CARPINTERIA-SUMMERLAND FIRE PROTECTION DISTRICT

Fire Station Location Standing Committee Meeting Agenda

Thursday, February 25, 2021 at 2:00 p.m.

The Fire Station Location Standing Committee meeting will be held via teleconference connection as permitted under the Governor's Executive Order N-29-20, dated March 17, 2020 due to concerns of COVID-19 ("Executive Order").

Members of the public will be able to observe the Fire Station Location Standing Committee meeting and provide public comments via Zoom: https://zoom.us/j/ 987 5983 9477 or by calling 1-669-900-9128, meeting ID: 987 5983 9477 password 125725. Any member of the public who would like to provide public input on an item listed on the agenda may utilize the "Raise Hand" feature through the Zoom App or enter "*9" if participating by telephone only. The host will be notified, and you will be recognized to speak on the agenda item in the order such requests are received by the District.

Agenda items may be taken out of the order shown.

1. Public comment: Any person may address the Committee at this time on any non-agenda matter that is within the subject matter jurisdiction of the Carpinteria-Summerland Fire Protection District; 30 minutes total time is allotted for this discussion.

2. Receive a presentation of the Fire Station Location Study from Kurt Latipow, Senior Project Manager/Division Lead, AP Triton, LLC.

3. **Action Item:** Recommendation that Montecito Fire Protection District and Carpinteria-Summerland Fire Protection District's Board of Directors adopt the four joint recommendations in the Fire Station Location Study as policy.

4. Adjournment

This agenda posted pursuant to the provisions of the Government Code commencing at Section 54950. The date of the posting is February 19, 2021.

MONTECITO FIRE PROTECTION DISTRICT

Minutes for the Fire Station Location Committee Meeting

November 13, 2020 at 1:00 p.m.

Held via teleconference connection as permitted under the Governor's Executive Order N-29-20, dated March 17, 2020 due to concerns of COVID-19 ("Executive Order").

Director van Duinwyk called the meeting to order at 1:00 p.m.

Present: Director Sylvia Easton, Director Peter van Duinwyk, Director Suzy Cawthon, Director John Nicoli, Chief Kevin Taylor and Chief Greg Fish.

1. **Public comment: Any person may address the Committee at this time on any non-agenda matter that is within the subject matter jurisdiction of the Montecito Fire Protection District; 30 minutes total time is allotted for this discussion.**

   There were no public comments at this meeting.

2. **Receive a presentation on the preliminary Fire Station Location analysis from Kurt Latipow, Senior Project Manager/Division Lead, AP Triton, LLC.**

   Kurt Latipow, Senior Project Manager/Division Lead, AP Triton, LLC provided a preliminary Fire Station Location presentation, identifying a potential area of the community for a mutually beneficial fire station.

   Meeting adjourned at 1:27 p.m.

STAFF REPORT

To:	Fire Station Location Committee
From:	Kevin Taylor, Fire Chief
	Greg Fish, Fire Chief
Date:	February 25, 2021
Topic:	**Fire Station Location Final Report**

Summary

The Carpinteria Summerland Fire Protection District and the Montecito Fire Protection District commissioned a joint Fire Station Location Study from AP Triton, an independent, third party consultant. The Fire Station Location Study consists of a community risk assessment, standards of cover report, and the identification of a mutually benefical fire station location.

Discussion

The Fire Station Location Report development process included an overview of the communities and fire districts, community meetings to collect stakeholder input, comprehensive community risk assessment, fire station location analysis, and an overall evaluation, observations and recommendations from the consultant.

The overarching goal of the Fire Station Location Study was to determine if service level gaps existed in either community. If service level gaps were identified, the consultant was directed to identify a mutually beneficial fire station location. To achieve this goal, AP Triton conducted a community risk assessment and standards of cover analysis. To avoid bias, all data analysis was conducted completely independent of either District. Both Districts provided the most recent three years of data, AP Triton analyzed the data and provided recommendations based on generally accepted industry best practices. After completing the community risk analysis and standards of cover assessment, AP Triton determined that service level gaps exist in both Districts. The Report suggests that the Districts consider the addition of a mutually beneficial fire station at the location identified in the Report.

In addition to the mutually beneficial fire station, the Fire Station Location Report provides several joint recommendations. Staff suggests that the Fire Station Location Committee consider these joint recommendations as a sub-committee of the full Boards of each District. The joint recommendations begin on Page 199 of the report and include:

- Recommendation A: Adoption of response performance goals to guide service delivery
- Recommendation B: Reduction of the dispatch call processing time interval
- Recommendation C: Construction of a shared facility
- Recommendation D: Continue the pursuit of development and implementation of a regional fire and EMS dispatch center.

Fire Station Location Study

Community Risk Assessment
Standards of Cover

February
2021

Montecito
Fire Protection District

Carpinteria-Summerland
Fire Protection District

AP TRITON
VISION · INNOVATION · SOLUTIONS

Feburary 25, 2021

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ACKNOWLEDGMENTS

AP Triton Consulting wishes to extend its sincere appreciation to each of those who contributed to this project—elected officials, fire chiefs, officers, and representatives of the fire districts included in this study, along with many other individuals who lent their time and assistance to this project.

Our sincere appreciation is extended to each of you…

Montecito FPD Board of Directors

Sylvia Easton
Board President

Michael Lee
Vice President

Judith Ishkanian
Secretary

John Abraham Powell
Member

Peter van Duinwyk
Member

Carpinteria-Summerland FPD Board of Directors

Suzy Cawthon
Board President

Jena Jenkins
Vice President

Lisa Guravitz
Secretary

John Nicoli
Director

Randy McGlade
Director

…and to each of the command staff, officers, firefighters, and support staff who daily serve the citizens and visitors of the Montecito and Carpinteria-Summerland Fire Protection Districts

INTRODUCTION

The Montecito Fire Protection District (MFPD) and Carpinteria Summerland Fire Protection District (CSFPD) engaged AP Triton Consulting, LLC (Triton) to conduct what was identified in the Districts' Request for Proposals (RFP) as the provision of a fire station location study.

During Triton's review of the RFP, it became apparent that the fire district's desired approach to the development of this study was not only an inclusive and transparent process but a very comprehensive analysis of all aspects of risk, historical response performance, opportunities for improvement, and more.

The proposed and accepted Scope of Work developed by Triton incorporated all aspects of the RFP and included the analysis and processes typically utilized within a Community Risk Assessment and Standards of Cover approach. During Triton's work, it was determined that approaching the Fire Station Location Study in this manner added enhanced analysis by which to develop recommendations including but not limited to fire station location placement. Triton recognizes that the study's stated intent was to "identify a mutually beneficial fire station location." Ultimately, the analyses found a potential location for a shared facility. The evaluation also determined that constructing a shared facility could enable the relocation of a current fire station. The combination of a new station and a relocated station would have positive impacts on both fire districts.

Triton would like to commend the Districts for the leading-edge approach to the RFP and their inclusive and transparent styles, which added to this study's quality in Triton's opinion.

Section I:
OVERVIEW OF THE COMMUNITIES & FIRE DISTRICTS

DESCRIPTION OF THE COMMUNITIES SERVED

The following section represents a general description of the communities served by the Montecito Fire Protection District and the Carpinteria-Summerland Fire Protection District. Because of the proximity of the City of Carpinteria and the Summerland and Montecito communities, these areas have similar demographic, geographic, and other characteristics but are vastly different in some respects. Each of these communities has a cool Mediterranean climate typical of Southern California.

City of Carpinteria

Carpinteria is an incorporated city that lies several miles east of the City of Santa Barbara and the census-designated communities of Summerland and Montecito. An elected five-member City Council governs it. It is not a full-service city and uses several Special Districts such as the Carpinteria-Summerland Fire Protection District.

Figure 1: Beach at Carpinteria

The City covers a land area of nearly three square miles and an ocean shoreline of nearly four square miles.[1] The U.S. Census Bureau estimated the City's 2019 population at 13,385 persons.[2] Almost 25% of the population is age 18 years or younger, while just over 18% are age 65 years or older.[3] The median age was estimated at 43.4 years. The majority (48%) of the population is Caucasian, followed by Hispanics at nearly 45%, and Asians at nearly 4%.[4]

According to the City's website, its economy is based on agriculture, tourism, retail, light industry, and research and development. The estimated annual household income in 2018 was $73,505, with approximately 8% of the population in poverty.[5] About 7% of the population under 65 years is disabled, and nearly 12% of individuals under 65 are without health insurance.[6]

As of 2018, the U.S. Census Bureau reported that the City of Carpinteria has 5,102 households, with an average of nearly three people per household. As of 2017, the median property value was $617,000—which was nearly three times the national average of $229,700 that year.[7]

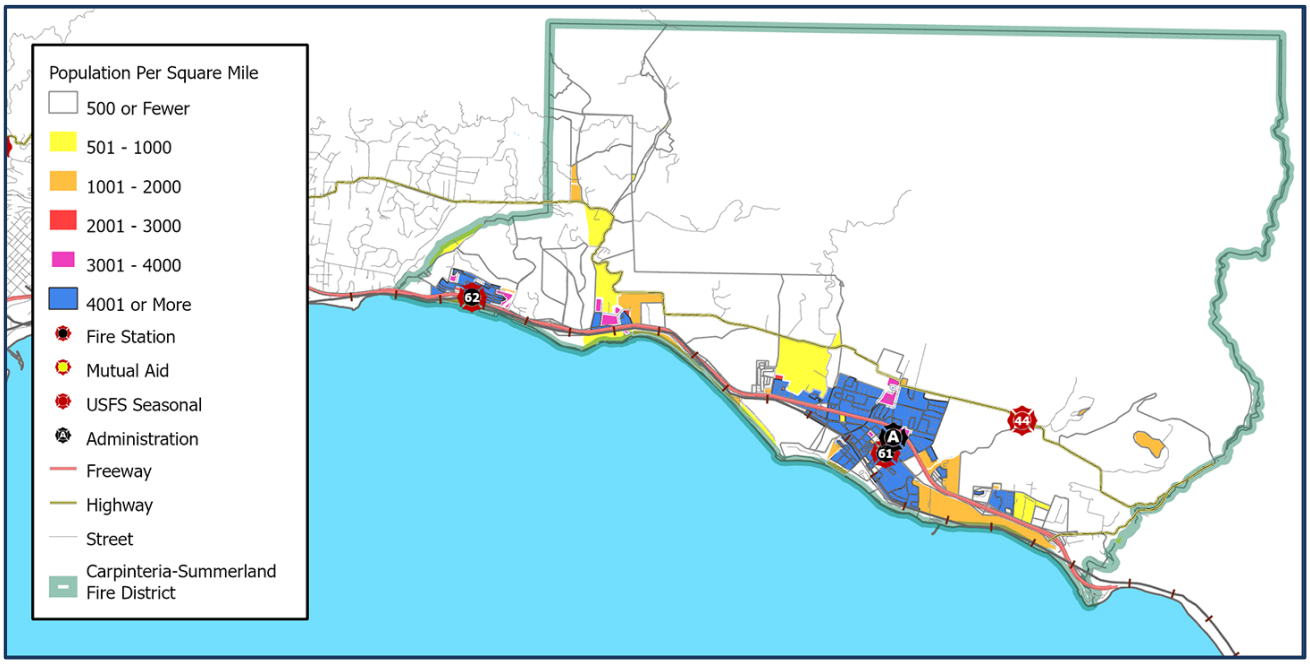
Figure 2: Summerland Area

Summerland Community

Summerland is an unincorporated census-designated community located between Carpinteria and Montecito. It is comprised of approximately two square miles, with a 2018 estimated population of 923 persons.[8] The majority (86%) of the population is Caucasian, followed by Hispanics at nearly 4%, and Black or African Americans at almost 3%.[9]

The following figure is a map that illustrates the population density of CSFPD based on data from the U.S. Census Bureau's American Community Survey.

Figure 3: Population Density of CSFPD (2020)



The District's largest industries include retail trade, accommodations, food service, and professional, technical, and scientific services. In 2017, the estimated median household income was $69,583, which was slightly higher than the national average.[10] As of 2018, approximately 8% of the population was below the poverty level in Carpinteria and 7% in Summerland.[11]

The U.S. Census Bureau estimated that Summerland had a total of 691 housing units in 2018. The median property value in 2017 was $1.18 million.[12] In 2017, the homeownership rate in Summerland was nearly 64%, which was slightly lower than the national average.

Montecito Community

Located east of the City of Santa Barbara, Montecito is a census-designated unincorporated community within Santa Barbara County. It encompasses a total area of nearly 20 square miles.

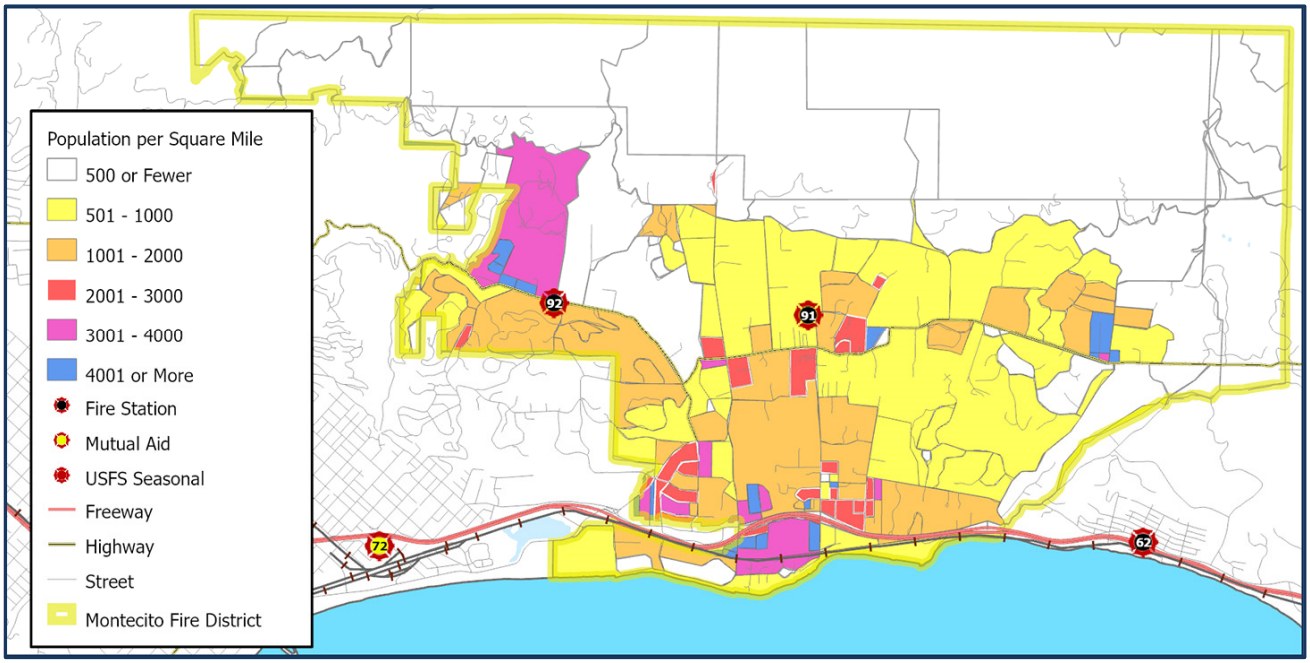
According to the U.S. Census Bureau, the 2018 population was approximately 8,611 (+/- 593) persons.[13] Nearly 19% of the population comprises persons age 14 years and younger, while over 21% are individuals age 60 years or older.[14] The median age is 49.5 years.[15] The majority (87%) of the population is Caucasian, followed by Hispanics at nearly 7%, and Asians at almost 4%.[16]

The most common occupations of Montecito residents are management positions, business and financial occupations, sales, and sales-related jobs. Compared to most other communities, the area has a high number of individuals working in arts, design, media, and entertainment. The estimated median annual household income in 2017 was $146,250, which is substantially higher than the annual income across the United States.[17] About 8% of the population is below the poverty level, which is below the national level of just over 13%.[18]

Figure 4: Montecito Area

The following figure is a map that illustrates the population density of MFPD based on data from the U.S. Census Bureau's American Community Survey.

Figure 5: Population Density of MFPD (2020)

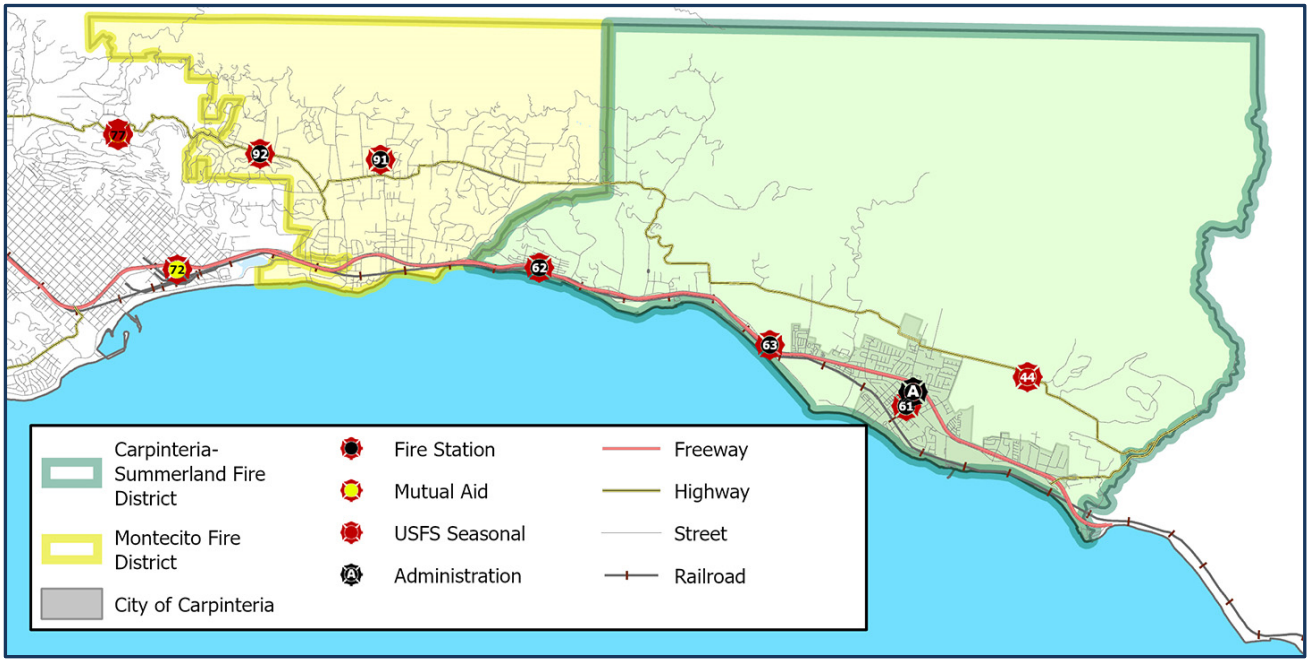


In 2018, there were an estimated 4,262 (+/- 155) housing units in Montecito, of which the majority (33.9%) were two-person households.[19] As of 2017, the median property value was $2 million—which was nearly nine times the national average of $229,700 that year.[20]

DESCRIPTION OF THE FIRE DISTRICTS

The following figure is an illustration of the overall study area for this project. The map shows the boundaries and fire station locations of each fire district.

Figure 6: Study Areas of the Fire Protection Districts



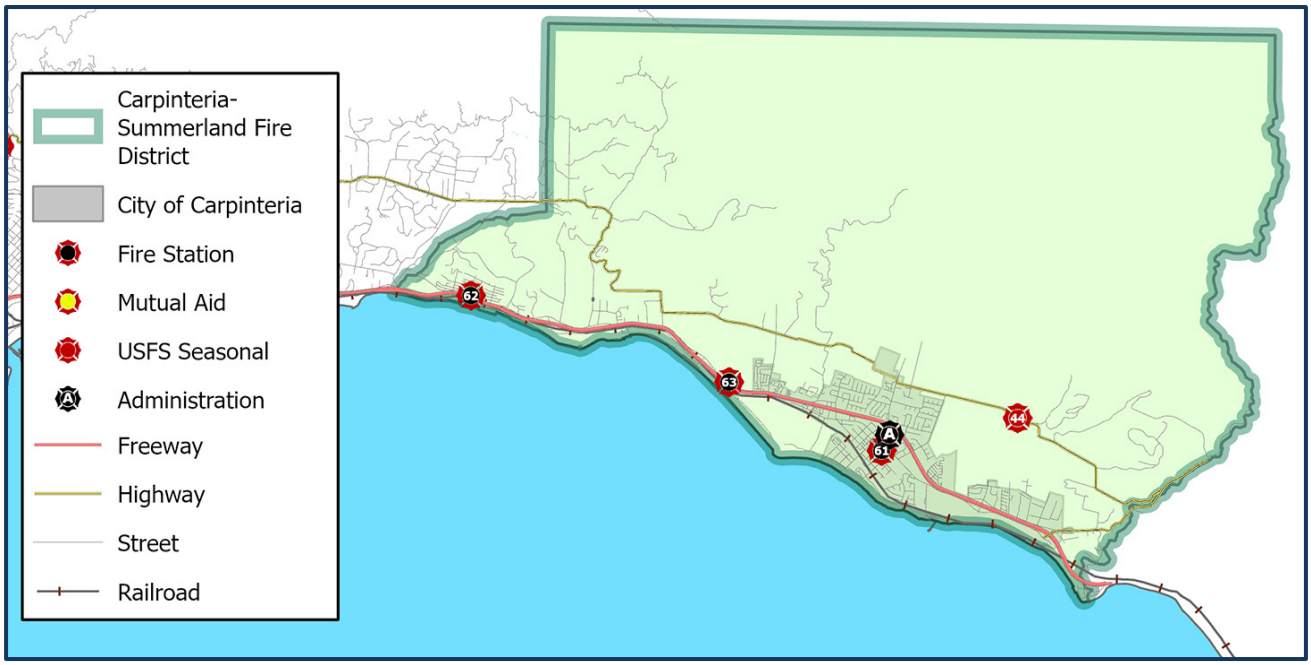
The two fire districts combined represent approximately 62 square miles and an estimated resident population of more than 23,000 persons.

Carpinteria-Summerland Fire Protection District

CSFPD is an independent special fire protection district that was formally established in June 1934. It derives its statutory authority from the California *Fire Protection District Law of 1987* (Health & Safety Code §13800, et seq.). The fire district comprises approximately 40 square miles—which includes the City of Carpinteria—extends from the Pacific Ocean to very high elevations in the Los Padres National Forest, and from Rincon Creek to Ortega Hill. The resident population served represents approximately 14,500 persons.

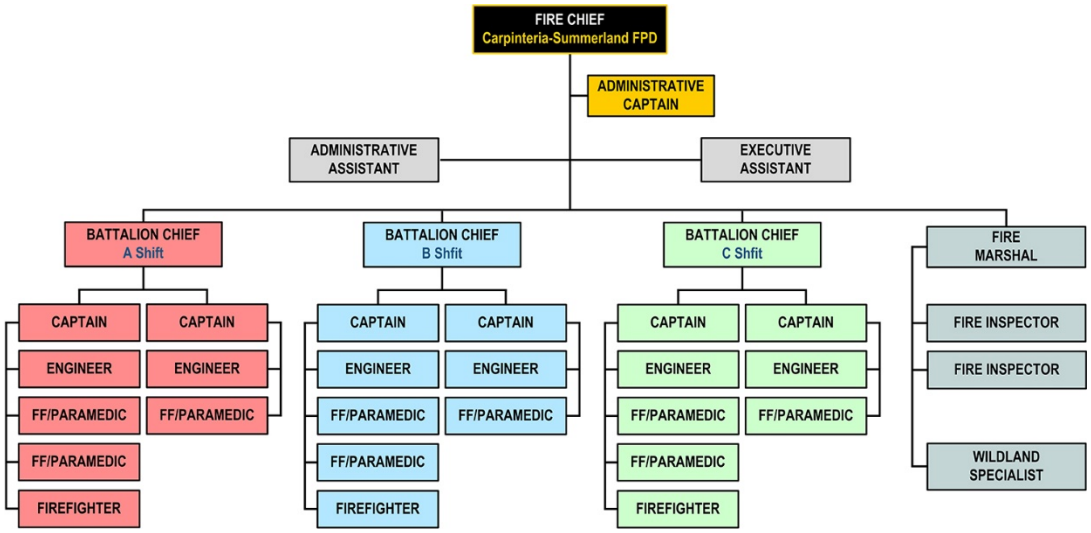
The following figure shows the boundaries and study area of the Carpinteria-Summerland FPD.

Figure 7: Carpinteria-Summerland FPD Study Area



The District is overseen by an elected five-member Board of Directors (BOD). The Fire Chief is appointed by and responsible to the BOD. The fire district is an all-hazards organization comprised of five divisions: Administration, Emergency Medical Services, Operations, Prevention, and Training. The following figure illustrates the current (2020) organizational structure of the fire district.

Figure 8: Carpinteria-Summerland FPD Organizational Chart (2020)



CSFPD Divisions & Emergency Response Services Provided

The Fire Chief is responsible for directing the *Administration Division*, which is responsible for directing, planning, and evaluating the fire district's various functions. This includes preparing and managing the budget, maintaining labor/management relations (including addressing collective bargaining issues related to employee contracts), and functioning as staff to the Board of Directors.

The Administrative Captain oversees the *EMS Division* and serves as the District Safety Officer. The Division is responsible for oversight of the prehospital EMS delivery system and the District's wellness and injury prevention program. CSFPD provides non-transport, medical first-response (MFR) service utilizing certified Firefighter/Paramedics at the Advance Life Support (ALS) level. Patient transport is provided by American Medical Response (AMR) through a public/private partnership.

Operational Staffing & Assignments

The Operations Division represents the largest of the five CSFPD divisions. The Division is staffed 24 hours daily with career personnel and provides traditional fire protection, EMS, special operations, and Emergency Management (EM). The Division's role in EM is to work with the City of Carpinteria and Santa Barbara County on disaster mitigation, preparedness, response, and recovery. The staff works with the local Community Emergency Response Team (CERT) and community stakeholders on public education and emergency alerting.

Operations personnel are scheduled using a three-platoon structure, with each shift overseen by a Battalion Chief. Each apparatus has a Captain assigned as the company officer, along with an Engineer and at least one Firefighter. Some officers and Firefighters are also certified as Paramedics. Firefighters and officers in emergency operations work a 48-hour on/96-hour off shift schedule.

CSFPD Emergency Operations

CSFPD deploys its apparatus and personnel from two fire stations staffed with career firefighters and officers—Station 61 in Carpinteria and Station 62 in Summerland. The Montecito Fire Protection District provides dispatch and communications. CSFPD has a current *Insurance Services Office* (ISO) *Public Protection Classification* (PPC®) score of 4/4.

The District provides traditional fire suppression, medical first-response (MFR) at the advanced life support (ALS) level utilizing Paramedics, limited hazardous materials response, and water rescue operations. A three-person engine is staffed and deployed from each station. A two-person squad is also staffed and deployed from Station 61.

Special Operations

In addition to fire protection and EMS, the fire district maintains a Hazardous Materials Program and Water Rescue Program. HazMat specialists and technicians are specially trained and respond both in-district and to incidents occurring in Southern Santa Barbara County. There is a minimum of 12 personnel assigned to the Water Rescue Program. These individuals are trained in both swift water and open-ocean technical rescue and are capable of watercraft and small-boat rescue operations in addition to swim and paddleboard rescue.

Emergency Medical Services

EMS at CSFPD is overseen by the Administration Captain and three on-shift Firefighter/Paramedics assigned as EMS Coordinators. The District's Medical Director is a board-certified Emergency Medicine Physician under contract and paid on an hourly basis as needed. His interaction with the crews occurs monthly to quarterly.

CSFPD conducts both an EMS *system* (operational) and *clinical* quality management (QM) program. EMS system performance standards have been established and evaluated, and areas for improvement are identified. The clinical aspect of QM through both an internal quality improvement (QI) committee and participation in the County's Continuous Quality Improvement (CQI) Committee. Patient-care reports are spot-checked for accuracy, and feedback is provided to individual EMS providers.

Training & Continuing Education

A Battalion Chief manages the Training Division. The Division is responsible for conducting the training and ongoing education of the District's personnel to ensure they have the sufficient skills necessary to deliver the various services provided by the organization. This includes succession planning by providing support to personnel seeking promotion.

Life-Safety & Prevention

The Fire Prevention Division is composed of a civilian Fire Marshal, two full-time civilian Fire Inspectors, and one full-time civilian Wildland Specialist. The Division provides traditional services that include inspections of existing occupancies in accordance with adopted codes, standards, and the California Environmental Protection Agency regulations regarding hazardous materials. The Division also conducts new construction inspections, plan reviews, certification of occupancies, issuance of fire code permits, and fire-cause determination. In addition to those responsibilities, the Division oversees a vegetation fuel management program for high fire hazard zones, public education, development of the City of Carpinteria's Multi-Hazard Functional Plan, and the District's Local Hazard Mitigation Plan.

CSFPD Budget & Finance

The Carpinteria-Summerland Fire Protection District had an assessed valuation of $6,880,681,209 on June 30, 2019.[21] CSFPD prepares an annual operating budget and related various capital improvement plans based on a July 1 through June 30 fiscal year. The District's total General Fund Operating Budget, including Debt Service payments, for FY 20/21 is $10,337,000.

General Fund revenues consist of property taxes and assessments, state emergency assistance payments, licenses, permits and fees, reimbursements for District services, and homeowner property tax relief payments.

Figure 9: CSFPD General Fund Revenues (FY 19/20)[22]

Description	FY 19/20
Property taxes	9,998,972
State Emergency Assistance	174,233
Reimbursement for District Services	198,539
Other	217,042
Other revenue (interest, grants, insurance settlements, other)	964,267
Total Receipts:	**$11,553,053**
Beginning fund balance	8,011,499
Total Resources:	**$19,564,552**

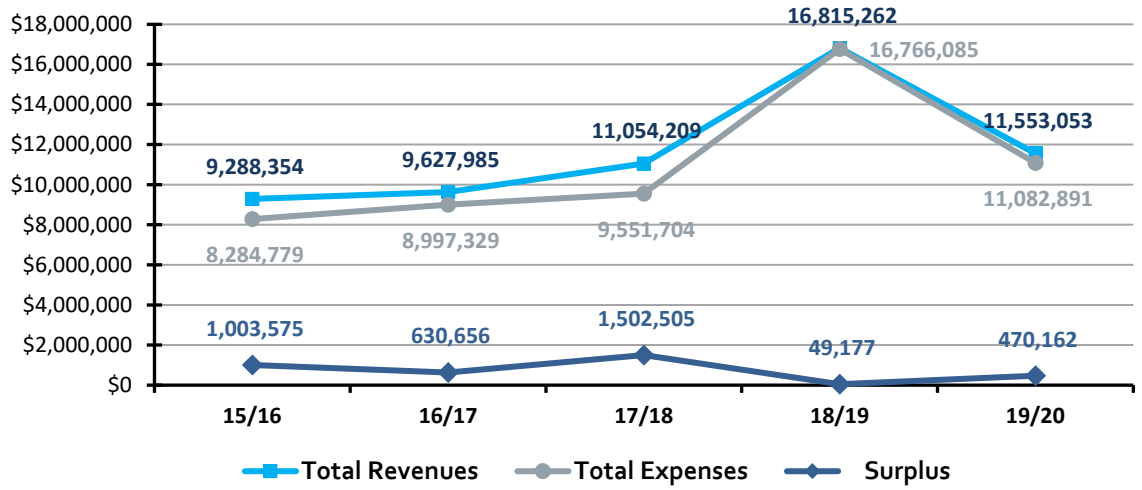
The following figure shows the historical expenditures for the CSFPD General Fund for the FY 15/16 through FY 19/20 and the budget for FY 20/21. Total expenditures have increased by approximately 25 percent over the last six years.

Figure 10: CSFPD Actual General Fund Expenditures (FY 15/16–FY 19/20 & Adopted FY 20/21 Budget)

Description	Actual FY 15/16	Actual FY 16/17	Actual FY 17/18	Actual FY 18/19	Actual FY 19/20	Budget FY 20/21
Salaries & Wages	4,705,827	5,079,598	5,331,339	5,653,934	5,329,071	5,590,000
Benefits	2,263,131	2,426,326	2,656,223	3,003,790	3,068,925	3,315,000
Salaries & Benefits	**$6,968,958**	**$7,505,924**	**$7,987,562**	**$8,657,724**	**$8,397,996**	**$8,905,000**
Services & Supplies	1,002,161	1,168,843	1,279,206	1,387,840	1,312,474	1,341,700
Totals Expenses	**$7,971,119**	**$8,674,767**	**$9,266,768**	**$10,045,564**	**$9,710,470**	**$10,246,700**
Lease Payments	78,760	154,831	149,858	90,428	88,876	90,300
Capital Expenses	221,783	679,359	106,294	214,711	110,255	—
Fire Protection Services	—	—	—	5,799,912	—	—
Other	1,170	1,560	1,560	650	—	—
Transfers to Reserves	—	—	—	522,000	1,160,810	—
Capital & Other:	**$313,660**	**$322,562**	**$284,936**	**$6,720,521**	**$1,372,421**	**$90,300**
Total Expenditures:	**$8,284,779**	**$8,997,329**	**$9,551,704**	**$16,766,085**	**$11,082,891**	**$10,337,000**

Best practices for the safe, efficient, and cost-effective operation of emergency service agencies provide for the systematic renewal of physical assets of the agency, including the apparatus, vehicles, facilities, and other major capital projects. A capital replacement/improvement program must identify time frames for those types of expenditures to provide adequate planning to fund the significant costs associated with these typically long-lived assets.

