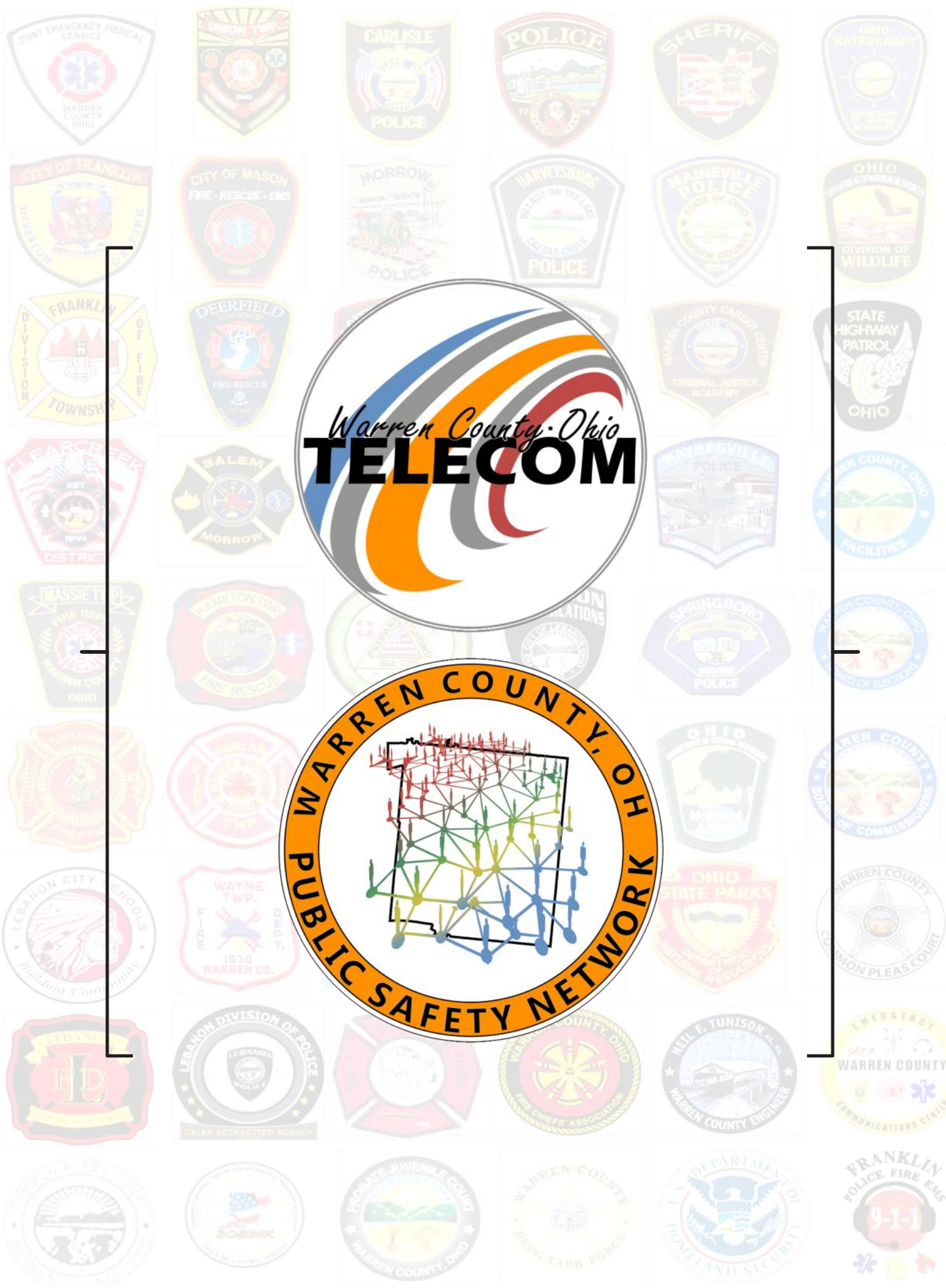
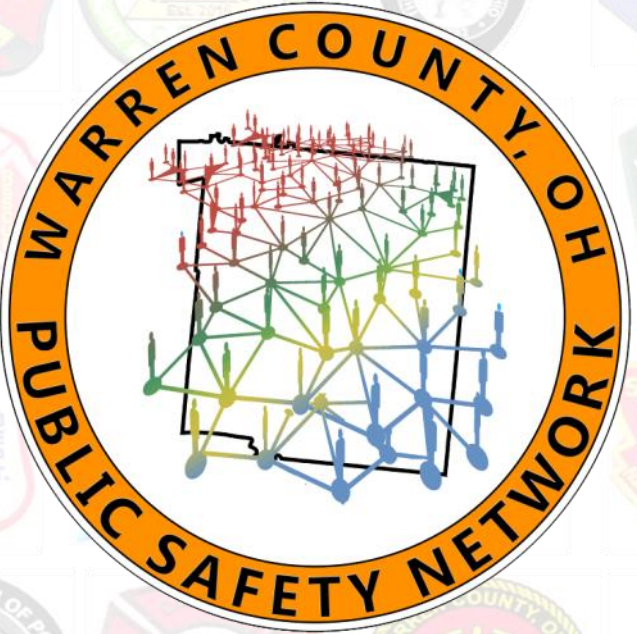


# AnnualReport 2018





# Table of Contents

From Telecom Leadership	4-5
The Telecom Creed	6
Team Telecom	7
#ProjectTriTech	8-9
9-1-1	10-11
Radio System	12-13
County Phone System / Supporting Coworker Communications	14-15
Records Management	16
CAD Interfaces	17
Dispatch Center Support + Technology	18-19
Mobile System	20
Disaster Recovery (DR)	21
Physical Plant	22
Data Center	23
Partnerships	24-25
Community Management	26-29
Going Above and Beyond	30
Connect with Telecom	31

# From Director Kindell

Serving Warren County Since 1989

2018 was the year of Telecom and partners stepping in and stepping up to get the job done.

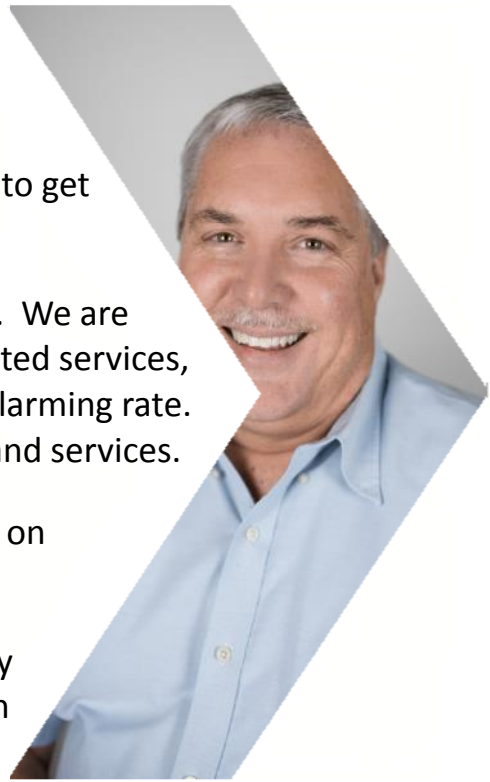
We find, more and more, that the quality of our vendors is depreciating. We are dealing with missed deadlines, broken promises, quality issues, interrupted services, incorrect billing, no follow through, and slow project completion at an alarming rate. Vendors just don't seem to care if you are satisfied with their products and services.

Telecom is spending an inordinate amount of time keeping the pressure on vendors just to ensure they fulfill their promises.

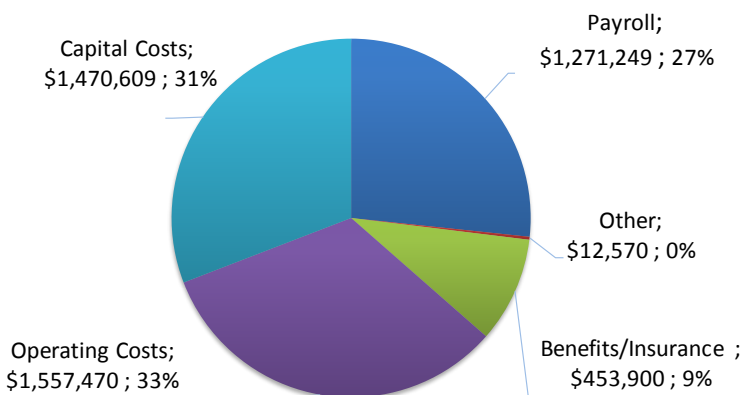
Telecom, as much as possible, bridges the gap for our customers, so they are insulated from vendor issues. We are able to re-route or fall back on alternate services and equipment to keep most services functioning.

We are continuing to reduce or eliminate possible single-points-of-failure to keep critical public safety services online. When we approach new projects, we look for opportunities to improve reliability and increase redundancy. We demand vendors deliver all the purchased capabilities and we maximize the return on investment by squeezing out all the capabilities possible in the way we deliver our services.

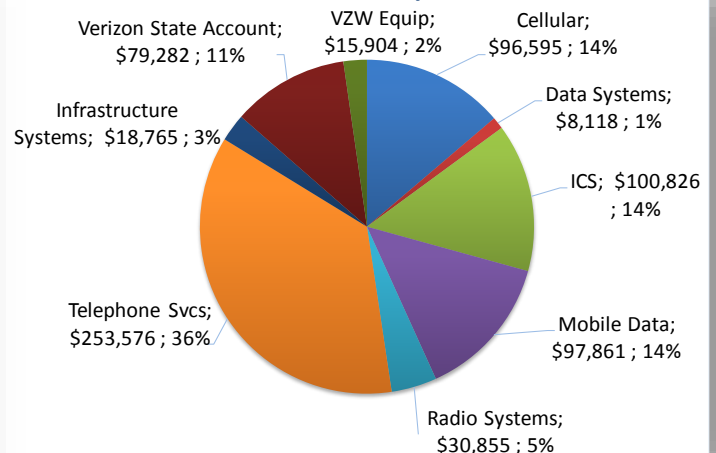
Telecom is proud to deliver high-tier systems. We strive to "make it look easy" by using our behind-the-scenes talent to transparently improve the products and services we get from our vendors. This capitalizes on the Commissioners' investments, not just financially but from a staffing and services perspective as well.



## Expenditures



## Cost Recovery



## From Deputy Director Estes

*Serving Warren County Since 2001*

Reflecting on this past year for the Annual Report, I reviewed the many accomplishments and adjustments we made in 2018. I kept coming back to what I love about Telecom...

*We pick each other up when we're down.*

*We always laugh when we're together.*

*We support and build each other up.*

*We can be ourselves.*

*We need each other.*

*We do life together.*

*We're a family.*



I see people who use our support become the best versions of themselves.

