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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

BY HAND

Ms. Marlene Dortch
Secretary
Federal Communications Commission
445 12th Street, S.W.
Washington, D.C. 20554

**Re: Oral Ex Parte Presentations
CC Docket No. 94-102**

Dear Ms. Dortch:

On behalf of my client QUALCOMM Incorporated ("QUALCOMM"), this is to report that on April 16, 2002, Jonas Neihardt and Ellen Kirk of QUALCOMM and I had three separate meetings regarding the above-referenced docket. The participants in these meetings were: 1) Tom Sugrue, James Schlichting, Kris Monteith, and Joel Taubenblatt of the Wireless Telecommunications Bureau; 2) Commissioner Kevin Martin and his Senior Legal Advisor, Daniel Gonzalez; and, 3) Peter Tenhula, Senior Legal Advisor to Chairman Powell.

In each meeting, we discussed the current status of the seven deployments around the world of QUALCOMM's assisted GPS position location technology (known as gpsOne), including the progress made by Sprint PCS and Verizon Wireless here in the United States in deploying this technology to provide Phase II E911 service. We also showed the meeting participants a number of wireless phone models which Sprint PCS and Verizon Wireless are now selling, all of which contain QUALCOMM chips incorporating gpsOne. In particular, we noted the tremendous commitment made by Sprint PCS and Verizon Wireless, in terms of both devoting considerable human resources and making major expenditures, to overcome a number of operational issues in a tight time frame to deploy this highly accurate E911 technology. We expressed our concern that other carriers do not appear to be acting with similar commitment.

Finally, we gave the attached materials to each of the participants, and we provided background information as to the work of the U.S. Department of Transportation ("DOT") in

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encouraging the rapid deployment of E911, including the recent meeting of the Wireless E9-1-1 Steering Council under DOT's auspices.

Sincerely yours,

A handwritten signature in black ink, appearing to read "D. Brenner". The signature is fluid and cursive, with the first letter of each name being capitalized and prominent.

Dean R. Brenner
Attorney for QUALCOMM Incorporated

cc: Commissioner Kevin Martin
Peter Tenhula
Daniel Gonzalez
Thomas Sugrue
James Schlichting
Kris Monteith
Joel Taubenblatt



Wireless E9-1-1 Initiative National Summit

Briefing Book

**Prepared for the
Wireless E9-1-1 Steering Council**

**April 8, 2002
Crystal Gateway Marriott
Arlington, Virginia**

Wireless E9-1-1 National Summit

Participant Briefing Book

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- Section 1 -

**DOT Wireless E9-1-1
Stakeholder Leadership Groups**



Wireless E9-1-1 Steering Council Members

Evelyn Bailey (Chair)

*National Association of State 9-1-1
Administrators*

Thera Bradshaw

*Association of Public Safety
Communications Officials International*

Stephen Browne

ITS Public Safety Advisory Group

Charles Farlow

*Integrated Justice Industry Working
Group*

Michael R. Granados

International Association of Fire Chiefs

George Heinrichs

Intrado

Bill Hinkle

Wireless E9-1-1 Expert Working Group

Laurie Holmes

*National Conference of State
Legislatures*

Tony Kane

*American Association of State Highway
and Transportation Officials*

Harlin McEwen

*International Association of Chiefs of
Police*

Kevin McGinnis

*National Association of State EMS
Directors*

John Melcher

*National Emergency Number
Association*

Karl Moeller

American Heart Association

Jonas Neihardt

QUALCOMM

Dr. Debra Perina

National Association of EMS Physicians

Tom Wheeler

*Cellular Telecommunications and
Internet Association*

TBD

National Governors Association

TBD

United States Telecom Association

TBD

National Sheriffs' Association

Federal Representatives

Christine Johnson

Federal Highway Administration

Jeff Michael

*National Highway Traffic Safety
Administration*

Jeff Paniati

ITS Joint Program Office



Wireless E9-1-1 Steering Council Member Biographies

Evelyn Bailey (Chair)

National Association of State 9-1-1 Administrators

Evelyn Bailey is an executive in Vermont state government. Her career path began in hotel and restaurant management, and since 1986, has focused on the development and administration of large-scale start up programs.

Ms. Bailey took a mid-career hiatus to pursue her academic interests. She received a BA degree from Smith College in 1993, Magna Cum Laude and Phi Beta Kappa. She has been published in the field of archaeology.

Ms. Bailey was appointed executive director of the Enhanced 9-1-1 Program in January 1994. She guided the passage of the enabling legislation and subsequently established a new, independent state agency – the Vermont Enhanced 9-1-1 Board – with responsibility for designing, building and operating a statewide-enhanced 9-1-1 system. Vermont built the nation's first statewide system using SS7 and ISDN technology.

Vermont was one of fourteen 9-1-1 programs profiled in the National Emergency Number Association's (NENA) Report Card to the Nation. Ms. Bailey serves on NENA's Regulatory Committee. She is also a member of the Association of Public-Safety Communications Officials (APCO) and is involved with Project Locate.

Ms. Bailey held the office of Secretary of the National Association of State 9-1-1 Administrators (NASNA) from 1996-1999 and Vice President-Treasurer from 1999-2001. Evelyn currently serves as NASNA's President.