Figure 11: Comparison of Historical Revenues, Expenses & Net Changes to Fund Balances



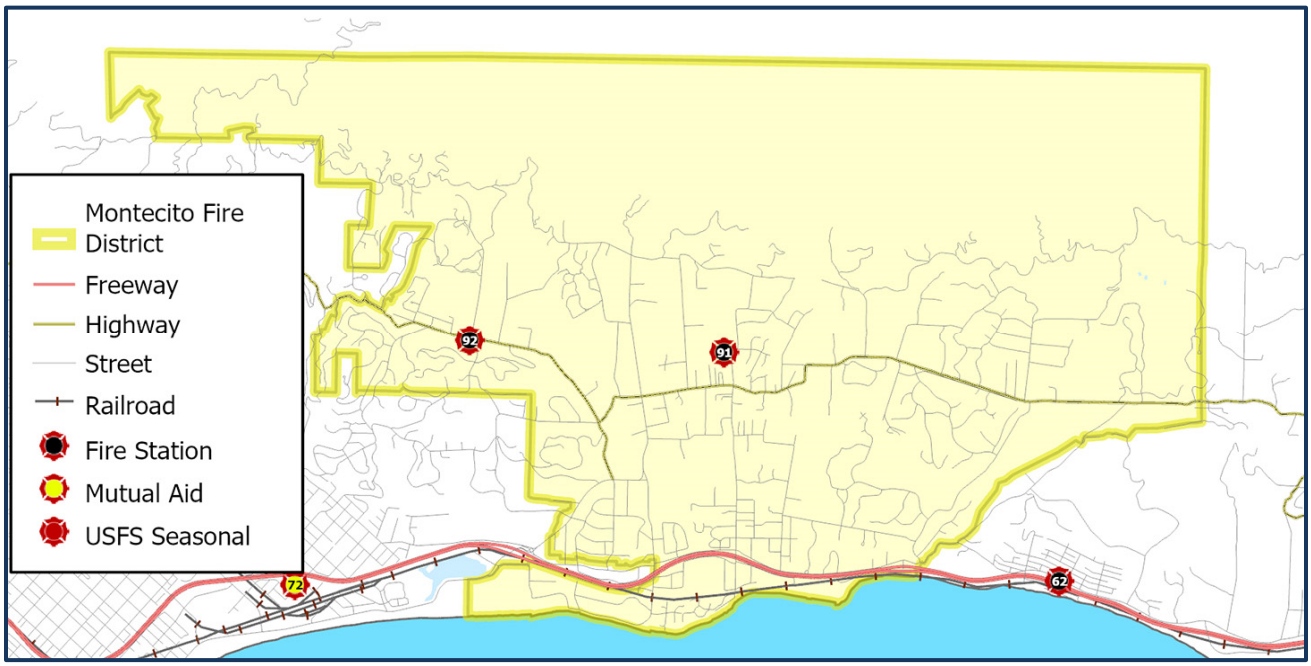
Montecito Fire Protection District

Organized in June 1917, MFPD is an independent fire protection district that obtains its statutory authority from the California *Fire Protection District Law of 1987* (Health & Safety Code §13800, et seq.). The District lies adjacent to the eastern border of the City of Santa Barbara and encompasses nearly 22 square miles. Like CSFPD, it ranges from sea level to much higher elevations. The east side borders the Carpinteria-Summerland FPD. The District's 2018 population was approximately 8,611 persons and comprised about 30% suburban, 30% rural, and 40% remote areas.[23]

Figure 12: Montecito FPD (1931)

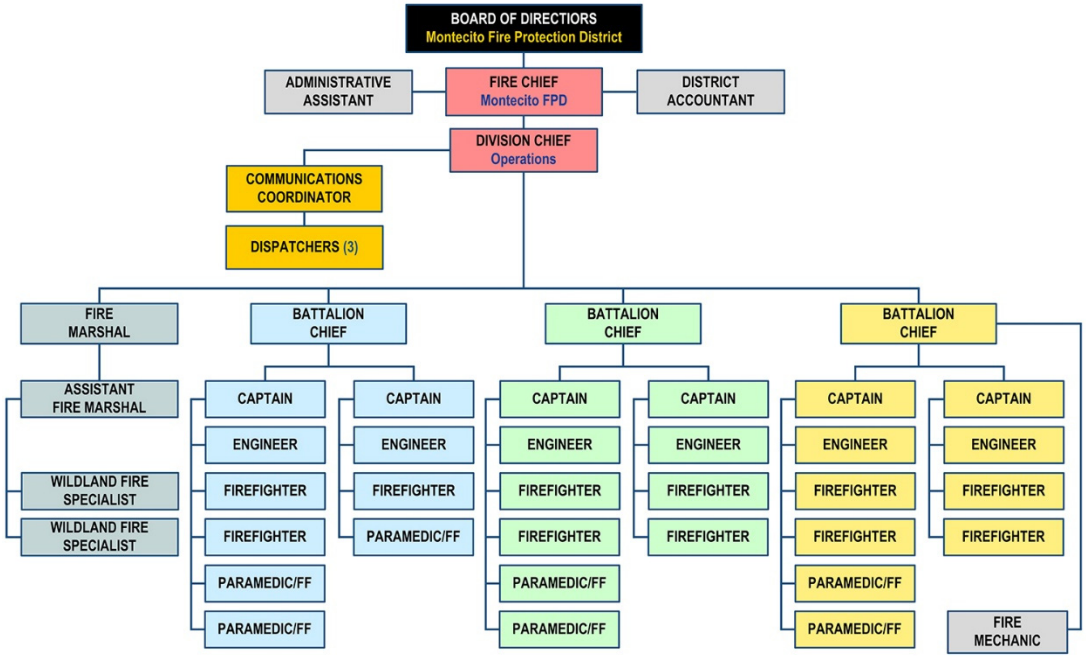
The following figure shows the boundaries and study area of the Montecito Fire Protection District.

Figure 13: Study Area of the Montecito Fire Protection District



The Montecito Fire Protection District is overseen by an elected five-member Board of Directors responsible for the fire district's governance. The Fire Chief is appointed by and directed by the BOD and accountable for the District's management. MFPD is an all-hazards organization that also provides dispatch and communications services for the District and CSFPD. In May 2017, Montecito was assigned an ISO PPC® score of 3/3X. The following illustrates MFPD's current organizational structure.

Figure 14: Montecito Fire Protection District Organizational Structure (2020)



As shown, the Division Chief of Operations is responsible for the shift (platoon) Battalion Chiefs (BC), the Fire Marshal, and Communications Coordinator. The Fire Marshal oversees the Assistant Fire Marshal and two Wildland Fire Specialists, while the Communications Coordinator is responsible for the Dispatchers.

Each BC is responsible for a shift comprised of Captains, Engineers, Firefighters, and Paramedic/Firefighters. The Fire Mechanic is overseen by one of the Battalion Chiefs. The Administrative Assistant and District Accountant are directly responsible to the Fire Chief.

Operational Staffing & Assignments

MFPD deploys its personnel and apparatus from two fire stations staffed 24 hours daily. Station 91 serves as the District's headquarters facility and is located on San Ysidro Road and Station 92 on Sycamore Canyon Road. Operations personnel are assigned to one of three platoons and work 56 hours per week. A shift Battalion Chief oversees each platoon.

MFPD Emergency Operations

The Montecito Fire Protection District provides traditional fire protection, first-response EMS, special operations, and dispatch and communication services. MFPD's engine companies may be either BLS or ALS, depending on staffing availability. The squad is staffed and equipped to provide ALS at all times. In specific situations in which a private ambulance is unavailable or delayed, MFPD will utilize its ambulance to transport patients.

Special Operations

MFPD provides Urban Search & Rescue (USAR) Type 2 services and maintains Technical Rope Rescue, Confined Space Rescue, and Trench Rescue technicians. Also, MFPD has trained personnel assigned to a regional hazardous materials response team.

Emergency Medical Services

A Battalion Chief oversees the various components of EMS administration and operations. The EMS Medical Director has a contractual relationship with the District and is reimbursed $6,000 annually. MFPD has an EMS Quality Management (QM) program that evaluates operational and clinical performance. The Medical Director participates in MFPD's internal QM committee, and feedback is provided to field personnel. One hundred percent of all patient refusals and ePCRs are reviewed, and MFPD publishes a monthly QM report.

Life-Safety & Prevention Services

The Fire Marshal's Office (FMO) oversees fire inspections, code enforcement, plan reviews, and fire and arson investigations. In addition, the FMO is responsible for public education and prevention activities and employs two Wildland Fire Specialists.

Dispatch & Communications

Known as the *South Coast Dispatch* (aka "South Coast"), MFPD operates as a secondary Public Safety Answering Point (PSAP) in which initial 9-1-1 calls are forwarded from the *Santa Barbara County Public Safety Dispatch Center* (operated by the Santa Barbara County Sheriff's Office). MFPD staffs its communications facility with full-time call-taker/dispatchers 24 hours daily. MFPD's Division Chief of Operations oversees the dispatch center.

The District utilizes *Central Square Technologies* (formerly TriTech Software Systems) for its Computer-Aided Dispatch (CAD) software—which is integrated with the *Santa Barbara County EMS Patient Reporting* software system and MFPD's incident management application. Besides providing its own communications services, the District delivers dispatch and communications services to the Carpinteria-Summerland Fire Protection District.

South Coast has an established call-processing standard of one minute or less but does not have a quality management program in place. Standard Operating Guidelines are in place, and staff training is provided internally. Emergency Medical Dispatch services, including pre-arrival instructions and criteria-based dispatch, are provided by the Santa Barbara County Public Safety Dispatch Center.

MFPD Budget & Finance

The Montecito Fire Protection District's assessed gross value as of June 30, 2020, was $11,282,835,747.[24] MFPD prepares an annual operating budget and related various capital improvement plans based on a July 1 through June 30 fiscal year (FY). The District's total General Fund Preliminary Operating Budget, including Capital Expenditures, for FY 20/21 is $20,512,000.

General Fund revenues consist of property taxes and assessments, state, and federal emergency assistance payments, FEMA grants, reimbursements for district services, and homeowner property tax relief payments.

Figure 15: MFPD General Fund Revenues (FY 19/20)[25]

Description	FY 19/20
Property taxes	18,024,039
State Emergency Assistance	559,720
Federal Emergency Assistance	183,470
Reimbursement for District Services	201,200
Other	1,731,423
Total Receipts:	**$20,699,852**
Beginning fund balance	10,527,451
Total Resources:	**$31,227,303**

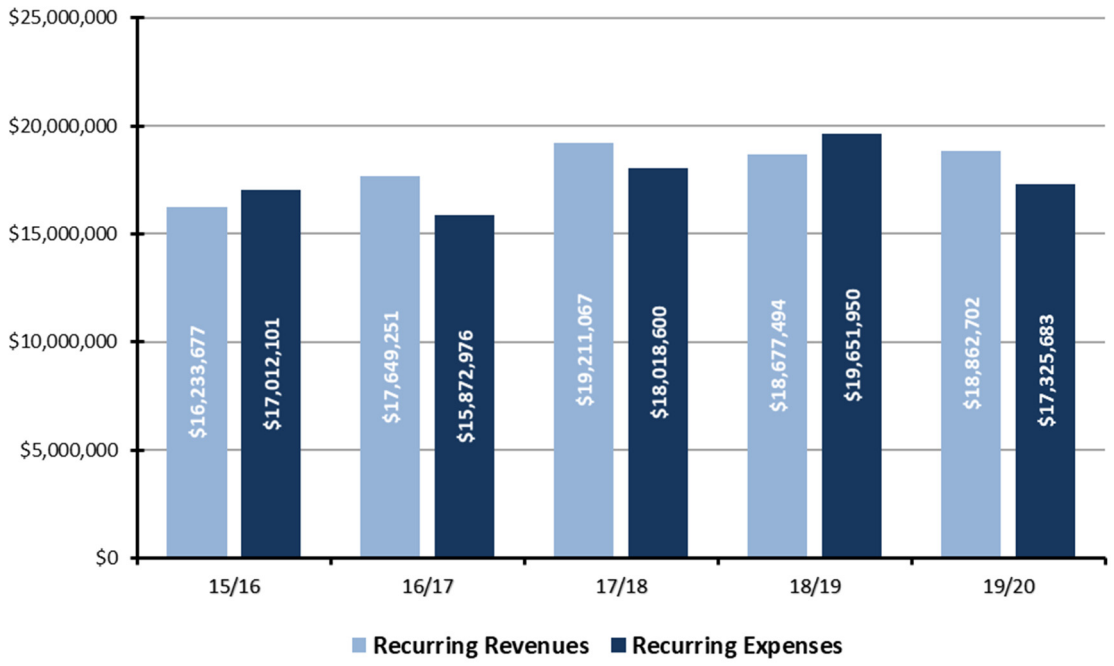
The following figure shows the historical expenditures for the MFPD General Fund for the FY 15/16 through FY 19/20 and the budget for FY 20/21. Total General Fund expenditures have increased by approximately 19% over six years.

Figure 16: MFPD Actual General Fund Expenditures (FY 15/16–FY 19/20 & Adopted FY 20/21 Budget)

Description	Actual FY 15/16	Actual FY 16/17	Actual FY 17/18	Actual FY 18/19	Actual FY 19/20	Budget FY 20/21
Salaries & Wages	8,284,551	8,572,613	10,445,970	9,699,875	9,779,731	10,098,000
Benefits	7,314,979	5,581,742	5,787,646	8,069,772	5,417,003	7,114,000
Total Salaries & Benefits	**$15,599,530**	**$14,154,355**	**$16,233,616**	**$17,769,647**	**$15,196,734**	**$17,212,000**
Services & Supplies	1,412,571	1,718,621	1,784,984	1,882,303	2,128,949	2,453,000
Total Operating Expenses	**$17,012,101**	**$15,872,976**	**$18,018,600**	**$19,651,950**	**$17,325,683**	**$19,665,000**
Capital Expenditures & Other	110,193	358,009	83,615	162,569	827,516	847,000
Total Expenses & Expenditures	**$17,122,294**	**$16,230,985**	**$18,102,215**	**$19,814,519**	**$18,153,199**	**$20,512,000**

The Montecito Fire Protection District has implemented a best practices recommendation to provide for the safe, efficient, and cost-effective operation of emergency service agencies by providing for the systematic renewal of physical assets of the agency, including the rolling stock, facilities, and other major capital projects. MFPD maintains a Capital Reserve Fund into which periodic payments are made from the general fund and from which capital expenditures for apparatus, other vehicles, and major equipment purchases are made. The District also maintains a Land & Building Fund to acquire land, build or renovate District facilities.

Figure 17: Comparison of Historical Recurring Revenues with Recurring Expenses



Overview of the Santa Barbara County Emergency Services System

As mentioned previously, the Carpinteria-Summerland Fire Protection District and Montecito Fire Protection District are located within Santa Barbara County. Thus, they are components of the County's overall emergency services delivery system.

Emergency Medical Services in the County

EMS Administration

The California EMS Authority is responsible for EMS licensing, certification, and EMS personnel training throughout the State. The Santa Barbara County Emergency Medical Services Agency (EMSA) is a division of the Santa Barbara County Public Health Department and overseen by a Director and a physician Medical Director and Assistant Medical Director. EMSA provides EMS system guidance and oversight through policy development and a comprehensive quality improvement program driven by prehospital care providers.

Ground Emergency Medical Transport

Neither fire district provides regular ambulance transportation services. American Medical Response (AMR) provides EMS transport throughout Santa Barbara County and responds to approximately 34,000 calls annually, utilizing 125 Paramedics and Emergency Medical Technicians (EMT).

Air Medical Transport & Rescue

CALSTAR provides rotary wing (helicopter) air medical transport with a base in Santa Maria. The Santa Barbara County Fire Department Air Support Unit (ASU) jointly operates helicopters with the Santa Barbara County Sheriff's Office based out of the Santa Ynez Airport. The ASU provides various fire and rescue missions and will conduct medevac operations (not interfacility transports) if CALSTAR is unavailable for a scene response.

Hospitals & Tertiary Care Facilities

The nearest hospital to the two fire districts is Santa Barbara Cottage Hospital (SBCH), designated as a Level 1 Trauma Center for adults and pediatric patients. SBCH is a designated stroke center and also provides cardiac catheterization and interventional services.

Mutual Aid Departments

CSFPD and MFPD maintain mutual and automatic aid agreements with each other. Both have mutual and automatic aid agreements with the City of Santa Barbara Fire Department (SBFD), an all-hazards fire department. The fire districts also have agreements with the Santa Barbara County Fire Department (SBCFD), which, along with fire suppression, provides ALS-level MFR and EMS transport, air and ground rescue, hazmat responses, water rescue, and urban search and rescue (USAR).

The fire districts also maintain mutual aid agreements with the Ventura County Fire Department and the Los Padres National Forest, which provides overhead and heavy equipment for wildland fire incidents.

CAPITAL FACILITIES & APPARATUS

Typically, three basic resources are required to successfully carry out the mission of a fire department: trained personnel, firefighting equipment (which includes apparatus and vehicles), and fire stations. No matter how competent or numerous the firefighters, if appropriate capital equipment is not available for use by operations personnel, it would be impossible for either of the fire districts in this study to deliver services effectively. The essential capital assets for use in emergency operations are facilities and apparatus (response vehicles). Of course, each district's financing ability will determine the level of capital equipment it can acquire and make available for use by emergency personnel. This section of the report assesses the respective capital facilities, vehicles, and apparatus of CSFPD and MFPD.

Fire Stations & Other Facilities

Fire stations play an integral role in the delivery of emergency services for several reasons. To a large degree, a station's location will dictate response times to emergencies. A poorly located station can mean the difference between confining a fire to a single room and losing the structure. Fire stations also need to be designed to adequately house equipment and apparatus and meet the needs of the organization and its personnel. It is crucial to research needs based on service demand, response times, types of emergencies, and projected growth before making a station placement commitment.

Consideration should be given to a fire station's ability to support each district's mission as it exists today and into the future. The activities within a fire station should be closely examined to ensure the structure is adequate in both size and function. Examples of these functions can include the following:

- Residential living space and sleeping quarters for on-duty personnel (all genders)
- Kitchen facilities, appliances, and storage
- Bathrooms and showers (all genders)
- Training, classroom, and library areas
- Firefighter fitness area
- The housing and cleaning of apparatus and equipment; including decontamination and disposal of biohazards
- Administrative and management offices, computer stations, and office facilities for personnel
- Public meeting space

In gathering information from the two fire districts, Triton asked the organizations to rate each of their fire stations' condition using the criteria in the next figure.

Figure 18: Criteria Utilized to Determine Fire Station Condition

Excellent	Like new condition. No visible structural defects. The facility is clean and well maintained. Interior layout is conducive to function with no unnecessary impediments to the apparatus bays or offices. No significant defect history. Design and construction match the building's purposes. Age is typically less than ten years.
Good	The exterior has a good appearance with minor or no defects. Clean lines, good workflow design, and only minor wear of the building interior. Roof and apparatus apron are in good working order, absent any significant full-thickness cracks or crumbling of apron surface or visible roof patches or leaks. Design and construction match the building's purposes. Age is typically less than 20 years.
Fair	The building appears structurally sound with a weathered appearance and minor to moderate non-structural defects. The interior condition shows normal wear and tear but flows effectively to the apparatus bay or offices. Mechanical systems are in working order. Building design and construction may not match the building's purposes well. Showing increasing age-related maintenance, but with no critical defects. Age is typically 30 years or more.
Poor	The building appears to be cosmetically weathered and worn, potentially with structural defects, although not imminently dangerous or unsafe. Large, multiple full-thickness cracks and crumbling of concrete on the apron may exist. The roof has evidence of leaking and/or numerous repairs. The interior is poorly maintained or showing signs of advanced deterioration, with moderate to significant non-structural defects. Problematic age-related maintenance and/or major defects are evident. It may not be well suited to its intended purpose. Age is typically greater than 40 years.

As part of this study, Triton toured each of the stations operated by the two fire districts. Combined with the information provided by each, the observations were produced in the following figures.

Carpinteria-Summerland FPD Fire Stations

CSFPD maintains two fire stations and a separate fire department administration facility. The following figures illustrate the features of each facility.

Figure 19: CSFPD Administration Building

Address/Physical Location:	1140 Eugenia Place, Carpinteria, CA 93013

General Description:
This is a two-story leased building that serves as the headquarters and administrative facility for the fire district. Office space is provided for the Fire Chief, Administrative Assistant, Fire Prevention, and Shift Battalion Chiefs. The upper story is a private residence.

Structure						
Date of Original Construction	1982					
Seismic Protection	Bolted perimeter sill plates					
Auxiliary Power	Yes, mobile diesel-powered generator					
General Condition	Good					
Number of Apparatus Bays	Drive-through Bays	0	Back-in Bays	0		
ADA Compliant	No					
Total Square Footage	1,850 (first-floor headquarters)					
Facilities Available						
Sleeping Quarters	0	Bedrooms	0	Beds	0	Dorm Beds
Maximum Staffing Capability	N/A					
Exercise/Workout Facilities	No					
Kitchen Facilities	No					
Individual Lockers Assigned	No					
Bathroom/Shower Facilities	No					
Training/Meeting Rooms	Yes					
Washer/Dryer	No					
Safety & Security						
Facility Sprinklered	No					
Smoke Detection	Yes					
Decontamination/Bio. Disposal	N/A					
Security System	Yes					
Apparatus Exhaust System	N/A					

Figure 20: CSFPD Station 61

Address/Physical Location:	911 Walnut Avenue, Carpinteria, CA 93013

General Description:
A shift BC, an engine, a squad, and several other pieces of apparatus. The station interior has been renovated to provide additional sleeping quarters. Vehicle storage areas are at maximum, with vehicles stored outside and with no room for additional response vehicles. The vehicle exhaust system is new to the station, while the firefighter turnout gear is stored in the apparatus area

Structure						
Date of Original Construction	1961					
Seismic Protection	Does not meet seismic safety standards of CHSC					
Auxiliary Power	Propane-powered generator					
General Condition	Fair					
Number of Apparatus Bays	Drive-through Bays	4	Back-in Bays	0		
ADA Compliant	No					
Total Square Footage	7,530					
Facilities Available						
Sleeping Quarters	6	Bedrooms	12	Beds	N/A	Dorm Beds
Maximum Staffing Capability	Up to 20 for emergency up staff					
Exercise/Workout Facilities	Yes					
Kitchen Facilities	Yes					
Individual Lockers Assigned	Yes					
Bathroom/Shower Facilities	Yes (3)					
Training/Meeting Rooms	Yes					
Washer/Dryer	Yes					
Safety & Security						
Station Sprinklered	Yes					
Smoke Detection	Yes					
Decontamination/Bio. Disposal	No (contracted service)					
Security System	No					
Apparatus Exhaust System	Plymovent					

Figure 21: CSFPD Station 62

Address/Physical Location:	2375 Lillie Avenue, Summerland, CA 93067

General Description:
This station houses a first-due engine, Type 3 engine, and utility pickup truck. It was once a volunteer facility and has been updated over the past 50 years to accommodate full-time firefighter staffing.

Structure						
Date of Original Construction	1925					
Seismic Protection	Does not meet seismic safety standards of CHSC					
Auxiliary Power	Propane-powered generator					
General Condition	Poor					
Number of Apparatus Bays	Drive-through Bays	0	Back-in Bays	2		
ADA Compliant	Yes					
Total Square Footage	2,760					
Facilities Available						
Sleeping Quarters	1	Bedroom	N/A	Beds	3	Dorm Beds
Maximum Staffing Capability	Capable of sleeping 8 in emergency up staff					
Exercise/Workout Facilities	Yes					
Kitchen Facilities	Yes					
Individual Lockers Assigned	Yes					
Bathroom/Shower Facilities	Yes					
Training/Meeting Rooms	No					
Washer/Dryer	Yes					
Safety & Security						
Station Sprinklered	Yes					
Smoke Detection	Yes					
Decontamination/Bio. Disposal	No					
Security System	No					
Apparatus Exhaust System	Plymovent					

CSFPD Stations 61 & 62 Discussion

As of 2020, Station 61 is 59 years of age, while Station 62 is 95 years old. Neither fire station meets the seismic standards of the California Health & Safety Code (CHSC Chapter 2, Sections 1600–1622). Combined, the two fire stations are capable of up-staffing 28 personnel in an emergency situation and a total of six apparatus bays.

The building is adjacent to Interstate 101, which is currently being widened. The structure shows excessive cracks in the floors and walls. The facility is located over a fault system. The 101-freeway widening project will include a new sound-wall constructed along the back of the fire station. The fire station apparatus bay is designed for early 1900-style fire vehicles, causing the ceiling and bay door entry to be low, resulting in the fire district to design and purchase low-profile fire engines that limit the use of the vehicle in other areas of the District.

On the exterior, the station has additional covered space for a reserve fire engine. The site does not have employee parking and relies on surface street parking for on-duty personnel. Vehicle storage areas are at a maximum, with vehicles being stored outside and with no room for additional response vehicles.

The vehicle exhaust system is new to the station, while the firefighter turnout gear is stored in the apparatus area. The apparatus bay walls did show vehicle exhaust stain.

The fire station's sleeping quarters are configured in a dormitory-style, where all of the on-duty personnel sleep in the same open space. There is one bathroom/shower area, and the station does not have such facilities for women.

The District has attempted to update the station when able, but the building has reached its maximum life expectancy. Fire Station 62 is no longer conducive to providing a safe and healthy or efficient and effective facility and lacks the necessary features to accommodate a diverse workforce.

Montecito FPD Fire Stations

MFPD maintains two fire stations. The following figures illustrate the features of each facility.

Figure 22: MFPD Station 91

Address/Physical Location:	595 San Ysidro Rd, Montecito, CA 93108					
	**General Description:** This station co-locates with Fire Administration and Dispatch. This station houses one staffed engine company (3–4 personnel) and a two-person squad. An ALS ambulance, USAR vehicle, and wildland engines are located at this station and cross-staffed when necessary. Both the Administration and fire station sides of the facility are at maximum capacity.					
Structure						
Date of Original Construction	1992					
Seismic Protection	Yes					
Auxiliary Power	Yes					
General Condition	Good					
Number of Apparatus Bays	Drive-through Bays	2	Back-in Bays	0		
ADA Compliant	Yes					
Total Square Footage	10,387					
Facilities Available						
Sleeping Quarters	8	Bedrooms	15	Beds	N/A	Dorm Beds
Maximum Staffing Capability	15					
Exercise/Workout Facilities	Yes					
Kitchen Facilities	Yes					
Individual Lockers Assigned	Yes					
Bathroom/Shower Facilities	Yes					
Training/Meeting Rooms	Yes					
Washer/Dryer	Yes					
Safety & Security						
Station Sprinklered	Yes					
Smoke Detection	Yes					
Decontamination/Bio. Disposal	No					
Security System	No					
Apparatus Exhaust System	Yes					

Figure 23: MFPD Station 92

Address/Physical Location:	2300 Sycamore Canyon Rd, Montecito, CA 93108

General Description:
This station houses an engine company (3–4 personnel), two cross-staffed wildland engines, and two Type 1 reserve engines.

Structure						
Date of Original Construction	2003					
Seismic Protection	Yes					
Auxiliary Power	Yes					
General Condition	Good					
Number of Apparatus Bays	Drive-through Bays	2	Back-in Bays	2		
ADA Compliant	Yes					
Total Square Footage	8,089					
Facilities Available						
Sleeping Quarters	4	Bedrooms	8	Beds	N/A	Dorm Beds
Maximum Staffing Capability	8					
Exercise/Workout Facilities	Yes					
Kitchen Facilities	Yes					
Individual Lockers Assigned	Yes					
Bathroom/Shower Facilities	Yes					
Training/Meeting Rooms	No					
Washer/Dryer	Yes					
Safety & Security						
Station Sprinklered	Yes					
Smoke Detection	Yes					
Decontamination/Bio. Disposal	No					
Security System	No					
Apparatus Exhaust System	Yes					

MFPD Stations 91 & 92 Discussion

Compared to CSFPD, MFPD's fire stations are newer, with a combined average age of nearly 23 years. Both stations have seismic protection, although neither has a security system nor facilities for decontamination and biohazard disposal.

Station 91

Station 91 has a maximum of four apparatus bays. Auxiliary vehicles are parked at the rear of the station and exposed to the environment. There is limited street and driveway parking for visitors or staff. There is no room for expansion of the station. The interior of the fire station side has carpeted travel and dorm room areas. The fire station side has tile and grout areas in the bathroom and kitchen areas. According to the Battalion Chief responsible for Facilities and Logistics, new flooring is planned for the travel areas and potentially the dorm room.

The workout room is small and over-crowded with equipment. Turnout gear storage is in the apparatus bays. The vehicle exhaust system was recently installed and was not fully operational at the time of the site visit. The walls of the apparatus bay did show vehicle exhaust stain. The breathing air compressor does not have piping to the exterior air supply and currently relies on the Battalion Chief vehicle apparatus bay area's ambient air source.

Station 92

Station 92 consists of two stories and two bays with a single-vehicle depth. The station is co-located with apparatus maintenance facilities designed for light to medium maintenance of vehicles. The station has a large parking area in the rear. The vehicle exhaust system was recently installed but was not fully operational at the time of the site visit. The walls of the apparatus bay did show vehicle exhaust stain. Turnout gear is stored in a separate room in accordance with the NFPA 1500 Standard guidance. Upstairs flooring is a blend of hard and carpet floorings.

Collective Summary of the Fire Stations

The next figure consists of a collective summary of CSFPD's and MFPD's fire stations. The figure does not include the Carpinteria-Summerland FPD's administration/headquarters facility, which does not house emergency operations personnel or fire suppression or EMS/rescue apparatus.

Figure 24: Collective Summary of the District's Fire Stations (2020)

Fire District	No. of Stations	Maximum Staffing[1]	Apparatus Bays	Average Age[2]	Total Square Footage
CSFPD	2	28	6	77 years	10,290
MFPD	2	23	6	23 years	18,476
Totals:	**4**	**51**	**12**	**50 years**	**28,766**

[1]Represents maximum and emergency staffing capacity. [2]Average age of stations combined.

As shown in the preceding figure, the two fire districts deploy from four fire stations with an overall average age of nearly 50 years, 12 apparatus bays, and less than 29,000 square feet. Fire station ages ranged from 17 years (MFPD) to 95 years (CSFPD) of age.

Combined Daily Station Staffing

Together, CSFPD and MFPD maintain a minimum daily staffing of 16 operations personnel (firefighters, company officers, etc.). When including a shift Battalion Chief from each District, the total minimum assigned to emergency operations is 18 personnel per day.

Fire Apparatus & Vehicle Fleets

Fire apparatus and other emergency vehicles are unique and expensive pieces of equipment customized to operate for a specific community and a defined mission. Other than its firefighters, officers, and support staff, the next most crucial fire department resources are likely the emergency apparatus and other command and special operations vehicles.

Apparatus must be sufficiently reliable to transport firefighters and equipment rapidly and safely to an incident scene. Such vehicles must be adequately equipped and function appropriately to ensure that the delivery of emergency services is not compromised. For this reason, they are costly and offer little flexibility in use and reassignment to other missions. Modern medic units (ambulances) are complex vehicles that must be sufficiently maintained to ensure personnel arrive promptly and must be in a condition to ensure patients are transported safely to the hospital or clinical facility.

Both CSFPD and MFPD have relatively new frontline apparatus and support vehicles. Their fleet inventories are nearly the same, with most apparatus having been built by Pierce Manufacturing.

When collecting information from MFPD and CSFPD, Triton requested the Districts rate each of their apparatus and vehicles using the next figure's criteria.

Figure 25: Apparatus & Vehicle Evaluation Criteria

Evaluation Components	Points Assignment Criteria	
Age:	One point for every year of chronological age, based on in-service date.	
Miles/Hours:	One point for every 10,000 miles or 1,000 hours	
Service:	1, 3, or 5 points are assigned based on service-type received (e.g., a pumper would be given a 5 since it is classified as severe duty service).	
Condition:	This category considers body condition, rust interior condition, accident history, anticipated repairs, etc. The better the condition, the lower the assignment of points.	
Reliability:	Points are assigned as 1, 3, or 5, depending on the frequency a vehicle is in for repair (e.g., a 5 would be assigned to a vehicle in the shop two or more times per month on average; while a 1 would be assigned to a vehicle in the shop on average of once every 3 months or less.	
Point Ranges	**Condition Rating**	**Condition Description**
Under 18 points	Condition I	Excellent
18–22 points	Condition II	Good
23–27 points	Condition III	Fair (consider replacement)
28 points or higher	Condition IV	Poor (immediate replacement)

Carpinteria-Summerland FPD Apparatus & Vehicles

The following figure lists the frontline apparatus maintained and utilized by CSFPD. As shown, the District operates two Type 1 structural engines (staffed daily), two Type 3 engines, and one Type 6 wildland engine. Squad 61 is staffed daily. The remaining apparatus are cross-staffed when indicated by the incident type.

As shown in the next figure, CSFPD's two frontline structural engines are four and seven years of age, with both rated to be in "Excellent" condition. The District also maintains a 2009 Type 1 engine, a 2006 water rescue pickup truck, and a 2007 Yamaha Waverunner FX (for water rescues) in reserve status (not shown in the following figure)..

Figure 26: CSFPD Frontline Apparatus (2020)

Unit Designation	Type	Manufacturer	Year	Condition	Features
Engine 61	Type 1	Pierce Arrow XT	2016	Excellent	1500 GPM/630 gal.
Engine 62	Type 1	Pierce Arrow XT	2013	Excellent	1500 GPM/630 gal.
Engine 361	Type 3	Pierce/Freightliner	2014	Excellent	1000 GPM/500 gal.
Engine 362	Type 3	Pierce/International	2004	Fair	500 GPM/500 gal.
Engine 662	Type 6	Pierce/Ford	2016	Poor	120 GPM/200 gal.
Squad 61	Rescue	Ford F-250	2014	Fair	ALS, 4x4
Water Rescue 61	Pickup	Ford F-150	2019	Excellent	Water rescue truck
Boat 61	Waverunner	Yamaha	2018	Excellent	Rescue watercraft
Utility 61	Utility	Chevrolet Silverado	2007	Fair	Flatbed; 4x4
Utility 62	Pickup	Chevrolet Silverado	2002	Poor	Utility truck
UTV 61	UTV	Polaris 4x4	2017	Excellent	Utility terrain vehicle

The next figure lists the inventory of CSFPD's command, staff, and support vehicles. The Chief's vehicle, all three Battalion Chief trucks, and the Fire Marshal's vehicle are all nearly new and in excellent condition.