It is so rewarding to see this, knowing that even if only indirectly, I've had a small part.

A primary focus for Telecom and our public safety partners continues to be #ProjectTriTech, which is entering its fourth year. A 4-pronged initiative (CAD, Mobile, Law RMS, and Jail), the Law RMS area was largely stalled in 2017 while the other three areas approached completion. Regarding Jail, Telecom provides infrastructure support while the Warren County Sheriff's Office provides configuration and administration of the Jail Management System. We also completed the build of a custom Hiplink Interface, with Application Analyst Don Sebastianelli leading that successful effort. Hiplink CEO Pamala LaPine, an extremely supportive industry partner, made an on-site visit to Warren County Telecom to see how we use their product suite.

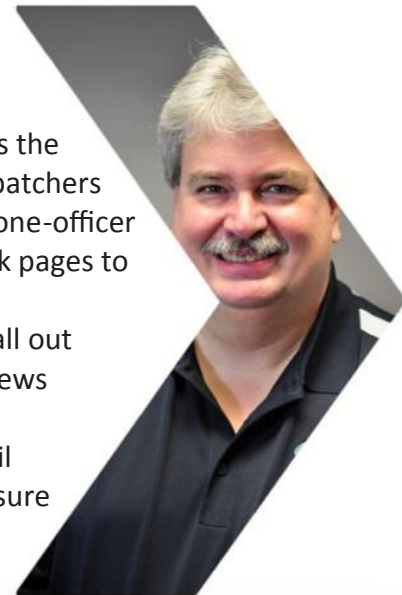
I am pleased and encouraged by the membership of Telecom, my goal is to continue effectiveness that inspires our Citizens, Customers, Partners and the Commissioners to be proud we exist.

## From Public Safety Systems Manager Bernard

*Serving Warren County Since 1988*

My revolving theme of 2018 was improving countywide usage of .

- School Resource Officers: SROs are now signing on with a dispatcher who then makes the SRO a recommendable unit in the Computer-Aided Dispatch system. Before this, dispatchers had to go off memory whether or not a school had an SRO, sending a district car for one-officer responses. Now that we have a countywide roster of SROs, Dispatch can send Hiplink pages to SRO's mobile devices for incidents at their school buildings.
- Calling out Road Departments: We improved Warren County Dispatch's process to call out crews by utilizing Hiplink. In lieu of the more time-consuming phone tree, all road crews can be reached at once, speeding up responses and sharing a consistent message.
- School Administrators can now be notified via Hiplink on their mobile device or email when road crews are called out; giving them a jumpstart on making school delay/closure decisions. They can also receive pages anytime an incident occurs at their buildings.
- In December, I presented Hiplink to several Department Heads and Elected Officials at the Warren County Continuity of Operations Plan (COOP) meeting. Read more about that in the "Supporting County Coworker Communications" section!



# THE Warren County Ohio TELECOM CREED

## OUR MISSION

Established in 1985, Warren County Telecommunications has evolved into a 24/7 technology support provider for our customers in the public safety and government communities. With expertise in secure Data and Radio Systems, Public Safety Applications, Telephone, Training, and Administrative Support, we strive to provide reliable solutions that are in alignment with Warren County initiatives and leadership goals.

In support of this mission, we will:

- Partner with our customers to understand their needs.
- Provide leadership, planning, and training for the effective use of emerging technologies.
- Demonstrate technical and operational excellence through a commitment to professionalism and continuous improvement.

## OUR VISION

Warren County Telecommunications will be recognized as a high-performance team providing technical excellence that advances our customers in alignment with Warren County's mission and goals.

## OUR CORE VALUES

Our Core Values drive and guide us as we serve our customers. As members of Telecom, we are committed to:

- **Collaboration:** We are dedicated to a constructive, team-oriented environment, gathering varied perspectives, sharing knowledge, leveraging unique skills, and building effective partnerships.
- **Continuous Improvement:** We strive for operational excellence through the on-going development of our individual team members and technology.
- **Innovation:** We encourage creative and critical thinking.
- **People:** We respect, care for, and actively listen to our coworkers and agencies.
- **Service:** We push our limits to provide consistent, agile, reliable, and accessible services to all.
- **Transparency:** We maintain open communications and ethical business processes to be accountable in our interactions and our work.

## OUR DECISION CRITERIA

Is it good for Warren County?

Is it good for our Public Safety Agencies?

Is it good for our Tax Payers?

## 286 years of combined service to Warren County



Paul Kindell, Gary Estes, Paul Bernard, Gary Hardwick, Dustin Flint, Jeff Cepin, Joseph Newton, Garrett Wilson, Jimmy Hollin, Allison Lyons, Kristy Oeder, David Shiverdecker, Mike Callahan, Debbie Griffith, Rhonda Bernard, Corey Burton, Don Sebastianelli, Glenn McKeehan, Joshua Moyer, Jeremiah Marcum, Dan Bunning, Becky Trovillo, Jessica Johnson.

### 2 New Team Members

- Jeremiah Marcum, Data Systems Technician II
- Dan Bunning, Infrastructure Systems Analyst I

**‘The Pauls’ both had a great year!** Director Paul Kindell was recognized as a Warren County Career Center Distinguished Alumni, giving his acceptance speech at the annual business member meeting and earning his place on their wall of winners! Public Safety Systems Manager Paul Bernard celebrated his 30th year of service to Warren County. His role within Telecom is only ONE way he serves this Incredible County.... He’s also been an Emergency Services Dispatcher (5 years), Supervisor (15 years) Waynesville schools bus driver (36 years), softball/baseball coach (since 2002), and a Wayne Township Fire Captain (33 years)!



**Our future TriTech Suite is a combination of several platforms and products, meant to work together and increase productivity and interoperability between our public safety agencies.**

- **Inform CAD:** Call Taking, Law & Fire Dispatching, Mapping/GIS, Reporting, CAD Browser
- **Inform Mobile:** Fire & Law Enforcement Mobile, Web-Based Reporting
- **TriTech.com Inform IQ & Analytics:** Query, Searching, Reporting, Dash Boards
- **Inform RMS:** Records Management, Master Indexes, State Reporting, Citations, Case Management, Property/Evidence, Civil, Warrants, Inform IQ & Analytics
- **Inform JMS:** Jail Booking, Release, Kiosk, Weekender, Visitation, Prisoner Release, Inform IQ, Analytics

JAN Jail Management System Functional Acceptance Testing

FEB Dispatcher CAD Training, Stakeholder's Meeting with TriTech Leadership

MAR TTMS Functional Acceptance Testing (CAD and Mobile)

APR RMS, Jail, Evidence & Property Site Visit by TriTech

MAY

JUN Systems Failure Process and Non-CAD Failover

JUL

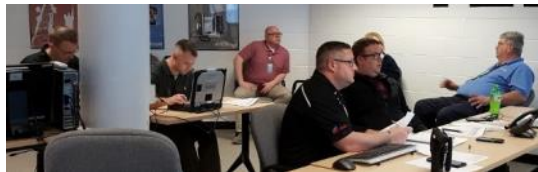
AUG

SEP One-on-One CAD Agency Work Sessions with Josh Moyer attended by Chiefs and/or appointed representative

OCT

NOV Mobile Train the Trainer

DEC



Mobile layout meetings for LAW and FIRE to decide the look of their screens/ buttons/ menus



Dispatch CAD Screen Work Session, CAD API Class

Inform IQ Demo by TriTech

TriTech Monthly Maintenance performed by Telecom

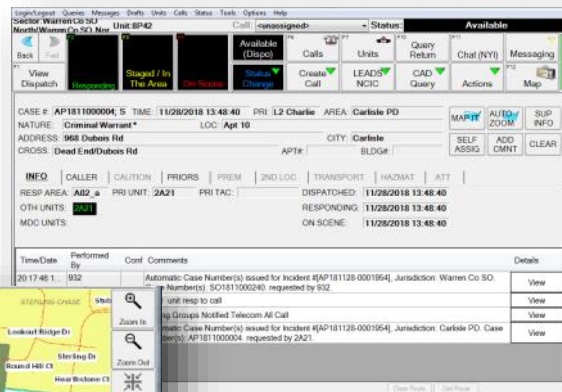




Due to vendor delays we missed our 2018 go-live goal. Our new target date is October 2019 with a technical sign-off in June. TriTech was absorbed by CentralSquare, causing our products to experience some unexpected changes. Although not live, we do have TriTech loaded onto more than 50% of our fire and law mobile data computers. Getting the program into their hands now gives them plenty of time to experiment and learn the new features, while we improve it along the way.

## The Future of Mobile

- Field units will have the same map as dispatch - showing premise information, caution notes, hydrants, utility contacts.
- Self-Assigning—for the first time, fire/EMS crews will be able to assign themselves to an active Incident with the push of a button.
- No longer needing to copy/paste, the various screens and complimentary products link to each other.
- If vehicles are equipped with AVL, the system will track their location. Units will see each other converging on the same incident.
- The MDC will show and say turn-by-turn directions for the officer.



