Community Risk Assessment-
Standard of Cover
2021

Mission

South Metro Fire Rescue is a world-class organization that serves the public by protecting lives and property through our dedication to training, prevention, mitigation, and response.

Vision

To be a best-in-class, all-hazards prevention, mitigation, and response organization that supports a safe, healthy, growing community; a leader in risk reduction, preparedness, service delivery, and operational effectiveness; highly valued as a community and business partner and as an employer of choice; and well-positioned to proactively meet the needs of our changing demographic and businesses while maintaining fiscal strength and stability.

Values

We are stewards of the public trust who value the equitable treatment of all.
We foster strong community ties through integrity, compassion, and unwavering professionalism.

Introduction

The following report serves as the South Metro Fire Rescue SMFR) Standards Of Cover and Community Risk Assessment (CRA-SOC) document submitted to The Commission on Fire Accreditation International (CFAI). The purpose of completing this document is to assist the agency in ensuring a safe and effective response force for fire suppression, emergency medical services, and specialty response operations. Creating an integrated Standards of Cover requires that several areas be researched, studied, and evaluated. The following report begins with an overview of both the Agency and the community. Following this overview, subjects including risk assessment, critical task analysis, service level objectives, and distribution and concentration measures will be discussed using charts and graphs.

South Metro Fire Rescue is an "All Hazards" fire department providing fire suppression, emergency medical response (including SWAT medics), technical rescue, hazardous materials response, aircraft rescue firefighting, dive rescue, wildland fire services, fire investigations, fire inspections, public education, community relations, and community risk reduction.

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**Executive Summary
Fire Chief Bob Baker**

For more than a century, South Metro Fire Rescue and the organizations that proceeded it have provided fire, emergency medical response, and community risk reduction services to residents and businesses within the counties of Arapahoe, Douglas, and Jefferson in Colorado. After recent merges with Cunningham Fire Protection District and Littleton Fire Rescue, South Metro remains a full-service fire district spanning 287 square miles. With 29 stations in the south metro area, and a 30th joining the district in the Spring of 2021, South Metro provides emergency and prevention services to over 540,000 residents and thousands more who come into our communities for work and recreation.

With the recent growth of SMFR – including both its district and its employee base – SMFR now has more than 750 line and staff employees who work throughout the dozens of fire stations, administration buildings, and training facilities. While South Metro's main commitment is to support and serve the residents of the fire district, SMFR also places an important emphasis on taking care of the people that make up the department. To that end, South Metro created the Employee Services Division which places a heightened focus on the wellness and support of our staff and line employees with an increased emphasis on professional development and promotion of a positive culture for the organization.

South Metro was recently rated in the best possible fire protection class by the Insurance Services Organization, with an ISO 1 designation. The District continues the constant pursuit of excellence established by its founding members through the process of maintaining its accredited status through the Commission on Fire Accreditation International (CFAI).

This Standard of Cover fulfills several important requirements for accreditation, including identifying the risks in the communities we serve, establishing levels of service to respond to those risks, and evaluating our performance. South Metro is constantly adapting to the changing needs of the community and the department readily seeks opportunities for improvement.

The formation of this Standard of Cover has been a collaborative process where input was received from operations personnel and staff members. South Metro determined the most important factors in the department's delivery of emergency services are as follows:

1. Prompt emergency response to all fire and emergency medical situations.
2. Highly qualified, expertly trained, and compassionate employees.
3. Fire protection for residents and businesses to preserve life and property.

The creation of South Metro Fire Rescue has resulted in cost-saving efficiencies and the strengthening of resources to help the department meet those expectations and the needs of the community it serves. This Standard of Cover reflects new opportunities to re-define staffing levels, placement of emergency apparatus, and the speed and response force that South Metro can reliably deliver.

The Standard of Cover reflects that South Metro fire stations provide around-the-clock professional firefighting and emergency medical care. A high priority is placed on providing advanced life support (ALS) on every medical/trauma emergency with paramedic-level professionals. SMFR also provides all-hazards response capabilities to its communities and the surrounding regions. The department maintains specialty teams including wildland firefighting, aircraft firefighting and rescue, dive rescue, hazardous materials, and technical rescue. The strategic placement, staffing, and training of SMFR's special operations enhance the department's ability to respond to a variety of emergencies.

Together, in agreement with neighboring fire agencies, SMFR can deliver an effective firefighting, rescue, and all-hazards response force to our communities. And although the Standard of Cover focuses primarily on emergency response, our service to our community does not stop there. We continually strive to make our residents and the communities they live in safer by dedicating resources to preventing and mitigating the effects of fires, medical emergencies, and natural/man-made disasters. South Metro has many programs dedicated to ensuring the safety of the district; including evaluating the construction and operation of businesses, adopting current fire codes and new technologies that save lives and property, and providing children and at-risk populations with the education and tools to prevent fires and injuries and helping our citizens prepare themselves for disasters.

This Standard of Cover is one element of South Metro Fire Rescue's plan to reduce risks in our communities and to protect the lives and properties of our citizens and those who visit. South Metro is committed to collaborating with stakeholders and continually evaluating the department's performance to provide the most effective and financially responsible services for the communities we serve.

Acknowledgments

Board of Directors

Sue Roche Director 1	**Hank Eng** Director 2	**Jim Albee** Director 3
Cindy Hathaway Director 4	**Renee Andersen** Director 5	**Alison Rausch** Director 6
William Shriver Director 7		

Executive Leadership Team

Bob Baker Fire Chief	**Mike Dell'Orfano** Business Services	**Jon Adams** Emergency Services
Kevin Milan Support Services	**Tobias Kirschke** Employee Services	**Isela Nejbauer** Chief HR Officer
Dillon Miskimins Chief Financial Officer	**Kristin Eckman** Communications Director	

Administrative Staff

David Markham Strategic Services	**Vince Turner** Strategic Services	**Anthony Valdez** Fire Marshal
Rich Conroy Deputy Fire Marshal	**Jeff Tasker** District Chief	**John Curtis** EMS Chief
Paul Smith IT Director	**Kim McAndrews** GIS Manager	**Tyler Everitt** Deputy Fire Marshal
Heather Hoelting GIS Specialist	**Dawn Hicklin** Division Assistant	**Scot Swindall** Accreditation Manager
Warren Wu Data Analyst	**Mark Stevens** Data Analyst	**Austen Hawley** GIS Specialist

Line Staff

Dave Daley Battalion Chief	**Doug Bloomquist** Operations XO (Retired)	**Aaron Goedeker** Special Operations Chief
Scott Richardson Special Operations Chief	**Chris Wells** Hazmat Coordinator	**John Jorgens** ARFF Coordinator
Mike Simon EMS Coordinator	**Dan Goldan** Dive Coordinator	**Mike Burke** Wildland Coordinator
Brett Pickford Tech Rescue Coordinator	**Jason Schierkolk** SWAT Coordinator	

Section 1: Agency/Organizational Overview

1A: History of South Metro Fire Rescue

South Metro Fire Rescue exists today because of prudent and insightful management and the unification of various fire departments over many years. Its legal foundation and service plan are based on the Parker Fire Protection District (PFPD-established 1967), which was renamed South Metro Fire Rescue when it consolidated with the former Castlewood Fire Protection District (CFPD-established 1951) in 2008 to form the South Metro Fire Rescue Authority (A). On January 1st, 2016, the fire authority dissolved to create a single fire protection District, adopting the South Metro Fire Rescue name.

In November 2017, South Metro and Cunningham Fire Protection District (CFPD-established 1950) created a Fire Authority pursuant to the Constitution of the State of Colorado and Part 2, Article 1, Title 29, C.R.S. Both departments shared a long history of cooperation, contiguous borders to the northeast, and a similar structure and governance. On January 1, 2018, South Metro Fire Rescue Fire Protection District and Cunningham Fire Protection District officially merged as one entity named South Metro/Cunningham Fire Rescue Authority. This was intended as an interim step in the unification process between the departments until Cunningham became fully unified with South Metro to form a single fire protection District. The Fire Authority Agreement remained in effect until CFPD's Board of Directors lowered their mill levy from 14.57 to equal the South Metro rate of 9.25. Subsequently, CFPD fully merged into South Metro, and CFPD, as a legal entity, no longer exists.

On January 1, 2019, South Metro Fire Rescue unified with Littleton Fire Rescue (LFR-established 1948). Although both departments had long operated together through various agreements, LFR possessed a unique structure comprised of three agency partnerships: The City of Littleton, The Littleton Fire Protection District, and The Highlands Ranch Metropolitan District. This required considerable discussion, analysis, and special elections to accomplish unification. In May of 2018, the citizens of the Littleton Fire Protection District and Highlands Ranch Municipal District voted and approved the inclusion of both Districts into South Metro. In November 2018, the citizens of the City of Littleton voted in favor of the city's inclusion into South Metro. January of 2019 saw the establishment of all agencies into the South Metro Cunningham Fire Rescue Authority. The resulting unification made the second-largest fire department in the State of Colorado.

In 2020 the governing bodies of the South Metro/Cunningham Fire Rescue Authority met and determined the conditions established in 2017 had been satisfied to dissolve the Authority and create a single Fire Protection District to be known as South Metro Fire Rescue Fire Protection District.

The resultant unification with Littleton Fire Rescue expanded South Metro Fire Rescue's coverage area to 287 square miles. There are 30 fire stations within the District, each housing a team of professional firefighters and paramedics with the skills and equipment necessary to deal with a wide variety of emergencies and hazards. The District contains over 540,000 residents plus thousands more that are employed within the community. South Metro serves 12 Municipalities including Bow Mar, Castle Pines, Centennial, Cherry Hills Village, Columbine Valley, Foxfield, Greenwood Village, Lakewood, Littleton, Lone Tree, Parker, and portions of Aurora. In addition, SMFR covers Centennial Airport, Lockheed Martin, the Denver Tech Center, Cherry Creek, Chatfield State Park, and many other unincorporated portions of Arapahoe, Douglas, and Jefferson counties. The District has continued to be an ever-evolving organization focused on providing world-class fire and emergency services to the community.

1B: Agency Milestones

1941- Cherry Hills Fire District Formed (First in State)
1950- Parker Volunteer Fire District Formed
1951- Castlewood Volunteer Fire District Formed (Castlewood Fire
         Protection District).
1966- Parker Fire Protection District Legally Established
1968- Louviers Fire District Formed
1969- Line of Duty Death- John Cernich Sr. (Littleton Fire)
1979- Castlewood Volunteer Department is Dissolved
1981- Line of Duty Death- John Wood (Parker Fire)
1983- Line of Duty Death- George Burton (Parker Fire)
1987- Castlewood Hires First Female Firefighters
1989- Cherry Hills Joins Castlewood
1989- Line of Duty Death- John Hager (Castlewood Fire)
1993- Joint Services Facility constructed and occupied (17801 E. Plaza Drive)
1999- Castlewood Changes its name to South Metro Fire Rescue
2000- Louviers Fire Protection District joins South Metro
2002- South Metro purchases/occupies Mineral HQ Building (9195 E Mineral Avenue)
2004- Line of Duty Death- Eric Sondeen (Littleton Fire)
2008- South Metro Fire Rescue and Parker Fire Districts Consolidate
2009- Line of Duty Death- Jeffrey Christ (Littleton Fire)
2014- Bob Baker elected Fire Chief
2017- Line of Duty Death- Mike Freeman
2018- South Metro achieves ISO-1 rating
2018- South Metro Fire Rescue and Cunningham Fire Protection District (CFPD) merge creating
         the South Metro/Cunningham Fire Rescue Authority
2019- Line of Duty Death- Troy Jackson (South Metro Fire)
2019- South Metro Fire Rescue and Littleton Fire Rescue (LFR) unify and remain an authority
2019- ISO-1 rating achieved under unification
2020- The Authority ends on May 1st leaving South Metro Fire Rescue Fire Protection District as
         the surviving entity
2020- The first election of the board of directors of the new Fire District on May 5th
2020- COVID-19 pandemic

1C: Legal Establishment/Governance Model

South Metro Fire Rescue is legally established and recognized under Colorado Revised Statutes (CRS) § 32-1-103, § 32-1-205, and § 32-1-206 which govern the creation, election, and service plans of Fire Protection Districts (boards, governance, and administration). In carrying out its purposes, observes and complies with the statutes and laws applicable to a fire protection District, including but not limited to Parts 1, 5, and 6 of Article 1, Title 29, C.R.S., regarding budget preparation, accounting, and auditing; Part 4 of Article 6 and Part 2 of Article 72, and Article 10 Title 24, C.R.S., regarding open meetings, open records, and governmental immunity; and Article X Section 20 of the Colorado Constitution.

The Board of Directors (BOD) is the Authority Having Jurisdiction (AHJ) in all matters. It consists of seven members who represent the citizens, businesses, and visitors within the District. Each director is a resident or property owner within one of seven director Districts and is elected by eligible voters in the community. The BOD retains all legal, financial, and governance responsibilities and designates the Fire Chief as responsible for all administrative matters. The Fire Chief, in turn, designates the Deputy Chief, the Assistant

Chiefs and Directors with responsibilities for management and policy development. This model ensures the separation of powers between the board and the executive and administrative leadership of the organization.

1D: Financial Resources

South Metro Fire Rescue maintains a budgetary control system to ensure compliance with the adopted budget regarding State of Colorado Budget Law Parts 1, 5, and 6 of Article 1, Title 29, C.R.S., regarding budget preparation, accounting, and auditing. The agency prepares regular reports comparing actual revenues and expenditures to budgeted amounts. The Board, the Fire Chief, Assistant Chiefs, Bureau/Division managers, and the Coordinators of various programs receive financial reports as needed. As a special District, South Metro obtains general fund revenue primarily from a property tax mill levy collected by the counties in which the District is located.

The Board of Directors of the Authority passes resolutions to set the mill levies for the District and resolutions to adopt the budget and appropriate sums of money for the budget. This must be done so that the mill levies can be certified to the county commissioners before December 15th as per Colorado Law. The Board of Directors of the Authority must adopt a budget and appropriate funds before December 31st for the following budget year. The budget documents are sent to the Colorado Division of Local Government by January 31st of the budget year. This document includes

a budget message and three years of revenue and expenditure information: one year of actual data, one year of estimated, and the budget for the budget year as per Colorado law.

Funds included in the annual budget document are governmental, enterprise, special revenue, fiduciary trust, and agency fund types. SMFR receives the majority ($114.1 million out of $146 million) of its revenue from property taxes. The next largest revenue generator is ambulance transport which brings in approximately $11.2 M. A minimum of 25 percent of the next year's General Fund budgeted expenditures are maintained as a reserve in the General Fund. This is to ensure continuity of service when the timing of property tax receipts occurs in the second quarter of the year. If the fund balance falls below this level, expenditures will be reduced to bring the balance back into compliance. SMFR has the powers and authorities authorized to a fire protection District operating pursuant to Article 1, Title 32, C.R.S., including but not limited to all powers and authorities authorized by §§ 32-1-1001 and 32-1-1002, C.R.S. The mill levy of the District can only be increased by a vote of the people. These are per the TABOR amendment to the Colorado Constitution which limits growth in revenues on an annual basis. The District has received voter approval to be exempt from the growth in revenue limitation.

Revenues for 2020 Total $146 Million

9% Increase over the 2019 Budget
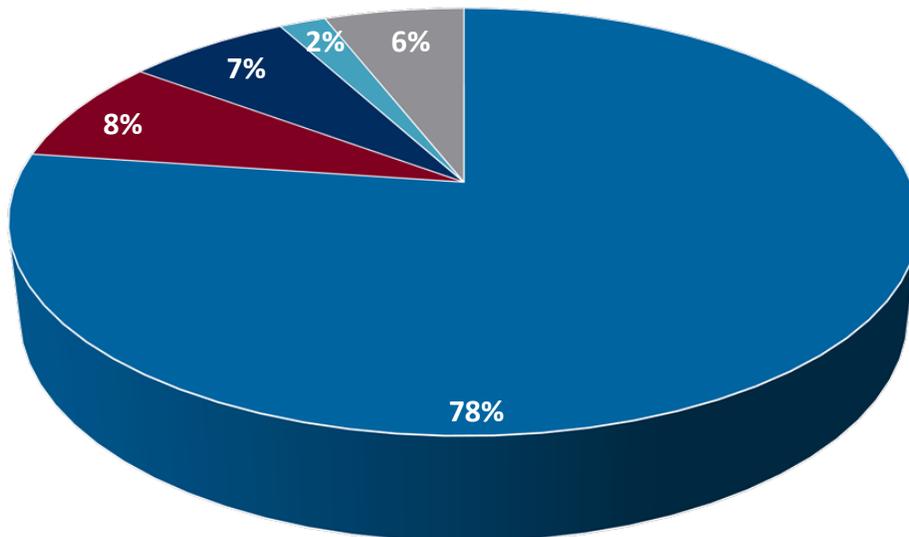
- Property Taxes- 78%
- Ambulance- 8%
- Special Ownership Tax- 7%
- Permit/Plan Review Fees- 2%
- Other Income- 6%

Components of Other Revenue Categories

Ambulance Transport | $11.2 M

- Based on 19,000 Transports
- Net Revenue per Transport $570 (50% of Gross)
- $430K in Collections

Permit/Plan Review Fees | $2.5 M
- Adjust fee schedule for 2020. Volume is constant from 2019.

Specific Ownership Tax | $9.7 M
- $8.5% of Property Tax Revenue

Other Income | $8.5 M
- $4.7M Medicaid Reimbursement
- $1M Reimbursable Costs, Dispatch, Fleet, etc.
- $1.2M Interest Income
- Other Misc. Income

Expenses for 2020 Total $145.3 Million
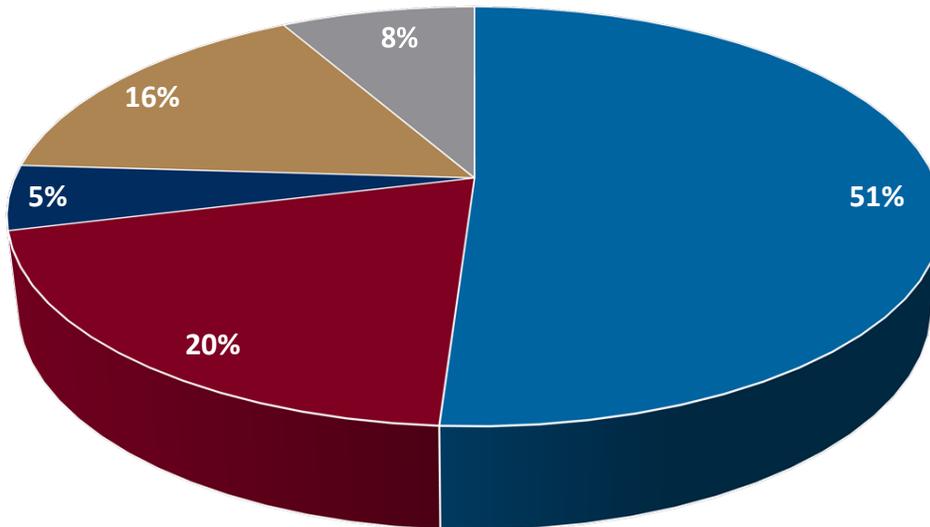
- Salaries- 51%
- Benefits- 20%
- Overtime- 5%
- Operating Expenses- 16%
- Capital- 8%

1E: Organization and Structure
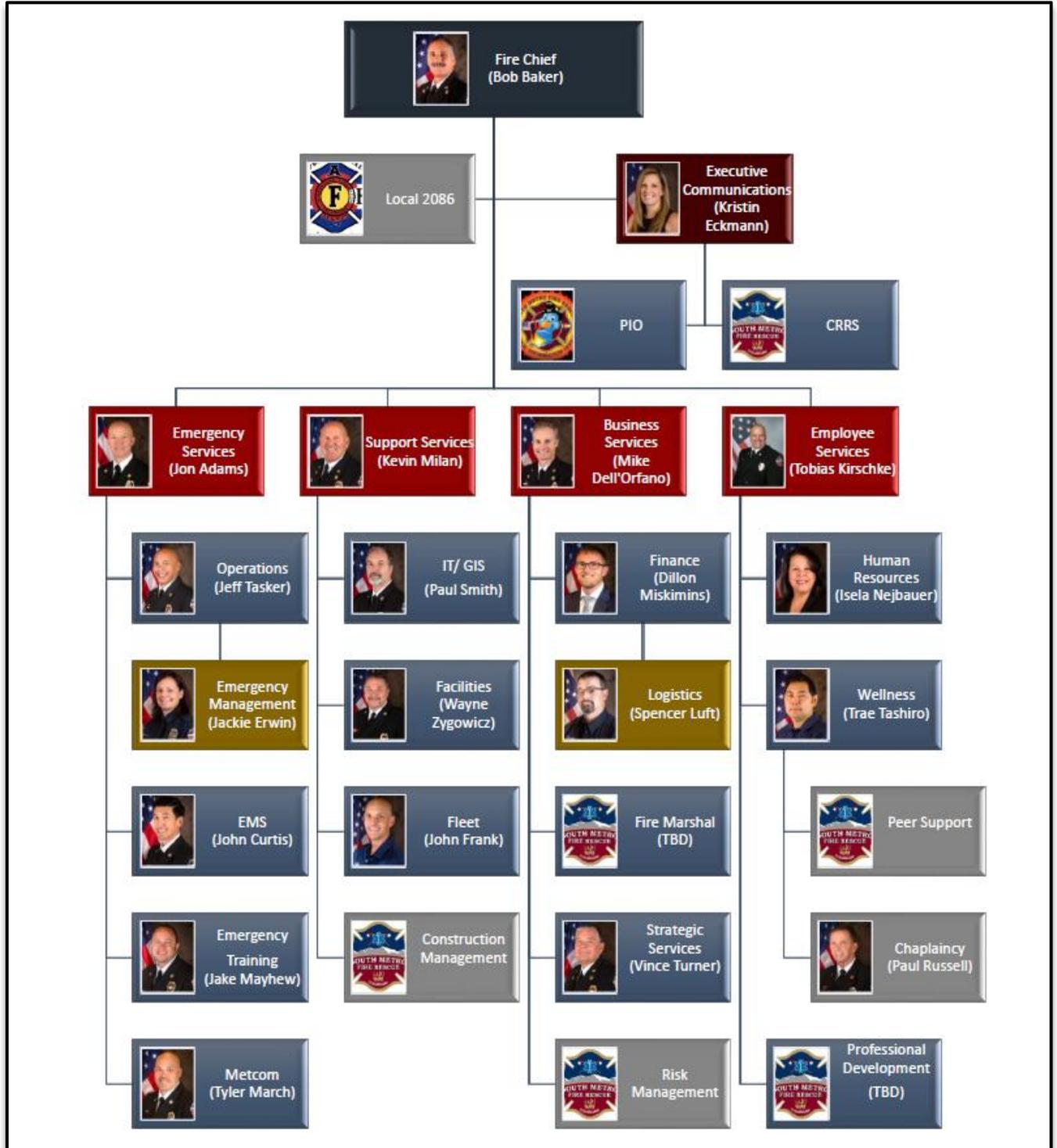
FIRE CHIEF

Oversees the organization and ensures that it provides the levels of service as set forth by the board of directors.

Executive Communications
- Internal and external communications
- Public Information Office (PIO).
- Community Risk Reduction (CRR)

EMERGENCY SERVICES

Overseen by Assistant Chief Jon Adams and includes Operations, Emergency Management, EMS, Emergency Training, and MetCom.

Operations
- Fire suppression
- Line personnel operations

Emergency Management
- Mass casualty incident pre-plans
- Enhanced communication before, during, and after large-scale incidents
- Enhanced regional operations for large-scale incident management
- Development and implementation of an Incident Support Team (IST)

Emergency Medical Services
- Response Quality Management
- Patient Billing
- EMS Training
- Emergency Patient Care
- Alternative Patient Care
- Employee Care

Emergency Training
- Recruit Training
- Fire Suppression Line Training
- Engineer Academy
- Fire Officer Academy
- Command Academy
- Volunteer Academy
- Citizen's Academy

SMFR Emergency Communications
- System Status Management
- Emergency and non-emergency calltaking
- Incident Dispatch Team (IDT)
- CAD management and maintenance

SUPPORT SERVICES

Overseen by Assistant Chief Kevin Milan and includes IT, Facilities, and Fleet.

Information Technology (IT) & Geographic Information Systems (GIS)
- Hardware Support
- Software Support
- Database administration
- Communication Technology
- GIS related services; mapping, GEO coding

Facilities
- Facilities maintenance and repair
- Facilities cleaning
- Grounds maintenance

Fleet Services
- Apparatus and vehicle repairs
- Vehicle Specifications and Purchasing
- Incident Response Vehicle Support (Fuel, Minor Repairs at Incidents)

BUSINESS SERVICES

Overseen by Assistant Fire Chief Mike Dell'Orfano and includes Finance, Logistics, Fire Marshal's Office, Strategic Services, and Risk Management.

Finance
- Budget preparation and development
- Funding operational priorities
- Acquisition and allocation of resources
- Expenditures and reserve requirements
- Employee payroll

Logistics
- Station supplies
- EMS supplies
- Personal Protective Equipment
- Uniforms and accessories

Fire Marshal's Office
- Planned development reviews
- Building plan review
- Construction compliance
- Building inspections
- Fire investigations
- Hazardous materials storage and use compliance
- Permits
- Code compliance
- Preplans
- Youth Firesetter Intervention

Strategic Services:
- Short and long-term planning
- Strategic initiatives
- Accreditation
- Research and analysis
- Project management
- Risk Management

EMPLOYEE SERVICES

Overseen by Assistant Chief Toby Kirschke and includes Human Resources, Wellness, and Professional Development.

Human Resources
- Recruiting
- New hire processes

- Personnel policies
- Benefits management
- Job descriptions

Wellness
- Fitness evaluations
- Medical evaluations
- Rehabilitation
- Peer Support
- Chaplaincy

Professional Development
- Leadership Training
- Learning Management Systems (LMS)
- eLearning Module Creation
- Remote Learning Management
- Certifications: Standards (New and Renewals)
- Promotional assessments
- Secondary Education Advisors

1F: Human and Fixed Resources

Personnel/Staffing
- Total Employees: 752
- Line Personnel: 581 (77%)
  - Men: 550 (95%)
  - Women: 31 (5%)
- Civilian Staff: 171 (22%)

Educational breakdown: AAS, BA/BS, MS/MA, PhD
- AAS: 157 (21%)
- BA/BS: 311 (41) %
- MS/MA: 62 (8%)
- PhD: 1 (0%)
- Total Education Differential: 531 (70%)

Coverage Area
- 287 square miles
- 12 municipalities / three counties
- 542,400 residents

Offices and Facilities
- Mineral Administrative Building- 9195 East Mineral Avenue, Centennial, CO 80112
- Joint Services Facility (JSF)- 17801 East Plaza Drive, Parker, CO 80134
- Troy Jackson Training Center- 2301 W Chenango Ave, Littleton, CO 80120

1G: Fire Stations

- 30 stations operate under five battalion chiefs; each one oversees six stations.
- Crews work 24 hours per day, seven days per week, across three shifts (A, B, C) on a rotational basis (48 hours on; 96 hours off)

Battalion 1
- Station 16- 8119 Blakeland Drive, Littleton, CO 80125
- Station 18- 401 Timbervale Trail, Highlands Ranch, CO 80129
- Station 19- 8490 W. Trailmark Parkway, Littleton, CO 80127
- Station 36- 421 E Castle Pines Parkway, Castle Rock, CO 80108
- Station 39- 475 W Happy Canyon Road, Castle Rock, CO 80108
- Station 40- 10297 N Chatfield Drive, Littleton, CO 80125

Battalion 2
- Station 11- 2255 W. Berry Street in Littleton, CO 80120
- Station 12- 6529 S Broadway, Littleton, CO 80121
- Station 13- 6290 W Coal Mine Road, Littleton, CO 80123
- Station 15- 2702 E Dry Creek Road, Centennial, CO 80122
- Station 17- 9554 S University Blvd., Highlands Ranch, CO 80126
- Station 20- 1801 East Wildcat Reserve Parkway, Highlands Ranch, CO 80126

Battalion 3
- Station 14- 6600 S Colorado Blvd., Centennial, CO 80121
- Station 32- 5945 S Quebec Street, Centennial, CO 80111
- Station 33- 7281 E Dry Creek Road, Centennial, CO 80112
- Station 34- 8871 Maximus Drive, Lone Tree, CO 80124
- Station 37- 5701 S University Blvd., Greenwood Village, CO 80121
- Station 38- 2460 E Quincy Ave., Cherry Hills Village, CO 80113

Battalion 4
- Station 41- 10795 N Pine Drive, Parker, CO 80138
- Station 43- 8165 N Pinery Parkway, Parker, CO 80134
- Station 44- 12625 Lincoln Avenue, Parker, CO 80134
- Station 45- 16801 Northgate Drive, Parker, CO 80134
- Station 46- 10310 Stroh Road, Parker, CO 80134
- Station 47- 11685 Tomahawk Road, Parker, CO 80138

Battalion 5
- Station 21- 2250 S Emporia Street, Denver, CO 80231
- Station 22- 16758 Smoky Hill Road, Aurora, CO 80015
- Station 23- 5405 S Riviera Way, Aurora, CO 80015
- Station 31- 5901 S Havana Street, Greenwood Village, CO 80111
- Station 35- 12080 E Briarwood Ave., Englewood, CO 80112
- Station 42- 7320 S Parker Road, Foxfield, CO 80016

1H: Apparatus
- Aerials: 6 front-line vehicles
- Aircraft firefighting (ARFF): 3 front-line vehicles
- Battalions Chiefs: 5
- Brush trucks: 14 front line vehicles- Type 3 and Type 6
- District Chief: 1
- Dive: 2 dive boats and 1 jet ski
- Engines: 23 front line engines- Type 1
- Hazardous materials: 3 front-line vehicles
- Heavy rescue: 1 front-line vehicle
- Medics (ambulances): 19 front-line vehicles & one Advance Resource Medic (ARM Car)
- Mobile Command Unit: 1 (Shared with the City of Greenwood Village)
- Water tenders: 6 front-line vehicles
- Tracked Vehicle: 1 (Sno-Cat)

Special Operations Teams
- Aircraft Rescue Fire Fighting (ARFF)
- Dive Rescue
- Hazardous Materials (Hazmat)
- SWAT Medics
- Technical Rescue (TRT)
- Urban Search and Rescue (USAR)
- Wildland Fire Services

In 2020, SMFR responded to a total of 39,870 in-district incidents. Emergencies included 967 fire calls (2 percent); 25,825 emergency medical service (EMS) calls (63 percent); 4,013 alarms (11 percent); 6,283 public assist calls (16 percent); 263 special operations calls (1 percent); and 2,519 "other" call types (6 percent). South Metro serves 12 Municipalities including Bow Mar, Castle Pines, Centennial, Cherry Hills Village, Columbine Valley, Foxfield, Greenwood Village, Lakewood, Littleton, Lone Tree, Parker, and portions of Aurora.

