

Push-to-talk over cellular technology

Improving safety on schools and campuses



As concerns continue to grow about shootings and gun violence across school and university campuses in the US, we are witnessing an increase in the adoption of new technology-driven solutions to improve safety.

One of these solutions is push-to-talk over cellular (PTToC also known as PoC) which leverage the global reach and infrastructure of cellular networks to offer cost-effective, scalable, feature-rich solutions to improve safety on campuses across the country.

In this whitepaper we consider the features and benefits of push-to-talk over cellular technology. We look at how these can improve coordination and speed of response in the event of an emergency, significantly enhancing security and ultimately, helping to keep students, staff and visitors on campus safer.



Guns are the **leading cause of death** among American children and infants.¹



Each day **12** children die from gun violence and another **32** are shot and injured.²



Gun crime is on the increase. In 2022 there were more school shootings than in any year since the Columbine High School shooting in 1999. This mirrored America's broader rise in gun violence as it emerged from the pandemic.³



In October 2024, CNN reported that as of October 15, there have been at least **58** school shootings in the United States in 2024. 14 were on college campuses, and **44** were on K-12 school grounds. The incidents left **28** people dead and at least **72** other victims injured.⁴

1. Forbes.com | 2. New England Journal of Medicine | 3. Washington Post | 4. The Gun Violence Archive, Education Week and Everytown for Gun Safety.



"The safety of our officers and customers is extremely important and the PoC solution provides us with reassurance that should any of our team find themselves in an emergency situation, other users can be alerted and help can be sent quickly.

We are delighted that the new cellular radios are working in places where our old traditional radio system failed. What's more, the added features of PTToC make it miles better than the traditional radio solution we had."

Brandon Snow

Supervisor Park & Transit, Department of Parking and Transportation at OSU

Reliable coverage, regardless of geographical location

Unlike traditional two-way radio, which has limited range, push-to-talk over cellular technology works over cellular networks. This means it is able to provide extensive coverage, regardless of geographical location. All without the need for extensive infrastructure changes.

The broad coverage provided by PTTtoC technology makes it especially useful on rural, large, sprawling campuses where traditional two-way radios might be less reliable, lose signal or fail to reach certain areas. PoC allows instant one-to-one and one-to-many communication, allowing whole teams of people to be reached at once. Individuals and groups of 10,000+ participants can instantly talk to each other and share written messages, images, videos and files, securely, at the touch of a button.

This means that, in the event of emergencies on campus, including security and medical incidents, users can communicate with each other in real-time, regardless of where they are and how far they are from each other.

Increased safety, enhanced security

As well as providing instant communication, the PoC solution also provides a range of additional features, including location monitoring, location tracking and SOS alerts, to further increase safety and security across campuses.

In critical situations, including active shooter incidents, staff can discreetly communicate with each other, provide their exact location and request assistance, simply by pressing the SOS button, enabling a coordinated and speedy response.

Easy-to-use accessories further enable surveillance and confidential communications when there is a need or desire to operate discreetly. Accessories include covert earpieces and remote speaker microphones, both providing reliable and high-quality audio performance.

Users of Mobile Tornado's PoC application can also access push-to-talk and trigger the SOS alert feature with a simple push of a discreet wireless smart button, rather than via the device itself. The button, known as the Flic button, can be discreetly attached to a range of surfaces, including uniforms and clothing. It can also be worn like a watch using the Flic wristband.

Privacy and security are paramount to protect students, staff, and operational plans during emergency situations. PoC platforms often feature encryption and secure communication channels, preventing unauthorized parties from intercepting sensitive communications.



"We are delighted to have introduced the PTTtoC application. We wanted a reliable instant communication solution which was simple for our staff to use. They just push the button and it works. The central administration team and police department are very excited about the location tracking and SOS alerts".

Kirk Murdock

Senior Technology Officer, Eagle Mountain-Saginaw ISD



Command and control centre for management of operations across campus

Another benefit of the PoC solution is the dispatch console which acts as a central command and control centre for the management of staff across campus, including on different sites.