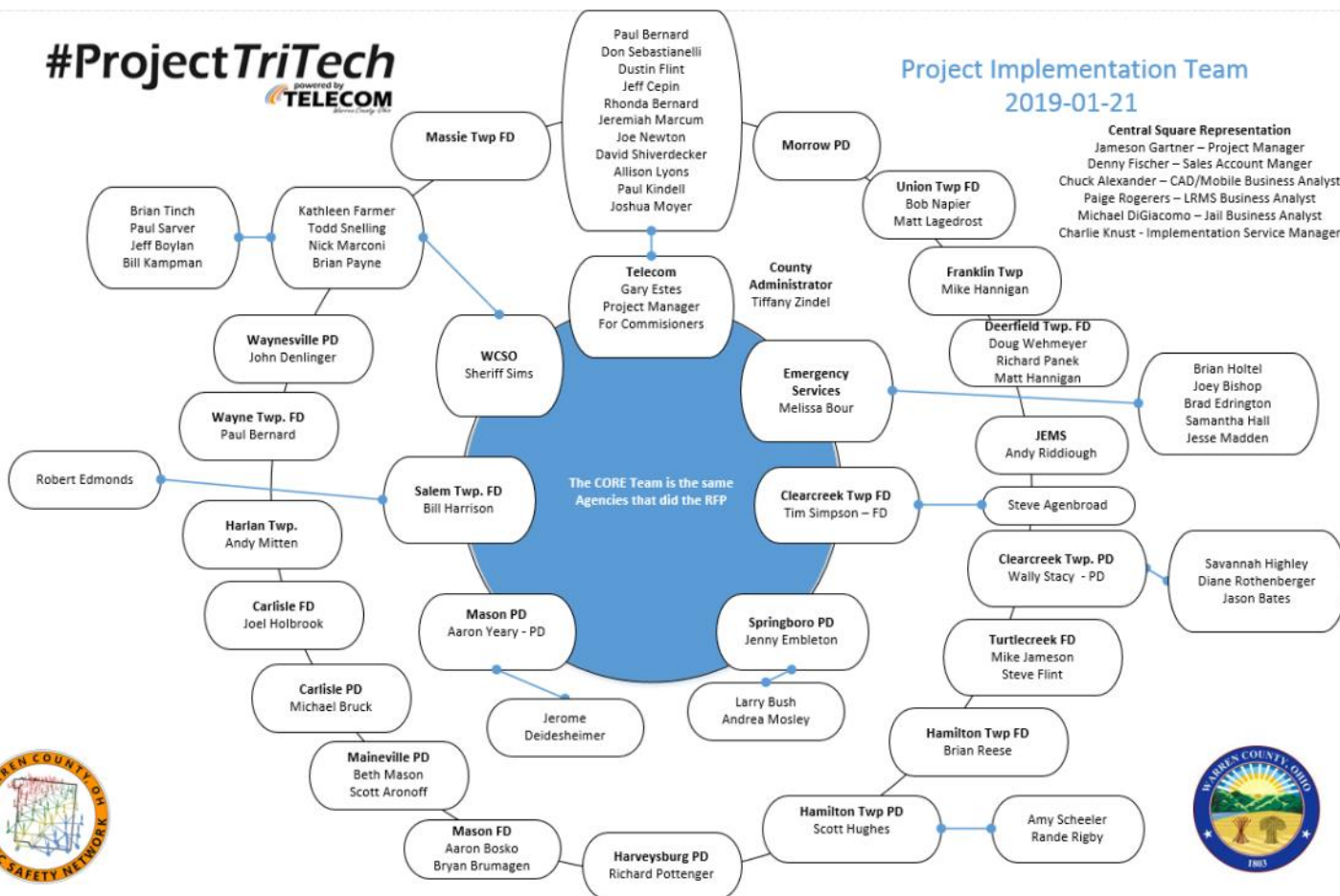
## #ProjectTriTech

powered by TELECOM

## Project Implementation Team

2019-01-21

**Central Square Representation**  
 Jameson Gartner – Project Manager  
 Denny Fischer – Sales Account Manger  
 Chuck Alexander – CAD/Mobile Business Manger  
 Paige Rogerers – LRMS Business Analyst  
 Michael DiGiacomo – Jail Business Analyst  
 Charlie Knust - Implementation Service Manager



Village of Carlisle – Village of Maineville – Village of Waynesville – Village of Morrow – Village of South Lebanon – Village of Harveysburg – Massie Twp – Deerfield Twp - Franklin Twp – Wayne Twp – Clearcreek Twp – Salem Twp – Harlan Twp – Union Twp – Hamilton Twp – Turtlecreek Twp – Franklin City – Lebanon City – Mason City – Springboro City – Emergency Services – Warren County Sheriff's Office

## Text-to-911

was publicly announced on April 10, 2018 with a ribbon cutting ceremony.



In anticipation of our former 9-1-1 system going end of life, Telecom approached the Board of County Commissioners requesting to start the RFP process for a new system. Having squeezed **12** years out of the last system, we were confident that this was a necessary investment.

A 9-1-1 Committee comprised of Warren County Emergency Services, Warren County Telecom, Franklin Communications, and Lebanon Communications was formed to select the vendor we have today. With all members being financially invested in the success of this project, they all agreed the system required (3) key features:

1. Text-to-9-1-1
2. Geo-diverse backup
3. Multiple communication paths for failover

The system experienced a soft roll-out in late 2017 and early 2018, with Telecom fine tuning the details with each cellular carrier. On April 10th, we publicly announced it as “open for business”!

We are proud of how **ROBUST** our system is... with enhanced reliability that offers peace of mind to citizens that when they call (or now text) 9-1-1... a dispatcher will be on the other end. We are *especially* proud of the Committee’s dedication - engineering a solution that goes beyond ‘out of the box’ design. Our system is beefier than most! Not only do we have the standard fiber connection between our (3) PSAPs but we also have off-the-ground microwave connectivity as a backup means of keeping the 9-1-1 centers online.

Texting has allowed citizens to stay quiet when otherwise they may be found or stopped from communicating with us. Texting also allows another method of contacting us for citizens with hearing or speech impairments. Text-to-9-1-1 should **only** be used in emergencies and texting a false report is a crime. If you accidentally send a text to 9-1-1, immediately send another text or call 9-1-1 to let the dispatcher know that there is no emergency.



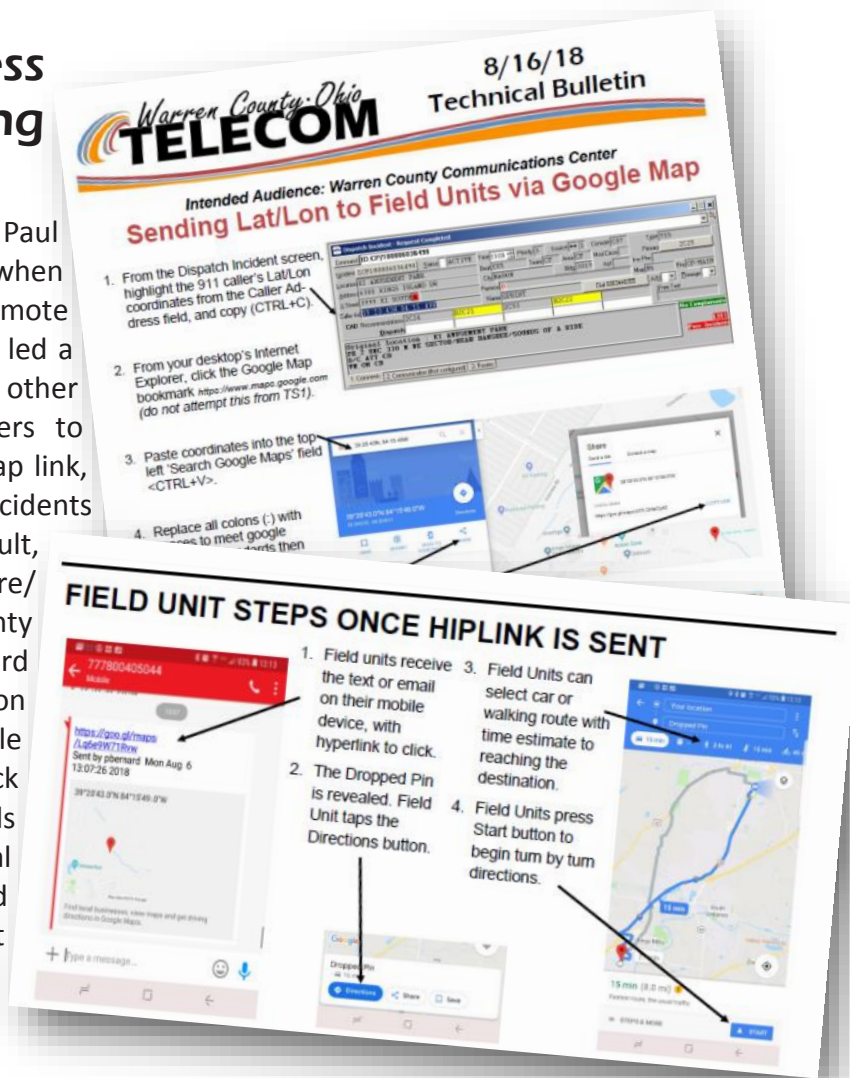
**Primary System** In 2018, Telecom’s Primary System ran as expected with no changes beyond standard updates. A process improvement this past year was working with Lebanon and Franklin PSAPs to test their systems via microwave. Our standard mode of connectivity is fiber; but should that go down, it’s important to know that microwave will continue 9-1-1 services for our citizens.

**Secondary System** Housed at our disaster recovery site, it is online at all times. Should the primary system go down, the secondary system picks right up. It also provides connectivity to our secondary connection to the telephone company in the event that the primary system goes down.

**Countywide Participation** Telecom is the point-of-contact any time a 9-1-1 call cannot be completed within Warren County. Through our troubleshooting, we decide if the problem resides within the 9-1-1 system or if it is due to a phone carrier having issues. If an issue escalates, we submit a help ticket with the responsible company (AT&T, CenturyLink, INdigital, Verizon, etc.) This gets all Warren County government buildings and the Lebanon + Franklin PSAPs on their radar so that our problem can be resolved.

## Telecom’s Time-Saving Process For First Responders Attempting to Locate Cellular Callers

In August, Telecom’s Public Safety Systems Manager Paul Bernard identified an information breakdown when attempting to locate a cellular caller, especially in remote or infrequent response areas. Deputy Director Estes led a white board session with Bernard, Kindell, and other Telecom staff to outline a process for dispatchers to translate caller’s latitude/longitude into a Google map link, sharable with first responders. On the heels of two incidents where finding callers in remote areas proved difficult, we expedited the tech bulletin distribution to all fire/EMS, law enforcement, and the Warren County Communications Center. The project continues forward as we will meet with our 9-1-1 provider, INdigital, on November 8th to discuss the configuration of a Google button on the dispatcher’s 9-1-1 screen. One click would generate the Google link and drop-down fields would let dispatch select recipient groups. INdigital developers are now working toward this infused solution, which if successful, will be rolled out nationwide to all their customers!



**78** agencies within Warren County utilize our Digital MARCS P25 Radio System

**Countywide Participation** Per the Board of County Commissioner's Radio Distribution Policy, all public safety agencies within Warren County are provided radios to utilize the countywide radio system. The obvious benefit of this is interoperability between agencies. Several other agencies such as Transit, Engineers Office, Public Works, and the Water Department also use radios on our system.

**Regional Participation** **Interoperability with neighboring counties:** we share an interoperability package with neighboring counties who want our talkgroups for the purpose of mutual aid. Our 83TAC talkgroups work on MARCS towers within our county and one-county surround, allowing neighboring counties to hear our traffic from their station or bay.