Figure 27: CSFPD Frontline Command & Other Staff Vehicles

Unit Designation	Type	Manufacturer	Year	Condition	Assigned/Features
Chief 600	SUV	Chevrolet Tahoe	2019	Excellent	Chief vehicle
BC 64	Pickup	Ford F-250 4x4	2019	Excellent	Command unit
BC 66	Pickup	Ford F-250 4x4	2019	Excellent	Command unit
BC 65	Pickup	Ford F-150 4x4	2020	Excellent	Command unit
Training 60	SUV	Chevrolet Tahoe	2015	Good	Staff/support unit
P60	Sedan	Ford Interceptor	2018	Excellent	Fire Marshal unit
P64	SUV	Ford Explorer	2008	Poor	Fire Inspector unit
P65	SUV	Chevrolet Tahoe	2007	Poor	Fire Inspector unit
P66	SUV	Ford Explorer	2010	Poor	Wildland Specialist

As shown, the three SUVs issued to the Fire Inspectors and Wildland Specialist range in age from 10 to 13 years, with each assigned a "Poor" condition rating.

Montecito FPD Apparatus & Vehicles

The following figure lists the frontline apparatus maintained and utilized by MFPD. As shown, MFPD maintains two Type 1 frontline engines (with two Type 1 engines in reserve). The District's fleet also includes four wildland apparatus—Two Type 3s and two Type 6s. Each of the frontline engines has a condition rating of "Excellent." MFPD also maintains a 2018 1000 cc UTV, in excellent condition, for off-road incidents.

Figure 28: MFPD Frontline Apparatus (2020)

Unit Designation	Type	Manufacturer	Year	Condition	Features
Engine 91	Type 1	Pierce	2019	Excellent	600 gal. tank
Engine 92	Type 1	Pierce	2010	Excellent	600 gal. tank
Engine 391	Type 3	Pierce	2018	Excellent	500 gal. tank
Engine 392	Type 3	Pierce	2013	Excellent	500 gal. tank
Engine 691	Type 6	Pierce	2014	Excellent	200 gal. tank
Engine 692	Type 6	Pierce	2016	Excellent	200 gal. tank
Squad 91	Squad	Rosenbauer	2014	Excellent	
Medic 91	Ambulance	Ford chassis	2002	Good	
USAR 91	Type 2	Spartan	2004	Excellent	

The next figure lists MFPD's frontline command and other staff vehicles. As shown, the command and staff vehicles are in either "Excellent" or "Good" condition. Each of the shift BCs is assigned a separate command unit. MFPD also maintains four utility vehicles in reserve.

Figure 29: MFPD Frontline Command & Other Staff Vehicles

Unit Designation	Type	Manufacturer	Year	Condition	Assigned/Features
Chief 900	SUV	Chevy Tahoe	2020	Excellent	Fire Chief
Division 91	SUV	Chevy Tahoe	2015	Excellent	Ops Division Chief
Battalion 93	SUV	Chevy Tahoe	2016	Excellent	Fire Marshal
Battalion 94	SUV	Chevy Tahoe	2016	Excellent	BC 94
Battalion 95	SUV	Chevy Tahoe	2018	Excellent	BC 95
Battalion 96	SUV	Chevy Tahoe	2010	Good	BC 96
Prevention 94	Pickup	Chevrolet	2011	Good	Ass't. Fire Marshal
Prevention 98	Pickup	Chevrolet	2020	Excellent	Wildland Specialist
Prevention 99	Pickup	Ford	2018	Excellent	Wildland Specialist
Repair 91	Pickup	Ford	2020	Excellent	Mechanic

Collective Summary of Apparatus & Vehicles

The following figure lists the collective fleet inventories of the Carpinteria-Summerland Fire Protection District and the Montecito Fire Protection District.

Figure 30: Collective Inventory of the Frontline Fleets of the Fire Districts

Fire District	Engine[1]	Squad	Medic	Wildland[2]	Others
Carpinteria-Summerland FPD	2	1	0	3	14
Montecito FPD	2	1	1	4	10
Totals:	**4**	**2**	**1**	**7**	**22**

[1]Type 1 engines. [2]Type 3 & Type 6 engines.

The next figure lists the collective frontline apparatus type and minimum staffing by each fire station. Staffing among the agencies represents career personnel assigned to 24-hour shifts daily.

Figure 31: Collective Frontline Apparatus & Minimum Staffing by Fire Station

Fire Station	Engine[1]	Squad	Medic	Wildland[2]	Minimum Staffing[3]
Carpinteria-Summerland FPD					
Station 61	1	1	0	2	6
Station 62	1	0	0	1	3
Administration	0	0	0	0	N/A
Montecito FPD					
Station 91	1	1	1	2	6
Station 92	1	0	0	2	3
Totals:	**4**	**2**	**1**	**7**	**18**

[1]Type 1 engines. [2]Type 3 & Type 6 engines. [3]Staffing includes on-duty Battalion Chiefs.

At minimum staffing levels, the two fire districts combined can immediately deploy four Type 1 engines and two squads of wildland apparatus (assuming all are in service and available to respond) with a total of 16 operations personnel and two shift Battalion Chiefs. Wildland, USAR, special operations vehicles, and the MFPD ambulance are cross-staffed when required. There is an ample number of vehicles equipped for incident command and fire prevention activities between the two fire districts.

Apparatus Maintenance & Serviceability

No piece of mechanical equipment or vehicle can be expected to last indefinitely. As apparatus age, repairs tend to become more frequent and more complex. Parts may become more difficult to obtain, and downtime for repair and maintenance increases. Downtime is one of the most frequently identified reasons for apparatus replacement.

Because of the expense of fire apparatus, most communities develop replacement plans. To enable such planning, fire departments often turn to the accepted practice of establishing a life-cycle for apparatus that results in an anticipated replacement date for each vehicle. The reality is that it may be best to develop a life-cycle for planning purposes—such as the development of replacement funding for various types of apparatus—yet apply a different method (such as a maintenance and performance review) for determining the actual replacement date, thereby achieving greater cost-effectiveness when possible.

Those within each of the fire districts responsible for managing and maintaining their respective fleets should be concerned about aging apparatus and vehicles and ensure that a funded replacement schedule is in place. As frontline units age fleet costs will naturally be higher, with more downtime associated with necessary repairs and routine maintenance.

Future Apparatus Serviceability

NFPA 1901: *Standard for Automotive Fire Apparatus* recommends that fire apparatus 15 years of age or older be placed into reserve status and that apparatus 25 years or older be replaced.[26] This is a general guideline, and the standard recommends using the following objective criteria when evaluating fire apparatus lifespans:

- Vehicle road mileage.
- Engine operating hours.
- The quality of the preventative maintenance program.
- The quality of the driver-training program.
- Whether the fire apparatus was used within its design parameters.
- Whether the fire apparatus was manufactured on a custom or commercial chassis.
- The quality of workmanship by the original manufacturer.
- The quality of the components used in the manufacturing process.
- The availability of replacement parts.

Current Ages of Frontline Apparatus

In the following figure, Triton calculated the average age of frontline apparatus in order to offer a point of reference when considering future vehicle replacement costs that may be incurred. The figure includes the quantity and average age of each type of apparatus.

Figure 32: Average Age of the Combined Primary Frontline Apparatus (2020)

Fire District	No. of Engines[1]	Average Engine Age	No. of Squads	Average Squad Age	No. of Wildland	Average Wildland Age
CSFPD	2	5.5 years	1	6 years	3	8.7 years
MFPD	2	5.5 years	1	6 years	4	4.8 years
Totals/Averages:	**4**	**5.5 years**	**2**	**6 years**	**7**	**6.8 years**

[1]Type 1 engines.

The combined average age of the Type 1 engines was 5.5 years, with the wildland apparatus having an average age of 6.8 years. It is important to note that age is *not* the only factor for evaluating serviceability and replacement. Vehicle mileage and pump hours on engines must also be considered. A two-year-old engine with 250,000 miles may need replacement sooner than a 10-year-old one with 2,500 miles.

Capital Medical & Rescue Equipment Inventory

The demand for EMS represents the highest call volumes at both CSFPD and MFPD. Therefore, it is essential to evaluate the capital medical and rescue equipment inventories of each fire district. Since both organizations provide advanced life support, likely the costliest item necessary for delivering this level of care is a cardiac monitor/defibrillator. The next figure lists the current inventories of cardiac monitor/defibrillators and Automated External Defibrillators (AED) of each fire district.

Figure 33: Combined Inventories of Cardiac Monitors & AEDs (2020)

Model	Manufacturer	Qty.	12-Lead	SpO_2	$etCO_2$	CO	BP	Temp
Carpinteria-Summerland FPD								
X Series	Zoll®	3	Yes	Yes	Yes	Yes	Yes	Yes
AED 3 BLS	Zoll®	6	N/A	N/A	N/A	N/A	N/A	N/A
Montecito FPD								
Lifepak 15	Physio-Control®	5[A]	Yes	Yes	Yes	Yes	Yes	No
Lifeline AED 100	Defibtech®	10	N/A	N/A	N/A	N/A	N/A	N/A
Lifeline ECG AED	Defibtech®	2	N/A	N/A	N/A	N/A	N/A	N/A

[A]One purchased in 2020, the remaining four in 2013.

As shown in the preceding figure, CSFPD maintains uses the Zoll X Series device with multiple features. MFPD utilizes the Physio-Control Lifepak 15 as its ALS-level cardiac monitor defibrillator. The fire districts utilize Zoll and Defibtech AEDs.

Ambulance Equipment

As mentioned previously, the Montecito Fire Department deploys an ALS ambulance (CSFPD does not maintain an ambulance). MFPD utilizes Stryker products for patient movement, including one Power-Pro XT powered stretcher, a Rugged auxiliary stretcher, and a Stair-PRO stair chair.

Rescue/Extrication Equipment

CSFPD maintains a substantial inventory of equipment necessary for rescue and extrication incidents. This includes two sets of Holmatro™ extrication tools that include cutters, spreaders, and rams along with a Hurst® extrication tool in reserve. In addition, CSFPD carries rope-rescue gear, Rescue 42™ struts, airbags, and other assorted equipment.

MFPD maintains a large inventory of extrication equipment that includes a Hurst® 421 hydraulic spreader, cutter, and ram and a Hurst® CS 358 cutter/spreader. In addition, the District carries a variety of powered hand tools (e.g., "Sawzall," air chisel, rotary saw, etc.), struts, and chocks.

Section II:
COMMUNITY MEETINGS & STAKEHOLDER INPUT

COMMUNITY MEETINGS

During the development of the community expectations portion of the combined Carpinteria-Summerland and Montecito Fire Protection District Station Location, Standards of Cover and Community Risk Assessment Study Scope of Work, the Fire Districts made it very clear they desired many opportunities for public input. The final scope of work included the process of gaining community input through workshops that would occur during the districts' Fire Board Meetings held via Zoom (web-based), utilizing an on-line live survey instrument, and through multi-day small focus group sessions comprised of various internal and external stakeholders. This section of the study reflects the results of the community meetings and stakeholder interviews.

Triton conducted a community workshop for each of the fire districts. The Montecito Fire Board meeting was held on November 10, 2020, at 6 p.m.; the Carpinteria-Summerland Fire Board meeting was held on November 12, 2020, at 6 p.m., in which Triton facilitated the community workshop on-line using an interactive PowerPoint tool to the Fire Board and those community members attending via Zoom teleconferencing software. Attendance for each community workshop ranged from 5–11 people in each District, including the District Board of Directors. The format for the workshop was an interactive presentation utilizing the *Swift Polling* on-line platform. This program allowed for a series of questions and input opportunities that the audience could instantly respond to with the results displayed in real-time. Responses were collected via text message, internet polling website, or a paper polling form as shown in applicable figures that follow as "SMS, "Web," or "Paper Vote." All polls and inputs were captured and are as follows.

For Triton to gauge the community's awareness of, access to, and experience with the services provided by the fire districts, the following survey questions were presented:

- Please list your expectations for your fire district.
- What expectations are not being met?
- What does your fire department do well?
- Please list any concerns you have regarding your fire district.
- Please list any positive feedback or strengths you would like to share about your fire district.
- How long should it take emergency resources to arrive at an emergency from the time you call?
- What advantages would there be in expanding partnerships with other agencies for services?
- What disadvantages would there be in expanding partnerships with other agencies for services
- Prioritization of Services (to be used during the Strategic Planning Process that begins in early 2021 (This included a forced ranking process of eight services provided or contemplated by each fire district)

- Fire suppression—responding to all types of fires
- Public safety education—providing schools, the general public, and businesses life-safety and fire-safety education
- Public assistance service—lift assists and other non-emergent services
- Ambulance transportation—should the fire district provide ambulance transportation services (currently provided by AMR Ambulance services)?
- Fire safety inspection—business and multi-family housing life safety inspection services
- Fire investigation—determining the cause of a fire
- Emergency medical service—paramedic services provided by your fire department
- Wildland Fuels Treatment Program—survey, plan, and assist in the removal of wildfire fuels that are determined hazardous

The stakeholder responses from each fire district's Community Meetings are summarized and displayed in Appendix B.

STAKEHOLDER INPUT

Triton interviewed a wide variety of both fire district's internal and external stakeholders. The purpose of these interviews was to gain a better understanding of issues, concerns, and options regarding the emergency service delivery system, opportunities for shared services, and expectations from both Montecito and Carpinteria-Summerland community members.

It is important to note that the information solicited and provided during this process was in the form of "people inputs" (stakeholders individually responding to our questions), some of which are perceptions reported by stakeholders. All information was accepted at face value without an in-depth investigation of its origination or reliability. The project team reviewed the information for consistency and frequency of comment to identify specific patterns and/or trends. Multiple sources confirmed the observations and the information provided , was significant enough to be included within this report. Based on the information reviewed, the team identified a series of observations, recommendations, and needs and confirmed with multiple sources that all was significant enough to be included within this report

Stakeholders were identified within eight separate groups: Elected Officials, Business Community Leaders, Chief Officers, Labor Leaders, Rank & File Representatives, Administrative Staff, Faith-based representatives, and MERRAG/CERT members. The responses have been summarized and are captured in Appendix B.

Section III:
COMMUNITY RISK ASSESSMENT

INTRODUCTION TO COMMUNITY RISK ASSESSMENT

Risk factors influence the types of services a community provides. Identification of hazards is the process of recognizing the natural or human-caused events that threaten an area. Natural hazards result from uncontrollable, naturally occurring events such as flooding, windstorms, wildland fires, and earthquakes, whereas human-caused hazards result from human activity and technological hazards. An example of a technical hazard is an accidental hazardous materials release.

Community risk is assessed based on numerous factors, including service area population and density, community demographics, local land use and development, and the geography and natural hazards present within the community. These factors affect the number and type of resources—both personnel and apparatus—necessary to control or mitigate an emergency.

- Population density is a risk factor, and demographics also present another unique risk. Over 21% of the population is under 18 years of age, and over 37% of the population speak languages other than English at home.
- The physical characteristics of the area and the resultant natural hazards are risk factors. MFPD and CSFPD are located along the southern shore of Santa Barbara County and are at risk of wildland fires, earthquakes, and tsunamis.
- Land use and zoning can also affect risk. Risk can be characterized as low (e.g., agricultural or low-density housing); moderate (e.g., small commercial and office); or high (e.g., large commercial, industrial, wildland exposures, and high-density residential).

CARPINTERIA-SUMMERLAND FPD RISK ASSESSMENT

The following section represents the risk assessment for the Carpinteria-Summerland FPD.

Risk Classification

This document describes risks found in CSFPD. The various risks are analyzed and a numerical score is developed to assist each agency in creating mitigation and prevention programs for their communities. Community risks are grouped into broad categories:

- Structure Fires
- Hazardous Materials
- Non-structure Fires
- Natural Hazards
- EMS/Medical Assist
- Technological Hazards
- Rescue
- Human Hazards

Within each category, specific hazards were identified, and a probability (likelihood) score between zero (representing "Not Applicable") and four (representing "Catastrophic") was assigned to each of the types of events. This is explained by evaluating the different types of events for each risk category. An example of a rescue includes motor vehicle accidents (MVA), structural collapse, trench, confined space, swift water, ocean rescue, and the likelihood of occurrence. While MVAs are very likely to occur, the other event types are considered moderate, which reduces the overall probability.

A severity score is developed by reviewing an incident's impact on the community and the ability to mitigate the event. Community Impact scores the effect of an incident on humans, property, and businesses. As the score increases, the impact on the community increases. Mitigation Capacity rates how well a community responds to an event based on preparedness and internal and external response. The lower mitigation score indicates the community is better prepared for an event.

The overall scores were then used to generate a Relative Risk score as it applies to each jurisdiction. The Relative Risk is determined by multiplying the probability and severity of each event type in a category. A summary reviews all community hazards, but it is noted that the primary functions of CSFPD (fire and EMS) have the highest scores. Although other scores may be low, such as Natural Hazards, it does not reduce specific impacts within this category, including earthquakes, which are highest in this section. The complete index can be found in Appendix A of this report.

Populations & Trends

Both Carpinteria and Summerland have seen a decrease in population based on U.S. Census data[27] from the American Community Survey. The following figures illustrate the population trends of both communities from 2010 through 2018 and 2019 for Carpinteria.

Figure 34: Carpinteria Population (2010–2018)

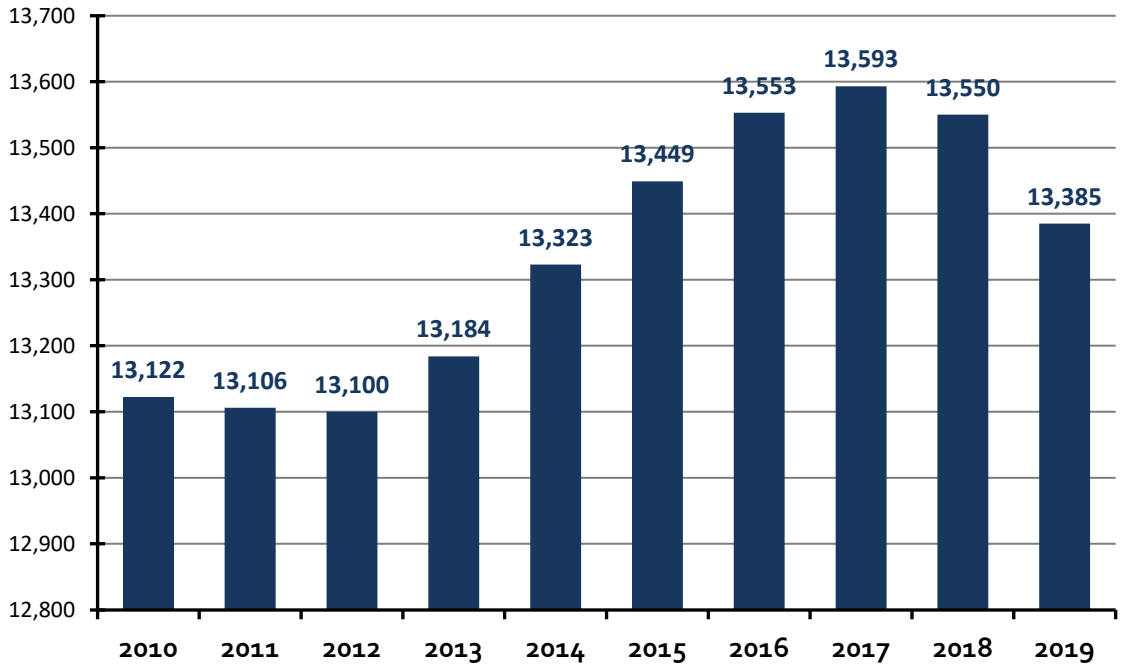
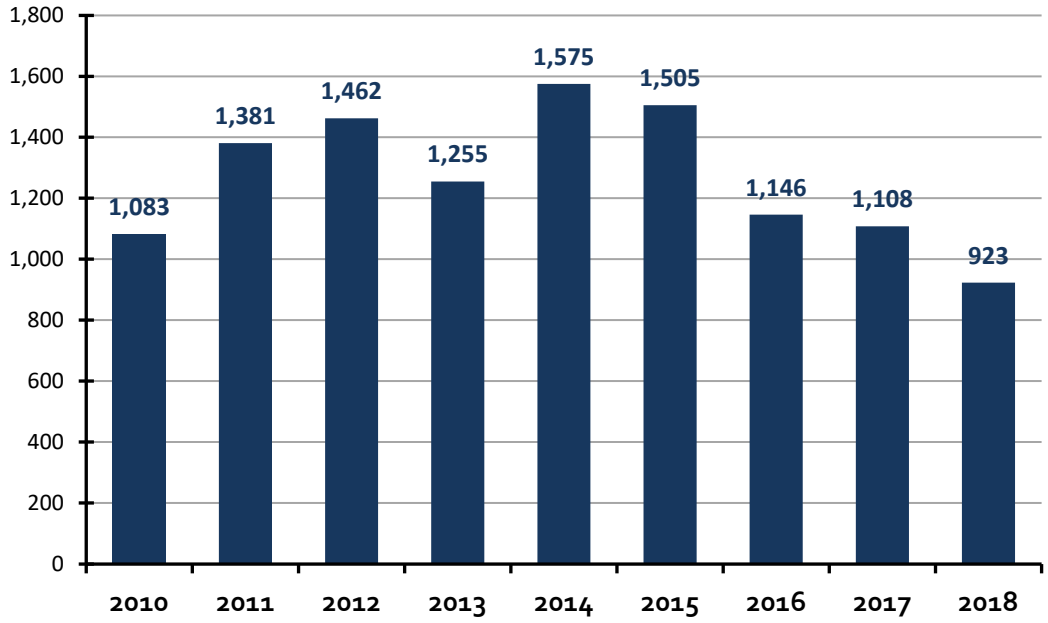


Figure 35: Summerland Population (2010–2018)



At-Risk Populations

Certain populations are at higher risk of fires and other unintentional injuries. These incidents will directly affect service delivery. In urban and suburban areas, several factors place groups of people in higher-risk categories. NFPA reports identified groups with a higher risk of injury or death in a fire as follows:[28]

- Children under five years of age
- Older adults over 65 years of age
- People with disabilities
- People whose first language is not English
- People in low-income communities

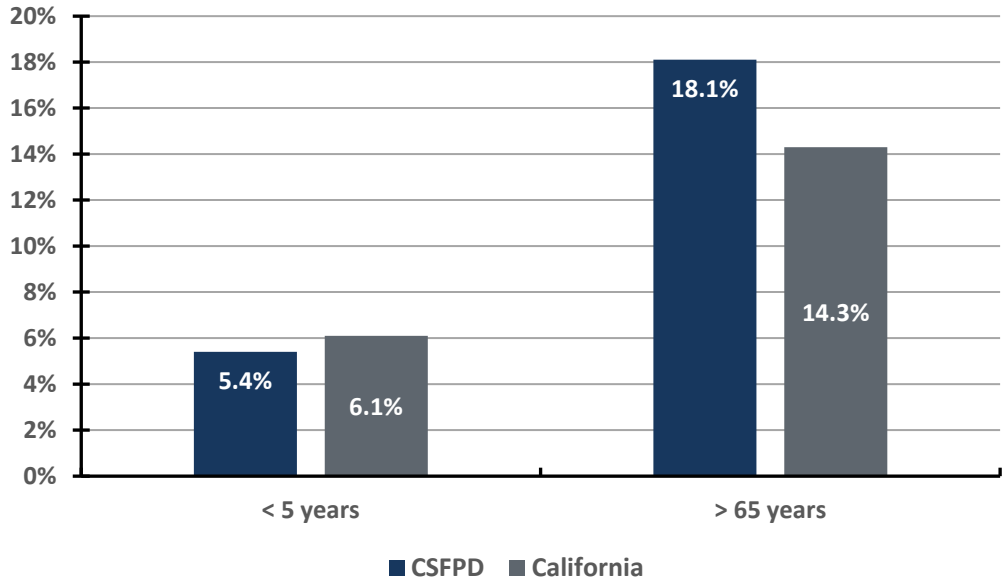
Data from the U.S. Census estimates identified several groups that fall into these categories. These groups are more likely to need additional emergency services, specifically EMS, than other population groups. It should be noted that data for Summerland was limited and not available for each risk.

Age

The age of a community may directly relate to the need for higher service demand from CSFPD. In Carpinteria, the percentage of children less than five years of age is 5.4% compared to 6.1% for California. The number of adults over the age of 65 is 18.1%, which is higher than California at 14.3%. Limited data is available for Summerland (census data in the 2018 American Community Survey does not list populations less than 24 years of age), but U.S. Census data places the percentage of adults over 65 at 45.3%.

No data was available for children under the age of five. This is a much higher percentage of older adults than either Carpinteria or Montecito and should be an area of concern for increased responses. Limited data is available for Summerland. Census data in the 2018 American Community Survey does not list populations less than 24 years of age.

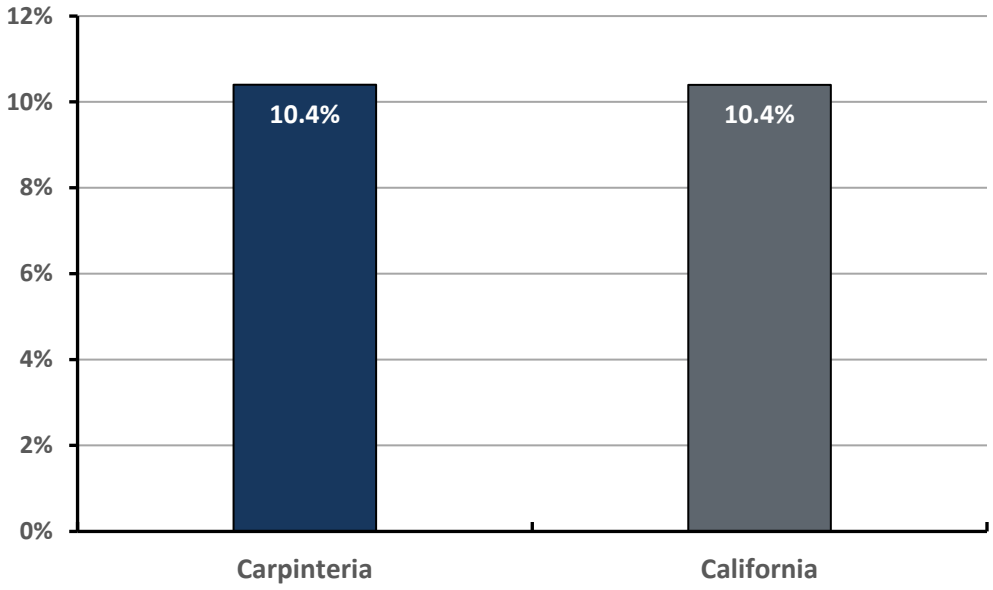
Figure 36: CSFPD Percentage of Population by Age Risk



Disabilities

Residents with disabilities comprise 10.4% of the population in Carpinteria, which is the same as California, while Summerland is 13.2%. This group may be unable to evacuate during an emergency. Residents in this group will place an additional demand for emergency medical services as they age, thus increasing response from CSFPD. It is noted that 50.3% of the population over the age of 75 have a disability.

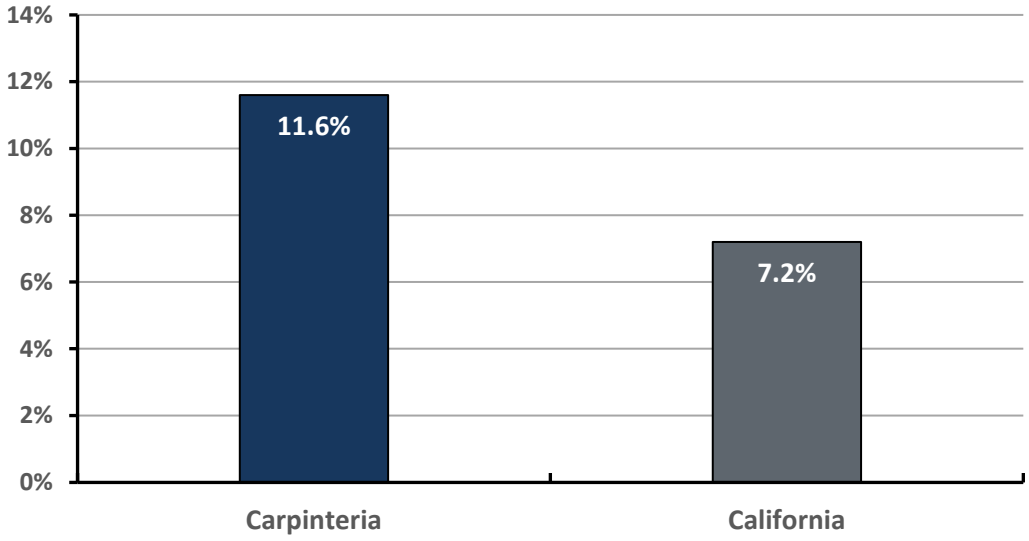
Figure 37: Carpinteria Percentage of Population with Disabilities



Persons without Health Insurance

Populations 65 and under without health insurance are more likely to have chronic illnesses requiring more intensive health care services because they did not seek treatment. 11.6% of the Carpinteria population are without insurance, which is higher than 7.2% for California. Census information for Summerland is difficult to determine based on limited data.

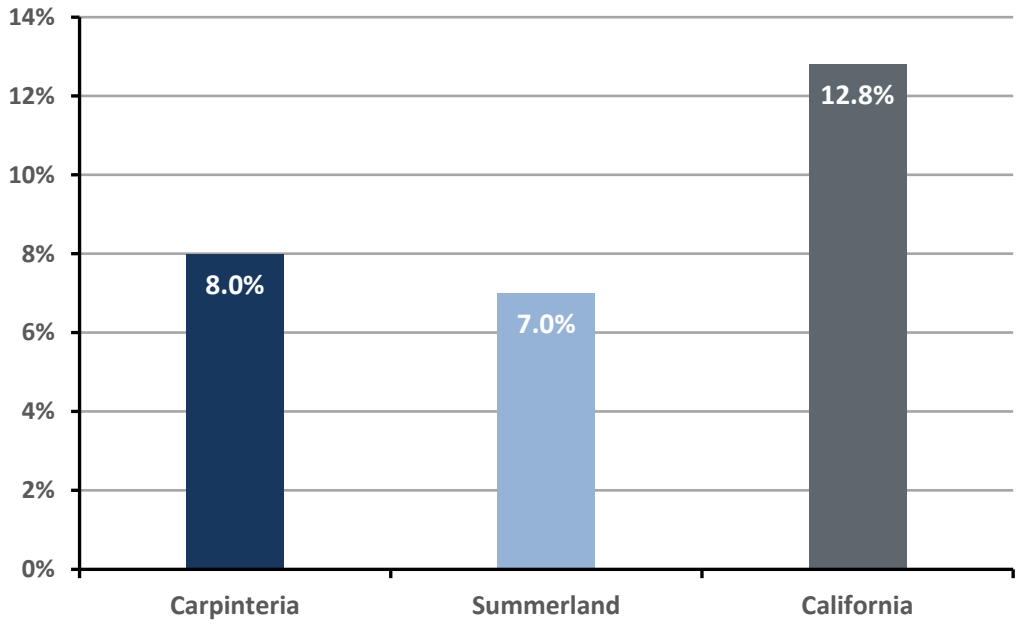
Figure 38: Carpinteria Populations without Health Insurance



Low-Income Persons

The effect of low incomes in the community corresponds with a higher risk of fires and medical responses. The poverty rate in Carpinteria is 8.0%, which is lower than in California at 12.8%. Summerland is estimated at 7.0%. The median household income in Carpinteria is $73,505, and Summerland is comparable at $73,782. The median household income in California is $75,277.

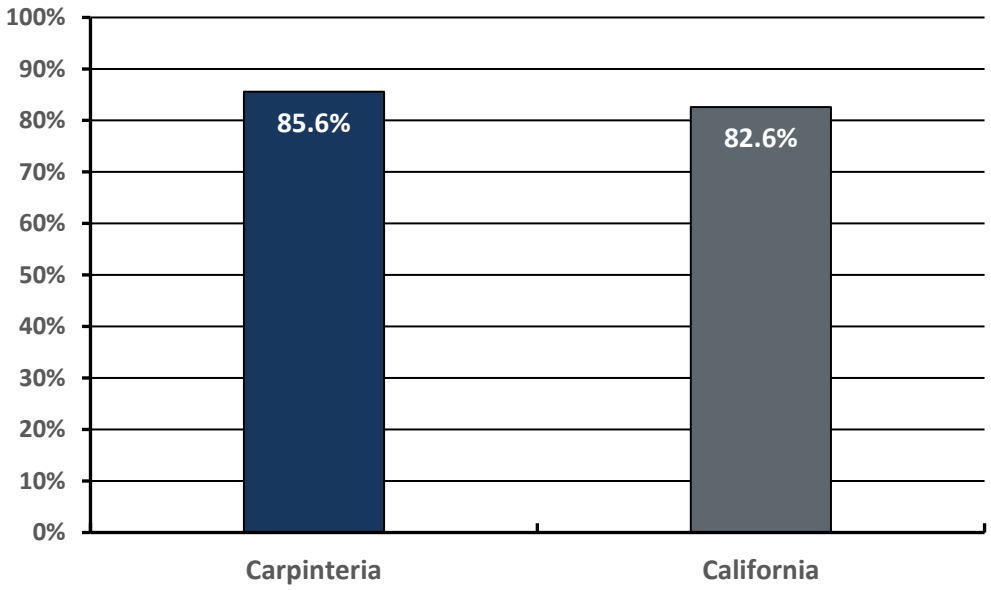
Figure 39: Carpinteria & Summerland Population with Income Below the Poverty Level



Language Barrier

Populations that do not fully understand the English language present challenges that include communication difficulties and cultural differences. If they are not familiar with the use of smoke alarm technology, the risk of a fire is increased. The population that speaks English Only or speaks English "very well" in Carpinteria is 85.6% compared to California at 82.6%.

