

CITY COUNCIL REPORT

Public

DATE: July 29, 2016

TO: Mayor and Councilmembers

FROM: Irene Hunkler, Communications Manager, Kevin Treadway, Chief of Police

CC: Josh Copley, Barbara Goodrich, Shane Dille and Leadership Team

SUBJECT: Text-To-911 Services

Executive Summary

The issue of Text-to-911 is a complicated one. **No dispatch center currently in the State of Arizona is accepting Text-to-911 in a dispatch center.** Throughout the United States, there are currently only 6 States as well as Puerto Rico with Centers accepting Text-to-911. In those Centers, only 1100 text messages were received last year. The State 911 fund in AZ assists Primary Service Answering Points (PSAP's) like ours with funding each year. The State 911 funding has been reduced in recent years. For Text-to-911 to be most effective, a coordinated state roll out is optimal with each Center receiving funding assistance from the State. If the Coconino 911 Dispatch Center were to try to accept Text-to-911 without statewide coordination, there would be numerous challenges. Briefly, the cost to the City of Flagstaff to initiate a Text-to-911 program locally, would run approximately \$352,000 in one time up-front costs, and \$304,000.00 in on going costs (additional staffing plus monthly phone and maintenance costs). Additionally, as a PSAP, our Center would be mandated to assume text messages intended for dispatch centers in the Grand Canyon, Page and Williams if those Centers were unable to begin accepting Text-to-911 services themselves (which is likely). Finally, with current technology guidelines, text messages are granted secondary priority to voice calls in the cell phone system. This means text messages are not "real time" and are intentionally delayed by the service provider and voice calls are given priority. With high volume (when a lot of voice calls are being placed, ie: during the time of disaster or emergency), text messages may have significant delay. The FCC has recognized the importance of "real time text" as a replacement technology and has approved a proposal to insure this occurs starting in December 2017 on large carriers. Staff at the Flagstaff PD will continue to coordinate with the State 911 Program on the future of Text-to-911 capabilities and other "Next Gen 911" options. Due to significant challenges and costs, staff does not currently recommend that the Coconino 911 Dispatch Center launch this initiative.

Background

In 2014, the FPD Emergency Communications staff participated in the completion of the Coconino 911 re-addressing project. This multi-year project was designed to bring Coconino County into address compliance in anticipation of Wireless Phase I/II. Wireless Phase I/II is an enhanced 911 service that allows for information regarding the 911 call and the 911 caller to be passed to the 911 center. The information passed to the 911 center is contingent on the type of information that is able to be collected at the time of and for the duration of the 911 call. Information regarding the 911 call can be delivered to the 911 center with two types of service: Wireless Phase I (WPH1) or Wireless Phase II (WPH2). Wireless Phase I provides important information such as the callback number of the 911 caller and the location of the cell tower that received the 911 call. Wireless Phase II provides the same information as a Wireless Phase I call but also provides the approximate location of the 911 caller by latitude/longitude. While location-based routing is available, today's environment only supports Wireless Phase I delivery based on the cell site and sector. While a more precise location may be available, it is carrier and/or vendor implementation specific and may not apply to all 911 requests. The project was completed and Phase II 911 was turned up on August 13, 2014 in the Coconino 911 Center.

On August 8, 2014, the Federal Communications Commission (FCC) adopted an order requiring all wireless carriers and providers of interconnected text messaging applications to deliver emergency texts to the Public Safety Answering Point, (PSAP's) that requests them. As with Wireless Phase II, Text-to-911 services are treated as a requested service, generally from a PSAP to the wireless carrier through the request for service process. The criteria for deployment of Text-to-911 services will be dependent upon the readiness of the county as well as the availability of Arizona State 911 funds.

Starting in the FY 2012 budget, funding limitations within the State 911 fund were experienced, limiting the ability to provide 911 services. In order to continue to provide necessary 911 services, a Modified Wireless Phase II deployment was instituted throughout the state of Arizona. A Modified Wireless Phase II deployment occurs when only Wireless Service Providers (WSP) who will not seek cost recovery from the State 911 fund are included in the Phase II Request for Service.

Due to the continued funding limitations within the State 911 Fund, the authorization of funds for the deployment of and continued support of Text-to-911 services must be sought and approved by the Arizona 911 Program prior to the initiation of a deployment project. Without the funding from State 911, the cost to the City of Flagstaff for CenturyLink to implement Text-to-911 for a 12-month contract would be approximately \$12,665.25. Thereafter, the cost would be \$555.75 per month.

