

# RESEARCH AND DEVELOPMENT DIVISION

The origin of the Research and Development Division dates back to December 1965, when newly appointed Colonel E.I. "Mike" Hockaday announced the formation of a Planning and Research Division. Lieutenant F.W. Shadwell was the first director of the division. After the initial organization of the division, Lieutenant John H. Little, a recent graduate of the Northwestern University Traffic Institute Command Course, was appointed to lead the component in 1967.

During the late 1960s, the Planning and Research Division established the first personnel and promotional procedure system. This system consisted of the first written promotional tests and oral interviews. The division also was involved in applying for and administering the Federal Grants-In-Aid program. Items purchased with funding through the program included 10 videotape recorder/players for \$38,000. An additional \$200,000 was obtained as supplemental funding for the new Academy building. After a comprehensive, two-year effort to rewrite the Patrol Operations Manual, division members completed the task in 1969. The manual had not been fully revised since 1958.

During the early 1970s, the Planning and Research Division obtained a full-time stenographer and continued the coordination of grant funding. In 1971, grant funding exceeded \$1 million for the Patrol and other Missouri agencies. This funding included grants for law enforcement training conducted by Central Missouri State College. During this time, the division assumed responsibility for the design and control of Patrol forms. The success of the forms management process led to the division designing forms for all Missouri Department of Public Safety divisions.

Following department reorganization in 1973, the division was placed under the Staff Services major. The division expanded from four to six officers with the addition of a legal research position and a special liaison position. The special liaison officer ensured proper coordination of efforts between the operational levels of the organization and the Information Systems Division (ISD). In 1973, the division developed the first training bulletins. The division worked with other Patrol divisions to establish a new coding system for traffic and criminal charges. The system was designed for use by all Missouri criminal justice agencies to provide improved arrest statistics. In 1974, the Planning and Research Division was combined with the Personnel Division to become the Personnel/Planning and Research Division. The reorganized division remained under the purview of the Staff Services major.

In 1980, a pre-retirement training program was developed with assistance from the University of Missouri Extension Division. Following a reorganization of the Patrol in 1981, the previously combined Planning and Research Division and

the Personnel Division reverted to separate divisions. Captain Jake Phillips became the second officer to direct the division and served in that capacity from 1981 to 1986.

For most of the 1980s, the division remained organizationally under the superintendent and assistant superintendent. During the early 1980s, the division developed a plan for staff inspection teams from General Headquarters to perform inspections of troop facilities and operations. Other notable programs developed included an improved property control system and a combined effort with the Personnel Division to devise an assessment center promotional process for new lieutenants.

The division also conducted salary surveys of other agencies to determine if pay increases for uniformed members were justified. A similar salary survey was completed to compare civilian employee salaries with other state agencies and private businesses. In 1985, the division coordinated field testing of ballistic vests. This process resulted in the development of a set of written specifications for ballistic vests later purchased by the Patrol. The impact of the Fair Labor Standards Act was a noteworthy research project conducted by the division during the mid-1980s.

In 1986, the Research and Development Division was combined with the Public Information Division to become the Research and Information Division. Captain Ralph Biele was the director of the division followed by Captain Ernest McCutchen in 1989. Drug interdiction guidelines were developed and policies and procedures related to administrative suspensions for drivers having blood alcohol levels at .13 percent or higher were established. In the later part of 1989, the Research and Development Division became a separate division under the leadership of Captain Bill Darnell. As the 1980s closed, the division conducted studies related to the establishment of a professional standards component, tire deflation devices, and the implementation of the \*55 cellular emergency reporting number.

The Research and Development Division was involved in several significant research projects during the early 1990s. These projects included hepatitis B inoculations, the conversion from revolvers to semi-automatic handguns, installation of facsimile machines in troop headquarters and General Headquarters, the electronic submission of reports, shotgun replacement, preliminary breath testing, ballistic vest replacement, radar replacement, and new breath testing instruments.

In 1991, Captain Larry Baucom became the division director. To obtain accreditation from the Commission on Accreditation for Law Enforcement Agencies Inc. (CALEA), the Research and Development Division coordinated the formation of a 14-member team comprised of employees from various troops and divisions. An internship program involving several members was established in the division to further supplement this effort. Lieutenant Ernest M. Raub served as the accreditation manager.

