



2019

Annual Report

Boone County Joint Communications



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Letter from the Director

On behalf of the team at Boone County Joint Communications (BCJC), I am pleased to present our 2019 annual report. BCJC is the 9-1-1 Public Safety Answering Point (PSAP) and dispatch center for police, sheriff, fire, and emergency medical services for the residents and visitors of Boone County, Missouri. We are the vital link between the citizens we serve and our public safety partners.

As the “first” first responders, BCJC strives to provide prompt, courteous, and professional service for all our customers. Through our actions we help save lives, protect property, and assist the public in their time of need. We have been “the calm voice in the dark” for citizens and responders since 1977. Through public support of a dedicated sales tax we continue to elevate the level of service to those who live in and travel through Boone County and we continue to support the operations of the municipalities where our residents live and work.

Our services are provided from a state-of-the-art Emergency Communications Center (ECC) located in northern Columbia, as well as radio towers throughout Boone and surrounding counties. Our dedicated funding and in-house Information Technology support has allowed us to achieve enhanced reliability through system redundancy at the ECC, at an offsite backup, and at a neighboring PSAP.

BCJC is recognized by the International Academies of Emergency Dispatch as an Accredited Center of Excellence in emergency police, fire, and medical dispatch. This was achieved by consistently meeting exacting industry standards and applying best practices for processing thousands of emergency and non-emergency calls for service each year.

Our in-house training program readies each new Emergency Telecommunicator for the challenges ahead as they embark on their career in 9-1-1 call taking and dispatching. With the skills received during training and continuing education, our Emergency Telecommunicators are some of the best trained in their profession. Callers receive exceptional service along with lifesaving instructions on what may be the worst day of their lives.

2019 was our second full year in the ECC. Each day we learn as we grow. Together as a team, everyone at Boone County Joint Communications faces the urgent challenges head-on to ensure Boone County has modern resources and well-trained staff for emergency communications and dispatching. Our employees take pride in serving Boone County and represent the department well through their daily call handling, training new employees, community outreach and 9-1-1 public education.

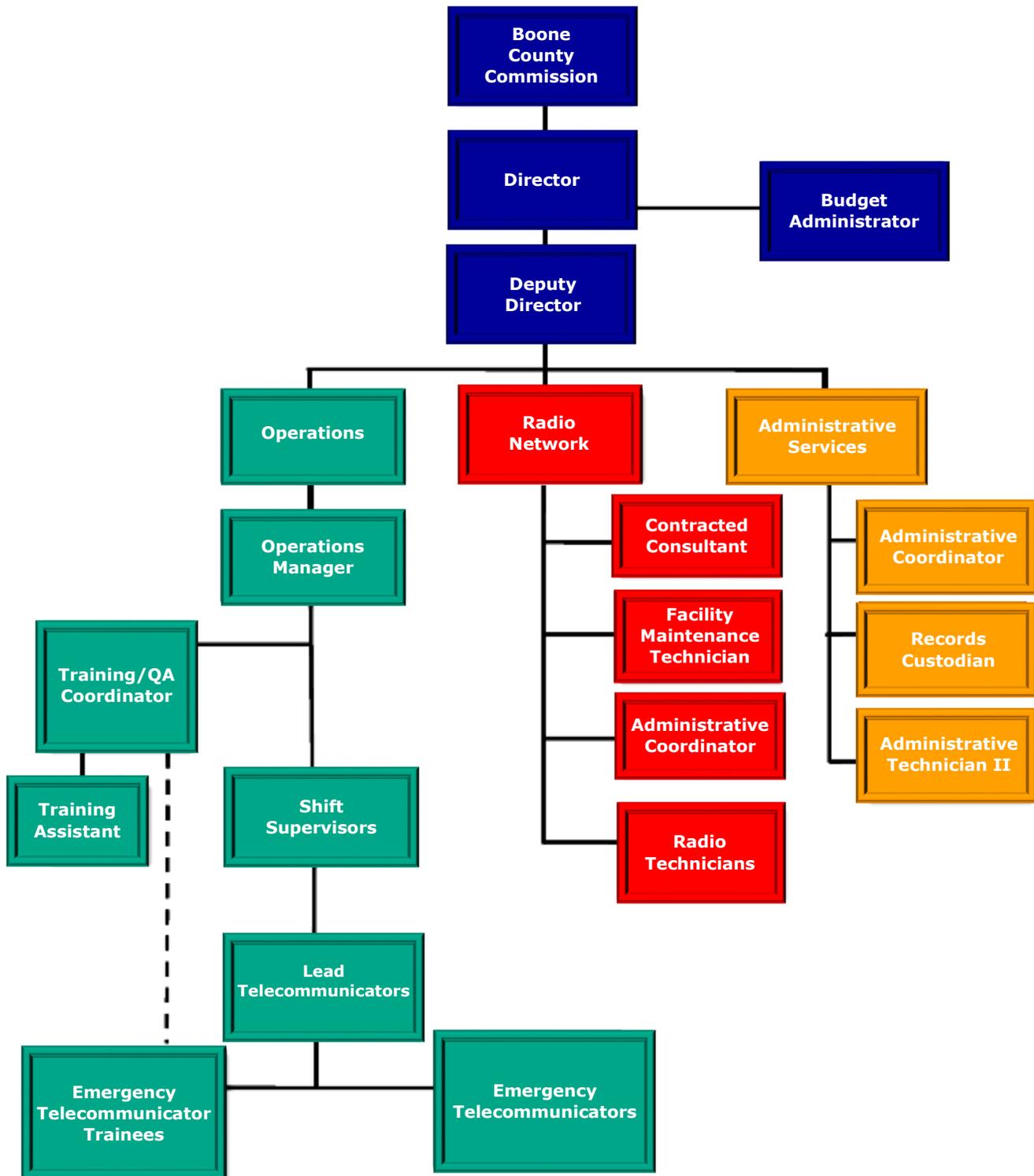
We look forward to the challenges ahead in 2020 as we continue to expand our services to the community.

Sincerely,



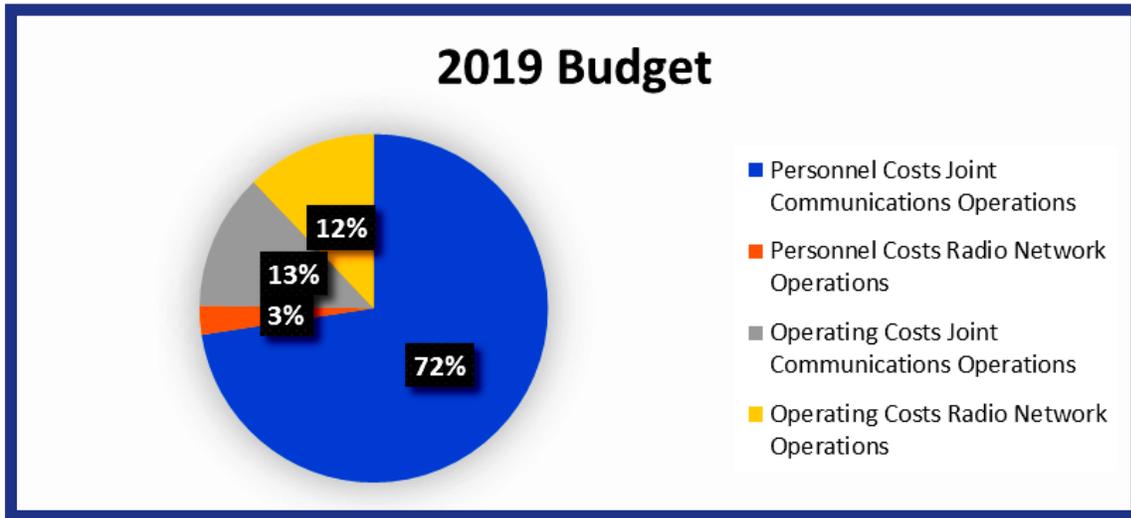
Chad Martin
Director

Organizational Chart



The Deputy Director is the Manager of Administrative Services and takes over the responsibilities of the Director should his/her office be absent or vacant.

2019 Budget



Personnel Costs

Joint Communications Operations	\$ 3,941,340
Radio Network Operations	\$ 145,863

Operating Costs

Joint Communications Operations	\$ 687,031
Radio Network Operations	\$ 657,346

Total 2019 Personnel & Operating Budgets	<u>\$ 5,431,580</u>
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Personnel costs represent 75% of the BCJC budget, appropriately reflecting the primary functions of emergency call taking and dispatching by skilled Emergency Telecommunicators (ETCs). In 2019, 11 ETC positions were added to the personnel budget to continue progress towards service objectives.

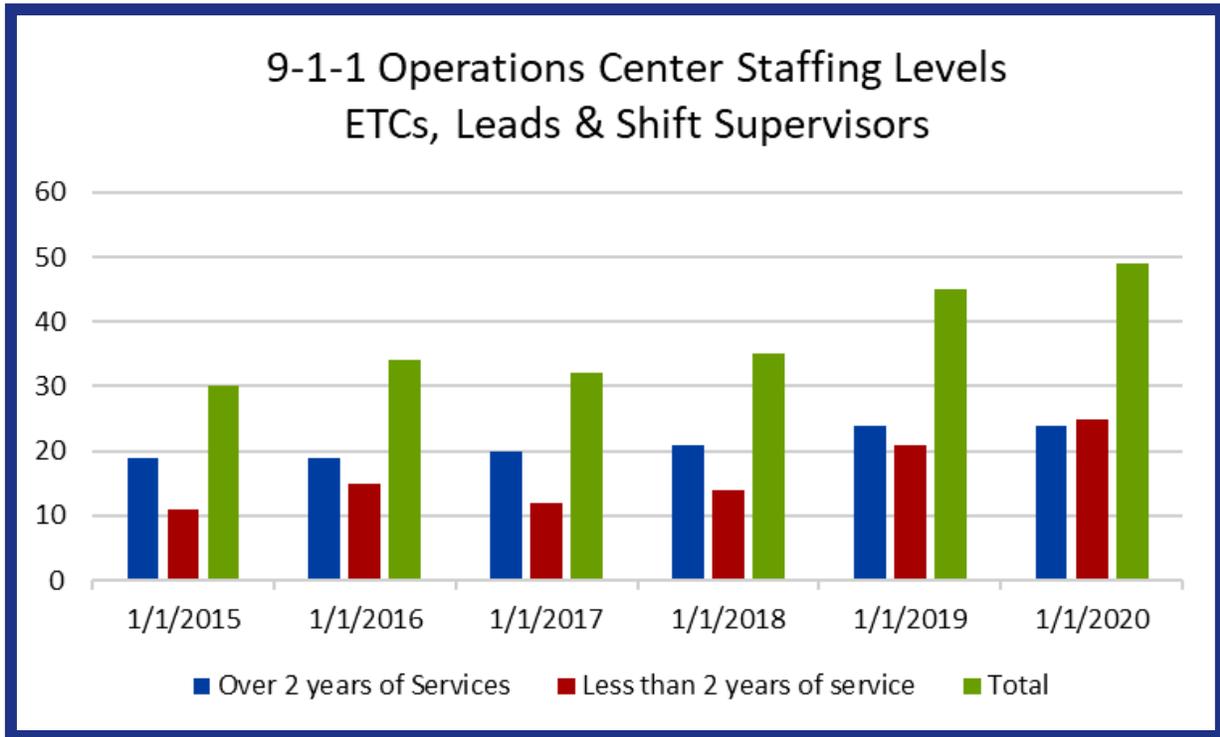
It should be noted that technology related to 9-1-1 is not included in the BCJC budget, as these costs are under the oversight of the Boone County Information Technology department.

