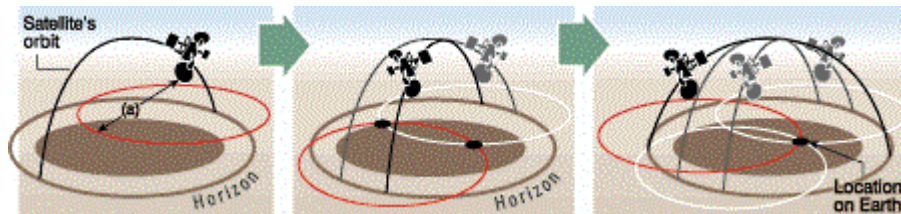


A Comparison of Active and Reactive Location Techniques in Emergency Response

In a perfect world, emergency responders would know when a person might be in a situation that called for their help and would monitor that person's activities just to make sure that they were all right. In a perfect world, help would arrive even if you were not able to get to a phone to call 9-1-1. Believe it or not, responders do not have to be psychic in order to accomplish these feats. Before I explain how, I would like to take a moment and bring you up to speed on current location technologies and how they work with emergency response.

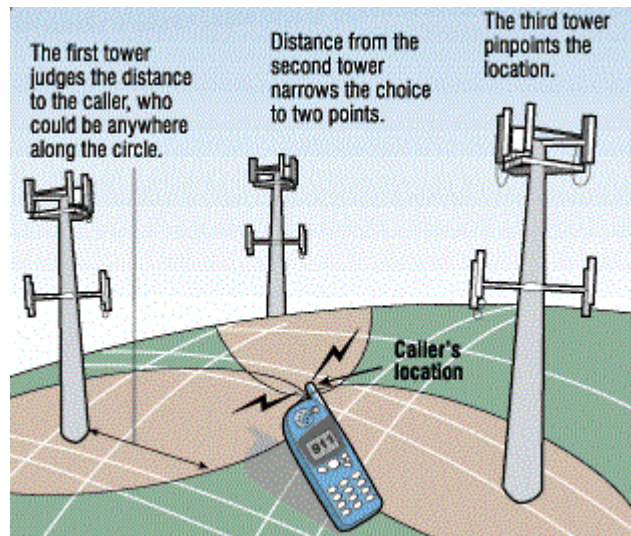
The Federal Communications Commission's (FCC's) has issued an outstanding mandate for wireless carriers to deliver location information to Public Safety Answering Points (PSAPs). This mandate has been a well-covered topic in all of the media. Even more chronicled have been delays in wireless E9-1-1 implementation due to a variety of purported reasons, including technological immaturity, funding constraints, and lack of inter-organizational coordination. As a result, today's wireless E9-1-1 landscape has only isolated pockets of "Phase II on-line" areas in states such as Oregon, Rhode Island, Virginia, and Illinois. This means that when you call 9-1-1 on a cellular phone, dispatchers do not know who or where you are. In addition, there is still a considerable amount of debate on what type of location technology will work best. There are essentially three type of technologies available today: GPS (Global Positioning Satellite), TDOA/E-ODA (Time Differential of Arrival), and AOA (Angle of Arrival).

Consistent reservations regarding GPS for solving wireless E9-1-1 location – including lack of coverage in buildings, challenges in urban high-rise environments, high power consumption, and bulky form factors have not been mitigated.



For commercial uses, GPS is not practical since it cannot penetrate buildings, is not always on and there is no standard format for reporting location.

TDOA and AOA technologies are just not accurate enough to resolve a meaningful location.



The “pinpointed” location referred to in the diagram above is usually within two city blocks and gives no height information. Consequently, help has a very difficult time finding you.

Of course, the biggest draw back to these technologies is that in order to get help, you must call the responder. This is called reactive dispatch.

Active dispatch has huge advantages over reactive dispatch. In active dispatch, you call the responder before you get in trouble and give the responder your location, name and situation. Then, the responder checks on you periodically. If the responder cannot reach you after a prescribed amount of time, they notify the appropriate party.

Active dispatch enables the responder to contact emergency personnel when you are unable to. This level of security helps the user feel more confident about their personal safety.