Section 2: Community and Area Characteristics

2A: District Boundaries

South Metro Fire Rescue is located along the southern and eastern borders of the Denver Metropolitan Area and serves portions of Arapahoe, Jefferson, and Douglas counties in Colorado over a 287 square mile area.

The boundaries for South Metro's District are legally established and recognized under Colorado Revised Statutes (CRS) § 32-1-103, § 32-1-205, and § 32-1-206. The service area grew significantly during the 2018-2019 unifications and expanded the District by over 100 square miles. SMFR is bordered by eight fire departments and maintains auto and/or mutual aid agreements with each agency. The GIS/Mapping Bureau gathers data for the three counties served. This data includes residential and commercial parcels as well as areas served by contract or inter-governmental agreements (IGA). The Bureau analyzes the parcel information available in each county assessor's office to validate agency boundaries.

SMFR District Map (2021)
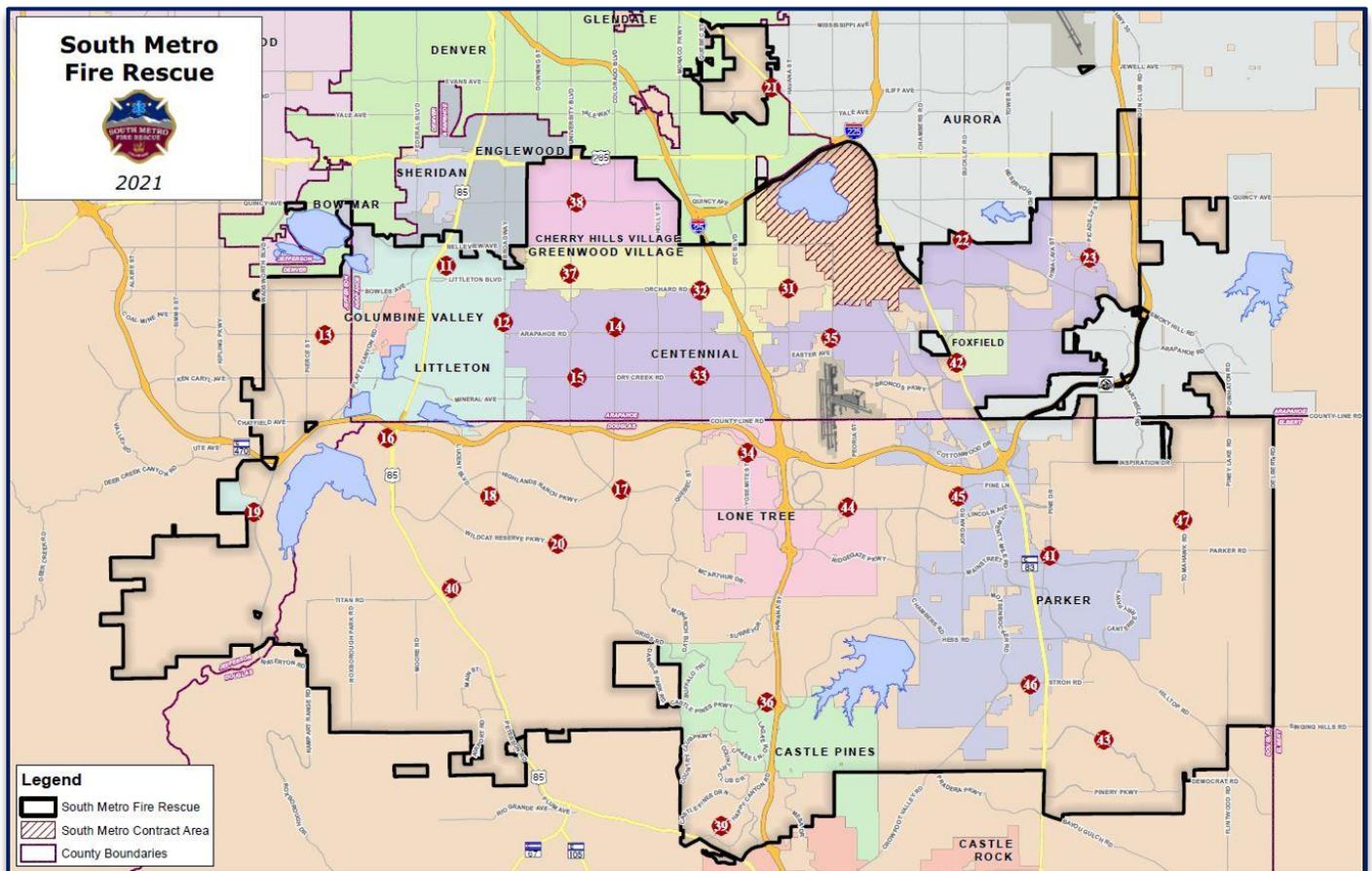
Total Responses 2016-2020

	Alarms	EMS	Fire	Other	Public Assist	Special Ops	TOTAL
2016	**2,187**	**11,552**	**443**	**1,751**	**2,969**	**105**	**19,007**
In District	2,156	10,992	370	1,271	2,893	100	**17,782**
Out of District	31	560	73	480	75	5	**1,224**
2017	**2,179**	**12,139**	**462**	**1,995**	**3,327**	**131**	**20,233**
In District	2,145	11,296	383	1,442	3,245	118	**18,629**
Out of District	34	843	75	553	82	13	**1,600**
2018	**2,837**	**16,375**	**587**	**2,324**	**4,274**	**170**	**26,567**
In District	2,732	14,802	483	1,689	4,053	161	**23,920**
Out of District	105	1,573	104	635	221	9	**2,647**
2019	**4,355**	**27,810**	**713**	**3,079**	**6,798**	**271**	**43,026**
In District	4,321	26,903	669	2,662	6,728	268	**41,551**
Out of District	34	907	44	417	70	3	**1,475**
2020	**4,039**	**26,620**	**1,032**	**2,915**	**6,353**	**266**	**41,225**
In District	4,013	25,825	967	2,519	6,283	263	**39,870**
Out of District	26	795	65	396	70	3	**1,355**
Grand Total	**15,597**	**94,496**	**3,237**	**12,064**	**23,721**	**943**	**150,058**

Call Volume within Municipalities

2020

Aurora 340, Bow Mar 47, Castle Pines 587, Centennial 7,992, Cherry Hills Village 554, Columbine Valley 113, Denver 14, Foxfield 61, Greenwood Village 2,394, Lakewood 30, Littleton 4,794, Lone Tree 2,107, Parker 3,933, Uninc Arap 5,417, Uninc Doug 9,390, Uninc Jeff 2,097
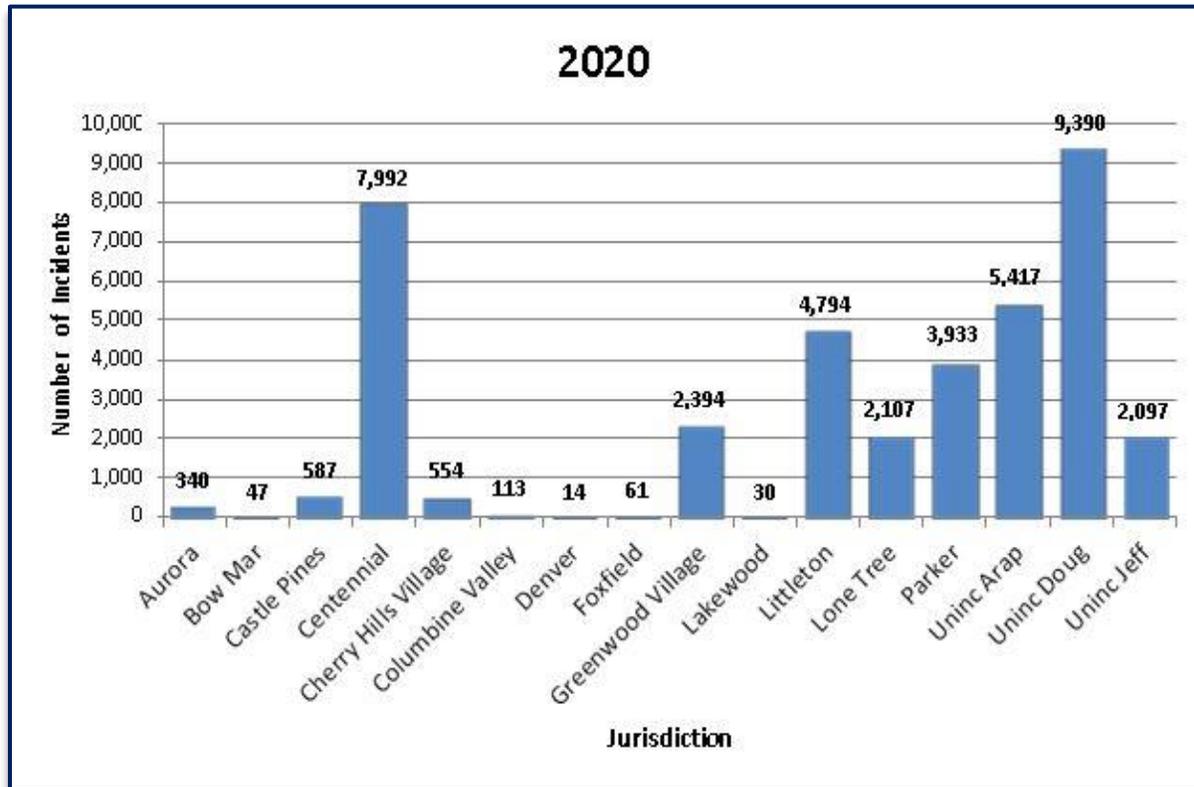
2B: Population and Demographics

Steady population growth has occurred throughout the District since the 2010 United States Census. The Denver Metropolitan Area ranks as the 19th most populous metropolitan area in the United States. Significant growth was created through the 2019 unification between South Metro and Littleton Fire Rescue which resulted in a 92 percent increase in the population.

Population Growth Within South Metro's District

District/Boundary	Year	Population	Percent Increase
South Metro	2000	76,803	N/A
South Metro/ Parker Fire	2010	195,593	154.7
South Metro	2016	210,059	7.4
South Metro/ Cunningham Fire	2018	282,318	34.4
South Metro/ Littleton Fire	2019	542,400	92.1
South Metro Fire Rescue	2024	588,380	8.5

- Population- 542,400
- Households- 206,113
- Average Household Size- 2.65
- Median Age- 39
- Median Household Income- $109,890
- Median Home Value- $472,670

Growth By County

County	Growth Since 2010	Percentage Covered By South Metro Fire	Population Served By South Metro Fire
Arapahoe- 662,060	15.77%	48%	260,051
Douglas- 357,187	25.21%	46%	249,106
Jefferson- 585,341	9.93%	6%	33,243
			542,400

POPULATION TRENDS AND KEY INDICATORS
South Metro Fire Rescue Fire Protection District
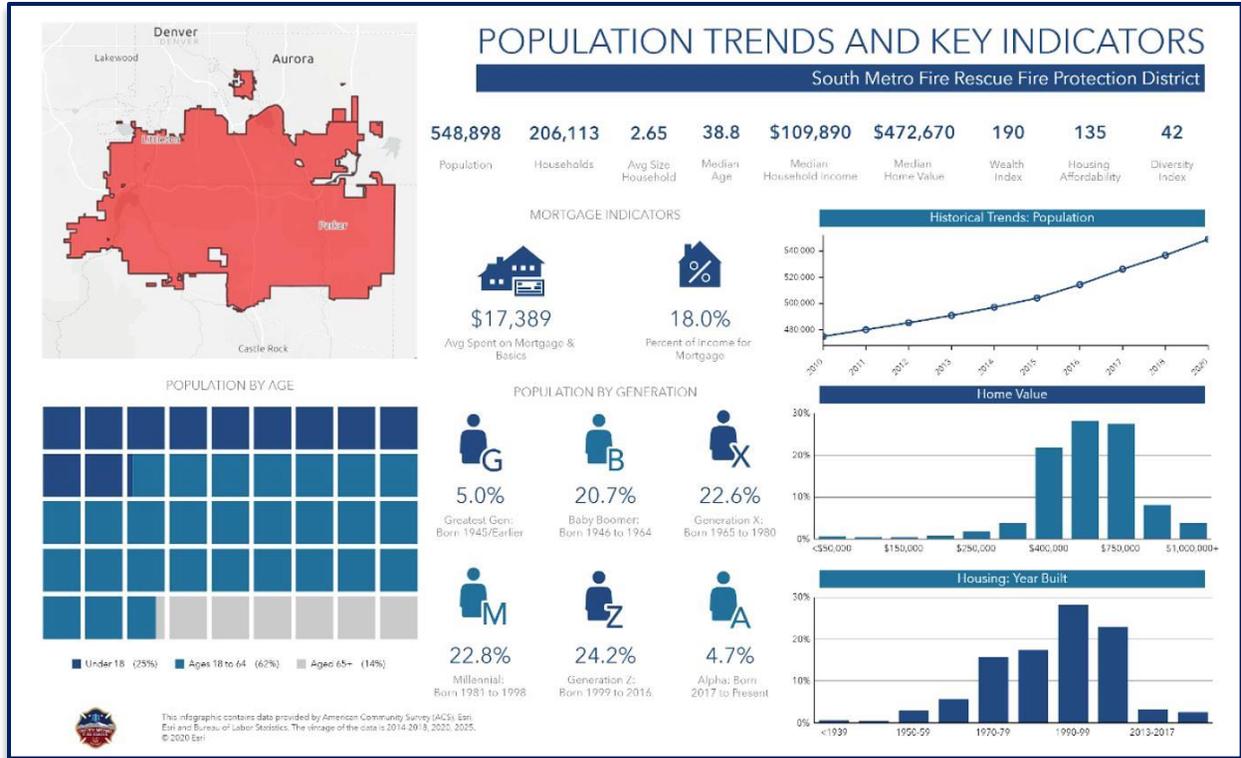
Gender/Age

	2014		**2020**		**2024**	
Male	100,969	49.6%	269,844	51%	289,391	49.2%
Female	102,531	50.4%	279,054	49%	298,989	50.8%
Median Age	40.6	-	39	-	39	-
Underage 5	12,449	6.1%	32,805	6.0%	35,416	6.0%
Age 18+	148,360	72.9%	413,870	75.1%	447,632	76.1%
Age 65+	20,128	9.9%	74,840	13.3%	92,007	15.6%

Race/Ethnicity

	2014		**2020**		**2024**	
White	177,491	87.2%	454,859	83.8%	482,563	82.0%
Black/African American	4,441	2.2%	19,157	3.5%	21,665	3.7%
American Indian/Alaskan Native	675	0.3%	2,605	0.5%	2,737	0.5%
Asian	11,180	5.5%	36,526	6.4%	43,143	7.3%

Pacific Islander	161	0.1%	503	0.1%	588	0.1%
Other Race	3,655	1.8%	13,087	2.4%	15,096	2.6%
Two or More Races	5,899	2.9%	19,160	3.4%	22,589	3.8%
Hispanic	16,018	7.9%	52,096	9.4%	61,130	10.4%

Diversity Index
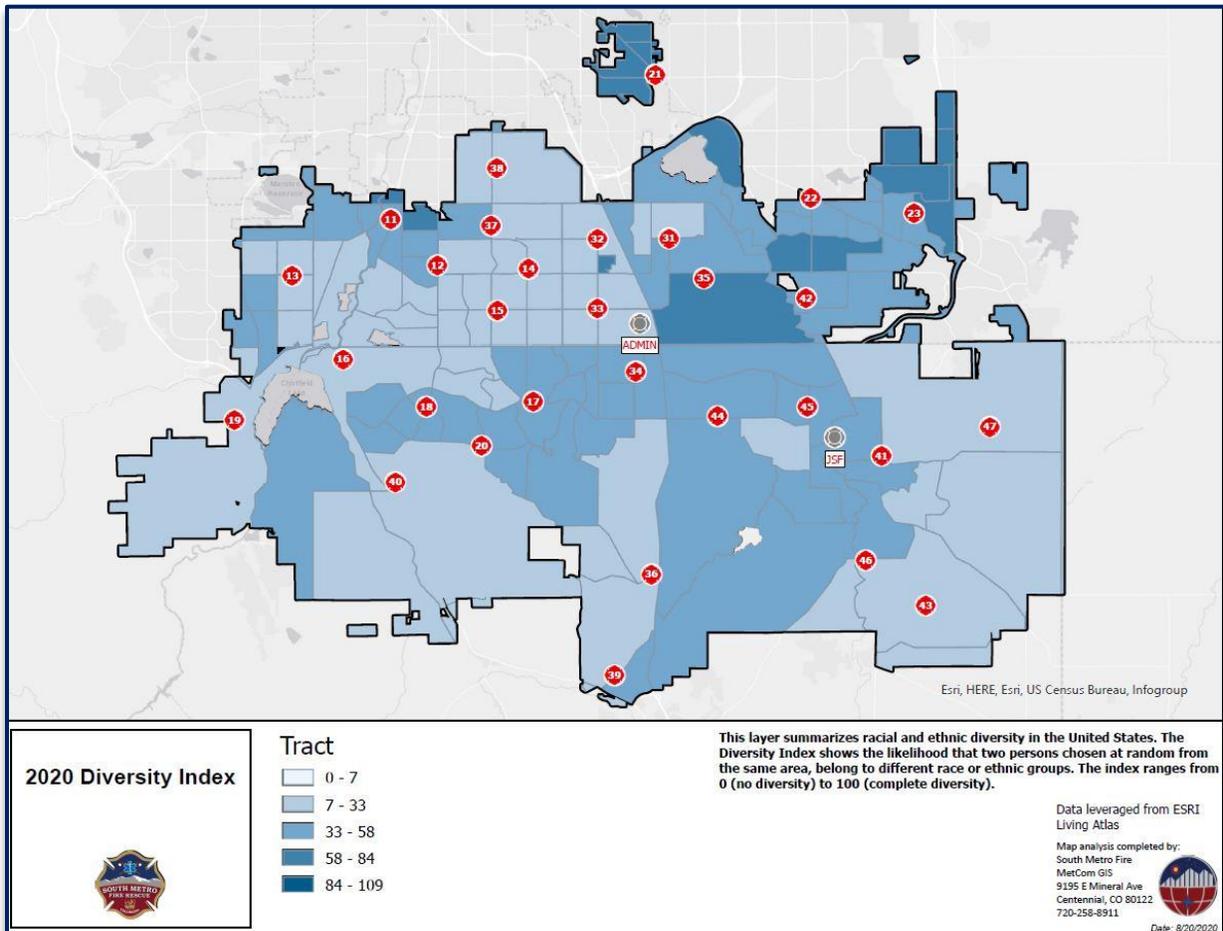
2C: Schools and Education

The District contains numerous school districts that offer a wide variety of educational choices including public and private schools, charter schools, academies, colleges, seminaries, and parochial institutions.

- Elementary Schools- 78
- Middle Schools- 15
- K-8 Combination- 21
- Post-Secondary Schools- 9

- High Schools- 19
- K-12 Combination- 7
- Middle/High Combination- 2

District Schools (K-12)
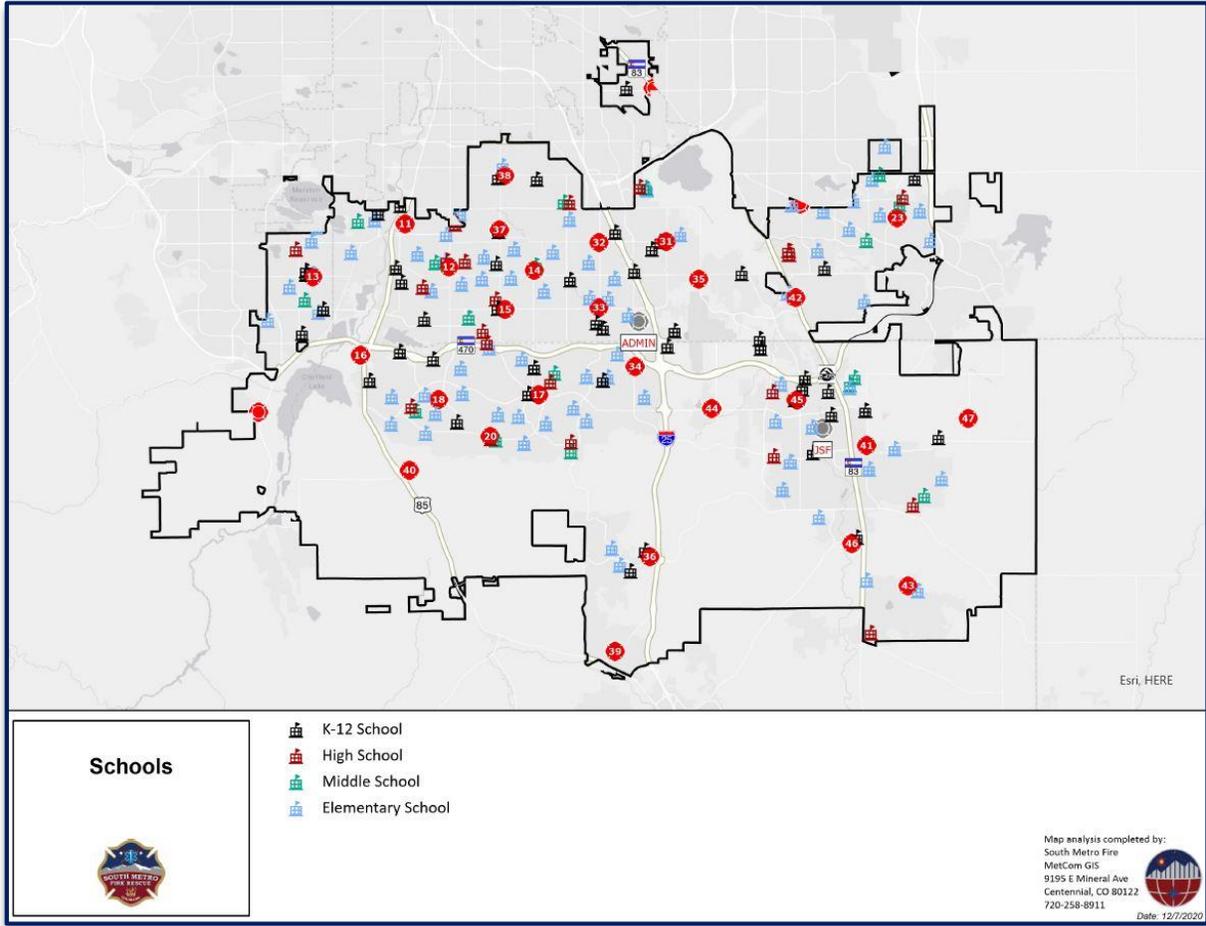
	2010		2014		2020	
Population 25+	115,833		132,831		366,126	
High School	15,394	13.3%	13,975	10.5%	37,931	10.7%
Some College	23,072	19.9%	25,586	18%	67,105	17.9%
Associate's/ Professional School Degree	13,957	12.0%	9,806	8%	28,461	7.1%
Bachelor's	41,300	35.7%	49,917	37.6%	138,795	38.4%
Master's	19,310	16.7%	28,382	23%	84,117	21.7%

Education (25+ years old)

2D: Business and Economics

Employment

Commercial and business properties account for 20 percent of the property use within the SMFRs District. Numerous business parks and economic centers exist due, in part, to a competitive environment, and a wide variety of businesses. The drivers of the economy are very diverse ranging from financial services and real estate to construction and manufacturing. A robust transportation system provides access to light rail transit, a general aviation airport, and an expanded freeway system that connects to all major employment centers.

2019 Employment Population

By Industry	By Occupation
Agriculture/Mining 1.3%	Management/Business/Financial 23.9%
Construction 5.9%	Professional 27.9%
Manufacturing 6.4%	Sales 12.9%
Wholesale Trade 4.3%	Services 12.4%
Transportation/Utilities 6.3%	Administrative Support 12.2%
Retail Trade 9.7%	Farming/Forestry/Fishing 0.2%
Finance/Insurance/Real Estate 12.8%	Construction/Extraction 2.7%
Service 48.8%	Installation/Maintenance/Repair 2.3%
Public Administration 4.5%	Production 1.8%
	Transportation/Material Moving 3.7%

Top Employers in the District

Employer	Location	Employees
Charles Schwab	Lone Tree	4,400
Lockheed Martin*	Littleton	4,000
Great-West Funds Inc	Greenwood Village	3,000
DISH Network	Littleton	2,750
Invesco, Inc.	Englewood	1,500
Jacobs Engineering Group	Englewood	1,500
HealthONE	Sky Ridge Medical Center	1,340
Boeing Digital Solutions, Inc.	Englewood	1,250
Vivial	Englewood	1,202
IHS Markit Ltd	Englewood	1,200
Arapahoe County Attorney	Littleton	1,000
Littleton Adventist Hospital	Littleton	913
Arrow Electronics, Inc.	Centennial	850
Parker Adventist Hospital	Parker	745
Newmont Corp	Greenwood Village	700
Arapahoe County Sheriff	Englewood	601
S & P Global	Englewood	570
Arapahoe County	Littleton	540
Tavern Tech Center	Greenwood Village	501

Lockheed Martin *

Lockheed Martin is an aerospace company that is primarily involved in the research, design, development, and manufacture of advanced technology systems, products, and services. Located in the southwest corner of the District, the facility employs more than 4,000 people and has design, manufacturing, and test facilities on site. Lockheed Martin was previously served via contract by the Littleton Fire Protection District. When the districts merged, SMFR honored the contract through 2021; however, an inclusion agreement was reached, and the property is now recognized as being located within the service boundaries of South Metro and is identified as one of the most unique and specialized properties.

Per Capita Income (2020)
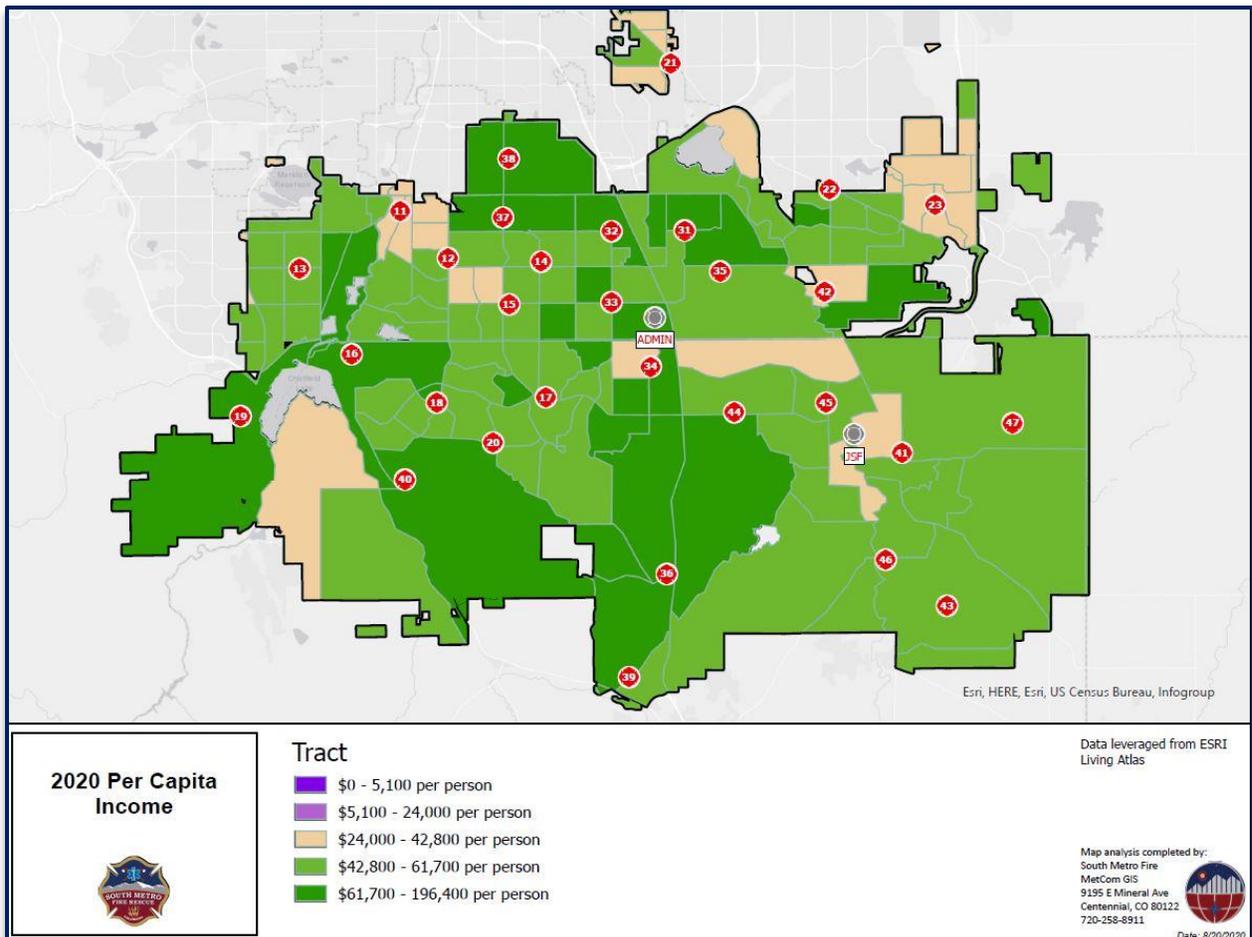
2E: Hospitals:

Citizens within South Metro's borders have access to excellent medical care facilities. There are eight major hospitals located within the District with emergency rooms and/or trauma centers and many more in the proximate area. This ensures that patients receive the appropriate care and contributes to an average transport time of 12:03 on emergency medical incidents.