Thera Bradshaw

Association of Public Safety Communications Officials International

Thera Bradshaw was appointed in April 2000 by the Honorable Mayor Willie L. Brown, Jr. as the first Executive Director of the City & County of San Francisco's Emergency Communications Department. Thera's leadership role is building a new department from what has been traditionally a support service function within Police, Fire, and Public Health departments.

Previous to this appointment, Ms. Bradshaw was Executive Director of the Southwest Washington Regional Communications Agency serving 42, local governments for ten years, and was the pioneer in 1986 of Oregon's first automated enhanced 9-1-1 system.

Ms. Bradshaw's professional leadership extends to State, National, and International roles serving in appointed and elected positions on a variety of boards and committees. Thera is President-Elect of the International Association of Public Safety Communications Officials (APCO). She assumes the Presidency in August. APCO is the largest public safety communications organization in the world, with over 16,000 members, inclusive of 34 countries.



Wireless E9-1-1 Steering Council Member Biographies

Mayor Willie L. Brown Jr. also appointed Thera to the Public Safety Task Force of the Pubic Technology, Inc. (PTI). PTI is an arm of the National League of Cities

(NLC), the International City/County Management Association (ICMA), and the National Association of Counties (NACo). Thera is Vice-Chair on the National Board of Directors for 9-1-1 for Kids, a non-profit foundation whose mission is to provide education to children.

Additionally, Ms. Bradshaw served seven years on the Board of Officers for the National 9-1-1 Association (NENA) and was the National President in 1995. The major national policy accomplishment during her tenure included the consensus document that led to the Federal Communications Commission action improving information on 9-1-1 wireless calls.

Stephen Browne

ITS Public Safety Advisory Group

Dr. Browne currently serves as Deputy Manager of Safety for the City and County of Denver. Dr. Browne began his public safety career in June 1974 as a statistician for the Denver Department of Safety. In 1986 he became the Director of Research for the Denver Department of Safety and held that position until 1990 when he was promoted to Deputy Manager of Safety for Technology and Operations, also with the Department.

In April 1996 he left public service and started a career with SCC Communications, Inc., now Intrado. As Vice President of Operations, his responsibilities included directing database and network operations for 9-1-1 services across Intrado's national service area, directing Wireless 9-1-1 implementation, managing the 24x7 National Data Services Center, and managing the company's hardware systems administration. During his tenure at Intrado he also managed customer service support and their mapping group.

In August 2000 Steve returned to public safety as the Deputy Manager of Safety for Technology and Operations with the Denver Department of Safety. In his present capacity, he is responsible for managing Denver's Police, Fire and Sheriff Departments' communications, data and telephone systems. He serves as the City's PSAP Coordinator and representative on the State's Public Utility Commission's 9-1-1 Task Force.

Steve is active on a number of committees and task forces, including Vice-chair of the Colorado PUC 9-1-1 Task Force, Chair of the ITS America Public Safety Advisory Group, Chair of the ITS America Public Safety Committee and member of the ITS America Coordinating Council, Chair of the Denver Metropolitan Homeland Security Task Force, and Chair of the Denver Metropolitan Emergency Service Partnership.



Wireless E9-1-1 Steering Council Member Biographies

Charles R. Farlow (Charlie)

Integrated Justice Industry Working Group

Mr. Farlow is currently leading TRW's Justice Information Systems business unit in Denver, CO. Mr. Farlow joined TRW in 1990 after completing a career in the USAF that encompassed a variety of operational and systems engineering assignments in the U.S. and abroad. He holds a BS Degree from Eastern Illinois University, and a MS Degree in IT from the University of North Dakota. Mr. Farlow has twenty-five years of hands-on project management and systems engineering experience in the federal, state, and commercial markets.

Micahael R. Granados

International Association of Fire Chiefs

Mr. Granados currently serves as an elected Fire Commissioner in Princes Georges County, Maryland, a position he has held since 1993. Mr. Granados has over 40 years of Public Safety experience. He retired as a Bureau Fire Chief in 1992 after 28 years service, and is still active as a Volunteer Fire Service provider.

Mr. Granados affiliation with the International Association of Fire Chiefs began in 1986 with his appointment as Chairman of the Communications Committee. He served this position until 1995, and still is an active member of the committee, and is also a member of the Firefighter Health & Safety Committee. Mr. Granados has also served as a Fire Service Instructor and Instructor Trainer, for Maryland Fire and Rescue Institute. Mr. Granados is an active member of NFPA, IMSA, APCO, and is also a Certified Safety Executive.

George Heinrichs

Intrado

Mr. Heinrichs is co-founder, president and CEO of Intrado. Prior to founding Intrado, Mr. Heinrichs had an extensive career in public safety, including ten years of active involvement on state and national advisory boards overseeing law enforcement information systems. Mr. Heinrichs has testified before the U.S. Senate and House of Representatives as an expert on wireline and wireless telecommunications issues.

For his sustained support and leadership as well as his operational and technical contributions to public safety, Mr. Heinrichs has received numerous awards, including the following:

- The NENA William H. Stanton 9-1-1 Service Award
- The NENA President's Award
- Entrepreneur of Distinction, Boulder Esprit Award



Wireless E9-1-1 Steering Council Member Biographies

- Graduate Student Business Association Corporate Excellence Award, University of Colorado

In addition, Mr. Heinrichs is a member of the National Emergency Number Association (NENA), the Association of Public-Safety Communications Officials International (APCO International), the National Sheriffs Association (NSA) and the Association for Computing Machinery (ACM). Mr. Heinrichs also serves on the Board of Directors for the Intelligent Transportation Society of America (ITS America).

