

Metropolitan Area Communications Center



Metropolitan Area Communications Center
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A Comprehensive Overview of MetCom April 2017



Metropolitan Area Communications Center

History

On the 19th day of January 2006, the Metropolitan Area Communications Center (MetCom) was founded. Since that day, the primary objective has been to serve as a regional Fire/EMS emergency communications center, committed to outstanding patient care, exceptional customer service, and superior call handling performance. These founding principles are demonstrated each day by MetCom's ability to meet or exceed all NFPA 1221 performance standards, meet the standards established by the Commission on Fire Accreditation International (CFAI) and MetCom's recognition as an "Accredited Center of Excellence" (ACE) by the National Academies of Emergency Dispatch. MetCom's ACE Accreditation is quite the prestigious honor, making MetCom the 141st public safety communications center in the world and the first PSAP in the Denver Metropolitan area to demonstrate this high level of Emergency Medical Dispatch performance.

In addition, MetCom dispatchers hold national certifications in Emergency Medical Dispatch, Emergency Fire Dispatch, Incident Command System (ICS), National Incident

Management System (NIMS), and more. MetCom prides itself on the ability to get a fire truck or medic unit to a citizen's door in the most efficient and expeditious means possible.

As a communications center focusing solely on Fire and EMS incidents, MetCom provides a unique, and very attractive, service to these departments. Striving to stand out as a leading Public Safety Answer Point (PSAP), MetCom has always encouraged professional growth through ongoing training, job-related certifications, public education, special projects, and other opportunities.

In 2016, MetCom re-integrated back into South Metro Fire Rescue, the largest agency served by MetCom. This re-integration further strengthened the working relationship between MetCom and South Metro, while also providing the opportunity for greater service to the other agencies served by MetCom. MetCom is physically located on the lower level of the South Metro Fire Rescue Headquarters at 9195 East Mineral Avenue in Centennial, Colorado.

MetCom believes the best way to see the future is to create it. Knowledge, innovation, and dedication are precursors to greatness. It is our vision to become renowned for quality service and professionalism, setting the industry standard for multi-agency communication centers.



Agencies Served

MetCom currently serves as the communications center for South Metro Fire Rescue, Bennett Fire Protection District, Byers Fire Protection District, Deer Trail Fire Protection District, Sable Altura Fire Rescue, Strasburg Fire Protection District, and West Douglas County Fire Protection District. With a service area stretching across more than 1,700 square miles, MetCom dispatchers must maintain a thorough understanding of rural, suburban, and urban operational needs. Adding to the uniqueness of this service area is the vastly different terrain, ranging from mountainous, to rolling hills, to wide open plains.

With a population of over 200,000 residents spread across more than 179 square miles of land in Douglas and Arapahoe counties, South Metro is the most heavily populated agency served by MetCom. Service areas include Centennial, Greenwood Village, Foxfield, Lone Tree, Louviers, Parker, Castle Pines, Centennial Airport, Cherry Hills Village, and other unincorporated areas within these counties. In addition to district residents, thousands of people make their way into South Metro's service area each day as

they commute to various large employers throughout up-scale urban areas such as The Denver Tech Center and Inverness Business Park.

The most recent additions to the agencies directly served by MetCom are, Bennett, Byers, Deer Trail, Sable Altura, and Strasburg. These five fire departments cover a combined total of more than 1,540 square miles of response area just



east of the Denver Metro area. Often referred to as the "I-70 Corridor", these five departments begin at the eastern edge of Aurora and extend for more than 40 miles east along both sides of I-70. Severe weather, dry vegetation, and expansive response areas all provide distinctive challenges to these departments.

The West Douglas County Fire Protection District provides fire and medical response to approximately

56 square miles of rural Douglas County. The mountainous terrain of this district provides unique challenges, both in terms of emergency access and also radio operability. West Douglas County Fire serves citizens and visitors throughout nearly a dozen subdivisions, the town of Sedalia, and a section of the Pike National Forest.