Radio Network Operations and support are tracked as their own cost center since it represents a significant portion of operating costs.

In addition to the budget above for on-going costs, \$2,206,380 was set aside in the 2019 budget for Radio Network Improvements, covering costs of planned multi-year projects such as addition the of radio channels and establishing new radio tower locations to improve coverage in under-served geographic areas.

Staffing

As of December 31, 2019, BCJC employed 49 staff in the 9-1-1 Operations Center, including 35 fully trained ETCs and 14 Trainees. 9-1-1 Operations is supported by 9 administrative staff, 2 radio system technicians and 1 part-time maintenance technician.



With 11 additional ETC positions approved in the 2019 budget, a hiring push continued with 20 new hires in 2019. There is historically high turnover among ETCs in their first 2 years of service – only about 1 in 4 ETCs reach their 2-year anniversary. Overall turnover is expected to stabilize over the next few years as more ETCs reach the 2-year mark.

9-1-1 Operations Center Staff Turnover

	2019 Ops Staff	2019 Turnover	
Ops staff over 2 yrs service as of 1/1/19	24	-2	8%
Ops staff under 2 yrs service as of 1/1/19	21	-8	38%
2019 New Hires	20	-6	30%
Overall Turnover	65	-16	25%

Recruiting

Staffing the 9-1-1 Center begins with the recruitment process. In 2019 BCJC participated in 10 career fairs at local colleges, high schools, and community centers.

Several radio advertising campaigns in 2019 on broadcast and streaming channels were key to attracting ETC Trainee applicants, successfully drawing a strong applicant pool for 2019 and 2020 hiring.



BCJC and Human Resources Booth at Moberly Area Community College in Moberly, MO

Hiring

Applicants for ETC Trainee must first pass initial screening and a computer-based skills test before participating in a panel interview and undergoing background checks. Out of 319 applicants in 2019, about 6% accepted job offers and 7% were still in process as of year-end.

Training

The Boone County Joint Communications training division is responsible for training programs that not only develop newly hired staff, but also support the continuing education of existing staff.

Emergency Telecommunicator Trainees

New Emergency Telecommunicator training consists of five phases: certification, academy, examination, on-the-job training (OJT), and Communications Training Evaluation (CTE).

In the certification phase the trainee learns basic skills of an emergency telecommunicator. The trainee receives certification from the American Heart Association in Cardiopulmonary Resuscitation (CPR). This is then followed by certification as an Advanced Emergency Medical Dispatcher (EMD), Emergency Fire Dispatcher (EFD) and Emergency Police Dispatcher (EPD) from the International Academies of Emergency Dispatch (IAED).



Classroom in Emergency Communications Center

The training academy provides trainees with in-depth training on phone answering skills, mapping and geography, computer-aided dispatch (CAD), and dispatch policy and procedures. This phase also includes simulation lab training in which trainees perform advanced call taking and dispatch scenarios in a controlled environment. The academy phase lasts approximately six weeks.

For on-the-job training, the trainee is paired with a certified Communications Training Officer (CTO) and is assigned to a shift. Under the direct supervision of the CTO, the trainee answers and dispatches live emergency and non-emergency calls for service to further develop and master their skills. This phase lasts approximately 16-20 weeks.

The final phase is the Communications Training Evaluation (CTE) phase. The trainee will work on their own. They are assigned to a specially trained Communications Training Evaluator to rate their performance in a list of key areas. At the end of this evaluation period, the evaluator's report will either identify areas the trainee needs remedial training in or will recommend release from training. This phase takes one week.

After the trainee has successfully completed these five phases, they are released from trainee status. In 2019, twenty ETC trainees participated in the Academy.

Continuing Dispatch Education

Continuing education is conducted regularly for all staff members. In 2019, the Emergency Telecommunicator staff completed over 7,000 hours of continuing dispatch education training, which averages out to over 100 hours per employee.

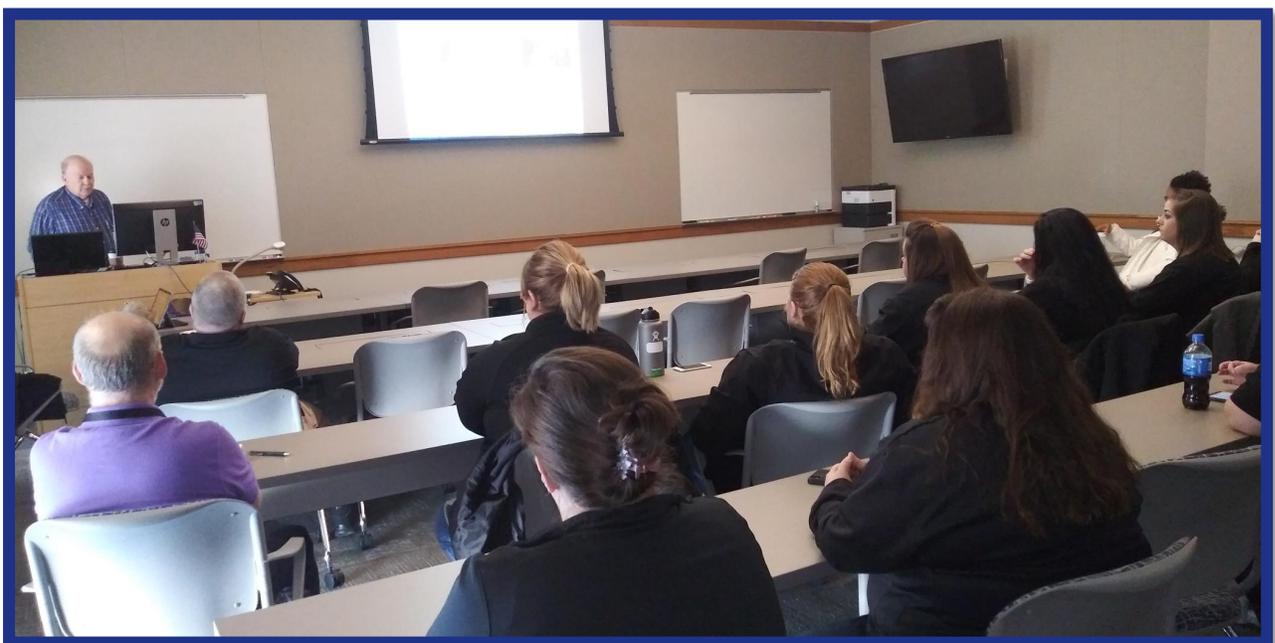
Hosted Training

In 2019, Boone County Joint Communications hosted several training opportunities. These hosted courses are open to staff from other agencies, giving them an opportunity to gain skills to better serve their own communities.

This training included:

- ◆ "Beyond the Protocol" Dispatch Customer Service in January
- ◆ "Critical Incident Training for Telecommunicators" in February
- ◆ "Quality Assurance/Quality Improvement" in July
- ◆ "IAED Emergency Telecommunicator Instructor Course" in September
- ◆ "Communications Training Officer" course in October
- ◆ "Survive & Thrive-Comprehensive Stress Resilience" course in December
- ◆ Certification courses for EMD, EFD and EPD in February, May, August and November

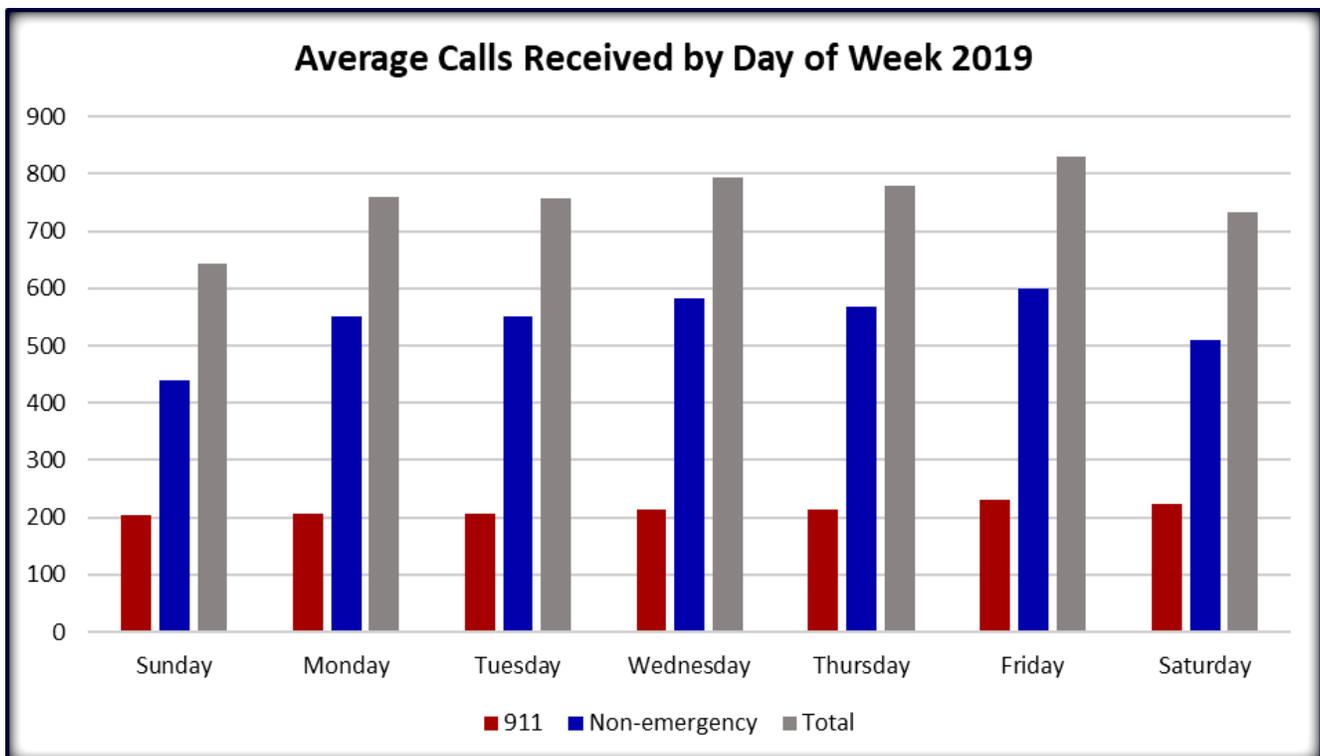
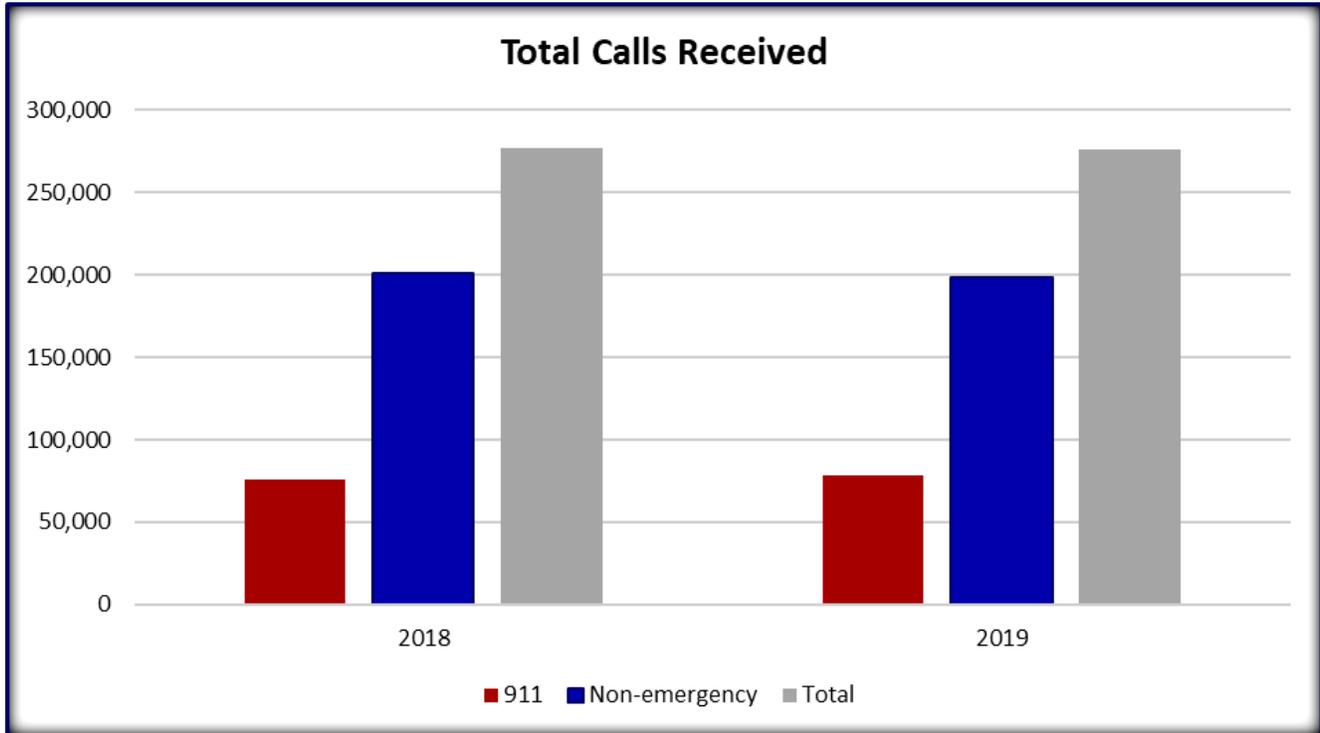
These hosted courses were attended by staff from over 25 different agencies from seven states in addition to our own staff.

