



VILLAGE OF SHOREWOOD

REPORTS AND PRESENTATIONS TO VILLAGE BOARD

Agenda Item: Consider update on health effects of 5G Communication systems and future

Date: May 16, 2019

Presenter: Bart Griepentrog, AICP

Department: Planning & Development

History – *Please include a timeline of historical relevant events related to this agenda item. This may include previous Village Board action, policies, planning documents, etc. If able, hyperlink to previous agenda packets (include page number) to reference information. If there is no relevant history, N/A should be entered in this space.*

In 2013, the State of Wisconsin enacted [66.0404](#) “Mobile tower siting regulations” via Wisconsin Act 20. Those regulations detail review procedures for mobile service facilities, defined as “the set of equipment and network components, including antennas, transmitters, receivers, base stations, power supplies, cabling, and associated equipment, that is necessary to provide mobile service to a discrete geographic area, but does not include the underlying support structure.” [66.0404\(4\)](#) specifically details limitations on what a political subdivision may enforce. Of note, a political subdivision may not:

(h) Enact or enforce an ordinance related to radio frequency signal strength or the adequacy of mobile service quality.

In addition to State limitations on various aspects of local review and regulation, the Federal Communication Commissions released a *2018 Small Cell Order*, which largely went into effect on January 14, 2019 and further imposed significant limitations on a municipality’s ability to regulate wireless facilities in local rights-of-way.

These regulations have been questioned and brought to the attention of various residents over recent months in response to the installation of five “small cell” mobile wireless facilities currently being installed at: 4006 N Woodburn St, 4102 N Wilson Ave, 3833 N Oakland Ave, 1513 E Capitol Dr and 4106 N Oakland Ave. As their name implies, “small cell” installations are reduced in size from their full-sized cell tower counterparts and are most often deployed in urban locations. Due to their smaller size, increased quantities are often required to provide adequate geographic coverage.

Regulations pertaining to “mobile wireless towers” are located within the Village of Shorewood’s Zoning Chapter [500-30](#). Applications are reviewed and approved by the Plan Commission via a Conditional Use Permit.

Residents have voiced concern over the possible health effects this equipment may pose within their neighborhood, particularly in relation to whether or not these installations have or will deploy 5th Generation (5G) technology. Per the installer:

The technology to be deployed in Shorewood are low-power 4G deployments. The use of the small cell transistors is intended to bring that 4G technology closer to people’s cell phones, and to avoid the construction of a huge cellular tower which most citizens object to because they mar the landscape.

“5G” is a term that is thrown around a lot. It is short-hand for “5th Generation,” which (obviously) exceeds 4G and 3G. The term is intended by advertising execs to conjure in the mind of the consumer clearer telephone calls and faster download times. However, the non-Madison Avenue reality is that 5G is still in development and is not ready for a national roll-out in the United States.

The above notwithstanding, when 5G is ready for deployment, it will support mobile download speeds that are 100 times as fast as current technology. Its low-lag properties will enable new applications that need a constant connection, such as self-driving cars and remote medicine applications.

In response to continued questions regarding the expanding technology, Tr. Amenta has asked the Planning & Development Director to review State legislation that impacts the Village’s ability to regulate the placement of the poles and North Shore Health Department Director to update the Board on the health effects of 5G communication systems.

Agenda Item Discussion – *Please provide a summary of the agenda item along with bullet points highlighting the main items and key issues to be discussed.*

As discussed within the History component of this memo, the State has limited local governments from regulating various aspects of mobile technology deployment within [66.0404\(4\)](#). In relation to our ability to regulate the placement of the poles, a political subdivision may not do any of the following:

- (c) Enact an ordinance prohibiting the placement of a mobile service support structure in particular locations within the political subdivision.
- (k) Require that a mobile service support structure be placed on property owned by the political subdivision.
- (p) Disapprove an application based on an assessment by the political subdivision of the suitability of other locations for conducting the activity.
- (r) Impose a setback or fall zone requirement for a mobile service support structure that is different from a requirement that is imposed on other types of commercial structures.

