (see map)
- All regions represented: 22% North, 46% Central, 26% Mills
- Good balance public & private roads: 43% state/town roads, 52% private, 5% unknown
- Good balance of current service: 49% have broadband (Tidewater fiber or Spectrum cable), 51% don't

### Full-time residents strongly represented:

- 52% have registered voters, 38% don't, 10% unknown
- 56% report primary residence on survey, consistent with 52% in the voter registration roll plus 10% unknown; many of those unknown are also legal residents

### Overwhelming support for our efforts to make high-speed internet available to all residents of Nobleboro at an affordable price:

- All responses: 93% support, 4% don't, 3% didn't say
- Just households with registered voters: 95% support, 4% don't, 1% didn't say

### Overwhelming support for using town funds to support matching grant applications:

- All responses: 94% support, 6% don't
- Just households with registered voters: 96% support, 4% don't

### Over half who support using town funds do so even if it will affect their taxes:

- 53% among all responses
- 53% among households with registered voters

### Internet is used for many vital purposes

- 83% reported needing the internet for productivity (work, education, training)
- 58% reported needing the internet for health
- Just households with registered voters: 87% productivity, 64% health

## Survey General Information

Surveys were mailed to 1285 of the 1619 property owners in the Nobleboro tax roll that appeared to be places of human activity. The goal was to reach residences, schools, churches, businesses, town offices, and other organizations, but not raw land. We chose properties with an assessed value that includes a building or a primary residence exemption. Properties with just a barn or garage were captured, so the list includes some properties that are not targets of the survey.

Other than the one-time mailing, no serious attempt was made to contact residents and encourage them to return a survey. There was a social media post that yielded little response, and some coverage in the *Lincoln County News*.

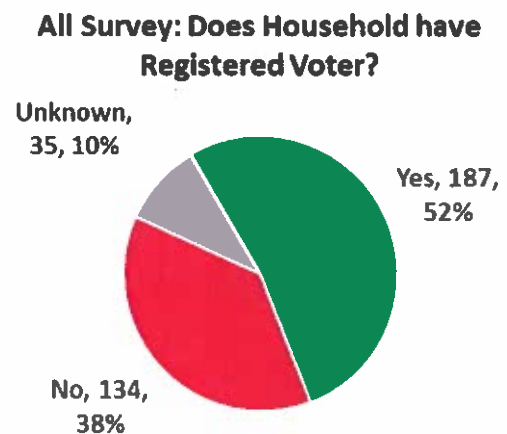
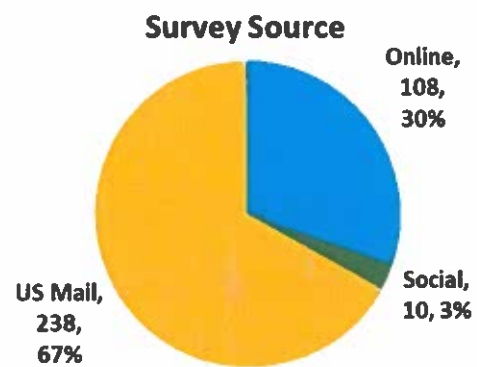
356 surveys were returned, an unusually strong response for any one-time mailed survey, let alone a Nobleboro survey. The chart at the right shows how people responded.

The online responses were from people who used the web address or QR code they found in the mailed survey. The responses sent by US mail required that a stamp be supplied. The 67% figure also includes some in-person drop offs at the town office, in either case requiring a trip to send the response.

All of this demonstrates that residents of Nobleboro care about internet service. Who are the people who responded?

The chart at the right shows that the majority of responses came from households with registered voters. The unknown category corresponds to responses that did not include an address, or had just the street and no number, and so could not be looked up in the voter roll. If we assume, conservatively, that half of the unknown addresses are from households with registered voters, we would have 57% in that category.

On the next page we look more closely at the people who responded to the survey.



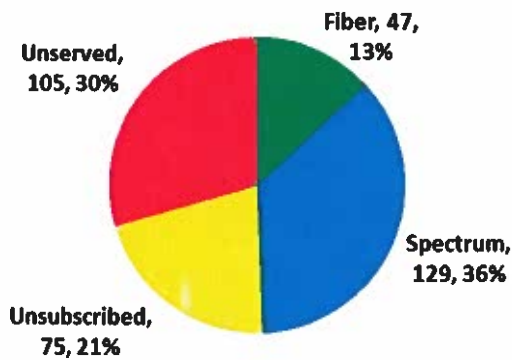
## Survey Responses: Current Internet Service and Property Location

Here is the map showing the locations and service status of all who responded to the survey and answered the questions about their current internet service, or where it could be obtained from other sources.

