



Intelligent Transportation Systems
U.S. Department of Transportation



The US Department of Transportation Next Generation 9-1-1 Initiative



Overview

- ✓ **Emergency Medical Services (EMS) and 9-1-1 at DOT**
- ✓ **Secretarial Wireless E9-1-1 Initiative**
- ✓ **Next Generation 9-1-1 Initiative**
- ✓ **National 9-1-1 Office**





9-1-1, EMS and DOT



- **Highway Safety Act of 1966**
 - “Highway Safety” includes emergency medical care and transportation of the injured
- **9-1-1 as part of the Emergency Medical Services (EMS) system**
- **National Highway Traffic Safety Administration (NHTSA)**
 - Office of EMS: Federal EMS Lead Agency





Wireless Enhanced 9-1-1 (WE9-1-1) Initiative

Secretary of Transportation Norman Y. Mineta:

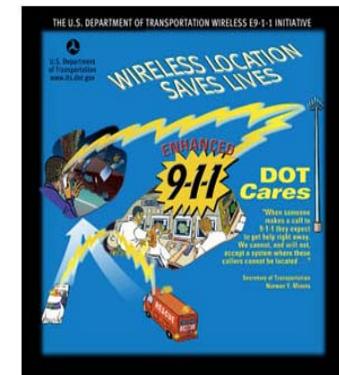
- Convened a Wireless E9-1-1 Stakeholder Summit in April 2002
- Accelerating the deployment of wireless E9-1-1
- National leadership and attention to the WE9-1-1 issue





WE9-1-1 Initiative: Accomplishments

- **Priority Action Plan**
 - Product of Steering Council and Expert Working Group
- **Technical Assistance Products for PSAPs**
 - Clearinghouse; videos; PSAP survey and database
 - Produced under contract with NENA
- **Technology Innovation Roundtable**
 - Reexamination of WE9-1-1 technological approaches
 - Led to Next Generation 9-1-1 Initiative