In addition to the agencies directly served by MetCom, there are several other agencies that MetCom works closely with on a regular basis. For example, South Metro Fire is bordered by 10 neighboring fire departments, to include Aurora, Castle Rock, Cunningham, Denver, Littleton, and West Metro. Agreements have been established with each of these departments for varying levels of aid in certain situations. MetCom also works with the Buckley Air Force Base Fire Department and several other rural fire departments along the eastern plains to provide resources to the I-70 corridor when needed.



Staffing

MetCom is staffed with twelve full-time and five part-time communications professionals, covering a total of three shifts. Each shift consists of one supervisor, one lead, and two dispatchers. An operations manager oversees the three shifts. The daily operations of MetCom, and also of the agencies served by MetCom, are

supported logistically by 5 I.T. professionals, 1 Data Analyst, 1 GIS Manager, 2 GIS Specialists, a CAD Administrator, and the Director. In 2017, MetCom is anticipated to dispatch over 21,000 calls for service, and can comfortably handle up to 25,000 calls annually with current staffing levels.

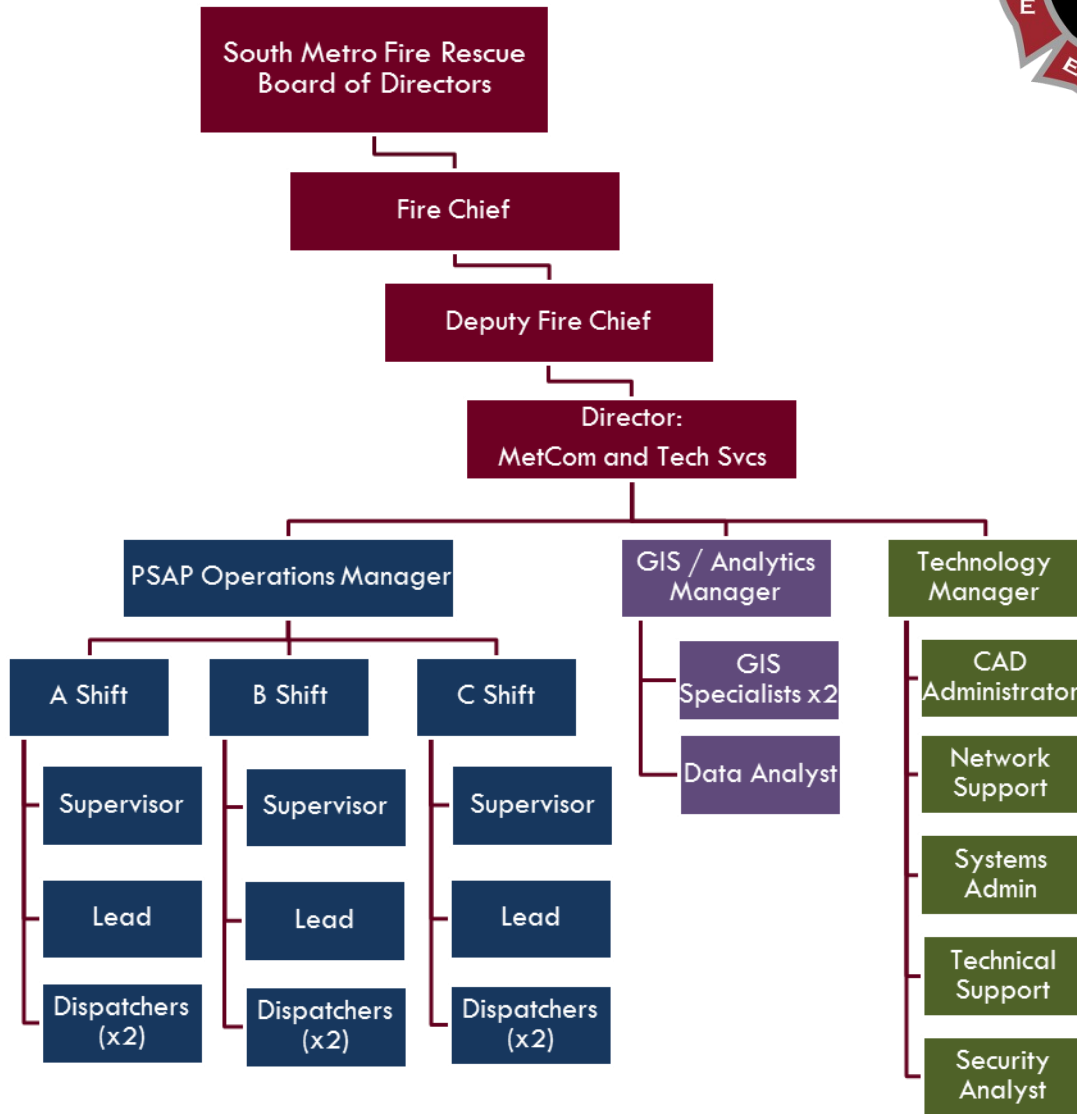


MetCom’s staffing model is quite unique, and the only one of its kind in Colorado. Operating on a Modified Kelly Schedule, MetCom dispatchers work 24-hour shifts, starting at 7:00am each day. Benefits to this staffing

model include the ability to maintain consistent staffing levels, reduced sick/leave time usage, increased comradery within each shift, and greater time away from work to decompress from the stress of the job. From 6pm to 6am, dispatchers are each permitted a 6-hour sleep period, however if the need arises, dispatchers can be recalled, returning the center to full staffing in under 90 seconds. Several factors contribute to the success of this unique schedule, including full kitchen amenities, flexible breaks, and private sleep rooms.



Organizational Chart



Technology



MetCom's dispatchers are supported through a state of the art computer-aided dispatch (CAD) system. The Informed CAD system, manufactured by TriTech of San Diego, California, is a Windows based CAD system designed to assist communications center personnel in managing unit locations, unit statuses, pending/active incidents, and other critical information. The incorporated GIS technology results in expedited response times and advanced mapping capabilities. Partnering with surrounding agencies, MetCom is able to further improve the service provided to the community by using real-time closest unit recommendations, even if the unit being sent is from a surrounding