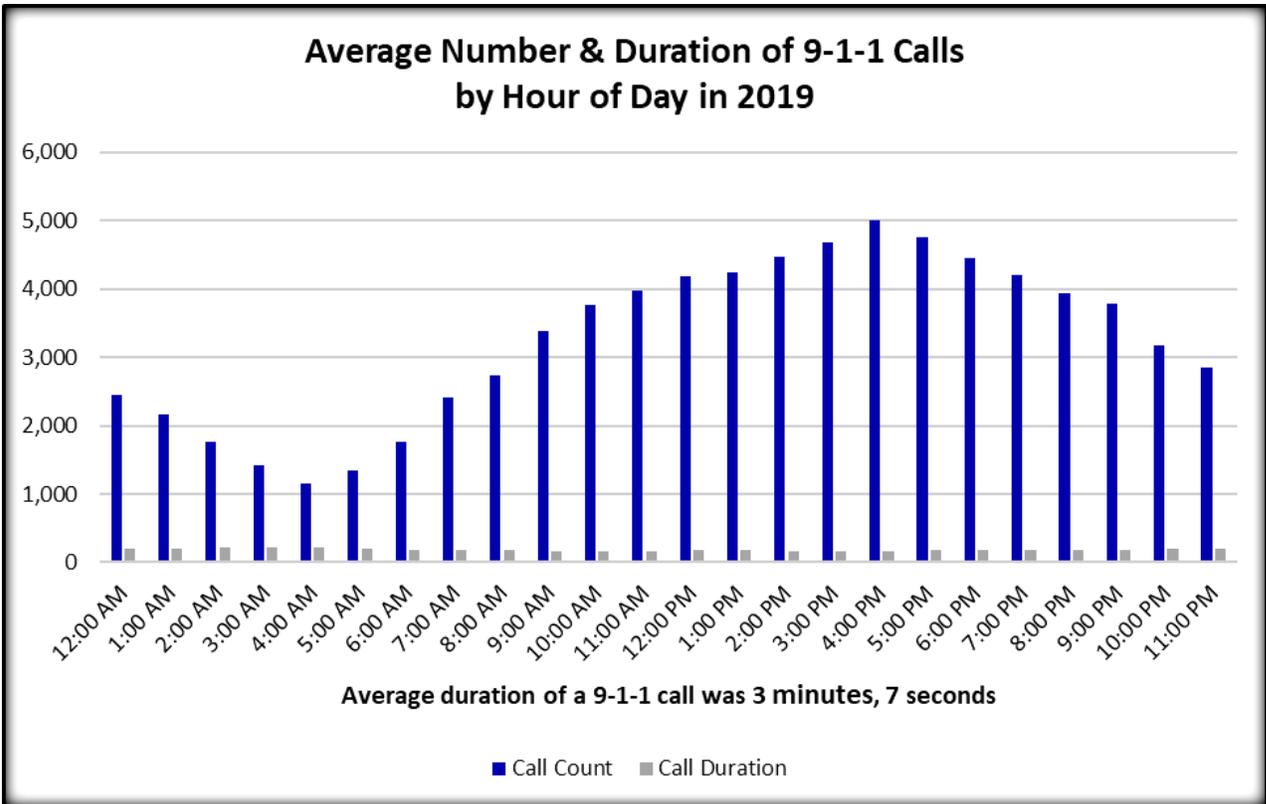
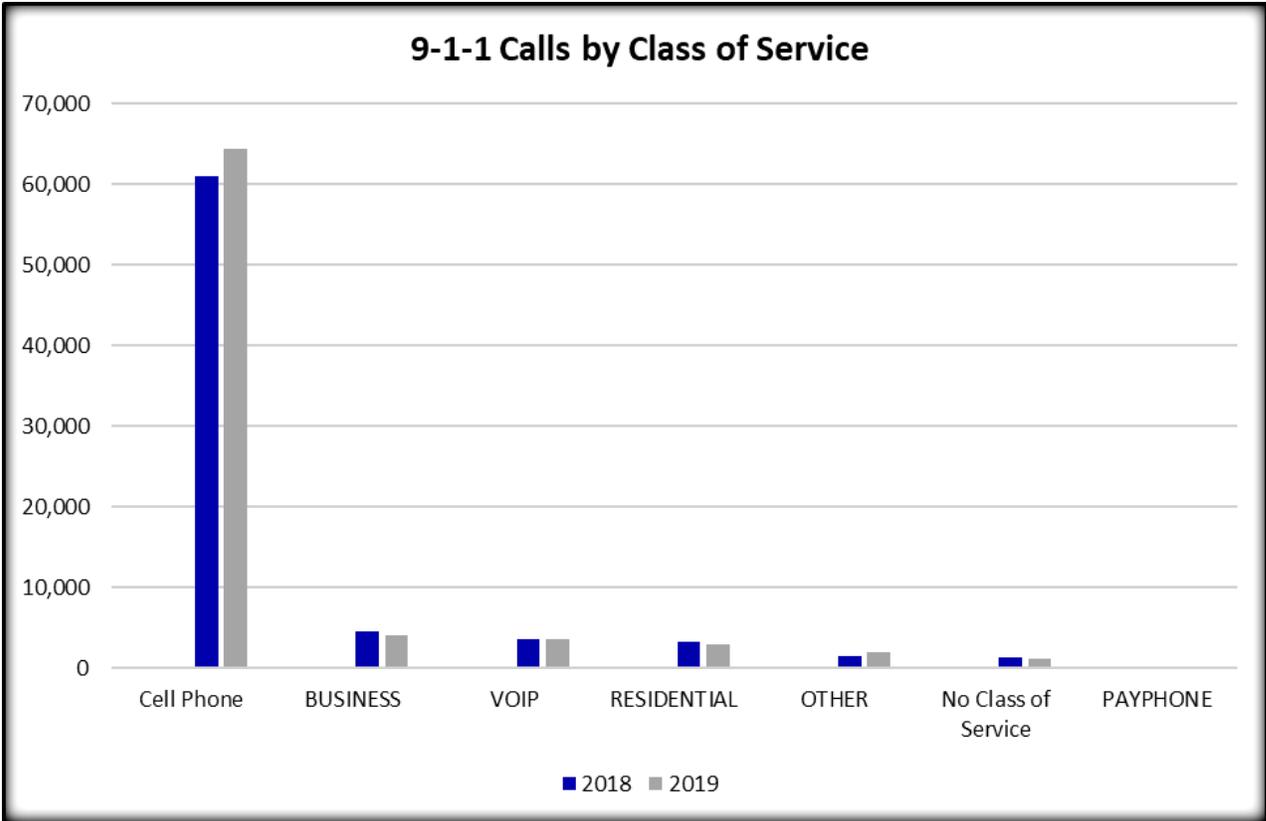


Training in the ECC classroom

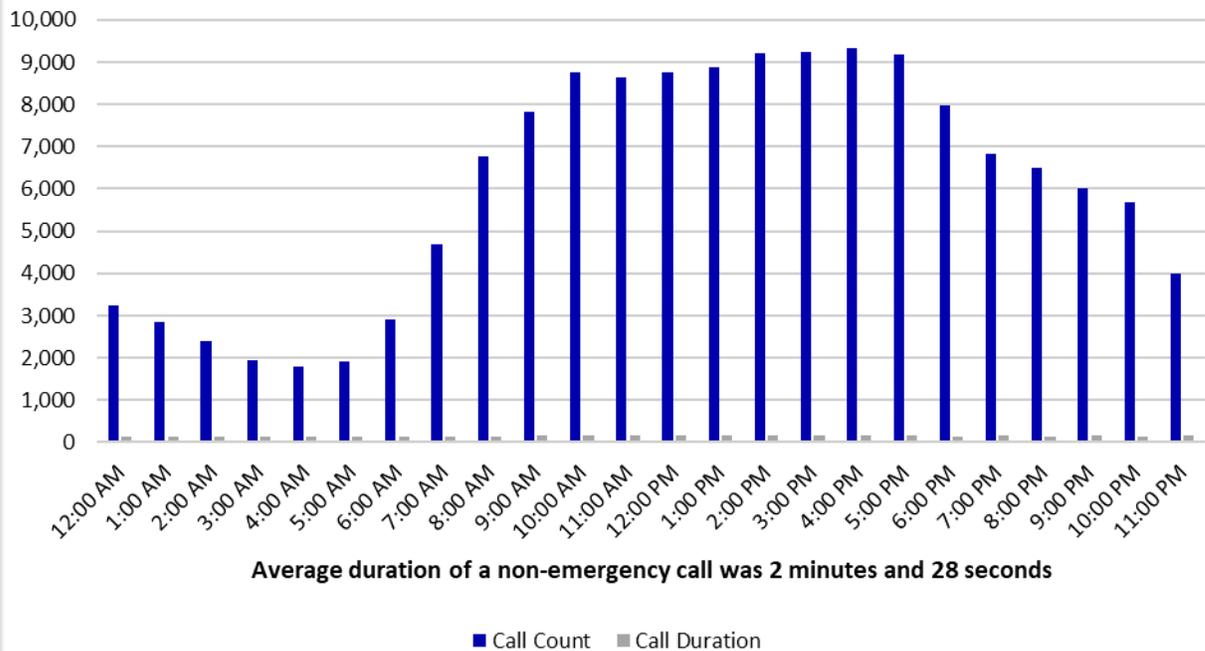
Telephone Data

Computerized telephone technology is utilized to manage incoming emergency (9-1-1) and non-emergency (3-1-1) calls for service and provide operational support to first responders in the field. Telephone system activity is a key indicator of the workload to Emergency Telecommunicators working in the Emergency Communications Center.

