



## F O R E W O R D

***“When someone calls 9-1-1 they expect to get help right away. We cannot, and will not, accept a system where these callers cannot be located as quickly as possible.”***



“ . . . Now is the time for leaders to lead. And no group has a better chance of making wireless enhanced 9-1-1 a reality than the group gathered here today. Everyone in this room was invited because you are the ones who can create these systems and make them work. Look around this room. You are the leaders.

Today we must agree on a course of action for the future. We must agree to shoulder our part of the responsibility for achieving success. Our ultimate goal is the safety of all Americans, and our friends living and working here with us from all over the world. Nothing has brought that home more than the events of September 11th.

If we do not leave this room today with agreed-upon roles, responsibilities, and actions, then we are doing a terrible disservice to the American people. Not only are we letting them down, but we are also wasting billions and billions of taxpayer dollars.

How much have we spent on our emergency system in the United States? How much have we spent educating the public to call 9-1-1 in an emergency? And how much have each of you spent to develop the next generation in telecommunication technology and to create the immense wireless infrastructure? That money will be wasted if citizens calling-in emergencies from their cell phones cannot be found.

More than 100,000 people use their cell phones to call 9-1-1 every single day. One of those callers was Karla Gutierrez. Ms. Gutierrez was on her way home last year when she drove her BMW into a canal off of a Florida turnpike near Miami. She called 9-1-1 with her cell phone but was unable to tell officers exactly where she was located. As her car sank into the canal, more than 20 police officers were searching for

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her. They pulled her lifeless body from the canal almost 45 minutes after she first placed the call.

There was also the well-publicized case in April 1999 of New York Jets defensive back Victor Green’s wife and 10-month-old daughter who were abducted by carjackers. Esther Green was able to call 9-1-1 secretly from her cell phone. She dropped discreet hints describing her location. It took police 20 minutes to decipher her hints, catch up with the suspects, and free Green and her daughter.

When someone calls 9-1-1 they expect to get help right away. We cannot, and will not, accept a system where these callers cannot be located as quickly as possible. We have the technology to solve this problem. All we need is the resolve and the commitment to make it happen.

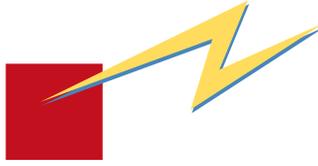
The fact that you are here tells me that you care about this issue and want to be a part of the solution.

I look forward to seeing the action plan you create today. That plan for the implementation of the wireless enhanced 9-1-1 system will be the one we follow into the future. It will be a future where wireless communication will alert us to the location of a car crash when the occupants are unconscious or otherwise unable to call. It will be a

future where important medical information is emitted from wireless devices when victims cannot tell us themselves. It will be a future where we can send evacuation alerts to people with wireless devices when we know of a dangerous situation, such as a toxic spill or a bridge that is out.

This future can never be, however, if we do not take the first step today. Again, thank you very much for coming. I look forward to our continued partnership throughout this project. ”

The Honorable Norman Y. Mineta,  
Secretary of Transportation  
at the Wireless E9-1-1 Summit Meeting  
Washington, DC  
April 8, 2002



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*The Appendix contains a discussion of the tasks necessary for accomplishment of each Action Item. For each task, the stakeholders that need to be involved, and timeframes for accomplishment are specified.*



## ***INTRODUCTION***

***This introduction provides an overview of emergency call location issues and background on the Department of Transportation's Wireless E9-1-1 Initiative.***

### ***Emergency Call Location is a Major Public Safety Concern***

Prior to the widespread use of wireless telephones, the nation's 5,300 primary Public Safety Answering Points (PSAPs) were able to automatically locate nearly all (98 percent) of 9-1-1 callers using Enhanced 9-1-1 (E9-1-1), an emergency telephone service that provides immediate caller identification and location. E9-1-1 automatically routes calls to the appropriate PSAP and notifies the dispatcher of the caller's location.

In some jurisdictions, as many as half of the calls to 9-1-1 currently are placed from a wireless telephone. A survey funded by the U.S. Department of Transportation (DOT) revealed that only 643 of the nation's 3,136 local jurisdictions had wireless call location capability (wireless E9-1-1) in May 2003.

Well-publicized tragedies where rescuers have been unable to locate victims calling for help from wireless telephones have raised public awareness of the issue, although many users still are unaware of the safety limitations of their cell phone service.

Without location capability, 9-1-1 calls from cell phones often compromise public health and safety and result in the inefficient use of emergency resources (law enforcement, fire and rescue, emergency medical services). Equipment is dispatched to a general area. Rescue crews must search for the incident scene. A common scenario is a crash on a divided-lane freeway, where callers are unable to tell the call-takers the exact location of the incident, or even whether it is in the northbound or southbound (eastbound or westbound) lane. Dispatchers have no choice but to dispatch multiple units, heading in both directions, to search for the incident scene.



