

How does 911 Work

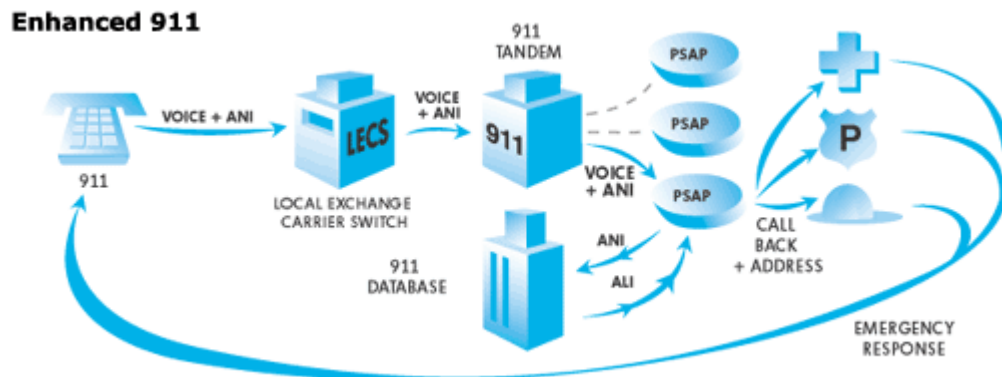
Enhanced 911

When a call goes out from your phone, your voice isn't the only thing being transmitted in the network. The phone company switch that serves your phone is also sending out an Automatic Number Identification (ANI) signal to the network.

Originally, ANI signaling was designed to assist the phone company in accessing toll charges for long distance calls. With advances in technology, it was eventually employed to aid in relaying needed information to the PSAP for 911 response.

How does it work? Within each call, information containing eight digits is embedded in the signal. These eight digits contain the seven digits of the caller's local number. The eighth digit is called a Numbering Plan Digit (NPD). NPD is basically shorthand for the area code of the originating call. Since most 911 tandems rarely dealt with more than two or three area codes, this was an economical way to relay information with one digit instead of three.

With special equipment, the 911 tandem can read the ANI information and route the callback number to a digital display at the appropriate PSAP. Armed with this ANI information, the PSAP has equipment allowing it to request and receive the caller's physical address or Automatic Location Information (ALI).



With this enhancement, the PSAP is no longer totally dependent on obtaining location and callback information from the caller. Instead, the dispatcher can concentrate on helping the caller through the crisis, while instantly passing along needed information to the correct authorities.

This is how E911 has been working for more than 20 years when dialed from a wireline phone. With the advent of wireless phones and the need for wireless 911, additional challenges present themselves.