Bill Hinkle

Expert Working Group Chair

Mr. Hinkle has 27 years of public safety communications experience. He currently serves as Director of Communications for the Hamilton County Department of Communications in Cincinnati, Ohio. Mr. Hinkle is a member of the Association of Public Safety Communications Officials International (APCO) and is currently serving as Chairman of APCO's Project LOCATE. He is also a Past President of the National Emergency Number Association (NENA). Mr. Hinkle serves as a member of the USDOT Intelligent Transportation System's Public Safety Advisory group (PSAG) and is Chair of DOT's Expert Working Committee. Mr. Hinkle serves as Chairman of the Ohio Public Safety Communications Joint Task Force. He has had articles published in numerous national trade publications. He has been a speaker at National Conferences, and currently serves on more than 15 national and local professional committees. Mr. Hinkle graduated from the University of Cincinnati.

Dr. Christine Johnson

Federal Highway Administration

Christine Johnson is the Program Manager of the Operations Core Business Unit in FHWA and is also the Director of the crosscutting ITS Joint Program Office within the Department of Transportation. Within FHWA, Christine provides leadership for defining the new operations mission for FHWA and has responsibility for ITS deployment, freight and logistics policy, as well as current efforts in work zones, value pricing, MUTCD, and travel demand management. As Director of the ITS Joint Program Office, she has been instrumental in shaping Federal ITS program strategies and policies, and in bringing ITS to the forefront of modern-day transportation in the United States.

Dr. Johnson has over twenty years of experience in transportation policy and operations including her work in the New Jersey Department of Transportation as the Assistant Commissioner for Policy and Planning, as the Director of Transportation Planning for the Port Authority of New York and New Jersey, and as Vice President of Parsons Brinkerhoff.



Wireless E9-1-1 Steering Council Member Biographies

Dr. Johnson earned both her Masters degree and her Ph.D. in Urban Transportation Planning and Public Policy from the University of Illinois.

Dr. Anthony R. Kane

American Association of State Highway and Traffic Officials

Dr. Anthony R. Kane (Tony), joined the American Association of State Highway and Transportation Officials (AASHTO) on March 5, 2001, as Director of Engineering and Technical Services. In this capacity he oversees the development of hundreds of technical publications and standards, including those for bridges, materials and intelligent transportation systems; the development and licensing of AASHTOware software products; the review and accreditation of laboratories thru the AASHTO Materials Reference Lab (AMRL); the evaluation of transportation products; and radio frequency filings with the FCC.

Tony Kane previously served as the U.S. Department of Transportation, Federal Highway Administration's (FHWA's) Executive Director from 1994 to March 2, 2001, with day-to-day management responsibility for the \$31 billion-per-year agency and its 2,700 employees. During his thirty year career with FHWA, Tony had been instrumental in the enactment and implementation of many surface transportation acts, helped create the National Quality Initiative (now National Partnership for Highway Quality) with industry, created partnership agreements for training, research, technical exchange and outreach with numerous organizations in the transportation industry; led a team that developed the 1990 national multimodal transportation policy; and led a cost-allocation study that allowed a 1982 doubling of the highway program through the first increases in the gasoline and diesel-fuel taxes in 25 years.

Tony Kane has won numerous awards including the AASHTO President's Special Award of Merit in 2001 and the U.S. Presidential Rank Award for distinguished Service in 1996, Presidential Rank Awards for Meritorious Service in 1985 and 1990. The National Society of Professional Engineers, the American Society of Civil Engineers, Rensselaer Polytechnic Institute and The Road Gang have also honored him.

Kane holds a B.S. in Civil Engineering from the Rensselaer Polytechnic Institute; a M.S. in Civil Engineering from Northwestern University, with emphasis on Transportation Planning; and a Doctorate of Business Administration from the George Washington University. Kane also has graduated from the Program for Senior Managers at Harvard's Kennedy School.

Harlin McEwen

International Association of Fire Chiefs

Harlin McEwen has been in the field of law enforcement for over 44 years. He was a police officer in Waverly, NY, 1957-1962; Tioga County, NY, Sheriff's Dept.; 1962-1964; Cayuga Heights, NY, Police Dept. (Police Officer 1964-1967, Sgt. 1967-1972,



Wireless E9-1-1 Steering Council Member Biographies

Chief 1972-1985). From 1985 until 1988, Mr. McEwen served as Deputy Commissioner of the New York State Division of Criminal Justice Services and Director of the Bureau for Municipal Police where he was responsible for overseeing the training and registration of all police officers and peace officers in New York State, as well as for the development and implementation of the New York State Law Enforcement Agency Accreditation Program. From October 1988 through February 1996 he served as Chief of the City of Ithaca, NY, Police Dept.