Hospitals in and around the District
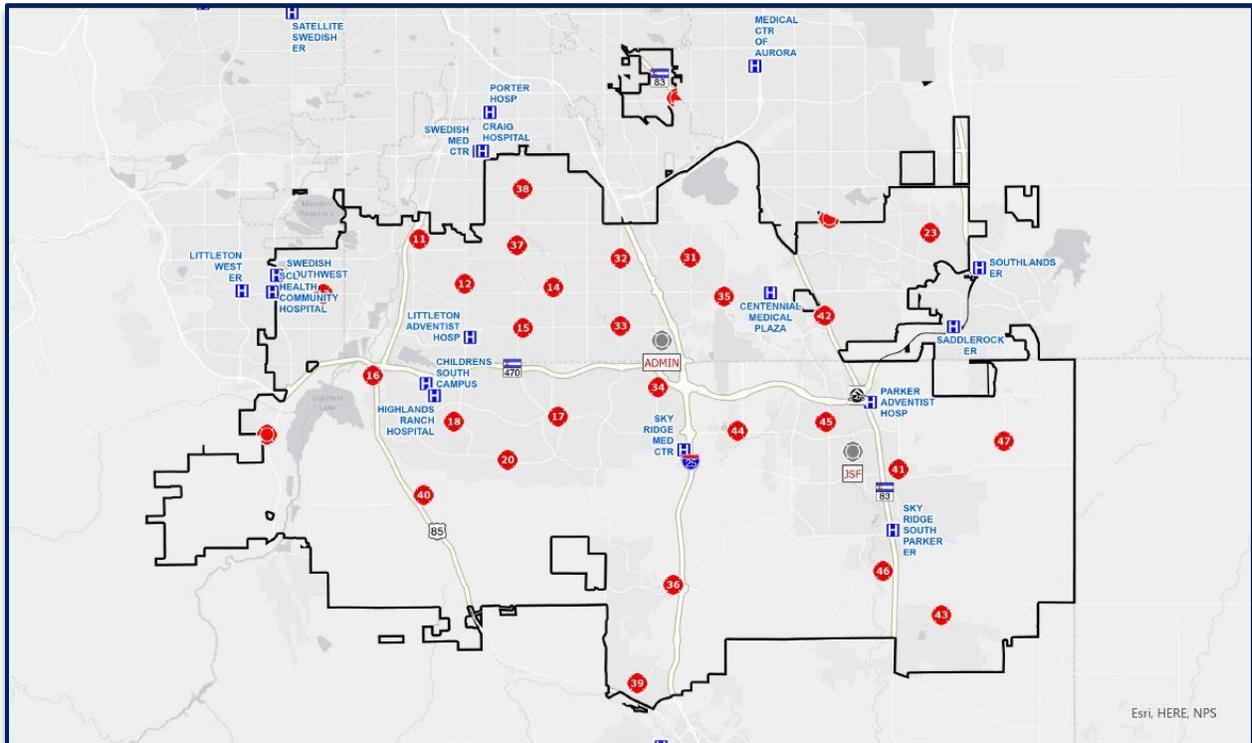
Hospitals

- Aurora South – Level II
- Centennial Med Plaza – No Trauma
- Children's South- No Trauma
- Littleton Adventist- Level I
- Littleton West ER- No Trauma
- Parker Adventist– Level II
- Porter Hospital- Level III
- Saddlerock ER- No Trauma
- Sky Ridge – Level II
- Swedish Main– Level I
- Swedish Southwest – No Trauma
- Southlands ER – No Trauma
- UC Health Main – Level I
- UC Health Highlands Ranch – Level III

2F: Assisted Living Communities and Nursing Homes:

Seniors in South Metro's response area have access to over 300 independent living communities, assisted living, and skilled nursing facilities. Residents in an assisted living community generally require custodial care, i.e., a person who lives with memory loss and isn't safe living alone or an adult with mobility problems. In contrast, residents in a nursing home require around-the-clock care and monitoring. They typically have more complex health care conditions that require the assistance of a nurse or medical assistant.

The SMFR Community Risk Reduction Specialists place a significant focus on senior living facilities, which house some of the most vulnerable population.

Objectives include:

- Better understand the nature of the risks to seniors and senior living facilities.
- Improve the preparedness levels of seniors and senior living facilities.
- Improve the alignment of the design, licensing, and ongoing use of senior living facilities.
- Reduce unnecessary responses to senior living facilities.
- Decrease injuries among firefighters related to patient removal from emergencies at these facilities.
- Reduce evacuation times for occupants of these facilities.
- Evacuate 90% of targeted residents when evacuations are required.

Assisted Living/Skilled Nursing Facilities

Assisted Living Facilities and Nursing Homes

▲ ASSISTED LIVING FACILITY
● NURSING HOME

Map analysis completed by:
South Metro Fire
MetCom GIS
9195 E Mineral Ave
Centennial, CO 80122
720-258-8911

Date: 2/9/2021
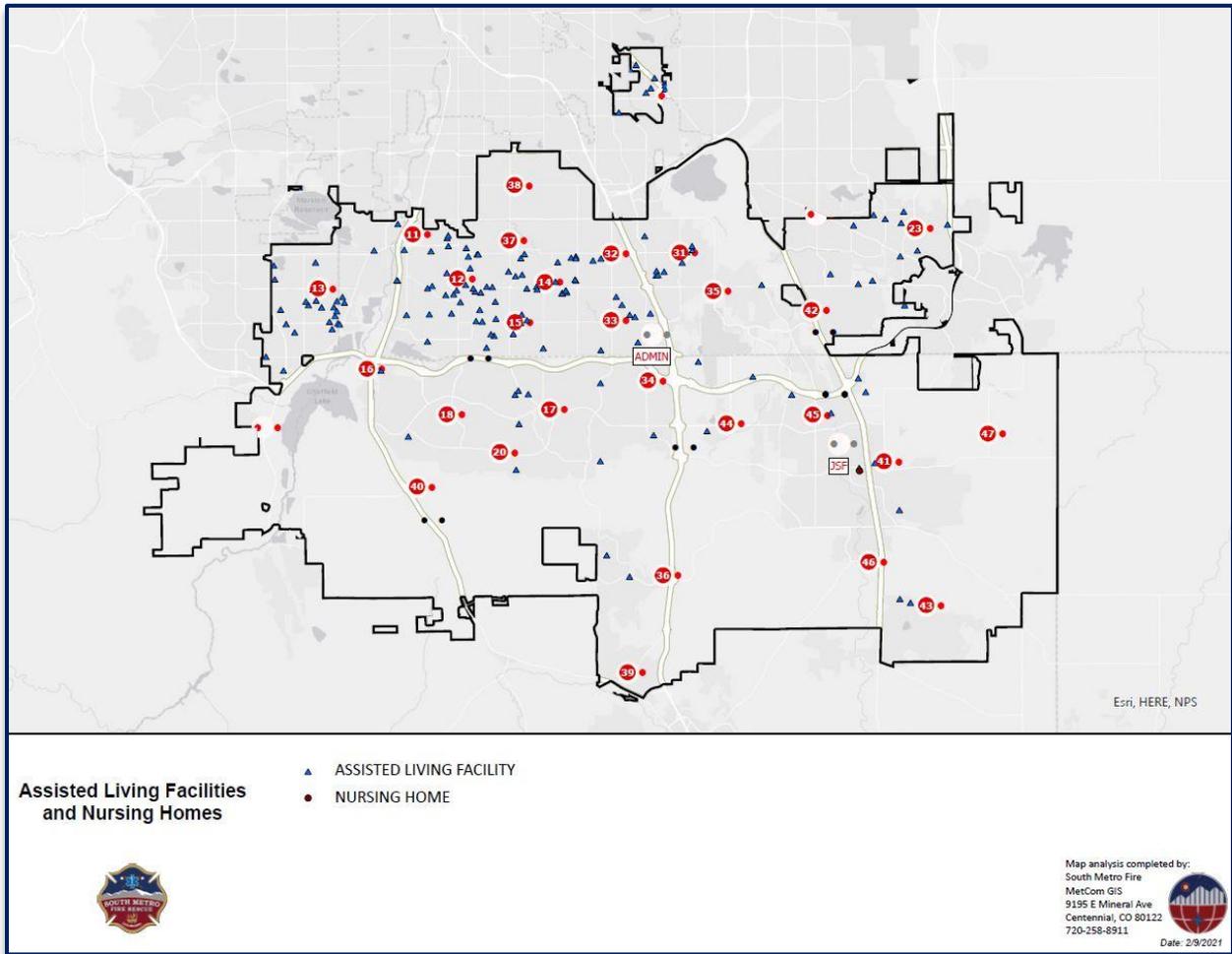
Section 2G: Venues and Retail

South Metro takes a proactive approach toward addressing risks at locations and events where large numbers of people are in attendance. The Fire Marshal's Office, Operations, and the Emergency Manager work in conjunction to create event action plans that address potential threats. Information contained in the plans includes historical data, weather, personnel assignments/divisions, key contacts, communications plan, and duration. Law enforcement is also a key component in event management. Major venues and retail centers within the District include:

Arapahoe County Fairgrounds Park

An event facility that hosts a 50,000 square foot Event Center, a 36,000 square foot Covered Arena, a 45,000 square foot Rodeo Arena and a 110-acre open space park with soft surface trails. The fairgrounds are home to the annual Arapahoe County Fair which hosts an estimated annual attendance of 23,565 people and an average annual non-fair use of 68,455 people.

Chatfield Botanic Gardens

Managed in cooperation with the U.S. Army Corps of Engineers, is a 700-acre native plant refuge and working farm located along the banks of Deer Creek in southern Jefferson County. The gardens host numerous heavily attended events including the Christmas Trail of Lights and the October corn maze attraction.

Denver Tech Center

A major business district also known as the DTC, is in the northern portion of the District, within Greenwood Village and the Cities of Centennial and Lone Tree. The area is a business and economic trading center and is home to dozens of businesses and corporations and contains mid-level and high-rise occupancies throughout its core. Other large business districts include Inverness Business Park and Meridian Business Park.

Dove Valley Training Facility

Home to the Denver Broncos Football Team, the facility includes the Bronco's Conditioning Center, which houses the team's 9,000 square foot weight room, an 18,000 square foot indoor conditioning area, and a UC Health training center. The Bronco's facility is situated on 13.5 acres and includes an administrative building and three outdoor full-size fields. Dove Valley usually hosts 10-20 training camps in late July and early August which are open to the public.

Fiddler's Green

An 18,000-person capacity amphitheater located in Greenwood Village, Colorado. It is the largest outdoor amphitheater in the Denver metropolitan area and is open from May to September.

Hudson Gardens Event Center

A botanical garden and event venue located in Littleton, Colorado, 12 miles southwest of Denver. The property is composed of thirty acres of garden exhibits, trails, natural terrain, and event venues. An annual summer concert series is held at the 3,250-seat concert amphitheater and a holiday lights display. The facility also hosts corporate meetings, annual races, and more.

Littleton Main Street

An historic District located on West Main Street in downtown Littleton that dates from the 1890s through the first half of the 20th century. It is associated with the development of politics and government, commerce, and transportation within the city's commercial core. Constructed primarily of brick, the one and two-story buildings reflect an eclectic mix of architectural styles while also presenting fire protection challenges due to age and construction.

Park Meadows Mall

The 1.58-million-square-foot shopping center is one of Colorado's largest. Park Meadows contains a total of 185 stores, including five anchor stores plus additional outdoor dining and retail.

Section 2H: Residential Development and Growth

Housing Profile- Residential housing represents 35 percent of the property use within the District. The total number of housing units is 213,906 and the homeownership rate is 72.7%. The 2020 median value of owner-occupied homes was $472,670. The District has a wide diversity of housing choices and neighborhood types, including single/multi-family dwellings in urban, suburban, and rural settings.

Household Summary

	2014		2020		2024	
Total Households	76,194		206,113		221,302	
Owner Occupied Housing	55,491	72.8%	148,534	72.7%	162,055	73.2%
Renter Occupied Housing	20,703	27.2%	57,579	27.3%	59,247	26.8%
Vacant Housing	3,324	4.4%	7,793	3.6%	7,965	3.6%
Median Home Value	$435,519		$472,670		$478,017	
Average Household Size	2.6		2.65		2.65	
Family Households	55,635	73.0%	147,248	71.7%	158,227	

Residential Development and Communities
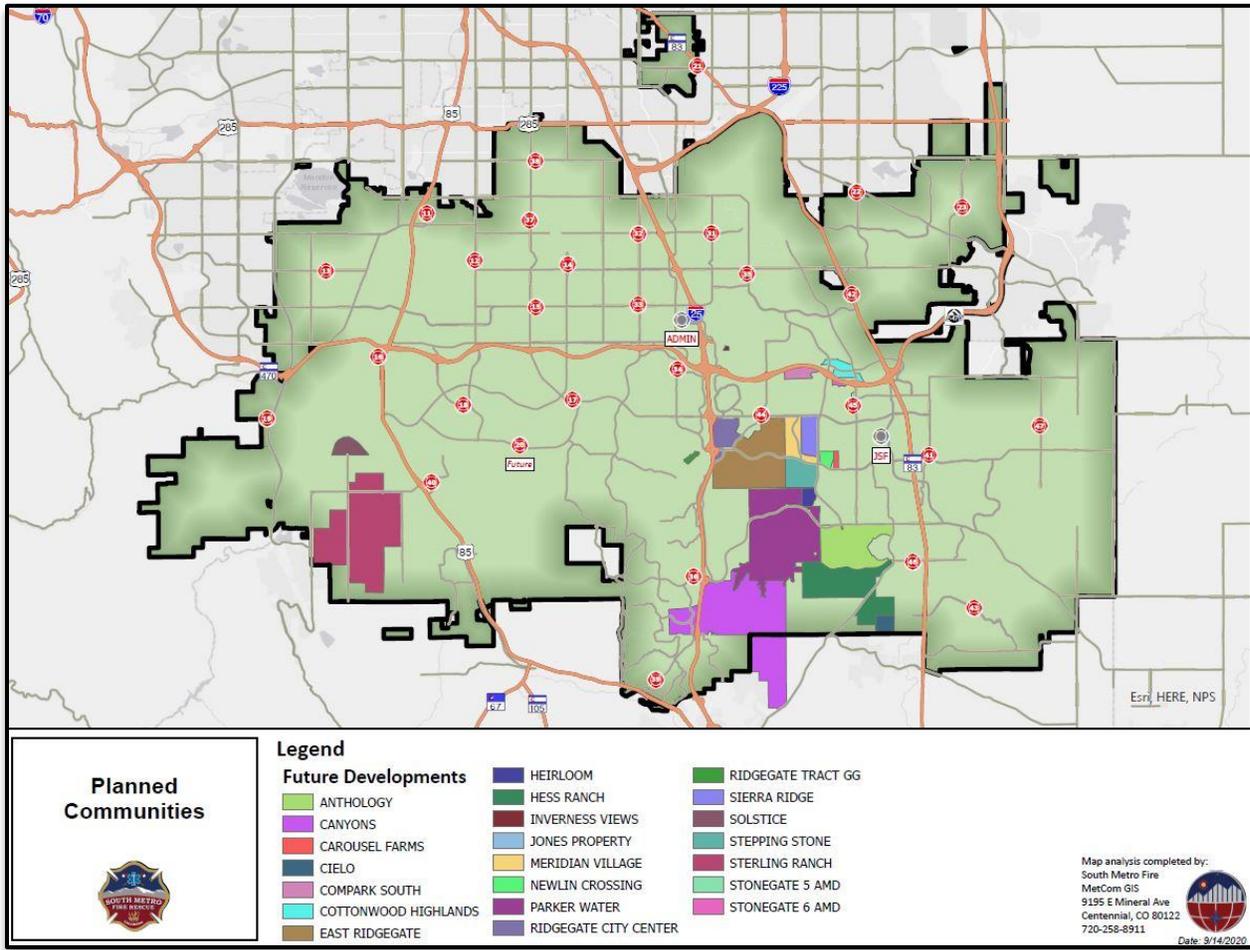
Residential construction and development in the District are continuous and ongoing. There are multiple master-planned communities and multi-family dwellings in various stages of planning and construction.

Anthology/Hess Ranch/Trails at Crowfoot:
- 6,500 dwelling units
- 16-18,000 residents
- Mixed-use properties

The Canyons:
- 5,000 dwelling units
- 13-15,000 residents
- Mixed-use properties

Ridgegate East:
- 10,000 housing units

- 25,000 residents
- 10-15 million feet of commercial property
- 15-30,000-person business population

Sterling Ranch:
- 12,000 housing units
- 30,000 residents
- Mixed-use properties

Section 2I: Transportation Infrastructure

Interstates/Freeways/Highways

The District contains five major highways: I-25, C-470/E-470, Highway 85, Highway 83, and a short section of I-225.

Major Highways and Traffic Counts
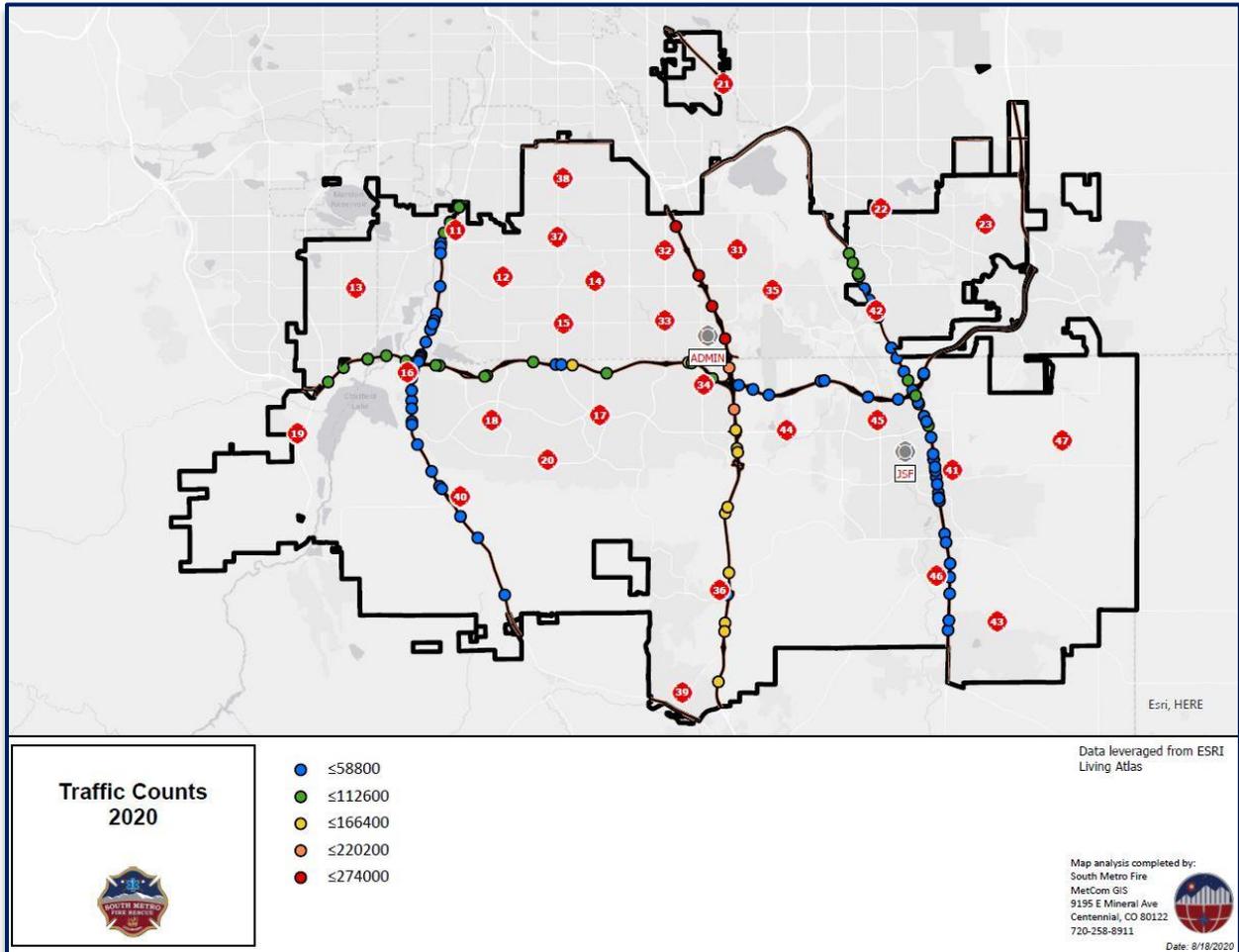
Interstate 25: A major north/south corridor, I-25 divides the District east to west for a distance of 16 miles between Belleview Avenue and 1.5 miles south of Happy Canyon Road. Is it subject to significant traffic with Average Annual Daily Traffic (AADT) ranging between 200,000 to nearly 400,000 vehicles in both north and southbound directions with the highest flows occurring on Friday?

C-470/E-470: The east/west C-470/E-470 corridor divides 's District north to south for 28 miles beginning from the west at Wadsworth Blvd and east to Quincy Ave (½ mile north). The highway

underwent significant expansion from June 2016 to the spring of 2020. AADT ranges between 50,000-150,000 vehicles with volume projected to increase by percent by 2035.

Interstate 225

An east/west I-225 corridor located at the District's northern jurisdictional boundary and borders with Denver Fire Department (DFD). The portion runs approximately three miles starting east of I-25 to the mid-point of Cherry Creek Dam. AADT ranges between 150,000-200,000 vehicles

Santa Fe Drive (Highway 85)

A north-south highway route that travels through the western portion of the District for 15 miles between Belleview Avenue and Happy Canyon Road. AADT ranges from 5000-50,000 vehicles in the southern section, increasing to 50,000-150,000 vehicles as the route continues north and approaches the City of Denver.

Parker Road (Highway 83)

A north-south highway route located in the eastern portion of the District that travels for a distance of 18 miles. AADT ranges from 5000-50,000 vehicles.

Railroads

The Southwest Light Rail Line

C/D opened in July 2000 as an 8.7-mile extension of rail from I-25 & Broadway to Mineral Avenue. It is proposed to add 2.5 miles of rail and one new Park-n-Ride to extend service into Highlands Ranch.

The Southeast Light Rail Line

E/F/R opened in 2006 as a 19-mile extension of rail from I-25 & Broadway, with 15 miles along I-25 to Lincoln and an additional 4 miles along I-225 to Parker Road. This extension brings light rail into Lone Tree, with three new stations. Project design and construction began in 2016, and the line opened for service on May 17, 2019.

Incidents involving light rail trains are primarily medical in nature and typically occur on the train cars themselves or in close proximity, such as on the station railway platform.

Freight Lines

Freight rail lines run from Belleview Ave at the northern District border and parallel Highway 85 for approximately 13 miles to the District's southern border, just beyond the town of Louviers. The line is operated by Burlington Northern Santa Fe (BNSF) and Union Pacific (UP) railroad. The majority of cars haul coal with full loads normally running south and empties returning north. Other commodities transported through the District contain a variety of farm products (9%), glass & stone (7%), coal (53%), and other cargo (31%) including petroleum products and environmentally hazardous substances. Both rail companies operate 24 hours a day and do not run on a specific

schedule. The number of incidents involving freight trains or that take place on railroad right-of-way property is very low, averaging fewer than 10 per year.

District Rail Lines
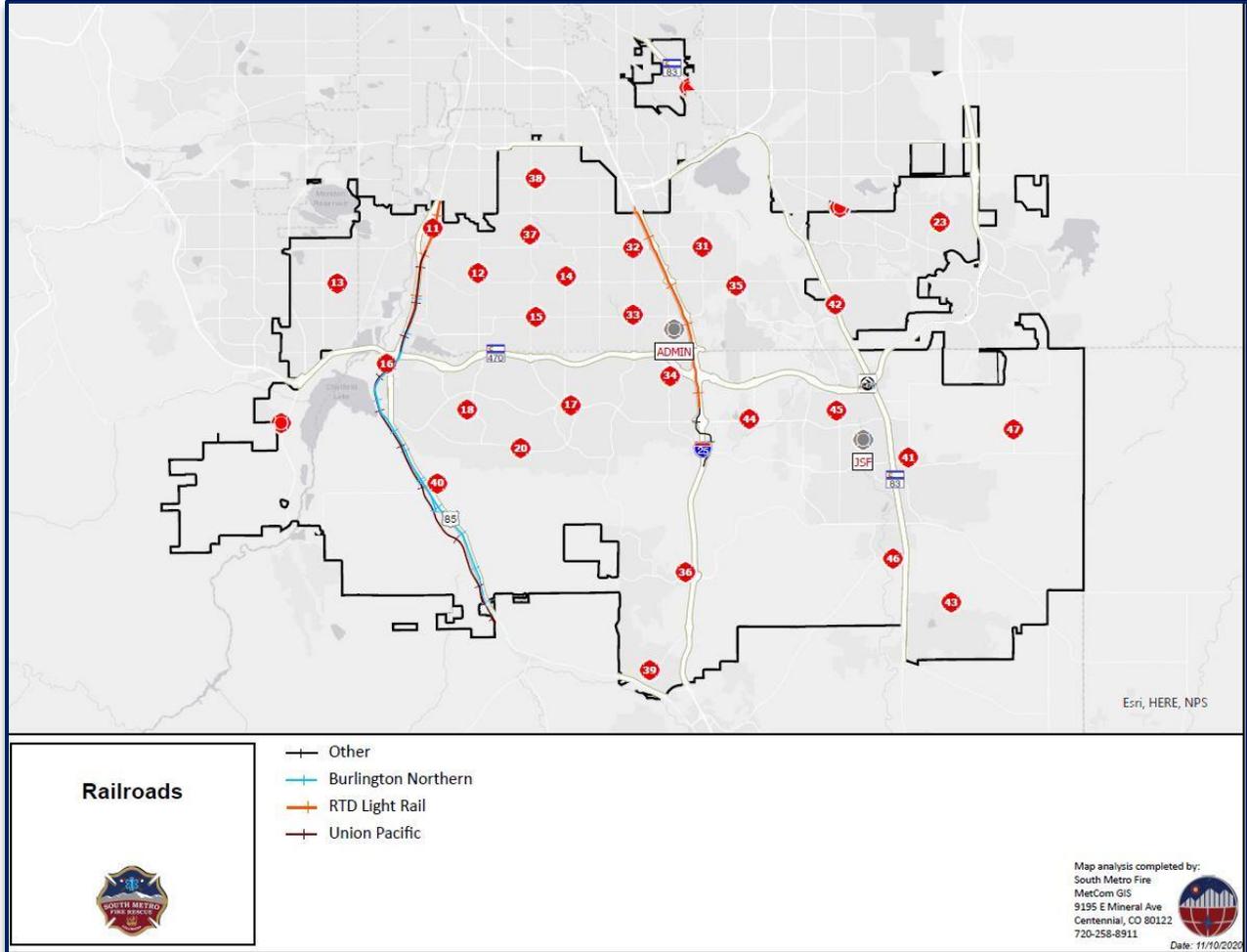
Airports

Centennial Airport, located in the core of South Metro's district, is the third-busiest general aviation airport in the United States, conducting more than 340,000 operations a year. Opened in May of 1968, the airport has three runways and covers approximately 1,400 acres. It is open 24 hours a day, 7 days a week in all weather conditions for chartered flights, air ambulance, check transport, and air cargo flights. It serves corporate, business, and private flyers, and is home to more than 900 aircraft. The airport services a mix of operations, including but not limited to business and private jets, five flight schools, recreational pilots, and medevac transportation. There is one hotel and three restaurants located on the property. The land is also home to more than 100 independently operated businesses. Collectively they employ more than 7,000 full and part-time positions and contribute an annual impact of $1.39 billion to the economy.

