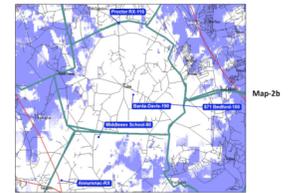
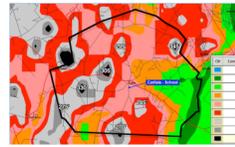


Special Fall TM to consider adding \$225K & parcel 18-40-0 to list of those on which new towers can be built

A. Why is a tower needed in this part of town?

1. Without tower, the coverage gaps in western Carlisle caused by ridges west of Town Center would remain. A tower here is critical to the system functioning.



B. What is the basis for the \$225K requested additional appropriation?

1. Detailed on page 3 of the project budget summary provided to you.
2. Total new site costs at 1110 Westford St estimated at \$410K, less \$105K antennas already in budget, less remaining \$80K in budgeted costs for 1022 Westford which won't be expended = \$225K.
3. Overall remaining project contingency of \$100K to ensure we won't need any additional funding.

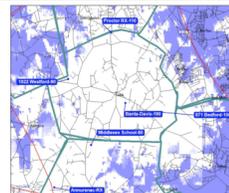
C. Why won't the existing commercial tower at 1022 Westford work?

1. Lease requirements for the 10-foot extension are too complex and leave too many opportunities outside Town control for cancellation of the multiple leases involved for such a critical system component.
2. Tower, even with extension, is barely above tree cover and may prove technically infeasible for carrier in the future, allowing them to kick us off top position (per lease provisions).
3. Site is not lucrative for SBA (tower leaseholder), just one tenant, T-Mobile (holder of ground lease), no takers for space on possible 10' extension in 12 years, hence their proposed commercial-based rent.
4. Proposed lease rental is not within the appropriated budget, is unreasonable for public safety, and would cost the Town \$millions compared to the alternative over the expected life of the facility.

D. Are there advantages to the proposed new site besides the long-term economic one and the long-term stability and security of the system due to Town control of site and tower?

1. Higher tower at higher ground elevation provides guarantee of coverage with expected tree growth over facility life.
2. Better coverage within town borders. (We had compromised some on coverage with the system approved at 2017 ATM.)
3. Much improved coverage for mutual aid in neighboring towns, a critical component of the system.

TALKBACK: Banta Davis - 1022 - 872 Bedford - Middlesex School - Proctor - Annamora



TALKBACK: Redline 1022 with 1110 Banta Davis - 872 Bedford - Middlesex School - Proctor - Annamora