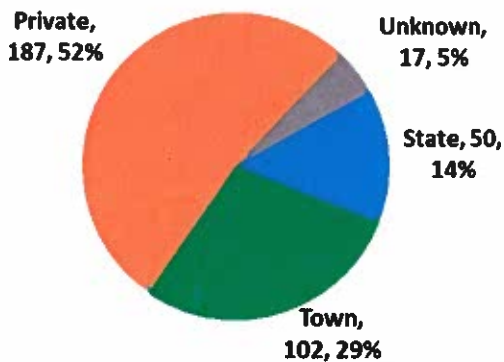
The colors of the dots correspond to the colors in the Service Status pie chart. The grid of dots in the lower right of the map are locations that cannot be placed, because the response didn't include a complete address, or Google does not know that the address exists.



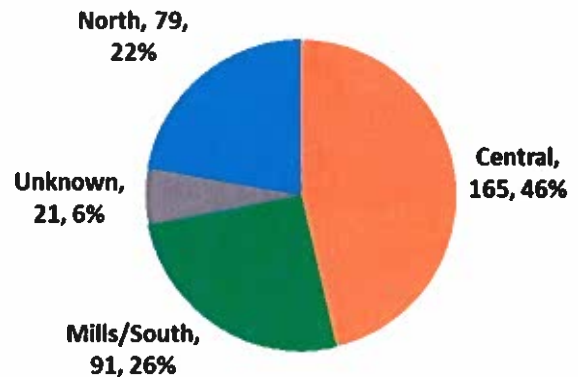
### Service Status, All Survey



### Road Ownership, All Survey



### What Part of Town, All Survey



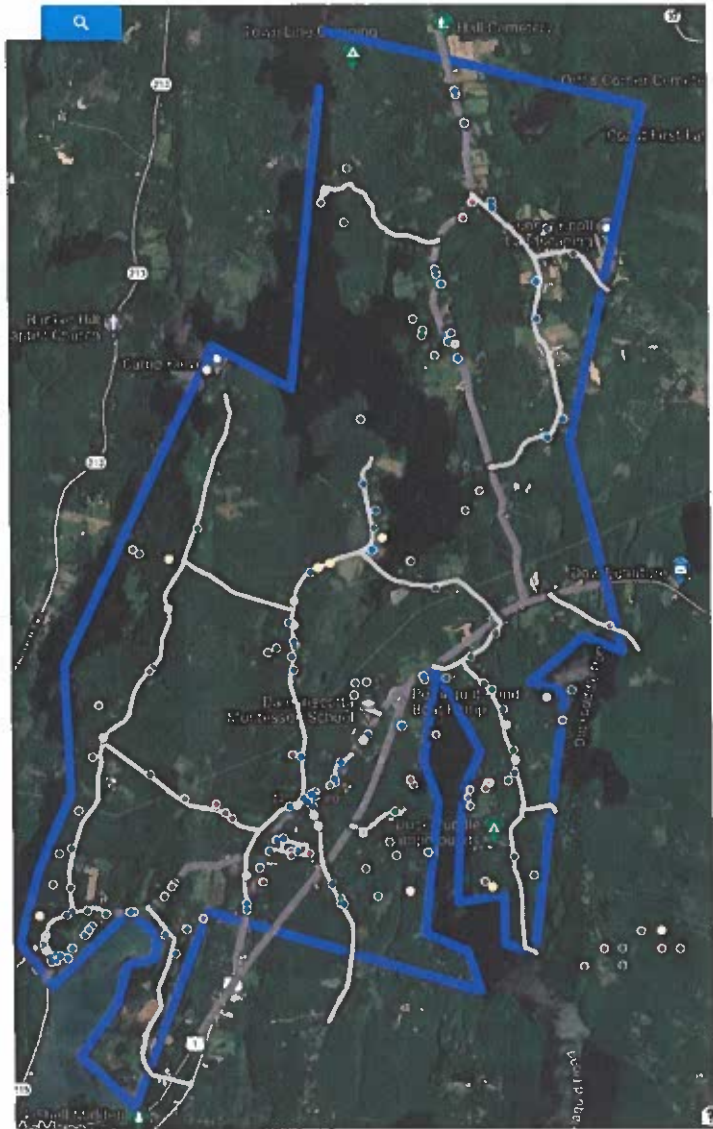


## Survey Responses, Only Households with Registered Voters: Current Internet Service and Property Location

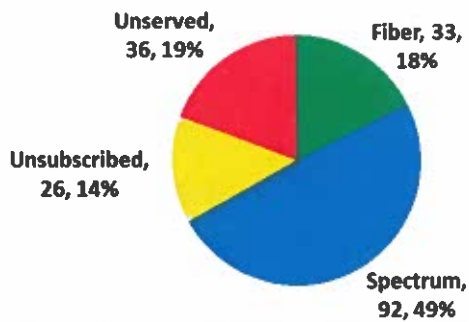
Here is the map showing the locations and service status of all who responded to the survey from a household with a registered voter, and answered the questions about their current internet service, or where it could be obtained from other sources.