On February 20, 1996, Mr. McEwen was sworn in by FBI Director Louis J. Freeh as a Deputy Assistant Director of the FBI with his office located at FBI Headquarters in Washington, DC. During his tenure at the FBI he traveled extensively throughout the United States meeting with law enforcement groups and speaking at national and regional law enforcement and criminal justice conferences on matters relative to the FBI Criminal Justice Information Services.

On April 7, 2000, he retired from the FBI and active law enforcement service and was presented the prestigious FBI Medal of Meritorious Achievement by Director Freeh. He now serves in an advisory capacity to the FBI, the National Institute of Justice, and various other local, state, and federal agencies. On November 14, 2000, the International Association of Chiefs of Police at their Annual Conference in San Diego, honored Chief McEwen by presenting him with the first IACP Lone Star Distinguished Award in recognition of his exemplary service to the IACP for over 20 years as Chairman of the IACP Communications & Technology Committee.

John Melcher

National Emergency Number Association

Mr. Melcher is the Deputy Director for the Greater Harris County 9-1-1 Emergency Network and has been with the Network since 1990. Mr. Melcher's responsibilities include the design and management of integrated voice and data networks providing emergency number service for approximately four million citizens in the Houston metropolitan area. The Network serves over one thousand 9-1-1 call-takers that dispatch for over 150 responding agencies.

Mr. Melcher serves as the First Vice President and the Wireless Industry Liaison for NENA. In that capacity, he works closely with the wireless carrier and manufacturer trade associations as well as the Federal Communications Commission, and members of Congress. He works with various national task groups related to public safety technology, wireless telecommunications issues, legislation and policy.

Mr. Melcher has developed and patented emergency communications system solutions and has been recognized by Computerworld Magazine and the Smithsonian Institute as an *Innovator of Information Technology*. In 1998 and 1999, he was recognized as one of the *Most Influential People in Public Safety* by Radio Resource magazine. In 1996, he Co-chaired the Texas Wireless Integration Project, the first proof-of-concept



Wireless E9-1-1 Steering Council Member Biographies

Mr. Paniati has 17 years experience with the Federal Highway Administration, primarily in the areas of safety, traffic operations, and ITS. Before coming to the ITS-JPO, Mr. Paniati held the position of Chief, Safety Design Division in the Office of Research and Development. In this capacity he led the agency's efforts to develop new technologies, procedures and methods to advance the state-of-art in highway safety.

Mr. Paniati is active in both the Institute of Transportation Engineers (ITE) and the Transportation Research Board (TRB). He currently serves as Chair, of the TRB Committee on Safety Data, Analysis and Evaluation and is the incoming Chair of the ITE Traffic Engineering Council.

Mr. Paniati has a Bachelor of Science degree in Civil Engineering from the University of Connecticut and Master of Science degree in Civil Engineering from the University of Maryland. He is a registered professional engineer in Virginia.

Dr. Debra Perina *University of Virginia*

Dr. Debra Perina is an associate professor of emergency medicine at the University of Virginia in Charlottesville, VA. She is also Director of the pre-hospital care division and medical director of the Pegasus Critical Care transport program. She also currently serves as a Board member for the National Association of EMS Physicians. She has over 19 years involvement with EMS activities at all levels, including providing local and regional medical direction. She also previously served as the State EMS medical director for South Carolina.

Tom Wheeler *Cellular Telecommunications and Internet Association*

Mr. Wheeler is President and CEO of the Cellular Telecommunications & Internet Association (CTIA), a position he has held since 1992. For two decades Mr. Wheeler has worked at the forefront of telecommunications policy and technology. As a telecommunications entrepreneur, Mr. Wheeler founded or helped start multiple companies offering new cable, wireless and video communications services, both domestically and internationally.

From 1976 to 1984, Mr. Wheeler was associated with the National Cable Television Association (NCTA), where he was president from 1979 to 1984. President Clinton appointed Mr. Wheeler to the Board of Trustees of the John F. Kennedy Center for the Performing Arts. He is also a director of Tech Corps, Community IMPACT USA, Aether Systems, OmniSky Corporation, SmartBrief and Cibernet Corporation. Mr. Wheeler is the author of *Take Command! Leadership Lessons from the Civil War*, published by Doubleday.



U.S. Department of Transportation Wireless E9-1-1 Initiative

America is increasingly dependent on wireless phones for reporting traffic crashes and other emergencies. However, location identification service for wireless telephone users is not yet available across most of the United States. Wireless Enhanced 9-1-1 (or WE9-1-1) implementation is desperately needed to automatically locate these calls, thereby helping to save lives and enhance emergency services.

The groundwork for national implementation of WE9-1-1 has been laid. An FCC rule established a compliance schedule for wireless carriers and defined the needs for preparing the 9-1-1 call centers (known as Public Safety Answering Points or "PSAPs"). What remains is to motivate the public safety community, the wireless industry, and State and local governments to collaborate on implementation approaches and to provide technical support for PSAP preparation. In response to this, the U.S. Department of Transportation (DOT) is sponsoring the WE9-1-1 Initiative to accelerate the availability of wireless emergency location service across the United States and thereby enhance transportation safety and security. The Initiative is organized along three primary tracks - Leadership, PSAP Deployment Readiness, and Technological Innovation (described below and presented graphically on the following page).

