
ITS Projects in FY 2003

NTIA Projects

Audio Quality Research Identify and contribute to selected open questions in the areas of digital speech and audio compression, transmission, and quality assessment. Develop techniques for more robust coding and transmission of speech and audio over lossy and noisy channels. Deliverables include technical publications, algorithms, and technical presentations and laboratory demonstrations as requested.

Project Leader: Stephen D. Voran (303) 497-3839
e-mail svoran@its.bldrdoc.gov

Broadband Wireless Research Collect broadband radio-wave propagation data between 100 MHz and 100 GHz, to promote new technology to increase spectrum utilization by increasing radio-channel capacity. Data are used to verify signal coverage, model development, and military communications system reliability. Deliverables include NTIA Reports and a journal article.

Project Leader: Peter B. Papazian (303) 497-5369
e-mail ppapazian@its.bldrdoc.gov

Broadband Wireless Standards Develop technical means to improve predictions of signal coverage and interference for 3G wireless services through support to ITU-R, to Public Safety community interests in TIA TR-8 (Project 25), and to other organizations; enhance or refine propagation-related models as needed; develop evaluations of and recommendations for spectrum optimization techniques. Deliverables include standards contributions and a technical paper.

Project Leader: Paul M. McKenna (303) 497-3474
e-mail pmckenna@its.bldrdoc.gov

Network Interoperability Derive and use a systems engineering-oriented framework to better understand, and address, the integral components/elements of interoperability and their associated technical issues; analyze real world interoperability issues in the laboratory and use the results to ensure the utility of the framework.

Project Leader: Randall S. Bloomfield (303) 497-5489
e-mail rbloomfield@its.bldrdoc.gov

Network Performance Provide objective, expert leadership and key technical contributions in ITU-T and related U.S. industry committees responsible for developing broadband network performance, Quality of Service (QoS), and resource management standards.

Project Leader: Neal B. Seitz (303) 497-3106
e-mail nseitz@its.bldrdoc.gov

Networking Technology Continue the development of networking technology methodologies and tools to address network management and network security/protection issues. Deliverables include a technical report.

Project Leader: Val Pietrasiewicz (303) 497-5132
e-mail valp@its.bldrdoc.gov

Policy Support Provide engineering and technical support to NTIA in telecommunications policy development. Provide support on various near-term issues, including broadband wireless access, 3rd generation wireless systems, privacy issues, information technology advances, and critical infrastructure protection.

Project Leader: Alan W. Vincent (303) 497-3500
e-mail avincent@its.bldrdoc.gov

RSMS Development Develop new spectrum measurement capabilities for the third-generation Radio Spectrum Measurement System (RSMS-3), including automated report production capability for broadband spectrum survey results, new digital signal processing (DSP) capabilities, data acquisition software to operate with a new generation of spectrum analyzers, acquisition and integration of a digitizer and a digital oscilloscope, and miscellaneous new measurement capabilities.

Project Leader: J. Randy Hoffman (303) 497-3582
e-mail rhoffman@its.bldrdoc.gov

RSMS Fourth Generation Development Develop and implement the fourth generation Radio Spectrum Measurement System equipped with state-of-the-art instrumentation, measurement methods, and analysis capabilities. Deliverables include the functional RSMS 4th generation vehicle, basic wideband stepped measurement, and front-end preselector modules.

Project Leader: J. Randy Hoffman (303) 497-3582
e-mail rhoffman@its.bldrdoc.gov

RSMS Operations Provide NTIA with critical measurement support to determine broadband spectrum occupancy across the U.S.; resolve interference problems involving Government radio systems; and determine the emission characteristics of radio transmitter systems that may affect Government operations or that may be acquired by Government agencies.

Project Leader: J. Randy Hoffman (303) 497-3582
e-mail rhoffman@its.blrdoc.gov

Spectrum Efficiency and UWB Consultation

Provide technical planning and support to OSM on several technical tasks regarding possible changes to Federal Land Mobile Radio systems that could result in a substantial increase in spectrum efficiency and effectiveness. Deliverables include a report and standards contributions.