The colors of the dots correspond to the colors in the Service Status pie chart. The grid of dots in the lower right of the map are locations that cannot be placed because Google does not know that the address exists.

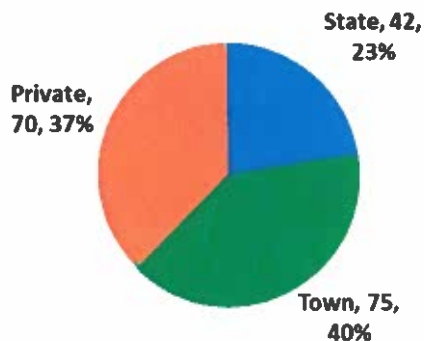
The 35 responses that did not include a complete address could not be classified as having or not having a registered voter, and so there is a significant undercount.



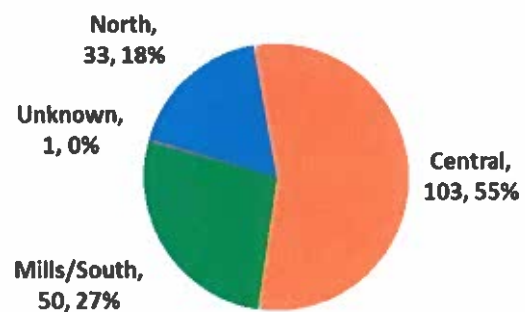
**Service Status, Households w/Registered voter**



**Survey Road Ownership, Households w/Registered Voter**



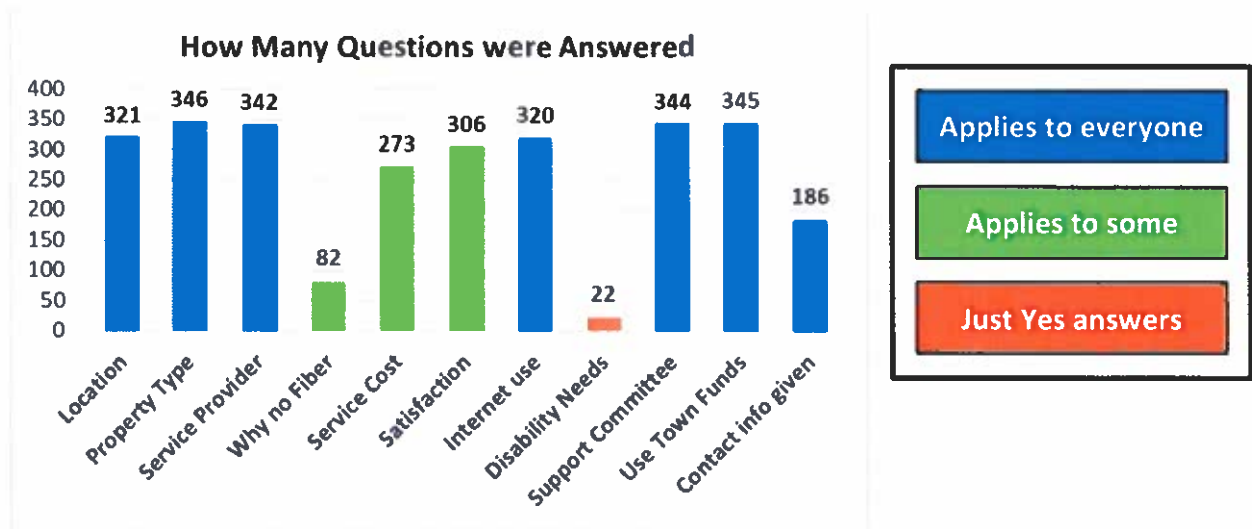
**Survey Part of Town, Households w/Registered Voter**