Centennial Airport

Centennial Airport
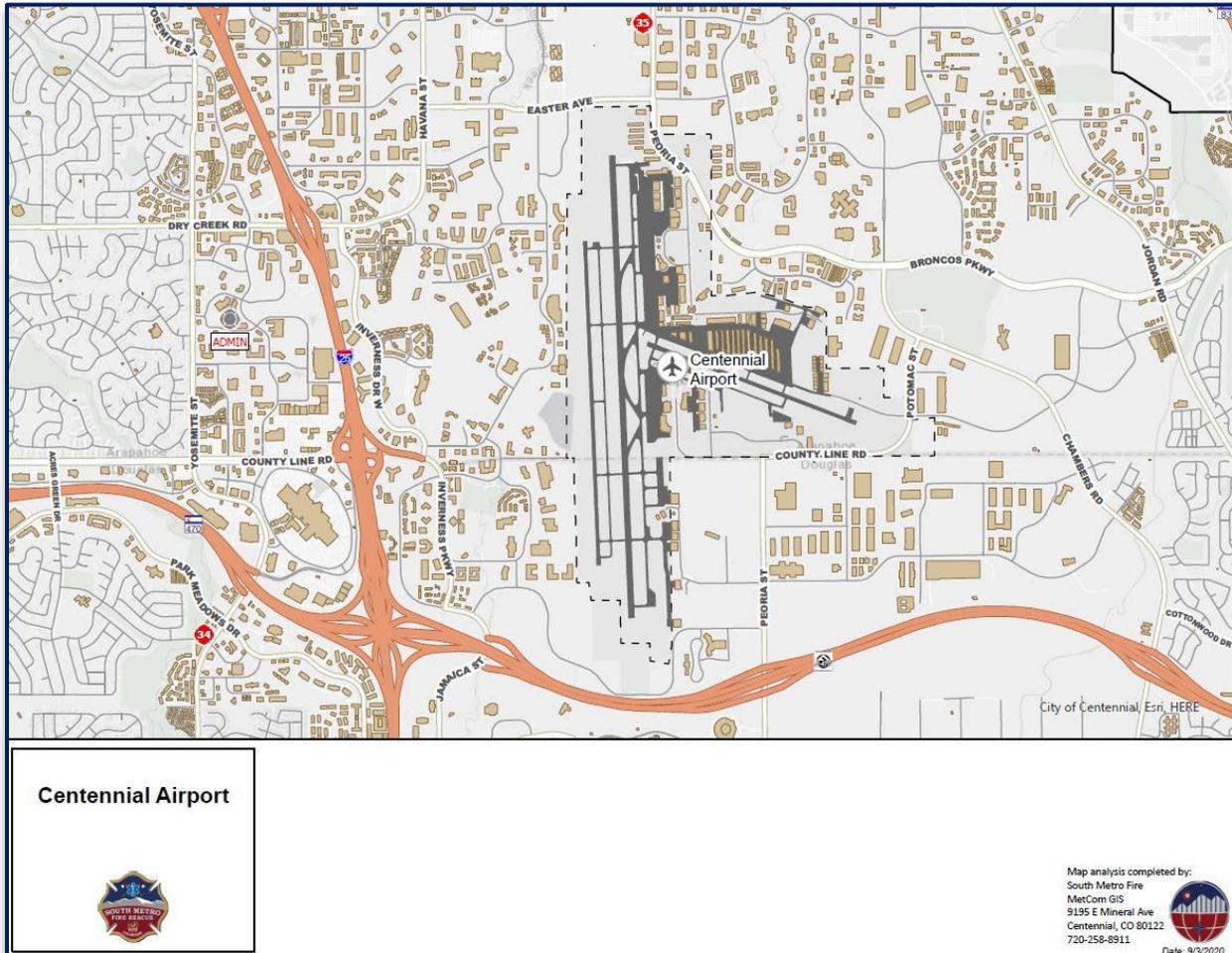
Trails

High Line Canal Trail

Owned by Denver Water, the 66-mile canal was originally built in 1883 to provide water from the South Platte River to the eastern plains. It has been open to the public since 1970. This trail has historical significance in addition to the recreational values it offers to residents. Many miles of the trail fall within the District and are also considered a high urban interface fire risk.

Cherry Creek Trail

A 12.7-mile heavily trafficked point-to-point trail parallels Cherry Creek and will eventually connect Cherry Creek State Park to the north and Castlewood Canyon State Park to the south. The trail also connects parks and open space properties located in Centennial and the Town of Parker.

Bike Paths

There are approximately 100 miles of both paved and on-street bike lanes within South Metro's District. They are used for recreation, and commuting and connect residents with major venues, restaurants, and parks.
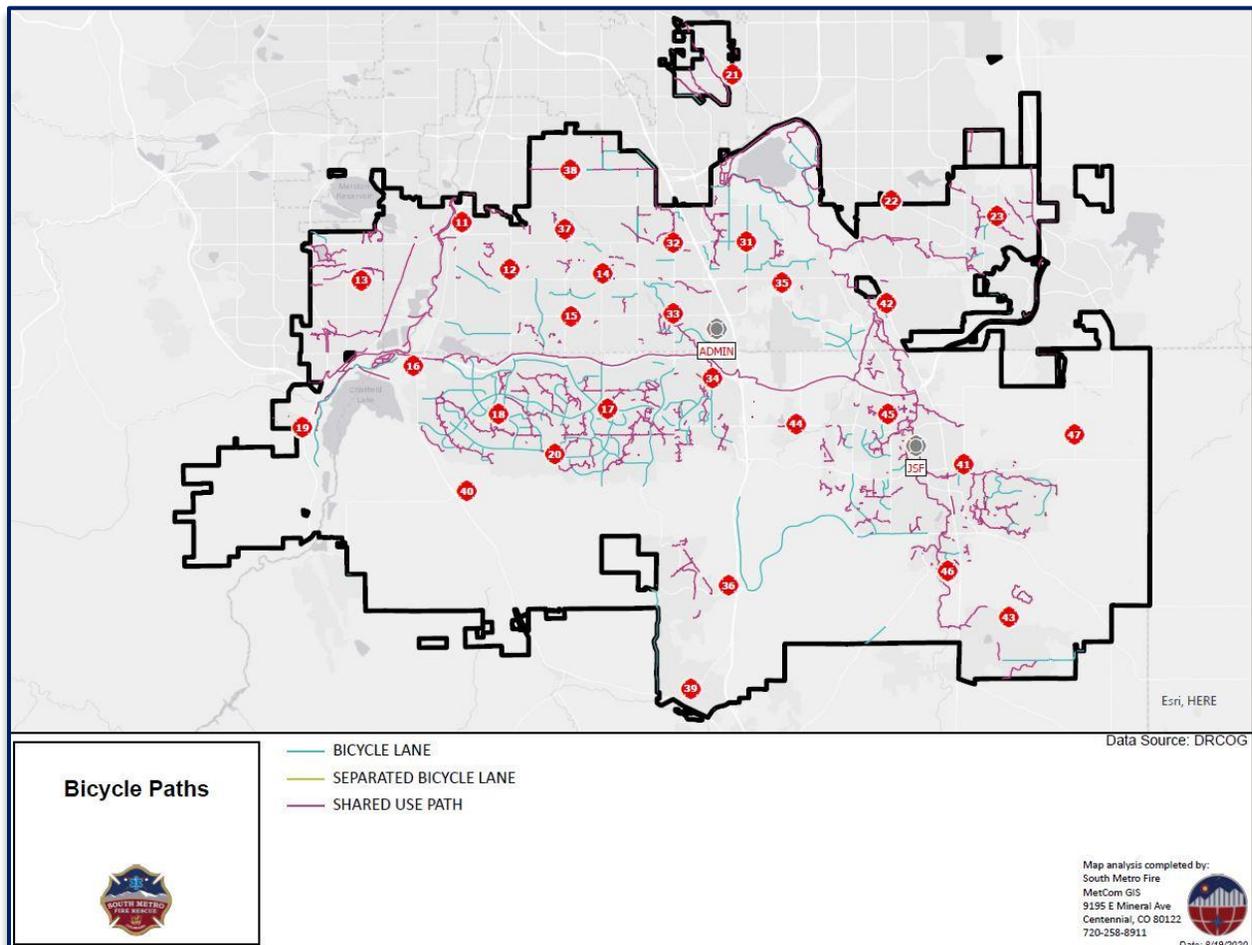
Section 2J: Utility and Service Infrastructure

Critical service infrastructure is found throughout the response area and includes electrical, natural gas, radio, and cellular. Electrical services are provided by Xcel Energy and Intermountain Rural Electric Association (IREA). Power infrastructure is located throughout most of the District including substations, overhead and underground electrical lines.

Electrical Transmission Lines and Substations
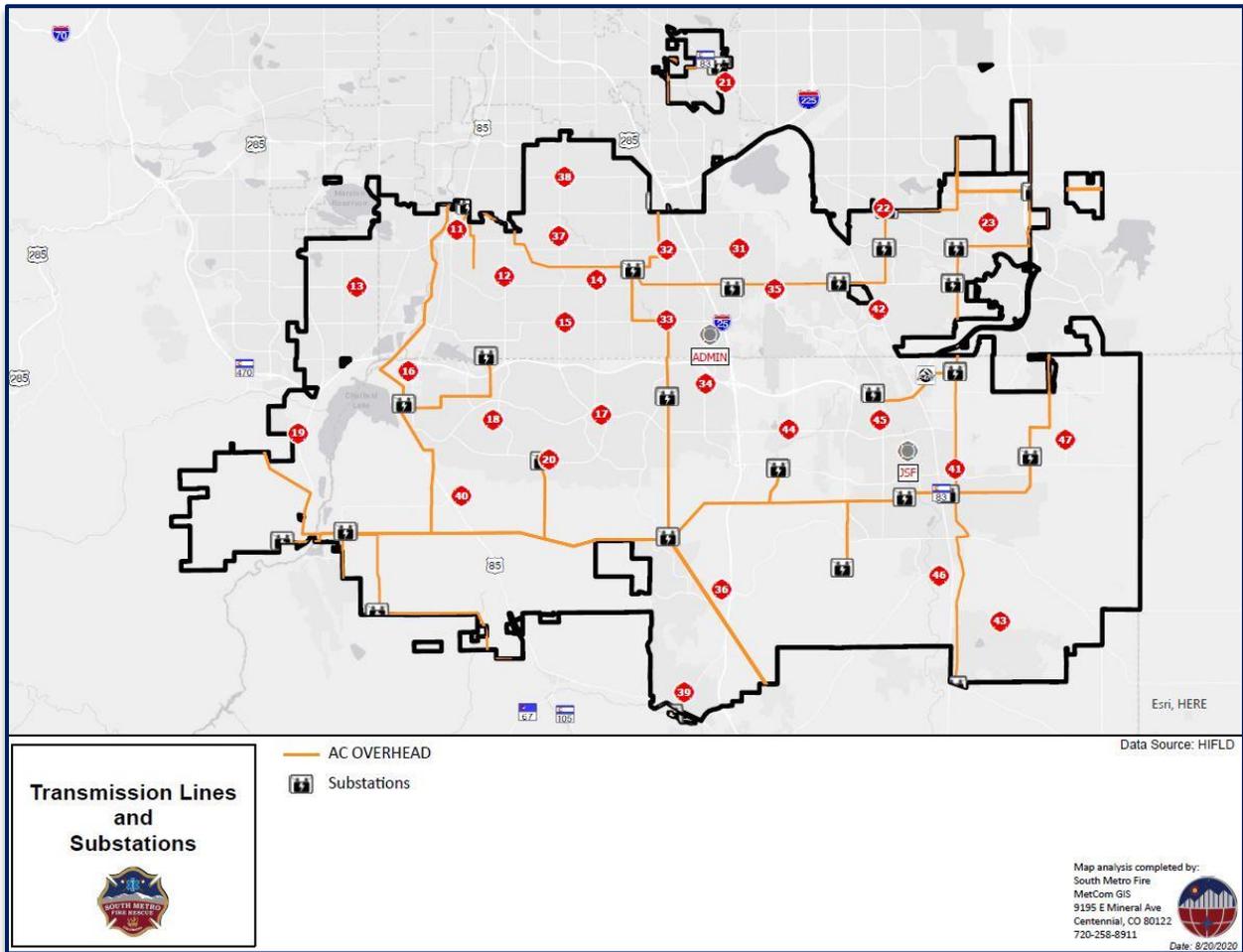
Natural gas is provided by Xcel Energy and Black Hills Energy. There are two major gas supply pipelines in the District; one north/south line located on the eastern edge and another east/west line crosses the southern half of the District.

Cellular phone and radio coverage are very reliable due to numerous providers and radio towers throughout the District. South Metro is a member of the Consolidated Communications Network of Colorado (CCNC) which supports 700 MHz and 800 MHz radio communications throughout the

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

Radio, Cellular, and Paging Towers
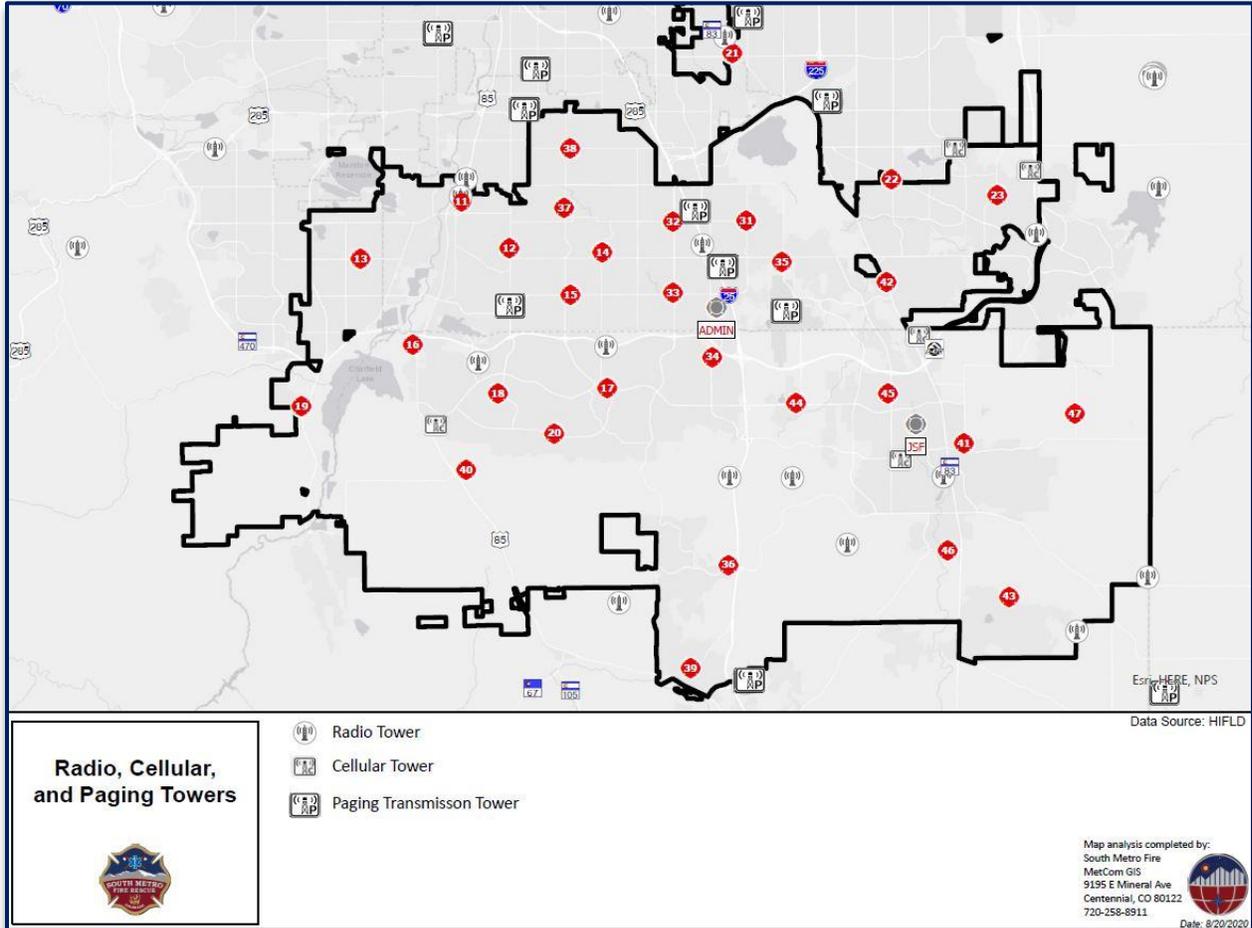
Section 2K: Water Supply, Infrastructure, and Resources

Water in the District is provided by 57 water departments. The Fire Marshal's Office (FMO) acts as the liaison with water districts to ensure that systems are installed and tested. The FMO is also responsible for reviewing and inspecting water supply systems for new structures and developments. Tender relay operations are used to provide fire flow in those areas without municipal water supplies or augment fire flow in those areas where the supply may be insufficient.

South Metro Fire Rescue achieved an Insurance Service Office (ISO) Class 1 designation in 2018 surpassing the previous Class 3 rating. ISO evaluates four primary categories of fire suppression — fire department, emergency communications, water supply, and community risk reduction. The rating is evaluated approximately every five years. The Class 1 rating placed South Metro in the

prestigious group of only 240 departments throughout the United States with an ISO rating of 1 and only seven within the State of Colorado. South Metro is also the first department in the country with an ISO 1 for hauled water in non-hydranted areas.

Water is found throughout the area in the form of lakes, ponds, rivers, streams, creeks, and canals. Numerous dams were constructed to manage water flow and avert flooding; three major ones are located within the District.

Chatfield Lake/Dam

Lies on the South Platte River at its confluence with Plum Creek and is located in Chatfield State Park along the western boundaries of the District. The lake is two miles long and has an average depth of 47 feet. The lake drains an area of approximately 3,018 square miles. The 1,479-surface-acre lake has a storage capacity of 27,046 acre-feet. Chatfield dam is the second of three dams built in the Denver area to reduce flooding risks. Both the dam and reservoir are owned and operated by the U.S. Army Corps of Engineers.

Cherry Creek Lake/Dam

Lies on Cherry Creek at its confluence with Cottonwood Creek, at the northern edge of the District. The lake is 3.25 miles long and has an average depth of 46 feet. The lake drains an area of approximately 390 square miles. The 850-surface-acre lake has a storage capacity of 13,960 acre-feet. The lake is located in Cherry Creek State Park and provides water recreation along with hiking, bicycle and horseback riding, camping, and picnic sites.

Reuter Hess Reservoir

1170 acres in size, 98 feet deep, 16,200 to 75,000 acre-feet and provides the water for the cities of Parker and Castle Rock. The reservoir is in eastern Douglas County on property owned by Parker Water and Sanitation District (PWSD).

Waterways and Dams
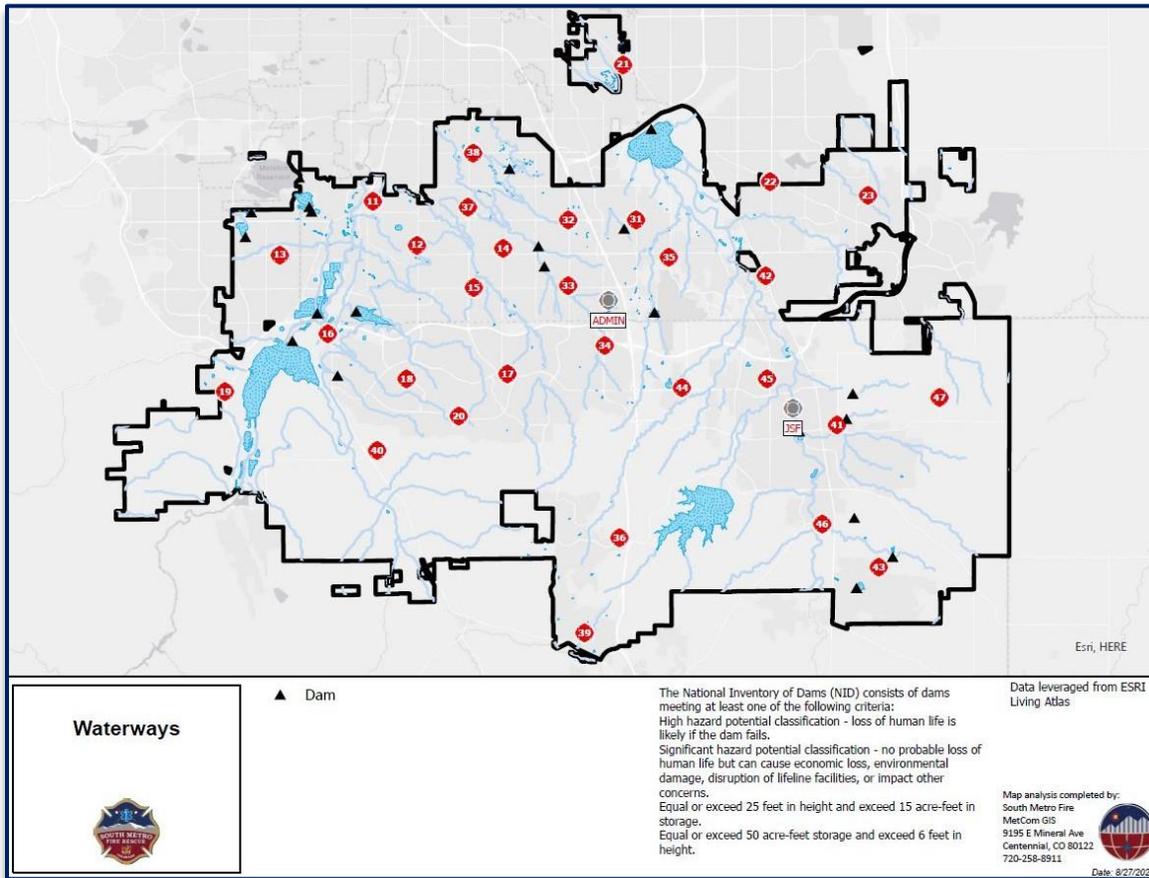
2L: Climate

The region has a semi-arid, four-season climate with mild temperatures, nearly 300 days of annual sunshine with an annual average of 17 inches of rainfall, and 73 inches of snowfall annually. January is the coldest month and averages between 17°F to 45°F, whereas July is the warmest month with an average high temperature between 78°F to 94°F.

Winter generally consists of transient snowstorms that melt off within one or two days. Storm preparation and aggressive snow removal are performed on highways and major roads keeping travel restrictions to a minimum. Winter storms typically begin in October and continue through May. The spring weather transition often brings heavy, wet snowstorms, hail, and lightning. Severe thunderstorms occur frequently in the late spring/early summer and can be accompanied by severe hail and on rare occasions, tornadoes. Wildfires of varying size and intensity are common during the summer due to the lack of precipitation that contributes to dryness in the District.

Humidity is generally quite low which favors rapid evaporation resulting in a relatively comfortable feeling even on hot days. Sunburn and skin cancer are problematic due to the intense sunlight at high elevations.

Average High and Low Temperatures
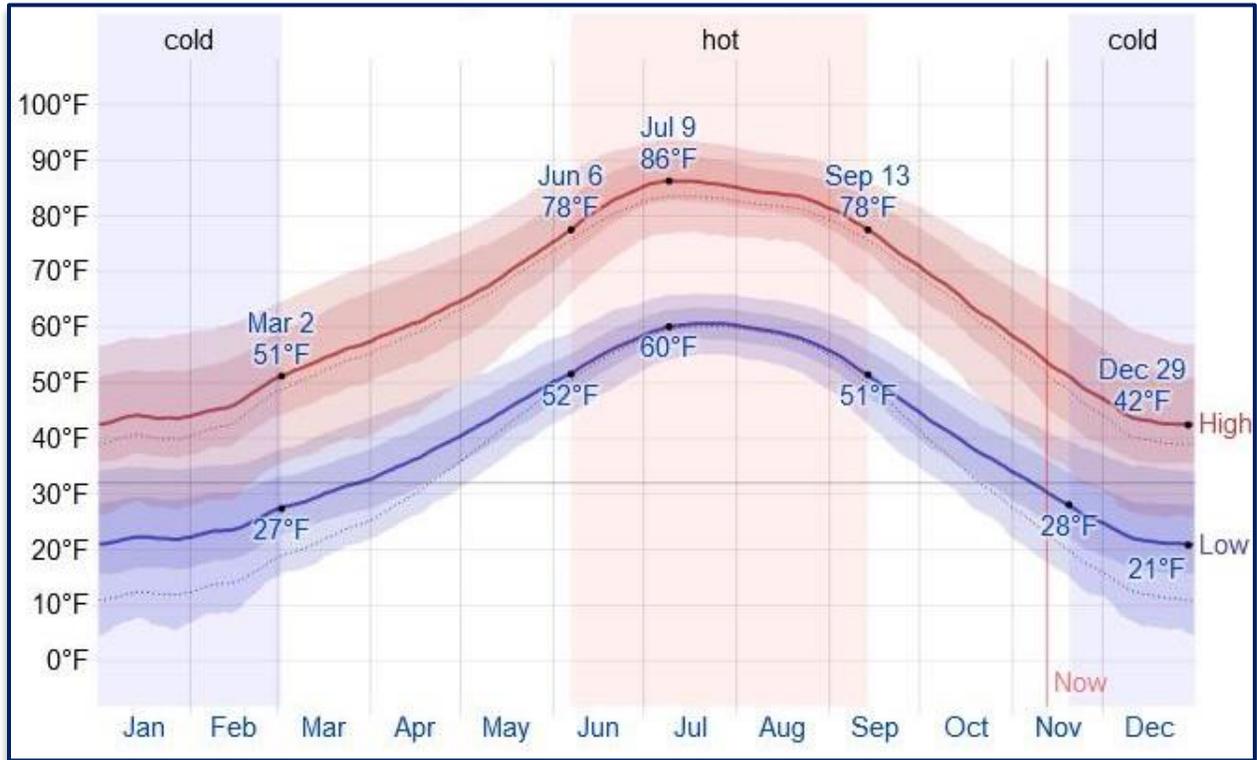
Average Monthly Rainfall
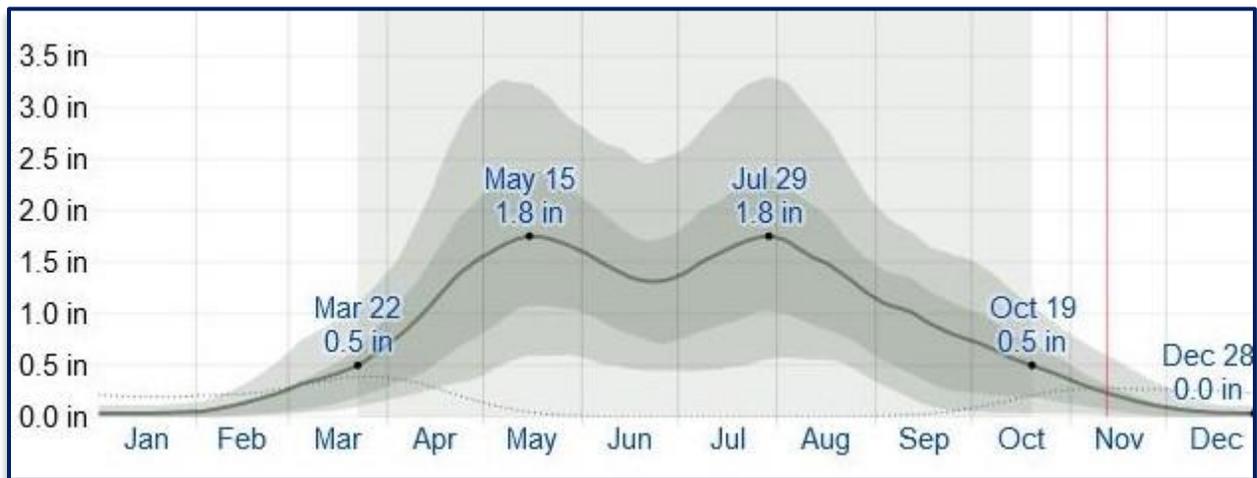
Average Liquid-Equivalent Monthly Snowfall

Colorado averages 47 tornadoes per year and more than three-quarters of these come during the peak months of May, June, and July. Most Colorado tornadoes are weaker, and shorter-lived, compared to the violent tornadoes in the southern and central plains, but can cause great damage, and even death or injuries. Surface winds out of the southeast, leading into the Denver metro area interact with an elevated area of land between Denver and Colorado Springs (a.k.a The Palmer Divide) where tornado conditions can quickly develop. Meteorologists call it the Denver Convergence-Vorticity Zone (DCVZ) and approximately 60 percent of Colorado's tornadoes form in this area.

Approximately 500,000 lightning flashes strike the ground in Colorado and the state ranks 7th in the nation for lightning fatalities per 2009-2018 data. Colorado ranks 19th in the nation concerning the number of cloud-to-cloud lightning flashes. Fortunately, personal injury and property damage from lightning strikes remain very low within South Metro's District and there were no reported lightning-related deaths during the last five years.

The spring flood potential results from the melting of the snowpack in the higher elevations in the counties and the state. In a year of typical snow accumulation in the mountains and normal spring temperatures, river stages become high and there is generally no flooding.

Extensive flooding can occur during years when snow cover is heavy or when widespread snow accumulation at lower elevations is followed by sudden warming.

District Flood Plains and Hazards

Flood Hazards

- 1% Annual Chance Flood Hazard
- Regulatory Floodway
- Area of Undetermined Flood Hazard
- 0.2% Annual Chance Flood Hazard
- Future Conditions 1% Annual Chance Flood Hazard
- Area with Reduced Risk Due to Levee
- Area of Minimal Flood Hazard
- Lake

The 1-percent annual chance flood is also referred to as the base flood or 100-year flood. The 0.2% annual chance flood is also referred to as the 500-year flood.