fire district in many cases. The Informed CAD platform supports multiple interfaces which allow caller information to be input directly from the 911 phone system, emergency units to be tracked through automatic vehicle location (AVL), and the use of mobile data terminals (MDTs) to support field operations. Additionally, MetCom supports interfaces to:

- First-In Automated Station Alerting
- Records Management
- SMS (paging/e-mail) notification
- Active 911 notifications

PulsePoint

- Pulse Point citizen alerting

Radio communication is supported through the use of the Consolidated Communications Network of Colorado (CCNC), a statewide 800 MHz digital trunked radio system (DTRS). This common statewide backbone allows MetCom, and the agencies it serves, to communicate with each other in most parts of Colorado. The standardized equipment and frequency format allows users to communicate with each other and various communications centers, regardless of the unit's physical location within the state. Additionally, MetCom has the ability to utilize VHF frequencies from each dispatch position.

Utilizing Intrado's Viper call handling system, MetCom dispatchers take total control of landline, wireless, VoIP, and Text communication methods. The user-friendly and customizable user interface provides dispatchers a wide variety of options for locating a caller, triaging calls, placing calls, and transferring callers.



Training & Continuing Education



The new hire training academy begins with a comprehensive selection process. MetCom only hires communications professionals for dispatch positions with a minimum of two years public safety experience. Additionally, all personnel must undergo standardized CritiCall testing, psychological screening, drug testing, and background checks prior to being offered a position with MetCom. Once hired, initial training focuses on advanced Fire/EMS call management, while also reinforcing consistency and incorporating the importance of thorough documentation. The new hire training academy includes 120 hours of didactic training and 240 to 320 hours of on-task training prior to being cleared to work all positions within the Communications

Center. MetCom's training program is accredited and meets the APCO Project 33 Standards, further demonstrating MetCom's commitment to excellence in public safety communications. As a base standard, all dispatchers are required to maintain certification in CPR and the National Academies of Emergency Dispatch's EMD and EFD programs. Dispatchers must also achieve APCO Telecommunicator and Fire Communications certifications, Blue Card Fire certification, and complete NIMS 700 /800 and ICS 100, 200, and 300 courses. All dispatchers also have awareness-level training in hazardous materials, tech rescue, dive operations, wildland fire operations and aircraft rescue fire-fighting (ARFF).