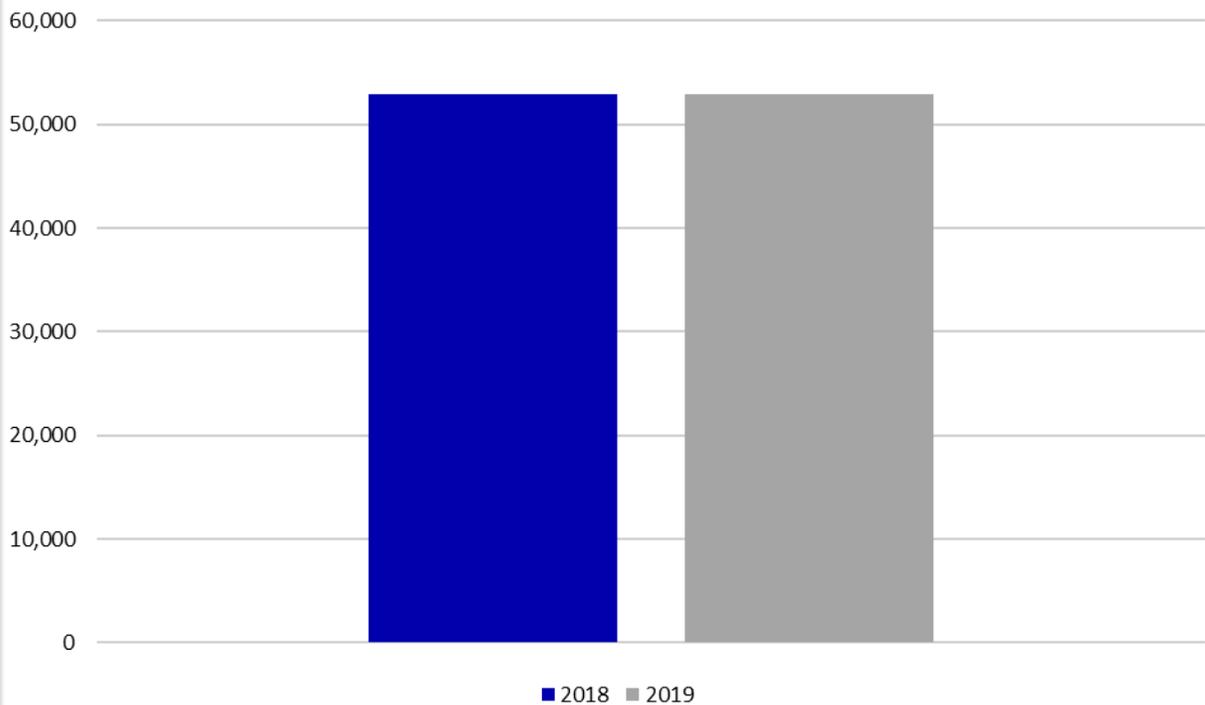




Average Number & Duration of Non-emergency Calls by Hour of Day in 2019

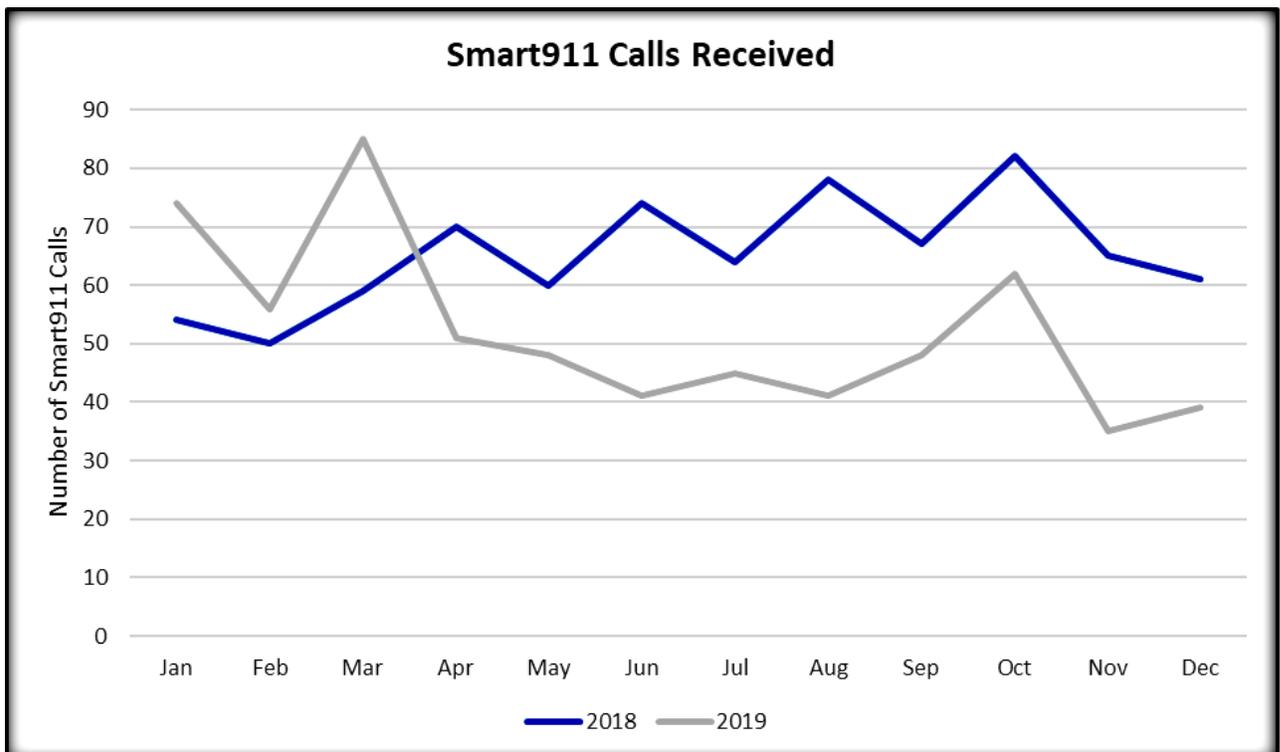
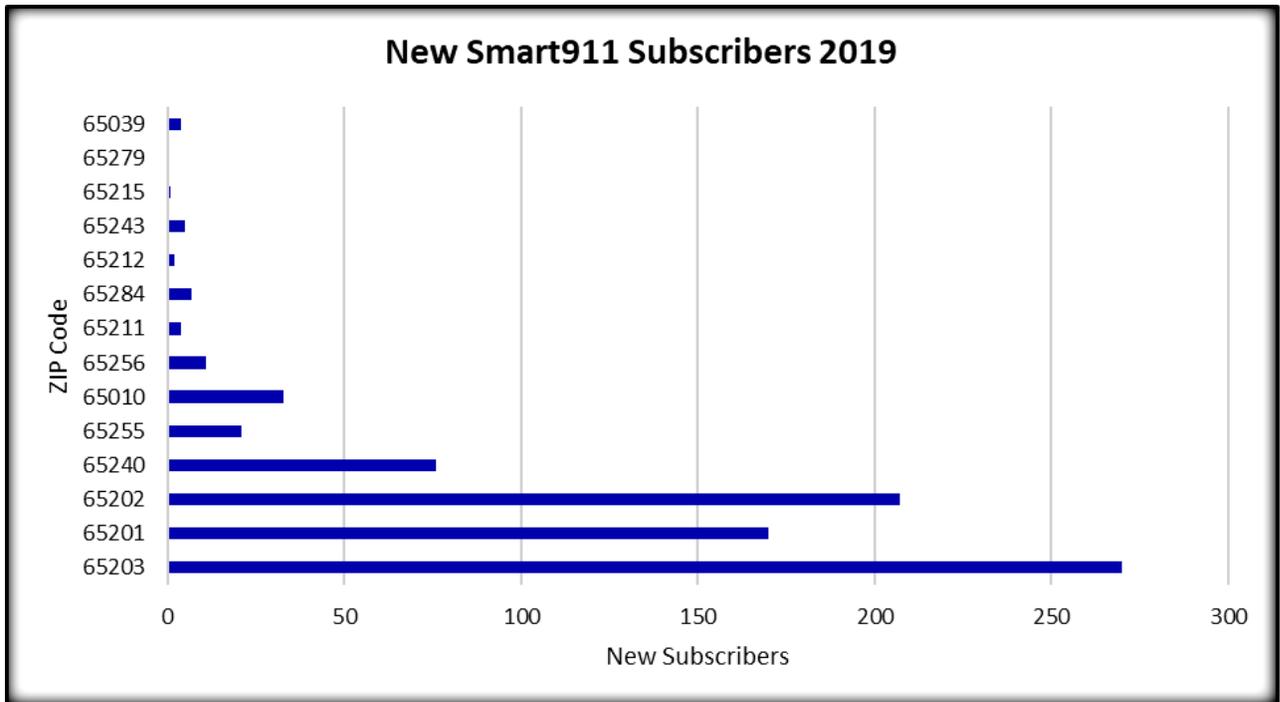


Total Outbound Calls



Smart911

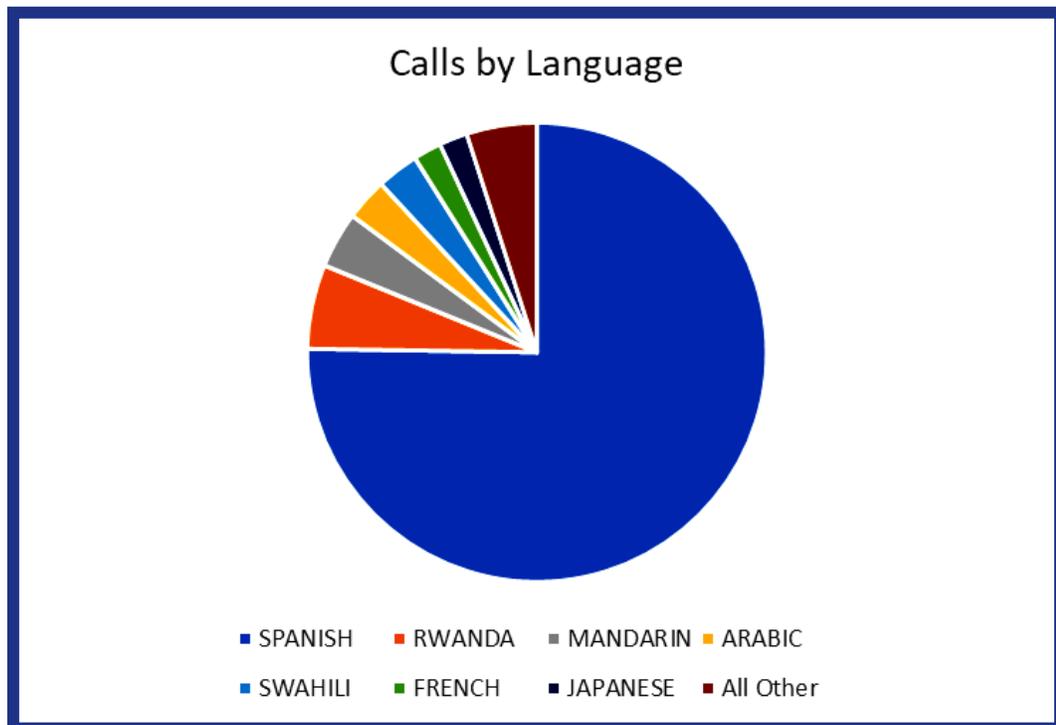
Smart911 enables rapid information sharing of quality information with Emergency Telecommunicators when a subscriber of the system calls 9-1-1. In 2019, there were 823 new subscriptions added to the Boone County system, and there were 625 calls received from subscribers of the service.