As part of the process to gain compliance with the applicable 923 CALEA standards, the entire Patrol Operations Manual was rewritten. In 1992, at a conference in Biloxi, Mississippi, the Patrol became the 10th state law enforcement agency to attain CALEA accredited status. That same year, the Research and Development Division was placed in the Technical Services Bureau and Captain Roy Bergman became the director. Research projects conducted by the division included drone radar units, radar detector-detectors, speed measuring laser, radar, portable breath testers, and portable cassette audio tape recorder use. Three thousand questionnaires were mailed to Missourians as part of a public opinion survey conducted by the division in cooperation with the Statistical Analysis Center (SAC). In 1994, the division was moved under the Support Services Bureau and Captain Ernest M. Raub became the director. The staff inspection function was moved from the Professional Standards Division to the Research and Development Division. That same year, the first three-year cycle of staff inspections involving all Patrol components was completed.

To improve insight into troop operations during staff inspections, an inspector-in-place program was established. This program utilized lieutenants from other troops during troop staff inspections. An annual meeting of property control officers was initiated to address concerns and to provide specific property control training. During the later part of the 1990s, the Patrol was re-accredited at Tulsa, Oklahoma. The re-accreditation process was significant due to the requirement that agencies demonstrate continued compliance with CALEA standards, related directives, and policies developed during the initial accreditation process. During this time, division personnel also worked with Information Systems Division (ISD) personnel to develop an automated time accounting system. In 1999, division members conducted another ballistic vest selection process and Captain Richard L. Coffey became the division director.

At the turn of the century, the Patrol retained accreditation status for a third time at the CALEA conference in Burlington, Vermont. The Patrol demonstrated continuous compliance with the applicable 439 revised CALEA standards. Division employees were involved in an extensive revision of the Patrol Strategic Plan to support the governor's "Show-Me Results" initiative and the Department of Public Safety Strategic Plan. The division worked with the Field Operations Bureau and ISD to implement an automated Officer Activity Report to facilitate the collection of information supporting compliance with the new Missouri racial profile law.

In mid-2001, Captain Timothy G. Baysinger became the director of the division. Significant projects involving division personnel during the beginning of the new millennium included revision of the Patrol Strategic Plan. The new plan reflected a more practical operational approach, and developed a respiratory protection plan and program, and Mobile Computer Device training for zone officers. The new Strategic Plan continued development of automated forms, which reduces errors and improves reporting efficiencies, and the joint development with ISD and the Crime Laboratory Division of a new automated

property control system utilizing barcodes and readers. The Patrol was re-accredited by CALEA at a conference in Colorado Springs, Colorado in 2003.

During 2006 and 2009, division members, with assistance from temporarily assigned interns, completed file preparations for CALEA on-site assessments. During 2006, the Patrol was re-accredited in Reno, Nevada, and attained Flagship status. Flagship status was bestowed upon accredited public safety agencies that demonstrated success in the accreditation process. The program also served to provide other agencies seeking accreditation with examples of "best practices" on how to address compliance, policy development, file maintenance, and other issues relating to the accreditation process. During 2009 at a conference in Salt Lake City, Utah, the Patrol received a certificate of meritorious accreditation for maintaining continuous CALEA accredited status for over 15 years. The agency was designated a Flagship Agency for the second time in 2009.

During the fall 2010, the division became very involved in preparations for the merger of the Missouri State Water Patrol into the Missouri State Highway Patrol. Division personnel worked closely with Water Patrol personnel prior to the merger to compose directives and forms related to all aspects of marine operations. The transfer of evidence and property from the Water Patrol Division also was coordinated by division personnel.

During 2011, the Patrol began implementing a long-term modernization of several computerized systems known as the Missouri Criminal Justice Modernization Project (MCJMP). Division personnel worked closely with ISD employees, personnel from troops and other Patrol divisions, and vendors during the development, training, and implementation of the FATPOT mobile client with Automated Field Reporting (AFR) and Niche Records Management System (RMS) software programs. Due to the expansive scope of the MCJMP project, implementing new software applications to support Patrol business practices will be an ongoing long-term project.

