

West Concord, MA  
Wireless Coverage Review  
6-15-24

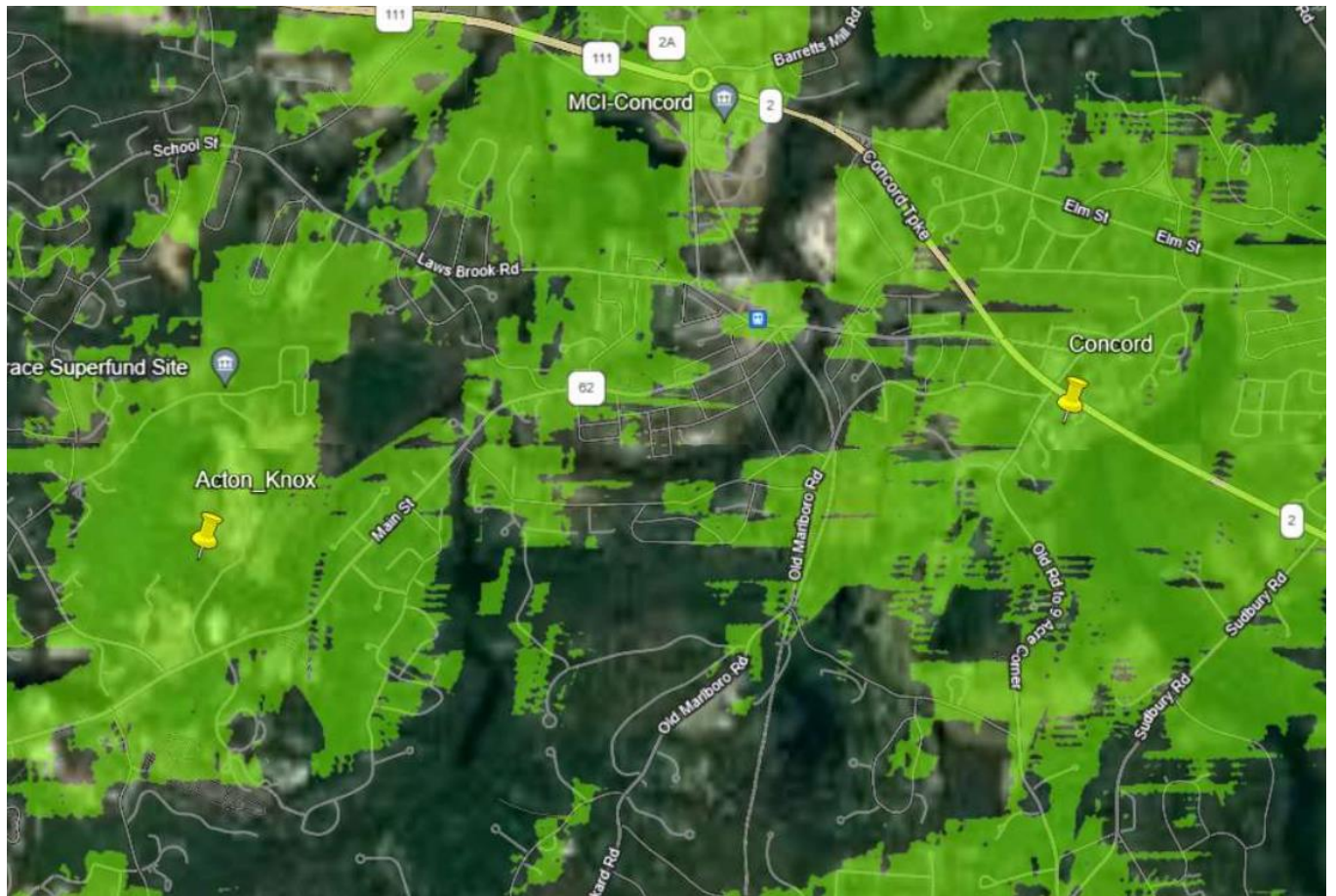


IDK Communications

IDK Communications examined the existing wireless coverage in the West Concord area. The three main wireless providers in the area are Verizon Wireless, AT&T and T-Mobile. As it turns out these three carriers use the same existing sites in the area. T-Mobile appears to have a small pico type cell along the right of way for the MBTA but the macro sites for the carriers are the same.