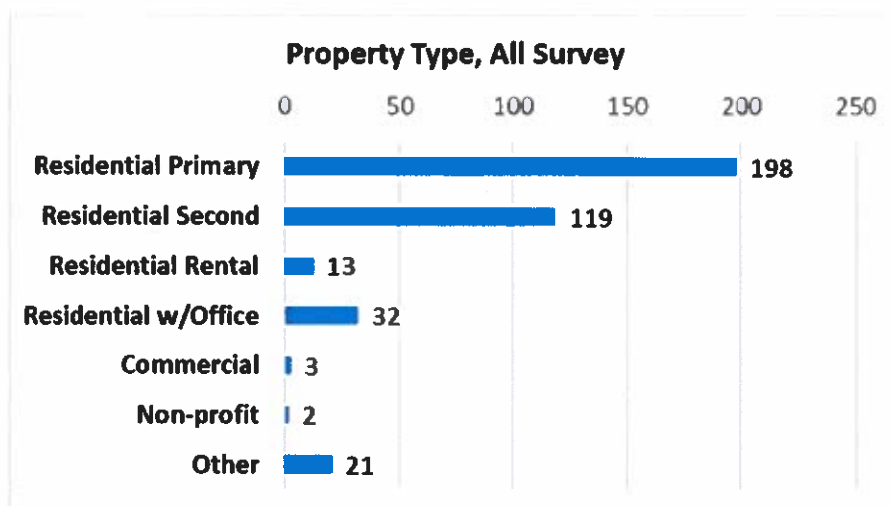


## Survey Questions

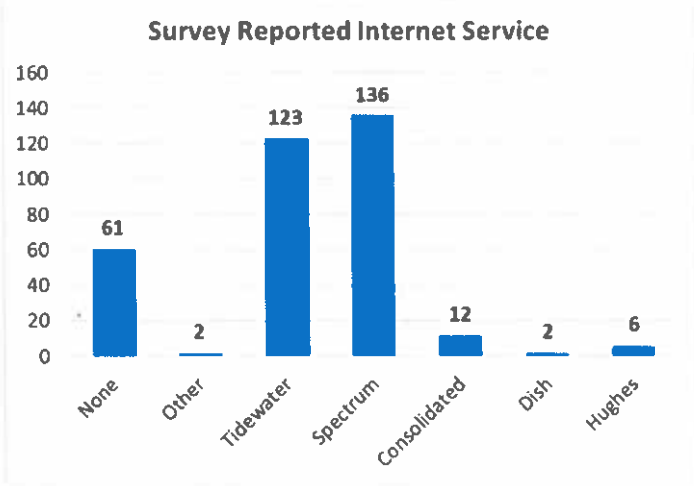
The survey contained some questions that applied to everyone, and some that applied only for people with certain types of internet service. Respondents could of course choose to answer or not answer any questions they felt like. The following chart shows that almost all questions that applied to everyone (blue) were answered. For the question about whether there is a person with a disability who needs internet service, we show only the yes answers. The questions about support for the Committee’s work, and use of town funds, got a very strong response. Over half of respondents gave contact information. Over 200 comments were given, handwritten for all surveys returned by US Mail, all of which are provided in a separate document.



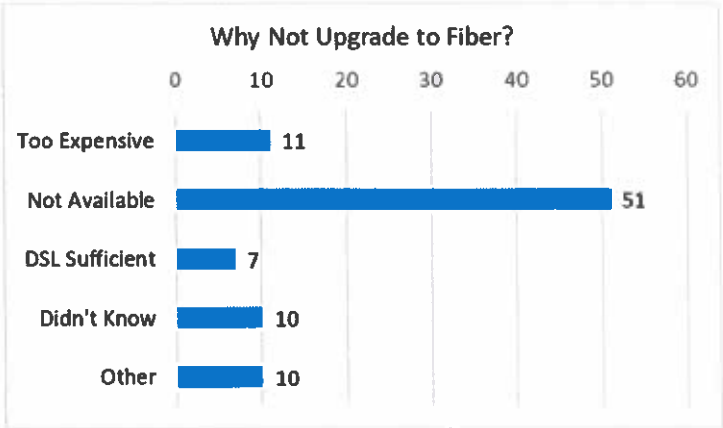
This chart shows the reported property type. The Residential w/Office category is in addition to the other residential categories, so for example if a primary residence has an office, both boxes were checked. “Other” means raw land, land with a barn/garage, or land with intention to build.