Mobile Tornado offers a world-class multi-session dispatch console which provides valuable features to ensure optimal safety for staff, students and visitors. These include instant, robust group and individual communications, employee location tracking and monitoring, SOS emergency alerts and lone worker support.

In the event of an emergency, dispatch controllers can track and monitor the exact locations of security officers and staff, enabling better coordination and deployment to specific areas where help is needed. Having access to real-time updates means they can task specific groups with different responsibilities, such as securing entry points or guiding students to safe zones.



A cost-effective, easy-to-install solution

Since PoC technology uses cellular networks, schools and university campuses can use their existing cellular infrastructure, eliminating the need for the expensive infrastructure associated with traditional two-way radio, including installing and maintaining radio towers and specialised equipment.

What's more, for schools and universities using an existing LMR system, it is possible to integrate with PoC devices using a Radio over IP. It is cost effective and easy-to install and enables teams to continue using the same radios.

PTToC is also highly scalable, allowing larger campuses to add users easily across multiple sites without needing to invest in new communication systems.

In addition, because Mobile Tornado's PoC solution is device agnostic, it can be fully integrated to a range of devices, including existing mobile phones. Users can access all the PTToC features including push-to-talk, message, alert and locate on one device.



Spotlight on The Eagle Mountain-Saginaw Independent School District (EMS ISD)



The **EMS ISD** serves more than **20,000** students across **30** school campuses. It is committed to prioritising the safety and security of every student and staff member, along with visitors to the campuses. A major investment in safety has been the establishment of the EMS ISD Police Department.

As the EMS ISD grew, it became increasingly apparent that the existing two-way radio system was unable to meet its needs. Users were experiencing poor connectivity. An insufficient number of radio channels meant the network was often congested. Administrators, staff and school-based law enforcement officers were regularly unable to communicate with each other, often at crucial moments.

To improve communication and increase safety and security across the site, EMS partnered with Stolz Telecom, a US reseller of Mobile Tornado's PTTToC technologies.

Unlike their traditional two-way radio system, PTTToC enables reliable communication across the site. What's more, where LTE signal is limited in some buildings on the campus, the PoC solution connects to the EMS ISD

WiFi, enabling users to instantly communicate with each other at the touch of a button, regardless of location.

An SOS button enables users to send alerts in the event of an emergency, enabling them to be quickly located and help to be sent faster.

Mobile Tornado's world-class dispatch consoles make it possible for the dispatch controller to communicate with users across the campus as well as enabling users to be tracked, located and monitored in real time from a central location.

The PTTToC technology has improved communication across the campus and enhanced decision making to help keep students, staff and visitors safer.



Spotlight on Oklahoma State University Parking and Transportation Services



The safety of drivers and passengers is of utmost importance to OSU Transportation and Parking Services. However, getting signal for traditional radios inside the OSU parking garages is extremely difficult. As a result, communication between parking and transportation officers was unreliable, creating inefficiencies and making it difficult to know the whereabouts of officers.

This made it hard to respond in a timely manner to incidents across the campus, putting the safety of individuals at risk and causing frustration between customers and employees.

Recognising that the introduction of PTTToC technology across the campus would improve communication, the OSU Transportation and Parking Services partnered with Stolz Telecom, a US based reseller of Mobile Tornado PTTToC technologies.

Unlike a traditional two-way radio system, PTTToC technology uses cellular networks and WiFi, enabling reliable communication across greater geographical distances and inside buildings.

Using Mobile Tornado's dispatch consoles, the dispatch controller can manage operations, communicate with, track and locate officers across the campus, all from a central location.

In addition, officers are able to send emergency alerts, with a single press of the SOS button, enabling them to be quickly located and help to be sent faster.

Since introducing the PTTToC technology, communication has improved across the campus, including in the garages where the traditional radio system failed.

Having crystal clear, reliable communication between officers and knowing their location, keeps them safer and enables help to be sent quickly in the event of an emergency.

 **Mobile Tornado**

To find out more or to arrange a demo,
contact sales@mobiletornado.com
or go to www.mobiletornado.com