Below is a google map of the area with existing 700 MHz LTE coverage superimposed. The three carriers will have similar coverage as their antenna heights do not vary greatly. T-Mobile may have a little more coverage since their LTE coverage is in the 600MHz band, but that should not be a significant difference. Following this map are four potential wireless sites that are Town owned.

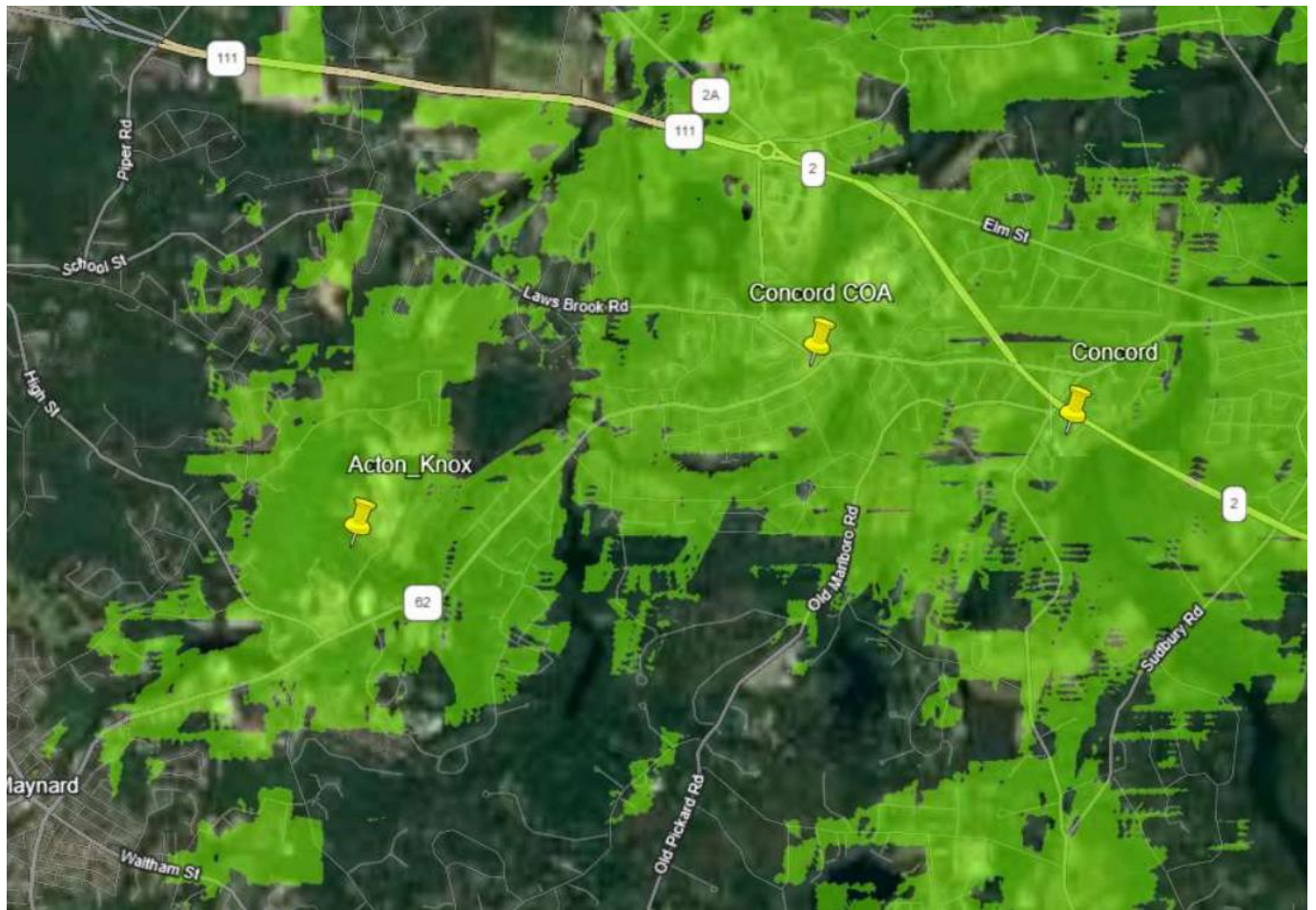
### Existing Coverage



IDK examined four potential locations for a wireless facility in the West Concord area. The areas are all Town owned. While zoning of the locations has not been researched, the areas will provide a sample of the expected coverage afforded by the locations and antenna heights.