Data leveraged from ESRI Living Atlas

Map analysis completed by:
South Metro Fire
MetCom GIS
9195 E Mineral Ave
Centennial, CO 80122
720-258-8911

Date: 8/24/2020

Wildfire

45 percent of the land within South Metro's borders is classified as agricultural, wildland, and/or undeveloped. Wildland fires are frequent during warmer months. However, they still occur throughout the year due to a lack of precipitation and low relative humidity. Dried grass and weeds are prevalent and are a serious fuel concern during the summer and fall months. Building construction materials such as wood shingles, siding or cedar fences, etc., also factor into the overall risk. Heat sources including railroad lines and faulty electrical transformers, or power lines are also known components. Human activity, whether burning of debris, equipment use, and malfunctions, negligently discarded cigarettes, or intentional acts of arson are still major contributors. Trails, open spaces, and green belts often back up to residential and commercial areas and increase the likelihood of urban interface fires.

SMFR identifies wildland threats and areas of concern through the community risk assessment and Wildfire Matters program that attempts to reduce the frequency and impact of wildfires within the agency's jurisdiction, particularly in wildland interface areas. Components include neighborhood mitigation plan development, mitigation project facilitation, home assessments, agency/partner collaboration, evacuation drills, wildfire pre-attack plan updates, and teaching fire science as it relates to wildfire behavior and safety. SMFR collaborates with multiple HOA and community organizations to assist with their chosen programs such as Fire Adapted Communities. SMFR helps to prioritize areas of concern and educate homeowners on response to fire as well as structure mitigation.

Wildland Urban Interface Areas
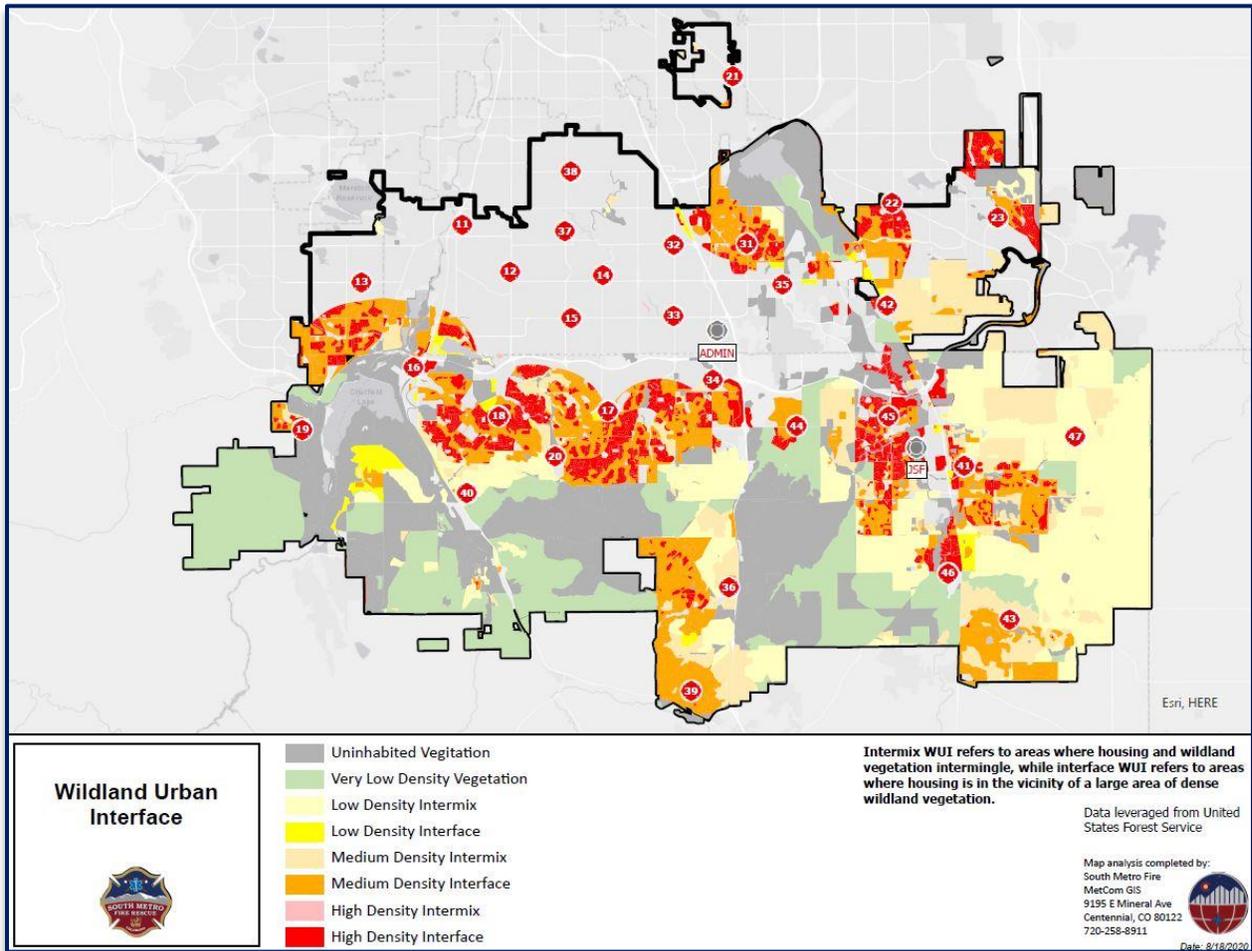
M. Topography/Elevation

The topography within the jurisdiction is diverse ranging from heavy forests, rolling hills, prairies, canyons, mesas, lakes, rivers, and small streams. The District contains wide variations in elevation ranging from an average of 5,390 feet to approximately 7,400 feet. Portions of high-density urban areas contrast with large open spaces and expansive prairies. The northern sections of the District are relatively flat, urbanized, and intermixed with open space and parks while the southern portion features broken terrain characterized by mesas and foothills. Forested areas comprised of scrub oak and pine create densely forested areas of wildland urban interface where homes are often surrounded by trees and vegetation.

Elevation Variances

Elevation Variance
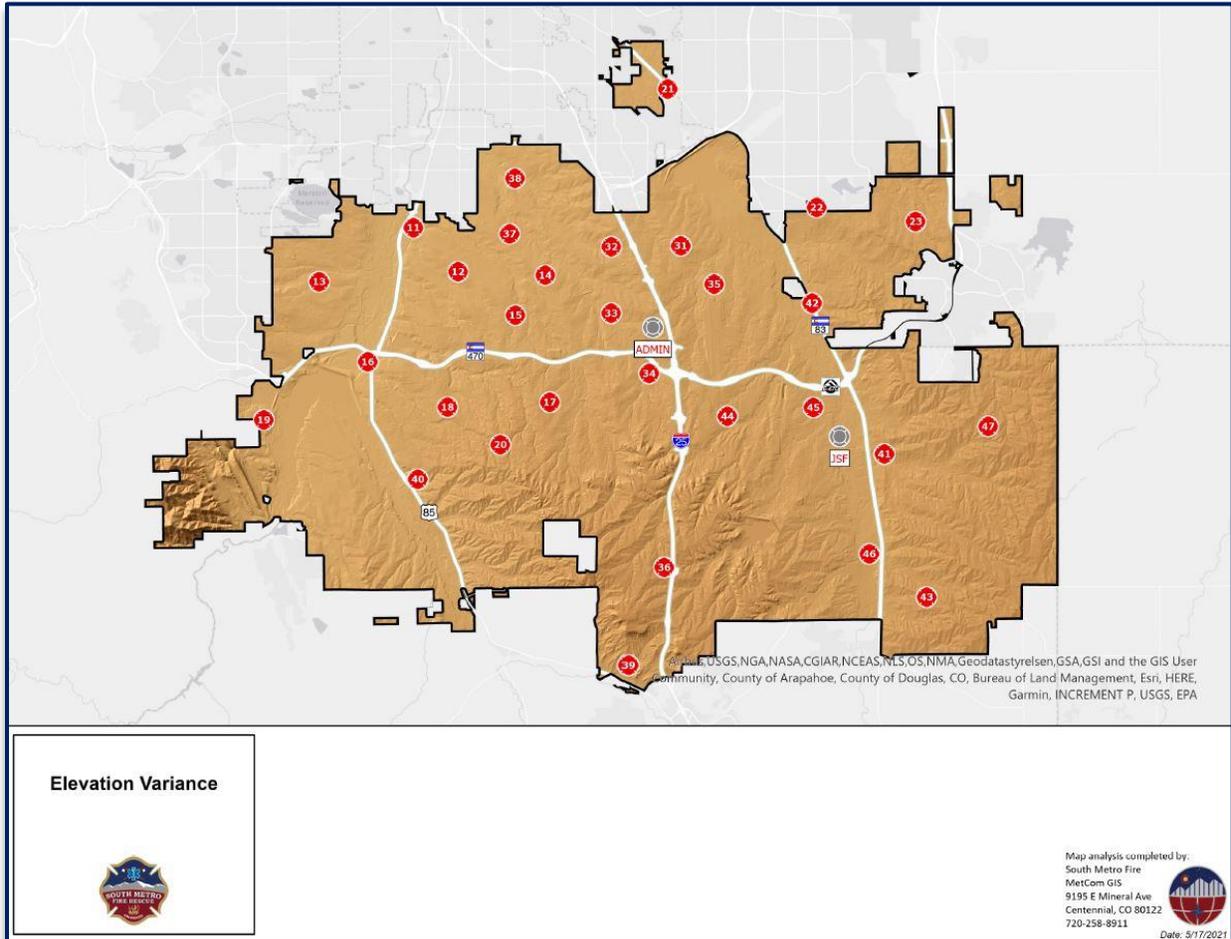
Section 3: Area Risk Assessment

A. **Risk Assessment and Methodology**

South Metro identifies, categorizes, and prioritizes risk within the community to enable the optimum placement, response, and utilization of its resources. The community risk assessment is guided, facilitated, and maintained following the Agency's 2021-2025 Strategic Plan and the most current CPSE manuals. Operational and prevention risk assessments are also applied to ensure the alignment of department objectives.

Development and maintenance include relevant bureaus and divisions that participate in the following processes:

1. Evaluation of current levels of service.
2. Evaluation of resource deployment
3. Structural and non-structural hazards assessment.
4. Response plans and critical task review
5. Gap identification and development of improvement plans
6. Verifying legal boundaries of automatic and mutual aid partners.
7. Verifying boundaries of the identified geographical planning zones
8. Verifying population density of the District and planning zones (urban suburban and rural)
9. Obtaining historical loss of life and fire loss (location)
10. Analysis and data on injuries and calls for medical service

Target Hazard Identification

FEMA defines these as: "*facilities in either the public or private sector that provide essential products and services to the general public, are otherwise necessary to preserve the welfare and quality of life in the community, or fulfill important public safety, emergency response, and/or disaster recovery functions.*"

South Metro Fire Rescue uses a combination of qualitative and quantitative methods to evaluate risk. These include GIS-based analysis, target hazard data, demographic data, RMS/CAD data, and data from a variety of external sources such as the Environmental Research Systems Institute (ESRI). Utilizing information from these sources enables SMFR to identify, analyze, and prioritize risks within the community.

B. Geographic Planning Zones

The District is managed under 29 geographical planning, or station zones. Each zone is served by a single fire station that is identified as the first due. Stations are located to ensure the effective distribution of resources and limit undue risk from extended responses. Station zones allow the Agency to identify, analyze, categorize, classify, and document distinct categories and classes of risks. Although the Agency uses automatic vehicle locators (AVL) to dispatch the closest available units, the sheer size of the District is most effectively managed, analyzed, and understood using the first-due concept. Risk within the District is analyzed across all planning zones and considerations include, but are not limited to, service level demands and resource deployment, area development and growth, population density, occupancy risk, fire/non-fire risk, and special hazards.

SMFR Station Zones
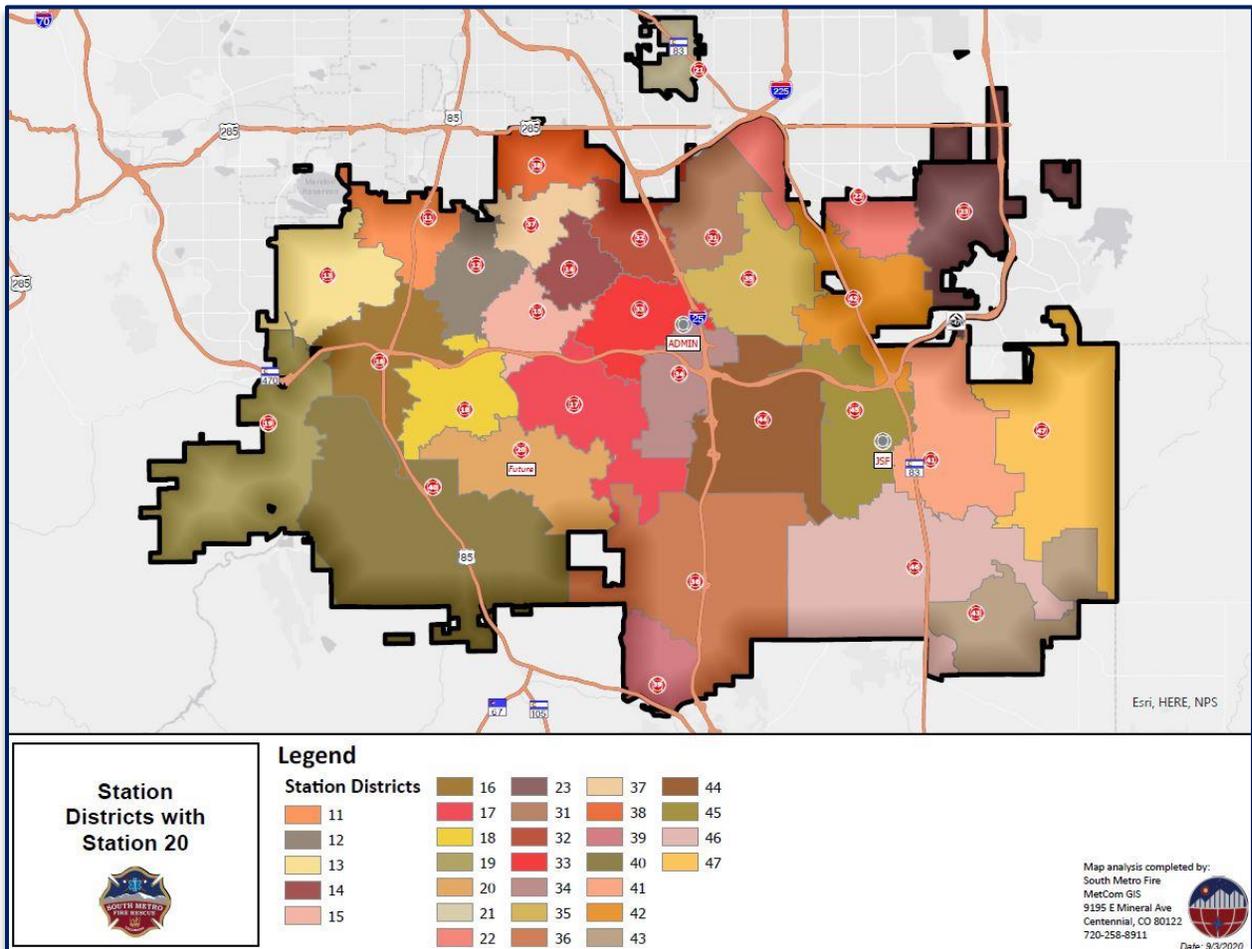
Planning zones are identified and assessed during each accreditation cycle and may be altered based on changes and needs of the District. Critical infrastructure identified by the risk assessment focus group includes:

- Government Facilities
- Transportation
- Services and Utilities
- Communications Systems
- Energy Production and Distribution

- Hospitals
- Emergency Services
- Service type risks/demands
- Special/contract areas
- High hazard/special risk

C. Occupancy Risk Assessment

South Metro records and maintains data for all buildings and occupancies within the district in the Accela database; a multi-functional software application that supports functions of development and construction, pre-incident plans, code compliance, and special event permitting. Occupancies are classified as High, Moderate, or Low for risk identification according to current inspection scheduling. Occupancy classifications are taken from the International Building Code (IBC).

The 2018/2019 Cunningham Fire and Littleton Fire unifications added approximately 3,800 new occupancies all of which required preplans, plan reviews, construction inspections, and code compliance inspections. SMFR currently tracks a total of 10,617 active inspections and 6,187 preplans. The assessment resulted in a subset consisting of 2,464 occupancies and complexes that contained complete data. The process needs to be completed for the remainder of the occupancies where these data points are tracked.

The occupancy risk assessment utilizes a point scale based on nine data points and a point scale of 1-6; see table on the next page;

Occupancy Characteristics

Point Scale	1	2	3	4	5	6
IBC Occupancy Classification	M & U	B	S	F	A, E, & I	H & R
Construction Type	Type I	Type II	Type III	Type IV	-	Type V
Total Square Footage	≤ 1000 Square Feet	1001-2500 Square Feet	2501-5000 Square Feet	5,001-7500 Square Feet	7,500-25,000 Square Feet	≥ 25,000 Square Feet
Number of Above Grade Floors	None	1 floor above grade	2 floors above grade	3 floors above grade	4 floors above grade	≥ 5 floors above grade
Number of Below Grade Floors	None	-	1 floor below grade	2 floors below grade	3 floors below grade	≥ 4 floors below grade
Max Building Occupancy	1-10 occupants	11-50 occupants	51-100 occupants	101-500 occupants	501-1000 occupants	> 1000 occupants
Fire Flow Requirements	< 1500 GPM	-	1501-3750 GPM	3751-5000 GPM	5001-7000 GPM	> 7001 GPM
Fire Alarm System	Monitored Alarm system	-	-	Local alarm system	-	No Alarm System
Automatic Sprinkler System	Fully Sprinklered	-	-	Partially Sprinklered	-	Non-Sprinklered

The point values were assigned to the following risk ratings.

Low	Moderate	High	Special
0-18	19-36	37- 54	≥ 54

Approximately 78 percent of the occupancies evaluated had a moderate risk rating and the remaining 22 percent fell within the low-risk rating. As additional occupancies are added, SMFR will continue to evaluate the risk model. The number and types of emergency incidents in the occupancies evaluated were as follows.

Total Calls by Type

	Alarms	EMS	Fires	Other	Public Assist	Special Ops	Grand Total
Grand Total	3668	17417	327	584	2377	550	24923

Assessment data was added to station planning zones for reference by station officers and crews.

D. Risk Methodology

3-Axis Process

To assess risk within all categories of its service delivery programs, South Metro utilizes the 3-axis model found in the 6th edition CPSE CRA-SOC manual. Based on Heron's Formula, the 3-Axis method examines events from three perspectives.

$$\text{Risk Score} = \sqrt{\frac{(PC)^2}{2} + \frac{(CI)^2}{2} + \frac{(IP)^2}{2}}$$

Probability (P): Explores the likelihood of a particular type of event to occur. Historical call data is gathered by the number of incidents, type, and category. The probability score is based on a 1-10 scale with 10 being the highest.

Impact (I): The commitment of SMFR resources (apparatus, equipment, personnel) necessary for a particular emergency event category and mitigation (based upon critical tasks) The impact score is based on a 1-10 scale with 10 being the highest.

Consequence (C): The magnitude or estimated loss that will be experienced by the community and citizens served by South Metro. The consequence score is based on a 1-10 scale with 10 being the highest in the event an incident occurs.

X-Axis = Consequence

Y-Axis = Probability

Z- Axis = Impact
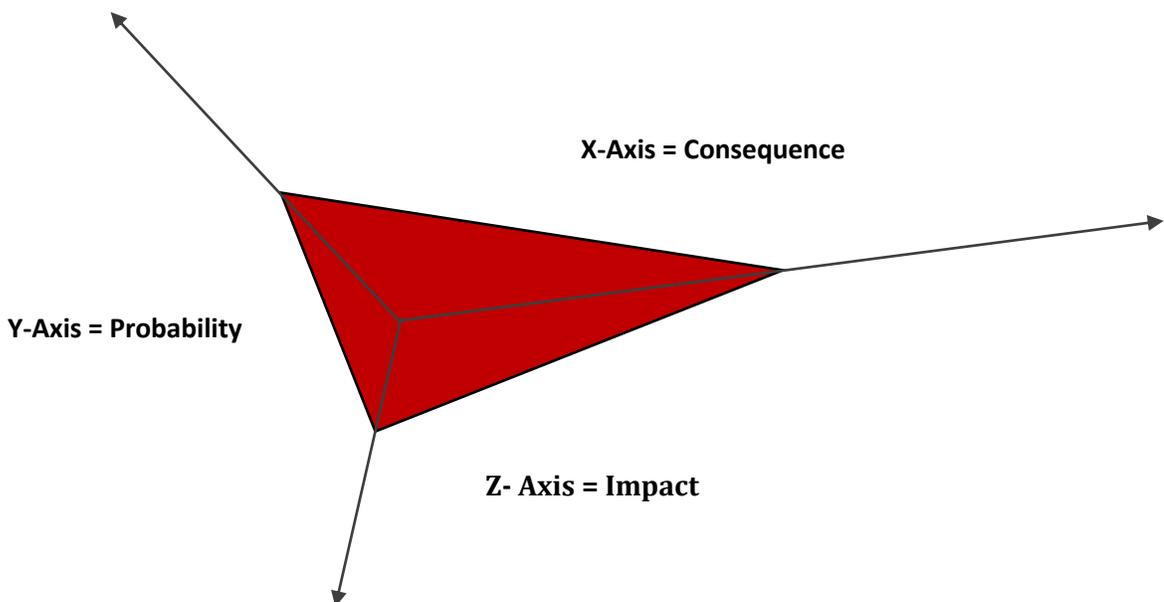
The three elements (P, C, I) are applied to incident and service delivery types in the following manner resulting in a minimum risk score of 6 and a maximum risk score of 30.

Probability Ranking

Score	Frequency
2	Very Low Potential (Annual)
4	Low Potential (Six Months)
6	Moderate Potential (Monthly)
8	High Potential (Weekly)
10	Very High Potential (Daily)

Impact Ranking (Critical Tasks)

Score	Impact t SMFR Personnel/Resources
2- Very Low	Single Company/ 1-4
4- Low	Two Companies / 5-8
6- Moderate	Three Companies/ 9-14
8- High	Four Companies/ 15-20
10- Very High	Five or More Companies/ > 20

Consequence Ranking

Score	Financial	Property Loss	Life Loss
2	Minimal Loss ($15K-250K)	Vehicle or other non-dwelling property type	No Loss
4	Minor Loss ($250-500K)	1 residential structure or multifamily unit	Potential Loss
6	Moderate Loss ($501K-1M)	1-2 residential or multifamily units	Single Life
8	High Loss ($1M-3M)	1 commercial structure or multifamily building	Single/ potentially multiple lives
10	Significant Loss (> $3M)	1 or more commercial structures or multifamily buildings	High probability of multiple lives lost

E. Fire Risk

Structure Fires

South Metro Fire Rescue provides a full-service fire suppression response to mitigate the impact on property and lives. Structure fires account for two percent of incidents SMFR responds to annually. The overall increase in the number of fires is due to the 2018/2019 unifications which effectively doubled the incident count.

Fire Experience (In-District)					
In District Fire Activity	**2016**	**2017**	**2018**	**2019**	**2020**
Structure Fires (NFIRS 111-124)	105	106	161	277	275
Fires Contained to Room of Origin	99	89	137	242	230
Fires Contained to Room of Origin	89%	94%	85%	87%	84%
Sprinkler Head Activations	4	2	9	12	11
Total Property & Contents Pre-Incident Value	$17,110,680	$17,324,166	$157,650,472	$376,633,627	$278,878,909
Total Property & Contents Loss	$678,680	$787,897	$10,527,076	$9,680,155	$8,068,744
Total Assessed Property & Contents Value Saved	$16,432,000	$16,536,269	$147,123,396	$366,953,472	$270,810,165

Top Five Fire Types (2016-2020)

Total	NFIRS Code	Incident Type
414	113	Cooking fire, confined to container
377	561	Unauthorized burning
313	131	Passenger vehicle fire
296	160	Special outside fire, not otherwise classified
291	111	Structure fire (Residential) involving an enclosed building
230	111	Structure fire (Commercial/Multi-Family) involving an enclosed building

Suppression Risk Analysis

Incident Type- Fires	Probability (Frequency)	Impact (To SMFR)	Consequence (To Community)	Score
Cooking fire, confined to container	6	4	4	14
Unauthorized burning	4	2	2	8
Passenger vehicle fire	6	4	2	12
Special outside fire, not otherwise classified	4	2	2	8
Structure fire involving an enclosed building (Residential)	8	10	8	26
Structure fire involving an enclosed building (Commercial/Multi-Family)	6	10	10	26
Dumpster or other outside trash receptacle fire	6	2	2	10
Outside rubbish, trash, or waste fire	4	2	2	8
Trash or rubbish fire contained	4	2	2	8

Fire Cause Codes
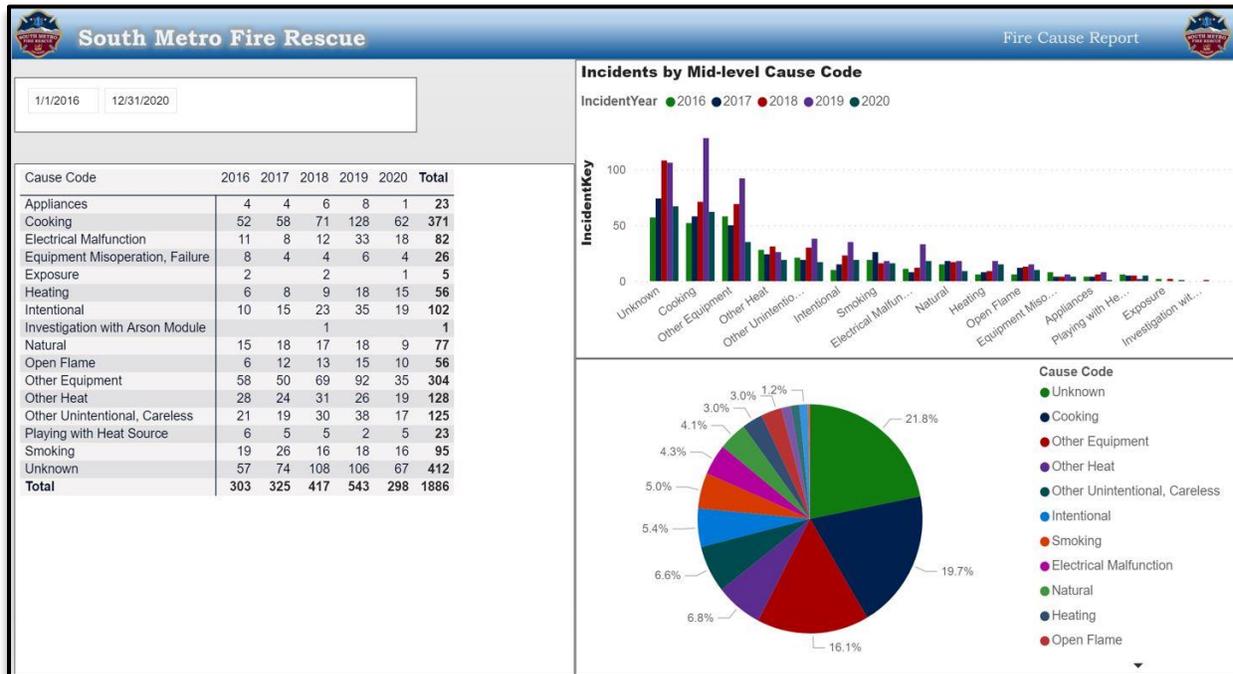
Wildland Fire

In 2020 alone, 144 wildfires occurred within the District burning a combined 569 acres and causing $16,200 in property loss. Twelve of these wildfires burned at least one acre.

Significant wildfire and wildland urban interface incidents within the last five years included the following.

- Chatridge Fire in 2016: 205 acres with 800 residents were evacuated, no structures were lost, and the cause was determined to be an electrical problem with a power pole.
- Chatridge 2 Fire in 2020: 461 acres with multiple residences evacuated, no structures lost, cause determined to be an electrical problem with a power pole.

South Metro Fire Rescue supports multiple programs to reduce risk through a comprehensive Community Wildland Protection Plan (CWPP) and a Wildfire Mitigation Program for the District at large and specific communities. These protection plans included a detailed risk assessment, a plan for mitigation efforts, and education of the public.

- SMFR maintains an education plan targeted at high-risk communities.
- SMFR has significantly increased the number of wildfire attack/suppression apparatus (Type III and Type VI), along with water supply apparatus (Tenders).
- Geographic pre-plans have been developed for wildfire operations and that include escape routes, staging locations, heli-spots, tactical zones, and water sources.