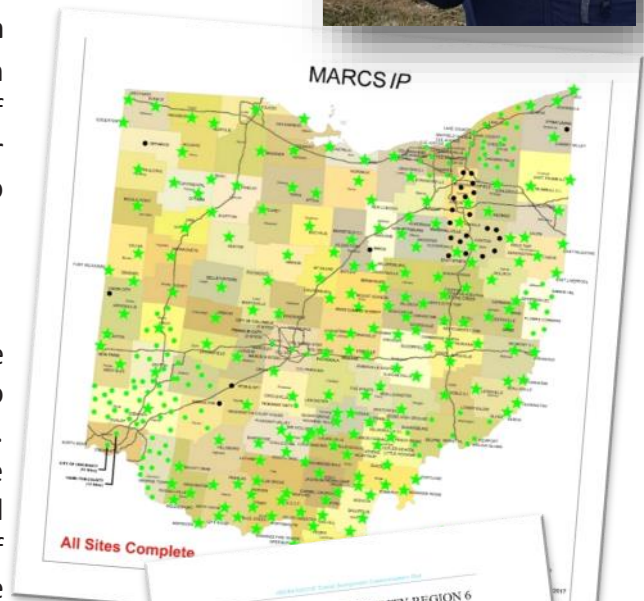
## Statewide Participation

**Interoperability with the State:** if a large-scale emergency occurs, we have the same talkgroups as agencies in Cleveland or Toledo who could come to our aid and communicate with our first responders. This is possible because of our relationship and participation on the state of Ohio's MARCS system. The Ohio Department of Natural Resources (stationed at Caesar Creek) and the Ohio Department of Rehabilitation and Correction (prison probation officers) both have our talkgroups for communication with Warren County agencies.

**RTICP:** Telecom's Director spearheaded the publication of a 100-page Regional Technical Interoperability Communications Plan (RTICP) that outlines how counties in Southwest Ohio will communicate with each other on the MARCS radio system. The Warren County Commissioners passed a resolution to adopt the plan on February 27th, and other counties have followed suit.

**Strategic Roaming:** Director Kindell is an active member of the Statewide Interoperability Executive Committee (SIEC). In 2018, the committee began the process of protecting the State's radio system capacity by reducing unnecessary traffic from transient commuters. The draft of a statewide Strategic Roaming plan has been developed, which recommends that local channels (such as Police and Fire Primaries) only work in and around one's county where daily business is conducted.

**Federal Participation** Largely due to Caesar Creek State Park, we share our talkgroups with Army Corps of Engineers and Coast Guard Auxiliary, should local departments need to work with them on a response.



## From the Radio Shop

**114** radio repairs, **218** aligned radios, **236** radio template changes, **124** alias changes, **5** new radio templates for new users or radio types making our total number of maintained templates **388**, **13** Hot Box deployments, and **1632** programmed radios for **110** non-unique agencies (some agencies were programmed multiple times). Law Enforcement received version 3.5 programming and alignment ensuring their equipment works optimally on the system. Fire/EMS were right behind them in the programming schedule.



## Radio NOC & Infrastructure

**1** Network Operations Center (NOC) provides the prime site control of the radio system and the interface to the State system. In the event that we lose contact with Columbus, the Radio NOC takes over control and Warren County can operate

in Site Trunking; still maintaining our local talkgroups. Each rack is fed by two UPS power supplies, offering a high level of

redundancy. **9** Radio Tower Sites + **1** Data Tower with equipment, shelters & emergency power.

**16** Dispatcher Consoles.

# 5.38 million

push-to-talks initiated by someone keying a radio.

The system generated **1.8** million additional tower transmissions which including station identifiers and outer-county agencies transmitting from our towers due to strategic roaming guidelines.

# 7.7 million radio calls

*call = 4 seconds or longer*



**1042** ShoreTel/Mitel users with **774** voicemail boxes generated

**1,472,627** phone calls, totaling **66,705** hours!



We cut over DIDs (Direct Inward Dialing) for all phone users from Level3/CenturyLink to Windstream. This saved money and improved redundancy/reliability. Notable updates were ShoreTel cordless phones for the Map Room, Updating Engineers Office buildings, and Updating the County Garage, which was possible only after repairing fiber and getting new drops throughout those buildings to users' desks.

We are constantly updating programming (new auto attendant greetings and options to accommodate closed offices and automated answering services). We conducted updates to the Connect Client (the desktop application used by coworkers to interact with their phones) and all ShoreTel servers (voicemail, call center, recording, etc). The Infrastructure Systems Team conducted monthly patches for Security to all ShoreTel equipment.



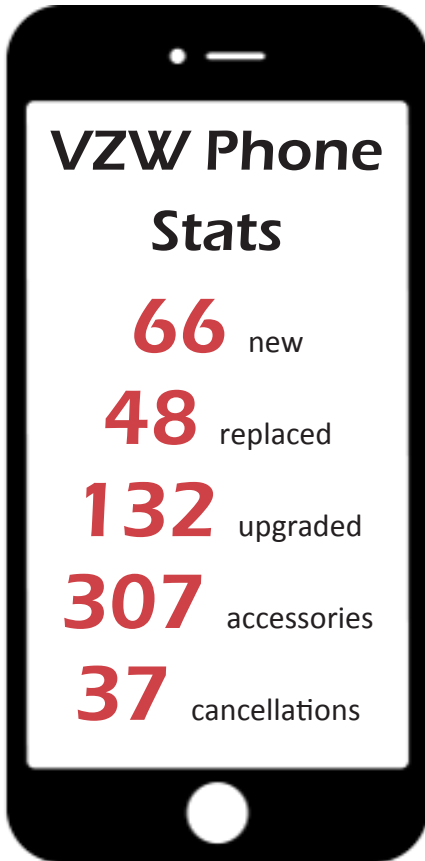
Because Technology keeps evolving, Telecom must stay current with standards. We test each pulled drop with our equipment to ensure it meets Telecom standards. Our drops are not just for phones but also data, WiFi HotSpots, and GPS-sync'd clocks. We rely on CenturyLink, Windstream, and InterMedia(Verizon Voice) to make outbound phone calls from the county system; 48 channels through CenturyLink, and two separate 100-channel paths through Windstream for redundancy.

## ShoreTel IN / Harris Unit 2 Out

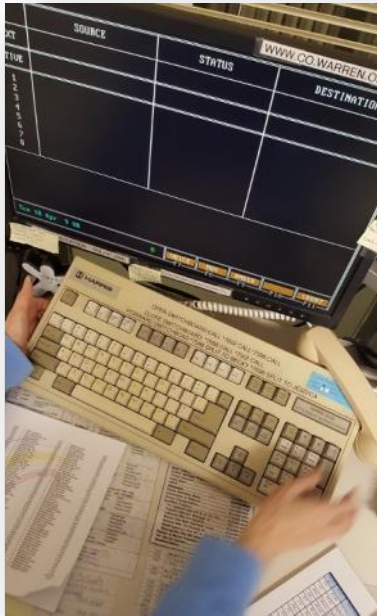
The Harris 20/20 Unit2, a long-time (and very large) fixture at Telecom was a telephone switch that expanded capacity to the county phone system. The introduction of the new ShoreTel system began the phase-out of Unit 2 and its place in the frameroom! Unit 1 still exists to facilitate the receiving of incoming calls from non-ShoreTel phones then hands off the call to the dialed number. It also houses any county departments not yet on ShoreTel. One benefit of getting rid of Unit 2 is to use its parts to repair Unit 1, as the vendor (and its repair services) went out of business in 1994. We've been self-servicing our equipment ever since!



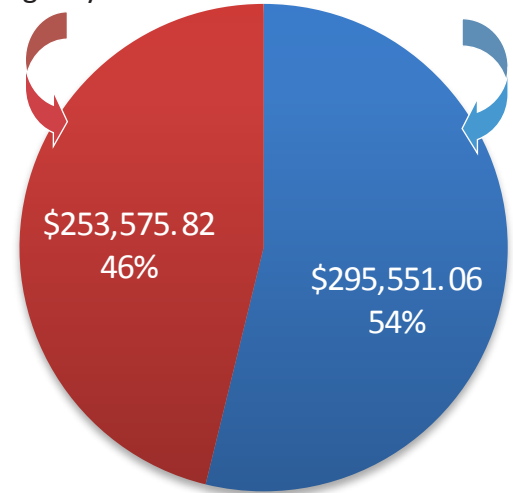
Telecom's Support Services Team (SST) manages all County coworkers' cellular bills on one account which gets Warren County a bigger discount (fiscal stewardship of taxpayer dollars). We essentially replace the functionality of a Verizon store as all coworkers come to us for phone upgrades, accessories, and plan changes.



After years of being the main county switchboard operator, we partnered with the Office of Management and Budget to share the responsibility. We now answer the switchboard on Mondays, Wednesdays, and odd Fridays which averages 50 calls per day.



Telephone Services: Agency-billed vs. Commissioner-Funded



Our Community Manager conducted

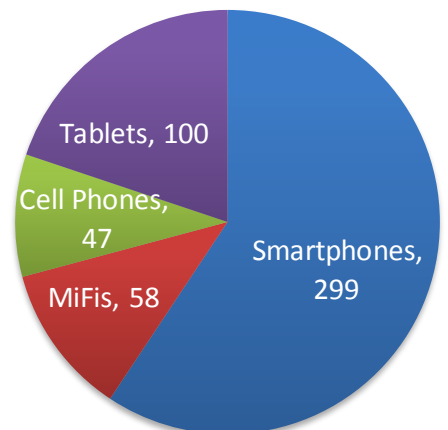
**13** classes for **47** Coworkers



**704**

work orders were processed by SST related to Cellular, Mobile Data, and Public Safety's usage of our VZW account. This included account changes (data plans, hotspot, removal/addition of an employee), accessory purchases (cases, screen protectors, chargers), phone purchases (free upgrades, replacements for damaged phones, new hires), etc.

County Coworker Equipment



(continued from PSSM Bernard's letter) **A neat outcome of Paul's COOP presentation:**

HipLink is now sharing our PowerPoint with their customers nationwide as a tool for teaching its features to their users. Cost and interest from Warren County departments will determine if and when more coworkers begin utilizing HipLink for mobile notifications (text/email).