The Patrol earned a seventh reaccreditation award from CALEA during November 2012. The advanced reaccreditation included an Award of Excellence, which recognized the agency as a model for the delivery of enhanced public safety services and management professionalism.

On March 1, 2013, the Statistical Analysis Center (SAC) was reassigned from the Information and Communications Technology Division to the Research and Development Division. The SAC is responsible for a wide range of research, technical, and statistical analytical support to federal, state, and local authorities, as well as policymakers and the citizens of Missouri.

During 2014, the Forms and References Section was divided. The Research and Development Division retained form management and revision responsibilities, while technical aspects of forms development and support were transferred to the Information and Communications Technology Division. The legislative bill and fiscal note review function was moved to the Research and

Development Division from the Budget and Procurement Division on July 1, 2014. Captain Rex Scism became the division director on September 1, 2014.

On January 1, 2015, the division was aligned into two primary operational sections; each managed by an assistant division director. Both sections are designed to leverage existing capabilities and maximize operational enhancements designed to support the division's primary goals of optimizing organizational efficiency, while enhancing operational performance and employee safety. RDD also eliminated antiquated paper storage requirements and completed digital archiving of important documentation, while submitting other historical files to state archives.

The departmental fiscal notes process migrated to RDD in July 2014; with 2015 marking the first full year of newly enhanced division responsibilities. RDD coordinated efforts and development of an electronic workflow feature, which replaced the antiquated hard file sharing/migration of fiscal note documentation.

During 2015, RDD conducted research and field testing on new duty belt configurations, which included exploration of new magazine and handcuff cases. A handcuff case with integrated personal protective equipment (PPE) pouch was assessed and ultimately approved to afford officers the capability of storing protective gloves on their person. RDD also coordinated efforts to service mark the distinctive Patrol emblem. The emblem is now protected from misuse and Special Order #17 was adopted to provide employees guidance related to reproduction and acceptable use of the emblem. RDD also began coordinating efforts for an extensive research project related to body worn cameras, in addition to researching a comprehensive risk management plan for the agency. Finally, during 2015, RDD also implemented an ongoing statewide internship program.

The SAC worked diligently to expand its level of academic partnerships, completing one study with the University of Missouri—St. Louis (sex offender study) and entering into two new studies with both the University of Missouri—Columbia (crime victimization study) and Missouri State University in Springfield, MO, (domestic violence study). Both latter partnerships involve over \$200,000 in grant funding from the Bureau of Justice Statistics, which represent the largest projects of this magnitude the SAC has been involved with to date. Additional academic partnerships were forged with the University of Missouri—Columbia, Schools of Engineering and Geography, in addition to an enhanced relationship with MoDOT. These studies not only resulted in information relevant to modern policing, but also fostered ongoing academic partnerships.

In March 2015, RDD instituted the Component CALEA Compliance Accreditation Representative program whereby each organizational component selected personnel dedicated to assisting with identification and selection of accreditation proofs of compliance. The Patrol is held to nearly 400 accreditation standards and this effort has largely fell upon RDD for tracking down the exhaustive amount of proofs agency wide. Training of these accreditation

representatives took place during this period and in November 2015, the Patrol successfully completed and was awarded its eighth consecutive reaccreditation acknowledgement by CALEA.

In January 2016, RDD hired a temporary research analyst to assist with compliance of the Edward Byrne Memorial Justice Assistance Grant (JAG). This continuing project involves establishing a series of policies, procedures, systems, and reporting recommendations by analyzing drug and violent crime environments in the state; assessing effectiveness of existing programs; and offering data and interpretive analysis support for development of new programs. The SAC coordinates their activities with the Department of Public Safety in order to complete the following project goals: 1) Provide baseline information to properly assess Missouri's illicit drug and violent crime problems; and 2) Support successful administration of Missouri's JAG Program by providing needed research, evaluation, and data processing services.