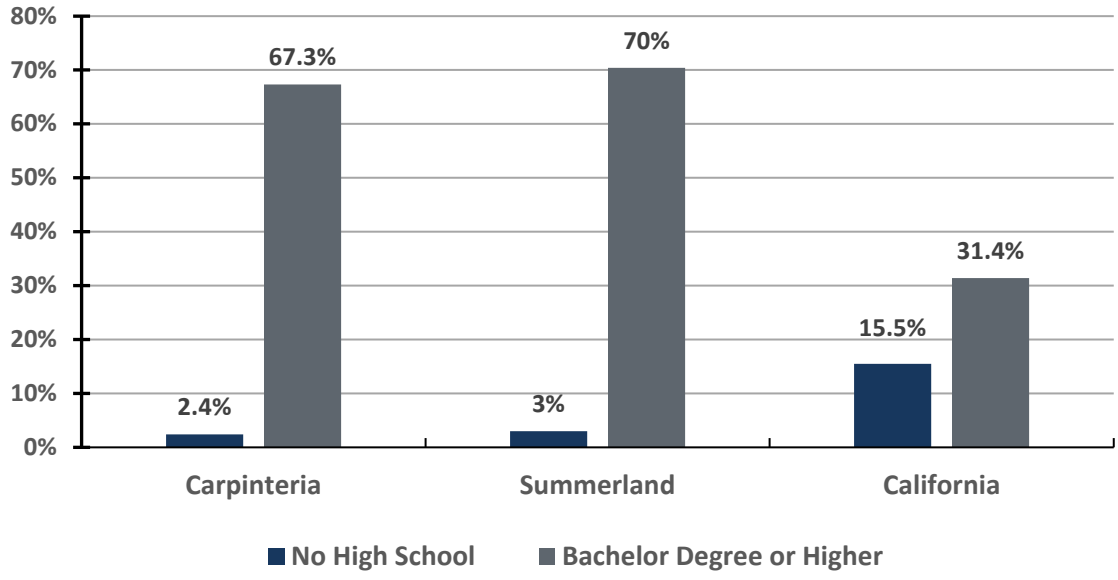
Figure 40: Carpinteria Population speaking English "Only" and "Very Well"



Education Levels

Populations with lower educational levels are another risk group. This group may have lower wages, thus at a higher chance of being below the poverty level. Only 2.4% of the population less than age 25 in Carpinteria and 3% in Summerland do not have a high school diploma compared to 15.5% for California. In Carpinteria, approximately 67.3% have a bachelor's degree or higher. That figure is 70% in Summerland and 31.4% in California.

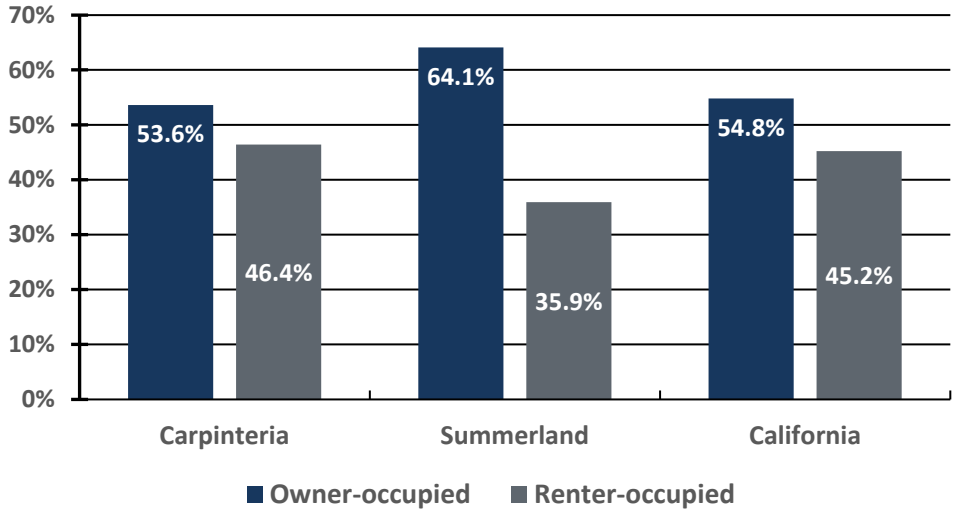
Figure 41: Carpinteria & Summerland Education Levels 25 Years & Older



Housing

Although housing is not considered a significant risk factor compared to income or age, it can provide information for selected housing types such as older multi-family apartments built prior to fire sprinkler requirements. In Carpinteria, the percentage of owner-occupied housing is 53.6% in Summerland, it is 64.1%, which compares to California at 54.8%. Rentals in Carpinteria are 46.4% of the properties, similar to California at 45.2%, while Summerland is 35.9%.

Figure 42: Carpinteria & Summerland Housing Types—Owner or Renter Occupied



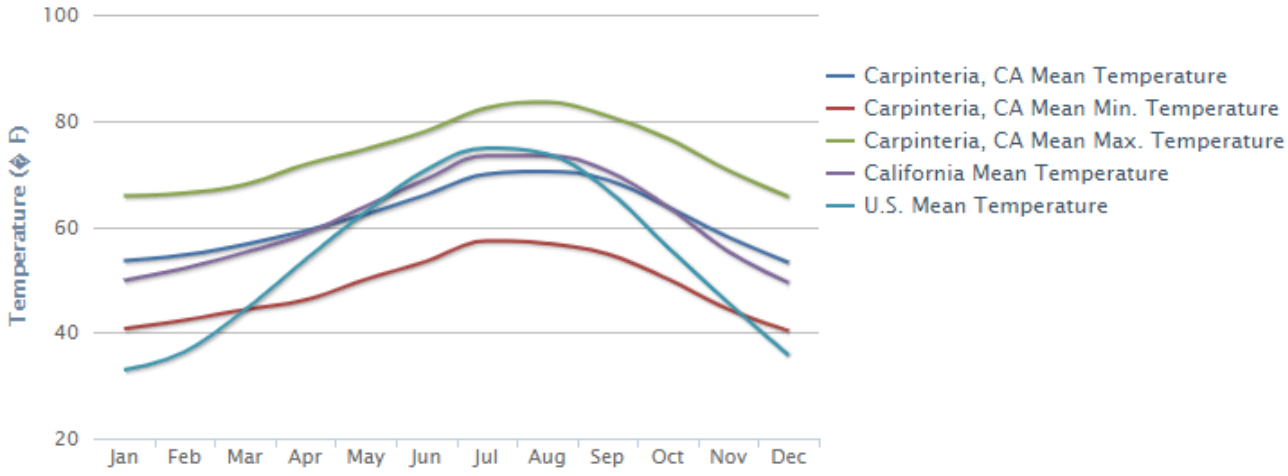
Environmental & Physical Hazards

Weather

Temperature

The weather conditions in an area can impact not only the fire department but the entire community. When temperatures are high, they affect firefighters during extended incident operations and require rehabilitation to prevent heat exhaustion. Although the average temperature in Carpinteria and Summerland is 61.3˚ F, the temperature can increase during August when the average maximum temperature reaches 83.5˚ F.

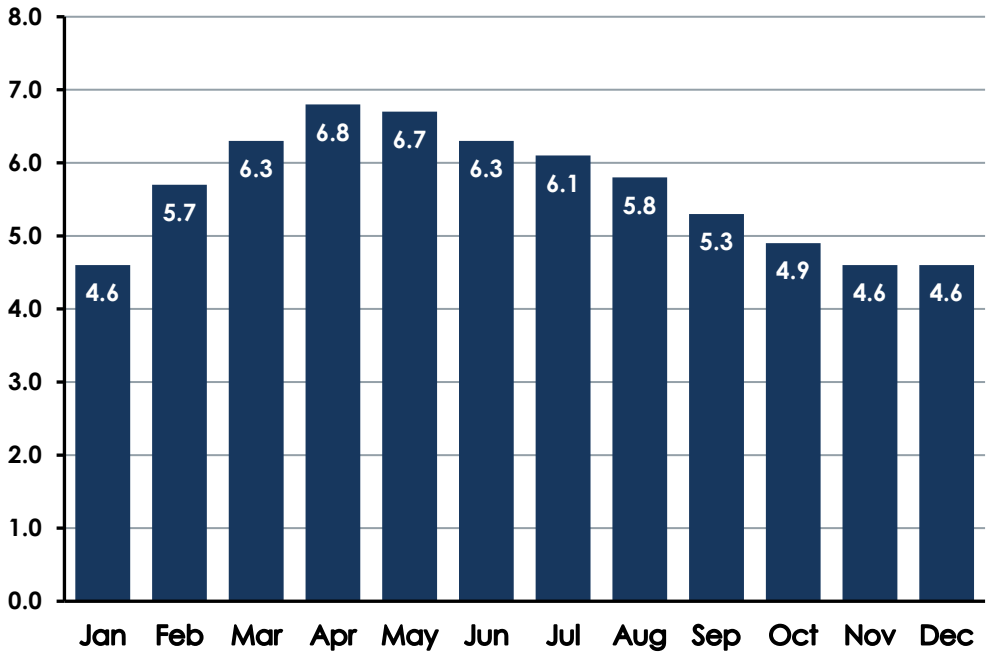
Figure 43: Carpinteria Average Monthly Temperature[1]



Winds

The direction and speed of winds directly influence how CSFPD plans for daily operations, specifically during wildland fire danger. The average wind speed based on Santa Barbara Municipal Airport data indicates that April and May are the highest and predominately from the west. Sundowner winds are considered a significant threat during wildfire season and will be discussed in another section of this report.

Figure 44: Average Wind Speeds



Drought

The effects of a drought directly impact the growth of crops and the ability to provide water to replace surface water supplies. Droughts may last for an extended period and create secondary problems during peak wildfire conditions as the vegetation becomes dry and extremely combustible. This creates conditions in the community that can cause local resources to become strained during an event. Drought conditions exist for most of California, with the northern and southeastern portions considered the driest. Santa Barbara County is currently experiencing abnormally dry conditions.

Figure 45: Drought Conditions (December 2020)[1]

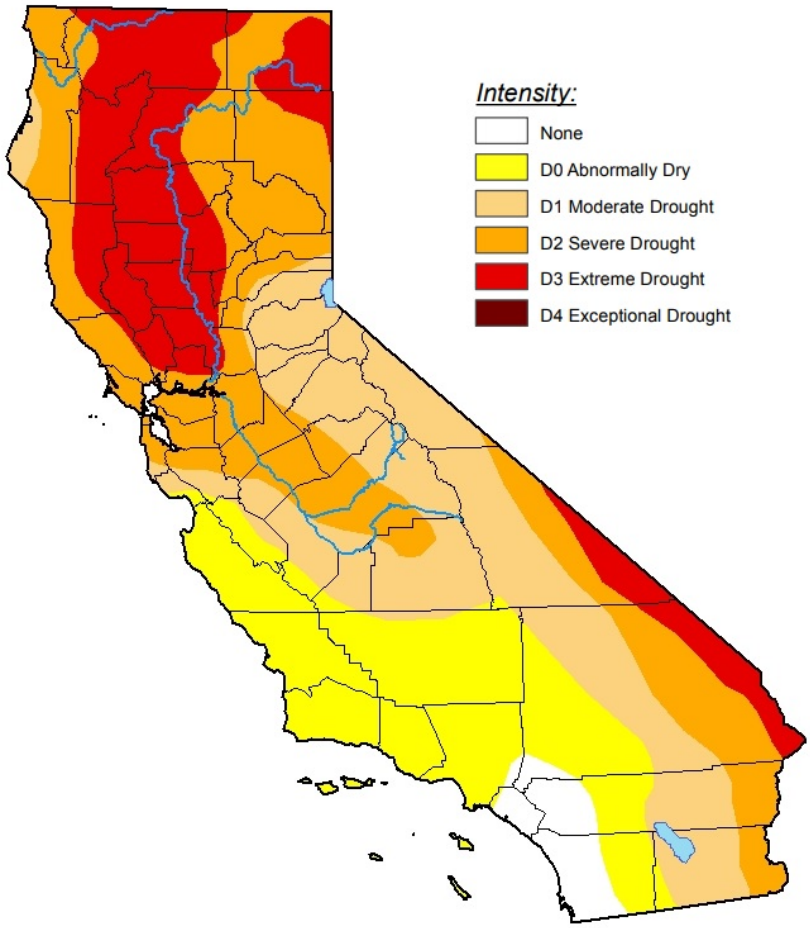
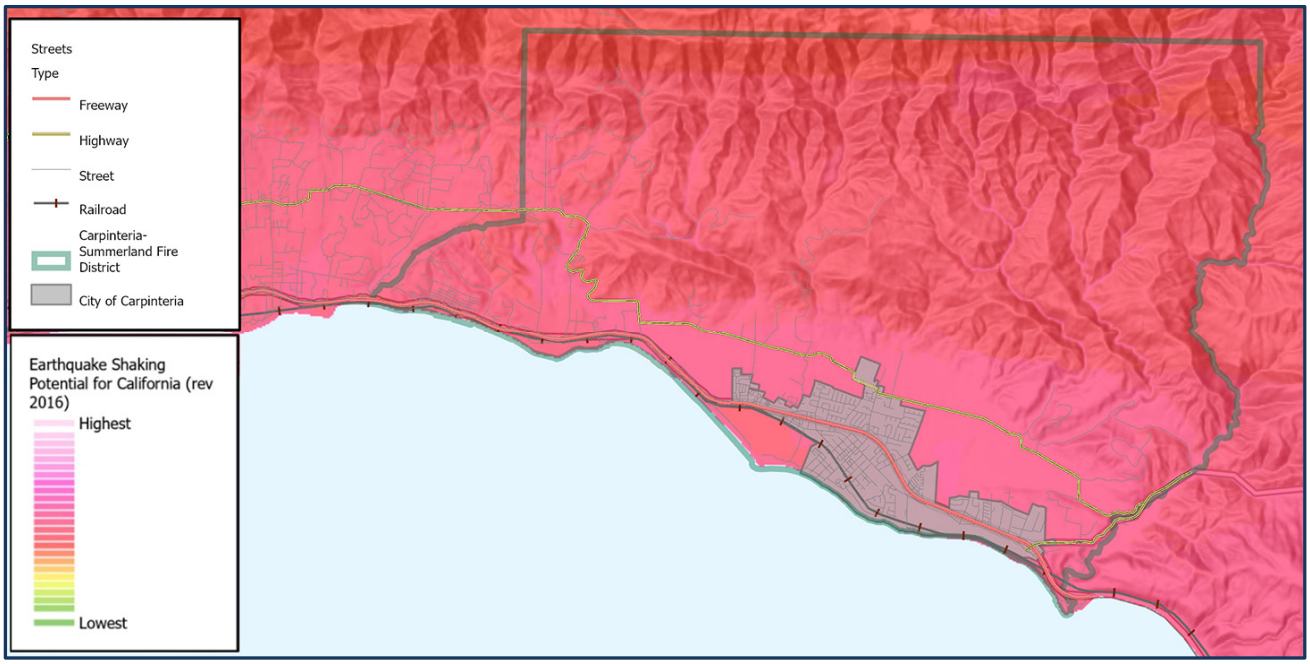


Figure 46: Carpinteria-Summerland Earthquake Shaking Intensity



Environmental & Physical Hazards

Earthquakes

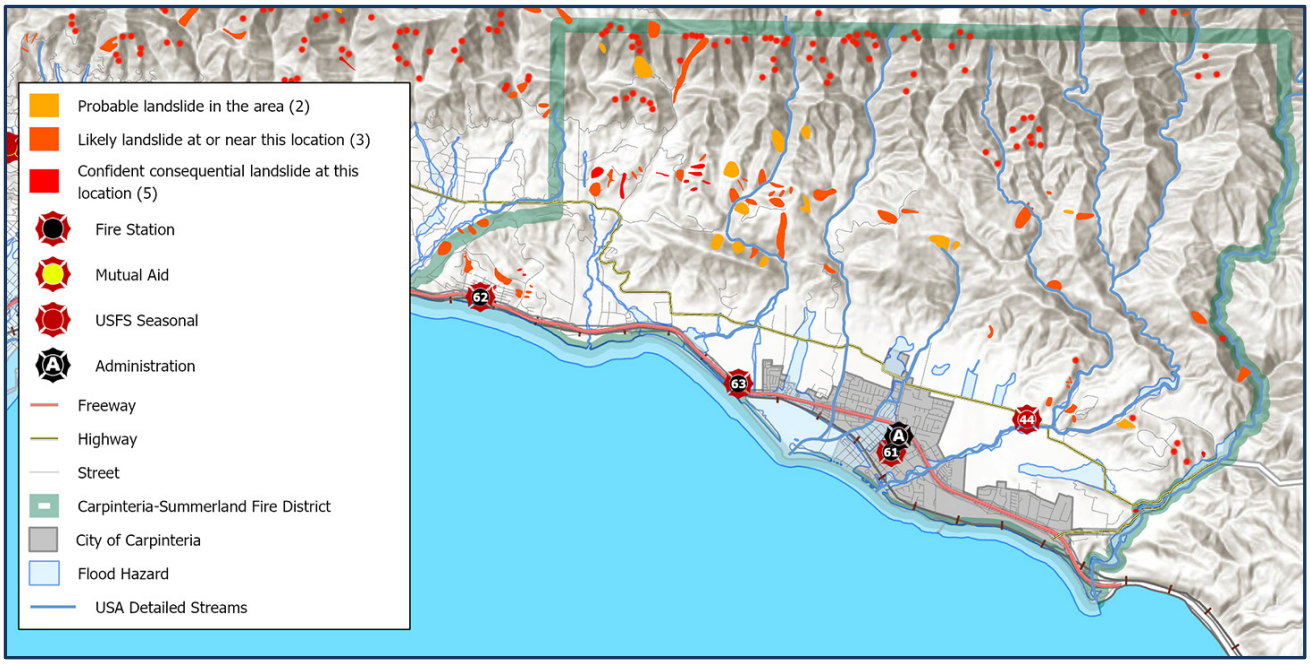
The Carpinteria-Summerland Fire Protection District is located in a high seismic area, and the United States Geological Society has identified several faults. There are numerous faults in the Carpinteria and Summerland area, but none are considered active. These faults, Carpinteria, Mesa-Rincon Creek, and Mission Ridge, are considered potentially active and are referenced in the Santa Barbara County Seismic Safety and Safety Element report.

Data suggests a 90% probability of a 5.0 magnitude earthquake within the next 50 years. Since the early 1900s, there have been 13 earthquakes 5.0 or greater within 50 miles of Carpinteria.[29] An area of concern is the possibility of soil liquefaction. There are locations along the coast where high-severity groundwater and liquefaction are present and may present problems during a major earthquake.

Landslides, Debris Flow, & Flooding

The risk of a landslide in Carpinteria is considered the fourth highest hazard for the community. The term "landslide" is used consistently in the County's hazard mitigation plan. Other areas in the district, including Summerland, have the potential for landslides, especially along hills or canyons. Landslides usually occur because of slope failure due to erosion from surface water runoff, mudflows when water has saturated the ground, or debris flows after a wildland fire. These locations are along the northern portion of the district in the Santa Ynez Mountains. These canyons create drainage systems that ultimately end at the Pacific Ocean and present flooding issues during heavy rains.

Figure 47: CSFPD Landslide & Debris Flow Risk Areas (source: USGS)

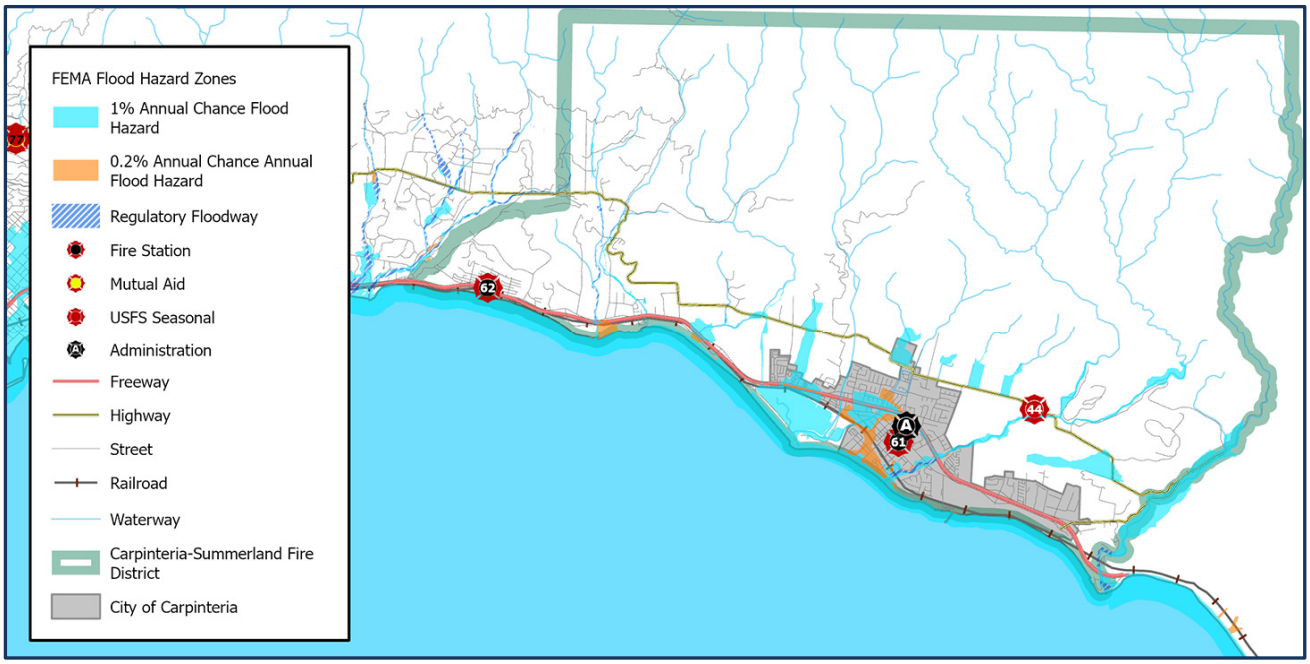


Floods

CSFPD is at risk of flooding, specifically along the creeks flowing into the Pacific Ocean. Flooding typically occurs during the months with the highest rainfall (November–March). These seasonable variations can cause localized flooding along the creek channels during high-intensity rainfall events. The events are usually brief since there is a short distance from the Santa Ynez Mountains and the Pacific Ocean. These creeks can overflow their banks if debris is caught under bridges or culverts.

Additional problems occur with flash flooding in the district's urban areas, but they are usually short-lived. Coastal flooding is a concern from storm surge events along the Pacific Ocean.

Figure 48: Carpinteria-Summerland Flood Zones



Wildland Fires

The risks of wildland fires in CSFPD range from moderate to very high. Much like many areas in Santa Barbara County, the threat of wildland fire in CSFPD is a major risk. The ability to protect the community and those living in the area is a primary goal. Limited access due to narrow and steep roads, reduced right-of-way from overgrown vegetation, properties without proper addressing, and dead-end roads with limited abilities to turn fire apparatuses or vehicles around are all wildland-urban interface (WUI) issues.

The highest population densities are located south of State Hwy 192 and either side of U.S. Hwy 101 in Carpinteria and the Summerland community. Most of the WUI areas are outside the primary population centers except for Summerland, which has a higher risk of ember intrusion fires. One crucial location in a moderate fire hazard severity is in the far eastern end of the district near Ventura County. The Cate School is in this location and is in a high and very high severity zone.

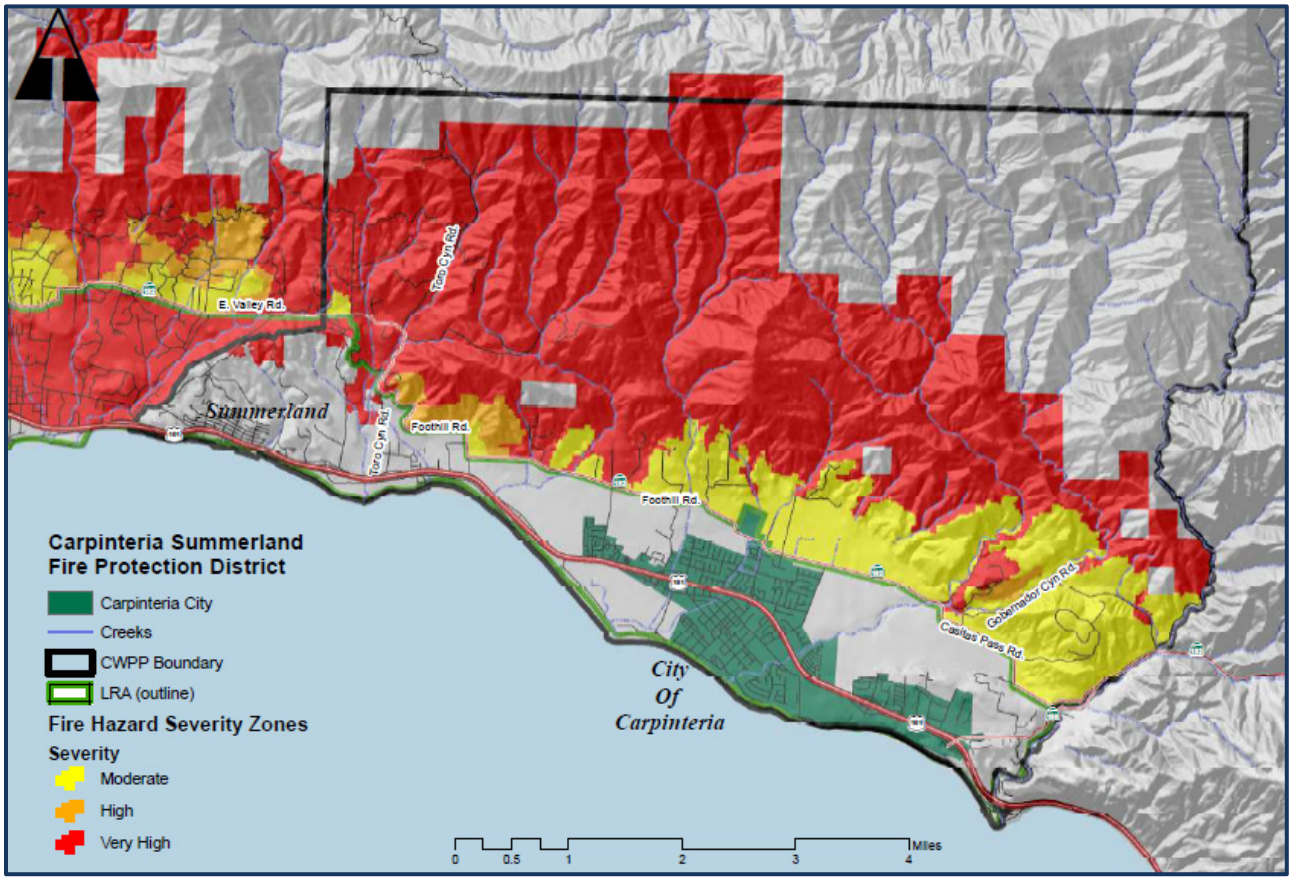
The Carpinteria Summerland area has experienced a previous history of fires since the early 1900s. The Thomas fire in 2017 is the most recent large fire to impact the area, but others date to the Polo (1964), Toro Park (1980), and Romero (1971) fires.

The areas of most significant WUI concern are primarily north of State Hwy 192. These areas produce unique risks because of limited egress and access due to reduced road widths and difficulties for vehicles attempting to pass during an emergency. A delayed response may occur when emergency vehicles need access during an incident because other vehicles are using the same roads.

Fire Hazard Severity Zones (FHSZ) have been established by the California Department of Forestry and Fire Protection (CAL FIRE) for most of California. They have assigned moderate, high, and very high locations. Carpinteria and the District's unincorporated areas are considered a *Local Area Responsibility*; thus, it is not classified on CAL FIRE FHSZ maps. CSFPD has developed risk areas, which are identified in the 2013 CSFPD Community Wildfire Protection Plan (CWPP). Although Summerland is not considered a risk area, the CWPP does classify it as a WUI location precisely because of the ember cast.

Threats from wildfires originate from the Los Padres National Forest and the Santa Ynez Mountains north of the district. Sundowner winds create extremely high risks during the wildfire season that typically runs from June through October but has extended later into December when the Thomas Fire occurred. These winds originate from the north and are opposite of the typical onshore winds that blow throughout the year. This causes the fire to travel from the Santa Ynez Mountains into populated areas, including CSFPD. The winds and the chaparral vegetation and terrain present emergency responders with higher risks when a fire threatens the community.

Figure 49: CSFPD Wildfire Risks



Vegetative materials provide fuel for a wildfire, and, based upon their specific characteristics, they can increase the potential damage from an uncontrolled fire. Those characteristics include the type of fuel, moisture content, the amount of material at a designated location, and vertical arrangement. Another source of fuel includes unprotected buildings that have minimal mitigation efforts to reduce the spread of fire.

The topography along the northern section of the district abuts the Santa Ynez Mountains and consist of several canyons and foothills that lead into CSFPD. As the mountains descend into the district, they enter WUI areas that include residential and agriculture communities near State Hwy 192. The canyons provide a pathway for Sundowner and Santa Ana winds that create hazardous conditions and increase wildfire dangers that can lead to property loss, infrastructure, and life.

CSFPD has divided its district into four Fuel Management Zones by following the 2013 CWPP. Zone 1 is Shepard Mesa and Gobernador and is located along the District's eastern portion and consists of rural homes, ranches, and agricultural businesses. The Cate School (grades 9-12) is located in this zone. This area includes Gobernador Canyon, Shepard Mesa, and Lillingston Canyon. Zone 2 is the Foothill Zone and extends east along the lower coastal plain and foothills. It consists of the area north of Foothill Road and continues west to Nidever Road and the Santa Barbara Polo Fields. The area consists of residential and agricultural lands and leads into canyons and steeper landscapes into the Santa Ynez Mountains. Zone 3 is the Ladera, Toro Canyon, and East Valley zone in the district's western portion and contains the most northern areas. Toro Canyon is a defined WUI area with more than 200 residential homes along the ridge tops and canyon. This zone includes other neighborhoods and is considered at risk because of the multiple vegetation types and is affected by Sundowner winds more than the other zones. Zone 4 is the last zone and the most western portion of the Summerland area. This area's primary risk is from ember intrusion.[30]

Figure 50: CSFPD Fuel Management Zones[1]

CSFPD has implemented programs to mitigate hazardous WUI issues to reduce damages during an event. Most of these areas are located north of Foothill Road and involve public education for property owners and residents.

Ready! Set! Go! is a wildfire action plan for residents living near the natural and vegetative areas and has been implemented by CSFPD. The document provides information to develop a plan that makes a structure more resistant to wildfires and what to do for an evacuation.

Another focus is to create a defensible space around properties in the WUI. This buffer is created to remove combustible materials such as weeds and vegetative materials near a home. This also applies to residences within one mile of natural areas that are at risk of wind-driven embers.

CSFPD adopted the 2019 California Fire Code, which was ratified by the Board in March 2020. This local fire code includes a vegetative management plan for new construction and is required in the High Fire Hazard Area. The plan requires a copy of the site plan that includes all buildings, property lines, and designated fuel modifications zones. The modification zones state there shall be a minimum of 10' horizontal and 13'6" vertical clearances for access to the property. Within 200 feet of the structure, specific requirements must be met.

- Zone I—This is a cleared area within 30 feet of the exterior edge of the structure. Only green lawns and a limited number of ornamental plants from CSFPD's "Desired Plants List" are allowed. All plantings must be arranged to reduce the spread of fire to the structure.
- Zone II—This is an area from 30'–100' from the surrounding edge of the structures. This zone is designed to disrupt the vertical and horizontal spread of fire and provides a safe area for fire suppression personnel during a wildfire.
- Zone III—The final zone is from 100'–200' from the edge of the structure. It may have slopes greater than 25% or fuel loads over 100 tons. Vegetative materials may be removed based on the slope, size, type, fuel compaction, and chemical content.[31]

The plan requires a maintenance schedule to ensure the vegetation management plan is followed.

There are more than 800 properties north of Foothill Road, and they are inspected annually for compliance by CSFPD. The parcels are divided, with half assigned to operational crews and the remaining to the department's wildland specialist. Every other year these properties are exchanged between operations personnel and the wildland specialist to allow each to become familiar with the area. If violations are identified, the property owner is notified by email. In many cases, the property owner participates in the inspection and is notified of any findings during the inspection. If violations are not corrected, fines can be issued.

CSFPD operates a chipping program with funds received from a CAL FIRE grant to reduce the amount of vegetative materials in the WUI. These areas are divided and given specific dates for pickup by a local contractor. There has been some use of goats to remove vegetative materials for private businesses, but it is not an established practice.

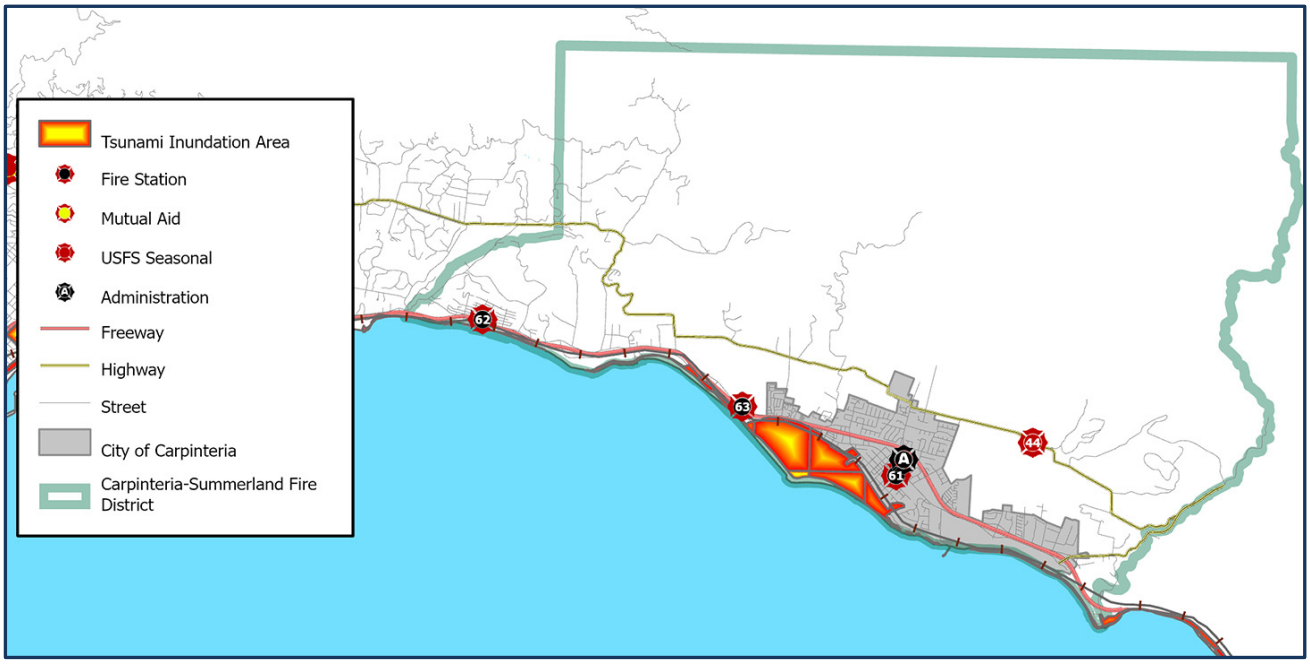
The programs are designed to reduce injuries, deaths, and property loss during a wildfire event. CSFPD addresses several components of a WUI risk reduction program that includes the property owner's responsibility to create a defensible space while maintaining proper landscaping management around their homes or accessory buildings. Homes should be built with fire-resistive materials to reduce the effects of ember cast. *Ready! Set! Go!* evacuation planning program has been implemented to educate residents on preparation and evacuations. CSFPD provides staff to specifically focus on these programs to reduce the effects of wildfires in the community.