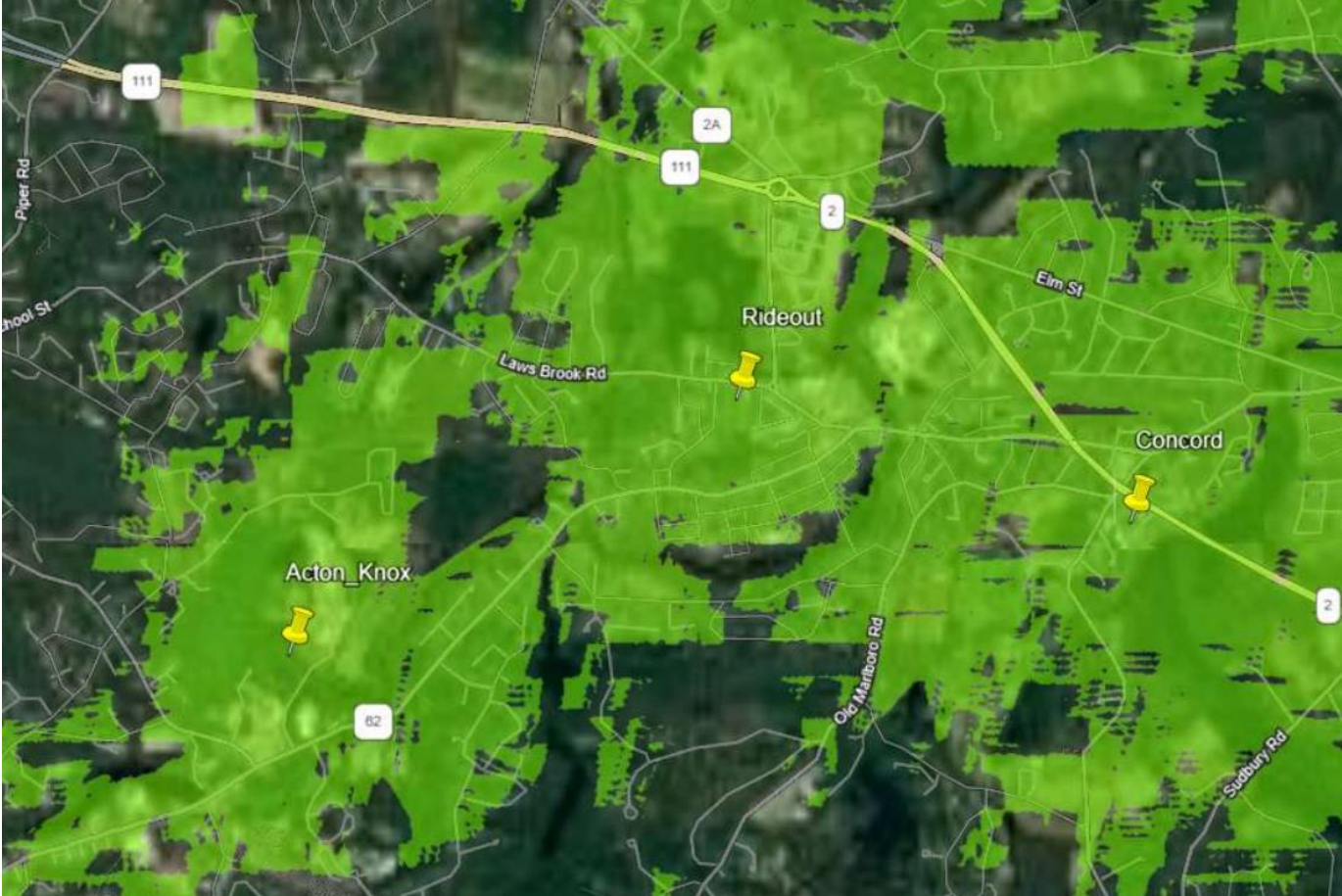
First is the Council on Aging facility with an existing penthouse. There may be an option for installation of antennae on each of the four faces of the structure. A site survey would be required to determine its viability. The added coverage from this facility is below:

**Coverage with COA site**



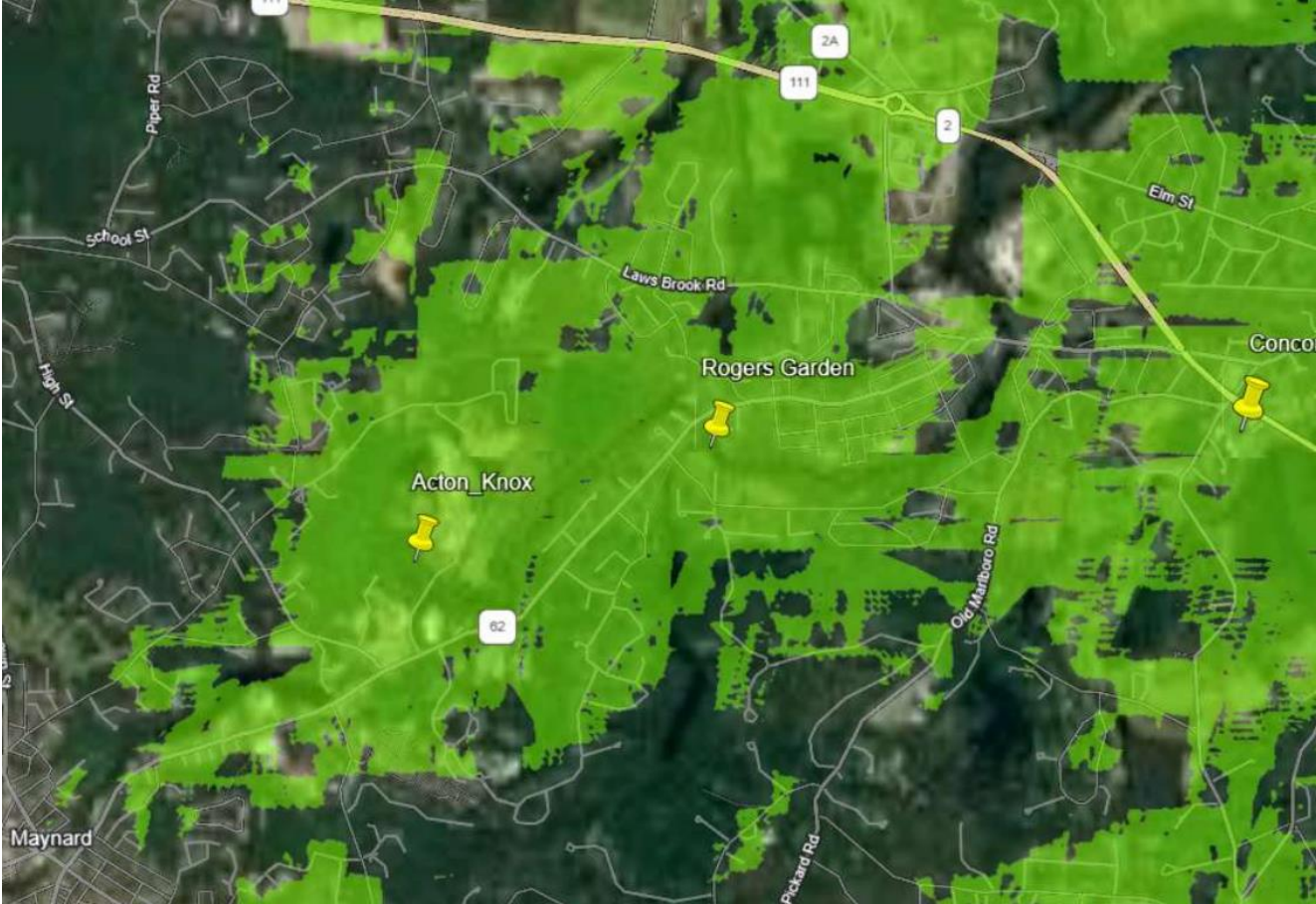
A second location was evaluated, The Rideout playground area. The antenna height used was 85 feet with the thought of using a 90 foot pole with antenna contained within.