Project Leader: Robert J. Matheson (303) 497-3293
e-mail rmatheson@its.blrdoc.gov

Spectrum Regulation and Engineering Support

Provide NTIA with critical analysis and measurement support in the following areas: ITU-R Working Party 8B radar issues; assessment of emissions from PC-type computers and small electric appliances for comparison with ultrawideband device emissions; and development of formulas (or computational algorithms) for the necessary bandwidth of swept-frequency (“chirped”) radar signals. Deliverables include technical reports.

Project Leader: Frank H. Sanders (303) 497-7600
e-mail fsanders@its.blrdoc.gov

Table Mountain Modernization Provide a clean, useful research facility to allow continued work in areas supporting the Government’s role in telecommunications. Work includes cleanup, safety issues, and site infrastructure upgrades.

Project Leader: John D. Ewan (303) 497-3509
e-mail jewan@its.blrdoc.gov

Table Mountain Research Project Expand ITS research activity at the Table Mountain field site through the creation of a laboratory for the study of measurement methods and techniques needed to ascertain spectrum utilization and occupancy, and methods for measuring and characterizing radio noise.

Project Leader: J. Wayde Allen (303) 497-5871
e-mail wallen@its.blrdoc.gov

Third Generation Wireless Develop an accurate attenuation, frequency selective fading, noise, and interference radio channel models for proposed third generation wireless standards, to be used by both industry and Government. Deliverables include reports which disseminate the results of tasks to the public.

Project Leader: Robert J. Achatz (303) 497-3498
e-mail rachatz@its.blrdoc.gov

Third Generation Wireless Interference Modeling and Characterization

Building on previous ITS work, develop interference models for each PCS technology, apply the models in characterizing one-on-one, one-on-many, and many-on-one PCS interference for 3G architectures, and determine operational guidelines and other practical means of mitigating observed interference effects. Deliverables include a publication and contributions to a handbook to be used by network planners and field personnel.

Project Leader: Timothy J. Riley (303) 497-5735
e-mail triley@its.blrdoc.gov

Video Quality Research Develop the required technology for assessing the performance of digital video transmission systems such as direct broadcast satellite, digital television, HDTV, video teleconferencing, telemedicine, and e-commerce, and actively transfer this technology to other Government agencies, end-users, standards bodies, and the U.S. telecommunications industry. Deliverables include technical publications, video quality measurement algorithms and software, and technical standards contributions.

Project Leader: Stephen Wolf (303) 497-3771
e-mail swolf@its.blrdoc.gov

Other Agency Projects

Department of Commerce/National Institute of Standards and Technology

OLES Communication Standards Provide engineering support, scientific analysis, technical liaison, and test design and implementation to allow the identification/development and validation of interoperability standards for the justice/public safety/homeland security (J/PS/HS) community, and other communication system products and services supporting telecommunications and information technology (IT) needs. Provide technical assessments and evaluations of existing and emerging commercial products and services that may provide interim solutions for various interoperability scenarios. Deliverables include standards contributions, reports, economic impact statements, guidelines, handbooks, white papers, and other products as requested.

Project Leader: Val J. Pietrasiewicz (303) 497-5132
e-mail valp@its.bldrdoc.gov

Department of Defense

Communication System Planning Tool (CSPT) Model Development Enhance the Communication System Planning Tool (CSPT) developed by ITS, by including an indoor propagation model and improved visualization.

Project Leader: Robert O. DeBolt (303) 497-5324
e-mail rdebolt@its.bldrdoc.gov

Enhancements to CSPT for DOD Enhance the ITS CSPT model by upgrading the tool to state-of-the-art GIS systems, and beginning the development of an indoor/indoor-outdoor propagation model.

