

**CITY OF NAPERVILLE
MEMORANDUM**

DATE: May 9, 2018

TO: Building Review Board

FROM: Trevor Dick, AICP, LEED AP, Development Manager

SUBJECT: Smart Home Technologies and the 2018 International Code Council

Background

As requested at the August 2017 Building Review Board meeting, the Board was asked to consider smart home technologies during its review of the 2018 International Code Council (ICC). The purpose of this memo is to summarize information received thus far during the process related to this topic.

A smart home is a residence that uses internet-connected devices to enable the remote monitoring and management of appliances and systems, such as lighting and heating. Smart home technology, also known as home automation, provides homeowners security, comfort, convenience and energy efficiency by allowing them to control smart devices, often by a smart home app on their smartphone or other networked device. A part of the internet of things (IoT), smart home systems and devices often operate together, sharing consumer usage data among themselves and automating actions based on the homeowners' preferences. Source: www.internetofthingsagenda.techtarget.com

Committees focused on reviewing specific code sections have been formed. Each consists of City Staff as well as private sector professionals and experts. The subject of smart home technologies was generally discussed at a number of meetings and committee members generally expressed support.

Committees reviewing the International Residential Code and the International Fire Code were two committees that discussed the subject in more detail. Both were supportive of smart home technologies; however, each expressed concern regarding the use of only battery powered smoke alarms/detectors.

Discussion

Residential builders participating in the committees stated that they are in support of smart home technologies but that they must follow code requirements. Builders discussed how homebuyers are looking to install smart home technologies and discussed how they have been installing these technologies in their projects for several years throughout Naperville. Many of these are products that use wi-fi to talk to other devices and many are controlled or connected to devices such as cell phones.

The following summarizes the subject of wireless only smoke alarms/detectors and/or carbon

monoxide detectors.

Benefits

A smart alarm/detector has a number of benefits. It will let you know via your cell phone when it detects smoke in your home. You can also remotely test the batteries or silence the alarm, as well as sync multiple smoke detectors across your home.

Concerns

According to current and 2018 ICC Codes, smart alarms are required to be hardwired for power. The following is a summary of what the Illinois Fire Code currently requires.

Illinois Fire Code

- The Smoke Detector Act (425 ILCS 60/) addresses the requirement for smoke alarms 1 in one- and two-family homes. For dwelling units in existence on July 1, 1988 smoke alarms may be battery-powered or wired into the building's electrical system and need not be interconnected.
- For dwelling units newly constructed, reconstructed, or substantially remodeled after December 31, 1987, the smoke alarms shall be permanently wired into the building's electrical system and if more than one smoke alarm is required, the smoke alarms shall be wired so that the initiation of one smoke alarm will initiate all the smoke alarms in the dwelling unit.
- For any dwelling units newly constructed, reconstructed, or substantially remodeled after January 1, 2011 smoke alarms permanently wired into the building's electrical system must also maintain an alternative back-up power source, which may be either batteries or an emergency generator.

As shown above, the State has requirements that the City must follow. It is also important to note that the City cannot deviate from the Code unless we are more stringent.

Conclusion

After reviewing the ICC 2018 Codes, they do support smart home technologies, however regarding the subject of wireless smoke alarms/detectors, State and National Codes require hardwired power in new homes and battery only in certain existing home renovations. Moving forward staff recommends focusing on an increased marketing and education campaign to promote the use of smart home technologies. Staff is excited about the variety and types of products that are continuously expanding and helping educate residents will benefit all of our customers.