***MetCom** works to strengthen departmental knowledge through scheduled continuing education and field observation rides. MetCom provides monthly training, along with quarterly discussions and table-top exercises to ensure core knowledge for low frequency / high acuity calls for service.*

Finally, all personnel must attend a minimum of 40 hours of in-service training annually, in addition to staff meetings, drills and exercises. All of MetCom's Supervisors are required to complete a national two-week Communications Center Managers course, and are expected to attend yearly management training in addition to all scheduled in-service trainings.



Emergency Medical / Fire Dispatch



MetCom's dispatchers are certified in and practice Emergency Medical Dispatch (EMD) through a set of standards known as the Medical Priority Dispatch System (MPDS). MPDS is based on published standards by the National Association of EMS Physicians (NAEMSP), the American Society for Testing and Materials (ASTM), the American College of Emergency Physicians (ACEP), the U.S. Department of Transportation (USDOT), the National Institutes of Health (NIH), the American Medical Association (AMA), and more than 20 years of research, development, and field testing throughout the world. The MPDS protocol contains 34 Chief Complaint Protocols, Case Entry and Exit information, call termina-

tion scripts, and additional verbal instruction protocols for AED support, cardiopulmonary resuscitation (CPR), childbirth assistance, tracheotomy, airway and breathing, and the Heimlich maneuver.

Special protocols for stroke identification, aspirin administration and pandemic flu triage are also part of this internationally accepted standard.

MetCom holds accreditation through the National Academies of Emergency Dispatch for its ability to comply with all training, quality assurance and performance standards associated with MPDS.

Similarly, MetCom dispatchers are certified in Emergency Fire Dispatch (EFD), which follows a com-

parable set of standards based on fire and rescue situations. Much like the MPDS, the Fire Priority Dispatch System (FPDS) provides 28 Chief Complaint Protocols, each having specific case entry questions, pre-arrival instructions, and call termination scripts for the dispatcher to follow to ensure consistent and professional call handling.



Process Improvement Program

At MetCom, performance is constantly monitored at both the dispatcher level and the systems level, and opportunities for improvement are addressed individually and/or systemically. The MetCom Quality Assurance Program is based on a standardized evaluation process, with primary objectives being to:

- Ensure that dispatch personnel understand policy, practice and procedure
- Ensure strict adherence to the medical protocol
- Ensure that calls are accurately documented in CAD
- Ensure user agency safety
- Ensure standardized and consistent radio dispatching
- Ensure the training program is consistent with national standards

Process Improvement evaluations occur monthly and are reviewed by the Shift Supervisors. Areas of improvement or concern are reviewed by a peer-driven Dispatch Review Committee (DRC). Areas that are retroactively reviewed include:

- Emergency Medical Dispatching (EMD) Calls
- Radio Dispatches
- All Critical Incidents
- Random Selection of Customer Service Calls

Case reviews are performed utilizing standardized forms to evaluate the consistency of EMD, emotional content of the call, consistency of information given to responding crews, consistency in radio dispatching procedures and overall success of the call.

Process improvement also includes the use of feedback forms, which function as a routine and reliable way to receive information on a call. These forms are submitted by individuals involved with the dispatching process, including fire personnel, supervisors or other dispatchers. The feedback form is a written request for clarification on service events. The expressed issue is investigated by the Shift Supervisors and forwarded to the Director as appropriate. The Dispatchers receive feedback on their performance and recognition of exemplary performance.