In July 2016, the SAC received \$135,036 in grant funding from the Missouri Department of Transportation to implement a predictive analytics program designed to reduce traffic fatalities. Through this project, the SAC will develop and deploy predictive analytical crash models designed to improve highway safety and decrease the number of fatal crashes. This multidimensional program will ultimately enable supervisors and commanders to access dashboard functions that assist with coordinating appropriate deployment of Patrol resources.

In October 2016, the SAC began working with the Missouri Department of Health and Senior Services for the establishment of a Missouri Violent Death Reporting System. This system will enable SAC to collect and disseminate high quality and comprehensive violent death information through a federal grant under the Centers for Disease Control. The SAC received an additional grant funded temporary employee for the collection and analysis of violent deaths that occur in the state. Upon receiving a monthly death query from the MDHSS, the employee performs data abstraction activities and enters all applicable variables directly into the MVDRS database.

In November 2016, RDD assisted with and coordinated the successful first year reaccreditation review pursuant to CALEA's updated four-year review cycle. This process featured full integration of both organizational policy and compliance standards within the PowerDMS platform.

RDD consulted on and assisted with deployment of a centralized data capture, transfer, and storage effort for in-car video evidence historically held on local zone servers. This process will enable centralized retention of evidentiary videos, while promoting more accurate retention of nonevidentiary videos that are retained in accordance with agency report retention schedules. RDD provided information and offered guidance on a variety of other projects throughout the year in addition to providing division support to multiple components. In 2016, a comprehensive white paper regarding the viability of accreditation was published

and disseminated to component commanders, as was a comprehensive analysis of federal reporting programs related to use of force and in custody deaths.

During 2017, RDD completed these comprehensive studies: Fatigue, 10-Hour Shifts, Usage of Naloxone for Opioid Overdose Victims, and Residency Requirements. The viability of a change in duty leather was studied once again because the addition of a Conductive Electrical Weapon to an officer's current duty belt configuration created a lack of space around the waistline. These studies helped the Patrol's Command Staff make informed decisions regarding changes in equipment and policy. Certain members can now carry Narcan® for opioid overdose victims and an under-belt with keepers is authorized wear for members needing more space on their waist for equipment. Also, members assigned to certain metropolitan patrol areas have relaxed residency requirements.

In 2017, RDD successfully developed and implemented processes for components and stakeholders to review and edit forms and directives electronically. These processes created an environment which expedites information flow and supports greater fiscal responsibility by reducing the amount of resources necessary to complete the tasks.

In 2019, fiscal notes were reassigned to the Budget and Procurement Division. In November 2019, the Patrol received its ninth consecutive CALEA accreditation.

On January 1, 2020, Captain Jason N. Crites took over as director of the Research and Development Division.

Shortly thereafter, the coronavirus (COVID-19) pandemic forced the Patrol to rethink many things, including how employees work. Due to the infection potential associated with having all division personnel present in the office, many employees were allowed to telework during most of 2020, and well into 2021. This technique worked exceptionally well in RDD, allowing this division to not only continue to provide excellent services for the Patrol, but to make improvements to processes that increased efficiency of function in many ways.

For example, the Research and Development Division began providing compressed staff inspections mid-cycle to give commanders and staff a more timely evaluation of component performance. The workflows of Patrol forms and directives began to be managed in PowerDMS to improve efficiency of those processes. Use of SharePoint was expanded for CALEA, forms, and directives to allow the uploading of supporting documents, thus enhancing the effectiveness of each respective function. The SAC began providing a dashboard of vital Patrol data reporting to the governor's office through the Department of Public Safety. A new public Patrol website was created collaboratively with many other divisions, and with significant input from RDD. The new website features the Show-Me Integrity Accountability Portal, which includes public access to Patrol directives. RDD provided an after-action review of the Patrol's response to COVID-19 to the governor's office. Even though it was a difficult year in the shadow of a global health crisis, RDD contributed meaningfully to the Patrol's overall success.

The Research and Development Division was established to discover the best possible solutions to challenges faced by the Patrol. While the duties performed by division employees have evolved significantly over time, the achievements of the division have resulted in an essential and indelible contribution to the overall mission of the Missouri State Highway Patrol.