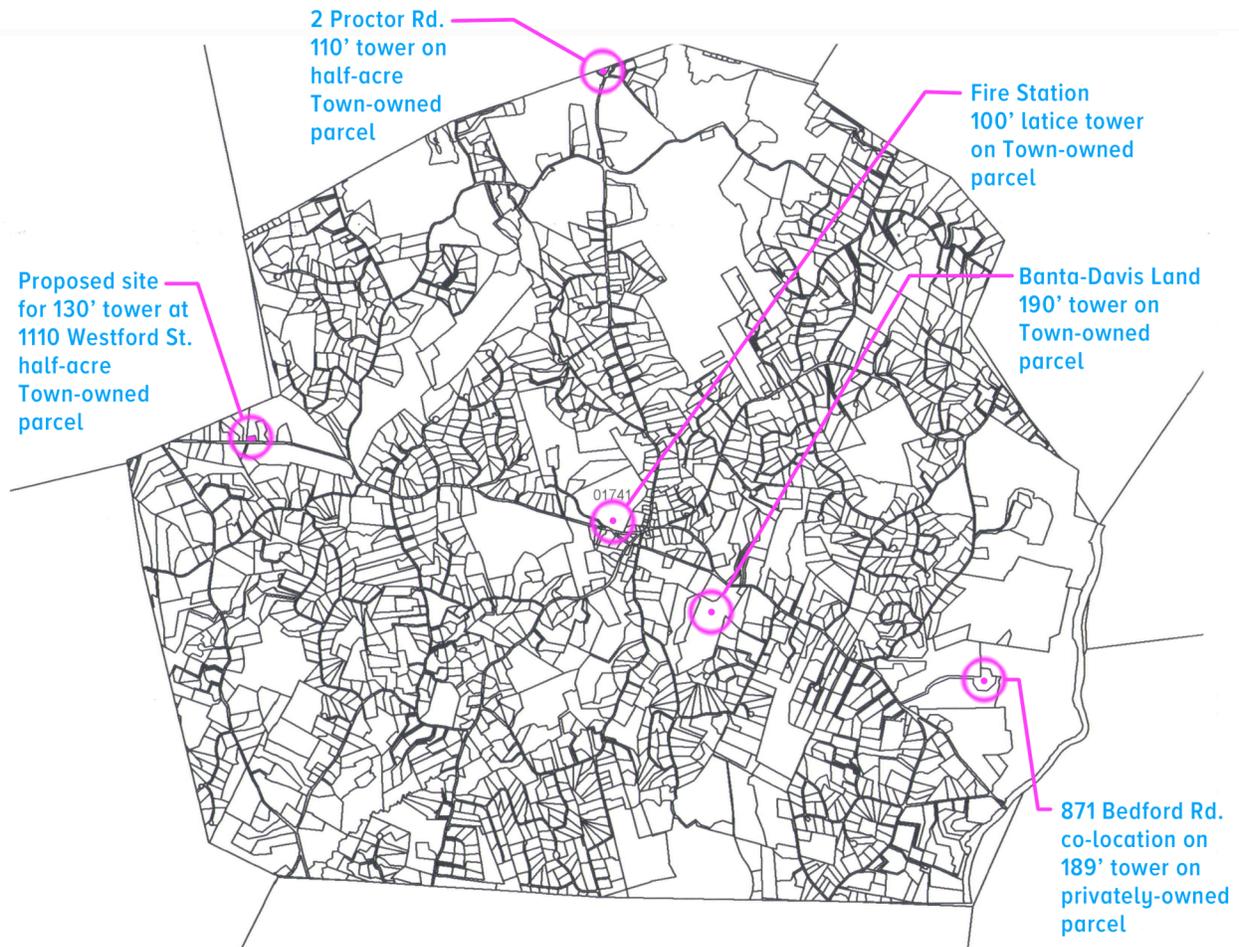
E. Why now? Why not wait until 2020ATM?

1. Despite extensive efforts to engage with SBA since before 2017 ATM, only in late April did we finally get answers that led us to the conclusion that we should abandon the site. We came to you soon after.
2. System has been acknowledged as inadequate, and more importantly unsafe, for a decade. One could argue that, given that, another 6-9 months doesn't matter. On the contrary, we believe that every day we ask our first responders to work with a system that puts their lives in danger is unacceptable.
3. System won't function without a site here and cannot be made operational without all components in place (complex switchover from old to new system, costs of testing and proving the system).
4. Fiber installation for site connectivity is done most economically if done at one time; if this site isn't approved now, we either wait on fiber (which might increase cost) or pay more to do it piecemeal.
5. Equipment (from radios to antennas) is already delivered or in storage, so every day we wait we are losing some of the expected lifetime of the equipment.
6. Costs likely to go up if we wait.

F. What about improvements in technology? Will the investment become a white elephant?

1. Tower-based systems are the standard for the foreseeable future.
 - a. Research: New England towns recently replacing systems have done so with tower-based systems.
 - b. FirstNet, approved nation-wide system for federal emergency communication is tower-based.
 - c. Despite technological advances in cellular technology, progressions from 4G to 6G and beyond (and increased demand for bandwidth) have led to carriers adding, not subtracting, towers.
 - d. Radio waves will not change how they behave. Still need line of sight from tower to radio.
 - e. Our public safety system doesn't operate in a vacuum so we need a system that is compatible with the systems around us (all tower based, similar equipment and frequencies).

G. Conclusion: Reasonable proposal on only possible site, consistent with the system approved at 2017ATM.



Parcel map of Carlisle showing the 3 new towers (110' monopole at 2 Proctor Rd., 100' lattice tower at Fire Station, 190' monopole at Banta-Davis), the co-location site on the 189' tower at 871 Bedford Rd., and the Proposed site for the new tower at 1110 Westford Street, the ONLY TOWN-OWNED PARCEL in this area, and the only Town-owned parcel in the entire western corridor not limited to conservation uses, and thus the only possible site for the tower needed to complete the Public Safety Communications System and to make it operational.