The 2013 CWPP is currently being updated, and the expectations are that there will be new goals and action items to implement to improve mitigation efforts in CSFPD.

Tsunami

The probability of a tsunami occurring in Carpinteria and Summerland is low, but the City has areas along the coast that could receive flooding during an event. Inundation maps from California Geological Survey display the most extensive area is south of U.S. 101, beginning just east of Padaro Lane and primarily following the Union Pacific rail line to Carpinteria State Park. This area includes residential and commercial properties. The Aliso Elementary School is located just to the northwest of the inundation area.

Figure 51: CSFPD Tsunami Threat

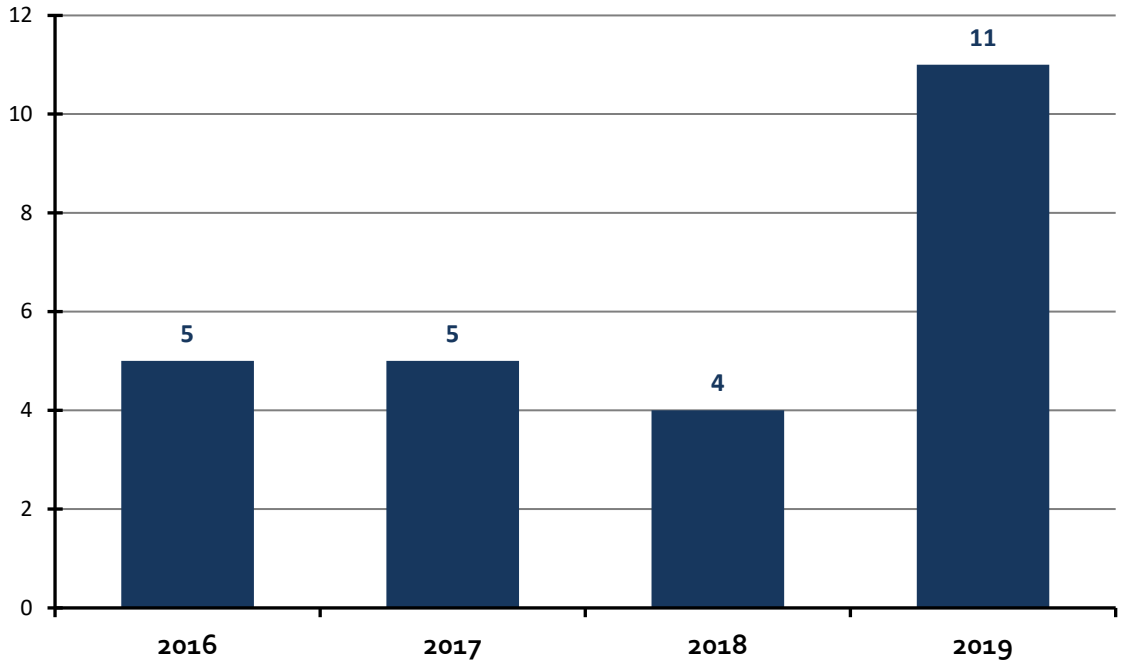


Ocean Emergencies

The proximity of the Pacific Ocean presents an additional risk to the District. Surf rescues occur each year along the beaches located in the CSFPD response area. The District has been trained in both ocean (surf) and swift water rescue, and it is part of the operations division. The team consists of 25 members that are certified through the United State Lifeguard Association (USLA). There is a minimum of two members with water rescue capabilities on shift each day. These water rescue personnel respond automatically to MFPD when an incident occurs in the response area.

Emergency response equipment includes ocean, swift water, and rescue watercraft (two Jet Skis) available for an incident. CSFPD has two water rescue trucks with equipment to include Stokes baskets. There is an inflatable boat located at Station 61, and each engine carries a paddleboard, wetsuits, and swim fins. Each year the team members receive 16 hours of USLA training to maintain their certification. The City of Carpinteria and the State of California provide lifeguards during a portion of the year to protect the beaches in their jurisdictions. During the offseason, the State lifeguards are also responsible for other beaches in Ventura County.

Figure 52: Water Rescues (2016–19)



Technological (Human-Caused) Hazards

Events that occur without warning or that were unknown and suddenly appeared are considered technological hazards. Examples include industrial accidents or hazardous chemical releases. Each community should create contingency plans for the specific risks in their jurisdiction. This may include permitting, fire and life safety inspections periodically, and pre-incident planning. These activities are designed to reduce risks and provide on-site visits for fire department personnel.

If a building or facility has been identified that stores or produces hazardous materials, it may require special personal protective clothing and equipment to control or mitigate the event. Locations that have hazardous materials on-site for any time during the year exceeding the limits established by the Environmental Protection Agency are required to file Tier II reports. These reports are provided to local jurisdictions, local emergency planning committees, and the State's Emergency Response Commission as required by the Emergency Planning and Community Right-to-Know Act of 1986, also known as SARA Title III. These thresholds require submission:

- Ten-thousand pounds for hazardous chemicals
- Lesser of 500 pounds or the threshold planning quantity for extremely hazardous chemicals
- California requires additional reporting quantities through a five-tier system that authorizes the treatment and storage of hazardous waste.

Hazardous Materials

There are numerous facilities in CSFPD that store hazardous materials, but there are no locations that produce or store any extremely hazardous substances. U.S. Hwy 101 is the primary transportation corridor passing through the district. This presents the possibility of a hazardous materials incident involving motor vehicles and trucks.

CSFPD maintains a trailer shared with MFPD that contains equipment and supplies for an incident involving hazardous materials. Both CSFPD and MFPD participate with Santa Barbara City FD to form the South Coast Hazardous Materials Response Team. If additional resources are needed, Santa Barbara County supports the North County Hazardous Materials Team (NCHMT). The Lompoc Fire Department is also a member of NCHMT. Both of these teams are considered Type II Hazmat Teams. If a higher level of assistance is necessary, Ventura County's Type I team can be requested.

Infrastructure Protected

Energy

The use of electrical power is required for many day-to-day activities. The need for electricity requires lines throughout the district and can be broken down into a distribution network. The highest voltage lines in CSFPD are 66 kV. Natural gas transmission lines pass through the District and should be identified. Southern California Edison serves CSFPD for electrical services and natural gas by Southern California Gas Company.

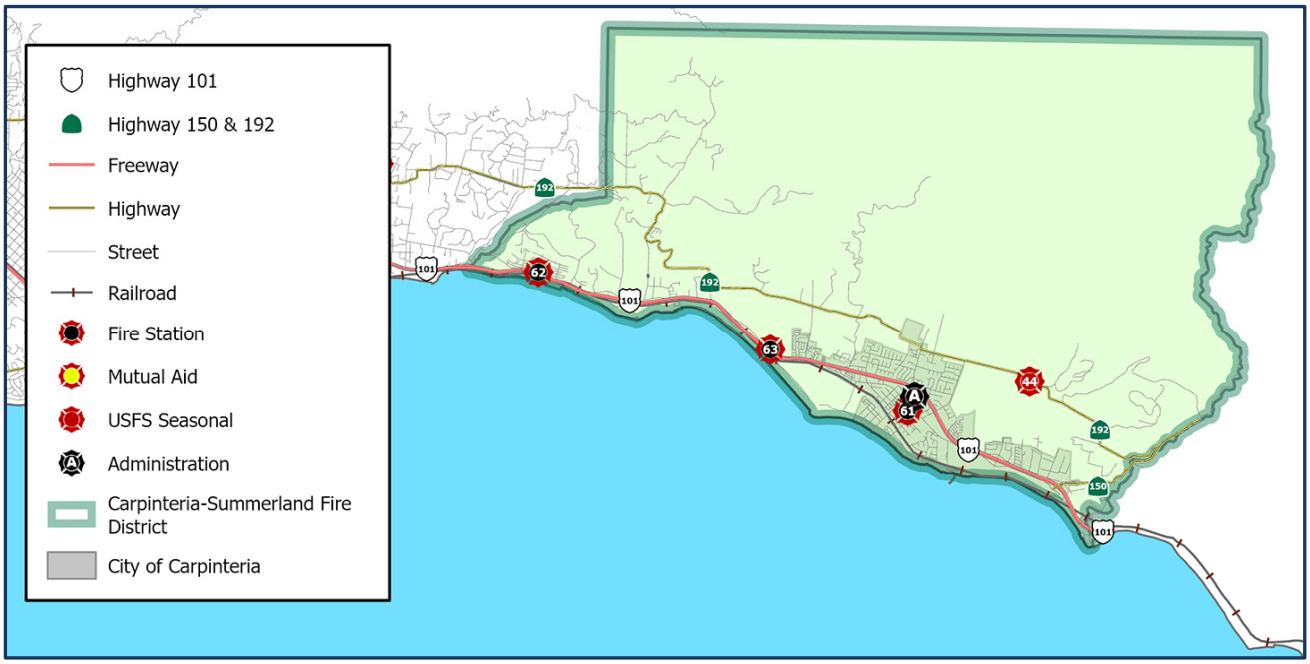
SCE may implement Public Safety Power Shutoffs when wildfire dangers exist to prevent a fire from igniting power lines. These shutoffs usually are temporary. SCE provides alerts for customers before the power is shut off, but the customer must sign up for text, phone message, or email notifications.[32] If these shutoffs occur, CSFPD must be prepared if their stations are impacted or understand how the community may be affected.

Transportation Network

The majority of the transportation network consists of collector streets fed by residential roads throughout CSFPD. These roads provide interconnectivity for emergency responders, but there are some no-outlet roads that could impact response if the roads are impassable. Traffic signal preemption allows responding units to modify the signal plan and change the light to green to enable safe and quick passage through a controlled intersection. These systems can reduce the number of vehicle crashes with apparatus or between private vehicles. There is currently no traffic signal preemption in the district.

The primary highway that transverses the district is US Hwy 101, a north-south freeway through Santa Barbara County. According to *Caltrans,* the 2018 peak monthly average volume for passenger vehicles at Casitas Pass Road was approximately 81,000, and more than 3,700 were trucks.[33] It is unknown how many of these trucks transport hazardous materials.

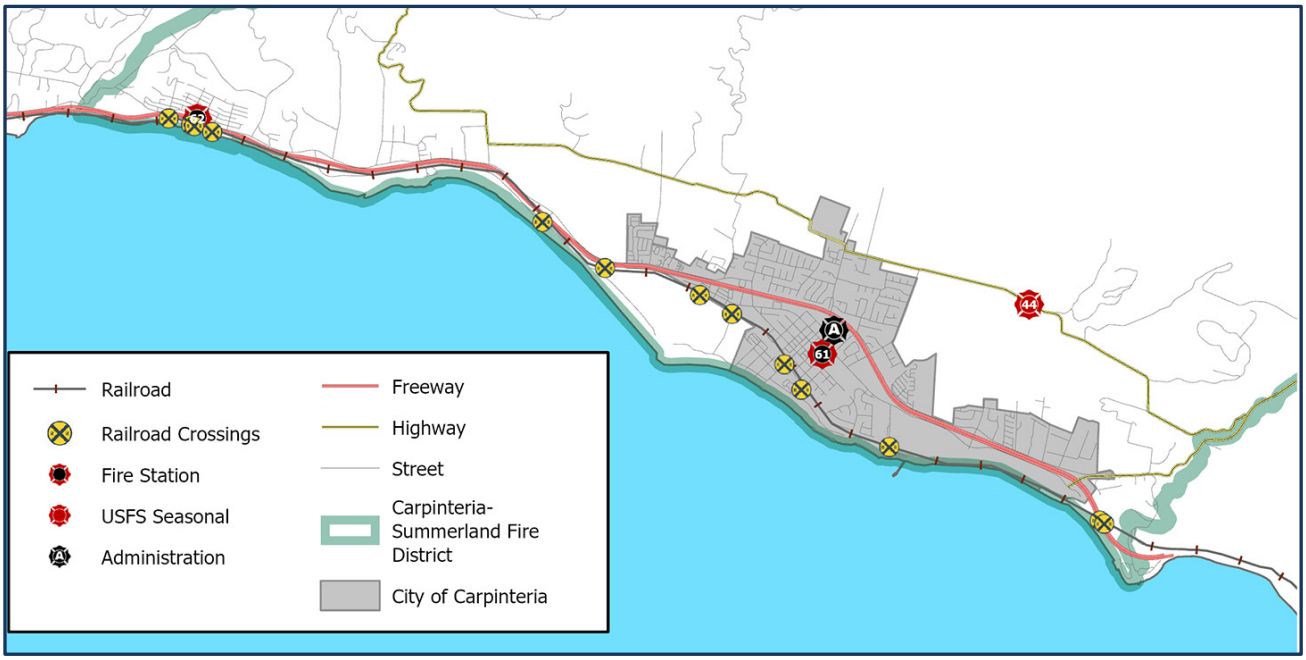
Figure 53: CSFPD Highway Network



Rail

A mainline for Union Pacific passes through CSFPD and includes a train station for Amtrak. There are approximately three freight trains and seven passenger trains passing through the district daily. There are numerous rail crossings in CSFPD that can pose a threat to the train and a passenger vehicle if they ignore warnings of an approaching train. The Linden Avenue controlled crossing has approximately 4,800 vehicles passing each day. The other controlled crossings are at Palm Ave. and Padaro Lane. Other crossings are not controlled and pose additional risks if a vehicle driver or pedestrian does not see or hear a train as it approaches.[34]

Figure 54: CSFPD Railway Crossings



Water Supply

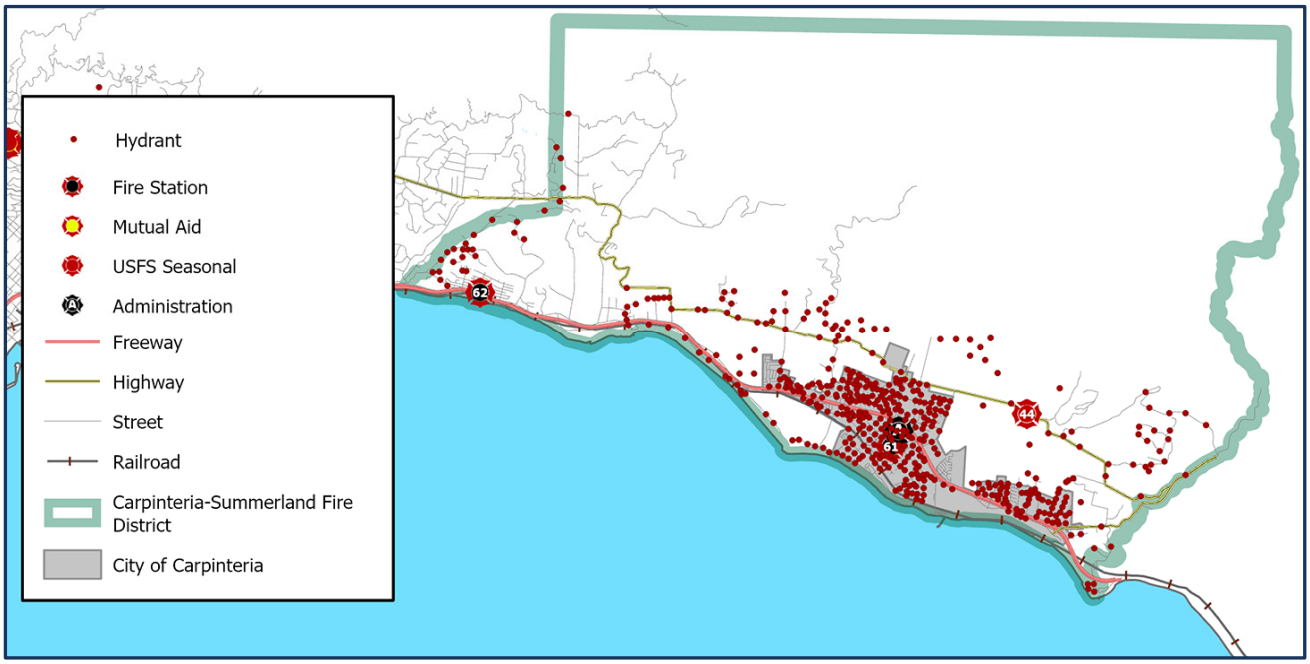
Without an adequate water supply and distribution system consisting of water storage, mains, and a fire hydrant system, it will be challenging to control and extinguish a fire. To alleviate this problem, a system of well-distributed hydrants and appropriately sized water mains are necessary to provide the required water for fireground use.

Two water companies provide water for fire protection services for CSFPD. The Montecito Water District delivers water from the western boundary with MFPD to just east of Toro Canyon Road. The remaining portion of the district is served by Carpinteria Valley Water District (CVWD). Each water company repairs hydrants on their water systems.

Montecito Water District (MWD) uses multiple water sources to service its customers, including supplemental surface water from San Luis Reservoir and California Aqueduct and the Coastal Branch Pipeline, local surface consisting of Lake Cachuma and Jameson Lake, and local groundwater wells. The water district is researching other sources, including a desalination water plant with the City of Santa Barbara and allowing the use of recycled water from other South Coast facilities. MWD repairs of out of service hydrants when notified, and they have started a process to inspect hydrants but not on a regular schedule.

In WUI areas, the property owners are required to connect to the water systems and construct a holding tank to provide water during a fire. These tanks, up to 2,000–20,000 gallons, provide a water source when those areas are unable to connect to the water district mains.

Figure 55: CSFPD Hydrant Locations



Currently, few hydrants are being inspected by either CSFPD or the CVWD. The CVWD has begun inspecting hydrants when personnel are available, but because there are only three employees in the maintenance section, this is not occurring regularly.[35]

Communications

The ability to receive and transmit incident information requires an emergency communication center. All 9-1-1 calls are received by the Santa Barbara County 9-1-1 Public Safety Center (SBCPSC) and transferred to MFPD who provides for dispatching services for CSFPD. All county telecommunicators provide Emergency Medical Dispatch for EMS responses before and during the transfer to MFPD.

MFPD provides dispatching services utilizing shift personnel specifically assigned as Telecommunicators. They work a 48-96 shift schedule. If a call is transferred while they are asleep, they receive a notification in their room that awakens them to dispatch the incident. MFPD uses TriTech computer-aided dispatch to receive incident data and dispatch the appropriate unit.

Six other shift personnel have received training to fill in for the primary telecommunicators when they are on leave. They are given a 5% salary increase for this in-house certification and periodically given continuing education from the full-time telecommunicators.

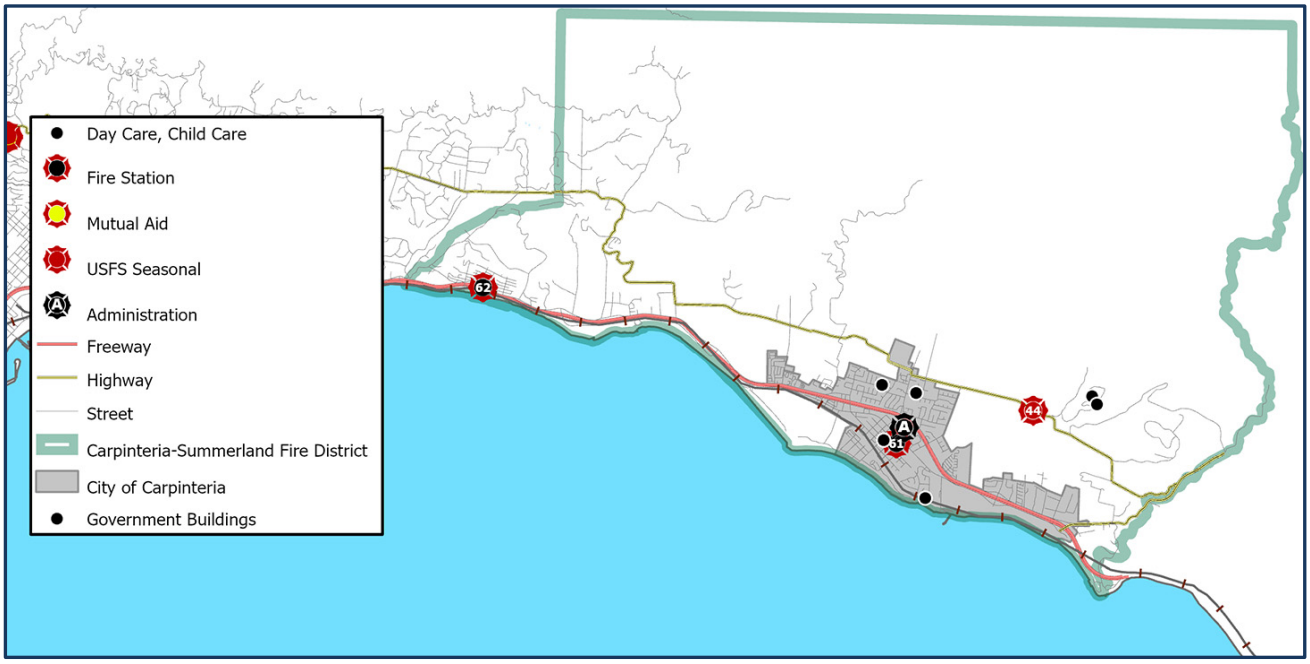
If the MFPD dispatch location is unable to operate, SBCPSC provides backup services in the event of a failure. There is a plan to move to a regional public safety communication center in approximately three years. The plan will need approval by the Santa Barbara County Board of Supervisors before implementation. The new regional center will provide dispatch services for all fire agencies in Santa Barbara County and may include an EMS component. The MFPD Board has authorized the fire chief to negotiate with Santa Barbara County Fire to participate in the regional fire dispatch center. The County will be the primary organization for building construction and developing governance on how the multiagency center will operate.

Other types of communications include central telephone offices, transmission lines that provide internet services, or cellular providers. The loss of these services can severely impact emergency services and access information at individual stations or with mobile applications.

Government & Public Safety Facilities

Buildings that provide public services from local or other governmental units are considered essential facilities and should receive special attention. These facilities are for the public to receive community services, and fire department personnel should be familiar with the properties during an emergency. Pre-incident plans should be completed and updated annually, including their facilities.

Figure 56: CSFPD Governmental & Public Safety Facilities (n=4)



Land Use

Land use for a community is designed to assign a classification for properties within a geographical area normally under governmental control. The concept of land use regulation is to provide attractive social and environmental outcomes to manage development efficiently. Zoning areas may vary from one portion of the service area with a mixture of low-risk, moderate-risk, and high-risk properties.

- Low Risk: Areas zoned for agricultural purposes, open spaces, low-density residential, and other low-intensity use.
- Moderate Risk: Areas zoned for medium-density single-family properties, small commercial and office uses low-intensity retail sales and similarly sized business activities.
- High Risk: Higher intensity business districts, mixed-use areas, high-density residential, industrial, storage facilities, and large mercantile centers.

The basic principle of the City of Carpinteria's land use goal is, "To preserve the essential character of this small beach town, its family-oriented residential neighborhoods, its unique visual and natural resources and its open, rural surroundings while enhancing recreational, cultural and economic opportunities for residents."[36] Unincorporated areas of the district, including Summerland, falls under Santa Barbara County's land-use policies. Both Carpinteria (Toro Canyon Plan) and Summerland have established area and community goals as outlined in the *Santa Barbara County Land Use Element*—republished December 2016 to manage growth.

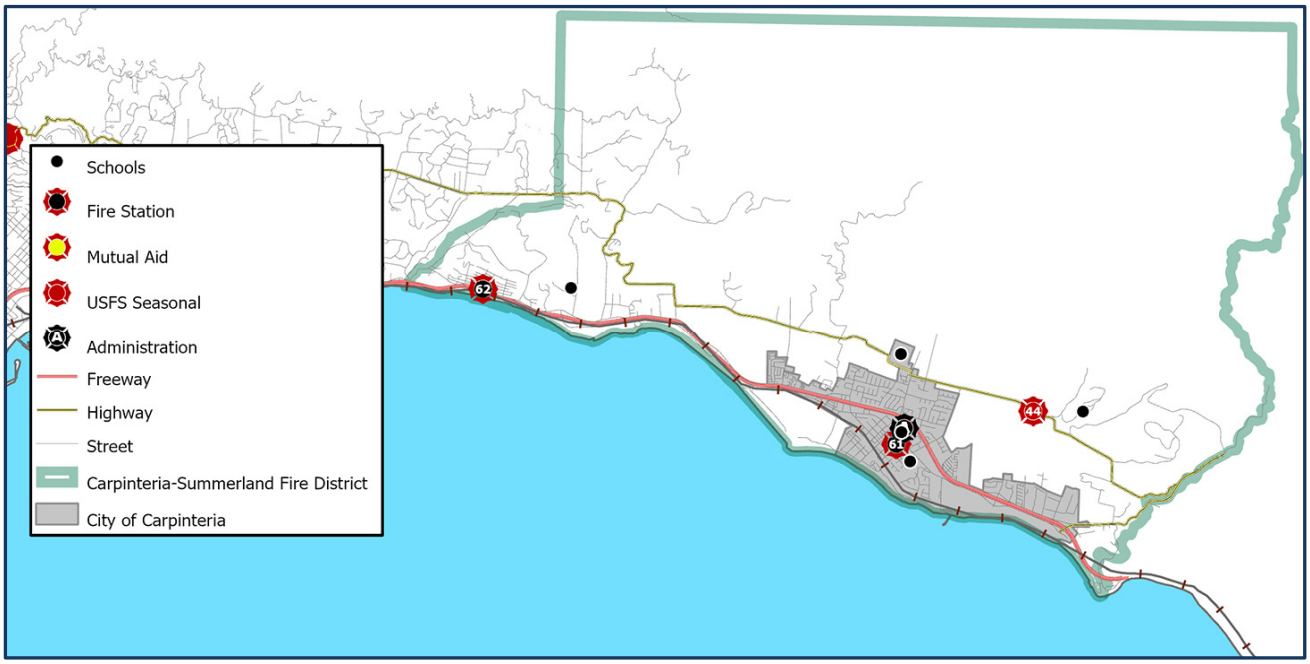
Most of the General Commercial zoning is located south or along U.S. Highway 101, while research and industrial development are in the City's eastern portion. Most of the remaining portions of the City are divided among low and medium density zoning. The Summerland area is zoned by Santa Barbara County and is primarily classified as residential.

Structural Risks

Schools

The Carpinteria Unified School District serves approximately 2,200 students from kindergarten through high school. These locations should be considered target hazards because of the large number of students and teachers in a single location. The Cate School is a private boarding school with approximately 300 students, of which 229 live on campus. The school is much like a college with dormitories, dining and athletic facilities, and a library. CSFPD personnel should be familiar with the buildings and prepare for various types of emergencies.

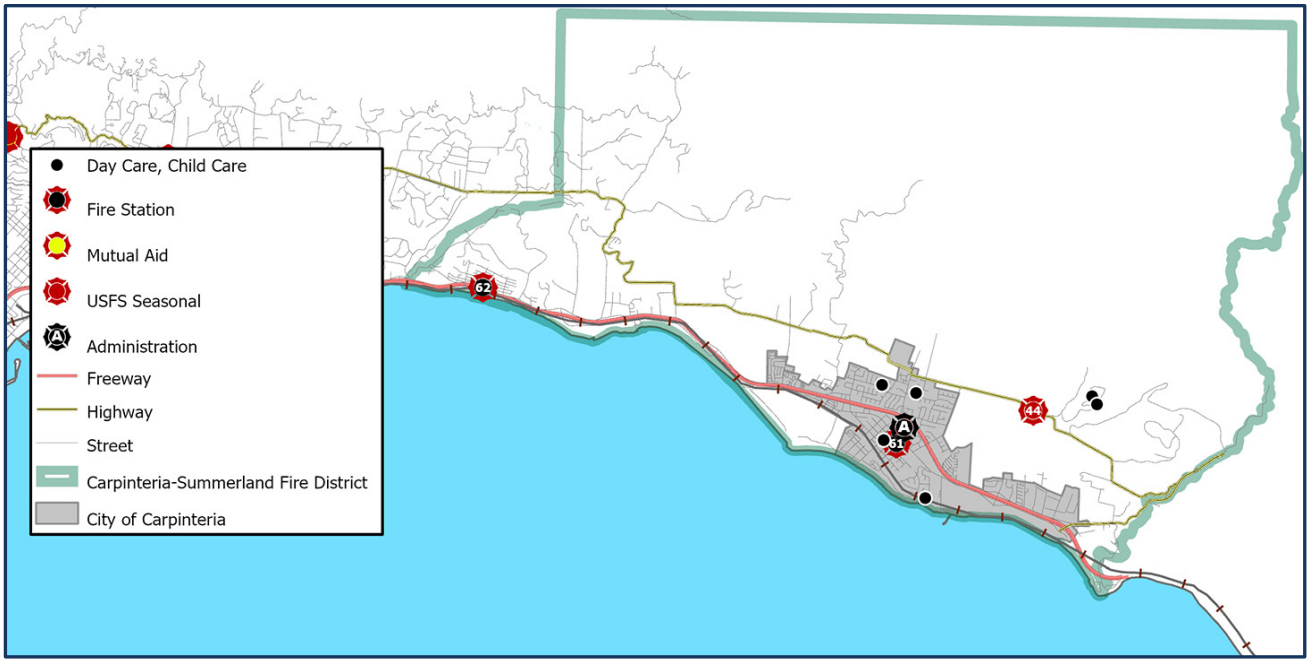
Figure 57: CSFPD Public & Private Schools (n=19)



Childcare Facilities

Childcare facilities pose a particular concern because of the young age of the children and their inability to evacuate during an emergency. These facilities will require childcare workers to assist small children or physically carry infants when an evacuation is necessary.

Figure 58: CSFPD Daycare Facilities (n=6)



Assembly

Assembly occupancies create unique risks because of the large number of people in a single location. These types of occupancies include restaurants, theaters, nightclubs, sporting events, or large outside festivals are all locations where people gather. These occupancies may require a large number of emergency response personnel during an event such as a fire or active shooter. These locations should have pre-incident plans completed for use by personnel during a response.

