

U.S. Department of Transportation 9-1-1 Programs & Projects

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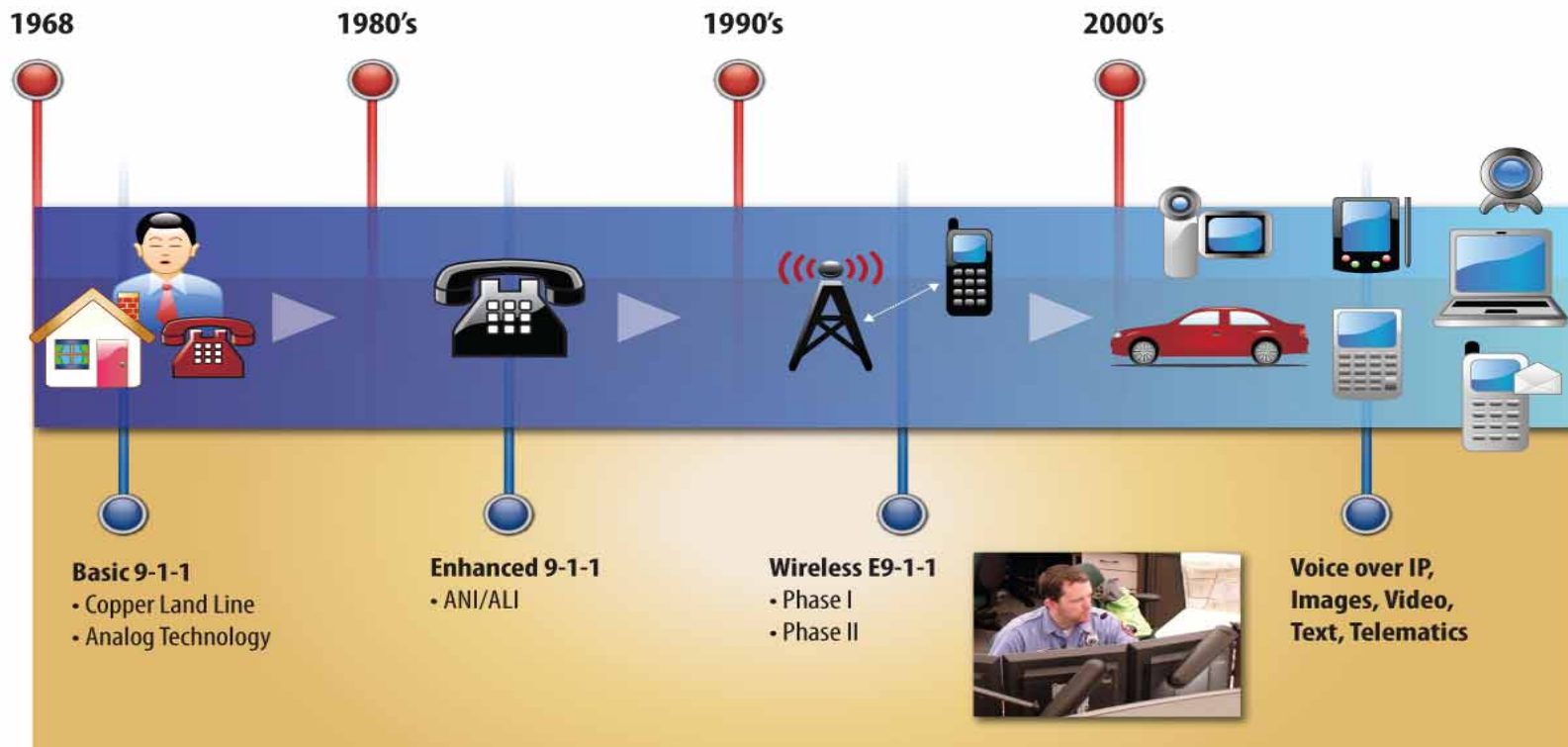
Why DOT?



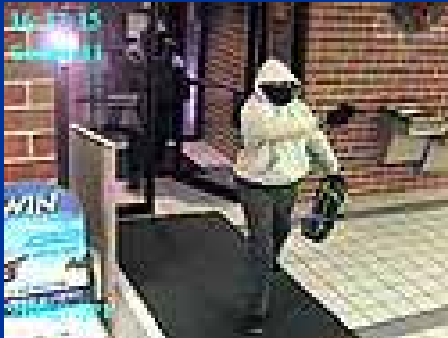
- 40 Year history of Federal support for Emergency Medical Services (EMS) and 9-1-1
- 2002 – Secretary Norman Y. Mineta
 - E9-1-1 Steering Council
 - Priority Action Plan
 - Technology Innovation Roundtable
 - Genesis for NG9-1-1 Initiative
- 2004 - ENHANCE 9-1-1 Act
 - National 9-1-1 Office [P.L. 108-494]
- 2008: NET Improvement Act