Leadership

The goal of this track is to bring national leadership and attention to the E9-1-1 issue. The Department is serving as the convener of an Expert Working Group and Steering Council of public safety, government and industry leaders that will formulate and initiate actions to accelerate wireless E9-1-1 availability. The Expert Working group has met twice.

PSAP Deployment Readiness

The goal of this track is to work with public safety associations and leaders to provide technical assistance, guidance, and training to accelerate PSAP readiness for wireless E9-1-1. Under the guidance of the Steering Council, DOT will develop tools and resources to facilitate local deployment, including targeted technical assistance, procurement guides, and training. "Lead adopter" states will be selected from a candidate pool, including one or more that expect to achieve Phase I during this period, to serve as models for innovative institutional, technological, or fiscal solutions.

Technological Innovation

One of the great strengths of our Nation is its technological expertise. The goal of the technology innovation track is to engage the Nation's leading information technology experts in a fundamental reexamination of the technological approach to E9-1-1. Some new concepts may provide new solutions to near-term issues; others may lay a foundation for longer-term progress. As part of this activity area the Department intends to act as the bridge between the technology and public safety communities.

DOT Wireless E9-1-1 Initiative

October 2001

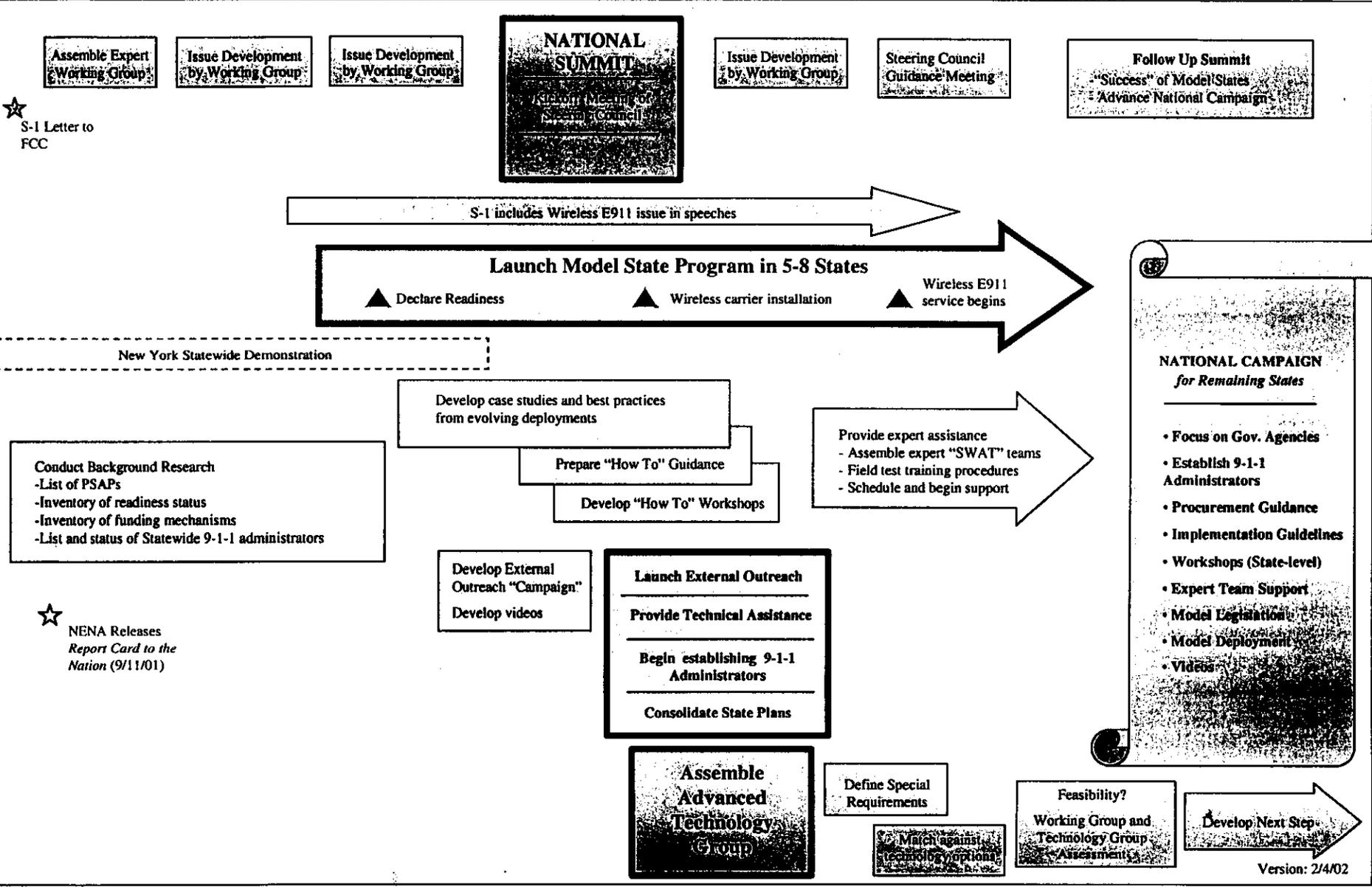
April 2002

January 2003

LEADERSHIP

PSAP DEPLOYMENT READINESS

INNOVATION



Stakeholder Leadership Framework

The DOT Wireless E9-1-1 Initiative provides a structured environment for key stakeholder representatives from public safety, communications industry, and State and local government to interact. The core leadership bodies are an Expert Working Group and a Steering Council. DOT serves as facilitator of operations and activities of the Steering Council and the Expert Working Group. DOT has convened the first Expert Working Group meetings and has provided a forum for the first meeting of the Steering Council. DOT will continue to play a coordinating role to support the core leadership bodies.