In relation to the health effects of 5G, Director Christiansen reached out to the WI Department of Health Services, and their Radiation Protection Section provided the following:

- Contacts at the WI Public Service Commission for 5G and EMF related issues:
 - Peter.Jahn@wisconsin.gov (608) 267-2338 – EMF SME
 - Jim.Lepinski@wisconsin.gov (608) 266-0478 – Chief Engineer
- State and Local Governments are not allowed to restrict 5G deployment due to health concerns or effects:
 - The Telecommunications Act of 1996 contained provisions relating to federal jurisdiction to regulate human exposure to RF emissions from certain transmitting devices. In particular, Section 704 of the Act states that, "No State or local government or instrumentality thereof may regulate the placement, construction, and modification of personal wireless service facilities on the basis of the environmental effects of radio

frequency emissions to the extent that such facilities comply with the Commission's regulations concerning such emissions."

- <https://www.fcc.gov/engineering-technology/electromagnetic-compatibility-division/radio-frequency-safety/faq/rf-safety#Q27>
- The FCC has limits on how and why a local or state government can regulate siting of antennas for wireless communications:
 - <https://www.fcc.gov/general/tower-and-antenna-siting>
- Specific to 5G, the FCC has ruled that there is a shot clock on processing and approving antenna siting for 5G towers and limits to the fees that can be charged:
 - <https://docs.fcc.gov/public/attachments/DOC-353962A1.pdf>
- There is little specific research on 5G: World Health Organization has a "Group 2B: Possibly carcinogenic to humans" ruling for wireless frequencies in general but it does not specifically address 5G. The FDA states that the weight of scientific evidence does not show an association between exposure to radiofrequency from cell phones and adverse health outcomes.
- A list of ongoing research can be found at: <https://www.fda.gov/Radiation-EmittingProducts/RadiationEmittingProductsandProcedures/HomeBusinessandEntertainment/CellPhones/ucm116335.htm>

As noted, these regulations are largely out of local government control. The League of Wisconsin Municipalities has been working on these issues and has retained Attorney Anita Gallucci, Boardman & Clark to draft a Model Ordinance regulating the siting of wireless telecommunication facilities in local ROW. More information regarding the League's work may be found here: <https://www.lwm-info.org/1538/Telecommunications-Including-Small-Cell>

Community and Business Outreach – *If applicable, did you notify the community groups and businesses that are directly impacted by this agenda item. Please specify in attached communication plan how community groups and businesses will be informed of action after Village Board consideration.*

Yes No

If Yes, identify how and what community groups and businesses were notified.

Action Required / Recommended – *Please include the recommended motion or possible actions for this agenda item.*

Staff does not know if/how the Village Board would like staff to proceed in consideration of stated limitations and other priorities; however, one option would be to refer the matter to the Plan Commission. If this is the desire, a motion may be:

“I move to refer the matter of regulating mobile wireless facilities to the Plan Commission for further research and recommendation.”

Attachments – *Please list the following attachments and supporting documents for this agenda item. Some attachments may be hyperlinked. Include Fiscal notes, if applicable, as the first attachment following this memorandum. Attachments may include: agreements/contracts, presentation materials, letters, service proposals, etc.*

1. Future Agenda Item request – Tr. Amenta, 4/11/19

From: [Rebecca Ewald](#)
To: [Bart Griepentrog](#)
Subject: FW: Item for Future Agenda
Date: Thursday, April 11, 2019 11:47:54 AM

Let me know of when you would be available to review this.

From: Trustee Amenta
Sent: Thursday, April 11, 2019 11:38 AM
To: Rebecca Ewald <rewald@villageofshorewood.org>
Cc: President Rozek <PresidentRozek@villageofshorewood.org>
Subject: Item for Future Agenda

I would like to add an item requesting the NS Health Department and the Planning Director to update us on the health effects of 5G communication systems. Bart had informed me that the poles going up are limited to 4G according to the installer, but one of the workers told a resident that they are also potentially usable for 5G when it comes down the pike. I would like Bart to review State legislation that impacts our ability to regulate placement of these poles.

Thanks