Language Translation

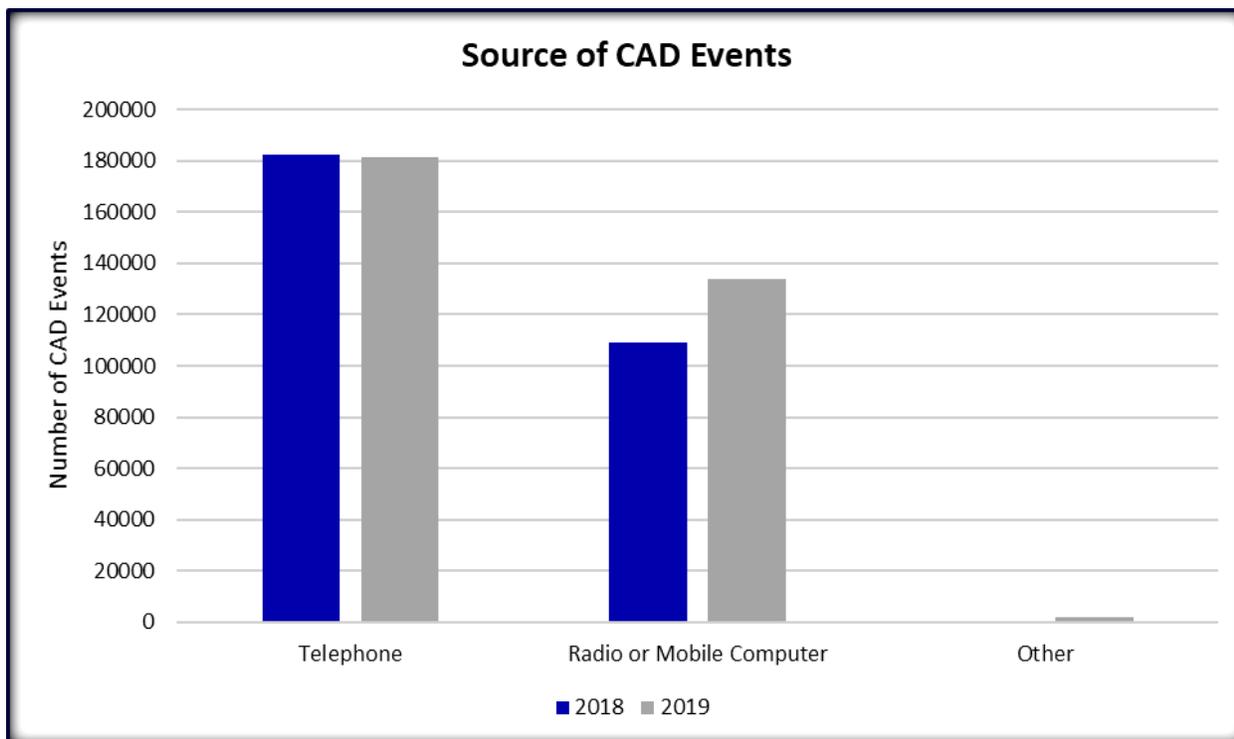
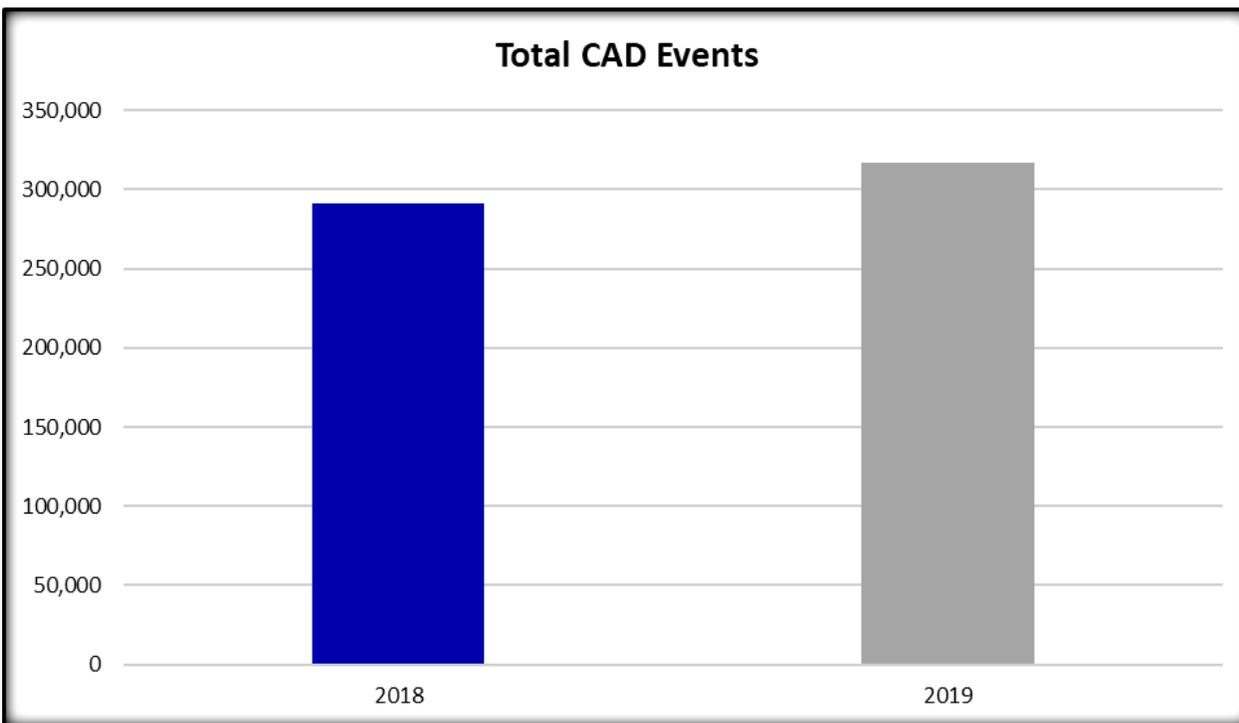
9-1-1 and non-emergency calls sometimes require the use of a language translator. Emergency Telecommunicators connect with specially trained interpreters within seconds to obtain essential information and deliver help. In 2019, 101 calls required translation assistance – a 20% increase from 2018. Most of those calls were Spanish speakers. However, there were also more diverse languages being used among callers.

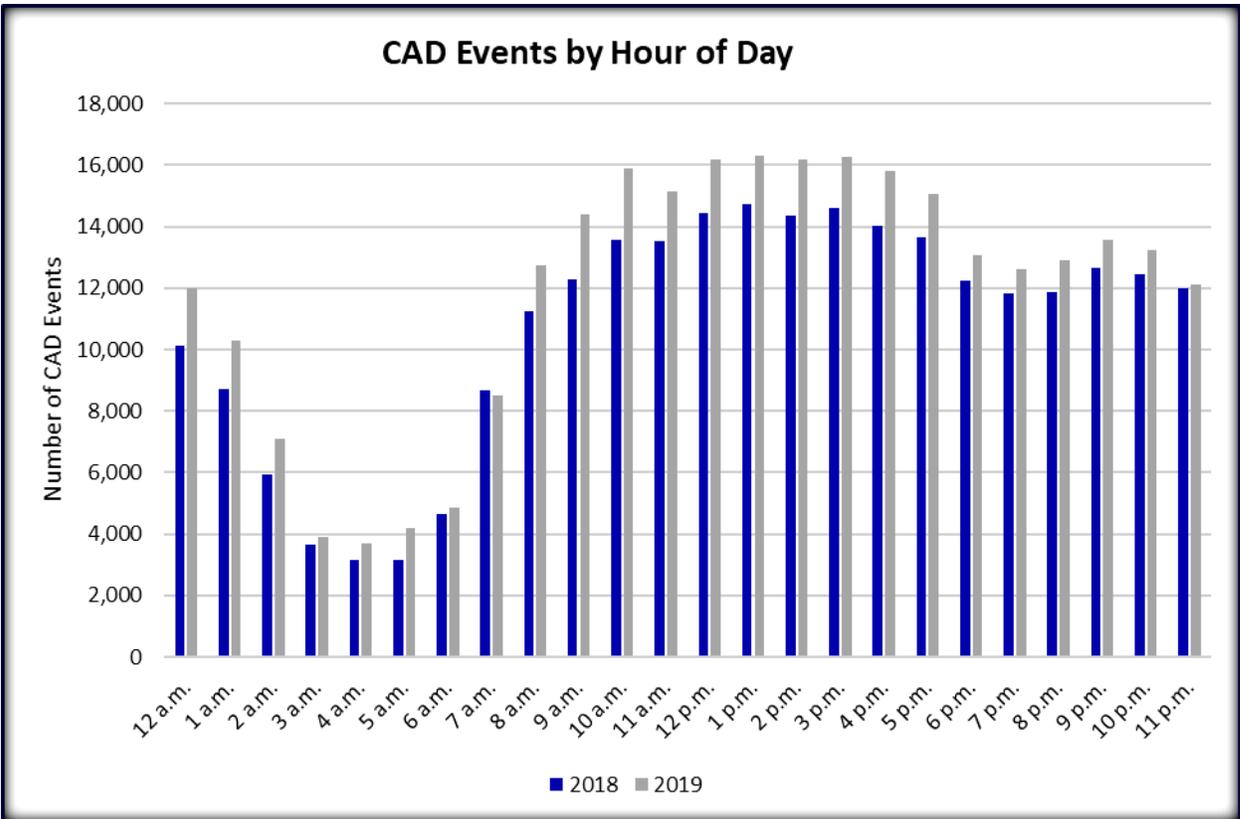
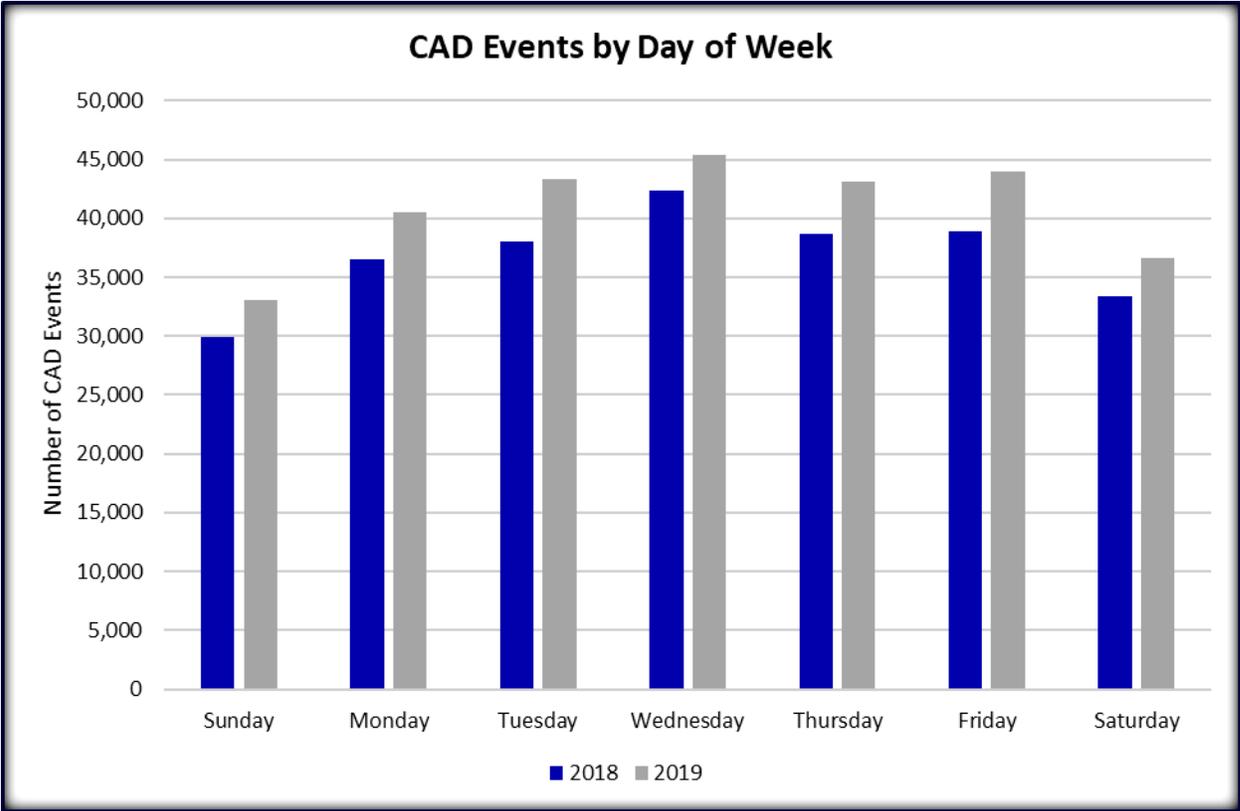
<i>Language</i>	<i>Calls</i>	<i>Minutes</i>	<i>% of Total Calls</i>
SPANISH	76	783	75.25%
RWANDA	6	66	5.94%
MANDARIN	4	36	3.96%
ARABIC	3	78	2.97%
SWAHILI	3	12	2.97%
FRENCH	2	13	1.98%
JAPANESE	2	9	1.98%
BOSNIAN	1	19	0.99%
SOMALI	1	14	0.99%
HINDI	1	9	0.99%
RUSSIAN	1	8	0.99%
FUKIENESE	1	3	0.99%
Languages: 12	101	1,050	100.00%