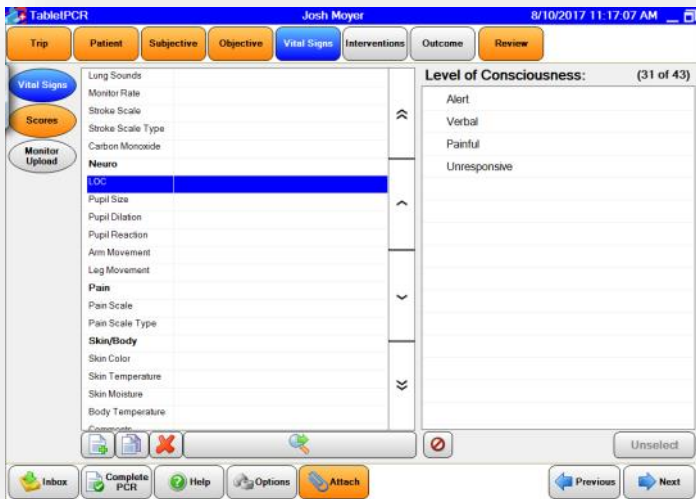


## FRMS

Fire Records Management System is utilized by all Warren County-dispatched Fire agencies. Telecom hosts the backend system in our Data Center while each fire department manages their own data and records. In the 1990s, a consultant studied the local fire services' technology and his recommendation was a consolidated countywide FRMS. The benefits would include cost-sharing, knowledge-sharing, assurance of NFIRS compliance, and eligibility for grant funding. Quite possibly the biggest benefit of our existing FRMS is that it's tied into our CAD system, since we host both FRMS and CAD. Information can flow out of CAD and into our agency's FRMS, saving them data entry and increasing data accuracy (especially incident times).

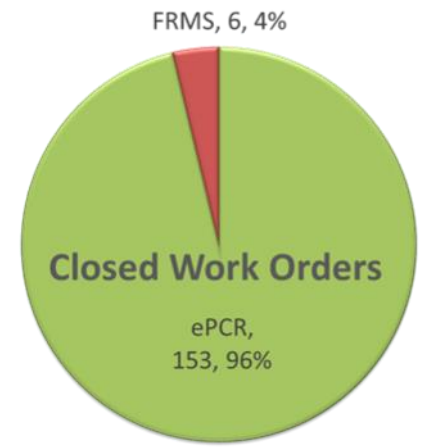
## ePCR

Electronic Patient Care Reporting is a sister product of our existing FRMS. By sticking with one vendor, the flow of information between FRMS and ePCR



is more fluid and reliable. ePCR is utilized by all Warren County– dispatched EMS agencies. Not only does Telecom host the data but we have a dedicated analyst who works on behalf of our customers with the vendor, the state, and the billing companies. He helps modify agencies' EPCR workflows and helps improve their Quality Assurance process (checking for mistakes before the report is ever sent to the State or billing company.) In 2018, Clearcreek Twp Fire & Union Twp Fire have taken a much more active role in their QA process, thus taking advantage of our analyst's services.

ePCR has an annual licensing cost which is initially covered by Telecom before being cost recovered; each agency paying their portion based on number of utilized licenses.



## LRMS

Law Records Management System—most of the work has been spent on #ProjectTriTech (Pages 8-9). Progress has been made in WebRMS. Added to the RMS Suite are Property and Evidence, Evidence Tracker, Warrants, Expungements, and significant upgrades to Master Search. We are still patiently waiting for TriTech to upgrade the reporting system to become compliant with OIBRS and the crash modules. Our Analyst has received valuable help and insight from her core LRMS agency partners; WCSO's Kathleen Farmer and Springboro's Jennifer Embleton.

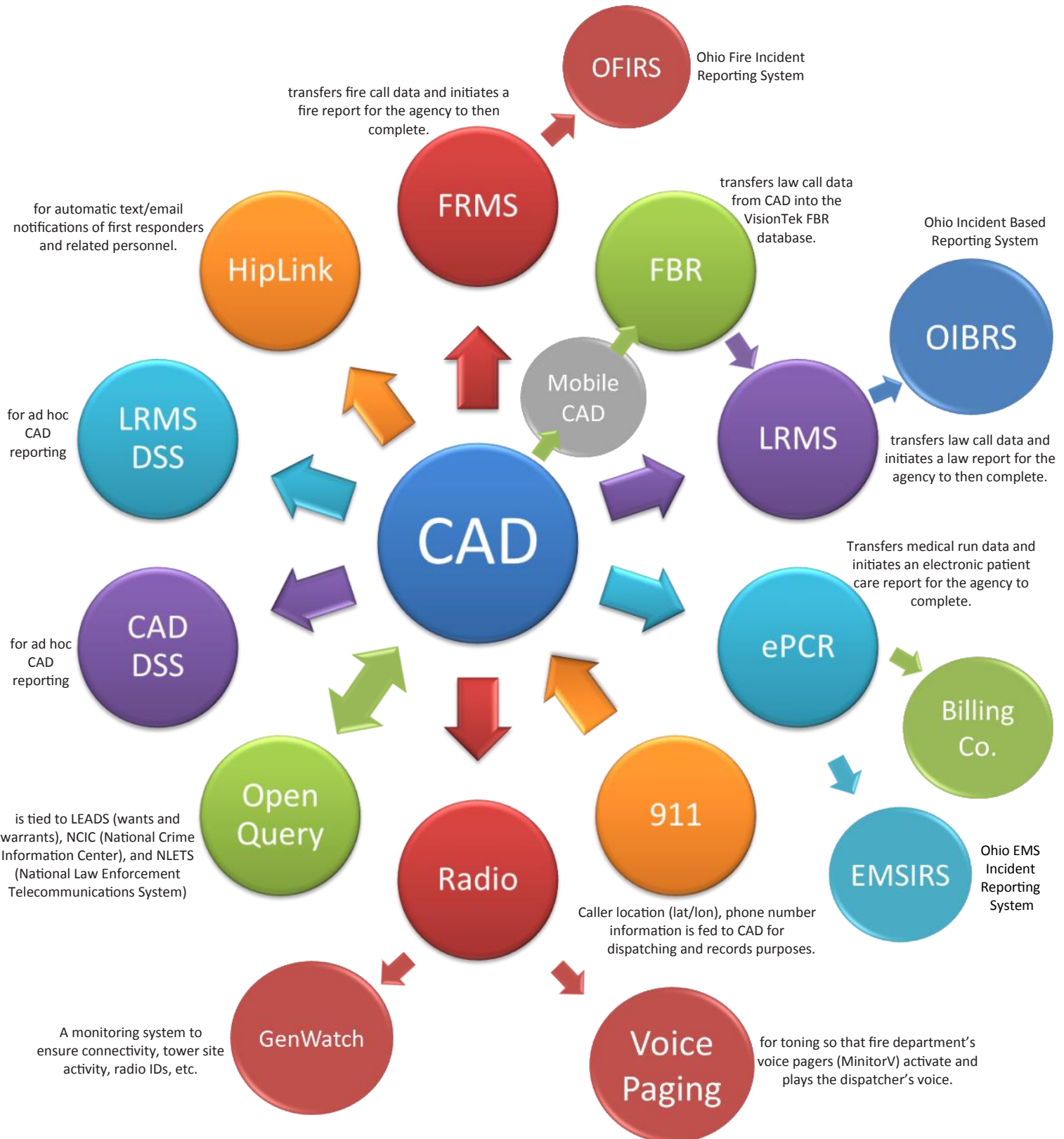


## Response & Crime Analysis

The record data we house on behalf of public safety agencies is used to analyze responses and crime statistics.



**Interfaces** are essentially pipes between two or more systems so that information can flow between them. Below is a diagram of our active interfaces to and from CAD along with their purposes.



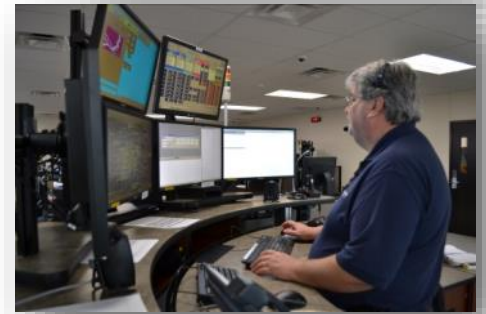
## 22 Dispatch CAD Workstations

reside in the Communications Center, Emergency Services Training Room, ES Director’s desk, ES Operations Manager’s desk, ES Trainer’s desk, Telecom Integration Center #1 (TIC), TIC #2, and Paul Bernard’s desk. We perform physical cleaning maintenance on a rotating schedule, caring for each workstation 4 times per year. It takes one hour to clean one station, clocking 88 total hours per year maintaining this customer’s investment. The Telecom Integration Centers are located in our basement and contain all systems and programs available in the ECC (9-1-1, Radio, CAD/Mapping.) In the event that Emergency Communications Operators need to abandon the ECC, they can report to Telecom and resume all necessary functions.

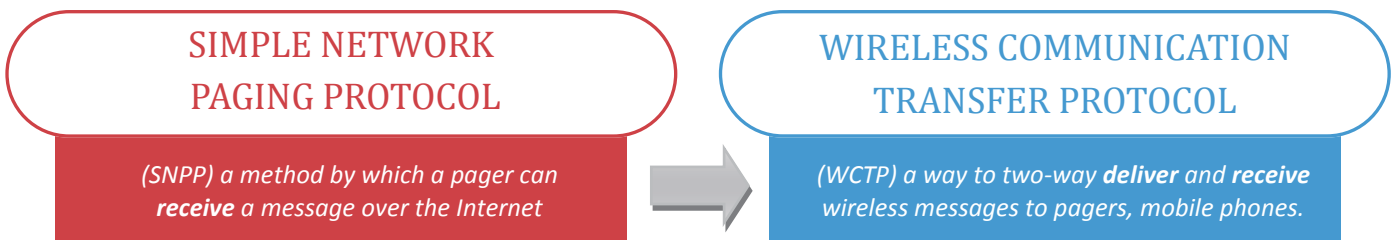
**Radio Dispatching** Telecom built two new console configurations to add additional capabilities to all the consoles. Resource layout, inclusion of outer-county mutual aid talkgroups, and color-coding were big requests from Dispatch to make it more user-friendly. The Radio Team’s daily Keep-the-Lights on responsibilities include checking all communication lines that run between the ECC and prime site (9-1-1, radio) and the connection with MARCS which ensures we stay connected to the state radio system.



**CAD** Computer Aided Dispatching is the heart of the system where calls for service originate. In the late 80s, Dispatch’s original method of call taking was writing everything on cards and log sheets and referring to a large map book. To create a post-incident report, people had to dig through boxes. The introduction of CAD provided a database of addresses and an electronic depository of all calls for service. Eventually, mapping was integrated cluing a dispatcher into incident location and agency with jurisdiction. Highlights of 2018 included the addition of school resources officers and response plan modifications.



**HipLink** transitioned from using SNPP to WCTP protocol which is more reliable and in line with our industry standards. This will better incorporate 2-way paging which allows recipients to reply to dispatch acknowledging the notification; enhancing interoperability. WCTP makes having a recipient’s cellular carrier optional for Telecom. We still collect carrier information in the chance we need to use SNPP, but with WCTP, as long as we have the phone number, Verizon handles the routing on our behalf.



Thanks to our FREE EMAG (Enterprise Messaging Access Gateway) from Verizon Wireless, our HipLink messages hit Verizon in under 1 second, ready to be shipped to our customers.