Expert Working Group

An Expert Working Group of staff to senior policy and industry leaders will meet periodically to develop issues and recommendations and to consider the progress and results of the PSAP Readiness Deployment track. They provide the core technical and operational expertise to the Initiative.

Steering Council

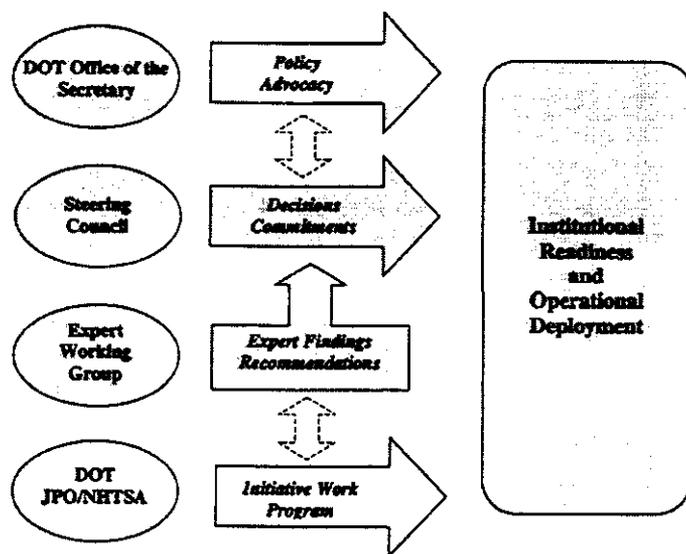
The Steering Council of national leaders in public safety, communications, and government stakeholders will be convened in a National Summit. They will be charged with identifying strategies to move forward on wireless E9-1-1 readiness. The Steering Council will act on the issues and recommendations developed by the Expert Working Group and serve as Initiative “champions” within their communities.

DOT Office of the Secretary

The Office of the Secretary will guide the “Leadership” track of the Initiative. DOT will continue to coordinate meetings of the Expert Working Group and Steering Council. Secretary Mineta and other DOT officials will reach out to government and industry leaders promoting support for wireless E9-1-1 deployment

National Highway Traffic Safety Administration and the Intelligent Transportation Systems Joint Program Office

NHTSA and JPO will fund and manage the technical work program contained in the “PSAP Deployment Readiness” and “Technological Innovation” tracks of the Initiative.



Other DOT Projects Related to E9-1-1

In addition to the WE9-1-1 Initiative, DOT has sponsored related projects that focus on enhanced wireless emergency services.

New York State Emergency Call Locator Partnership.

The Department of Emergency Medicine at SUNY Upstate Medical University in Syracuse, New York, has partnered with DOT to develop an implementation plan for a state-wide WE9-1-1 system. A three year grant provided by DOT has allowed the Department of Emergency Medicine to begin to engage key stakeholders from across New York State. Key objectives of the project include development of a plan for utilizing existing resources, developing new resources, and resolving barriers to implementation of statewide WE9-1-1.

National Mayday Readiness Initiative (NMRI).

NMRI was a public-private partnership of more than twenty national organizations that focused on the primary issues that arise in the dealings between private Mayday "telematics service providers" such as OnStar, ATX Technologies, and AAA Response and the nation's public emergency response agencies. The NMRI was co-sponsored by DOT and the ComCARE Alliance, and was funded by DOT and General Motors/OnStar. The findings and recommendations of the NMRI were published in October 2000.

Mayday/9-1-1 Field Operational Test.

DOT is currently evaluating applications for partnerships to conduct a field test to resolve some of the issues identified in the NMRI. The technical objectives for this test include establishing connectivity between private Mayday service providers and 9-1-1 call centers for voice calls and data transfer. To date, such connectivity has not yet been demonstrated or tested in continuous operations.

- Section 3 -

Wireless E9-1-1 Implementation Barriers and Actions

***Findings of the Wireless E9-1-1
Expert Working Group***

Wireless E9-1-1 Implementation

Barriers and Recommended Actions USDOT Wireless E-9-1-1 Initiative Expert Working Group

Introduction

Implementing wireless E9-1-1 service is a complex and challenging process, requiring coordination among a number of stakeholder organizations. These organizations fall into three key categories, the 9-1-1 call centers or Public Safety Answering Points (PSAP), the wireless industry, and State and local governments. Successful implementation will require action by each of these stakeholders. No single group has the ability to deploy wireless E9-1-1 on its own.

In December 2001 and January 2002, an Expert Working Group met to discuss barriers to rapid implementation of wireless E9-1-1 and to identify specific stakeholder actions needed to overcome these challenges. Following are recommendations from the Expert Working Group:

PSAP Community

Barriers affecting the PSAP Community include:

- *Selecting and Deploying an Appropriate Phase II Location Solution (this also involves the Provider Community)*

Phase II requires the deployment of location technology designed to meet accuracy standards promulgated by the FCC. PSAPs are now faced with the challenge of identifying the most appropriate location technology, and determining how the location accuracy will be verified. Ongoing discussions on these issues between PSAPs and the wireless carriers could affect the pace or timing of deployment. The selection of location technologies has been clarified by recent wireless carrier deployment plans approved by the Federal Communications Commission (FCC). However, these solutions must still be implemented, and location accuracy verified.