Wildland Fire Experience (In-District)					
	2016	2017	2018	2019	2020
Wildland Fires (NFIRS 140-143)	115	128	90	57	142

Top Five Wildland Fire Types (2016-2020)

Total	NFIRS Code	Incident Type
443	142	Brush, or brush and grass mixture fire
45	143	Grassfire
33	140	Natural vegetation fire, not otherwise classified
11	141	Forest fire or large wildland fire

Top Wildland Fires in 2020

Date of Fire	Battalion	Area Threatened	Acres	Homes Threatened	Property Use
06/29/2020 09:49:19	1	Chatridge Court	461	300	Open land or field
11/07/2020 09:37:30	1	Ridgegate Parkway	20	4	Open land or field
08/11/2020 13:57:14	5	Hiddenbrook Court	18.7	0	Open land or field
08/13/2020 14:54:34	4	S Parker	18	0	Fixed-use recreation places, other
12/09/2020 18:46:13	1	S Gun Club Road	10	2	Dump, sanitary landfill
08/01/2020 16:39:47	1	War Bonnet Trail	5	0	1 or 2 family residence
08/12/2020 14:52:14	4	Castle Pines	4	0	Highway or divided highway
06/12/2020 23:16:26	4	Mountain Vista Ridge	3	2	Open land or field
07/01/2020 10:59:57	4	Liberty Boulevard	3	2	Open land or field
08/05/2020 08:56:52	5	N Panorama Court	3	0	Open land or field
03/07/2020 10:54:29	4	N Sunburst Trail	2	0	Open land or field
11/13/2020 12:05:35	2	Flowerburst Drive	1.5	0	Open land or field

Wildland Risk Analysis

Incident Type- Wildland	Probability (Frequency)	Impact (To SMFR)	Consequence (To Community)	Score
Brush, or brush and grass mixture fire	6	4	2	12
Grassfire	6	6	2	12
Natural vegetation fire, not otherwise classified	6	2	2	10
Forest fire or large wildland fire	4	10	4	18
Cultivated vegetation, crop fire, other	4	2	2	8

2020 Wildland Fire Primary Causes

In or Out-of-District status is assigned to incidents after the close of every quarter. Until assigned, incidents appear as 'Unverified'

General Cause	2016	2017	2018	2019	2020	Total
Electrical	8	6	6	8	15	43
Equipment	1	3			3	7
Exposure	1				1	2
Firesetting	3	5	5	1	5	19
Flame, Heat	28	29	16	13	31	117
Natural	7	8	7	3	2	27
Unknown	31	35	46	32	70	214
Total	79	86	80	57	127	429
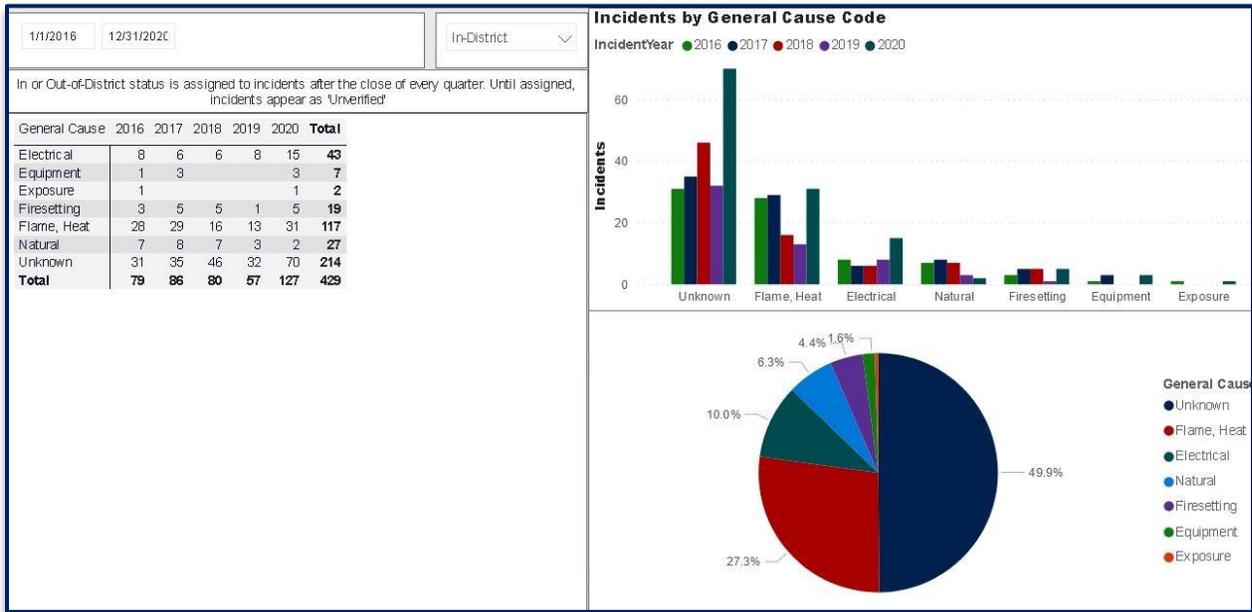
Aircraft Rescue Fire Fighting (ARFF)

There were 185 ARFF incidents from 2016-2020. SMFR operates a well-established ARFF program based out of specialty stations 35 and 44. SMFR deploys three specialty apparatus and there is a minimum of two dedicated ARFF personnel at each station on every shift. The ARFF program primarily supports Centennial airport which provides service to the Denver Metro area and beyond.

Top Three ARFF Incident Types (2016-2020)

Total	NFIRS Code	Incident Type
166	462	Aircraft standby
2	135	Aircraft fire
0	464	Aircraft crash, non-injury

ARFF Risk Analysis

Incident Type- ARFF	Probability (Frequency)	Impact (To SMFR)	Consequence (To Community)	Score
Aircraft fire	2	8	2	12
Aircraft crash with injuries	2	6	4	12
Aircraft crash non-injury	2	6	2	10

F: Non-Fire Risk

Non-fire risks include emergency medical services, hazardous materials, dive rescue, and technical rescue.

Emergency Medical Services

Emergency medical incidents create a substantial resource demand and impact on SMFR, and the risk is district-wide. Emergency medical incidents in 2019/2020 account for 65.14 percent of incidents in South Metro. Therefore, SMFR provides an integrated fire and emergency medical response to all medical calls with cross-trained firefighter/emergency medical technicians. All engine/tower companies have EMS inventories that support full ALS capability. For patient transport, the department deploys 19, 24-hour Advanced Life Support (ALS) medic units.

EMS Experience (In-District)					
	2016	2017	2018	2019	2020
Total Transports	7,110	7,350	9,730	18,591	17,785
Non-Emergent Transports	6,410	6,551	8,876	16,665	15,837
Emergent Transports	700	799	854	1,926	1,948
% Emergent Transport Trips	10%	11%	9%	10%	11%
Transports by Auto Aid Agency	232	284	269	269	228
Transports by Private Ambulance	128	125	179	159	121
ARM Car Responses	647	496	599	450	816

SMFR Medic Districts
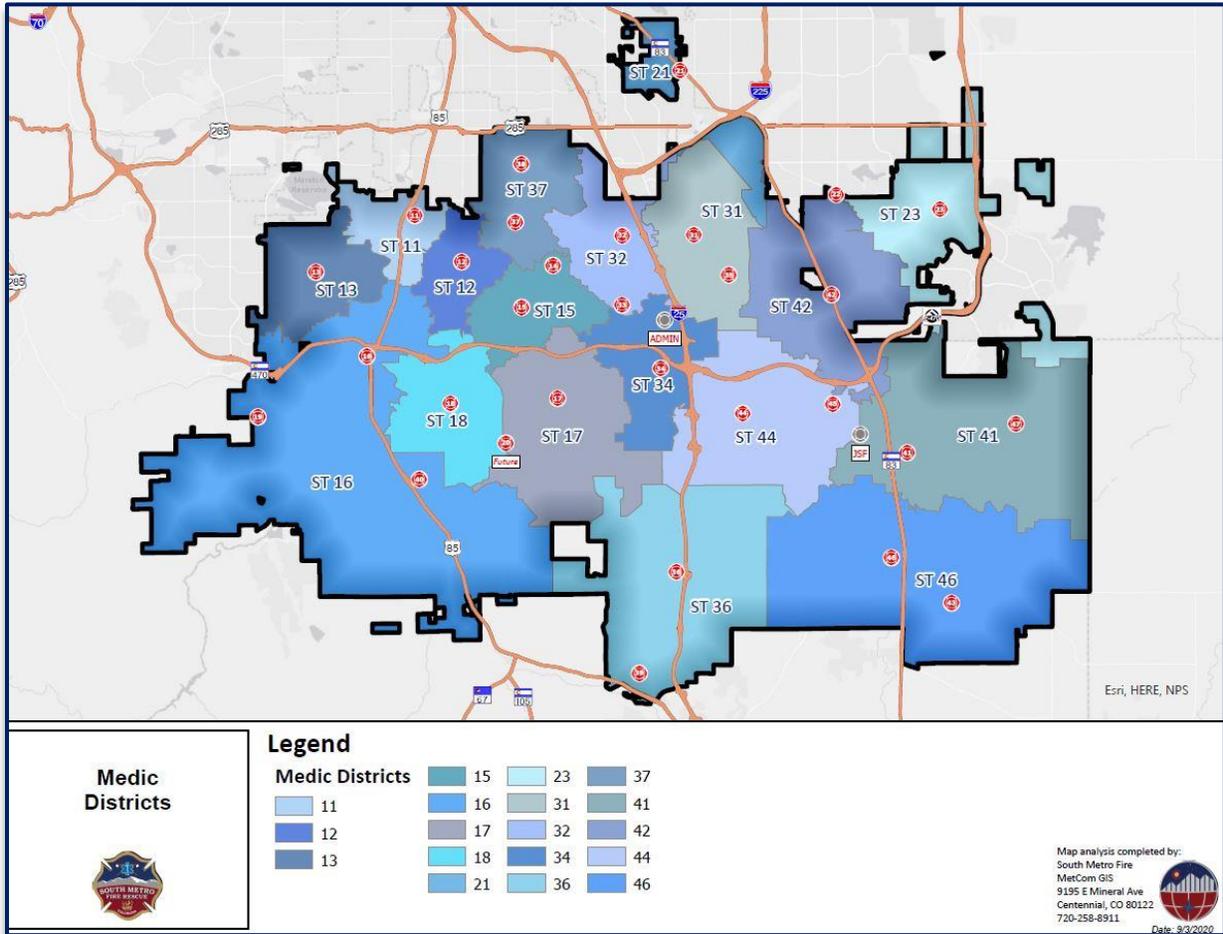
Top Five EMS Call Types (2016-2020)

Total	NFIRS Code	Incident Type
77,408	321	Emergency medical incident
4,788	322	Vehicle accident with injuries
6,230	324	Vehicle accident with no injuries
444	323	Motor vehicle vs. pedestrian or bicycle accident
47	300	Emergency medical incident, not otherwise classified

EMS Risk Analysis

Incident Type- EMS	Probability (Frequency)	Impact (To SMFR)	Consequence (To Community)	Score
Emergency medical incident	10	2	2	14
Vehicle accident with no injuries	10	2	2	14
Vehicle accident with injuries	10	2	2	14
Lock-in	8	2	2	12
Motor vehicle vs. pedestrian or bicycle accident	6	2	4	12
Extrication of victim(s) from vehicle	4	6	4	14

Top Ten Primary Impressions by Medic (2020)

BACK PAIN	614
ALCOHOL USE	689
SEIZURES	1,093
CHEST PAIN/DISCOMFORT	1,121
ABDOMINAL PAIN	1,175
SYNCOPE/FAINTING	1,201
ACUTE RESPIRATORY DISTRESS	1,303
ALTERED MENTAL STATUS	1,478
GENERALIZED WEAKNESS	1,485
INJURY	4,594
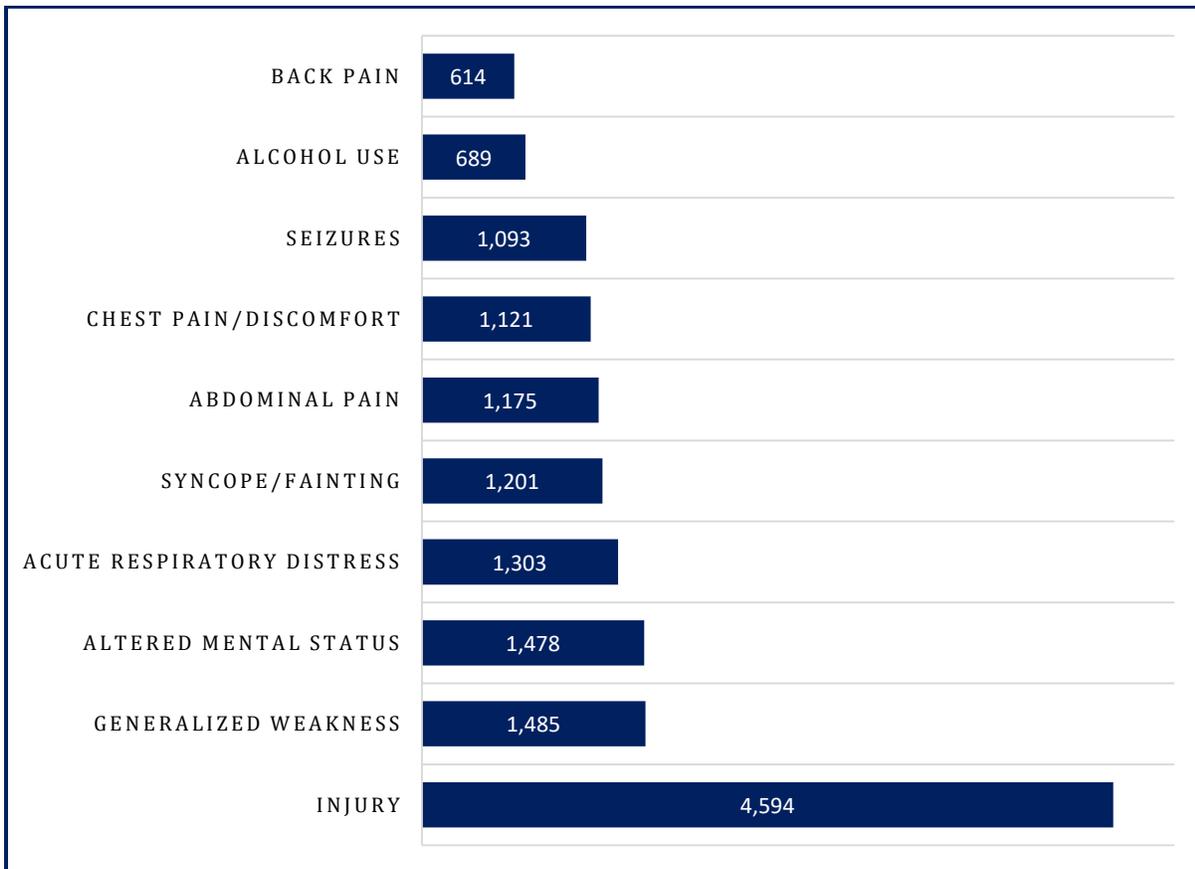
Hazardous Materials Risk

South Metro takes a proactive approach towards enforcement of hazardous materials storage and handling. Chemicals and quantities are verified by South Metro inspectors during the inspection process. Business owners are encouraged to reduce the amounts of chemicals stored on-site and are also advised to store chemicals in NFPA-approved storage cabinets.

Tier II hazardous materials reporting occurs through the Colorado Environmental Online System (CEOS). Information such as chemical inventories and contact information for facilities is stored on CAMEO, a database application used to assist in emergency response and planning within various municipalities. Tier II facilities and parcels are well-documented and recognized in each station zone along with other high-risk occupancies.

District Tier II Facilities
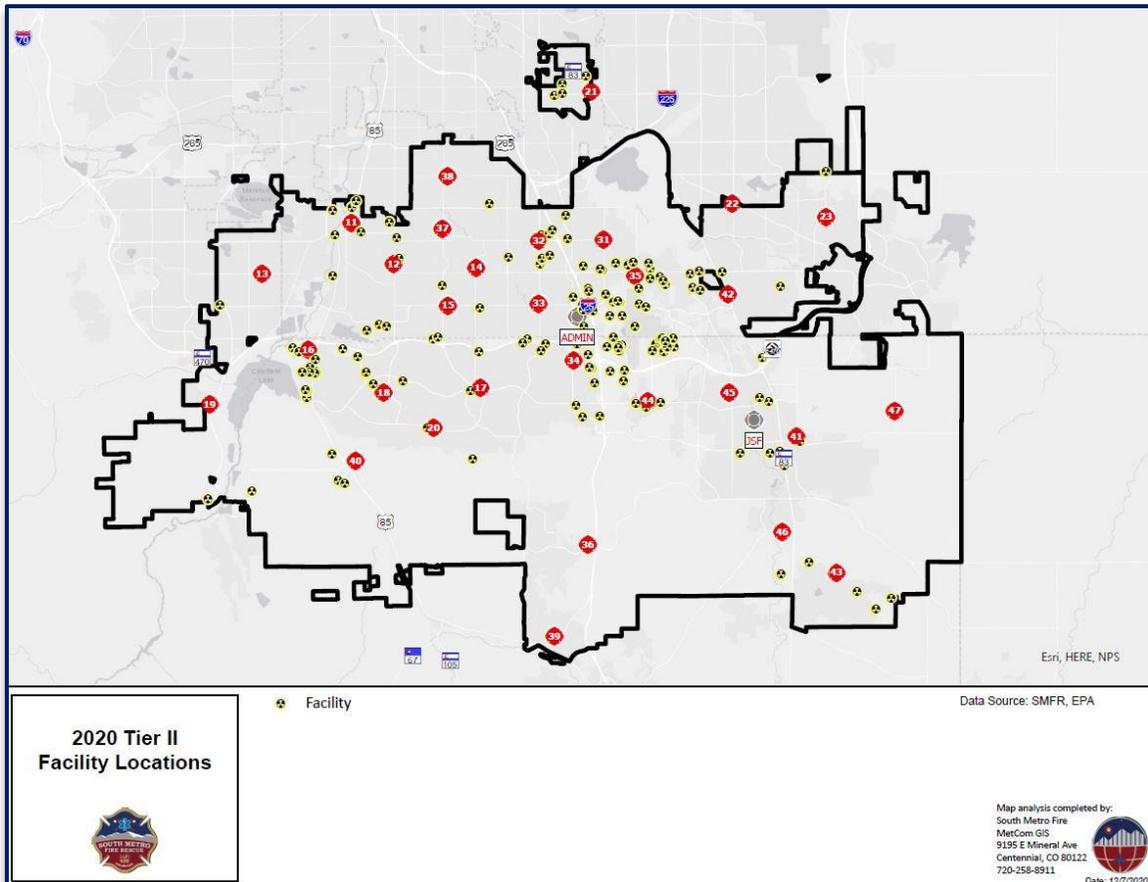
Top Five Hazmat Incident Types (2016-2020)

Total	NFIRS Code	Incident Type
321	424	Carbon monoxide incident
83	671	Hazmat release investigation w/ no hazmat
71	400	Hazardous condition, other
65	411	Gasoline or other flammable liquid spill
36	422	Chemical spill or leak

Hazmat Risk Analysis

Incident Type- Hazmat	Probability (Frequency)	Impact (To SMFR)	Consequence (To Community)	Score
Carbon monoxide incident	8	2	2	12
Hazmat release investigation w/ no hazmat	2	4	2	8
Hazardous condition, other	2	4	2	8
Gasoline or other flammable liquid spill	2	2	2	6
Chemical spill or leak	2	8	2	12
Biological hazard confirmed or suspected	2	8	2	12

Dive Rescue/Water Risk

Three primary marine rescue target hazards exist within the District; Cherry Creek State Park, a reservoir with heavy recreational use; Chatfield State Park, also a reservoir with heavy recreational use, and Rueter-Hess Reservoir. The South Platte recreational area is a swiftwater recreational area built on the South Platte River. Additional water target hazards include small neighborhood lakes, ponds, streams, and roadways prone to flooding during flash flood incidents. Hazards are analyzed annually by examining historical call data and considering changes in use that could impact the resource requirements of the target hazard.

Top Water Rescue Incident Types (2016-2020)

Total	NFIRS Code	Incident Type
61	360	Water or ice rescue, not otherwise classified
10	362	Ice rescue
2	363	Swift water rescue
2	365	Watercraft rescue
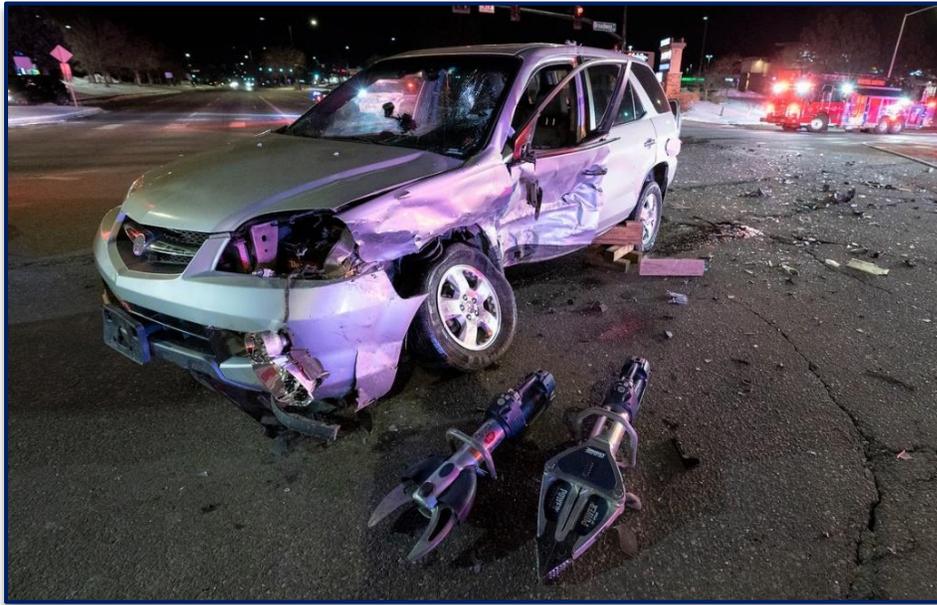
Technical Rescue Incidents/Risk

Technical rescue incidents involve structural collapse rescue, trench rescue, confined space rescue, rope rescue (high and low angle) incidents, and vehicle accidents requiring extrication. Specific engine companies throughout the District are equipped with a basic set of extrication tools and stabilization equipment. Ladder and tower companies have an expanded cache of high-angle rope rescue equipment, extrication tools, and stabilization equipment.

Top Technical Rescue Incident Types (2016-2020)

Total	NFIRS Code	Incident Type
8	461	Building or structure weakened or collapsed
7	350	Extrication of victim(s) not otherwise classified
4	351	Extrication of victim(s) from building or structure
4	356	High angle rescue
3	355	Confined space rescue

Tech Rescue Risk Analysis

Incident Type-Dive Rescue	Probability (Frequency)	Impact (To SMFR)	Consequence (To Community)	Risk Score
Water or ice rescue, not otherwise classified	4	6	2	10
Ice rescue	2	4	2	8
Swift water rescue	2	6	4	10
Watercraft rescue	2	6	2	10
Search for person in water	2	6	4	12
Swimming or recreational water area rescue	2	6	4	12

Section 4: Service Delivery, Special Teams, and Support Programs

South Metro Fire Rescue is an all-hazards fire department providing fire suppression, emergency medical response, SWAT medics, technical rescue, hazardous materials response, aircraft rescue firefighting, dive rescue, wildland fire services, and fire investigations, fire inspections, public education, community relations, and community risk reduction.

A: Operations

Emergency Medical Services (EMS)

SMFR deploys an Advanced Resource Medic (ARM) that is staffed with a nurse practitioner and FF/paramedic. The ARM is equipped with a Clinical Laboratory Improvement Amendments (CLIA) certified lab and is designed to handle a wide variety of medical problems. The ARM is deployed Monday through Thursday from 0800 to 1800 and responds to low acuity medical calls with the standard engine/medic response.

EMS operations function under the license of the medical director on staff. Under this direction, SMFR adopted the Denver Metropolitan Paramedic Protocols which are supported throughout the Denver Metropolitan Area to provide consistent standards of care. The Denver Metropolitan Paramedic Protocols are aligned with the American Heart Association Advanced Cardiac Life Support (ACLS) and Pediatric Advanced Life Support (PALS) recommendations.

Overall, South Metro's emergency medical response and care is provided at a level that is considered industry-leading by nearly every recognized measure in prehospital care.

Examples of this are a 30% cardiac arrest survivability to discharge percentage. This is almost three times the national average, as recognized by the Cardiac Arrest Registry to Enhance Survival (10.6%). The American Heart Association has recognized the Agency for three consecutive years for

recognition and treatment criteria for ST Elevation Myocardial Infarction (STEMI). SMFR has received the American Heart Association EMS Gold Award for implementing quality improvement measures for the treatment of patients who experience severe heart attacks. is proud to be recognized for our dedication and achievements in emergency medical care efforts.

Fire Suppression

SMFR delivers fire suppression services from 30 Stations with 6 Aerials (Towers), 23 Engines, 19 Brush Trucks, and 6 Tenders. 1 District Chief and 5 Battalion Chiefs are on duty each day for command and supervision and 2 Incident Safety Officers are on duty each day to maintain responder and citizen safety. SMFR utilizes approximately 180-line personnel each day to fill the positions necessary to maintain line operations, apparatus, equipment, and pumping capacity. All Chief and Company Officers, crew members, and dispatchers are Blue Card certified to standardize crew operations and terminology at emergency operations. Incident command and operations are standardized throughout the Denver metropolitan region.

SMFR utilizes the National Incident Management System (NIMS) as the incident management system. A concerted effort is made to educate the chiefs, officers, and crews on effective structure fire management and suppression. The South Metro Command Training Center (CTC) is an interactive training simulator that prepares officers for both command and support roles in structure fires and other incidents having the potential to increase in size and complexity.

Technical Rescue

South Metro Fire Rescue provides a technical level response to structural collapse rescues, trench rescue, confined space rescue, rope rescue incidents (High and Low Angle), and vehicle accidents requiring extrication. All line personnel are trained to perform basic vehicle extrication operations, as well as low angle rope rigging operations. Technical rescue team personnel assigned to the technical rescue station and team members are required to attain certification as a Level II Technical Rescuer in all disciplines. Additionally, technical rescue team personnel assigned to technical rescue stations are required to attain (at a minimum) certification as a Level I Technical Rescuer in Trench Rescue and Structural Collapse (NFPA 1670 and NFPA 1006). The technical rescue and extrication policies and procedures are consistent with national standards and are adequate for each discipline of technical rescue provided by the team.

All engines throughout the District are equipped with a standard set of low-angle rope rescue equipment. Specific engine companies throughout the District are equipped with a basic set of

extrication tools and stabilization equipment. Ladder and tower companies have an expanded cache of high-angle rope rescue equipment, extrication tools, and stabilization equipment.

Hazardous Materials

South Metro Fire Rescue responds to a variety of hazardous materials incidents and all SMFR personnel are trained to the operational level as part of minimum training and operational standards. Hazardous Materials Team members are trained to the Technician and Specialist level, maintaining Cal OES Type 1 staffing requirements. SMFR has 5 Technicians and 50 Specialists within its ranks.

Response and mitigation objectives on incidents up to moderate complexity, at a minimum, establish hazard classification/identification, ensure personnel/civilian safety, environmental protection, incident stabilization, and mitigation. Coordination with outside hazmat agencies includes clean-up contractors and Colorado State Patrol Hazmat Teams.

Dive Rescue

The South Metro Fire Rescue Dive Team is comprised of dedicated, professionally trained team members. SMFR follows the NFPA and Dive Rescue International standards for establishing individual dive requirements. The team consists of 42 members; 2 team coordinators, and a Special Operations Chief who provides oversight for the program.

All dive team members possess Public Safety Diver, Dive Rescue Specialist, and Swiftwater Rescue certifications. The team also has three Public Safety Scuba Instructors, two Dive Rescue I Specialist Trainers, and four Swiftwater Rescue Trainers. The two dive stations (16 and 31) are positioned geographically near three primary marine rescue target hazards. Station 16 cross-staffs Dive 16; a fully equipped dive and swiftwater rescue vehicle that tows a 16' inflatable, motorized boat. Station 31 cross-staffs Dive 31; a fully equipped dive and swiftwater rescue vehicle that tows a 19' Boston Whaler dive boat.

Aircraft Rescue Fire Fighting (ARFF)

The SMFR ARFF program falls under the Operations Division and is managed by the Special Operations Chief. Equipment objectives for aircraft-related incidents include all standard firefighting equipment plus specialty equipment required for ARFF which includes AFFF foam, dry chemical extinguishing agent (purple K), piercing nozzles, truck-mounted thermal imaging cameras (FLIR), bumper and roof turrets, crash axes, emergency locators with GPS units, and specialty hand and hydraulic tools. The team conducts specialized training throughout the year with training being held every quarter.

SMFR is the Designated Emergency Response Agency (DERA) for aircraft rescue firefighting (ARFF) by the ACPAA. Therefore, SMFR responds to all structure fires, medical incidents, and aircraft-related events on airport property. This includes hangers, maintenance buildings, air traffic control towers, aircraft, and movement areas.

Wildland Firefighting

South Metro Fire Rescue operates and maintains a comprehensive wildland firefighting program. The program foundation is established by the National Fire Protection Association (NFPA) and National Wildfire Coordinating Group (NWCG) standards. All line personnel receive operation-level wildland firefighter training while in the recruit academy and annual wildland firefighter refresher training per NWCG standards. All firefighters are trained and equipped to stabilize wildland and WUI incidents. The SMFR wildland firefighting team is managed by the Special Operations Bureau. Team members receive advanced certifications and qualifications which are obtained under the National Interagency Incident Management System Wildland Fire Qualification System Guide (PMS 310-1). Members from the wildland firefighting team are used to fill key roles such as fire duty officer and staffing wildland-specific apparatus on days that have increased wildland hazards. SMFR utilizes a total of 12 Type VI engines and three Type III engines to provide adequate coverage for wildland events occurring within district boundaries. Apparatus is typically cross staffed by an engine or tower company within the same station which ensures that a minimum of three members will respond on each wildland vehicle throughout the district. Three Type III engines are housed in stations with four-person staffing which allows them to respond to incidents with additional manpower.