**Mapping** Telecom receives parcel, oddly shaped subdivisions, building footprints, and updated city boundaries. We then tighten it up for the purpose of public safety response needs to create the Dispatcher-facing map. This will also feed the agency-facing map once #ProjectTriTech (CentralSquare) InformMobile is live. Telecom maintains the source map used by CAD which directs the program to the appropriate responding agencies, aids in address verification, and is customized by agency and beat/response region.

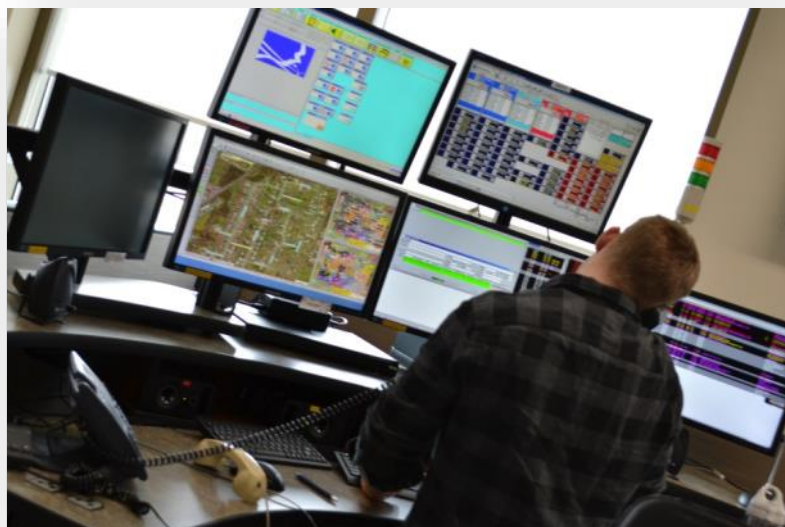
**PSAP /9-1-1** The Commission provides PSAP services to all communities except Lebanon and Franklin via Emergency Services. A Public Safety Answering Point (PSAP) is a call center responsible for answering calls to an emergency telephone number (9-1-1) for police, firefighting, and ambulance services. The Commission provides 9-1-1 services and support to all communities via Telecom’s 24/7 on-call staff.

**Priority Dispatch ProQA** is a nationally recognized tool used by dispatchers to consistently ask questions based on the caller’s emergency. Only Fire (EFD) and Medical (EMD) use this service. Telecom’s role is maintaining the backend servers on which ProQA resides.

## Alerting

- Fire Minitor / Voice Paging - Telecom purchases and provides Minitor pagers to any Warren County-dispatched agency who requests them. The radio consoles in Dispatch generate a two-tone sequential tone to activate the voice pagers and house systems of the proper agency and play the dispatcher’s voice with relevant incident information. They also open up for the countywide all-call “long B” tone. To expedite mutual aid (early notification), we provide Warren County tones for outside agencies’ pagers who request them (e.g. Goshen for Hamilton Twp incidents, Loveland-Symmes for Deerfield Twp incidents)
- Station Alerting: A pager built into the fire station receives tones from the ECC. Telecom maintains an accurate paging database which the CAD system relies on to automatically encode the tones. Dispatchers can also manually alert a station. Telecom ensures triple redundancy with ECC consoles, backup system, and MIP 5000.)

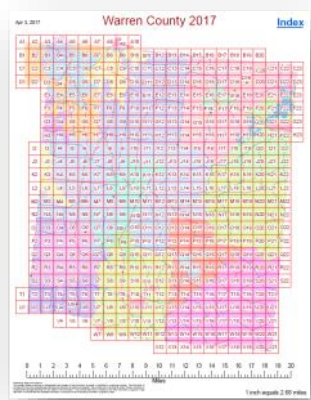
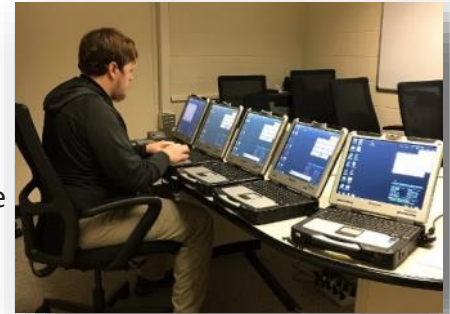
**Dispatch Problem Reports (DPRs)** A 24/7 open line of communication exists between the Emergency Communications Center (ECC) and Telecom. Dispatchers are able to submit any problem, big or small, to Telecom. Our team members receive email alerts and if serious, Telecom’s on-call personnel will be paged out to troubleshoot and escalate if necessary. The on-call personnel must respond via phone within 10-minutes and be on-site within 2 hours.



## Interfaces

- CAD > VisionTek: the conduit between police and fire/EMS' Mobile Data Computers and Dispatch (Premier CAD).
- FBR > LRMS: so that field-based report (FBR) data can be usable from the law records management system.
- BMV/LEADS: allows law enforcement to see license photographs, driving records, wants & warrants, vehicle registrations, etc.

**119 Mobiles Imaged** When you bring your MDC to Telecom for 're-imaging', it means David is reinstalling the Windows operating system and putting on required software all at one time. He's also installing TriTech onto machines so that users can begin testing the features! 54% of law MDCs and 40% of fire MDCs now have TriTech!

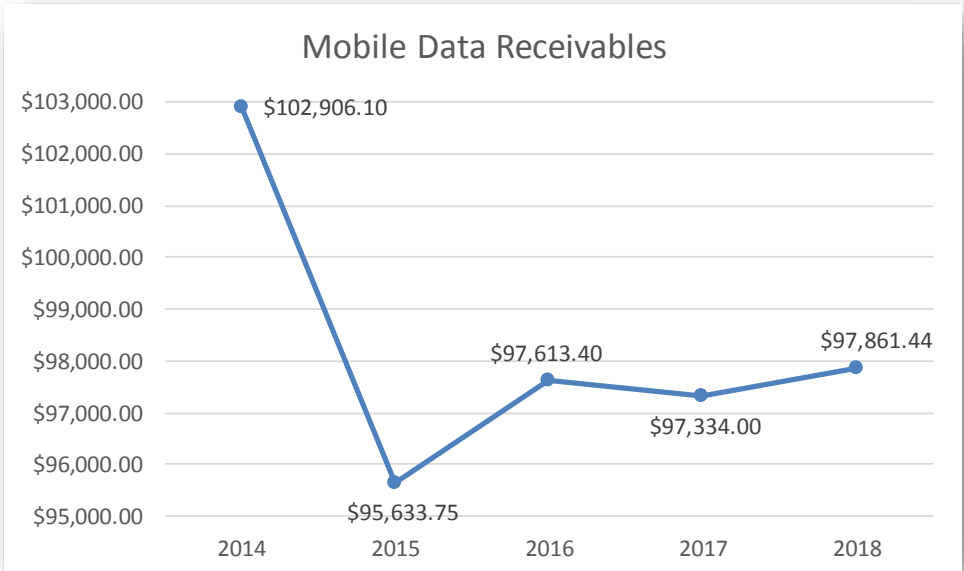


**MAPPING** Warren County Dispatch mentions the "Bingo Map's" cell for each call to help a responding unit zoom into the geography of the incident. This map is maintained by Telecom to include all new roadways, hydrants, etc.

**550 Users** carry a Two-Factor Authentication Token for MDC access + entry to the WCPSN portal which provides applications and virtual desktops. We have portal users across all the law and fire agencies as well as Telecom, Emergency Services, Warren County Water Dept, Child Support, and Warren County Human Services. The Portal was also used to facilitate the ShoreTel apps to non-county network users.



*Verizon Mobile Data coverage is paid for by public safety agencies while Telecom administrates the account on their behalf. Agencies include: Clearcreek Fire, Carlisle Fire, Deerfield Twp Fire, Franklin Township Fire, Hamilton Twp Fire, Harlan Twp Fire, Mason Fire, Massie Twp Fire, Salem-Morrow Fire, Turtlecreek Twp Fire, Union Two Fire, Wayne Twp Fire, JEMS, Carlisle PD, Deerfield Twp WCSO post, Franklin PD, Hamilton Twp PD, Harveysburg PD, Maineville PD, Mason PD, Morrow PD, South Lebanon WCSO Post, Springboro PD, Waynesville PD, WC Emergency Services, Telecom, and WCSO Lebanon post.*



Disaster Recovery is an ongoing project with the goal of geo-diversely locating our essential systems. In our 2019 budget, Telecom received \$100,000 in dedicated DR funds to continue expansion of our DR capabilities.

**Phone** In 2018, Telecom continued working on Disaster Recovery, snapping on capabilities such as the ShoreTel backup capability. In the event that the primary ShoreTel (Mitel) system goes down or we need to perform maintenance, the backup will keep our phones online.

The DR site houses a backup for our conference bridge should Telecom’s office be compromised.



## PSAP / 9-1-1

- In 2017 we dropped an additional shelter at our DR site.
- In 2018 we rehabbed it and prepared it for equipment installation.
- In 2019, we plan to move the 9-1-1 secondary system to this new shelter which will better shield it from tower lightning strikes while freeing up much needed space in the radio shelter. Not having all of our DR equipment at one location adds diversity and better protection.

**Dispatch + RMS Services** Telecom has seen major improvements with each new CAD suite brought online. The first generation was one PC which only allowed one dispatcher on a call for service at a time. The second generation product was enterprise-grade greatly increasing ease of dispatching. Our third generation set to come online in 2019 will add backup capability. A copy of our future #ProjectTriTech (CentralSquare) CAD system will be housed at our DR site should the primary system go offline. Our approach has always been proactive, methodically planning every scenario possible.

**“The Vault”** Team Members made 212 vault runs last year; where backup tapes are securely stored for the purpose of records retention and data recovery. These tapes include data for everything in the Data Center.

**Physical Plant** is any location that Telecom is responsible for, and includes buildings, rooms, structures. Some common components of these locations include:

- **Building** This takes in to account the physical structure and can include anything regarding it, such as; doors, roof, rodent control, walls, etc.
- **Grounds** This includes access, driveways, walkways, grounds control (lawn, weeds, etc) maintained by Warren County Facilities Management.
- **HVAC** Telcom is responsible for ensuring that proper heating and cooling, along with Environmental Monitoring is taking place.
- **Power (Commercial and Backup)** Power is pivotal to any environment housing telecom equipment and resources. Telecom utilizes battery, UPS, inverters, generators, and transfer switches as backup power should commercial power fail. This is important because if the local community experiences a power outage, Telecom’s lights stay on, and this switch happens seamlessly.
- **Physical Security** Physical security of these location is important, and includes doors, gates, fencing, and related systems to make each site secure.