- *Establish Baseline Criteria for Service*

Effective wireless E9-1-1 service requires a well-coordinated and linked technical and operational environment. The technical details of wireless E9-1-1 affect operational aspects of the service. A number of these overlapping operational and technical issues remain to be resolved. To a large extent, resolution of these issues will require an effective working relationship between the wireless carrier and PSAP communities.

- *Interconnection of Wireless Service Provider (WSP) with the 9-1-1 System Provider (usually a LEC) and the PSAP*

Effective wireless E9-1-1 requires extensive coordination among the WSP, 9-1-1 System provider and the PSAP. Trunking must be ordered and provisioned, technical interface issues addressed, and overlapping database functions coordinated. Each of these efforts must occur within a complex regulatory

environment. Any of these interconnection issues are capable of impacting the pace of deployment.

- *Wireless Consumer and PSAP Training and Education*

Wireless 9-1-1 is likely to remain different in operation than its wireline counterpart. Consumers need to understand those distinctions and how they affect emergency access. PSAP personnel also need education concerning the wireless implementation process, including knowledge of the relevant FCC rules, implementation procedures, and a variety of other details.

- *PSAP Readiness*

Before a PSAP orders 9-1-1 service from a wireless carrier, FCC rules require that the equipment necessary to receive and utilize the E911 data has been ordered and will be installed and capable of receiving and utilizing that data no later than six months following its request. The FCC also requires that the PSAP has made a timely request to the appropriate local exchange carrier (LEC) for the necessary trunking and other facilities, including any necessary Automatic Identification Location (ALI) database upgrades, to enable the receipt of E911 data. This requires funding, network enhancements, equipment, mapping and similar resources.

- *Timely Requests from PSAPs*

Some PSAPs are hesitant about pursuing wireless E9-1-1 implementation during this formative time, thus delaying service. Such PSAPs should be encouraged to move ahead, to reasonably request and deploy.

- *Other Technical and Programmatic Issues*

Other issues of this sort continue to be identified, including embedded databases, mobility, wireless number portability, and outdated network infrastructure.

Action Needed from the PSAP Community

- Work towards statewide coordination of deployment plans, methods, and institutional arrangements;
- Focus deployment efforts on infrastructure procurement and development;
- Anticipate changes that may occur during the course of deploying WE 9-1-1, e.g., emerging technologies, and their influence on deployment.
- In cooperation with industry, provide consumer education on wireless E9-1-1; and
- Encourage immediate action by all PSAPs to move toward readiness and request for service.

Technical Assistance and Other Resources Needed

- Education programs for PSAPs to clarify regulatory issues;
- Case studies on institutional and operational deployment strategies; and
- External funds to support deployment.

State and Local Governments

Barriers affecting State and local government include:

- *Regulatory Clarity*

While the FCC attempts to clearly enunciate policy through rulemaking, opinions and other regulatory actions, inevitably the questions arise concerning interpretation and application of these rules. Often these questions lead to further requests for FCC clarification (from either the PSAP and/or provider communities), and ultimately further delay. Efforts by the impacted parties to anticipate and work through these issues - to build a consensus upon which regulatory action may be based - has historically been the most productive way to move forward.

More importantly for State and local governments, these interpretations also affect actions by State regulatory commissions that must resolve 9-1-1 system provider (LEC) and other third party issues that impact the delivery of a wireless 9-1-1 call.

- *State Governmental Support*

Effective deployment requires serious support from State governments. This support ranges from state wireless legislation that establishes state policy, initiative, funding, and similar structure, to executive support and leadership from Governors. Currently, ten states have not passed wireless legislation, and state level leadership varies greatly across the country.

- *Cost Recovery Policy*

Inability to recover the costs of wireless implementation (provider or public safety) can be a serious barrier to implementation. The FCC rules delegate this responsibility to States and local governments. In addition to providing an administrative mechanism for cost recovery, State or local governments must determine specific cost recovery policy. Across the country, PSAPs are struggling with developing reasonable and consistent cost recovery policy.

- *PSAP Training and Education*

See similar item above.

- *Funding From all Sources*

Identification of sources to cover the costs of deployment is a serious challenge. Furthermore, FCC policy requires that PSAPs have the ability to recover their costs before they can request wireless service from a carrier.

- *Stakeholder Collaboration*

This challenge of collaboration is exacerbated by the growing array of stakeholders in the implementation process, and the great range of differences in the ways in which stakeholder interests are affected.

- *Effort Coordination*

Effective implementation of wireless E9-1-1 requires that activities be planned, coordinated, and monitored in an efficient and productive way. However, institutional and administrative approaches to this process vary greatly among States. The 1999 Wireless Telecom Act encourages States to adopt a single point of contact for such activity.

- *Prioritized Deployment*

While existing Phase II requests to carriers are limited, they outstrip the capabilities of carriers to respond within FCC requirements. Deployment may need to be prioritized. Questions remain as to what the criteria for prioritization should be, and how this prioritization should take place.