Figure 59: CSFPD Assembly Occupancies (n=11)

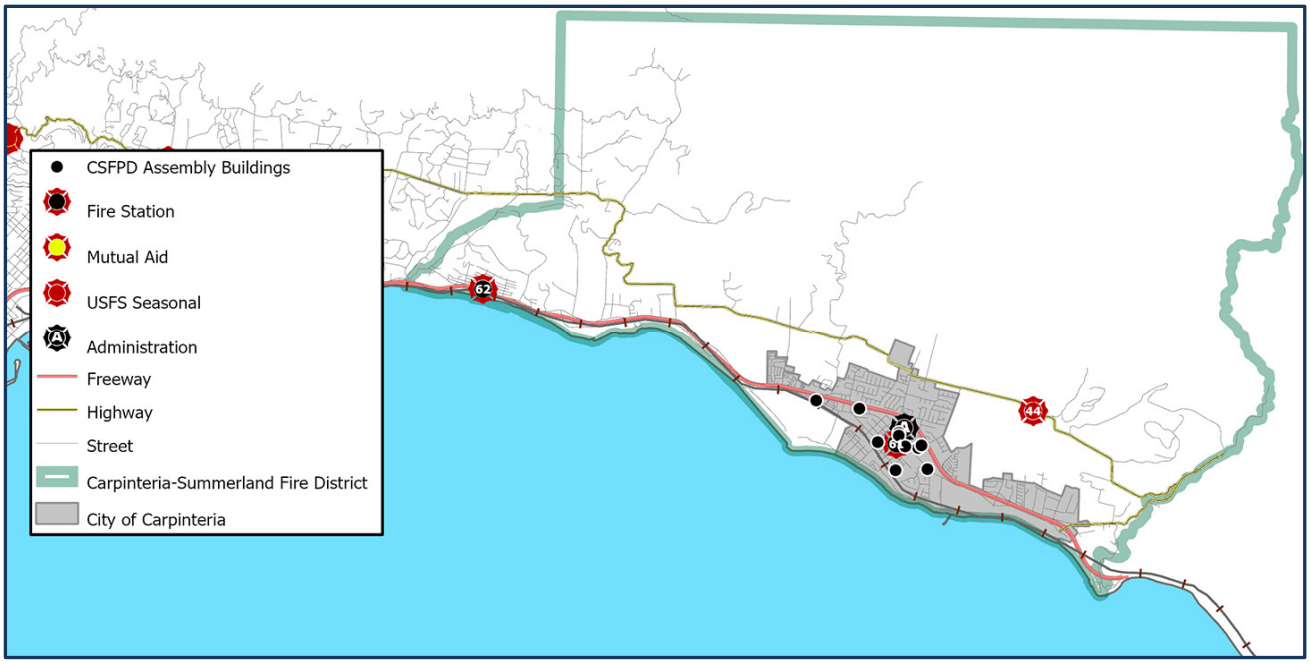
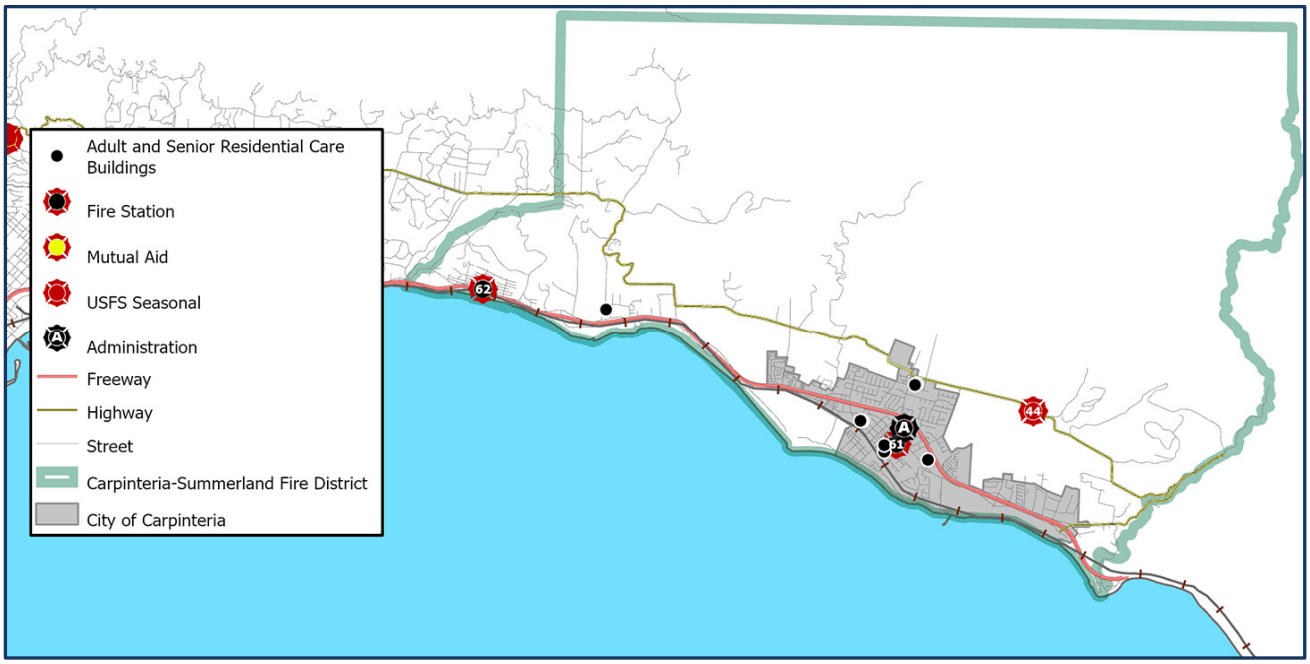


Figure 60: CSFPD Adult Care & Senior Residential Facility (n=11)



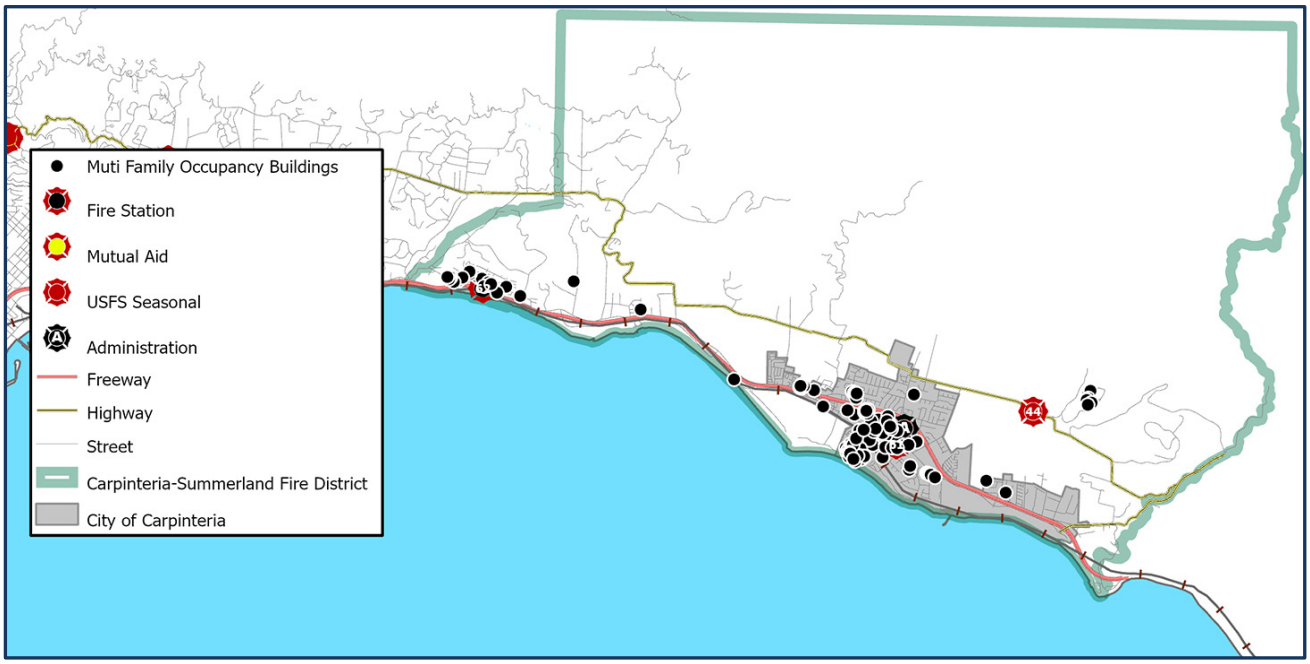
Institutional

These types of buildings are where occupants may be unable to leave without assistance from the employees. Examples include assisted living, nursing homes, medical facilities, or jails.

Residential Multi-Family

Residential properties create a higher risk for occupants than most commercial buildings. These locations are where most fire fatalities occur and represent numerous risks, such as occupants with accessibility issues or buildings built without fire sprinkler protection. The common areas of these occupancies are required to be inspected annually to ensure fire code compliance.

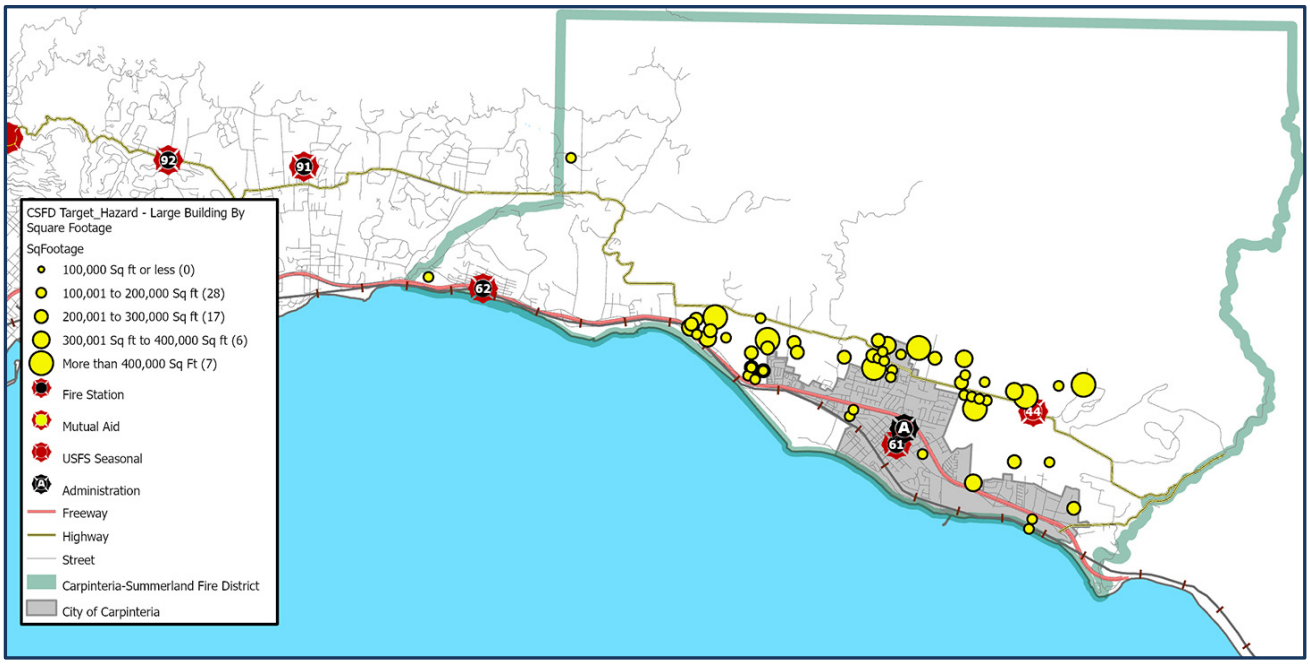
Figure 61: CSFPD Multi-Family Occupancies (n=122)



Buildings Three or More Stories in Height

Structures that are three or more stories in height typically require an aerial apparatus with an elevated master stream. The Insurance Service Office reviews the coverage area for all buildings within 2.5 miles for a ladder truck. To access the upper floors or roofs of these higher buildings, a ladder truck may be necessary since most ground ladders cannot reach these heights. The following figure provides locations of all buildings three or more stories in height.

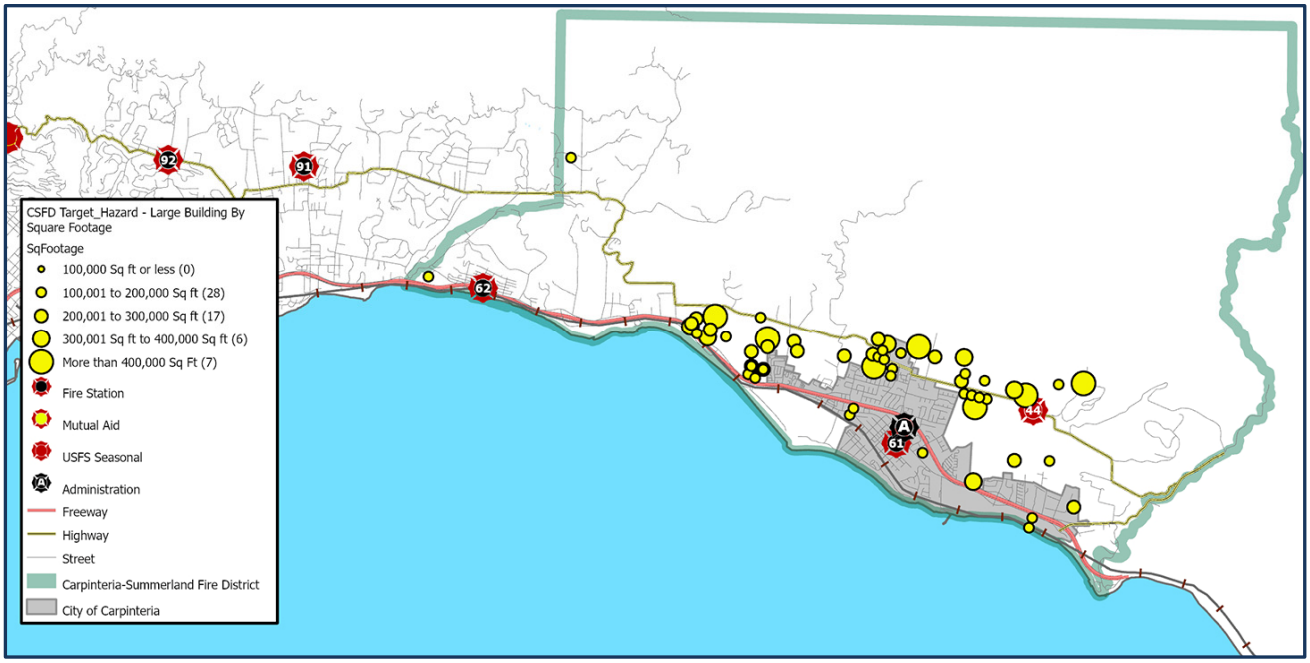
Figure 62: CSFPD Buildings Three or More Stories in Height (n=5)



Large Square Footage Buildings

Buildings with a large amount of square footage can present unique hazards dependent upon the type of occupancy. There are many of these buildings in CSFPD, with the majority being nurseries for growing plants and flowers.

Figure 63: CSFPD Buildings Greater than 100,000 Square Feet (n=58)

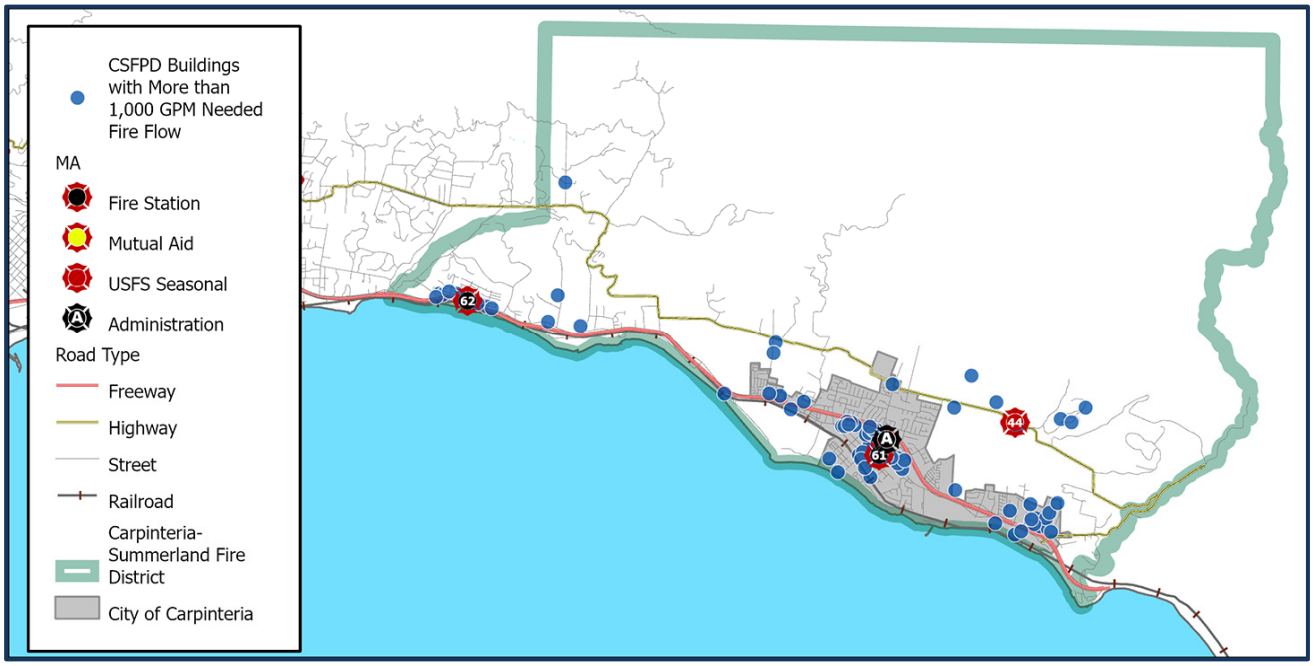


Large Fire-Flow Occupancies

Occupancies can be classified according to their risk level. Risk factors that classify occupancies as low, medium, or high include the size of the building(s), construction type, the presence or absence of fire suppression features such as sprinklers and standpipes, the needed fire flow, the risk to life, the presence of chemicals and/or hazardous processes, and the amount of water available in relation to the required fire flow.

The Insurance Service Office develops what they call the Batch Report that lists the needed fire flow (NFF) for most commercial occupancies in CSFPD. The NFF formula was developed based on a review of large-loss fires by ISO that included the construction and occupancy type, area of the building, and exposures. The following figure identifies the properties with NFF of 1,000 gallons per minute or greater.

Figure 64: CSFPD Fire Flows of more than 1,000 gpm (n=122)



Comparison of Fire Risk in Other Communities

Fire Loss

The most recent National Fire Protection Association (NFPA) fire incident data reported in 2018 that United States fire departments responded to an estimated 1,318,500 fires. These fires resulted in 3,655 civilian fire fatalities, 15,200 civilian fire injuries, and an estimated $25.6 billion in direct property loss (this figure includes a $12 billion loss in Northern California wildfires). Home fires caused 2,720, or 74%, of the civilian fire deaths.[37]

Figure 65: CSFPD Number of Fires & Loss per Capita (2018)

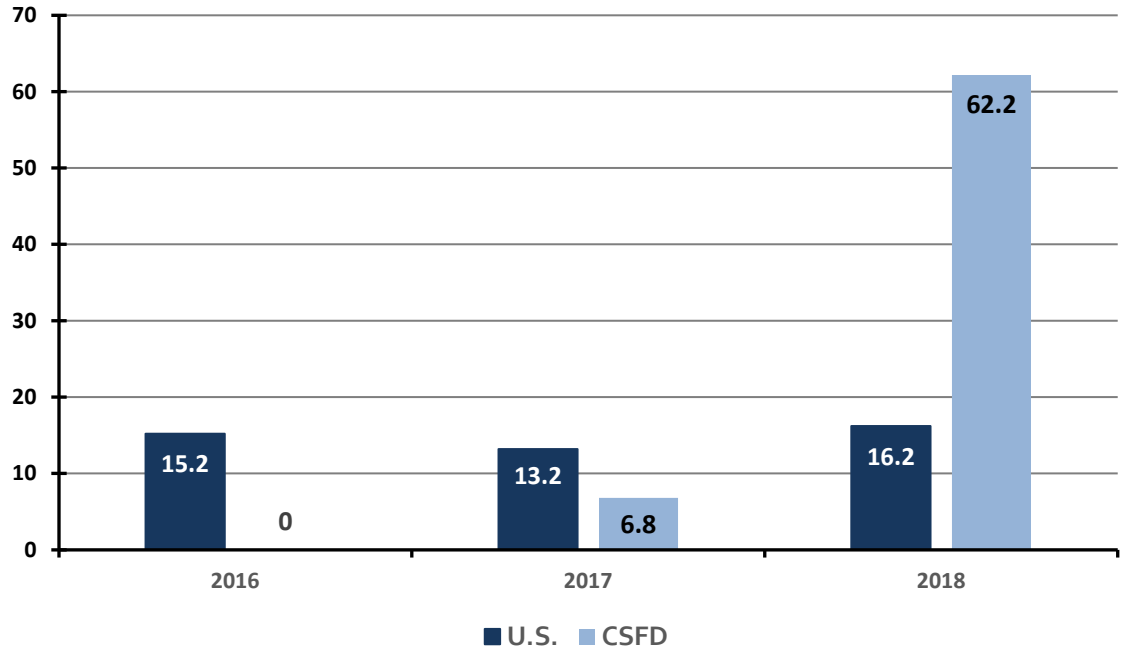
Community (10,000 to 24,999)	Number of Fires per 1,000 Population	Property Loss per Capita
Carpinteria-Summerland FPD	6.6	$247.31
United States	3.7	$78.25

The 2018 fire loss in Carpinteria-Summerland was $247.31 per capita, which is three times the rate of the United States. The rate of fire loss can fluctuate from year-to-year based on the number of incidents or their severity. When reviewing fire incident data between 2016–19, the average was slightly higher than the U.S. at $82.36. The number of fires has increased substantially since 2016 from 58 to 96 in 2018. Although 2019 was not included in this analysis, the fire incident rates continued to increase to 122.

Intentionally Set Fires

Intentionally set fires, or in many cases considered as arson, is defined as "any willful or malicious burning or attempt to burn, with or without intent to defraud, a dwelling house, public building, motor vehicle or aircraft, personal property of another."[38] The number of intentionally set fires increased dramatically during 2018 from previous years. This increase should be analyzed to determine why and what preventative measures could be implemented to reduce this number.

Figure 66: CSFPD Intentionally Set Fires per 100,000 Population (2016–18)



Insurance Services Office

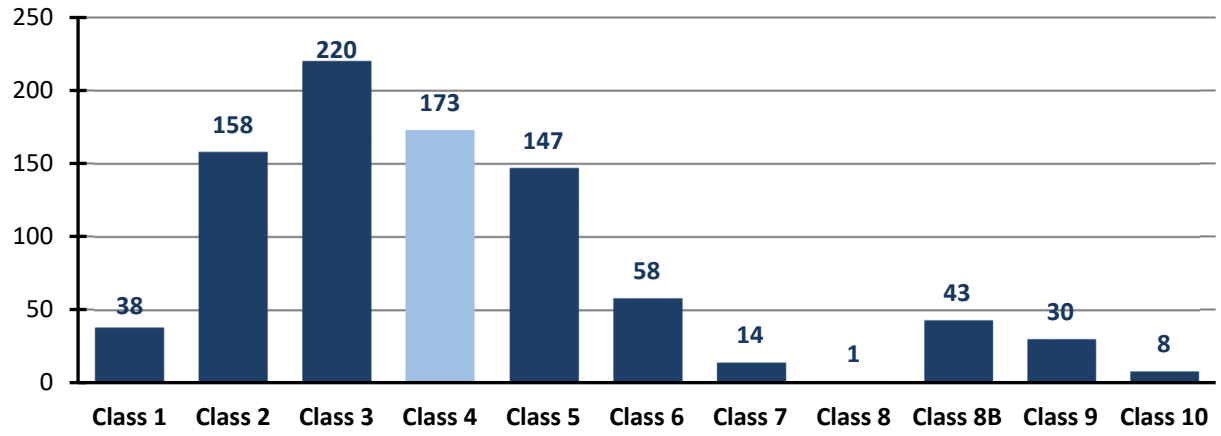
The Insurance Services Office, Inc. (ISO©) is an independent organization that collects and analyzes data from fire departments in communities throughout the United States to determine fire insurance rates. According to their report, the ISO's Public Protection Classification program, or PPC, "is a proven and reliable predictor of future fire losses." Commercial property insurance rates are expected to be lower in areas with lower (better) ISO PPC Class rating.

The ISO Fire Suppression Rating Schedule (FSRS) measures four primary elements of a community's fire protection system: *Emergency Communications* (max 10 points); *Fire Department* (max 50 points); *Water Supply* (max 40 points), and *Community Risk Reduction* (max 5.5 points) for a maximum possible total of 105.5 points. ISO then assigns a grade using a scale of 1 to 10, with Class 1 representing the highest degree of fire protection. Class 10 designates a fire suppression program that does not meet ISO's minimum criteria.

In 2017, the CSFPD was assigned an ISO classification of 4/4X. CSFPD is one of 173 communities out of 890 surveyed across the State to achieve the rating, as shown in the following figure. CSFPD received 65.99 points, which translates to their assigned classification. The second rating of the classification is for properties more than 1,000 feet from a hydrant but within five road miles of a recognized fire station.

A review of the Public Protection Classification Summary Report revealed 0.42 credits out of 4 for ladder service since the closest truck company is from Santa Barbara City Fire Department. A credit of 2.6 of 7 was given for inspection and flow testing of hydrants. Currently, few hydrants are being inspected by either CSFPD or the City of Carpinteria.

Figure 67: Comparison of ISO Class Rating (California)



MONTECITO FPD RISK ASSESSMENT

Risk Classification

This document describes risks in MFPD. The various risks are analyzed, and a numerical score is developed to assist each agency in creating mitigation and prevention programs for their communities. Community risks are grouped into broad categories:

- Structure Fires
- Hazardous Materials
- Non-structure Fires
- Natural Hazards
- EMS-Medical Assist
- Technological Hazards
- Rescue
- Human Hazards

Within each category, specific hazards were identified, and a probability (likelihood) score between zero (representing "Not Applicable") and four (representing "Catastrophic") was assigned to each of the types of events. This is explained by evaluating the different types of events for each risk category. Examples of rescue include motor vehicle accidents (MVA), structural collapse, trench, confined space, swift water, surf rescue, and the likelihood of occurrence. While MVAs are very likely to occur, the other event types are considered moderate, which reduces the overall probability.

A Severity score is developed by reviewing an incident's impact on the community and the ability to mitigate the event. Community Impact scores the effect of an incident on humans, property, and businesses. As the score increases, the impact on the community increases. Mitigation Capacity rates how well a community responds to an event based on preparedness and internal and external response. The lower the mitigation score indicates that the community is better prepared for an event.

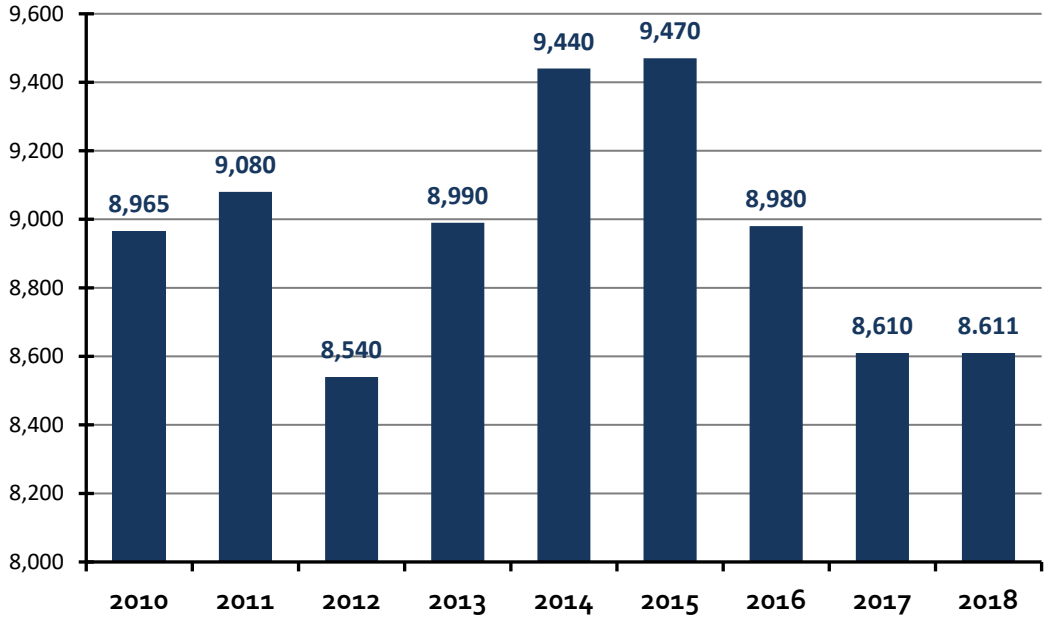
The overall scores were then used to generate a Relative Risk score as it applies to each jurisdiction. The Relative Risk is determined by multiplying the probability and severity of each event type in a category. A summary reviews all community hazards, but it is noted that the primary functions of MFPD (fire and EMS) have the highest scores. Although other scores may be low such as Nature Hazards, it does not reduce specific impacts within this category, including earthquakes, which rates the highest in this section. The complete index can be found in Appendix A of this report.

The following section represents the risk assessment for the Montecito FPD.

Population & Trends

The following figure shows the population trends of Montecito from 2010 through 2018. As shown, the population has declined substantially since 2015.

Figure 68: Montecito Population (2010–2018)



At-Risk Populations

Specific populations are at higher risk of fires and other unintentional injuries. These incidents will directly affect service delivery. In urban and suburban areas, several factors place groups of people in higher-risk categories. NFPA reports identified groups with a higher risk of injury or death in a fire as follows:[39]

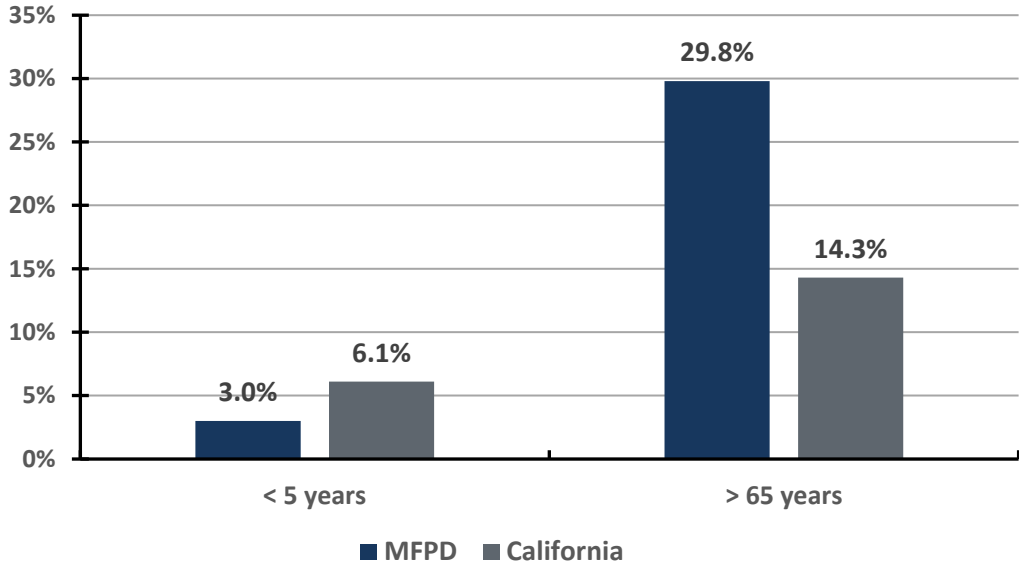
- Children under five years of age
- Older adults over 65 years of age
- People with disabilities
- Language barrier
- People in low-income communities

Data from the U.S. Census has identified several groups that fall into these categories. These groups are more likely to need additional emergency services, specifically EMS, than other population groups.

Age

The age of a community may directly relate to the need for higher service demand from MFPD. In Montecito, the percentage of children less than five years of age is 3.0% compared to 6.1% for California. In contrast, the number of older adults over the age of 65 is 29.8%, which is much higher than in California at 14.3%. Although the percentage of children under five years of age is low, the number of older adults is more than twice that of California. This high percentage includes 5.7% over the age of 85, which typically will require additional EMS services.

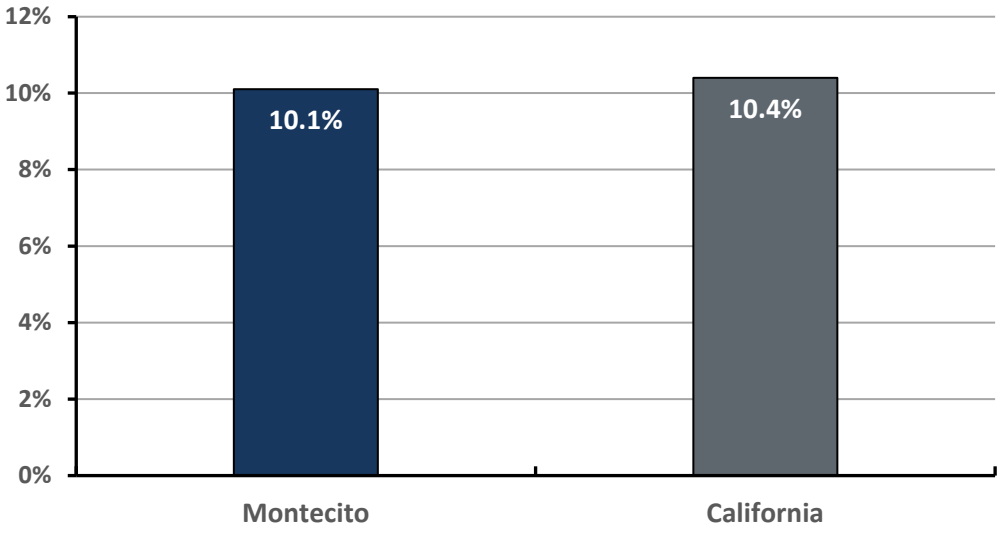
Figure 69: Montecito Percentage of Population by Age Risk[1]



Disabilities

Residents with disabilities comprise 10.1% of the population in Montecito, which is slightly less than California. This group may have more difficulty or are unable to evacuate during an emergency. This age group will place additional demands on emergency medical services as they age, thus increasing Montecito FPD responses.

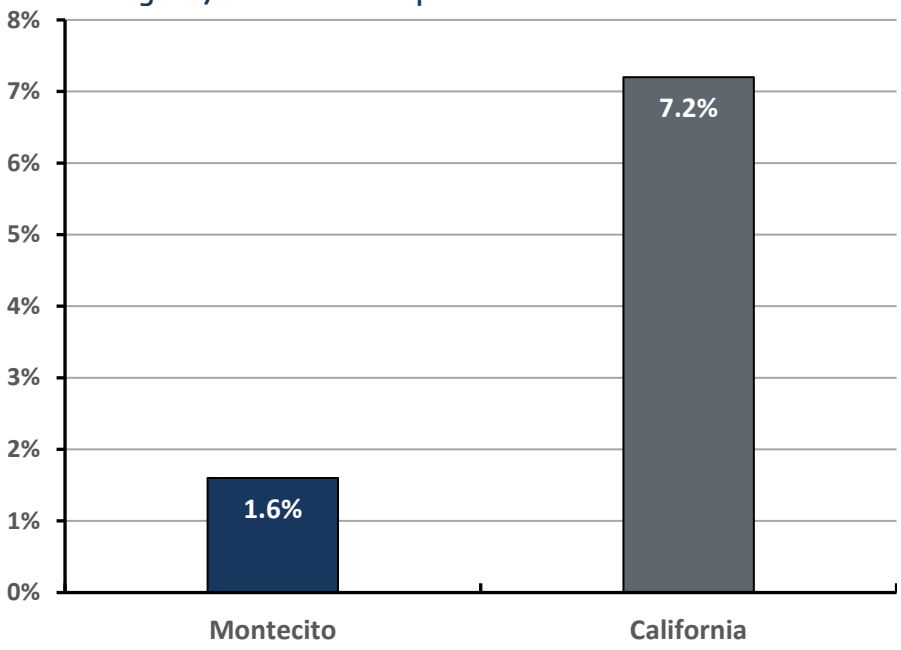
Figure 70: Montecito Percentage of Population with Disabilities



Persons without Health Insurance

Populations 65 and under without health insurance are more likely to have chronic illnesses requiring more intensive health care services because they did not seek treatment.