Project Leader: Robert O. DeBolt (303) 497-5324
e-mail rdebolt@its.bldrdoc.gov

Forecast of Emerging Secure Wireless Telecommunications Technologies Research emerging and evolving wireless technologies (voice, data, video, and integrated services), then conduct forecasts, map trends, and develop a series of reports that discuss the analysis, survey, and impact of those telecommunications technologies.

Project Leader: Christopher Redding (303) 497-3104
e-mail credding@its.bldrdoc.gov

International Symposium on Advanced Radio Technologies Develop and conduct the symposium that addresses emerging, advanced wireless technologies that offer wide application and may affect how the radio spectrum is used. Gather information on these technologies and applications for the sponsor.

Project Leader: J. Wayde Allen (303) 497-5871
e-mail wallen@its.bldrdoc.gov

Department of Justice/Wireless Management Office

Land Mobile Radio (LMR) Usage Statistics and Engineering Studies Assist the Wireless Management Office's high-level system design efforts aimed at planning the Justice Wireless Network (JWN) by characterizing traffic among Justice law enforcement agencies in selected urban areas, and by performing other research and engineering activities as requested.

Project Leader: Eldon J. Haakinson (303) 497-5304
e-mail ehaakinson@its.bldrdoc.gov

Department of Treasury

Public Safety Wireless Network (PSWN) Engineering Studies Provide engineering studies for the PSWN to evaluate interference to Public Safety systems, to compare system architectures, to evaluate system components for interoperability, and to support additional projects as directed by the PSWN.

Project Leader: Eldon J. Haakinson (303) 497-5304
e-mail ehaakinson@its.bldrdoc.gov

Department of Treasury Technical Studies Provide support for the Department of Treasury efforts to evaluate technologies and spectrum options due to changes that result from equipment and band policy changes.

Project Leader: Eldon J. Haakinson (303) 497-5304
e-mail ehaakinson@its.bldrdoc.gov

Federal Aviation Administration

FAA Radio Frequency Interference Monitoring System (RFIMS) Support Disassemble the RFIMS laboratory and ship the FAA property to the FAA.

Project Leader: Brent L. Bedford (303) 497-5288
e-mail bbedford@its.bldrdoc.gov

Federal Highway Administration

Technical Support for Implementation of a Nationwide DGPS Service Provide technical support in the development of a differential Global Positioning System (DGPS) radio beacon network for nationwide availability of precision navigation and positioning radio signals. Support includes frequency assignment searches of Government databases; analysis of propagation and interference issues; and electromagnetic compatibility analyses.

Project Leader: John J. Lemmon (303) 497-3414
e-mail jlemmon@its.bldrdoc.gov

Federal Railroad Administration

Railroad Telecommunications Study Continue general support to the Federal Railroad Administration as it pertains to railroad telecommunications and the activities of the Wireless Communications Task Force (WCTF).

Project Leader: John M. Vanderau (303) 497-3506
e-mail jvanderau@its.bldrdoc.gov

Miscellaneous Federal and Non-Federal Agencies

Telecommunications Analysis Services Make available to other Government agencies and to the public, through user-friendly computer programs, a large menu of engineering models, scientific and informative databases, and other useful communication tools.

Project Leader: Gregory R. Hand (303) 497-3375
e-mail ghand@its.bldrdoc.gov

National Communications System

Coordination of Land Mobile Radio Deployment Initiatives Provide engineering studies for the Public Safety Wireless Network (PSWN) to evaluate interference to public safety systems, to compare system architectures, to evaluate system components for interoperability, and to support additional projects as directed by PSWN.

Project Leader: Eldon J. Haakinson (303) 497-5304
e-mail ehaakinson@its.bldrdoc.gov

Digital Land Mobile Radio Standards

Development Assist NCS-N2 in developing a comprehensive set of interoperability standards for digital land mobile radio to support law enforcement, public safety, and other critical NS/EP operations. Serve as NCS representative on the Project 25 steering committee and the TIA TR 8 committee, lead the Encryption Task Group, provide systems engineering support to other Task Groups, develop Project 25 Phase 3 security standards, and coordinate Project 25 activities with other Federal users.