Another difficulty is that without location technology, PSAPs have difficulty determining which calls refer to the same incident. PSAPs accepting wireless 9-1-1 calls must handle an astonishing volume of duplicate calls for each incident. One typical metropolitan PSAP receives 80 to 100 calls per car crash, compared to an average of six per crash before it accepted wireless 9-1-1 calls.

### ***FCC Rules and Orders***

Under rules first established by the FCC in 1996 and revised in 1999, implementation of wireless E9-1-1

is to be accomplished in two phases. The FCC worked closely with stakeholders in the wireless industry and the public safety community in developing these rules.

Phase I requires carriers, upon appropriate request by a local PSAP, to report the telephone number of a wireless 9-1-1 caller and the location of the antenna that received the call. This is important in the event the wireless phone call is dropped, and may even allow PSAP employees to work with the wireless company to identify the wireless subscriber. Phase I also delivers the cell site/sector information, which may be more beneficial in actual use than the callback number.

Phase II requires wireless carriers to provide far more precise location information—within 50 to 100 meters in most cases—as well as the caller’s wireless phone number.

The deployment of wireless E9-1-1 requires technology and equipment upgrades at local PSAPs, as well as coordination among public safety agencies, wireless carriers, technology vendors, equipment manufacturers, and local wireline carriers. Carriers’ obligations are triggered by a service request by the PSAP.

Based on the rules above, a PSAP must be ready for Phase II before requesting that level of service from a wireless carrier. A PSAP is considered ready after it has

accomplished the following:

- Become able to recover its costs for facilities and equipment for wireless E9-1-1;
- Ordered the equipment necessary to receive and use the wireless E9-1-1 data and have plans to install and be able to use the equipment no later than six months following the request;
- Requested the local exchange carrier (LEC) to provide the necessary trunking and other facilities, including database upgrades, to enable the wireless E9-1-1 data to be transmitted to the PSAP.

Generally speaking, once a wireless carrier has received a request for Phase II service, it has six months to install the necessary equipment and begin delivering the service to the requesting PSAP. In the case of network-based solutions, the wireless carrier must provide Phase II service for at least 50 percent of the PSAP's coverage area or population within the six-month period, and for 100 percent of the PSAP's coverage area or population within 18 months. The PSAP is under obligation to have completed its own upgrades within the same six-month timeline imposed upon the wireless carrier.

The original FCC rules envisioned completion of wireless E9-1-1 implementation by October 2001. Under a revised set of orders the FCC issued in October 2001, nationwide implementation of Phase II is generally to be completed by December 31, 2005. The carriers' progress in achieving this goal is being monitored closely by the FCC.

### ***Wireless E9-1-1 Progress***

Implementing wireless E9-1-1 is a complex process that requires an unusual degree of collaboration among an array of stakeholders, along with potential changes and enhancements to network infrastructure and PSAP equipment, and involves resolution of funding issues.

As noted above, only 643 of the nation's 3,136 jurisdictions had implemented wireless location technology as of May 2003. However, the pace of implementation across the country is accelerating. In December 2002, only 33 jurisdictions had wireless call location capability.

### ***Transportation Community's Stake in Wireless Location Issues***

Traffic crashes are still the leading cause of death for young Americans. And 9-1-1 is still the essential first link in the chain of survival. For this reason, DOT has a long history of providing support for the nation's 9-1-1 system. DOT was there in 1968 when the first 9-1-1 call was made. In 1969, DOT included a recommendation for a universal emergency number in State Highway Safety funding policies. In 1973 DOT began to require that the universal emergency number be 9-1-1. By 1978, DOT

was providing model legislation to help States build their 9-1-1 system. In recent years, DOT's National Highway Traffic Safety Administration (NHTSA) and its Intelligent Transportation Systems (ITS) Public Safety Program have worked with the public safety community to support implementation of wireless location technology to save lives, reduce injuries, and improve traffic incident response time, thereby reducing incident-related travel delay.

The transportation's community's interest in wireless emergency location issues also involves technology development concerns. Wireless communications underpin evolving transportation safety technologies. For example, advanced automatic crash notification systems currently under development rely on wireless communication to instantly deliver data from a crashed vehicle to emergency responders. The data will be used to predict the probable type of injuries and their severity. Based on these predictions, dispatchers will be able to make more accurate decisions about the type of response equipment and crews to dispatch, speeding roadway clearance as well as emergency medical service delivery. Hospitals and trauma centers will be able to start calling in appropriate specialists and preparing operating rooms. Wireless location is an important element of these systems.