**Coverage with Rideout**



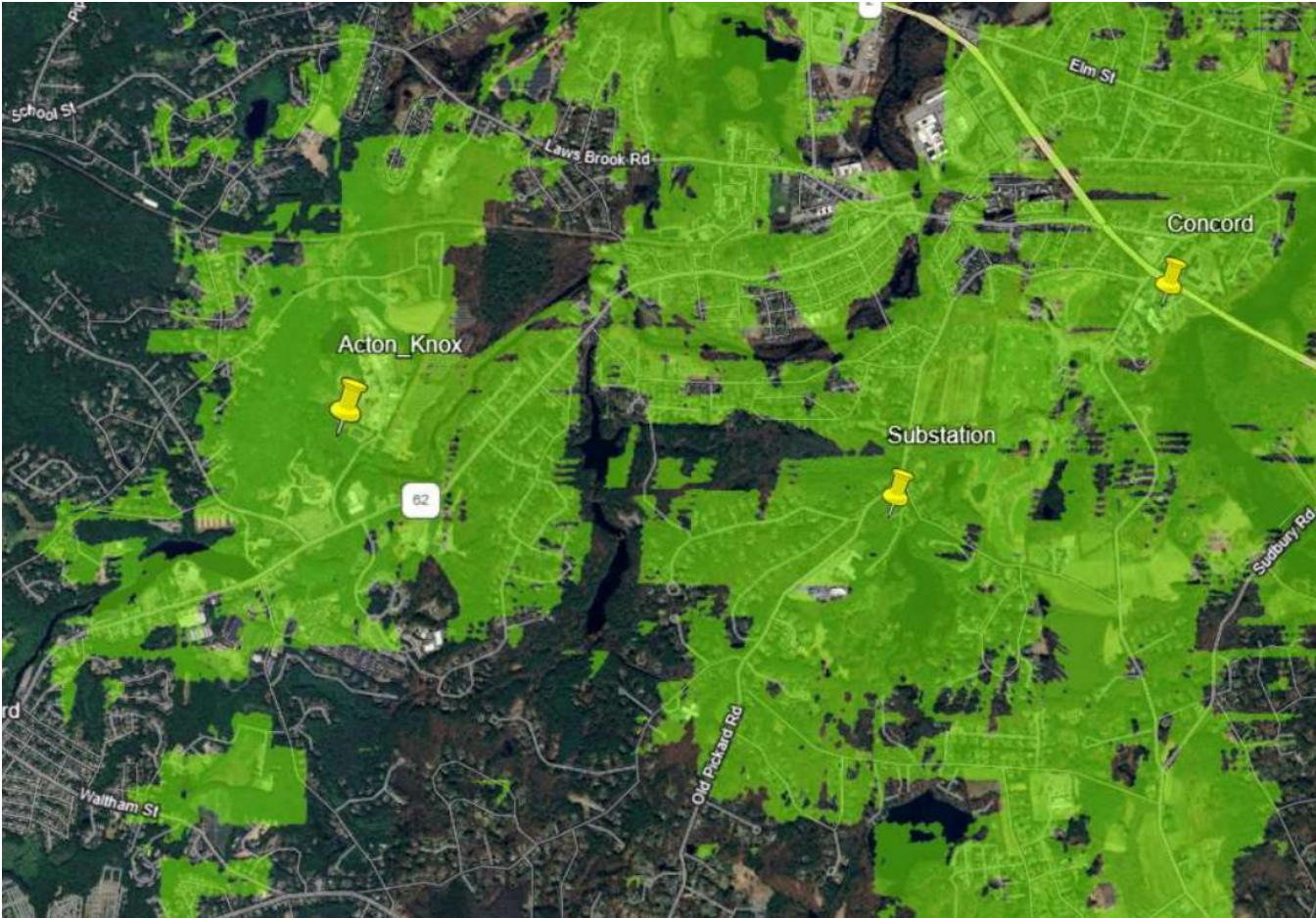
A third site at Rogers Garden was evaluated. This antenna configuration was similar to Rideout with a 90 foot pole and antennas contained within. This site does not fill in as much of West Concord as the previous two locations.