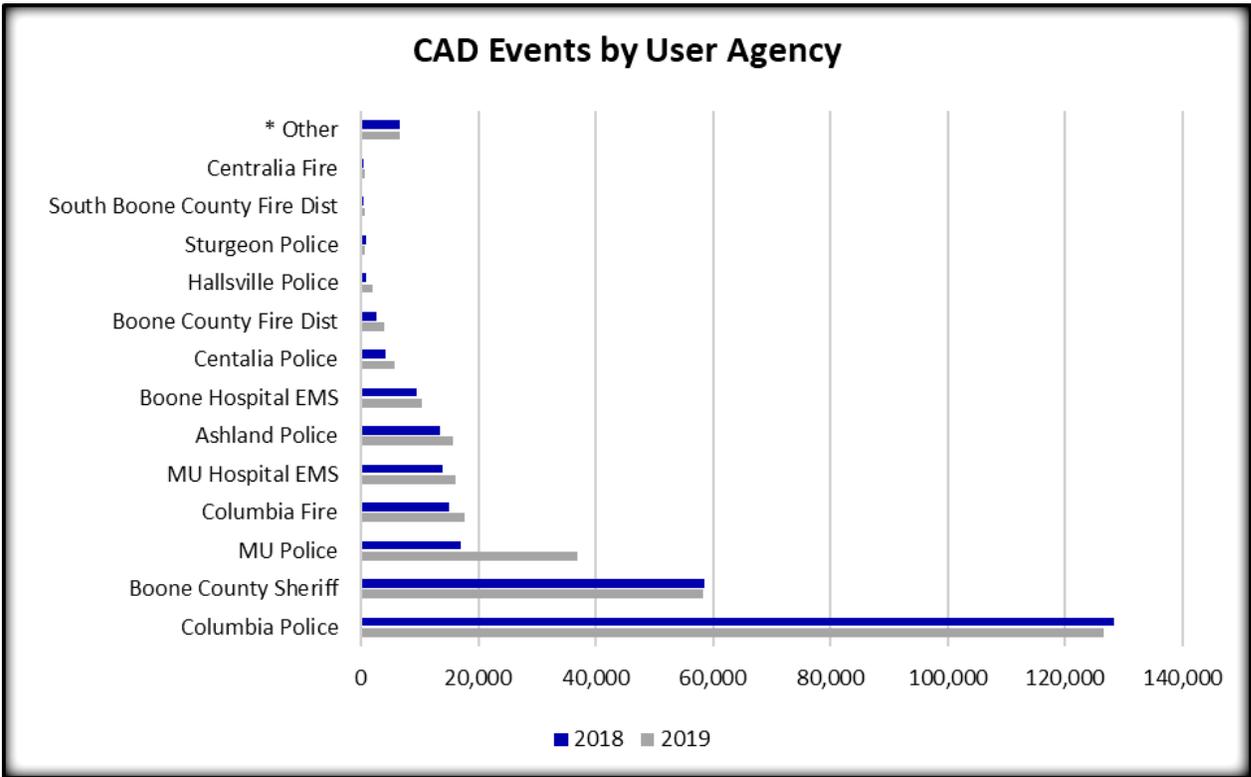
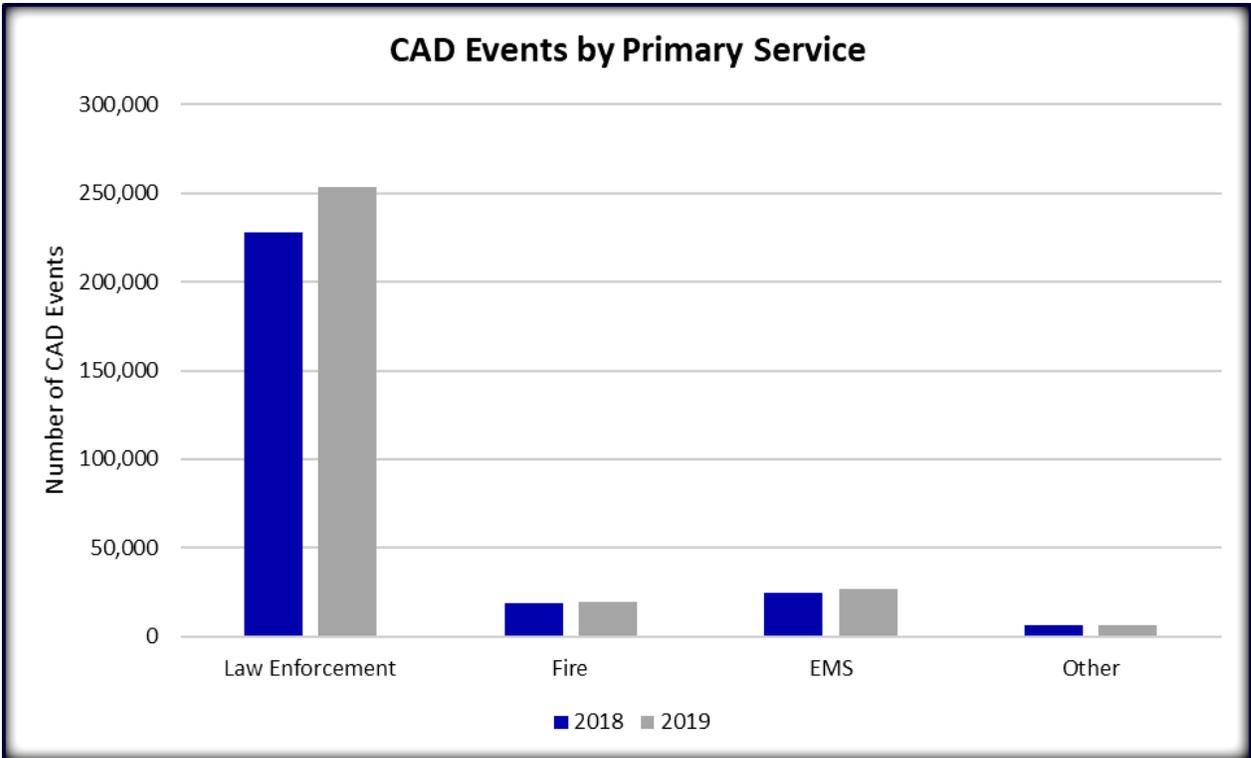


Dispatch Data

A Computer-Aided Dispatch (CAD) System is utilized to process calls for service, dispatch and support first responders in the field. Events recorded by the CAD system are another key indicator of the workload to Emergency Telecommunicators working in the Emergency Communications Center.







* Affiliated User Agencies such as the Missouri State Highway Patrol, VA Police, Court Marshals, Missouri Department of Conservation etc.

Radio Network & Support

Boone County Joint Communications has a Radio Network Support Unit that is charged with the planning, installation, and maintenance of the radio communications system. The unit is comprised of two full-time Radio Technicians and a radio site Facility Maintenance Tech who report to the Deputy Director.

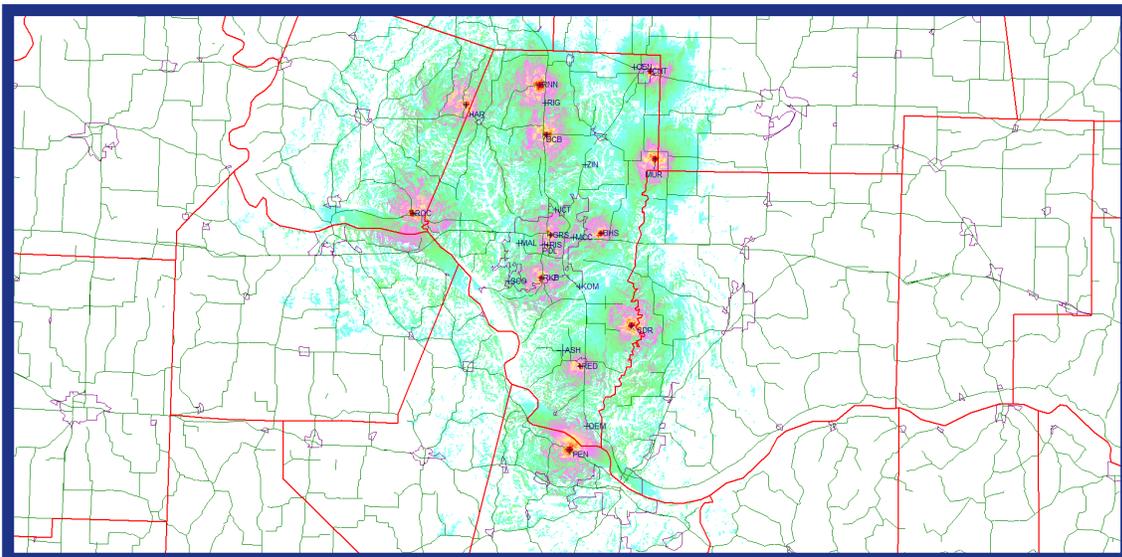


Radio Support Staff

Working with the County's Radio Consultant, the Support Unit staff is responsible for all facets of the radio communications system that serves the public safety providers in Boone County. Collectively, the system consists of the main dispatch facility at the Emergency Communications Center, a backup facility in downtown Columbia plus the radio network comprised of twenty-two tower sites located in and around Boone County. At present, the BCJC Radio Network serves in excess of 2,000 user radios.

System Planning

System Planning is an ongoing process to foster improved technical standards and upgrade system components. In 2019 a plan for system improvement was developed and presented. With this plan, the existing operations using VHF radio spectrum would continue and would be supplemented by the addition of 800 MHz spectrum to serve unique segments of the public safety provider community.



Radio Coverage Map

Site Construction

Site construction has allowed the County to meet the growing communication needs of its allied public safety agency partners. Under the County governance, the radio system has developed a focused coverage growth plan and a migration path for additional new system features.