Figure 71: Montecito Populations without Health Insurance

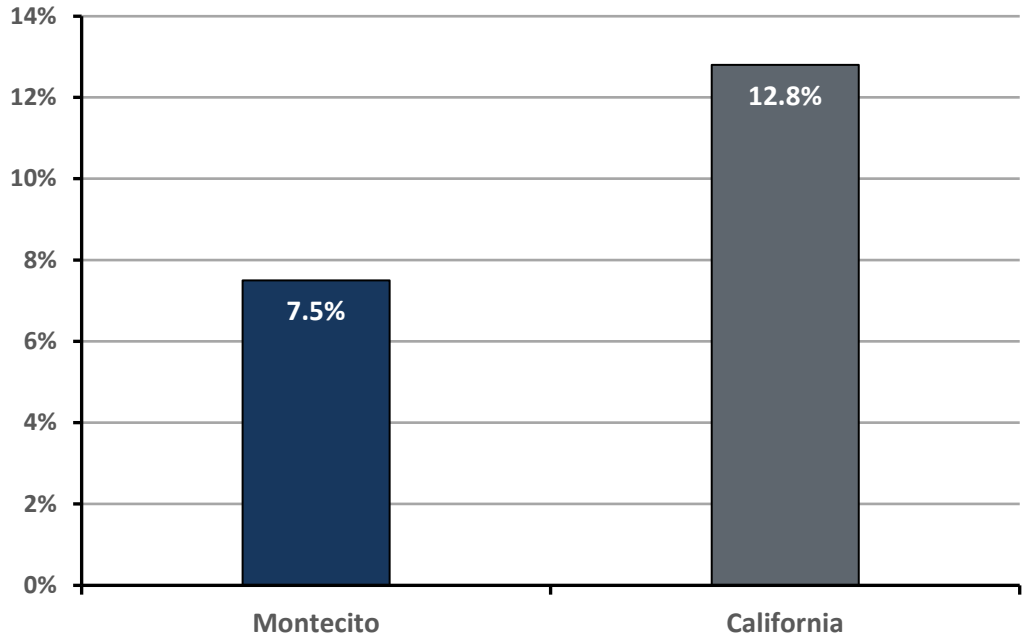


As shown in the preceding figure, in Montecito, the number of people without insurance is only 1.6% of the population. This is much lower than the 7.2% for California.

Low-Income Persons

The effects of low incomes in the community correspond with a higher risk of fires and EMS responses. The poverty rate in Montecito is 7.5%, which is lower than in California at 12.8%. The median household income in Montecito is $146,575 and substantially exceeds California at $75,277. Although the median income is high, the percentage of those below the poverty level should be recognized as a special risk, and those areas should be identified.

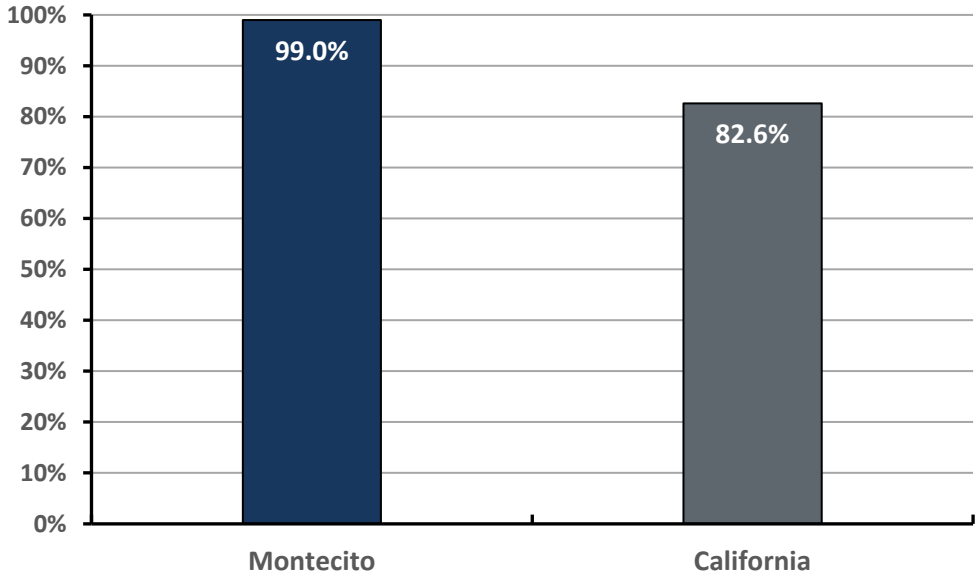
Figure 72: Montecito Population with Income Below the Poverty Level



Language Barrier

Populations that do not have a full understanding of the English language present problems that include cultural differences or may not be familiar with smoke alarm technology, thus increasing the risk of a fire in the home. The population that speaks English Only or speak English "very well" in Montecito is 99.0% compared to California at 82.4%.

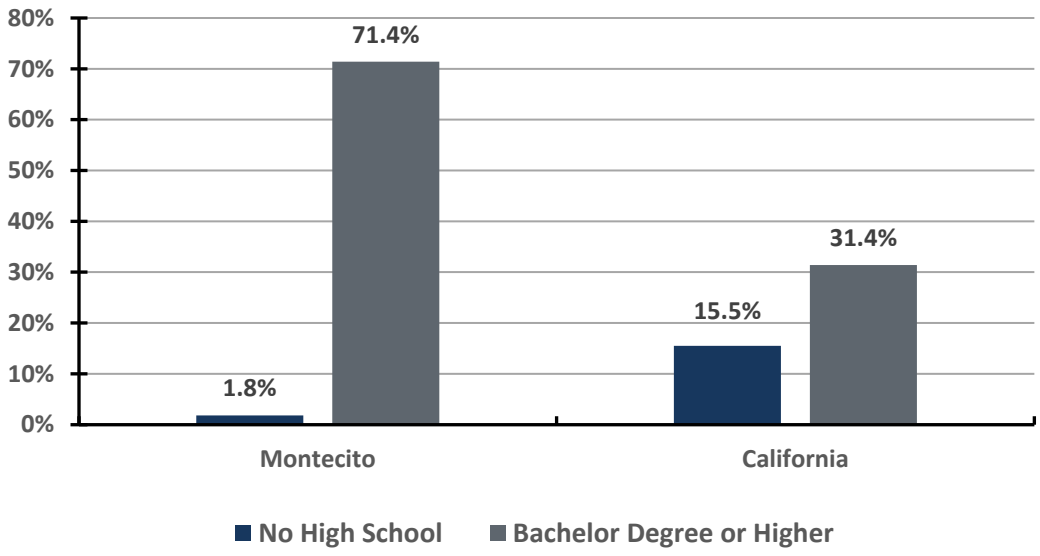
Figure 73: Montecito Population Speaking English "Only" & "Very Well"



Education Levels

Populations with lower educational levels are another risk group. This group may have lower wages, thus at a higher chance of near or below the poverty level. Only 1.8% of the population is less than age 25 and do not have a high school diploma, compared to 15.5% for California. 71.4% have a bachelor's degree or higher, while California only has 31.4%.

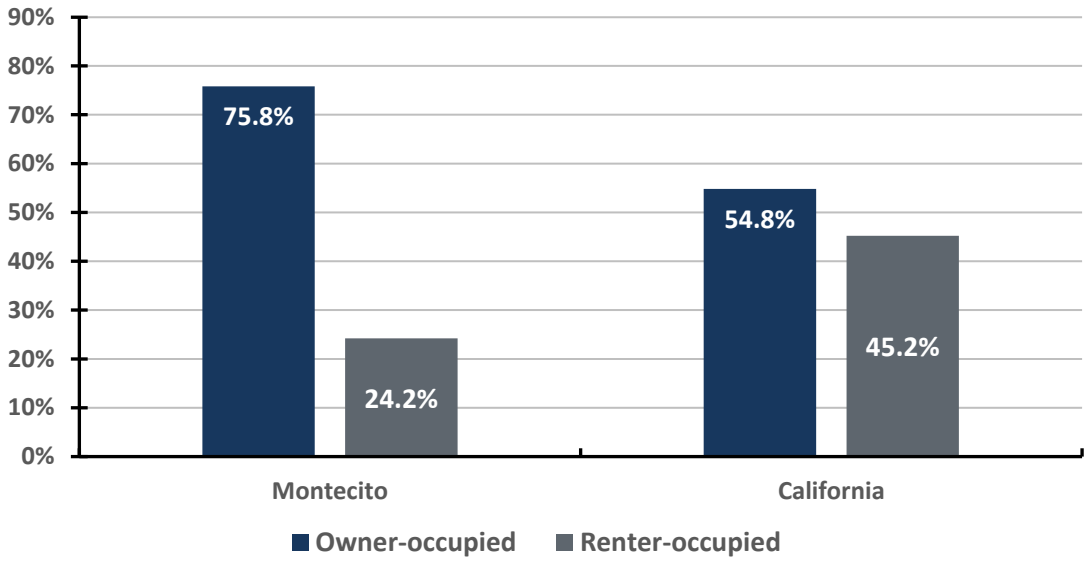
Figure 74: Montecito Education Levels 25 Years & Older



Housing

Although housing is not considered a significant risk compared to income or age, it can provide information for selected housing types such as older multi-family apartments built prior to fire sprinkler requirements. The percentage in Montecito of owner-occupied housing is 75.8% and compares to California at 24.2%, while the rental property is 46.4% and 45.2% for the state.

Figure 75: Montecito Housing Types–Owner or Renter Occupied

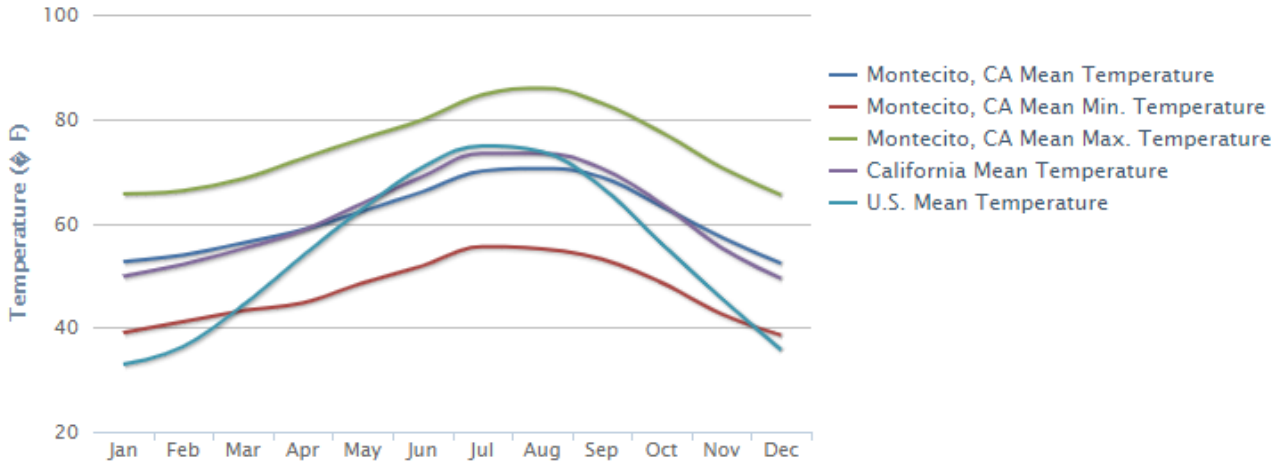


Weather

Temperature

The weather conditions in an area can impact not only the fire department but the entire community. When temperatures are high, they affect firefighters during extended incident operations and require rehabilitation to prevent heat exhaustion. Although the average temperature in Montecito is 61˚ F, the temperature can increase during August when the average maximum temperature reaches 85.9˚ F.

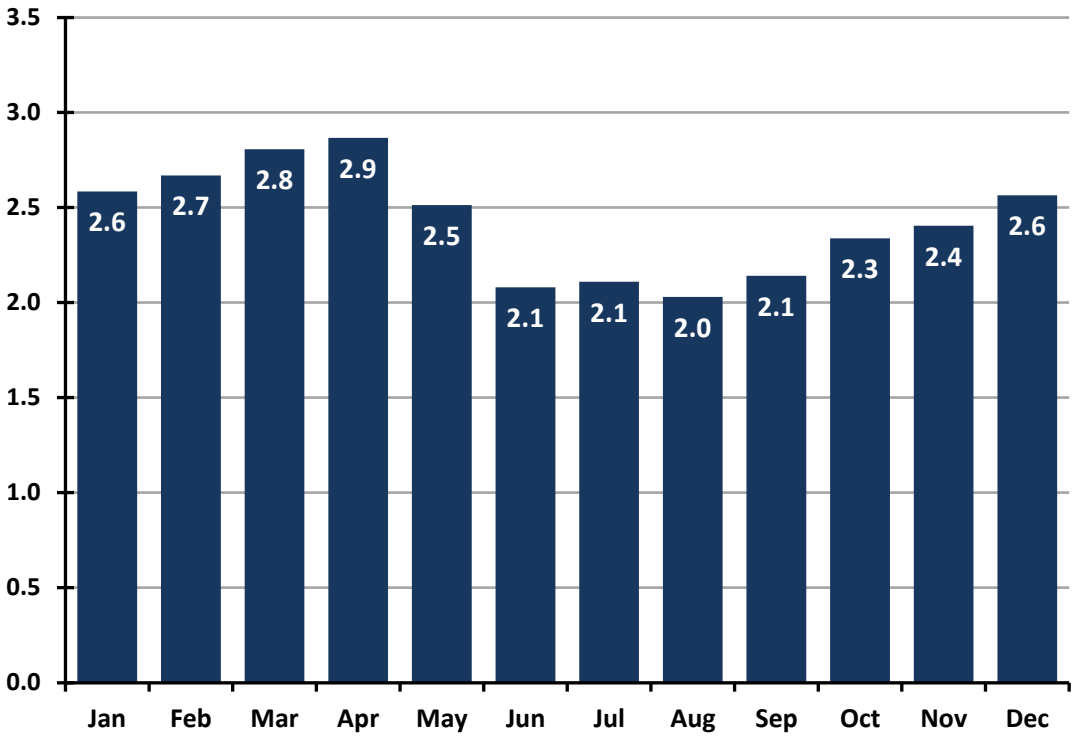
Figure 76: MFPD Average Monthly Temperature[1]



Winds

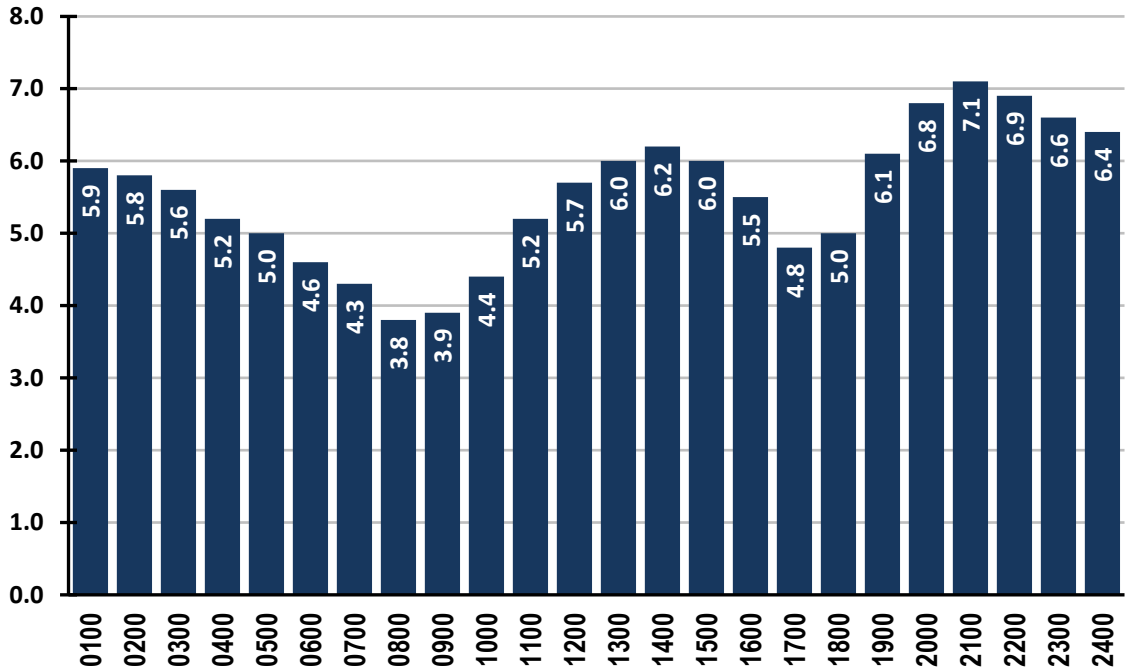
The direction and speed of winds directly influence how MFPD plans daily operations, specifically during wildland fire danger. The average wind speed based on Montecito RAWS data indicates that April and May are the highest and predominately from the west. Sundowner winds are considered a significant threat during wildfire season.

Figure 77: Average Wind Speeds



Sundowner winds are considered a significant threat during wildfire season and create different wind conditions in the mountains. The Montecito Remote Automated Weather System (ID MTIC1) is located at an elevation of 1,619 feet. It provides additional data illustrating increasing winds during mid-afternoon and into the night, which are different than what is observed at Santa Barbara Municipal Airport.

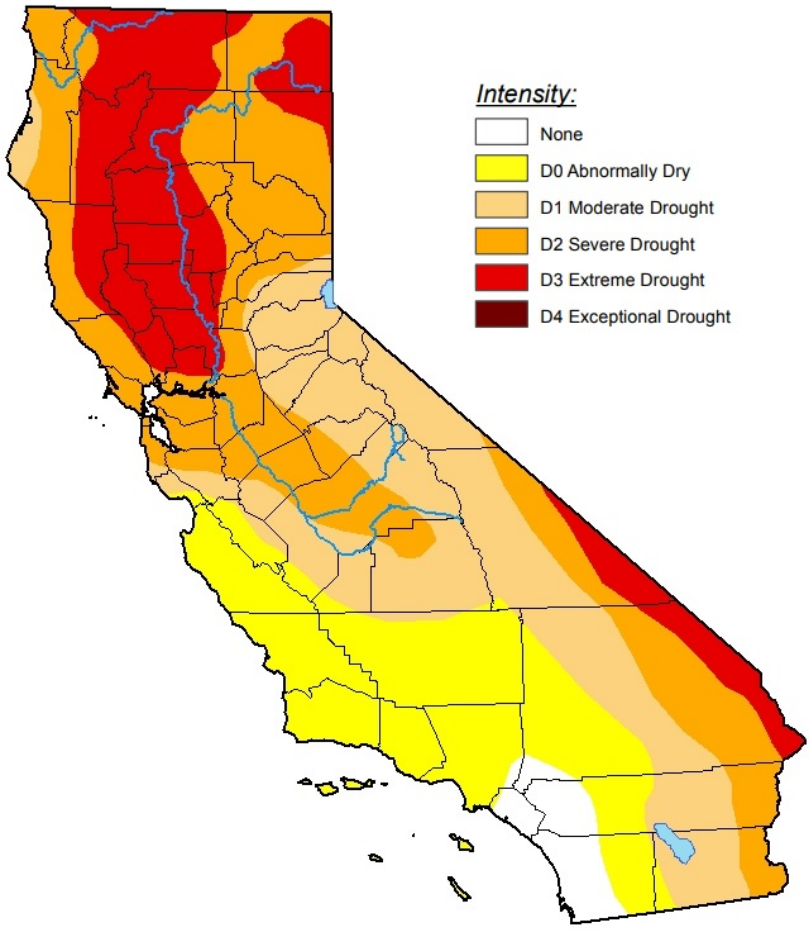
Figure 78: Hourly Winds from Monticeto RAWS[1]



Drought

The effects of a drought directly impact the growth of crops and the ability to provide water to replace surface water supplies. Droughts may last for an extended period and create secondary problems during peak wildfire conditions as the vegetation becomes dry and extremely combustible. This creates conditions in the community that can cause local resources to become strained during an event. Drought conditions exist for most of California, with the northern and southeastern portions considered the driest. Santa Barbara County is currently experiencing abnormally dry conditions.

Figure 79: Drought Conditions (December 2020) [1]



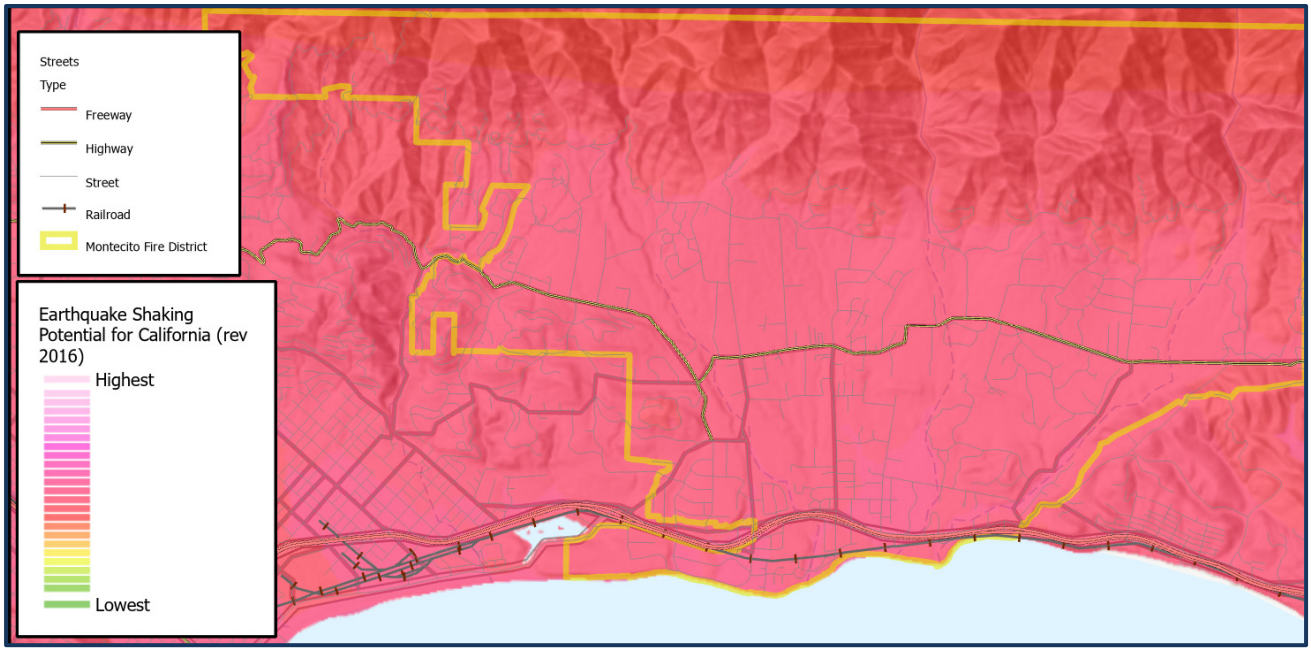
Environmental & Physical Hazards

Earthquakes

The Montecito Fire Protection District is located in a high seismic area, and the United States Geological Society has identified several faults. The primary fault in the area is Mission Ridge, and it is considered potentially active and is referenced in the Santa Barbara County Seismic Safety & Safety Element report.

The data suggests an 88.6% probability of a 5.0 magnitude earthquake within the next 50 years. Since early 1925 there have been seven earthquakes 5.0 or greater within 50 miles of Montecito.[40] An area of concern is the possibility of soil liquefaction. There are locations along the coast where high-severity groundwater and liquefaction are present and may create problems during a major earthquake. Other areas include either side of San Ysidro Road and Sheffield Drive.[41]

Figure 8o: MFPD Earthquake Shaking Intensity

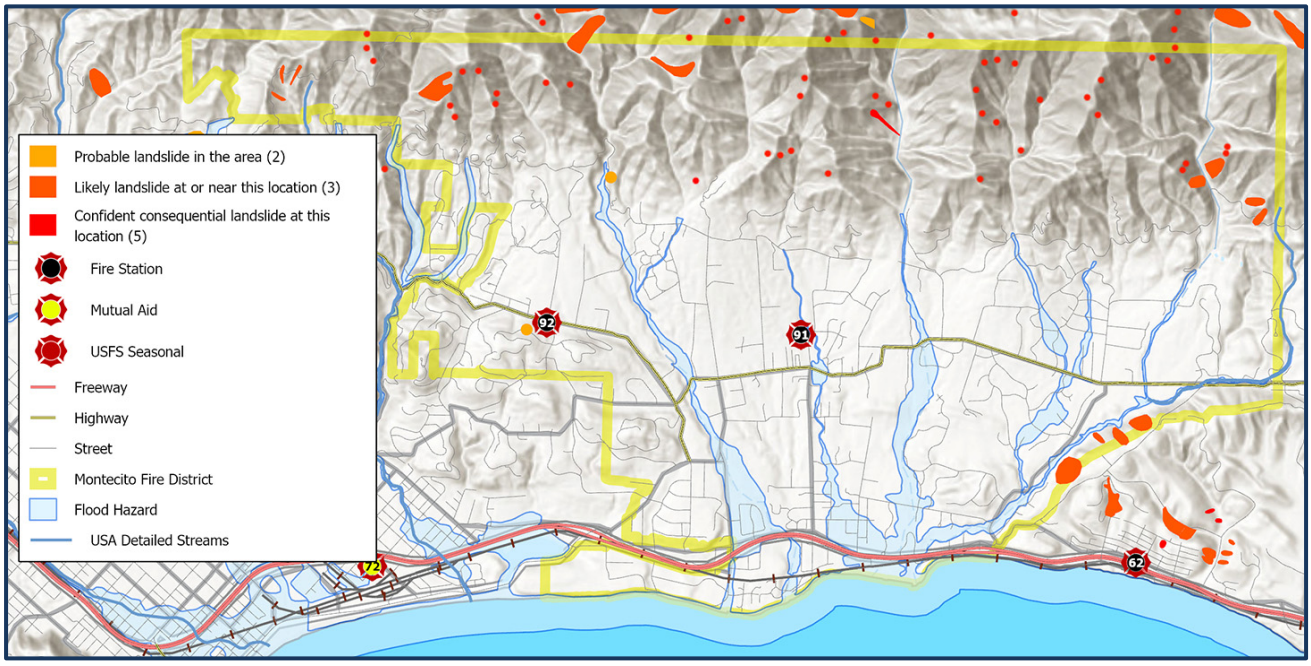


Landslides, Debris Flow, & Flooding

The risk of a landslide within the District is considered a high hazard. The term "landslide" is used consistently in the County's hazard mitigation plan. Landslides typically occur because of slope failure due to erosion from surface water runoff, mudflows when water has saturated the ground, or debris flows after a wildland fire. The highest hazard locations are on the northern portion of the district south of Sycamore Canyon Road. Other areas of concern include north of Sycamore Canyon Road and East Valley Road.

The term "landslide" is sometimes confused with the phrase "debris flow." Debris flow is can be associated with flooding events following wildland fire incidents. In January 2018, a significant debris flow in the Montecito Community destroyed many residential properties and affected neighborhoods during heavy rains. These events were directly related to the Thomas fire in December 2017 by the loss of vegetation that generally provides soil stabilization. The debris flows traveled down the Montecito, San Ysidro, and Romero creeks, killed 23 people, injured 163, destroyed 100 homes, and damaged more than 300 buildings in MFPD.[42]

Figure 81: MFPD Landslide & Debris Flow Risk Areas (source: USGS)



Floods

MFPD is at risk of flooding, specifically along the creeks flowing into the Pacific Ocean. Flooding typically occurs during the months (November–March) with the highest rainfall. These seasonable variations can cause localized flooding along the creek channels during high-intensity rainfall events. These creeks can overflow their banks if debris is caught under bridges or culverts. Debris flows originating after a wildfire may increase the risks when vegetative materials have been burned, causing sediment to flow downhill. Additional problems occur when flash flooding is in the urban areas, but they usually are short-lived because of the Pacific Ocean's short outflow. Coastal flooding is a concern from the storm surge events along the Pacific Ocean.

Figure 82: FEMA Flood Projections—MFPD

Wildland Fires

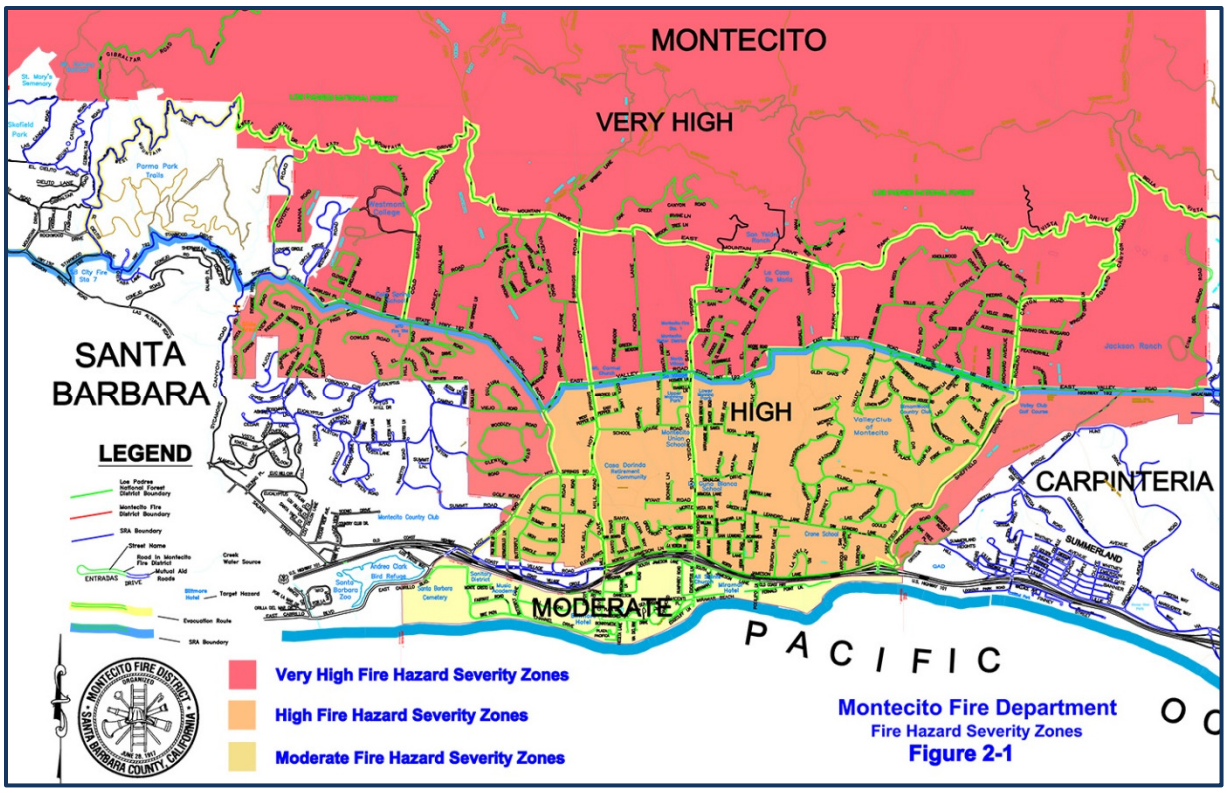
The risk of wildland fires in Montecito is considered extreme in the northern portions of the district. Of significant concern are life-safety risks, including locations with limited access because of narrow and steep roads, vegetative materials intruding into the right-of-way, unidentified properties without an address, and locations such as a cul-de-sac that limit the ability to turn around apparatus or other vehicles.

Previous fires in the Montecito area include Tea (2008) at nearly 2,000 acres, Jesusita (2009) over 8,700 acres, and the Thomas fire in 2017 that ultimately consumed more than 280,000 acres in Ventura and Santa Barbara Counties. The Thomas fire destroyed seven homes in Montecito, with many more damaged.

The areas with the highest population densities are located near Westmont College and south to Sycamore Canyon Road. The section of the district north of State Highway 192 creates special hazards because of limited egress and access due to diminished road widths and makes it difficult for vehicles to pass. This becomes a more significant risk when fire apparatus need to gain access during a response. During an evacuation, roads in these areas become congested, thus delaying response from emergency personnel.

MFPD has developed Fire Hazard Severity Zones as designated in their CWPP ranging from moderate to very high. The areas north of East Valley Road, either side of Sycamore Canyon Road, and east of Sheffield Road to the district boundary are considered very high risk. High risk includes the areas south of East Valley Rd and bounded by Sheffield Road to the east, Hot Springs Road, Sycamore Canyon Road to the west, and U.S. Hwy 101 to the south. Moderate areas are south of U.S. Hwy 101 to the Pacific Ocean.

Figure 83: MFPD Fire Hazard Severity Zones[1]



The primary wildfire threat to Montecito originates from the Los Padres National Forest and Santa Ynez Mountains to the north. The Sundowner winds create extremely high-risk conditions when the potential of wildfires exist. These winds and the chaparral vegetation and terrain present extremely hazardous conditions for emergency responders during a wildfire event. The wildfire season typically runs from May through December but may create high risks throughout the year based on weather conditions.

Vegetative materials provide fuel for a wildfire, and, based upon their specific characteristics, they can increase the potential damage from an uncontrolled fire. Those characteristics include the type of fuel, moisture content, the amount of material at a designated location, and vertical arrangement. Another fuel source is buildings that are unprotected or have minimal mitigation efforts to reduce the spread of fire.

The topography along the northern section of the district consists of the Santa Ynez mountains and includes five canyons descending into Montecito. These canyons create drainage systems that ultimately end at the Pacific Ocean and present not only flooding issues but provide a conduit for Sundowner and Santa Ana winds. The Sundowner winds create hazardous conditions and increase wildfire dangers that can lead to property loss, infrastructure, and life.

The wildland-urban interface in Montecito begins in the area north of East Mountain and Bella Vista Drives. Still, other areas containing fuels are along the eastern and northwestern sections of the district.

Understanding these locations provides MFPD the opportunity to identify mitigation efforts to reduce the effects of a wildland fire.[43]

MFPD provides substantial community engagement to reduce WUI issues. The district has more than 4,500 parcels, but the most hazardous areas have been broken into 23 vegetation management zones. These zones are targeted to reduce vegetation that can contribute to structural damage during a wildfire. MFPD has created an Interactive Story Map on their website that discusses the Vegetation Management and Wildfire Prevention Programs' primary elements that are divided into five sections.

- Property Defense Space Surveys—MFPD provides home visits/surveys for property owners to prepare for a wildfire. The visit is designed to harden the structure and provide adequate defensible space around the building. They can provide homeowners a list of plants or shrubbery intended to reduce the spread of fire and where they should be located on the property. Each of these mitigation efforts is designed to reduce the fire's intensity near the building by reducing direct flame impingement. MFPD is currently providing 50–100 of these visits annually.
- Annual Neighborhood Fire Prevention—The neighborhood fire prevention program is designed to improve the defensible space around their property. This program begins in the Montecito community each spring and educates property owners and residents on the importance of removing vegetative fuels. The primary goal is to create a buffer around their property and roads to provide reliable and safe evacuation routes for residents and emergency responders.
- This program is initiated when letters are sent to homeowners and lists their responsibilities to remove vegetative materials. It provides information on how the vegetation should be cut and where it should be placed for chipping. Materials not suitable for chipping are placed in a dumpster for removal. Signage at the removal sites is provided to remind residents what cannot be chipped. MFPD also contracts with a local vendor to remove low hanging branches (less than 13.5 feet high), vegetation extending in the roadway, improving fire apparatus access, and reducing the heat during an evacuation. During 2020, 270 tons of vegetative materials were removed from 200 participating property owners.
- Annual Weed Abatement Program—To meet the Montecito Fire Code, the department sends additional letters in April and May of each year reminding homeowners of their responsibilities to cut grasses to less than 2", removing dead trees and limbs within 10' of a chimney. The mailer provides a date that the requirements should be met. After the deadline, MFPD completes a visual inspection of all properties and identifies any considered non-compliant. Another letter is sent to the property owner identifying what mitigation efforts are required and when a reinspection will occur.