## Main Physical Plant Locations

- **Data Center** (see more on the Data Center page)
- **10 Towers** - (3) legacy tower sites were inspected and routine maintenance performed to align them with current tower safety codes. They carry the main radio system, they hold the microwave antennas for backbone and last mile equipment in that area. One site doubles as a Verizon platform. We’re beginning to use the backbone system to extend the County VOiP phone system to county buildings not on the Justice Drive campus, where it’s not feasible to run fiber cable.

**18** public safety-grade microwave links for the Data Backbone and System Control, VoIP traffic, voice traffic, etc.) **44** Microwave links for Public Works Information Backhaul, handling the data’s ‘last mile’ from our towers to end users (water tanks, wastewater treatment plants, well fields.)

Once called the Data NOC, the Data Center now has redundancy, true power systems, high availability for both hardware and software. This Center houses data for LRMS, FRMS, CAD, ePCR, AudioLog, ICS, ShoreTel/Mitel, and HipLink.

## Connectivity (LAN, WAN, VPN, Internet)

We use multiple connectivity methods to keep systems, applications, and resources easily accessible for our customers.



## Security

Telecom is held to the standards of CJIS (Criminal Justice Information System), LEADS (Law Enforcement Automated Data System), and CALEA (The Commission on Accreditation for Law Enforcement Agencies.) These drive how we store/retain/protect the data of our customers. We are periodically audited for security compliance and are constantly trying to stay ahead of the latest security risks.

## High Availability

One of telecoms goals is to eliminate as many single points of failure as possible, so that in the event of a system failure, our customers continue to operate as normal. With this in mind, many systems are redundant, so that in the event of a failure, resources are still available to our customers.



## Backups

Telecom utilizes several different backup policies and types to ensure that data is backed up for data recovery; and to meet archival requirements.

- *21.75 TB of Production data, 33.1TB total*
- *90% Server Virtualization*
- *Firewall System Failover Testing*
- *Internet Failover Testing*
- *Mobile VPN Failover Testing*
- *Data Restore Testing*
- *Virtual Machine Restore Testing*



Telecom is a cradle-to-grave Technology Advisor for the (3) major aspects of the Warren County Department of Emergency Services: Emergency Communications Center (ECC), Emergency Management Agency (EMA), Emergency Operations Center (EOC).



**ECC** Organized by FEMA, IPAWS is the Nation’s alert and warning infrastructure. It provides an effective way to reach and warn the public about emergencies. IPAWS is used to send notifications for three alert categories– Presidential, AMBER, and Imminent Threat.



**EMA** Telecom calibrated EMA’s weather station which supplies a real-time data feed of weather related stats (wind speed, temperature, barometric pressure, humidity, etc.) The data is specific to our county and useful in an emergency. Example: a chemical spill requires evacuation of all businesses and households down-wind. Referencing this weather station allows Emergency responders to calculate that square mileage.



**EOC** (2) 800MHz radio stations to communicate with the State in the event of an EOC activation and for regional communications. Telephones are directly connected to the 911 system. In the event of a widespread wind storm or blizzard, Emergency Services can ship non-emergency calls to non-emergency personnel in the EOC for call-handling with the simple push of a button on their 911 console.

**Warren County Facilities Management** Telecom’s office has never looked better thanks to the hard work by Facilities Management. Continuing our partnership, FM and our IST group were both brought in to advise on the new Jail and Juvenile builds, we share tools and resources, and work beside them on a weekly basis.



**Warren County Sheriff’s Office (Jail Management System)**

Telecom is not involved with the current JMS but when we go-live on InformJMS (TriTech/CentralSquare), Telecom will be responsible for housing the JMS data which the Warren County Sheriff’s Office will access. A major feature enhancement of InformJMS will be the ability to tie into RMS records for reporting and analysis versus the current process of logging into two separate systems.



**Warren County Information Technology** — Teamwork between Telecom and IT was at an all-time high in 2018! We coordinated on build projects like the Warren County Jail and Juvenile Expansion, and IT was also integral in the rebuild of our Telecom website. Telecom handles all data drops and fiber installation for all county facilities. Director Clift and Deputy Director Estes have also been sharing knowledge on Office 365 as both networks are moving in that direction.



## Warren County Career Center

Telecom repurposed old public safety radio consoles at the Career Center for high school and adult education training purposes. Lending to our partnership with Emergency Services, our goal is for qualified job candidates to come out of the Career Center to serve this Incredible County.

## Warren County Engineer's Office

We worked together with their staff to pull drops and prepare their office spaces for the new ShoreTel/Mitel phone system.

**State of OHIO MARCS** In 2014, Warren County joined the State of Ohio MARCS radio system. Our Tier4 partnership

provides our users with better portable coverage and expanded statewide capabilities. We also took over operation of the State's ODOT and Washington Twp towers, which nicely complimented our system, filling in coverage that our previous system did not provide. Plugging into the State also saves our tax payers roughly \$250,000 per year in maintenance cost. We also have a direct line to the MARCS 24/7 Help Desk.

## Public Safety Agencies

The entirety of this annual report boils down to our partnership with public safety agencies. Public Safety has become the main reason for Telecom's existence, growing from a telephone service to a 24/7 public safety technology provider. Some auxiliary services we provide are:

- **Committee Representation:** Telecom is an active participant in several public safety-centric committees: Communications Work Board, Warren County Police Chiefs Association, Warren County Fire Chiefs' Association, and the Emergency Communications Workgroup. Our Community Manager is Recording Secretary for three of these groups; not only helping them keep timely records but aiding Telecom to stay at the forefront of meeting public safety needs, adjusting our technologies to fit their strategic missions, and maintain relationships with our customers.
- **Engraving** of accountability tags, incident status boards, incident status boards, and miscellaneous signs/tags.
- **Large-scale mapping:** Using our existing public safety data, we can provide station radius maps, topography maps, response zone maps, and other resources that aid public safety agencies to conduct their incidents successfully.



ENGRAVING	2018	2017
Accountability tags	2639	1623
Status Boards	0	1
Passports	70	47
Other	22	33
<b>Total:</b>	<b>2731</b>	<b>1704</b>

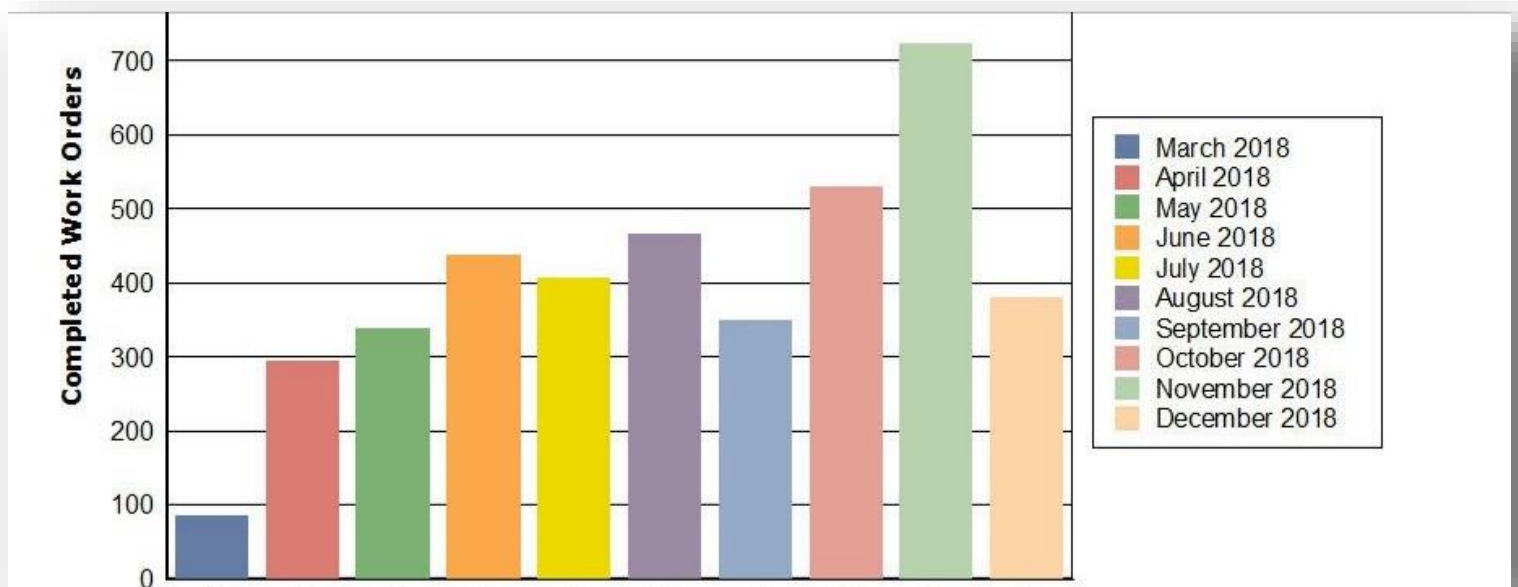
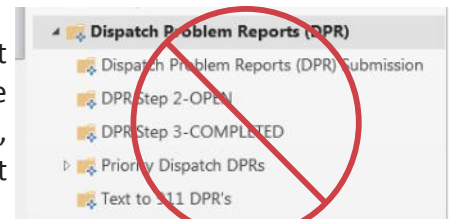
**Community management, at its core, is about relationships and how Telecom seeks opportunities to support our community (industry partners, customers, coworkers, etc.)**

## NEW HELP DESK / WORK ORDER SYSTEM

*We transitioned to a department-wide ticket system - easier to use with great reporting tools!*

### Returns on our investment

- We removed paper from our telephone/infrastructure work order process. We transitioned from (5) color-coded paper forms to one consolidated electronic form. Rather than a paper work order being handed to our technicians, an electronic work order is generated and they're electronically alerted. This means they can stay out in the field longer and service our customers faster. The Help Desk system also handles technician notes, additional assignments that spawn from a larger work order, and reporting metrics.
- If our Community Manager is requested to train a new radio user permitted to have their own radio, she can create a work order for the Radio Team with expected completion date, so that the radio is programmed in time for training.
- Future plan: The Help Desk will drastically improve how Dispatchers submit Problem Reports and how Telecom manages them. Instead of multiple people receiving the same email, and moving it through a series of Outlook folders, Dispatch will now submit a DPR through a custom web-based HipLink form that hits our Help Desk.
- Future Plans: Managing our Service Level Agreements (SLAs) so that if we surpass a customer service level, the Help Desk holds us accountable and keeps us true to our promises.