Project Leader: William J. Pomper (303) 497-3730
e-mail wpomper@its.bldrdoc.gov

Network Reliability and Restoral Reduce vulnerabilities and enhance restoral capabilities in public telecommunication networks by spearheading the development of network reliability, restoral, and emergency service standards in T1A1 and related standards organizations; apply computer simulation, reliability analysis, security analysis, and traffic engineering to assist NCS in assessing and optimizing public network reliability, identifying network disruptions, promoting security enhancements, and restoring services, in support of Critical Infrastructure Protection (CIP) initiatives.

Project Leader: Arthur A. Webster (303) 497-3567
e-mail awebster@its.bldrdoc.gov

Packet Switched Networks Facilitate the development of Recommendations defining Emergency Telecommunications Service (ETS) capabilities in ITU-T Study Group 9. Apply computer simulation, laboratory studies, security analyses, and/or traffic engineering to assist NCS in advancing NS/EP, PDD-63, and associated Homeland Security and Critical Infrastructure Protection (CIP) initiatives in broadband cable television networks.

Project Leader: Arthur A. Webster (303) 497-3567
e-mail awebster@its.bldrdoc.gov

Standards Promulgation Support Advance NS/EP standards development and implementation initiatives in national and international forums; promulgate and coordinate results. Deliverables include project planning documents, technical leadership and administrative assistance in standards development activities, biannual program review presentations, and quarterly project status reports.

Project Leader: Neal B. Seitz (303) 497-3106
e-mail nseitz@its.blrdoc.gov

Voice Over Packet and Strategic Interoperability

Assist NCS and its Member Organizations in defining, promoting, and implementing telecommunication technology enhancements supporting NS/EP and critical infrastructure protection (CIP) needs. This will include participating in the TIA TR41 Standards Formulating Group (SFG) with emphasis on IP telephony gateways and their supporting infrastructure, developing technical contributions to ensure that user interfaces being developed for IP telephony satisfy NS/EP communications requirements, conducting a research and development effort to examine how TR41 standards can best be exploited to meet NS/EP requirements, and evaluating aspects of strategic interoperability.

Project Leader: Robert Stafford (303) 497-7835
e-mail rstafford@its.blrdoc.gov

Wireless Tasking Identify emerging technologies with strong NS/EP potential, and objectively evaluate their capabilities and limitations in laboratory and field trials under representative (simulated) emergency conditions. As necessary, refine and apply existing instrumentation and methods for wireless network discovery.

Project Leader: Christopher J. Behm (303) 497-3640
e-mail cbehm@its.blrdoc.gov

U.S. Army

Information Systems Engineering Command (ISEC), Fort Huachuca Compare propagation prediction models to help ISEC decide which to use in a specific project.

Project Leader: Paul M. McKenna (303) 497-3474
e-mail pmckenna@its.blrdoc.gov

U.S. Coast Guard

USCG National Distress and Response System (NDRS) Modernization Project Provide technical assistance and services to the U.S. Coast Guard as part of its project to modernize and upgrade the current National Distress and Response System (NDRS). Specifically, assist with the Developmental Testing and Evaluation phase of the project, by attending and monitoring the Formal Qualification Test (FQT) and System Integration Test (SIT).

Project Leader: Patricia M. Raush (303) 497-3568
e-mail praush@its.blrdoc.gov

Cooperative Research and Development Agreements (CRADAs)

Lucent Bell Laboratories

Support for Analysis of Mobile Measurements

Provide information to Lucent to support the analysis of mobile transmission matrix measurement data taken by ITS. This analysis will further the advancement of MIMO technology, important for improving the spectral efficiency of wireless services.

Project Leader: Peter B. Papazian (303) 497-5369
e-mail ppapazian@its.blrdoc.gov