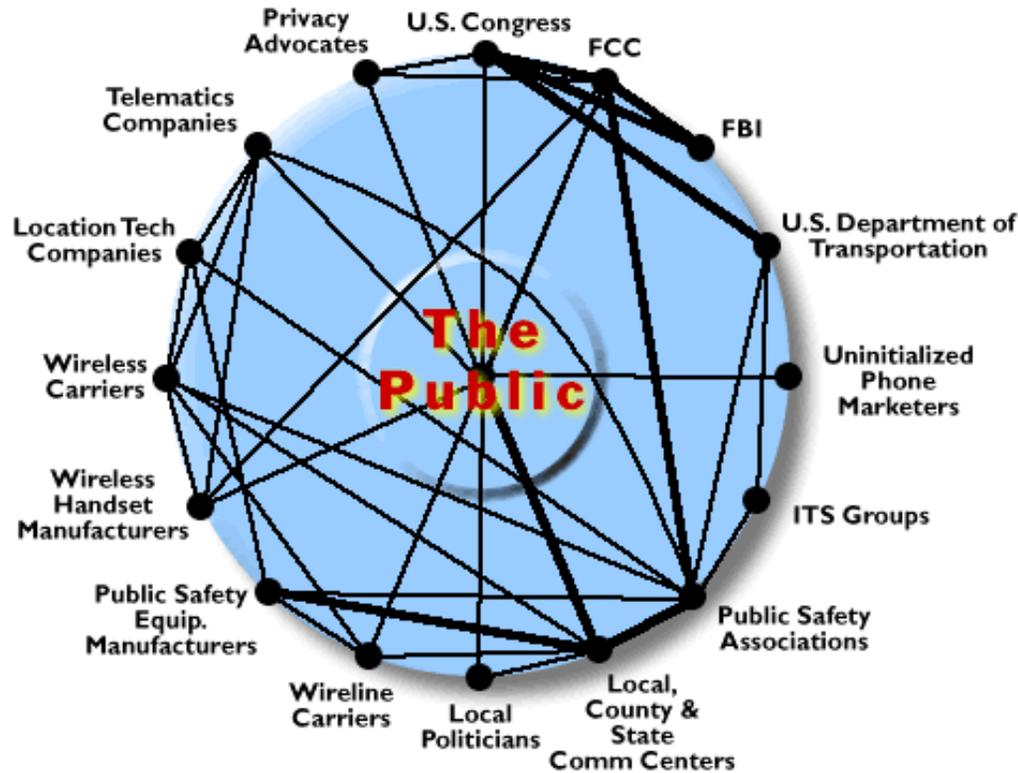




NG9-1-1 Project: An Impact Statement



The Web of Wireless 911 & Location Technology



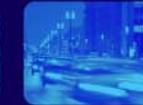
DISPATCH Monthly graphic



NG9-1-1 Project



Today's 9-1-1	Next Generation 9-1-1
Virtually all calls are voice callers via telephones over analog lines.	Voice, text, or video information, from many types of communication devices, sent over IP networks
Data transferred via voice	Advanced data sharing is automatically performed
Callers manually routed through legacy selective routers, limited forwarding / backup ability	Physical location of PSAP becomes immaterial, callers routed automatically based on geographic location, enhanced backup abilities
Limited ability to handle overflow situations, callers could receive a busy signal	PSAPs able to control call congestion treatment, including dynamically rerouting callers



Consensus within the 9-1-1 Community



Capitalize on advances in technologies that provide:

- ✓ Quicker and more accurate information to responders
- ✓ Better and more useful forms of information
- ✓ More flexible, secure and robust PSAP operations
- ✓ Lower capital and operating costs



NG9-1-1 Project: The Goal



Long Term Goal:

To design a system that enables the transmission of voice, data or video from different types of communication devices to the Public Safety Answering Points (PSAPs) and onto emergency responder networks.

Major Milestones:

- National architecture and high-level design for NG9-1-1 System
- Proof of Concept
- Transition plan for NG9-1-1 implementation



NG9-1-1 Project: Program Plan



- **Engage stakeholders**

- Public and Private Agencies
- Create Partnerships
- Connecting the Dots



- **Establish the vision**

- National Architecture (*Internetwork*)



- **Define the future**

- Collaboration
- Shared Systems
 - Full Autonomy at the Local Level
 - Robust Network
 - Continuity of Operations





NG9-1-1 Initiative: Design Assumptions



- Access to emergency services will occur within a broader array of interconnected emergency networks
- The system must support the transmission of voice, text, images and other data from all types of communication devices
- Will build on existing IP-based functionality already inherent in the Internet and similar packet-based infrastructure
- Will require new emergency response network architecture to be designed, along with new and modified standards



NG9-1-1 Initiative: NEMA Considerations



- The ability to generate and communicate new data and information about an event
- More effective incident management
- Safer First Responders
- Fault tolerant, flexible infrastructure in place to support flow of multi-media forms of data and information from and to all types of devices



NG9-1-1: Standards and the Challenges



- “Any Device” (unauthenticated access)

- Funding



- Geodetic Standards



- Legacy Equipment



- Security





NG9-1-1 Project: The Future of 9-1-1

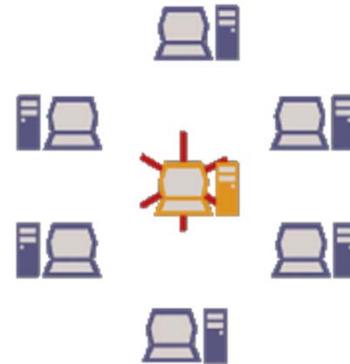


What will NG9-1-1 do for me?

- Equal access



- Mobility



- Resiliency



- Public Safety





NG9-1-1 Project: Current Activity



- RFP awarded: December 4, 2006 (2 year contract)
 - *Booz Allen Hamilton*
 - *Preliminary Concept of Operations document revised*
 - *High Level Requirements document completed*
 - *Detailed Requirements – work in progress*
 - *Transition Plan – work in progress*
 - *Proof of Concept – early 2008*
- Continue engaging the stakeholders (public and private)
- Continue monitoring standards development activities
 - Provide the bridge between this initiative and on-going IP-telephony standards development and related activities



NG9-1-1 Project: Team Members



- Booz Allen Hamilton

Booz | Allen | Hamilton

- Leading technology and management consulting company
- Experience in supporting far-reaching public safety communications efforts



- National Emergency Number Association

- Team of experts with direct NG9-1-1 experience and knowledge

- L. Robert Kimball & Associates



- Leader in design and implementation of E9-1-1 / IP-based E9-1-1 systems
- Relevant technical expertise and domain knowledge of public safety operations

- Texas A&M University Internet2 Technology Evaluation Center



- Developer of a prototype of the NG9-1-1 system



NG9-1-1: It's Not Just Telephones Anymore



Would You Like to be Added to the Project Email Distribution List?

Do You Have Any Questions?

Do You Have *Best Practices* to Share?



Project Web Page:

<http://www.its.dot.gov/ng911>

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