Telecom has offered end user training since 2006. Videos are available 24/7 from our YouTube channel and website plus classroom trainings are offered for several products and services. Trainees range from county coworkers to public safety and even state/federal agencies. In partnership with the Communications Center, Telecom even takes trainees on a tour of the Dispatch Center!



**86.5** hours with **165** trainees



Mason Police Recruits play against each other in Telecom Jeopardy to learn about the radio system and Telecom!

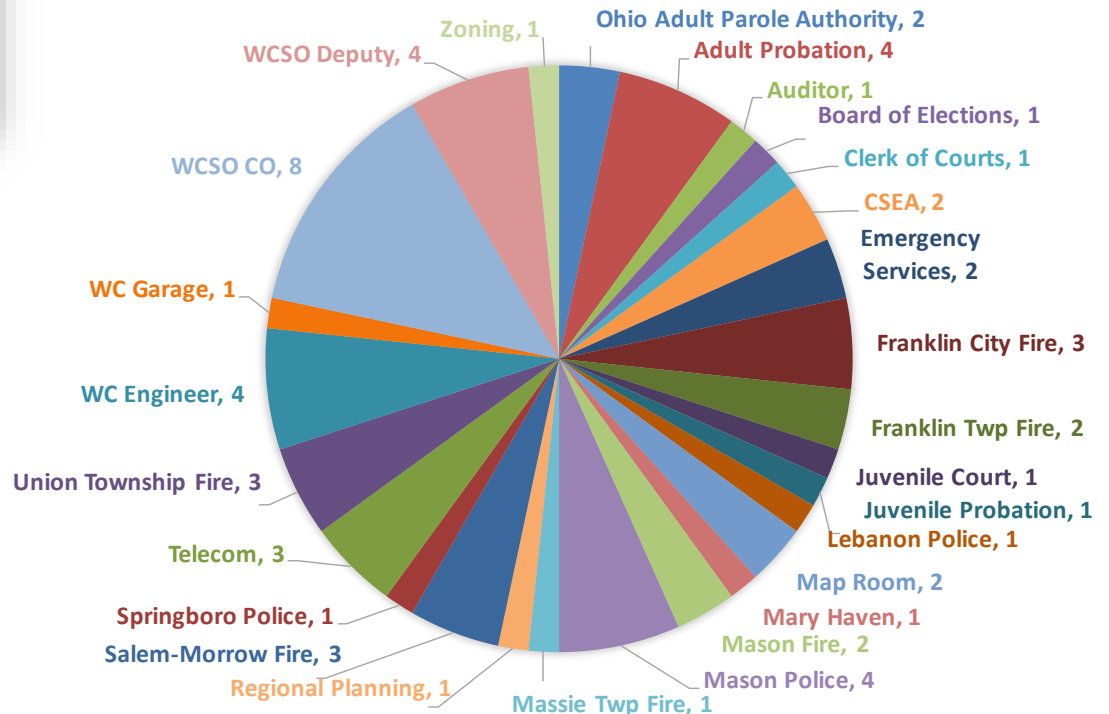


Ohio Department of Rehab and Correction Adult Parole Authority received Warren County talkgroups to aid in communication with Warren County law enforcement. They all visited Telecom for a full radio class.




Interactive Coworker desk phone class

## TRAINING SESSIONS (BY CUSTOMER)



18 Issues of  **TELECOM**Matters  
our monthly newsletter of things that matter. all things Telecom.

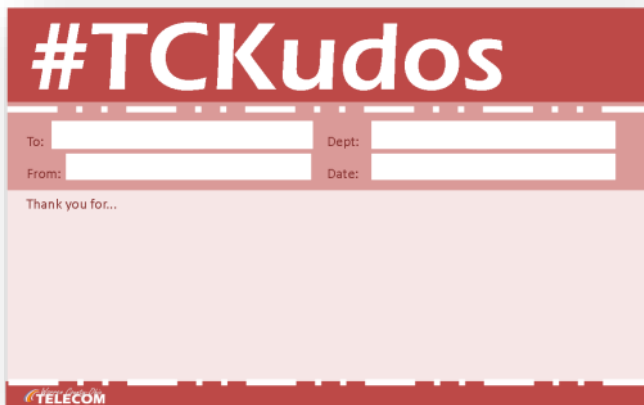
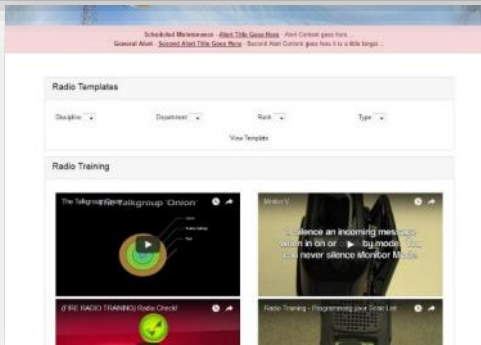
 **10** Technical Bulletins covering Electronic Patient Care Reporting updates, Dispatcher Audio, and Google 9-1-1 Coordinates.

 **4** new videos regarding Emergency Button, Open House, and ePCR.



www.WarrenCountyTelecom.com was redesigned with the help of Warren County IT, aligning our aesthetic with the rest of Warren County departments. The new site has enhanced features such as:

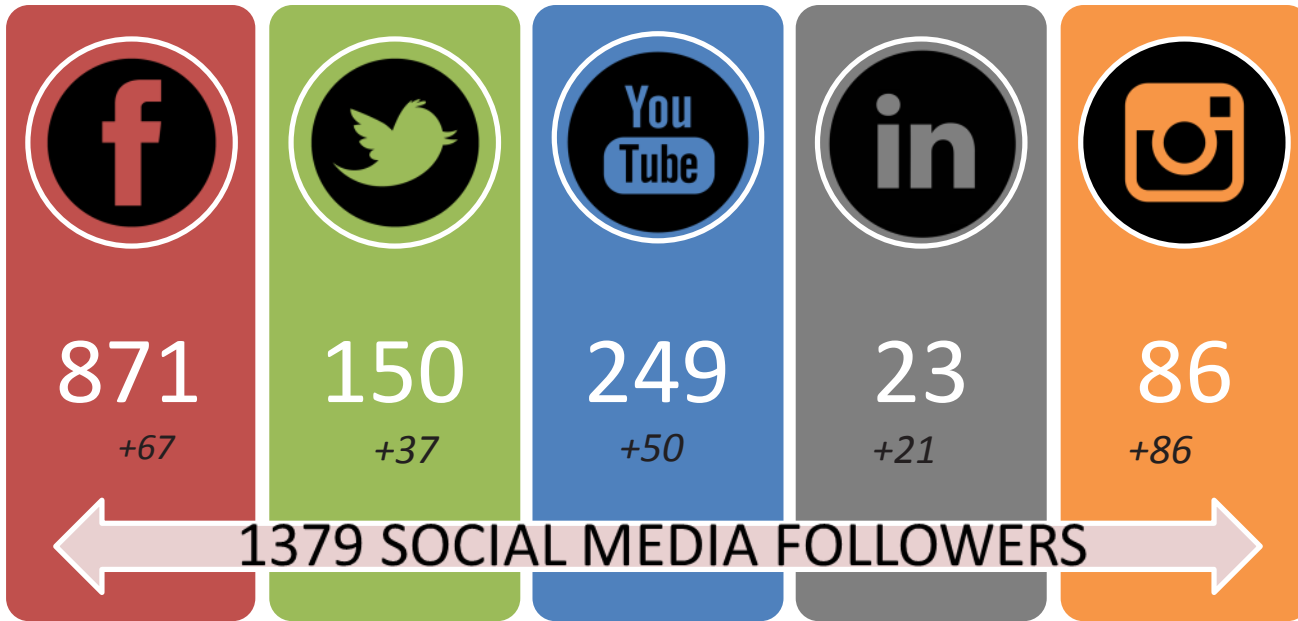
- Radio Template search
- Online Forms
- Alert ribbon
- #TCKudos & Help Ticket Submission
- Technical bulletins & newsletter archive
- 'Start your Career' button linking to Warren County's employment postings
- Easy Portal Access & Remote Support



In May, we launched #TCKudos, a recognition program for Telecom team members and those we work with. 21 Kudos were awarded recognizing above-and-beyond efforts!

## The #PoweredByTelecom App

Collaborating with Warren County IT, we finalized an app for both iOS and Android. Features include radio template lookup, directions, newsletter, social media links, website browsing, weather, dynamic alerting, training videos, help ticket submission, and photo submission. It's awaiting approval with Apple and Android for publication.



You would have to take **192 direct flights** between CVG + LAX to watch the **43,712 minutes** of Telecom Videos our YouTube viewers watched in 2018. That's 729 hours!



Training Room **239 events**  
Conference Room **62 meetings**

**Bene-FIT Fair** Each fall, our Support Services Team spearheads a raffle basket. This year's gift cards basket was a show stopper valued at \$225!



**Amazing Race** Our very own Jeff Cepin has made the Warren County Amazing Race his annual project to bolster coworker interaction outside the office. This year had a record turnout with 8 coworkers running two challenges!



**Halloween Humor** We encourage neighboring departments to dress in costume. This year we visited Emergency Services, Child Support, and the Clerk of Courts for a lunch-time laugh!



**Hoxworth Blood Donation** Several coworkers donate blood, either when sponsored by Warren County or on their own time.

**Christmas Child Sponsorship** Jessica Johnson is definitely our in-house philanthropist! If she sees an opportunity to do good... she goes for it! This Christmas, several coworkers joined her to sponsor a family who otherwise wouldn't experience the joy of Christmas. As you can see from the lunch time wrapping party... the kids had MORE than they could dream of!



**#ChristmasChallenge2018** Our 2nd annual Christmas Challenge saw double the participation and competition! Several departments dedicated after-hours and weekends to decking their halls in hopes of winning Best Theme or Most Creative! Our judges were Lebanon Mayor Amy Brewer, former County Commissioner Pat South, and Mobilcomm Rep Dave Nieman. 2019's winners were Telecom and Child Support Enforcement Agency!





# Connect with Telecom!

 [WarrenCountyTelecom.com](http://WarrenCountyTelecom.com)

 [/WarrenCountyTelecom](https://www.facebook.com/WarrenCountyTelecom)

 [/WCOH\\_Telecom](https://twitter.com/WCOH_Telecom)

 [/WarrenCountyTelecom](https://www.youtube.com/WarrenCountyTelecom)

 [/WCOH\\_Telecom](https://www.instagram.com/WCOH_Telecom)

 [help@wcoh.net](mailto:help@wcoh.net) 513.695.HELP

 [/company/WarrenCountyTelecom](https://www.linkedin.com/company/WarrenCountyTelecom)



Warren County, Ohio  
**TELECOM**