Redtail Site Antenna Work

A new tower site was constructed at the Boone County Road and Bridge facility at Highway 124 E and Highway 63 N. The site will support land mobile operations and serve as a microwave relay point for north county users.



New Tower Site Construction

The existing cooperatively shared Redtail site located in Ashland received an antenna platform upgrade that allowed the installation of additional antennas and microwave linking equipment.

An exciting development in 2019 was the start of construction on a new ECC support building that will house a radio service facility for BCJC and provide secure storage for Boone County and the Office of Emergency Management. The 12,000 sq. ft. facility is scheduled for completion and occupancy in 2020.



New ECC Support Building Under Construction

Ongoing Maintenance

Ongoing maintenance is performed to keep the radio network robust and reliable. Technicians visit all of the sites on a regular schedule to verify the proper functioning of equipment, to inspect and test on-site standby generators, and to ensure safe and stable site conditions. Several site maintenance projects were completed in 2019 that have helped ensure system performance even under extended adverse environmental conditions.

Individual battery banks serving Uninterrupted Power Supply (UPS) units at remote sites continue to be upgraded to provide extended runtime for radio equipment.

Generators are checked and serviced regularly to ensure reliable operation.

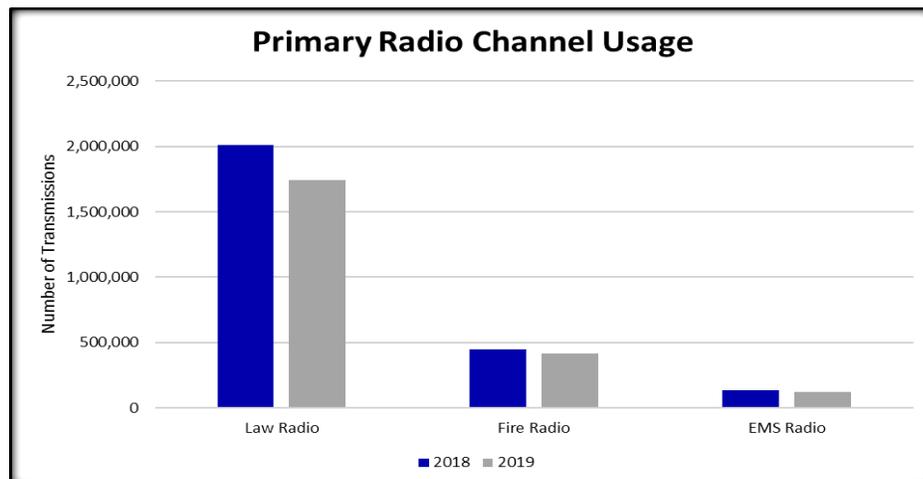


Support Staff at Work

Emerging Technology

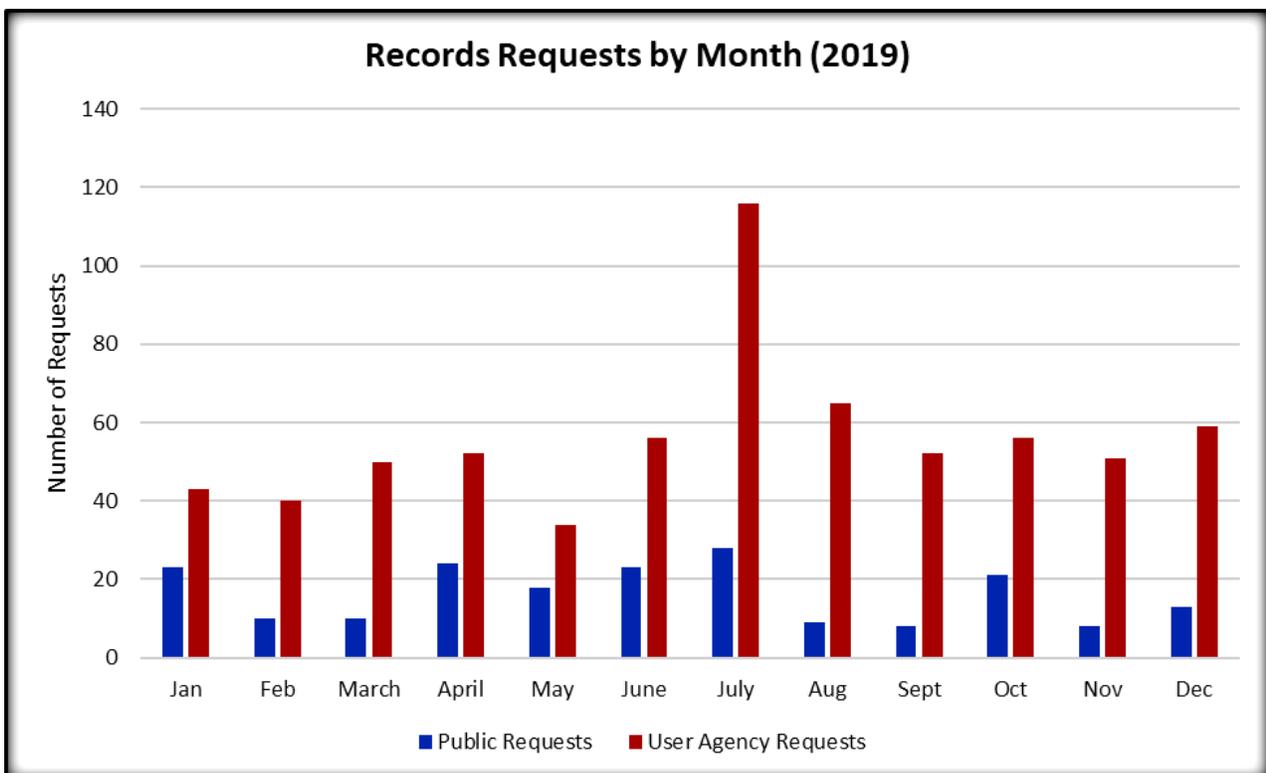
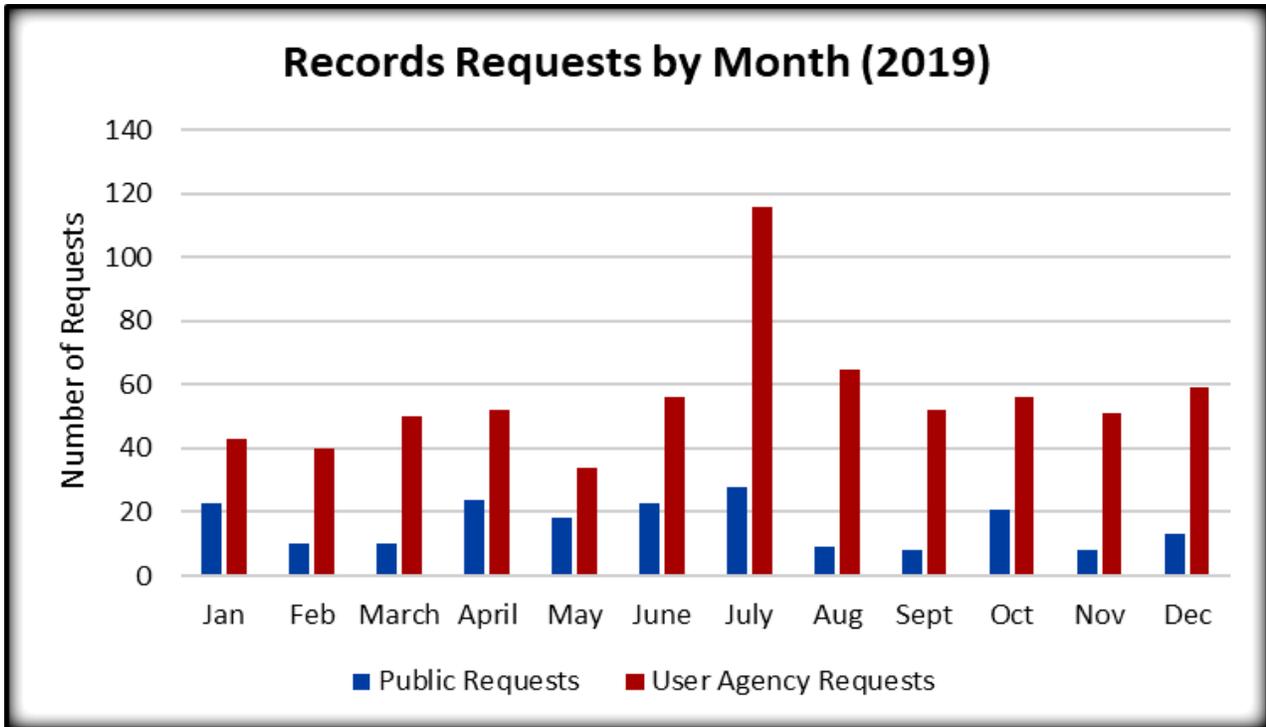
As emerging technology is introduced to public safety providers it is carefully evaluated before being adopted for Boone County Joint Communications operations.

Through the committed efforts of the members of the Radio Network Services Unit the Boone County Emergency Communications Center saw continued reliable performance from its radio system. Combined use of the system radio channels and network infrastructure by first responders surpassed 2.5 million radio transmissions in 2019 as depicted in the chart below:



Records

The Boone County Joint Communications Records Custodian is responsible for timely response to all departmental records requests. In 2019, the BCJC Records Custodian processed 869 records requests. 22% (195) of the requests came from the public and 78% (674) came from BCJC user agencies or affiliated user agencies.



Accomplishments

Re-Accreditation

In 2019 BCJC achieved re-accreditation from the International Academies of Emergency Dispatch (IAED) as an Accredited Center of Excellence (ACE) in Emergency Fire Dispatch. BCJC also maintained ACE accreditation in Emergency Police Dispatch and Emergency Medical Dispatch and continues to be one of only a handful of tri-accredited centers in the world.

The IAED is a nonprofit standard-setting organization promoting safe and effective emergency dispatch services worldwide. Comprising three allied Academies for police, fire and medical dispatching, the IAED supports first responder-related research, unified protocol application, legislation for emergency call center regulation, and strengthens the emergency dispatch community through education, certification and accreditation.

Accreditation by the IAED is voluntary and involves completing a detailed self-study based on a total quality management process that demonstrates superior performance in training, quality improvement, oversight, and compliance. It is a proven way to maximize the accuracy, effectiveness and efficiency of emergency call systems and improves the quality of public safety service that ensures the highest standard of care and practice available.

IAED accreditation is valid for three years and in order to achieve re-accreditation, a dispatch center must meet or exceed the same standards required in the initial accreditation process. Because ACE dispatch centers abide by IAED standards and have fulfilled these stringent requirements, citizens calling an ACE dispatch center can have peace of mind knowing their needs will always be appropriately addressed and that they will always receive the help they need.



IAED Visit

On August 28, 2019, Jerry Overton toured the Emergency Communications Center and visited with staff. Mr. Overton serves as the chair of the International Academies of Emergency Dispatch, the organization charged with setting standards, establishing curriculum, and conducting research for public safety dispatch worldwide.