The Current 9-1-1 Network



Problem Statement



Consensus within the 9-1-1 Community

Leveraged stakeholders throughout the community to build consensus

Capitalize on advances in technologies that provide:

- ✓ Quicker and more accurate information
- ✓ Better and more useful forms of information (real-time text, images, video, and other data)
- ✓ More flexible, secure and robust Public Safety Answering Point (PSAP) operations
- ✓ Increased sharing of data, resources, procedures, and standards
- ✓ Promotion of increased coordination and partnerships

NG9-1-1 Initiative



Long Term Goal:

To enable the general public to make a 9-1-1 “call” (any real-time communication – voice, text, or video) from any wired, wireless, or Internet Protocol (IP)-based device, to the PSAP; and enable data sharing with the emergency communication network.

Major Milestones:

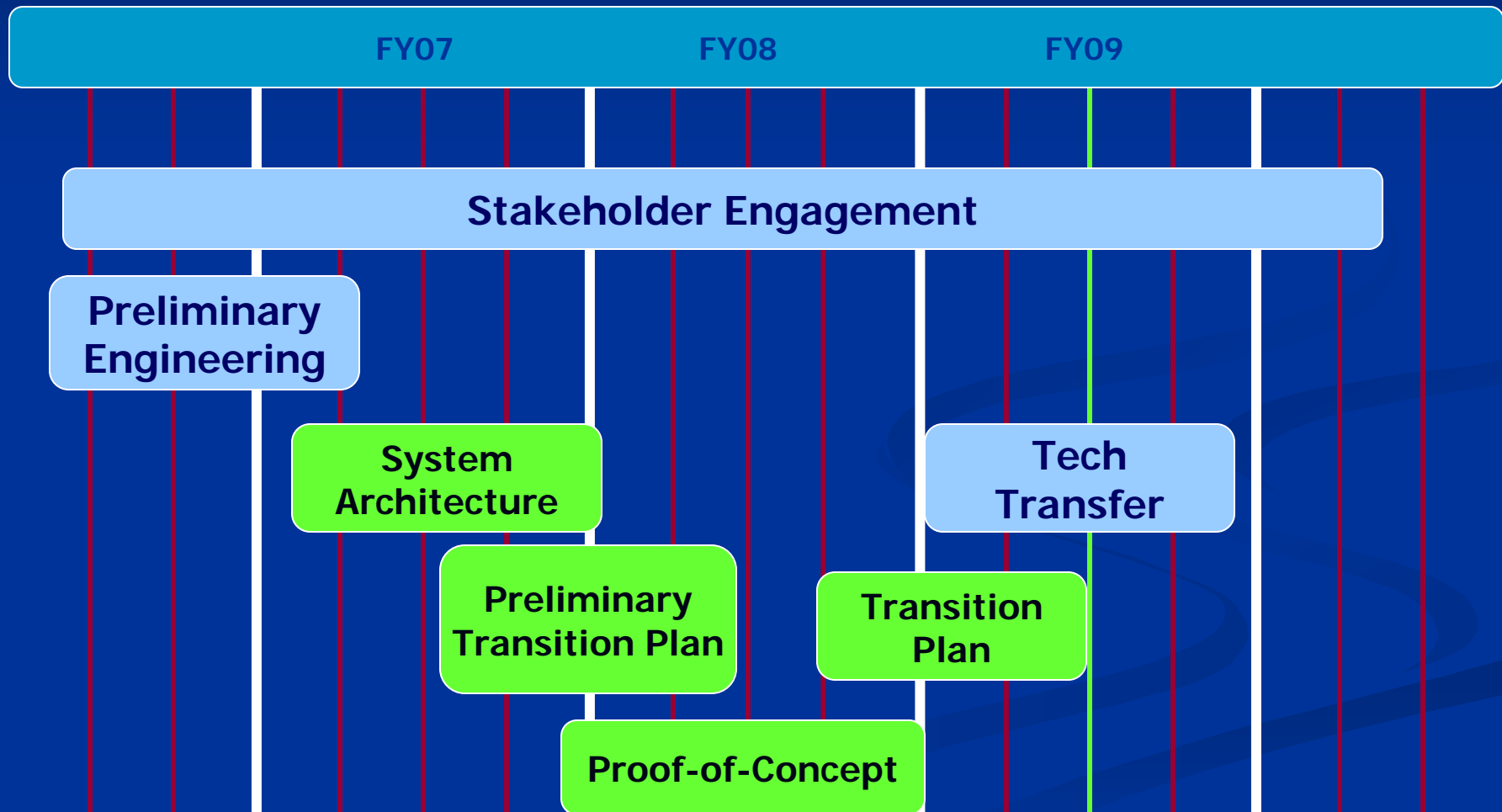
- National architecture and high-level design for NG9-1-1 System
- Proof of Concept Demonstration
- Transition plan for NG9-1-1 implementation