SWAT Medics

South Metro Fire Rescue's SWAT Medic Team fully participates as part of the Arapahoe County SWAT team and the Douglas County Regional SWAT teams. They respond to dynamic incidents such as active threat calls, suicidal individuals, and barricaded subjects in addition they also respond to pre-planned incidents such as warrant services and dignitary protection details. Personnel are state-certified paramedics and are all Peace Officer Standards and Training (POST)certified and are sworn deputies assigned to a specific county. Team members meet all county training and certification requirements as determined for any member assigned to SWAT and are fully integrated members of each team. The team was formed in 2006 as a cooperative agreement between the Douglas County Sheriff's Office and The Parker Fire Protection District.

All team members are outfitted with the appropriate PPE including body armor, helmets, weapons, and medical equipment as defined by each county and the team Physician Advisor. In addition to personally issued equipment, the team has one response vehicle provided by SMFR.

Urban Search and Rescue (USAR)

South Metro Fire Rescue is a participating agency through an intergovernmental agreement with West Metro Fire in the FEMA urban search and rescue program (USAR) with Colorado Task Force One. South Metro Fire has 21 participating members in various functions including search managers, Hazmat managers, K9 handlers, communications specialists, medical specialists, rescue specialists, and logistics specialists. Each member is rostered with one of three monthly rosters for an on-call rotation. Members are deployed for up to 14 days on missions which may be extended to 28 days with approval from FEMA and the members. All system members participate in annual task force training position-specific training totaling approximately 24 hours of training time per member. Primary missions of the task forces include large structural collapse, wide-area search, water-based search and rescue, operations in contaminated environments, earthquakes, hurricanes, tornadoes, and floods. South Metro Fire is one of the original founding agencies of Colorado Task Force One and has maintained participation since its inception.

Domestic Preparedness, Planning, and Response

South Metro Fire Rescue has a dedicated full-time emergency manager who manages the department's all-hazards management program. SMFR's all-hazards management program allows the agency to effectively address all four phases of emergency management: mitigation, preparedness, response, and recovery. The SMFR Emergency Manager serves as the primary liaison between the municipalities and counties it serves, as well as the State of Colorado and other regional agencies for all emergency management-related activities, and provides guidance for SMFR to easily integrate into the county emergency operations plans. This approach allows SMFR to effectively integrate into the larger county, regional, and state emergency management structures and improves compatibility and interoperability with other local, state, and federal plans.

Training

South Metro's training program strives to produce highly trained personnel who operate with maximum safety, effectiveness, and efficiency. The Training Bureau ensures compliance with all applicable laws and appropriate standards of care for emergency response agencies. Training and education programs are aligned to meet requirements through a variety of professional certifications, for operation and support personnel. In support of the department's mission, the

Training Bureau conducts the majority of practical and academic training in-house. The Training Bureau and the EMS Bureau coordinate training efforts to present courses that offer both EMS and Fire components in the context of all hazards training regardless of position or level. This includes probationary firefighters, line firefighters, engineers, EMTs and paramedics, lieutenants, captains, and chiefs. SMFR conducts in-house training at three locations, the Mineral Administrative Building, the Joint Services Facility (JSF), and the Troy Jackson Training Center.

B: Community Risk Reduction

Fire Investigation

South Metro Fire Rescue takes a progressive and conscientious approach toward fire investigations. Working relationships are maintained with other local fire and law enforcement agencies to provide additional investigative resources. SMFR is also able to obtain fire investigators and/or other investigation resources from state and federal agencies. SMFR Fire Investigation personnel are members of several professional fire investigation associations including the International Association of Arson Investigators, Inc. (IAAI), the Colorado Chapter of IAAI (CIAAI), and the National Association of Fire and Explosion Investigators (NAFI). These organizations assist SMFR personnel to obtain and retain fire investigation certifications and ensure appropriate and consistent scene processing, evidence collection, and information sharing.

Fire Investigator Responses and Activities

Categories	2016	2017	2018	2019	2020
Fire Investigations	110	175	205	156	185
Code Enforcement Complaints*	N/A	N/A	90	218	171
Phone Consults	158	145	231	368	395
Other Responses	159	136	157	78	76
Total	**427**	**456**	**683**	**820**	**827**

*Transitioned responsibilities from code compliance to investigations in 2018

Youth Firesetter Intervention Program

South Metro Fire Rescue recognizes the importance of providing early intervention and education to juveniles involved with fire curiosity, fire play, or fire setting activity. SMFR's Youth Firesetter Intervention Program (YFIP) is authorized and administered through policy and procedures, the program handbook, and external resources. Youth Firesetter incidents are identified in a variety of ways ranging from fire incidents and investigations, law enforcement personnel, schools, self-referrals, or court-ordered mandates. The YFIP program is overseen by the Fire Marshal's Office and is run by one program manager and four, part-time intervention evaluators. For consistency, the program manager receives the referrals and coordinates with the evaluators for the assessment processes. South Metro Fire Rescue's juvenile fire-setter intervention program is based upon a multifaceted approach utilizing Standard Operation Procedures for line firefighters, fire investigators, and support personnel.

Juvenile Firesetter Statistics (2019-2020)

	Minor Risk	Definite Risk	Extreme Risk	Refusals	No Contact	Education Only	Total
Total	19	16	4	14	3	3	59

False Alarms:

South Metro makes a concerted effort to reduce the number of responses to false alarm incidents. Between 2016-2020, 10.28 percent of all calls for service were related to commercial, residential, and medical alarms. To reduce the alarm activations in commercial properties, crews that respond to false alarms notify the Fire Marshal's Office (FMO) via standard communication channels. The FMO then identifies properties having frequent or repeat activations. The activations are analyzed to determine the most common causes and the most frequent system or component activated. Contact is then initiated with the responsible party and education is provided to avoid additional false alarms, including the fact that some false alarms will generate a fee.

A false alarm mitigation program was also developed with the following objectives:
1. Reduce construction and maintenance-related system activations.
2. Reduce false alarms caused by frozen fire sprinkler systems.
3. Reduce the occurrence of repeat false alarms.
4. Reduce false alarms caused by smoke and CO alarms.
5. Reduce unnecessary responses to monitored home detection systems.
6. Appropriate response force to alarm activations.

Additional activities, initiatives, and tasks were developed to address various causes.

- Institute a false alarm inspection fee for activations caused by construction and maintenance activities
- Institute programs to ensure proper freeze protection during construction.
- Ensure proper system maintenance through annual report tracking and compliance inspections.
- Conduct effective response force analysis through the accreditation process to determine the appropriate size and response mode.
- Increase educational efforts that focus on hospitals, schools, hotels, apartments, and high rises.
- Institute educational and voluntary sprinkler inspection programs for new and existing homeowners to improve overall system familiarity and proper maintenance.
- Raise awareness of 10-year replacement of smoke alarms and appropriate frequencies for CO alarms.
- Targeted education to neighborhoods experiencing increases in alarms.

Public Education/Community Risk Reduction

The Community Risk Reduction Unit programs are based on target populations most vulnerable to risk and other hazards recognized in the community risk assessment. Risk Reduction Specialists combine education, engineering, enforcement, economic incentive, and empowerment strategies to reduce vulnerability to fires, injuries, illnesses, and disasters. These goals are accomplished through ongoing collaboration with other SMFR personnel, safety organizations, community groups, and businesses. Risk Reduction Specialists are state-certified at the Fire & Life Safety Educator II level and ICC Fire Inspector I level. They are CPR/AED certified through the American Heart Association. Some maintain certifications for child passenger safety seat instructor/ technician, youth firesetting intervention specialist, emergency medical technicians, and public information officers. Knowledge in fields such as wildland fire mitigation, incident management, teaching, project management, and cultural competency are also common. Each Risk Reduction Specialist is assigned to and integrated within one of the five battalion districts in the Operations Division. This enables them to identify and analyze risks, then adapt and develop programming that is appropriately matched to the unique needs of their battalion chief's planning zone.

Developed as a separate entity, the South Metro Safety Foundation (Foundation) operates in partnership with the department as a not-for-profit agency to take advantage of outside funding

sources and increase community involvement in community risk reduction. Programs include preschool through adult education courses (classroom and online), fire and vehicle safety, and hazard mitigation.

C. Support Services

Emergency Communications

South Metro Emergency Communications (SMEC), formerly known as MetCom, was established in 2006 and has since become the premier communications center in the State of Colorado. It is a state-of-the-art Fire/EMS communications center that utilizes the highest levels of technology. The staff is supported by an advanced, regional computer-aided dispatch (CAD) system.

Radio communication is supported using the Consolidated Communications Network of Colorado (CCNC) statewide 800 MHz digital trunked radio system. This common statewide backbone allows SMFR's dispatch center and the agencies it serves to communicate throughout most parts of Colorado. Additionally, SMFR can page and communicate on VHF frequencies from its dispatch consoles.

Voice Over Internet Protocol (VOIP) telephony solutions, alarm devices, advanced station alerting solutions, digital playback devices, and ergonomic workstations all ensure the highest quality equipment standards in emergency call management.

All SMFR dispatchers are Emergency Medical Dispatch (EMD) certified under the Medical Priority Dispatch System (MPDS) protocols, as established by the International Academy of Emergency Dispatch (IAED). The ProQA computer program is used for caller interrogation, call triage, and pre-arrival instructions.

Additionally, Incident Dispatch Team (IDT) dispatchers are on duty and on-call to provide field support for major or complex incidents utilizing a state-of-art communications vehicle. Capabilities include CAD, internet, weather station, enlarging copier, printer, VHF and 800 radios, radio recorder, satellite communication, radio cache, unmanned aerial vehicles (UAV), portable repeaters

(800/VHF), ICRI radio gateway, radio programming kit, spare radio batteries, wildland pre-plan maps, wildland shelters/packs, rehab supplies, First aid & AED.

SMFR Dispatchers work 24-hour shifts, and the center is typically staffed with six dispatchers and one supervisor. Minimum staffing is always six dispatchers in or in the proximity of the center. The seventh dispatcher can be in training, on a ride-along, or break, and is available for recall. By staffing seven people per shift, SMFR can rapidly call in staff to assist with a complex incident. In addition to the on-shift supervisors, a full-time training/quality control supervisor is on duty during normal business hours. The dispatch center is overseen by a Director to ensure appropriate oversite.

Fleet

South Metro is committed to the inspection, testing, preventative maintenance, and repair of all apparatus. The Fleet Services Bureau meets the department's need to maximize the safe and reliable performance of all emergency apparatus. Maintenance of emergency response apparatus is primarily handled by Fleet Services mechanics who perform repairs and maintenance at the Joint Services Facility (JSF).

South Metro Fire Rescue has a comprehensive program for the specification and purchase of apparatus and associated equipment. This program is designed to ensure apparatus types are appropriate for the necessary functions. Apparatus are deployed following the Operations Staffing and Deployment Plan (OS&DP) developed by the Operations division to strategically place assets to meet response standards. A current replacement schedule exists based on critical criteria that include a process for writing apparatus specifications that incorporates employee and end-user input.

Compliance is maintained with the Department of Transportation (DOT), National Highway Transportation Safety Administration (NHTSA), the Federal Motor Carrier Safety Administration (FMCSA) regulations, and applicable National Fire Protection Association (NFPA) standards (1901, 1906, 1911, 1917).

Logistics

The SMFR logistics bureau proactively monitors the supplies and materials used to provide fire suppression and EMS Services to the SMFR. They provide pickup and delivery of assets including uniforms, personal protective equipment, supplies, equipment, EMS supplies, and tools. Transfer of assets between vendors, warehouses, administrative offices, and fire stations is also performed.

Information Technology (IT)

IT maintains and supports all information technology systems, solutions, and services throughout the Agency. SMFR's information technology infrastructure consists of mobile computing and personal computer systems, printers, networks, servers, physical security, and mobile devices. SMFR's mobile and personal computing systems include over 1000 Microsoft Windows and Apple iOS desktops, laptops, mobile data computers (MDC), and tablets. SMFR's servers support the business applications, database, disaster recovery, station alerting, logical and physical security, storage, and unified communications needs.

Geographic Information Systems (GIS) is a system that collects, analyzes, and visualizes location information. South Metro recognizes the importance of GIS and employs three full-time GIS personnel who maintain accurate and detailed mapping data, which is utilized by all divisions within South Metro and by many outside partner agencies. Accurate GIS data allows dispatchers in the Emergency Communications Center to concentrate on callers, quality of care, and required resources. Street data provides line personnel directions to incidents, as well as additional information on the maps in the apparatus. The GIS team assists IDT/IMT units by providing maps and aerial photography during incident management. South Metro's GIS data is also leveraged to analyze incident reporting, determine station locations, provide demographic data, and identify trends to assist SMFR's executives in making data-driven decisions.

The GIS department works diligently to ensure the District's mapping data meets the highest standard of accuracy. This level of quality is primarily obtained by collecting data from cities and counties. All location data is used to update street and address data, reducing the time it takes to locate callers and incident locations. GIS staff collects a significant amount of auxiliary map information, such as schools, parks, trails, driveways, hydrants, access information, landing zones, etc. This data is used in Computer-Aided Dispatch (CAD), custom district maps, and online mapping platforms. By embracing this powerful platform, South Metro Fire can better optimize resources, improve service times, reduce losses, and improve firefighter safety.

Facilities Management

The SMFR facility maintenance program provides reliable, safe, and functional facility environments. Efforts to reduce possible system/component failures, and improve asset reliability at the lowest overall cost are paramount. Compliance with relevant national, state, and local codes

and regulations is maintained. Appropriate fire and life safety readiness and functionality are aligned to meet the overall goals and objectives of South Metro Fire Rescue (SMFR).

The Facilities Bureau is staffed with the Facilities Bureau Chief and five Facilities Maintenance Technicians. The Facilities Bureau Chief visits facilities regularly and conducts formal semiannual inspections. Most preventative, corrective, and emergency maintenance is performed internally by Facilities Bureau Technicians. The Facilities Bureau conducts and coordinates the following preventive maintenance programs at all SMFR buildings. A Facilities Technician is on call every day for after-hours emergencies. The Facilities Bureau also manages facility remodels, appliances, and equipment repair/replacements

Employee Wellness, Health, and Fitness

South Metro Fire Rescue (SMFR) has a Wellness and Fitness program to promote and support Health and Wellness. SMFR established the program in 2014 which promotes, maintains, and improves overall wellness, cardiovascular fitness, muscular strength/endurance, body composition, flexibility/mobility, and injury/illness care and prevention for all SMFR employees.

The program encourages physical training to improve job performance, extend career length, and reduce the frequency and duration of lost time injuries. The staff includes the Wellness Director, who is a National Athletic Trainers' Association (NATA) Certified Athletic Trainer (ATC), a full-time Wellness Manager, a full-time wellness assistant who is a NATA ATC, a full-time Physician Assistant, a part-time Physician, a part-time Physical Therapist and three full-time wellness assistants who are Certified Strength and Conditioning Specialists (CSCS). This group of highly skilled and committed health professionals has continued to meet and exceed the needs of staff members through individualized fitness programs, advanced mental health treatments, and physical therapy rehabilitation after injuries and surgeries.

SMFR enforces physical fitness requirements and by policy sets minimum criteria for annual physical assessments of line members. Employee mental health is supported through a comprehensive Employee Assistance Program (EAP) and Peer Support program. SMFR sponsors mental health lectures, and the medical insurance policy supports an addiction program for alcohol and substance abuse.

Section 5: Deployment and Performance

Response report data is gathered by data analysts within the IT (Information Technology) bureau. Daily turnout time reports detailing the previous 24 hours are sent to the battalion chiefs and

Strategic Services. The report is broken down by the five battalion districts and deviations are compared against the benchmark of 1:30 @ the 90th percentile. The Operations Chief, District Chief, and Battalion Chiefs receive a monthly report of turnout times by shift and unit. Changes are reviewed annually by the operations staff. Before distribution, the quarterly and annual reports are reviewed by the Assistant Chief, the Strategic Services Chief, the Accreditation Manager, the Emergency Dispatch Director, and the Operations Chief.

South Metro evaluates response performance at the 90th percentile or higher per accreditation and developing industry standards. The 90th percentile expressed in this document may be expressed in minutes: seconds (e.g., 06:00) or as fractional times (6.00) depending on the source report. Also, these standards are expressed as benchmarks and baselines. Benchmarks are those times which the agency identifies as a high standard and is used to plan future efforts. Baselines are the standards that SMFR commits to perform at and evaluate compliance. As baselines are consistently achieved, the standard will advance towards the benchmark goals. The following performance measures were adopted in response to the 2016 CFAI accreditation report.

A. SMFR Performance Standards (First Due)

Dispatch Time	Travel Time	Total Response Time
1:00	Urban- 5:12	Urban- 7:42
Turnout Time	Suburban- 6:30*	Suburban- 9:00*
1:30	Rural- 13:00	Rural- 15:30

*Although the updated 2020 census recognizes only urban and rural, SMFR has chosen to adhere to urban, suburban, and rural population density calculations established in the 2010 census.

Response time compliance for in-district, emergent responses is presented in the 2016-2020 Annual Response Reports.

- Dispatch processing times are at 0:46 seconds, or 98th percentile (Benchmark = 1:00 @ 90%)
- Turnout times are 1:55, or 65th percentile (Benchmark = 1:30 @ 90%)
- Travel times fluctuated over the last five years and varied between population densities.
    - Urban travel time is 6:17, or 65th percentile (Benchmark = 5:12 @ 90%)
    - Suburban travel time is 6:45, or 88th percentile (Benchmark = 6:30 @ 90%)
    - Rural travel time is 9:43, or 97th percentile (Benchmark of 13:00 @ 90%)
- Total response times remained in the 90th percentile range and decreased slightly in 2019/ 2020.

- 2016   8:13   91% percentile
- 2017   8:03   92% percentile
- 2019   8:13   89% percentile

- 2018   8:14   90% percentile
- 2020   8:34   86% percentile

RESPONSE TIME COMPLIANCE (In-District, Emergent)										
1st Unit on Scene	**2016**		**2017**		**2018**		**2019**		**2020**	
	90th PCTL	% Met Goal	90th PCTL	% Met Goal	90th PCTL	% Met Goal	90th PCTL	% Met Goal	90th PCTL	% Met Goal
Dispatch (1:00 @ 90%)	0:48	97%	0:49	96%	0:51	96%	0:48	98%	0:46	98%
Turnout (1:30 @ 90%)	1:56	66%	1:58	65%	1:54	69%	1:50	75%	1:55	65%
Travel - Urban (5:12 @ 90%)	5:31	86%	5:27	87%	5:41	85%	6:02	80%	6:17	76%
Travel - Suburban (6:30 @ 90%)	6:49	88%	6:25	90%	6:36	89%	6:41	88%	6:45	88%
Travel - Rural (13:00 @ 90%)	8:19	98%	8:21	98%	8:30	98%	9:09	97%	9:43	97%
Total Response Time (90%)	**8:13**	**91%**	**8:03**	**9%**	**8:14**	**90%**	**8:13**	**89%**	**8:34**	**86%**

2nd Unit on Scene	90th PCTL % Met Goal		90th PCTL % Met Goal		90th PCTL % Met Goal		90th PCTL % Met Goal		90th PCTL % Met Goal	
Turnout (1:30 @ 90%)	1:56	67%	2:00	65%	1:55	70%	1:53	74%	1:56	68%
Travel - Urban (10:24 @ 90%)	7:48	95%	7:35	95%	7:59	95%	8:13	95%	8:20	95%
Travel - Suburban (10:24 @ 90%)	9:34	92%	9:39	92%	9:16	93%	9:03	94%	9:13	93%
Travel - Rural (18:12 @ 90%)	10:50	98%	11:21	97%	11:17	99%	12:08	98%	12:20	98%
Total Response Time (90%)	**10:41**	**97%**	**10:47**	**97%**	**10:52**	**97%**	**10:44**	**97%**	**11:03**	**97%**

B. Time Measurement Methodology

Dispatch time begins when South Metro Emergency Communications is notified of a call for service. This time is transferred to the Computer-Aided Dispatch (CAD) software and the time is recorded (time stamped). The dispatch time ends when the station or response unit is notified of the incident. The dispatch time is a record of the time used for the dispatch agency to receive notification of a call for service, process that information, and notify the appropriate response units.

Turnout time begins when the assigned units are alerted of a call for service via one of four methods:

1. Station alerting
2. Incident information is aired (broadcast) on the primary dispatch channel
3. Mobile Data Terminals (MDT)
4. Pager alerts

Turnout time stops when units indicate their response via MDT or radio broadcast.

Travel time begins when units advise they are responding via MDT or radio broadcast. On-scene is recorded by either the use of the MDT or a radio broadcast. Total response time is the total time from when the South Metro Emergency Dispatch center is notified of an emergency to when the unit(s) arrive on the scene. The three general segments of total response time and their respective performance metrics are:

- Dispatch Time (call received to units assigned): 60 seconds, 90% of the time.
- Turnout Time (Unit assigned to En-route): 90 seconds, 90% of the time.
- Travel Time (En-route to Unit on scene): varies by arrival order and population Density, (see below) 90% of the time.

South Metro Fire continually monitors and analyzes response performance through a comprehensive and data-informed process. Performance delivery on all call response types is evaluated through daily reports, quarterly reports, and annual reports. These enable operations chiefs and leadership to identify trends or problems that may require modification and/or improvement. This positions the Agency to adapt to ever-changing risks and service demands.

C. Performance Monitoring

Turnout and travel times have remained consistent with those of previous accreditation cycles. However, in 2020, with the pandemic, an increase in turnout and travel times was observed in all

three population densities. Leadership, Operations, and Strategic Services are exploring various factors that contribute to performance issues including,

- Non-standard street designs in urban population density areas
- Technological (station alerting, MDT)
- Daytime vs. nighttime factors (separation time)
- Reporting accuracy (emergent vs. non-emergent)
- Response modes on incident types, i.e., service calls, good intent,
- Engineer/personnel experience levels
- Culture and attitude
- Personal Protective Equipment (COVID related impact)

Measuring the gap between benchmark and baseline times, identifying contributing factors, and developing solutions and appropriate recommendations is an ongoing process. Once the impact of these factors is better understood then appropriate actions will be taken and monitored to determine effectiveness.

D. PSAP Transfer Times

SMFR documents alarm handling time as the interval from receipt of the alarm in the emergency center until the beginning of the transmittal of the incident information through station tones, radio, or via MDT to units in the field. Following the recommendation of the 2016 accreditation report, SMFR now captures public safety answering point (PSAP) times including PSAP-to-PSAP to portray total call processing times more accurately. Transfer time reports are generated on a quarterly and annual basis and reflect the 90th percentile and average call transfer times. SMFR is continuing to implement methods to decrease call transfer times and improve agency interoperability.

PSAP Call Transfer Time Report (2020)

Transferring Agency/PSAP	Number of Calls Trans-ferred	90th Percentile Transfer Time (secs)	Average Transfer Time (secs)
Adams Co Comm Center	388	122	81
Arapahoe County Sheriff's Office	8,665	90	59
Aurora Combined Communications	35	168	77
Broomfield DPS	1	41	41
Castle Rock Police Department	4	203	81
Denver Combined Communications	70	180	98
Douglas County Sheriff's Office	8,198	74	49
Englewood Police Department	24	120	63
Glendale Police Department	1	51	51
Greenwood Police Department	1,348	65	46
Jefferson County Communications	1,255	185	111
Littleton Police Department	2,993	92	56
Moffat County E911	1	0	0
Parker Police Department	2,322	97	65
Weld 911 Emergency	2	766	460
Overall	**25,307**	**94**	**58**

Jefferson County data is provided by the JeffCom center, all other PSAP data is provided by ECaTS.
JeffCom data is based on calls received by JeffCom where the incident is within the SMFR district.

E. ISO Rating:

The ISO rating is evaluated every five years. South Metro Fire Rescue achieved an ISO Class- 1 designation in 2018; the previous rating had been a Class 3. South Metro is the first department in the country with an ISO 1 for hauled water in non-hydranted areas. ISO's Public Protection Classification (PPC) evaluates communities according to a uniform set of criteria that incorporates nationally recognized standards developed by the National Fire Protection Association and the American Water Works Association. The PPC grade depends on:

- Needed Fire Flows: Representative building locations are used to determine the theoretical amount of water necessary for fire suppression purposes.
- Emergency Communications: Emergency reporting, telecommunicators, and dispatching systems.
- Fire Department: Equipment, staffing, training, the geographic distribution of fire companies, operational considerations, and community risk reduction.

▪ Water Supply: Inspection and flow testing of hydrants, alternative water supply operations, and a careful evaluation of the amount of available water compared with the amount needed to suppress fires up to 3,500 GPM.

FSRS Item	Earned Credit	Credit Available
Emergency Communications		
414. Credit for Emergency Reporting	3.00	3
422. Credit for Telecommunicators	4.00	4
432. Credit for Dispatch Circuits	3.00	3
440. Credit for Emergency Communications	10.00	10
Fire Department		
513. Credit for Engine Companies	5.88	6
523. Credit for Reserve Pumpers	0.50	0.5
532. Credit for Pumper Capacity	3.00	3
549. Credit for Ladder Service	1.90	4
553. Credit for Reserve Ladder and Service Trucks	0.34	0.5
561. Credit for Deployment Analysis	4.10	10
571. Credit for Company Personnel	13.26	15
581. Credit for Training	8.83	9
730. Credit for Operational Considerations	2.00	2
590. Credit for Fire Department	39.81	50
Water Supply		
616. Credit for Supply System	29.67	30
621. Credit for Hydrants	3.00	3
631. Credit for Inspection and Flow Testing	5.99	7
640. Credit for Water Supply	38.66	40
Divergence	-3.41	--
1050. Community Risk Reduction	5.39	5.50
Total Credit	90.45	105.5

F. COVID-19 Response

The COVID-19 pandemic impacts every level and division at South Metro. The safety and well-being of crews, staff, and citizens remain a top priority, along with preventative measures that align with the Center for Disease Control and Prevention (CDC) guidelines. During the peak of the pandemic, the Mineral Administrative Building remained locked and allowed limited entry. Workforce capacity in the building was reduced to 50%. Remote working was promoted and facilitated by providing employees with the equipment and materials necessary to perform their job functions from home.

Primary objectives include the following.

- Provide a safe and healthy work environment for all South Metro employees.

- All personnel must wear an appropriate mask/facial covering.

- Limit human-to-human transmission of the virus by disinfecting and sanitizing all South Metro facilities and vehicles.

- Clean and disinfect commonly used/touched surfaces to help reduce the transmission of the virus and improve environmental conditions.

- Proper PPE Line must be worn by line personnel on calls and out in public.

- Safety and preventative measures shall be observed during shift change to limit exposure between crews.

A web-based COVID-19 sit-rep dashboard was developed to monitor trends and statistics in the District.
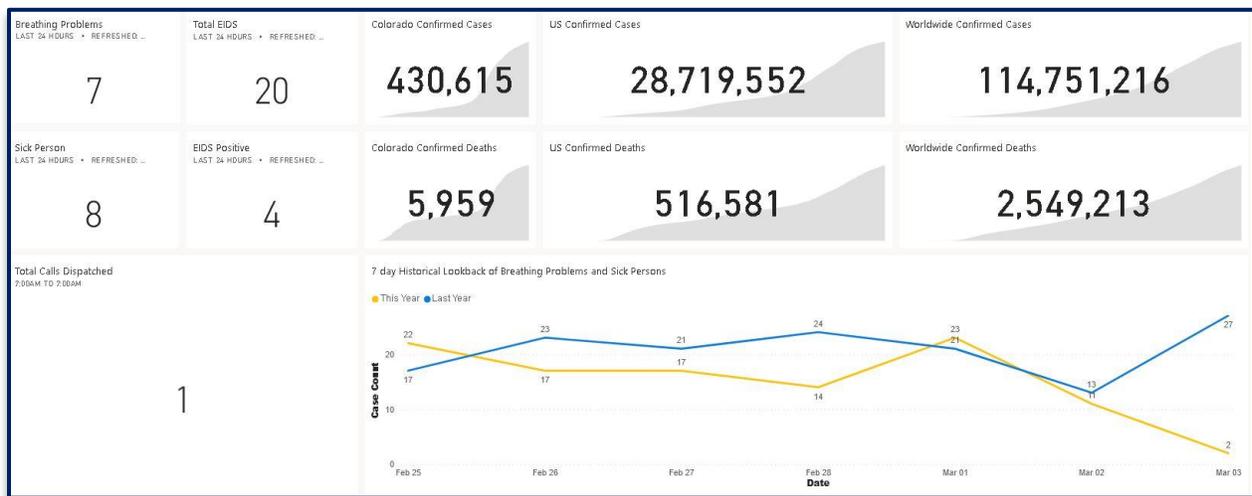
Section 6: Benchmarks and Baselines

SMFR has adopted the Commission on Fire Accreditation International's (CFAI) baseline travel time standards (established separately for urban, suburban, and rural population densities) and applies them to first-on-scene, second-on-scene, and/or full group unit emergent responses. The latter full group response is applied to structure fires and special team apparatus on incidents requiring special responses.

A. Distribution and Concentration

South Metro regularly evaluates the distribution, concentration, and reliability of all units and apparatus. Distribution is measured primarily by the first unit on scene response times. Concentration is measured primarily by second due unit and effective response force response times.

B. Unit Reliability

South Metro regularly analyzes the reliability of fire suppression apparatus and medic units. SMFR analyses unit reliability trends and focuses on units that are utilized more than 20%. Reasons for low reliability are regularly evaluated to develop strategies for improvement. A recent example of this was the modification of fire alarm responses to reduce the number of assigned towers. This change has increased aerial apparatus availability and improved their first due reliability.