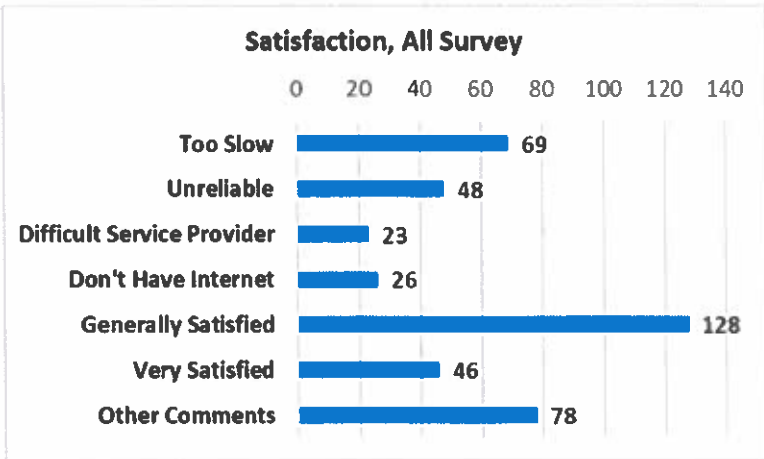
Here are the internet service providers as reported in the survey.



People who have Tidewater DSL service (an older, very slow internet connection) were asked why they had not upgraded to Tidewater fiber, which is very fast, reliable, and often no more or even less expensive (not counting a one-time installation cost). This chart shows their answers.

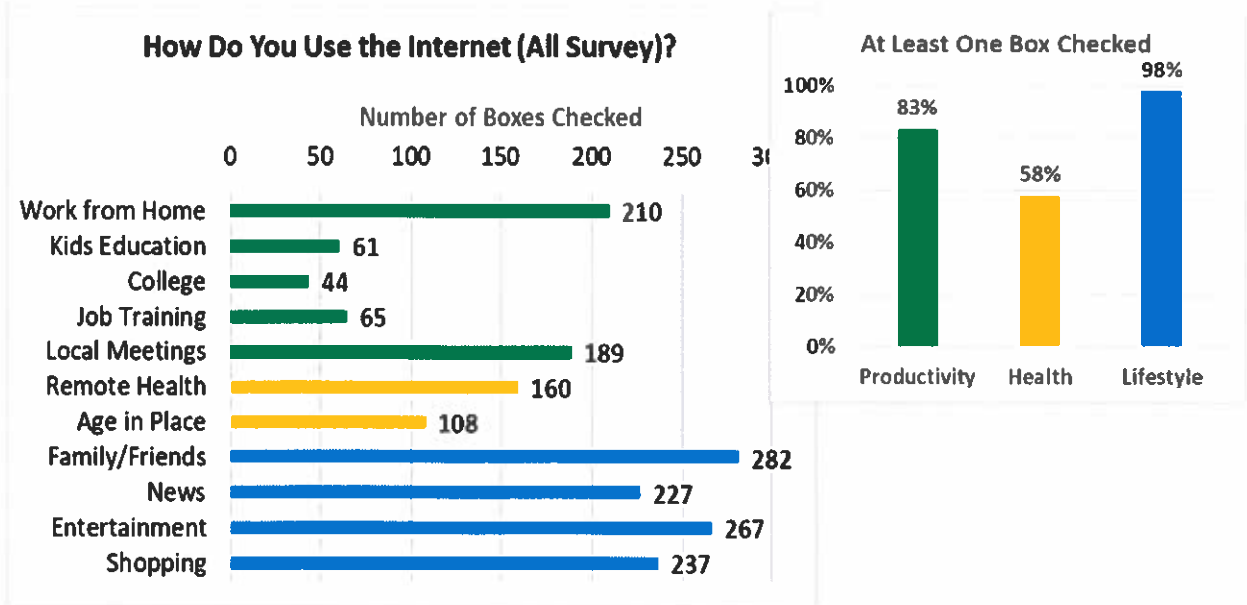


Here are results for general satisfaction with current internet service. Note that multiple boxes could be checked. A little over half of those who answered the question are generally or very satisfied, and a little under half are not. The 78 comments, available in a separate document, show some extreme frustration with the state of internet service in Nobleboro.