Action Needed from State and Local Government

- Convene stakeholders to identify and resolve State and local issues and develop unified statewide deployment plans;
- Ensure a single point of contact within each State to foster leadership and accountability in the deployment of WE9-1-1;
- Resolve cost recovery and funding issues;
- Continue State regulatory commissions focus on E9-1-1 implications;
- Anticipate changes that may occur during the course of deploying WE 9-1-1, e.g., emerging technologies, and their influence on state deployment;
- Coordinate service agreements/contracts across jurisdictions (State-county-municipality); and
- Develop a method to prioritize deployment within each State.

Technical Assistance and Other Resources Needed

- Document cost recovery models and make available for others to follow;
- Document case studies demonstrating performance compliance of location technologies; and
- See below.

Wireless Industry

Barriers affecting the provider industry include:

- *Product Development Cycles*

Wireless implementation (particularly Phase II), depends upon the timely and coordinated production and availability of Phase II capable handsets, appropriate network infrastructure upgrades and similar technical enhancements. This barrier is one of the factors cited most often by carriers seeking waivers of FCC required implementation timeframes, and hence greatly affects the timing and pace of deployment.

- *Establish Baseline Criteria for Service*

See similar item above.

- *Interconnection of Wireless Service Provider (WSP) with 9-1-1 System Providers (usually a LEC) and PSAPs*

Effective wireless E9-1-1 requires extensive coordination among the WSP, 9-1-1 System providers and PSAPs. Trunking must be ordered and provisioned, technical interface issues addressed, and overlapping database functions coordinated. Each

of these efforts must occur within a complex regulatory environment. Any of these interconnection issues are capable of impacting the pace of deployment.

- *Changing Industry and Technology*

The technological foundation upon which wireless E9-1-1 rests continues to evolve at a rapid rate. For example, the wireless industry is moving rapidly towards the third generation of wireless service. Technical solutions that appear appropriate for wireless 9-1-1 today may not work tomorrow. In addition, new opportunities and challenges, such as Automatic Collision Notification, telematics, and other non-traditional 9-1-1 services will continue to emerge. The challenge is to design a system that addresses today's needs without compromising our ability to accommodate changing technology in the future.

- *Other Technical and Programmatic Issues*

See similar item above.

- *Wireless Consumer Education*

See similar item above.

Action Needed from Industry

- Focus on infrastructure development and production. For example, ensure that wireless handsets with built-in location capability are available for purchase;
- Timely implementation of systems supporting WE9-1-1 is urgently needed. These systems have national security implications;
- Anticipate changes that may occur during the course of deploying WE 9-1-1, e.g., emerging technologies, and their influence on deployment; and
- In partnership with PSAPs, provide consumer education addressing public expectations of E9-1-1 service.

Technical Assistance and Other Resources Needed

- Provide a forum to discuss needs for regulatory changes that might be needed as deployment progresses, such as state interconnection issues and FCC rules;
- Develop testing standards for performance compliance; and
- Define system operations standards.

- Section 4 -

Background Information

Background Information

Wireless E9-1-1 Expert Working Group Minutes

Wireless E9-1-1 Expert Working Group
Meeting 1
- Summary -
December 4, 2001

WELCOME AND OPENING REMARKS

Bill Hinkle, Wireless Enhanced 9-1-1 (WE9-1-1) Expert Working Group Chairman, Jeff Paniati, DOT ITS Joint Program Office Deputy Director, and Dr. Jeffery Runge, National Highway Traffic Safety Administration Administrator provided opening remarks. Mr. Hinkle outlined objectives for the WE9-1-1 Expert Working Group, including:

- Exchange information on what is being done nationally in terms of WE9-1-1 deployment;
- Identify deployment barriers and potential solutions that the Office of the Secretary could assist;
- Define success factors for deployment;
- Identify specific timelines for activities; and
- Develop an action plan for this group to foster accelerated deployment.

Mr. Hinkle welcomed participants and thanked them for their involvement in the WE9-1-1 Expert Working Group. Participants were then asked by Mr. Hinkle to introduce themselves.

Dr. Runge opened with a call for help in the development of a strategy that leads to successful accelerated national deployment of WE9-1-1. Further, he emphasized that this Expert Working Group has been assembled because members are industry leaders who understand the technical, institutional, and funding issues associated with the DOT Initiative.

Mr. Paniati stated the Federal Highway Administration recognizes that public safety is a critical element of meeting transportation objectives nationally. Further, he stated that WE9-1-1 is a critical element that underpins transportation issues relating to public safety. With this in mind, Mr. Paniati pledged commitment and support to WE9-1-1 activities.

DOT INITIATIVE AND NATIONAL SUMMIT

John A. Flaherty, DOT Chief of Staff, provided an overview of the DOT's Wireless E9-1-1 Initiative. He commented that we already know the likely benefits of WE9-1-1 and that we can't simply allow this initiative to become a "summit and white paper." Collectively, we need to move forward with deployment. Further, Mr. Flaherty stated that this Expert Working Group has the political and technological leadership to make national deployment of WE9-1-1 a reality. Throughout his presentation, Mr. Flaherty emphasized commitment to the initiative on behalf of both himself and Secretary Norman Y. Mineta.