

From: [Natalie Wilson](#)
To: [Clerk](#)
Subject: Comment and Questions re: Maple City Tower project
Date: Tuesday, September 21, 2021 4:40:58 PM

Dear Commissioners,

The slides for the Emergency Services report to Executive Committee that I saw in the packet for tonight's meeting list the extension of the Maple City tower under Broadband and 911 Communications projects. I will be interested to hear what is discussed on that. I would urge you to enquire about the details of exactly what benefits are anticipated to be derived from raising the height of the Maple City tower.

As part of my role as an appointed member of the Technical Advisory Committee here in Kasson Township, I have been doing extensive research on how we might improve broadband coverage here. However, I am commenting as a private citizen, albeit one who has immersed herself in broadband issues. Our committee has not discussed the tower project, nor yet developed any positions or recommendations on broadband issues in the township.

I have been looking for discussion and rationale for raising the height of the Maple City tower in documents on the county website, recordings and minutes of Executive Board and Regular meetings of the BOC and Planning Commission, the project RFP, etc. Perhaps it is out there, but I have found little or none. As a result, I am left with many questions about the need for the project in face of the significant downsides, including the cost of the project to taxpayers and permanently marred views by day and by night due to the need for FAA lighting if the tower height is raised.

Raising the height of the Maple City tower is listed as a Priority 2 project in the draft 2022-27 Capital Improvement Plan. The only rationale for the project I have found is a comment in the Recommended Projects table noting that the tower was originally planned for 300', but is only 199' now. It's shown as a Priority 2 project. Raising the height of the Maple City tower was not even mentioned in the 2020-2025 CIP.

The May 2020 LIFT report concludes that fixed wireless technology is the most feasible way to expand broadband coverage in the county at this time, and identifies the need for an additional tower in the western part of the county. There is no mention that raising the Maple City tower is important to improving broadband coverage.

If the Maple City tower is a site to be used for expanding broadband coverage, it is then critically important to establish at exactly what height fixed wireless providers need to install their equipment. Questions to ask include: Have any ISPs indicated they would provide service but for the too-low tower height? Have any current tower lessors indicated that they could expand coverage if they could mount equipment higher than 199'? Do any of the providers who have purchased rights to develop broadband in the area under RDOF need a tower higher than 199'? If additional capacity is needed at the tower site, but providers wouldn't make use of the additional height, perhaps a more effective solution that would not impact views or require FAA lighting would be to reinforce the existing tower, or even add a second one at or below 199'.

Before I began researching broadband technologies, I assumed that a higher tower would reach more people. However, that is not necessarily the case with existing and upcoming wireless broadband technologies. I can provide more detailed information with references, but in summary: My research indicates that a taller tower at the Maple City site is neither necessary nor would it be beneficial. Fixed wireless service speed and quality degrades the more it is used, which is why it's sold in blocks like a cell phone data plan, and 5G only works on short distances. Raising the tower height would not improve or extend fixed broadband reach with existing technologies due to topography, vegetation, water vapor, etc. in the area. The wavelengths at which fixed wireless technologies operate don't travel well over long distances and are susceptible to interference from many sources. Mounting equipment at a greater height would actually reduce coverage rather than extend it. Higher towers are definitely not useful for 5G, were that to ever be coming to our area. Rather, 5G requires more towers at lower elevations because the wavelengths used degrade quickly. In terms of extending coverage, a higher Maple City tower cannot substitute for a tower in the western part of the county.

For all of these reasons, I believe more information needs to be collected and shared on the need for and value of the project before awarding any contract to raise the height of the Maple City tower. I know you take seriously your responsibilities for due diligence when you spend public funds, and I trust you will do so in this case as well.

Respectfully,

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