SMFR Unit Reliability by Station
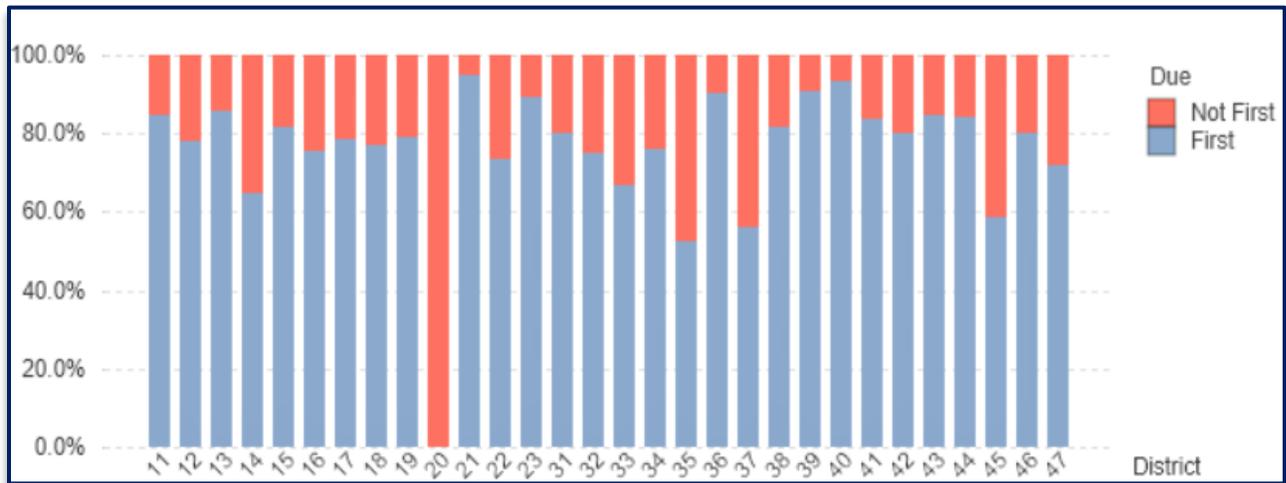
Note: Station 20 is not yet in service

C. Suppression

Benchmark Performance: For 90 percent of all moderate and high risk structure fires, the total response time for the arrival of the first-due unit, staffed with a minimum of 3 personnel, shall be 7 minutes and 42 seconds in urban areas; 9 minutes in suburban areas; and 15 minutes and 30 seconds in rural areas.

For 90 percent of all moderate and high-risk structure fires, the total response time for the arrival of the effective response force (ERF), staffed with 20 personnel, shall be 12 minutes and 54 seconds in urban areas; 15 minutes and 30 seconds in suburban areas; and 20

minutes and 42 seconds in rural areas.

Baseline Performance: On 90 percent of all moderate and high-risk structure fires, the baseline total response time for the arrival of the first-due unit, staffed with a minimum of 3 personnel is 8 minutes and 32 seconds in urban areas; 9 minutes and 53 seconds in suburban areas; and 12 minutes and 42 seconds in rural areas.

On 90 percent of all moderate and high-risk structure fires, the total response time for the arrival of the effective response force (ERF), staffed with 22 personnel is 10 minutes and 30 seconds in urban areas; 12 minutes and 30 seconds in suburban areas; and 16 minutes and 30 seconds in rural areas.

D. Emergency Medical Services (EMS)

Benchmark Performance: For 90 percent of all EMS responses, the total response time for the arrival of the first-due unit, staffed with a minimum of 2 personnel, shall be: 7 minutes and 42 seconds in urban areas; 9 minutes in suburban areas; and 15 minutes and 30 seconds in rural areas.

For 90 percent of all moderate-risk EMS response incidents, the total response time for the arrival of the effective response force (ERF), staffed with 4 personnel (EMT/Paramedic combination) shall be 12 minutes and 54 seconds in urban; 15 minutes and 30 seconds in suburban areas; 20 minutes and 42 seconds in rural areas.

For 90 percent of all high-risk EMS response incidents, the total response time for the arrival of the ERF, staffed with 22 personnel, at least of which 4 are paramedics, shall be 12 minutes and 54 seconds in urban areas; 15 minutes and 30 seconds in suburban areas; and 20 minutes and 42 seconds in rural areas. The ERF shall be capable of determining treatment destination, providing patient transportation, extracting the patient, triaging patients, and providing an incident safety officer.

Baseline Performance: For 90 percent of all EMS responses, the total response time for the arrival of the first-due unit, staffed with a minimum of 2 personnel is 7 minutes and 59 seconds in urban areas; 8 minutes and 24 seconds; and 11 minutes 23 seconds in rural areas.

E. Technical Rescue Team

Benchmark Performance: For 90 percent of all technical rescue incidents, the total response time for the arrival of the first-due unit, staffed with a minimum of 3 personnel, shall be 7 minutes and 42 seconds in urban areas; 9 minutes in suburban areas; and 15 minutes 30 seconds in rural areas.

For 90 percent of all moderate and high-risk technical rescue incidents, the total response

time for the arrival of the effective response force (ERF), staffed with 24 (moderate) and 22 (high) firefighters and officers including the technical response team, shall be 12 minutes and 54 seconds in urban areas; 15 minutes and 30 seconds in suburban areas; and 20 minutes and 42 seconds in rural areas.

Baseline Performance: On 90 percent of all moderate and high-risk tech rescue incidents, the baseline total response time for the arrival of the first-due unit, staffed with a minimum of 3 personnel is 5 minutes and 37 seconds in urban areas; 5 minutes and 57 seconds in suburban areas; no data is available to determine the baseline performance in rural areas.

F. Hazardous Materials

Benchmark Performance: For 90 percent of all hazardous materials response incidents, the total response time for the arrival of the first-due unit, staffed with a minimum of three personnel, shall be 7 minutes and 42 seconds in urban areas; 9 minutes in suburban areas; and 15 minutes and 30 seconds in rural areas.

For 90 percent of all moderate hazardous materials response incidents, the total response time for the arrival of the effective response force (ERF) including the hazardous materials specialty team, the training officer, and a battalion chief, staffed with 11 (moderate) or 14 (high) firefighters and officers, shall be: fifteen minutes in urban areas; 18 minutes in suburban areas, and 20 minutes and 30 seconds in rural areas.

Baseline Performance: On 90 percent of all moderate and high-risk hazardous material incidents, the baseline total response time for the arrival of the first-due unit, staffed with a minimum of 3 personnel is 10 minutes and 03 seconds in urban areas; 9 minutes and 16 seconds in suburban areas; and 10 minutes and 58 seconds in rural areas.

G. Aircraft Rescue Firefighting (ARFF)

Benchmark Performance: For 90 percent of all aviation rescue and firefighting response incidents, the total response time for the arrival of the first-due unit, staffed with a minimum of 3 personnel and a medic unit staffed with a minimum of two personnel shall arrive in 7 minutes and 42 seconds in urban areas; 9 minutes in suburban areas; and 15 minutes and 30 seconds in rural areas. The first-due unit shall be capable of: giving an initial radio report, establishing command; conducting a size-up; standing by in a tactical position, and patient treatment or transport.

For 90 percent of all moderate and high-risk aviation rescue and firefighting response incidents, the total response time for the arrival of the effective response force (ERF),

staffed with 4 (moderate) and 8 (high) personnel shall be 12 minutes and 54 seconds in urban areas; 15 minutes and 30 seconds in suburban areas; and 20 minutes and 42 seconds in rural areas.

Baseline Performance: On 90 percent of all moderate and high-risk ARFF incidents, the baseline total response time for the arrival of the first-due unit, staffed with a minimum of 3 personnel is 7 minutes and 47 seconds in urban areas; no data is available to determine the baseline performance in suburban and rural areas.

H. Wildland

Benchmark Performance: For 90 percent of all moderate and high-risk wildland fires, the total response time for the arrival of the first-due unit, staffed with a minimum of 3 personnel shall be 7 minutes and 42 seconds in urban areas; 9 minutes in suburban areas; and 15 minutes and 30 seconds in rural areas.

Effective Response Force (ERF)

For 90 percent of all moderate and high-risk wildland fires, the total response time for the second unit, staffed with a minimum of 3 personnel, shall be ten minutes, thirty seconds for urban, suburban, and rural areas. The balance of the ERF, consisting of 2 type III engines, two type VI brush trucks, 1 tender, 1 medic, 2 BCs, and 1 safety officer shall arrive in 12 minutes and 54 seconds in urban areas; 15 minutes and 30 seconds in suburban areas; and 20 minutes and 42 seconds in rural areas.

Baseline Performance: On 90 percent of all moderate and high-risk wildland fires, the baseline total response time for the arrival of the first-due unit, staffed with a minimum of 3 personnel is 9 minutes and 12 seconds in urban areas; 11 minutes and 09 seconds in suburban areas; and 11 minutes and 28 seconds in rural areas.

I. Dive Rescue

Benchmark/Baseline Performance: South Metro does not provide Marine/Shipboard protection services; however, the department has a well-established and robust dive rescue program. Because the dive units are cross-staffed, a full dive response requires more time to coordinate and assemble. Therefore, on all water-related incidents, the first-due unit shall arrive promptly with sufficient resources and assume command, assess the situation, initiate surface rescue operations, and when possible, begin basic life support for victims.

Baseline Performance: On 90 percent of all moderate and high-risk dive rescue incidents, the baseline total response time for the arrival of the first-due unit, staffed with a minimum of 3 personnel is 7 minutes and 42 seconds in urban areas; 9 minutes in suburban areas; and 15 minutes and 30 seconds in rural areas.

*Special Teams data is based on Subcategory Types where SMFR Special Ops units responded according to their specialty.

ARFF includes Red1, 2, & 3; Dive includes Dive16, 31; Hazmat includes HM38, HM17; Rescue includes R34, Coll45; Wildland includes all Brush Trucks and Engines.

Total Response Time - Special Ops - First Unit On Scene (In-District, Emergent)																	
	Count	2016 90 PCT	% Met Goal	Count	2017 90 PCT	% Met Goal	Count	2018 90 PCT	% Met Goal	Count	2019 90 PCT	% Met Goal	Count	2020 90 PCT	% Met Goal
OVERALL	**150**	**10:22**	**85**	**167**	**08:53**	**87**	**183**	**10:56**	**78**	**244**	**10:11**	**75**	**275**	**10:22**	**74**
Urban (Goal 7:42)	*91*	*08:35*	*82*	*108*	*08:04*	*86*	*118*	*09:21*	*75*	*184*	*09:37*	*72*	*172*	*09:35*	*66*
ARFF	31	07:51	87	38	08:23	84	38	08:16	78	48	08:39	70	30	07:47	86
Dive	4	06:39	100	1	07:38	100	4	09:15	75	13	06:49	100	5	09:21	80
Hazmat	31	08:16	87	38	08:04	86	41	09:04	78	83	09:49	71	68	10:03	58
Rescue	3	05:27	100	1	05:05	100	3	07:46	66	10	05:57	100	8	55:37	62
Wildland	22	11:30	63	30	07:44	86	32	11:24	68	30	11:12	60	61	09:12	63
Suburban (Goal 9:00)	*30*	*09:37*	*83*	*35*	*10:15*	*82*	*32*	*12:31*	*68*	*41*	*10:11*	*75*	*44*	*10:04*	*81*
ARFF	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dive	1	04:27	100	3	19:11	33	2	09:34	50	4	13:36	75	3	08:44	100
Hazmat	9	08:40	100	11	08:20	90	15	12:42	73	23	10:35	73	16	09:16	87
Rescue	0	-	-	-	-	-	1	08:16	100	4	08:10	100	1	05:57	100
Wildland	20	09:55	75	21	09:35	85	14	12:31	64	10	10:01	70	24	11:09	75
Rural (Goal 15:30)	*29*	*14:51*	*96*	*24*	*12:32*	*100*	*33*	*11:58*	*96*	*19*	*12:02*	*94*	*59*	*11:39*	*94*
ARFF	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dive	1	07:43	100	-	-	-	2	12:14	100	4	11:19	100	7	16:35	71
Hazmat	1	04:53	100	-	-	-	5	10:22	100	3	09:39	100	4	10:58	100
Rescue	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wildland	27	14:51	96	24	12:32	100	26	11:58	96	12	12:02	91	48	11:28	97

Note: For many of the response categories (special teams) did not respond enough times to depict a normal distribution of the data. SMFR has established these benchmarks and baselines because there would be a concern if the Effective Response Force is unable to arrive at an incident within these parameters.

Section 7: Critical Tasks

Based on the performance measures of the essential tasks required at each incident type. This process involved a review of the risks applicable to each incident type, Fire, EMS, Dive, Wildland, ARFF, and Technical Rescue, and then progressed to identifying the tasks and personnel that are critical to the desired safe outcome. The incident types are derived from CAD problem nature descriptors and the number denotes the corresponding NFIRS code.

Suppression:

Low-Risk Fires:

- Transformer Fire- 112
- Dumpster fire- 154
- Unauthorized burn- 561
- Outside fire- 150, 151, 155

Unit Assignment	Critical Task	Minimum Required Personnel
Engine	Arrive/Position, Initial Radio Report, Establish Command, Size-up, Fire Suppression (Extinguisher/Hand Line)	4
Total ERF		**4**

Low-Risk Fires:

- Appliance Fire- 100
- Cooking Fire, contained to container- 113
- BBQ Grill Fire- 113

Unit Assignment	Critical Task	Minimum Required Personnel
Engine	Arrive/Position, Initial Radio Report, Establish Command, Size-up, Fire Suppression (Extinguisher/Hand Line)	4
Ladder	Utility Control/Verify no extension	4
Total ERF		**8**

Low-Risk Fires:

- BBQ Grill fire adjacent to building/exposures- 111

- Explosion- 163

- Outbuilding fire (Detached barn or shed)- 112

- Propane tank (Large)- 160

- *Reported* structure fire (Commercial, Residential, Multi-Family)- 111

- Train fire (Light Rail)- 133

Unit Assignment	Critical Task	Minimum Required Personnel
Engine	Arrive/Position, Initial Radio Report, Establish Command, Size-up, Advance Line/Suppression	4
Engine	Establish Water Supply, assist with suppression, Establish RIT	4
Ladder	Utility control, ascertain fire extension	4
Medic	FF/patient treatment	2
BC	Incident Command	1
Safety	Incident Safety	1
Total ERF		16

Medium Risk Fires:

- Single Family Residence- 111

Unit Assignme	Critical Task	Minimum Required
Engine	Arrive/Position, Initial Radio Report, Establish Command, Perform Size-up, Initial Attack	4
Engine	Establish Water Supply, provide On-Deck crew	4
Ladder	Enter structure- direct crew for search Control utilities and roof	4
Medic	Fire Attack or Search	2
BC	Incident Command	1
Safety	Incident Safety	1
Total ERF		16

Medium Risk Fires:

- Single Family Residence (Unhydranted)- 111

Unit Assignme	Critical Task	Minimum Required
Engine	Arrive/Position, Initial Radio Report, Establish Command, Perform Size-up, Initial Attack	4
Engine	Establish Water Supply, provide On-Deck crew	4
Ladder	Enter structure- direct crew for search Control utilities and roof	4
Tender	Water Relay/Supply. Position equipment	2
Medic	Fire Attack or Search	2
BC	Incident Command	1
Safety	Incident Safety Officer	1
Total ERF		**18**

High Risk Fires:

- Multi-Family Residential Fire- 111

Unit Assignme	Critical Task	Minimum Required
Engine	Arrive/Position, Initial Radio Report, Establish Command, Perform Size-up, Initial Attack	4
Engine	Officer- Directs FF to connect to hydrant, prepares team for entry	4
Engine	On Deck Crew, 2nd Supply Source	4
Ladder	Enter structure- direct crew for search Control utilities and roof	4
Medic	Fire Attack or Search	2
BC	Incident Command	1
Safety	Incident Safety	1
Total ERF		**20**

High Risk Fires:

- Commercial Building Fire- 111

Unit Assignme	Critical Task	Minimum Required
Engine	Arrive/Position, Initial Radio Report, Establish Command, Perform Size-up, Initial Attack	4
Engine	Officer- Directs FF to connect to hydrant, prepares team for entry	4
Engine	On Deck Crew- 2nd Supply Source	4
Ladder	Enter structure- direct crew for search Control utilities and roof	4
Medic	Fire Attack or Search	2
BC	Incident Command	1
Safety	Incident Safety	1
Total ERF		20

High Risk Fires:

- High Rise Fire- 111

Unit Assignme	Critical Task	Minimum Required
Engine	Arrive/Position, Give Initial Radio Report, Establish Command, Perform Size-up, Initial	4
Engine	Officer- Directs FF to connect to hydrant, prepares team for entry	4
Engine	On Deck Crew- 2nd Supply Source	4
Ladder	Lobby Control	4
Rescue	Support	4
Medic	Fire Attack or Search	2
BC	Incident Command	1
Safety	Incident Safety	1
Total ERF		24

Emergency Medical Services:

Low Risk EMS:

- Medical- Alpha or Bravo Determinant Levels- 311, 320, 321

Unit Assignment	Critical Task	Minimum Required Personnel
Engine/Ladder	Arrive/Position, Initial Radio Report, Establish Command, Size-Up, Patient Care	4
Medic	Patient Care, Treatment Destination, Patient Transportation	2
Total ERF		**6**

Medium Risk EMS:

- Medical- Charlie, Delta Levels-311, 320, 321
- Echo Determinant Levels (add BC)- 311, 320, 321

Unit Assignment	Critical Task	Minimum Required Personnel
Engine/Ladder	Arrive/Position, Initial Radio Report, Establish Command, Size-Up, Patient Care	4
Medic	Patient Care, Treatment Destination, Patient Transportation	2
Total ERF		**6**

High Risk EMS: MVA Rollover/Extrication- 350, 351,352

- **Mass Casualty Incidents (Small, Medium, Large)- 311, 320, 321, 350, 351,352**

Unit Assignment	Critical Task	Minimum Required Personnel
Engine	Arrive/Position, Initial Radio Report, Establish Command, Size-Up,	4
Engine	Duties as assigned; patient extraction/patient transport	4
Ladder	Duties as assigned; patient extraction/patient transport	4
Medic	Size-up/Triage	2
Medic	Patient Transport (IC position)	2
Rescue	Extraction, patient triage, or care	4
BC	Incident Command	1
Safety	Incident Safety	1
Total ERF		**22**

Aircraft Rescue Fire Fighting:

Low Risk ARFF: Air Alert 1- 462

- Aircraft is approaching the airport and is experiencing minor difficulty-based pilot's discretion. Units are alerted only- no response is initiated.

Unit Assignment	Critical Task	Minimum Required Personnel
RED 1/ARFF	Alert/Notification only - crew stands by in the station	4
Total ERF		**4**

Medium Risk ARFF: Air Alert 2- 462, 464

- Aircraft is approaching the airport and is experiencing a major problem, such as an engine fire, uncontrolled in-flight fire, faulty landing gear, smoke in the cockpit, or a failing engine.

Unit Assignment	Critical Task	Minimum Personnel
First Suppression Unit on scene: RED/Engine/Tower	Arrive/Position for tactical use/suppression	4
Total ERF Required		**4**

High Risk ARFF: Air Alert 3 (**ON** Airport Property)- 135, 464

- Aircraft has crashed, either on airport property; parked aircraft are endangered by or involved in fire; a collision involving two or more aircraft has occurred, or an aircraft has left the runway.

Unit Assignment	Critical Task	Minimum Personnel
First Suppression Unit on scene: RED/Engine/Tower	Arrive/position for tactical use/suppression	4
Engine	Assist in suppression	4
Medic	Provide FF or passenger care	2
BC	Incident Command	1
Safety	Incident Safety	1
Total ERF Required		**8**

High Risk ARFF: Air Alert 3 (**OFF** Airport Property)- 135, 464

- Aircraft accident or serious aircraft fire on the ground not located on airport property.

Unit Assignment	Critical Task	Minimum Personnel
First Suppression Unit on scene: RED/Engine/Tower	Arrive/ Position for tactical use/suppression	4
Second Suppression Unit on scene: RED/Engine/Tower	Position for tactical use/suppression	4
Crash Medic	Assist in passenger rescue	2
Medic	Provide FF or passenger care	2
BC	Incident Command	1
Safety	Incident Safety	1
Total ERF Required		**14**

Dive Rescue:

Low Risk Dive: Dive Alert 1

- Person on the surface of an ice-covered body of water- 362

- Animal trapped in water or through ice- 362, 542

Unit Assignment	Critical Task	Minimum Personnel
Engine (BLS)	Arrive/Position, Initial Radio Report, Establish Command, Size-Up	4
Medic	Perform rescue/recovery efforts	2
Total ERF Required		**6**

Medium Risk Dive: Dive Alert 2

- Known body recovery, vehicle recovery, or assist to other agency for dive operation- 366

Unit Assignment	Critical Task	Minimum Personnel
Engine (BLS)	Arrive/Position, Initial Radio Report, Establish Command, Size-Up	4
Dive Vehicle	Develop an operational plan, perform rescue/recovery	4
Safety	Incident Safety	1
Total ERF Required		**9**

High Risk Dive: Dive Alert 3

- Witnessed drowning or person missing in or near water for less than 1½ hours. Capsized boat or boats involved in a collision with party(s) missing- 342, 361
- (Dive- Swift Water Rescue) Motorist/vehicle at risk of being swept away by moving water with visible current- 363

Unit Assignment	Critical Task	Minimum Personnel
Engine (BLS)	Arrive/Position, Initial Radio Report, Establish Command, Size-Up	4
Dive	Develop an operational plan, perform rescue/recovery	4
Medic	Provide FF/citizen care	2
BC	Incident Command	1
Total Personnel		**11**

Hazardous Materials:

Low Risk Haz-Mat: Hazmat Level 1

- Fuel Spills <25 gallons- 410, 411
- CO alarm- 321, 424 (asymptomatic)
- Assist PD for unknown substance- 671

Unit Assignment	Critical Task	Minimum Personnel
Engine	Arrive/Position, Initial Radio Report, Establish Command, Size-Up. Investigation and mitigation.	4
Total ERF Required		**4**

Medium Risk Haz-Mat: Hazmat Level 2

- Report of a significant spill or leak- 422

- Unknown substance - contained, white powder- 420, 420, 431, 451

- Assist PD for possible explosive device- 471

Unit Assignment	Critical Task	Minimum Personnel
Engine	Arrive/Position, Initial Radio Report, Establish Command, Size-Up.	4
Haz-Mat	Identify hazards, Assume Haz-Mat Branch, develop a mitigation plan	4
Medic	Assist in mitigation or FF/patient medical care	2
BC	Incident Command	1
Total ERF Required		**11**

High Risk Haz-Mat: HazMat Level 3

- Report of a significant leak, spill, or chemical accident-422

- Explosion (suspicious)- 240, 241, 242

- Train derailment-400, 411, 413, 420, 422, 423

- Leak Inside a Structure- 400, 420, 422

Unit Assignment	Critical Task	Minimum Personnel
Engine	Arrive/Position, Initial Radio Report, Establish Command, Size-Up.	4
Haz-Mat	Identify hazards, Assume Haz-Mat Branch, develop a mitigation plan.	4
HazMat Medic	Entry/Sampling Team	2
Medic	Provide FF or civilian care	2
BC	Incident Command	1
Safety	Incident Safety	1
Total ERF Required		**14**

Technical Rescue:

Low Risk Technical Rescue: Level 1

- Rope rescue or scaffolding rescue from a building-351, 356

Unit Assignment	Critical Task	Minimum Personnel
Engine	Arrive/Position, initial radio report, establish Command, size-up.	4
Ladder	Develop an initial patient extraction strategy.	4
Rescue	Assume Rescue Group Supervisor, manage rescue operations.	4
Medic Tech	Assist with rescue operations. Provide FF treatment/transport	2
Medic	Provide FF/citizen treatment/transport	2
BC	Incident Command	1
Total ERF		**17**

Medium Risk Technical Rescue: Level 2

- Heavy rail train accident- 350, 355, 357
- Party(s) trapped or missing in confined space- 355

Unit Assignment	Critical Task	Minimum Personnel
Engine	Arrive/Position, initial radio report, establish Command, size-up.	4
Ladder	Develop an initial patient extraction strategy.	4
Rescue	Assume Rescue Group Supervisor, manage rescue operations.	4
HazMat	Identify and manage potentially hazardous substances	4
Medic Tech	Assist with rescue operations. Provide FF treatment/transport	2
Medic HazMat	Assist with hazmat operations and provide FF treatment/transport	2
Medic	Provide FF/citizen treatment/transport	2
BC	Incident Command	1
Safety	Incident Safety	1
Total ERF		**24**

High Risk Technical Rescue: Level 3

- Building collapse- 351, 461

- Trench collapse- 354

Unit Assignment	Critical Task	Minimum Personnel
Engine	Arrive/Position, initial radio report, establish Command, size-up.	4
Ladder	Develop an initial patient extraction strategy.	4
Rescue	Assume Rescue Group Supervisor, manage rescue operations.	4
Collapse Rescue	Trench stabilization and assist with rescue operations.	4
Medic Tech	Assist with rescue operations. Provide FF treatment/transport	2
Medic HazMat	Assist with hazmat operations and provide FF treatment/transport	2
BC	Incident Command	1
Safety	Incident Safety	1
Total ERF		**22**

Wildland:

Low Risk Wildland: Level 1

- Reported grass, brush or weed fire <u>not</u> threatening any structures and not reported as large or fast-moving- 142,143

- RED FLAG WARNING DAY: Upgrade to Brush Fire-Red Flag (WL2)- 142, 143

Unit Assignment	Critical Task	Minimum Required Personnel
Engine	Arrive/Position, Size-up, Initial Radio Report, Establish Command, Determine Strategy, Identify/Establish Anchor Point, Confirm LCES, Establish Water Supply, Operate Pump, Advance Line/Suppression (Progressive Hose-Lay), Mop-Up	4
Brush Truck (Type III/VI)	Provide Off-Road Fire Suppression Capability (Mobile Attack), Advance Line/Suppression (Progressive Hose-Lay), Mop-Up	3
Total ERF		**7**

Medium Risk Wildland: Level 2

- Reported grass, brush, or weed fire not threatening any structures and larger than a football field- 140, 142, 143

- Reported grass, brush, or weed fire <u>not</u> threatening any structures and not reported as large or fast-moving (RED FLAG WARNING DAY)- 140, 142, 143

Unit Assignment	Critical Task	Minimum Personnel
Engine	Arrive/Position, Size-up, Initial Radio Report, Establish Command, Determine Strategy, Identify/Establish Anchor Point, Establish LCES, Establish Water Supply, Operate Pump, Advance Line/Suppression (Progressive Hose-Lay), Establish Staging Area, Containment Line Construction, Mop-Up	4
Engine (Type I or Type III)	Assist with Advancing Line/Suppression (Progressive Hose-Lay), Containment Line Construction, Mop-Up	4
Brush Truck (Type VI)	Provide Off-Road Fire Suppression Capability (Mobile Attack), Advance Line/Suppression (Progressive Hose-Lay), Containment Line Construction, Mop-Up	3
Brush Truck (Type VI)	Provide Off-Road Fire Suppression Capability (Mobile Attack), Advance Line/Suppression (Progressive Hose-Lay), Containment Line Construction, Mop-Up	3
BC	Assume Incident/Unified Command	1
Total ERF		**15**

High Risk Wildland: Level 3

- Reported large or fast-moving brush fire that is threatening structures- 140, 141, 142, 143

Unit Assignment	Critical Task	Minimum Personnel
Engine	Arrive/Position, Size-up, Initial Radio Report, Establish Command, Determine Strategy, Identify/Establish Anchor Point, Establish LCES, Establish Water Supply, Operate Pump, Advance Line/Suppression (Progressive Hose-Lay), Establish Staging Area, Structure Protection, Containment Line Construction, Mop-Up	4
Engine	Structure Protection, Operate Pump, Assist with Advancing Line/Suppression (Progressive Hose-Lay), Containment Line Construction, Mop-Up	4
Brush Engine (Type III)	Provide Off-Road Fire Suppression Capability (Mobile Attack), Structure Protection, Operate Pump, Advance Line/Suppression (Progressive Hose-Lay), Confirm Strategy/Tactics/LCES, Manage Air Operations, Manage Firing Operations, Manage Heavy Equipment, Manage Saw Team, Division/Group Supervision or Task Force Leader, Containment Line Construction, Mop-Up	3
Brush Engine (Type III)	Provide Off-Road Fire Suppression Capability (Mobile Attack), Structure Protection, Operate Pump, Advance Line/Suppression (Progressive Hose-Lay), Confirm Strategy/Tactics/LCES, Manage Air Operations, Manage Firing Operations, Manage Heavy Equipment, Manage Saw Team, Division/Group Supervision or Task Force Leader, Containment Line Construction, Mop-Up	3
Brush Truck (Type VI)	Provide Off-Road Fire Suppression Capability (Mobile Attack), Operate Pump, Advance Line/Suppression (Progressive Hose-Lay), Containment Line Construction, Mop-Up	3
Brush Truck (Type VI)	Provide Off-Road Fire Suppression Capability (Mobile Attack), Operate Pump, Advance Line/Suppression (Progressive Hose-Lay), Containment Line Construction, Mop-Up	3
Tender	Water Supply (Mobile and/or Static)	2
Medic	Medical/Transport- FF Personnel	2
BC	Assume Incident/Unified Command	1

Safety	Incident Safety	1
Total ERF		**26**