NG9-1-1 Initiative



| Today's 9-1-1 | Next Generation 9-1-1 |
|---|---|
| Primarily voice calls via telephones | Voice, text, or video information, from many types of communication devices |
| Minimal data available | Advanced data sharing is automatically performed |
| PSAP services – access, transfer, backup – are local only | Enhanced “long distance” capabilities; physical location of PSAP becomes immaterial |
| Limited capability for emergency notification | Location-specific emergency alerts possible for any networked device |

NG9-1-1 Initiative Roadmap



NG9-1-1 Project: Status

✓ Task 1: System Architecture Development

Booz | Allen | Hamilton

Revised Concept of Operations (ConOps)
Define functional requirements (High-level & Detailed)
Architecture design

✓ Task 2: Transition Analysis



Analysis of Cost, Benefit & Risk
Identification of critical system deployment issues

✓ Task 3: Design and Demonstration of “Proof-of-Concept”



Design, develop, and demonstrate “Proof-of-Concept”

✓ Task 4: Completion of Transition Plan and Final Architecture



Final Architecture
Final Transition Plan
Final Analysis of Cost, Value & Risk

Tasks of the NG9-1-1 Project: Status

Task 1: System Architecture Development

Revised Concept of Operations
(ConOps)
Define functional requirements
High-level architectural design



Task 3: Proof of Concept (POC)
Final Architecture
Software Codes



Proof of Concept



Proof of Concept



- **Testing of Selected Requirements:**
 - Ability to receive voice, video, text (IM, SMS) and data
 - Support for deaf/hearing-impaired accessibility
 - Caller's location identification (landline, wireless, IP)
 - Transmitting telematics data (Advanced Automatic Crash Notification) like speed, vehicular rollover, crash velocity
 - Call routing and transfer
 - IP networking and security

Proof of Concept: Results

- After separate testing in the laboratory and PSAPs, the total system was tested.
- Calls were processed through the complete system, recording the results.
- Simple pass/fail system used to test functional requirements
- A total of 116 functional requirements were tested using use case scenarios.
- In all, the project conducted 320 individual tests in the laboratories and PSAP facilities, with 280 (87.5 percent) successfully passing the test criteria.
- All tests used POC equipment, systems, and test data, and at no time, were live 9-1-1 calls handled on the POC system or test calls sent to live 9-1-1 systems.

Tasks of the NG9-1-1 Team: Project Status



Task 2: Transition Analysis

Preliminary Analysis of Cost, Value & Risk
Report on Critical Deployment Issues






Task 4: Final Transition Plan
Final Cost, Value and Risk Analysis

NG9-1-1 Initiative

Documents Available



- Concept of Operations
- Functional Requirements
- Architecture Design
- Preliminary Analysis of Cost, Value and Risk
- Transition Issues Report
- Human Machine Interface Display
- Data Acquisition and Analysis Plan
- Preliminary Transition Plan
- Proof of Concept Report
- Final Transition Plan 
- Final Analysis of Cost, Value and Risk 
- Final Architecture 

<http://www.its.dot.gov/NG911>

Additional Tasks

- Big Cities Forum (May)
- Acquisition Tools (Summer)
- “What’s Next?” Forum (Fall)
- Plugfest (Fall)



After November 2008...

Requirements



Standards



Transition Plan



Acquisition Tools



National



Office



- DOT / DOC – Joint Program
- Housed @ US DOT / NHTSA

Goals of National 9-1-1 Office



- Facilitate coordination among public and private stakeholders at local, State and Federal/national levels
 - Serve as an information clearinghouse
 - Administer grant program for the benefit of PSAPs
 - \$43.5 Million (Final Regulations June 5, 2009)
-
- Provide a Federal focus for 9-1-1
 - Promote and support 9-1-1 services



National 9-1-1 Office: Projects



- Grant Program
- Model State 9-1-1 Plan (NASNA)
- National Data Set (NASNA)
- PSAP Benchmarking Document
- Technical Assistance Center
- National NG9-1-1 Migration Plan
 - P.L. 110-283
- Federal 9-1-1/Medical Communications Committee

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

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