### ***DOT's Wireless E9-1-1 Initiative***

Recognizing the importance of increased stakeholder coordination in accelerating the pace of wireless E9-1-1 implementation, Secretary of Transportation Norman Y. Mineta convened a Wireless E9-1-1 Stakeholder Summit in April 2002. He challenged the attendees, who were leading representatives of national stakeholder groups, to form a Steering Council to develop a Priority Action Plan for Wireless E9-1-1 Implementation. The Steering Council is chaired by National Association of State 9-1-1 Administrators (NASNA) President Evelyn Bailey and includes leaders of the telecommunications, public safety, and highway safety communities.

In addition to NASNA, the Steering Council includes representatives of the Alliance for Telecommunications Industry Solutions/Emergency Services Interconnection Forum (ATIS/ESIF); the American Heart Association

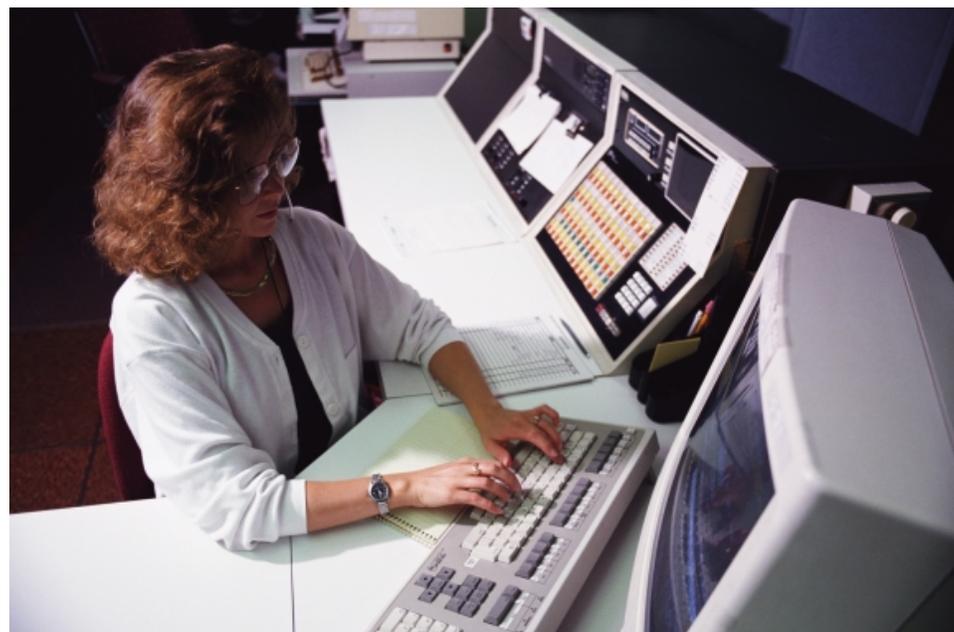
(AHA) Office of Public Advocacy; the American Association of State Highway and Transportation Officials (AASHTO); the Association of Public-Safety Communications Officials (APCO); the Cellular Telecommunications and Internet Association (CTIA); Intrado, Inc.; the Intelligent Transportation Society of America (ITS America); the Integrated Justice Information Systems Industry Working Group (IWG); the International Association of Chiefs of Police (IACP); the International Association of Fire Chiefs (IAFC); the National Association of EMS Physicians, the National Association of Regulatory and Utility Commissioners (NARUC); the National Association of State EMS Directors (NASMESD); the National Conference of State Legislatures (NCSL); the National Emergency Number Association (NENA); the National Governors' Association (NGA); the U.S. Department of Transportation (DOT); the Federal Communications Commission (FCC); Qualcomm; and the United States Telecommunications Association (USTA). A roster of Steering Council members appears on the inside front cover of this document.

The Steering Council is supported by the Wireless E9-1-1 Working Group, chaired by Bill Hinkle, Director of Communications for Hamilton County, Ohio and a former NENA President. The Working Group members are listed on the inside back cover of this document.

## ***DOT Wireless E9-1-1 Steering Council Priority Action Plan***

The Steering Council's Priority Action Plan is presented in Section II of this document. The Plan calls for public safety agencies, the telecommunications industry, and all levels of government to address six most urgent priorities:

- Establish support for statewide coordination of implementation of wireless location technology (known as "wireless enhanced 9-1-1," or "wireless E9-1-1"), and identify points of contact within each state for each of the stakeholders;
- Help to convene stakeholders in appropriate 9-1-1 regions in order to facilitate more comprehensive, coordinated implementation of wireless location technologies;
- Examine cost recovery/funding issues at the state level;
- Initiate a knowledge transfer and outreach program to educate Public Safety Answering Points (PSAPs), wireless carriers, and the public about wireless location issues;
- Develop a coordinated deployment strategy encompassing both rural and urban areas; and
- Implement a model location program.



Implementation of the Priority Action Plan will require expansion and coordination of ongoing wireless E9-1-1 initiatives. An overview of the ongoing initiatives is presented in Section III of this document.