BCJC Staff with Jerry Overton

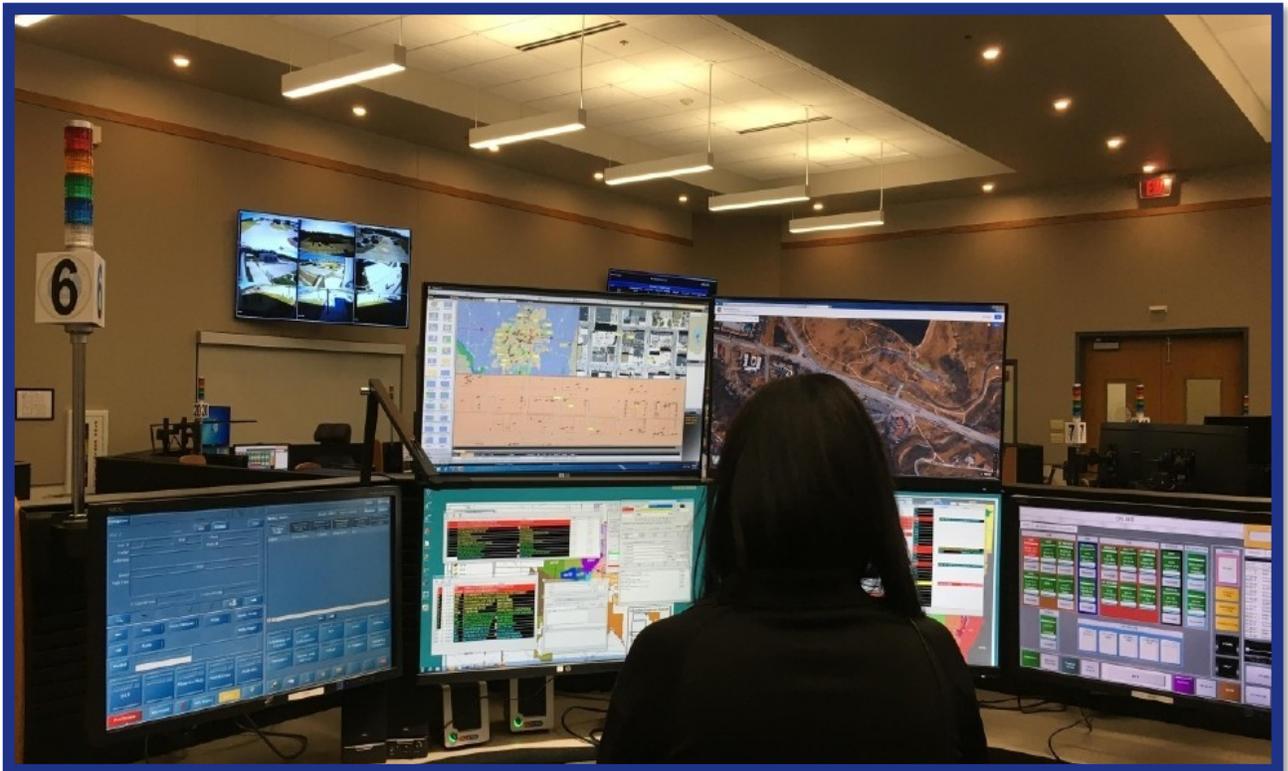
Automated Secure Alarm Protocol (ASAP)

In March 2019, BCJC became the first Public Safety Answering Point (PSAP) in Missouri to successfully implement the Automated Secure Alarm Protocol (ASAP).

The ASAP-to-PSAP service, launched in 2011 as a public-private partnership, is designed to increase the accuracy and efficiency of calls for service from participating alarm companies to PSAPs. The ASAP service utilizes ANSI standard protocols developed cooperatively by the Association of Public-Safety Communications Officials (APCO) and The Monitoring Association (TMA).

Using the ASAP service, critical information about life-safety events is delivered digitally directly to the Computer-aided Dispatch (CAD) system in seconds, not minutes, through the Nlets nationwide public-safety network. The use of data communications virtually eliminates errors that are inherent in voice communications, ensuring that complete and accurate information is transmitted to a PSAP.

The ASAP service helps to reduce phone calls from alarm companies, reduces call processing time from minutes to seconds for faster response times, eliminates errors and miscommunications from voice calls and decreases stress on call-takers through reduced call volume.



Emergency Telecommunicator Workstation

Elementary School Outreach Program



In 2019, a partnership with students from the Columbia Area Career Center (CACC) was established to develop a 9-1-1 outreach program that will teach children about the proper use of 9-1-1 and encourage 9-1-1 education in the home. This program, called "Never too small to make the call," will target students in the second grade and includes a mascot and interactive video to deliver a fun yet comprehensive learning experience. Scheduled for completion in 2020, the primary objectives of the program are:

- Understand that calling 9-1-1 means getting help.
- Recognize the difference between an emergency and non-emergency call.
- Learn how to dial 9-1-1.
- Know that 9-1-1 will ask a series of questions and to stay on the line.
- Understand why it is important to not misuse the 9-1-1 system.
- Make parents/guardians aware of other community resources, such as Smart911.

A knowledge survey previously developed and delivered by CACC students to the target audience will be completed at the conclusion of the 2020 program to measure program success.

Collaborative effort with CACC has helped the students develop their business presentation skills while at the same time helped BCJC develop a more innovative outreach program.

CACC Surveys

85.7%

of surveyed parents do not have an emergency plan posted somewhere in the house

54.5%

of surveyed children do not know their home address.

76.2%

of surveyed parents have discussed basic information like first and last name, phone numbers, and address.

Peer Support Team

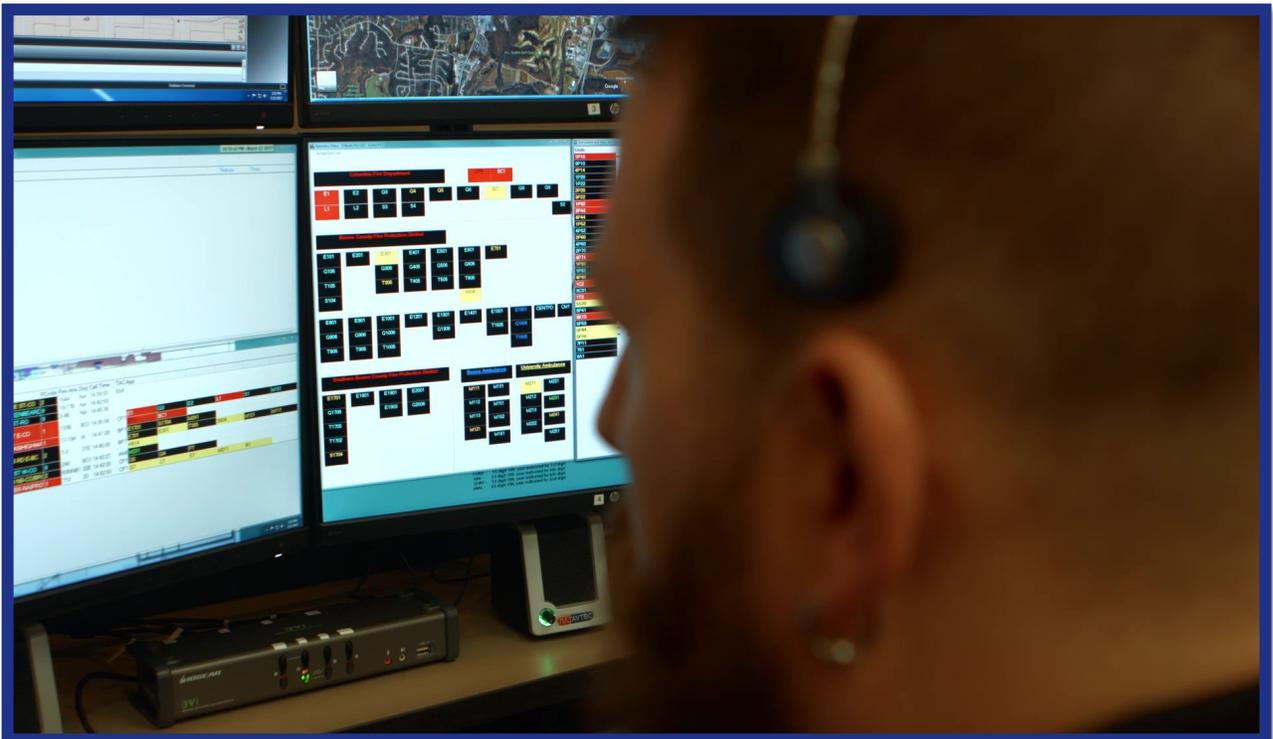
The Boone County Joint Communications Peer Support Team was established at the beginning of 2019. The Peer Support Team helps Emergency Telecommunicators better cope with personal and job-related stress.

The team promotes Emergency Telecommunicator wellness through immediate, confidential support, stress reduction training, and resiliency tools to prevent mental burn-out and fatigue.

Peer support team members have received over 50 hours of intense training with experts on how to help Emergency Telecommunicators cope with stressful situations. They have been taught skills that include mentoring, defusing, and assisting with critical incident stress debriefings after major incidents.

The peer support team plans to continue to educate the staff of Boone County Joint Communications through the coming year. This training will range from orientation and basic wellness for newly hired Emergency Telecommunicators to providing ongoing peer support and wellness training to the existing staff.

Since many of the events Emergency Telecommunicators experience involve first responders from various other agencies, BCJC is also planning to strengthen partnerships with other public safety peer support programs in the area.



Emergency Telecommunicator at Work

Other Accomplishments

- ◆ Maintained status as a Missing Kids Readiness Program Partner with the National Center for Missing and Exploited Children (NCMEC).
- ◆ Promoted Smart911, 3-1-1 and the proper use of 9-1-1 through various radio ads and community outreach events.
- ◆ Worked with the Centralia Police Department to successfully migrate their Communications Division to the BCJC Computer-aided Dispatch (CAD) System for improved efficiency and operational awareness.
- ◆ Collaborated with CACC to develop an Emergency Telecommunicator Certification Course that will educate and prepare high school students for a career in public safety dispatch.
- ◆ Implemented a new Document Management System to better organize and manage department policy and procedure.
- ◆ Deployed Connected Car for Uber, allowing passengers or drivers of the service to automatically share their location and trip details with BCJC ETCs should they use the Uber application emergency button to call 9-1-1 in Boone County.
- ◆ Worked with MUPD to integrate Rave Guardian with Smart911 and allow subscriber profiles to be shared with BCJC when a subscriber calls 9-1-1 from the personal safety app on campus.

Goals for 2020

- ◆ Implement Text-to-911 so citizens may reach 9-1-1 in Boone County by text message when they are unable to make a voice call.
- ◆ Implement a CAD-to-CAD interface with Jefferson City, Cole County 9-1-1 to enhance communications and backup capabilities.



Emergency Communications Center

Our User Agencies

Law Enforcement Services

Boone County Sheriff's Department
Columbia Police Department
University of Missouri Police Department
Columbia Regional Airport
Sturgeon Police Department
Centrailia Police Department
Hallsville Police Department
Ashland Police Department
13th Judicial Circuit Court Marshal



Medical Services

University of Missouri Health Care
Boone Hospital Center



Fire & Rescue Services

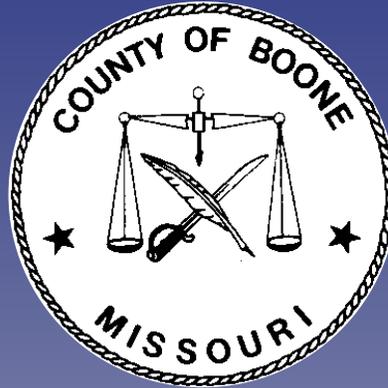
Boone County Fire Protection District
Southern Boone County Fire Protection District
Columbia Fire Department



Other Affiliated Services

Boone County Office of Emergency Management
Missouri State Highway Patrol
Missouri Department of Natural Resources
Missouri Department of Conservation
V.A. Police Department
Columbia Housing Authority





**BOONE COUNTY JOINT
COMMUNICATIONS
EMERGENCY COMMUNICATIONS
CENTER
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COLUMBIA, MO 65202**

showmeboone.com/BCJC/



@BCJC911