Key Issues to Be Considered in Implementing Text to 911 in Flagstaff

- There are no PSAP's currently within the State of Arizona who have deployed Text-to-911. There are only 7 states with Centers currently nation-wide accepting text messages, (it is unknown how many Centers there are). In those Centers, it appears the primary intent currently is to utilize the text messages in place of the TTY system for those citizens hard of hearing. To be clear, our dispatch center utilizes a TTY line and it is functioning as intended. Our understanding is agencies currently using text capabilities are telling their communities not to utilize text messaging for calls for service or 911. Only 1100 texts across all of those Centers in the 6 states and Puerto Rico were received in the last year.
- If the other PSAP's within the Coconino 911 System (Williams Police Department, Grand Canyon National Park, and Page Police Department) are not able or willing to turn up Text-to-911 without funding assistance from State 911, it will be mandated that our Center (the Coconino PSAP) accept and handle the call load of Text-to-911 for the entire county. In other words, if we accept it and the others don't, we will have to start accepting text messages for calls in Grand Canyon, Page and Williams, and relay this information to those centers for dispatching.
- Best practice is to identify a "back up" agency that is able to accept Text-to-911 messages in the event of an evacuation of our Communications Center or a 911 outage. (The Department of Public Safety – Flagstaff District is our back up agency for voice-based 911 services). Without a "back up" agency capable of accepting text messages, if our Center went down anyone sending a text message would receive a bounce back message advising them "please make a voice call to 911-there is no text service to 911 available at this time". This would cause an obvious delay in emergency services.
- Cost recovery: The four major carriers, Verizon, AT&T, Sprint and T-Mobile continue to waive their cost recovery fees for cellular 911 services. However, **if** other Wireless Service Providers are deployed and seek cost recovery, the burden for payment will fall on the City of Flagstaff.
- Employees: With the influx of 911 calls to the Communications Center via text message we estimate will require at least five additional employees. (4 Emergency Communications Specialists (ECS) and 1 Emergency Communications Specialist Supervisor (ECSS)). These additional employees would be necessary to effectively "monitor" text messages received so that these are responded to immediately, without the distraction of monitoring voice phone traffic as well. The additional employees would also be necessary to receive the text messages received in Williams, Grand Canyon and Page under our obligations as a PSAP if those Centers are unable to begin accepting text messages as

well. Including the burden rate, these employees would cost the City of Flagstaff approximately \$288,000.00 annually.

- In order to accommodate the additional ECS and ECSS, an estimated two additional consoles would be needed and must include Computer Aided Dispatch (CAD) software, and radio systems. This would require an expansion or at the very least a remodel of the Communications Center. The cost for this remodel is unknown at this time, but would likely be at minimum \$100,000.00.

The cost for the consoles and radio equipment are the responsibility of the City of Flagstaff. As the State 911 funds are limited, the cost for all 911 equipment would revert to the City of Flagstaff. As quoted from the State 911 Program, two 911 consoles would cost the City of Flagstaff approximately a one-time fee of \$120,000 and approximately \$760.00 per month for on-going maintenance fees.

- Time Delay: Text messages are not delivered to its recipient in the same manner as a voice call. Texting was designed as a secondary service within a carrier's network while voice traffic remains the primary service. As a secondary service, text messaging utilizes the carrier's signaling channels and other resources when they are not being used for voice calls, essentially storing the message until network resources are available, then forwarding the text message on to its recipient. This may cause a significant delay in the delivery of a Text-to-911 message to a PSAP. During periods of congestion, e.g. due to severe weather or high call loads; a text message may be delayed by several minutes, or potentially hours. To emphasize, texting is not a real-time two-way messaging service. When handling a 911 text message, communications can be delayed due to waiting for the message sender and PSAP call taker to acknowledge receipt of the message and respond.
- In order for Texting-to-911 to be successful, all 911 calls along with their associated data should have the capability to be transferred **without delay** to other PSAP's in the state and those systems should have the ability to transfer the Text-to-911 emergency request for service to another PSAP's wire line and/or wireless 911 network.
- FCC approved a proposal to recognize real-time text as a replacement technology for text telephones, also known as TTY devices, on wireless phone networks, starting in December 2017 for large carriers. This would seem to be the first step in realizing a future in Text-to-911.
- Significant training and policy development in any PSAP Dispatch Center would be required when Text-to-911 is implemented.
- The Coconino 911 Dispatch Center's current Computer Aided Dispatching (CAD) software is not able to accept text messages. If our

Vesta 911 telephone system was configured to accept texts, the Dispatcher would have to retype the text message in the CAD screen as there is no way to transfer the text message from the Vesta System to our current version of CAD (9.1.1). This would be very time consuming and could result in inaccurate information being transcribed from one system to the next as well as a time delay. In order to be text ready we would need to update the CAD system to the 9.3 version. This cost would be a minimum of \$119,105, (estimate based on the cost of the last upgrade done in 2011).

In closing, as articulated in this memorandum, the challenges in receiving and sending text messages from a 911 dispatch center are significant. Staff recommendations are to wait for FCC recommendations on the prioritization of text messages in the cellular system to become effective, and to continue to work closely with the Arizona State 911 Program in the development of policies, negotiations with cellular providers and assistance in the acquisition of necessary equipment to migrate toward Text-to-911 in the future.