MetCom has also created a variety of reports to further illustrate departmental compliance, statistics, and performance:

- ◇ Key Performance Indicators (KPI)
- ◇ Call assign times for all priorities
- ◇ Dispatch code comparative history
- ◇ MPDS Master Dispatch Analysis
- ◇ Protocol Compliance
- ◇ Quality Improvement Summary
- ◇ Dispatch Compliance
- ◇ Exceptions by Cause

In addition, MetCom has the ability to pull specific reports for agency performance, pandemic planning, and response compliance reporting. The strengths of MetCom have been developed and oriented toward a single vision of being Colorado's most comprehensive and customer service focused communications centers. This has been established by a team approach involving all of the employees at all levels, driven by a common mission and organizational values. Our strength comes from being grounded in our operational diversity, technology and most importantly, our employees.





Incident Dispatch Team (IDT)

MetCom's current service area encompasses over 1,700 square miles of mixed topography, and includes everything from commercial high rises, to open plains, to mountains and wildland interface. The numerous hazards and potential for large-scale incidents prompted the need for communications support outside of the dispatch center. To fill this need, the Incident Dispatch Team (IDT) was established in 2008. Building upon the philosophies of successful IDTs across the country, MetCom is able to offer an operationally efficient team with diverse capabilities.



MetCom's daily staffing includes a minimum of two trained IDT members per shift. With a minimum staffing level of three in the center, IDT members are able to respond immediately to an incident. On-call IDT members are also available to supplement staffing levels within MetCom or to respond to a scene. Currently, seven dispatchers,

the Operations Manager and the Director are members of the IDT.

MetCom's IDT members are qualified through an in-house training academy which covers a wide range of material from the basics of firefighting to building a complex communications plan. All members are required to be certi-

fied through ICS 400. The team also has 1 FEMA Type 3 COM-L, 2 COM-L trainees, 1 NWCG COM-L Trainee, and 1 Type 3 Logistics Section Chief. All members of the IDT are also on Arapahoe County's Type 4 IMT.



IDT, continued...

When deployed, all IDT members are equipped with a full set of Nomex bunker and wildland gear, allowing them to safely function on scene. As a single resource, the members will bring a kit that includes a laptop computer, printer, camera, GPS, VHF radio programming equipment, internet access, weather software including radar & lightning data, a cache of ICS forms and a small office supply kit.

In support of the agencies served by MetCom, the IDT operates two fully-equipped response vehicles and an additional SUV. The primary response vehi-



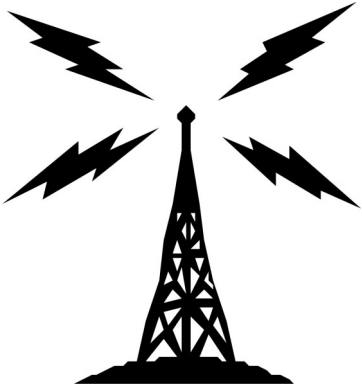
cles, designated as IDT1 and IDT2, are equipped with all of the tools necessary to establish and handle field communications from any scene. These vehicles have all of the capabilities of a single resource dispatcher, with added computer capability, cell phones, printers, radio caches, two 800 MHz and two VHF mobile radios, and most importantly, an ICRI Tactical Gateway. The ICRI allows the team members to bridge dissimilar radio systems or frequency bands together on scene to facilitate interoperability.



The fourth and largest vehicle, designated as "Command 3", is jointly owned by South Metro Fire Rescue (SMFR) and Greenwood Village Police Department. MetCom supports this vehicle for SMFR and is responsible for its regional deployment and staffing. Command 3 is a 45' long, tandem axel, mobile command and communications unit. All of the IDT members are trained to drive and operate this vehicle. Its capabilities include a private command / planning room with teleconferencing, satellite phone, cell phones, satellite television, galley and several dispatcher / communication stations with radios varying from 800 MHz, VHF, Aircraft, HAM and CB. The vehicle's roof can be used as an observation platform and the sides are also equipped with several scene lights.



Interoperability



MetCom's Motorola-based radio system is capable of communicating with all local agencies, including neighboring fire rescue departments, law enforcement and EMS providers. Interoperable communications are either in native format on Motorola 800 MHz systems or through gateways tying disparate 800 MHz radio systems together.