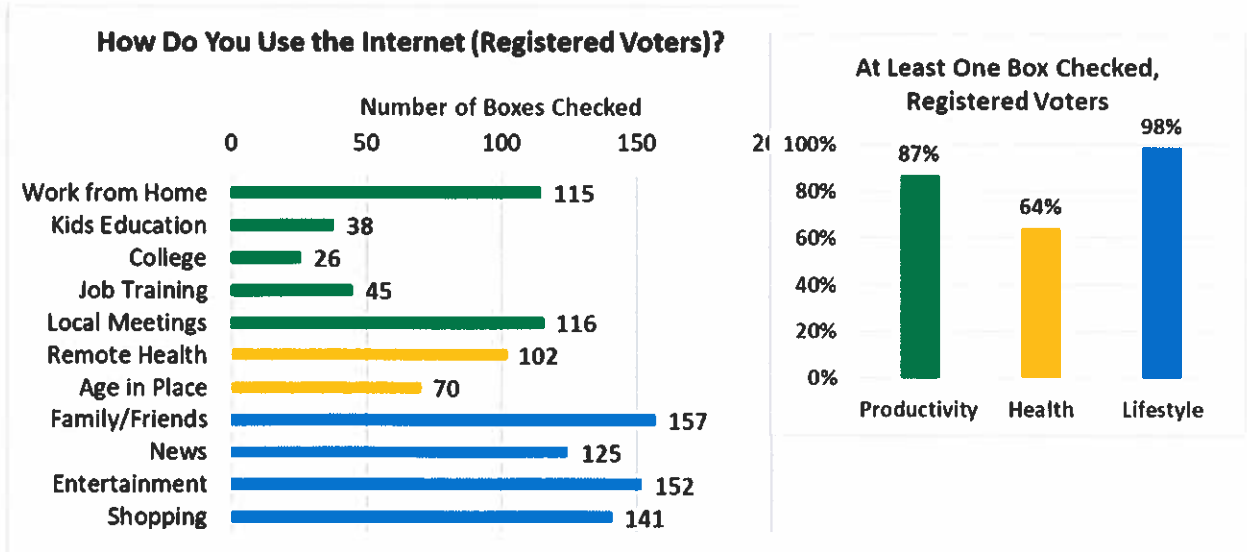


We asked respondents to check all the ways they use, or would like to use, the internet. The following chart on the left shows the number of checked boxes in each category. We then organized the results into three categories: productivity, health, and lifestyle. Productivity includes work, education, job training, and attending community meetings (for example, the town's 45 Comp Plan meetings over two years were almost completely dependent on reliable internet service). The chart on the right shows what percent of those who answered the question had at least one box checked in each of the three categories.

Not surprisingly, nearly everyone has lifestyle uses for the internet. More important, five of every six (83%) need it for productivity, and over half for health reasons.



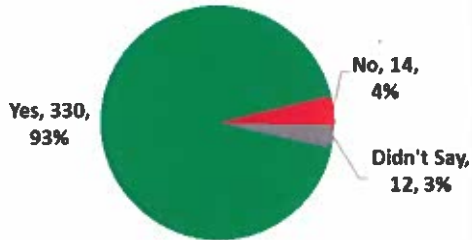
If we restrict the responses to the question about how the internet is used to just households with registered voters, the picture looks like this. Here, seven of eight need the internet for productivity, and nearly two-thirds for health.



## Support for Broadband Committee and Use of Town Funds

There was overwhelming support for the Broadband Committee’s “efforts to make high-speed internet available to all residents of Nobleboro at an affordable price”:

**Support work of Broadband Committee, All Survey**



**Support work of Broadband Committee, Registered Voters**



We asked, “Do you support the use of town funds to support matching grant applications?”. Answers could be, “Yes, but only if it does not affect my taxes”, “Yes, even if it does affect my taxes”, or “I do not support the use of town funds”. Here are the results, first for all survey responses and then restricted to households with registered voters. The colors on the map correspond to the colors in the pie chart.

**Support Use of Town Funds, All Survey**