**Rogers Garden**



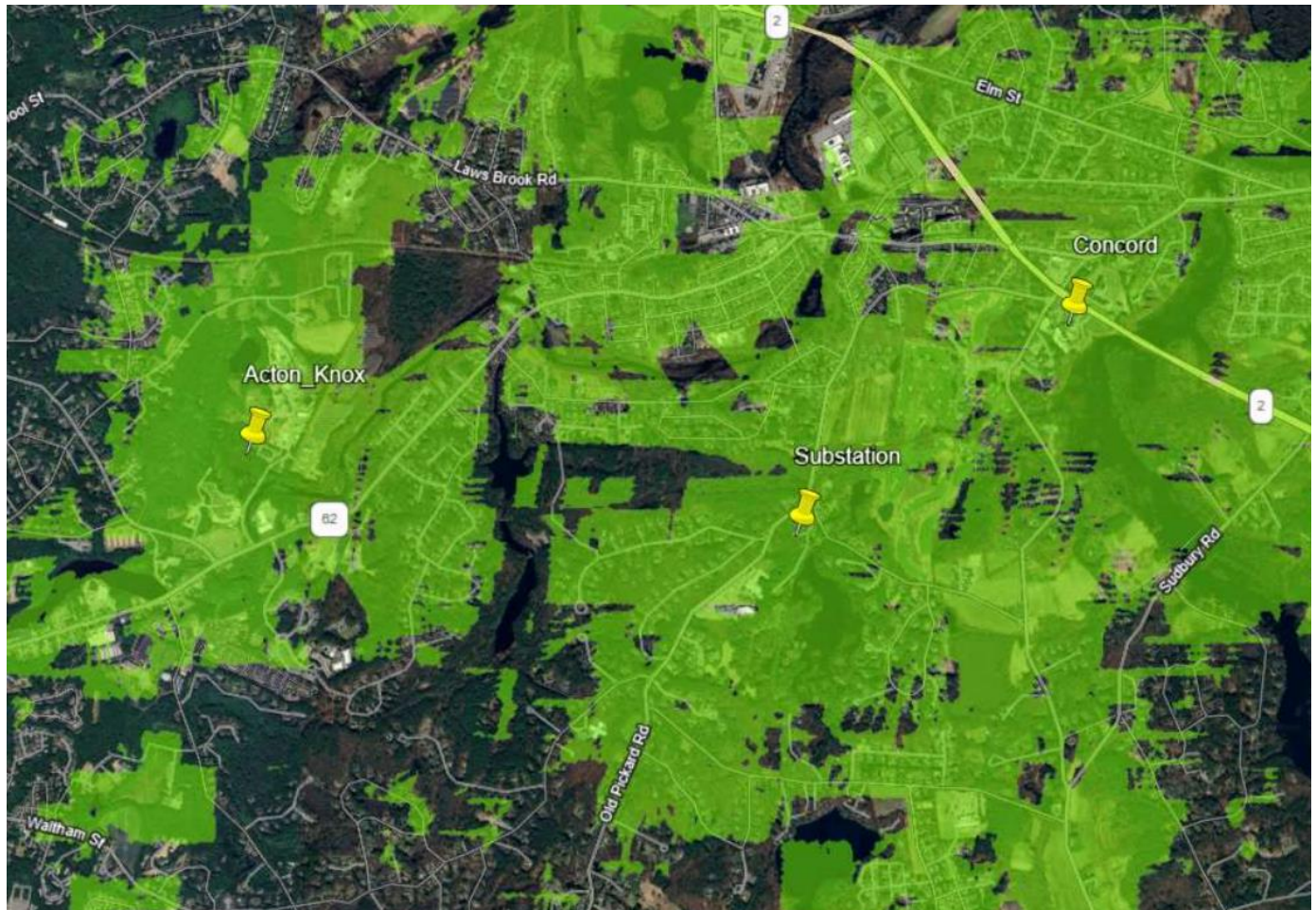
The Town has an abandoned substation off Williams Road that we analyzed as a fourth possible antenna site. We ran a study at an antenna height of 120 feet. Coverage is depicted below. There are still areas of West Concord with less than reliable coverage.

**Substation at 120 feet**



We next looked at the coverage if the antenna height was raised to 170 feet. While there is more coverage than at 120 feet it still does not saturate the West Concord area.

### **Substation at 170 feet**



The Substation site does provide coverage to gaps in the southwest section of Concord towards Sudbury and handoffs to the site in North Sudbury. Areas along Old Pickard Road and the adjoining roads are provided coverage where the previous West Concord sites did not provide coverage to this area.

A combination of a site around downtown West Concord and a lower site at the Substation, (120 feet), may be an option to explore for potential RFP opportunities.