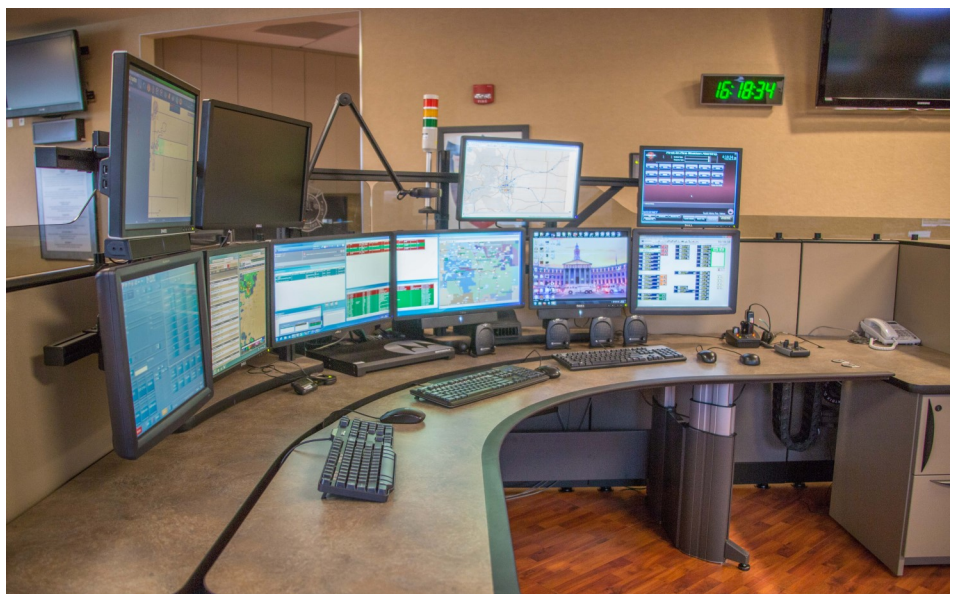
In support of interoperable communications, MetCom is a member of the Consolidated Communications Network of Colorado (CCNC), which is a user's group for the Colorado Statewide Digital Trunked Radio (DTR) System. CCNC supports 700 MHz and 800 MHz radio communications throughout the state of Colorado. The DTR network is divided into four zones and provides direct radio-based communications to over 45,000 portable, mobile and fixed-based sub-

scribers (radios). The coverage area includes all of the Denver Metro (Front Range) area and the most populated areas throughout Colorado.

The cities of Denver, Lakewood and Wheat Ridge utilize a Harris 800 MHz radio system, which is made compatible with Motorola systems through the use of an interoperable communications gateway. This "Network First" gateway was installed in 2005 tying the two systems together. The gateway supports 16 channels for metro-wide interoperable communications and is utilized daily by the public safety agencies. To further support communication efforts, procedures have been developed and formally documented in the Denver Urban Area Tactical In-

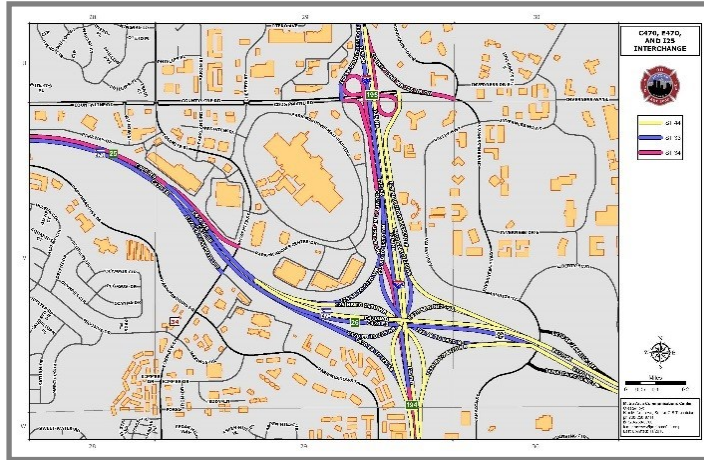
teroperable Communications Plan (TIC Plan). Additionally, all radios in the Denver metropolitan area are programmed with federal interoperable channels to include "8TAC" and "8CALL" channels which can be utilized in both repeated and simplex modes. These channels are available for national, regional and local interoperable communication needs; they are frequently utilized by public safety agencies and are maintained by the State of Colorado and local agencies.

MetCom, Denver and Arapahoe counties maintain 800 MHz radio caches in support of radio swaps. These radios are preprogrammed with local channels and readily available to all public safety agencies.



Geographic Information Systems (GIS)

With a team of GIS specialists included within the technical team, MetCom has the ability to maintain exceptionally accurate and detailed mapping data. This enables the dispatchers to concentrate on the caller, quality of care, required resources, and dispatch times instead of worrying about manually finding the incident's location. The GIS team also plays a large role in the IDT/IMT arena by providing maps and aerial photography used for incident management.

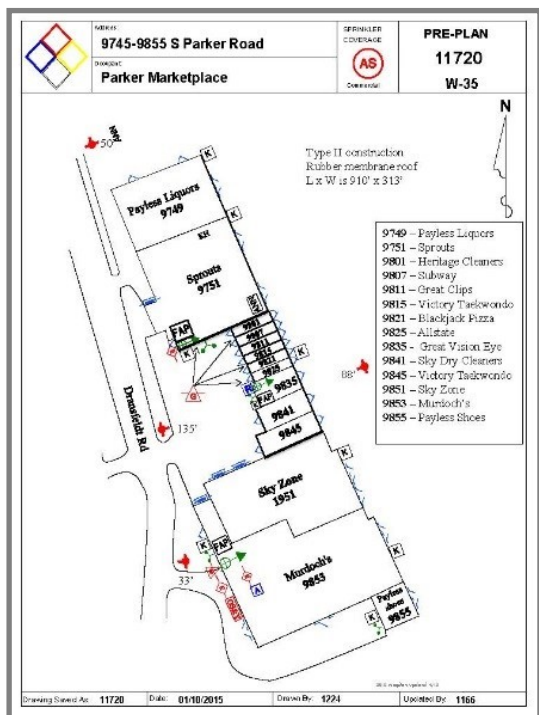


When another fire authority contracts with MetCom to provide dispatch services, the GIS department works diligently to ensure the authority's map data meets the highest standard of accuracy. This level of accuracy is obtained by collecting data from cities

and counties, driving the surrounding area and meeting with the fire authority to learn and understand the local geography. All of this information is then compiled and used to update MetCom's street and address data, drastically reducing the time it takes to locate callers and incident locations.

MetCom's GIS team also collects a significant amount of auxiliary map information, such as schools, parks, trails, driveways, hydrants, gate codes, Knox boxes, land-

ing zones, points of interest, etc. This data is then used to generate custom authority maps and map books.



Preplan Program

During the initial stages of fire suppression and investigative operations, PrePlans have proven instrumental in consistently achieving a successful outcome. To that end, MetCom provides coordination, quality control, format and drawing conversion, as well as automated file updates through mobile software applications to front-line apparatus. MetCom's PrePlan services ensure easy access to up-to-date drawings and other critical building information while responders are enroute to an incident. Through a function of the MDT, first responders can receive a PDF of the building footprint or floorplan in addition to a "Fact Sheet" with information such as construction type, firefighter precautions, hazmat data, emergency contacts, and more.

Conclusion

For more than a decade, MetCom's dispatchers and technical teams have been committed to providing the highest level of service to the communities served and surrounding areas. This is demonstrated by a constant focus on efficient and professional call handling, minimal response times, and effective resource management. Our values of innovation, teamwork, dedication, accountability and integrity provide the guideposts for the daily commitment to fulfill our mission:

MetCom's Public Safety Professionals are committed to serving with integrity, compassion and care for the welfare and safety of our citizens and personnel. We support expedient, quality fire rescue and provide emergency medical instructions through the application of the industry's best practices. Our standard is excellence and the road to success is through our teamwork.