- Roadside Fire Hazard Abatement—This program is funded by the district and is designed to remove vegetative fuels along 12 miles of roads and trailheads in the high Severity WUI Zones. MFPD contracts to remove grasses and weeds that may burn easily and other "light and highly ignitable" vegetation growing along roadways. This removal increases clearance for emergency responder vehicles and for residents during an evacuation when a wildfire occurs. Information from Santa Barbara County states 77% of fires are ignited with 50' of roadways. During 2019, additional rain fell throughout May and required a second round of cutting in these areas. Another project has been implemented to remove vegetative plants not native to the area, such as Tumbleweed, Castor Bean, and Tobacco. The plants are completely removed to prevent the spreading of their seeds and completed before the annual fuel abatement program.
- Maintenance of the Fuel Treatment Network—A recommendation in the 2019 Montecito CWPP Amendment suggested implementing a fuel treatment program in the northern portion of the district. The fuel treatment area is approximately 85-acres linking the roads of West Mountain, East Mountain, and Bella Vista and designed to specifically focus on vegetation density to improve the safety and effectiveness of suppression efforts during a wildfire. The program removes limbs of established trees, dead vegetative materials and reduces grasses' height since the previous treatment.

  The treatment of these areas is on a 3-year cycle, and during 2019 MFPD partnered with CalFire and the California Conservation Corp to remove vegetative materials in a 25-acre area in the western section of the treatment network. These locations were selected based on another recommendation from the 2019 CWPP Amendment because of the vegetation's age.

In "*A Retrospective Study of Montecito Fire Protection District's Wildland Fire Program during the 2017 Thomas Fire*" report discussed how MFPD mitigation efforts reduced structures destroyed or damaged by fire. The fire destroyed seven primary dwelling homes, seven additional dwelling homes, and 37 addresses with damage that had more than one structure impacted on the property. The report discusses the "common denominators" relating to the structures destroyed during the fire based on three elements.

The first factor affecting risks were properties that were not assessable and unsafe for fire personnel to defend. Each of the personal dwelling homes was located above the east-west roads that transverse the northern portion of MFPD. The driveways were long and winding from the main road and had small turnaround areas for fire apparatus. The second factor was the presence of vegetative fuels within 30 feet of the structure and did not meet the California Public Resource Code 4291 for defensible spaces.

The MFPD Development Standard #2, Vegetation Management, requires defensible spaces from 0–100 feet. Zone 1 is from 0–30 feet, while Zone 2 is an additional 70 feet. Zone 1 is a cleared area around the buildings and limited to ground covers, selected ornamental grasses, and native species allowed by MFPD's "Desired Plant List." At least 5 feet must separate plants and shrubs from a structure. When trees are fully grown, the canopy cannot be closer than 15 feet to a building.

Zone 2 (Reduced Fuel Zone) requirements are designed to reduce vertical and/or horizontal spread of combustible and flammable vegetation to decrease the rate of fire spread, thus improving firefighter safety.[44]

Many of the properties had trees or shrubbery bordering the buildings or combustible decking or fencing attached to the structure. The final factor noted that two of the primary dwellings and three additional dwelling homes destroyed were in a location that had been identified by MFPD's Wildland Fire Specialist as a weakness in the fuel treatment network before the Thomas fire. These structures were exposed to heavy vegetation, overhanging trees, and possibly concentrated ember wash, heat, and flame impingement.[45]

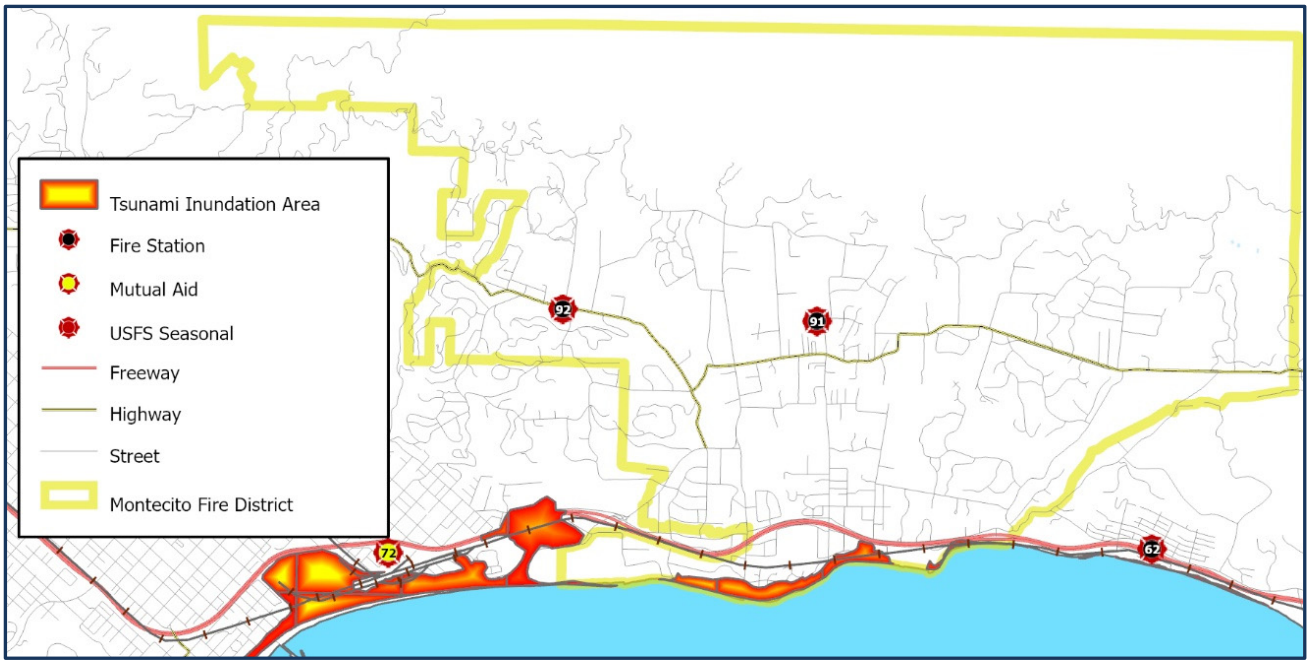
MFPD has implemented many of the recommendations from the 2016 Montecito CWPP, which was evident during the Thomas Fire and acknowledged in the *Retrospective Report*. In July 2020, MFPD was one of three departments nationwide selected for a Wildfire Mitigation Award from the International Association of Fire Chiefs for their innovative approach to prevention and mitigation efforts.

Tsunami

The threat of a tsunami to the Montecito area is low because they occur infrequently, and the last known in Santa Barbara County was in 1988. There are offshore faults near Santa Barbara and Carpinteria that can produce a tsunami. Although the threat is considered low, there have been reports of a sizable tsunami during earthquakes in 1812 off the coast of Santa Barbara. Geographical features from the Transverse Mountains that extend into the Santa Barbara channel or other offshore areas can create tsunamis when an earthquake occurs, such as the ones reported in 1812.[46]

Areas of inundation in MFPD are all south of U.S. Hwy 101 and include residential and commercial properties along the coastline. The Union Pacific rail line is affected between Eucalyptus Road and Posilipo Lane and just west of Fernald Point Lane's eastern terminus.

Figure 84: MFPD Tsunami Threat Areas

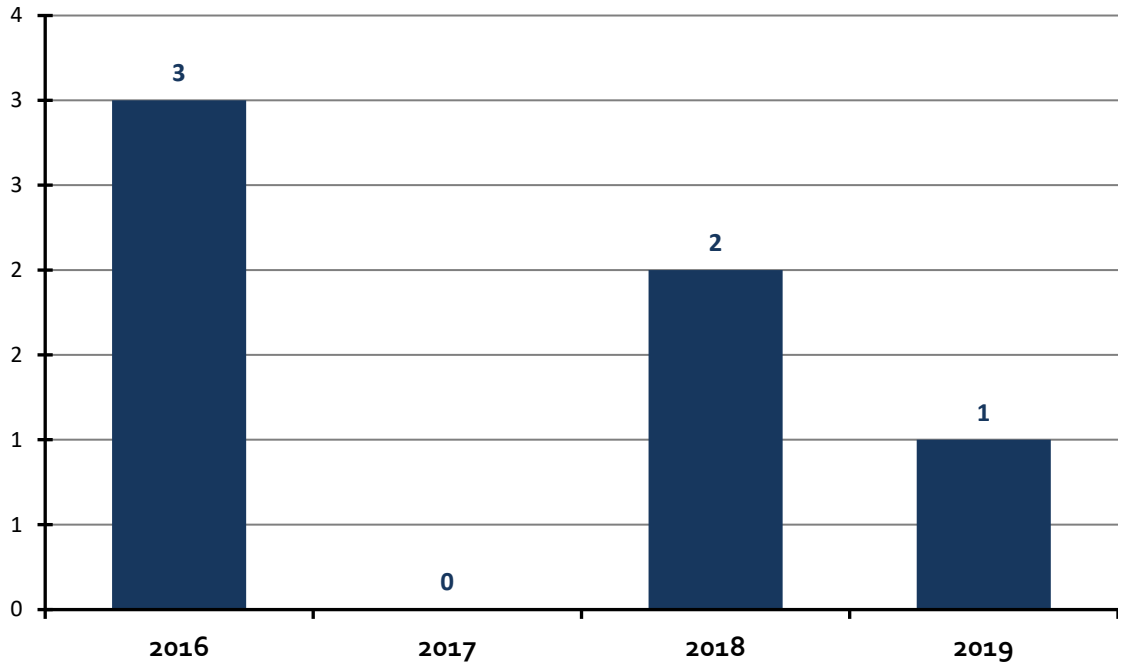


Ocean Rescue Emergencies

The proximity of the Pacific Ocean to the district presents additional risk. Surf rescue events occur each year along the beaches located in the MFPD response area. Between 2016–19 there were six incidents classified as surf rescues.

The district has minimal training and relies on Santa Barbara City Fire Department and CSFPD for in-water rescue emergencies. CSFPD has a 25-member water rescue team certified to the *United States Lifeguard Association* standards, and a minimum of two personnel are on each shift. They can provide various water rescue equipment, including paddleboards, Jet Skis, and an inflatable boat. Santa Barbara City also has longboards and rescue swimmers. These agencies respond with MFPD on initial alarms for ocean rescue incidents.

Figure 85: Water Rescues (2016–19)



Technological (Human-Caused) Hazards

Events that occur without warning or that were unknown and suddenly appeared are considered technological hazards. Examples include industrial accidents or hazardous chemical releases. Each community should create contingency plans for the specific risks in their jurisdiction. This may include permitting, periodic fire and life-safety inspections, and pre-incident planning. These activities are designed to reduce risks and provide on-site visits for fire department personnel.

If a building or facility that stores or produces hazardous materials has been identified, it may require special personal protective clothing and equipment to control or mitigate the event. Locations that have hazardous materials on-site for any time during the year exceeding the limits established by the Environmental Protection Agency are required to file Tier II reports. These reports are provided to local jurisdictions, local emergency planning committees, and the State's Emergency Response Commission as required by the Emergency Planning and Community Right-to-Know Act of 1986, also known as SARA Title III. These thresholds require submission:

- Ten-thousand pounds for hazardous chemicals
- Lesser of 500 pounds or the threshold planning quantity for extremely hazardous chemicals

California requires additional reporting quantities through a five-tier system that authorizes the treatment and storage of hazardous waste.

Hazardous Materials

Although there are no hazardous material production facilities located in MFPD's district, a few local businesses include repair garages, a hardware store, and Westmont College contain hazardous substances. The quantities are minimal and do not require any reporting to MFPD.

There is a possibility of a release during a transportation accident along U.S. Hwy 101 or local streets that could impact the community. Other locations can include residential properties that store chemicals for household cleaning or lawn maintenance.

If an event involving hazardous materials occurs, personnel from MFPD can respond initially to determine the scope of the incident. MFPD has personnel trained at the hazardous materials technician and specialist level. The department can request a trailer with hazardous materials mitigation equipment from CSFPD to respond during an incident. This is a shared trailer for both departments. If the incident requires a higher level of response, the South Coast Hazardous Materials Team can be activated that includes Santa Barbara City Fire Department. Additional assistance can be requested from North County Hazardous Materials Teams that include personnel and equipment from Santa Barbara County and Lompoc Fire Departments. Both of these teams are considered Type II Hazmat Teams. If a higher level of assistance is necessary, Ventura County's Type I team can be requested.

Infrastructure Protected

Energy

The use of electrical power is required for many day-to-day activities. The need for electricity requires lines throughout the district and can be broken down into a distribution network. There is one high voltage line that transverses MFPD east to west with a maximum of 66 kV. Natural gas transmission lines pass through the north and south sides of the district and have been identified. MFPD is served by Southern California Edison (SCE) for electrical services and natural gas by Southern California Gas Company.

SCE may implement Public Safety Power Shutoffs when wildfire dangers exist to prevent a fire from igniting power lines. These shutoffs are usually temporary. SCE provides alerts for customers before power is shut off, but the customer must sign up for text, phone message, or email notifications.[47] If these shutoffs occur, MFPD must be prepared if their stations are impacted and understand how the community may be affected.

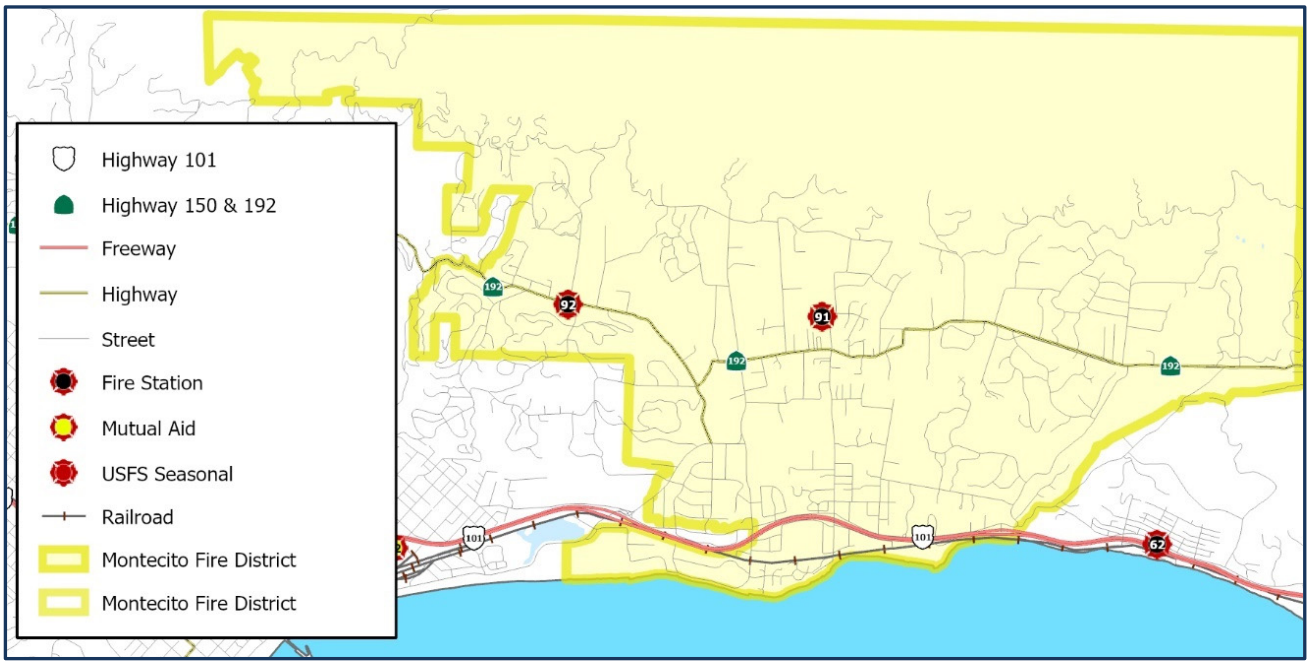
Transportation Network

The majority of the transportation network consists of collector streets fed by residential roads throughout MFPD. These roads provide interconnectivity for emergency responders, but many cul-de-sac roads could impact response if the roads are impassable during an evacuation. These roads may be narrow in the hills and should be identified to prevent a slow response.

Traffic signal preemption allows responding units to modify the signal plan and change the light to green to enable safe and quick passage through a controlled intersection. These systems can reduce the number of vehicle crashes with apparatus or between private vehicles. There is only one traffic signal in the District, and it is preempted.

The primary highway that transverses the district is US Hwy 101, a north-south freeway through Santa Barbara County. The highway travels in an east to west direction in Montecito. According to Caltrans, the 2018 peak monthly average volume for passenger vehicles near Sheffield Drive was approximately 62,300, and more than 3,200 were trucks.[48] The high volume of trucks recorded was most likely related to debris basin work post Thomas Fire Debris Flow Incident.

Figure 86: MFPD Highway Network



Rail

A mainline for Union Pacific passes through MFPD, and there are approximately three freight trains and seven passenger trains passing through the district each day. There are numerous rail crossings in MFPD that can pose a threat to the train and a pedestrian or passenger vehicle if they ignore warnings of an approaching train. Most crossings are controlled except specifically for pedestrians. Olive Mill Road has approximately 5,200 vehicles passing the controlled crossing each day. The crossing at Eucalyptus Lane, Miramar Hotel, Posilipo Lane, and Lookout Park Road are controlled. Other pedestrian crossings are not controlled and pose additional risks when they do not see or hear a train as it approaches. The most recent pedestrian-related fatality occurred in 2015 at Eucalyptus Lane.[49]

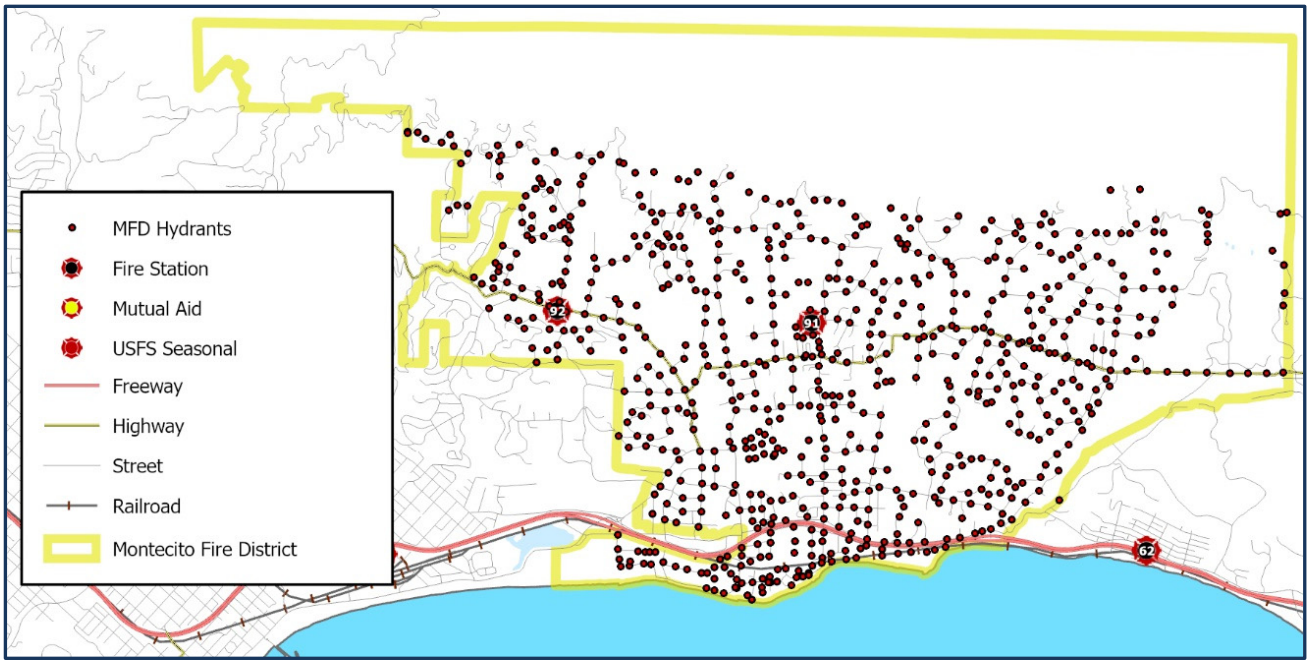
Figure 87: MFPD Railway Crossings

Water Supply

Without an adequate water supply and distribution system consisting of water storage, mains, and a fire hydrant system, it will be challenging to control and extinguish a fire. To alleviate this problem, a system of well-distributed hydrants and suitably sized water mains are necessary to provide the essential water for fireground use.

The Montecito Water District provides water within the MFPD district. The water district uses multiple water sources to service its customers, including supplemental surface water from San Luis Reservoir and California Aqueduct and the Coastal Branch Pipeline, local surface consisting of Lake Cachuma and Jameson Lake, and local groundwater wells. The water district is researching other sources, including a desalination water plant with the City of Santa Barbara and allowing the use of recycled water from other South Coast facilities. There is a small portion of MFPD that receives water from the City of Santa Barbara.[50] All non-operationals hydrants are repaired by the water district, and inspections are performed by MFPD on a two-year basis.

Figure 88: MFPD Hydrant Locations



Communications

The ability to receive and transmit incident information requires an emergency communication center. All 9-1-1 calls are received by the Santa Barbara County 9-1-1 Public Safety Center (SBCPSC) and transferred to MFPD to dispatch for either fire district. All county telecommunicators provide Emergency Medical Dispatch for EMS responses before transferring to MFPD.

MFPD provides dispatching service utilizing shift personnel specifically assigned as telecommunicators. They work a 48-96 shift schedule. If a call is transferred while they are asleep, they receive a notification in their room that awakens them to dispatch the incident. MFPD uses TriTech computer-aided dispatch to receive incident data and dispatch the appropriate unit.

Six other shift personnel have received training to fill in for the primary telecommunicators when they are on leave. They receive a 5% salary increase for this in-house certification and are given continuing education from the full-time telecommunicators periodically.

If the MFPD dispatch location is unable to operate, SBCPSC provides backup services in the event of a failure. There is a plan to move to a regional public safety communication center in approximately three years. The plan will need approval by the Santa Barbara County Board of Supervisors before implementation. The new regional center will provide dispatch services for all fire agencies in Santa Barbara County and may include an EMS component.

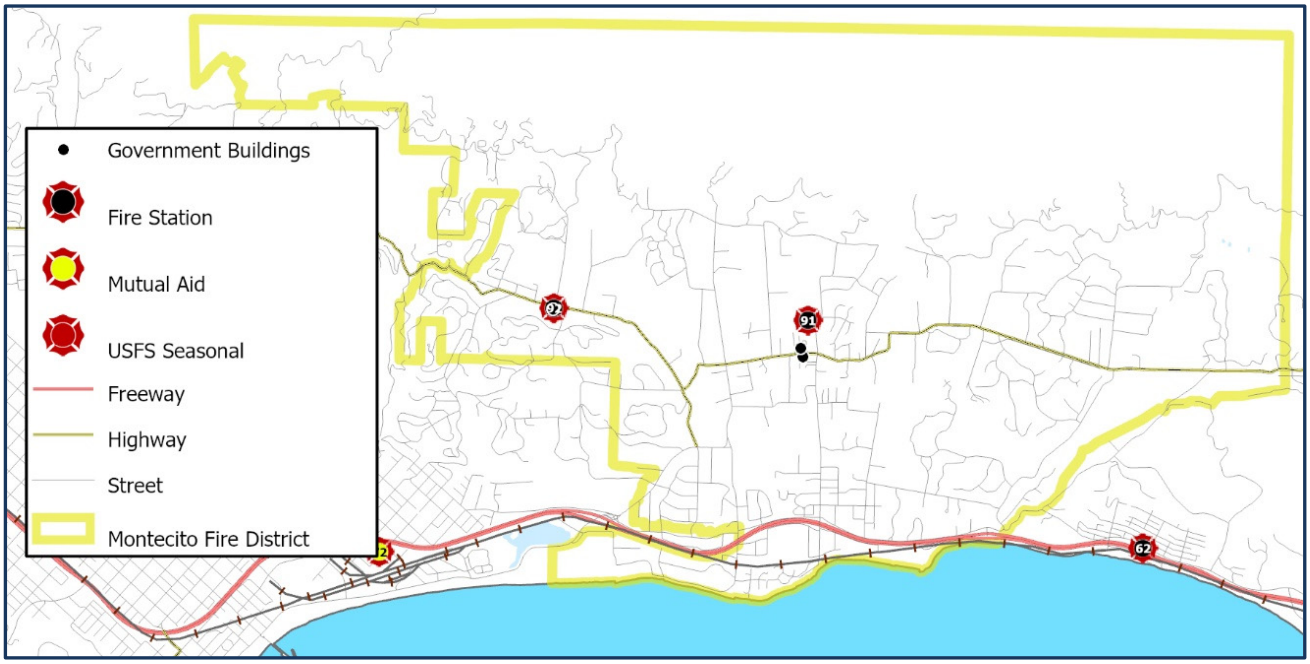
The MFPD Board has authorized the Fire Chief to negotiate with Santa Barbara County Fire to participate in the regional fire dispatch center. The County will be the primary organization for construction and developing governance on how the multiagency center will operate.

Other types of communications include central telephone offices, transmission lines that provide internet services, and cellular providers. The loss of these services can severely impact emergency services and the ability to access information at individual stations or with mobile applications.

Government & Public Safety Facilities

Buildings that provide public services from local or other governmental units are considered essential facilities and should receive special attention. These facilities are for the public to receive community services, and fire department personnel should be familiar with the properties during an emergency. Pre-incident plans should be completed and updated each year to include each fire department facility.

Figure 89: MFPD Government & Public Safety Facilities (n=2)



Land Use

Land use for a community is designed to assign a classification for properties within a geographical area normally under governmental control. The concept of land use regulation is to provide attractive social and environmental outcomes to manage development efficiently. Zoning areas may vary from one portion of the service area with a mixture of low-, moderate-, and high-risk properties.

- Low Risk: Areas zoned for agricultural purposes, open spaces, low-density residential, and other low-intensity use.
- Moderate Risk: Areas zoned for medium-density single-family properties, small commercial and office uses, low-intensity retail sales, and similarly sized business activities.
- High Risk: Higher intensity business districts, mixed-use areas, high-density residential, industrial, storage facilities, and large mercantile centers.

MFPD's land use is designated by Santa Barbara County and is primarily residential, but there is some commercial development along U.S. Hwy 101. Santa Barbara County adopted the Montecito Architectural Guidelines and Development Standards to "… assist the property owner, homeowner, architect, developer and builder in designing projects that will be harmonious with the existing character of Montecito." The standard describes how the lot size dictates the maximum net floor area.

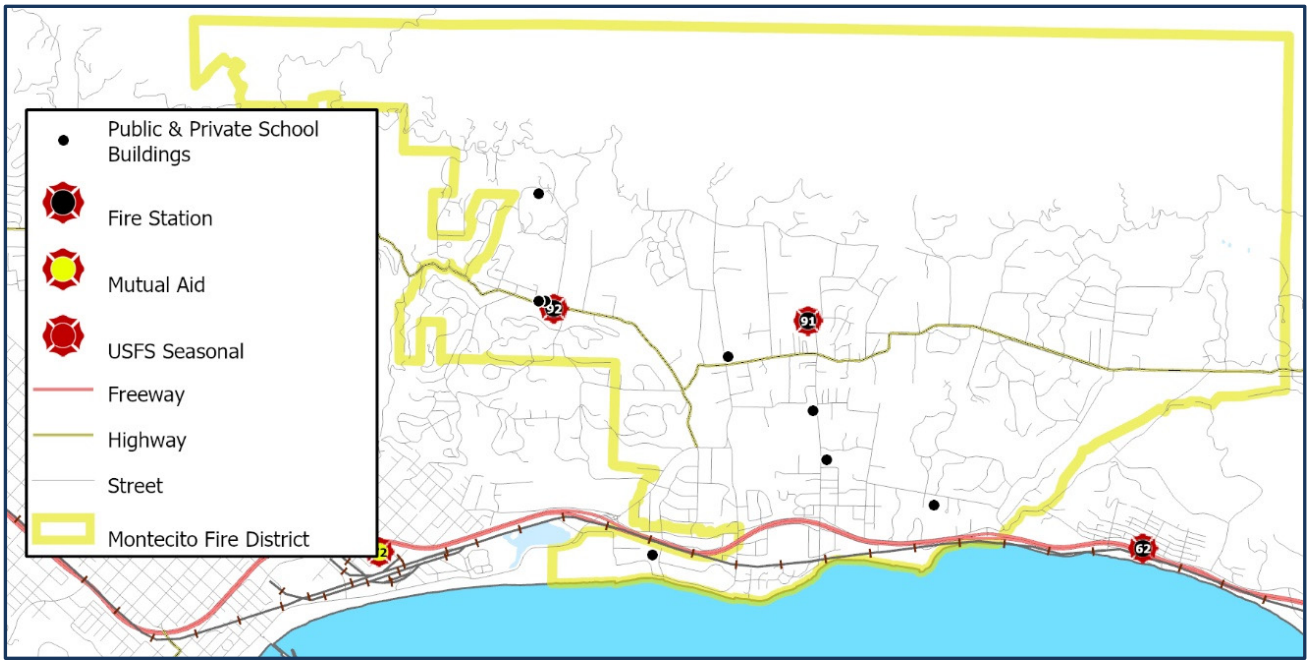
As the lot increases in size, the square feet of the home is allowed to grow. The document provides some basic guidance on how to reduce wildfire risks. Santa Barbara County has created area and community goals for future development in its Land Use Element document to ensure growth can meet available resources and services.

Structural Risks

Schools

Several elementary schools are located in Montecito. These locations should be considered target hazards because of the large number of students and teachers in a single location. Westmont College's campus is in Montecito and includes numerous buildings such as residential dormitories, athletic facilities, classroom buildings, library, dining hall, and theatre. MFPD personnel should be familiar with the buildings and prepare for various types of emergencies based on the occupancy type.

Figure 90: MFPD Public & Private Schools (n=8)



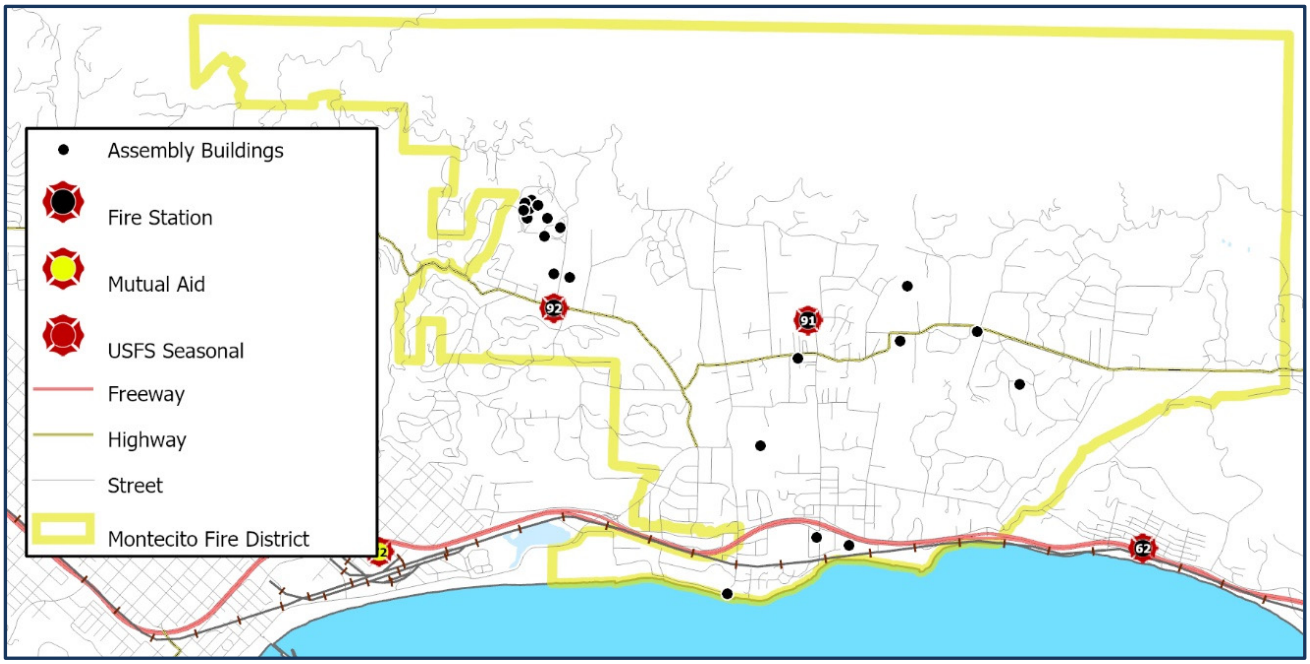
Childcare Facilities

The young age of children or infants creates a particular concern during an emergency because of the lack of mobility of small children and, in some cases, the inability of them to evacuate during an emergency. These facilities will require childcare workers to assist small children or physically carry infants when an evacuation is necessary. Childcare facilities pose a concern because of evacuation needs. MFPD has a robust pre-plan system—which is updated annually—that includes childcare facilities. The pre-plans are immediately available to responders via multiple electronic devices.

Assembly

Assembly occupancies create unique risks because of the large number of people in a single location. These types of occupancies include restaurants, theaters, nightclubs, sporting events, or large outside festivals and are all locations where people gather. These occupancies may require a large number of emergency response personnel during an event such as a fire or active shooter. There are multiple assembly occupancies throughout MFPD. The District's pre-plan system includes these facilities.

Figure 91: MFPD Assembly Occupancies (n=20)



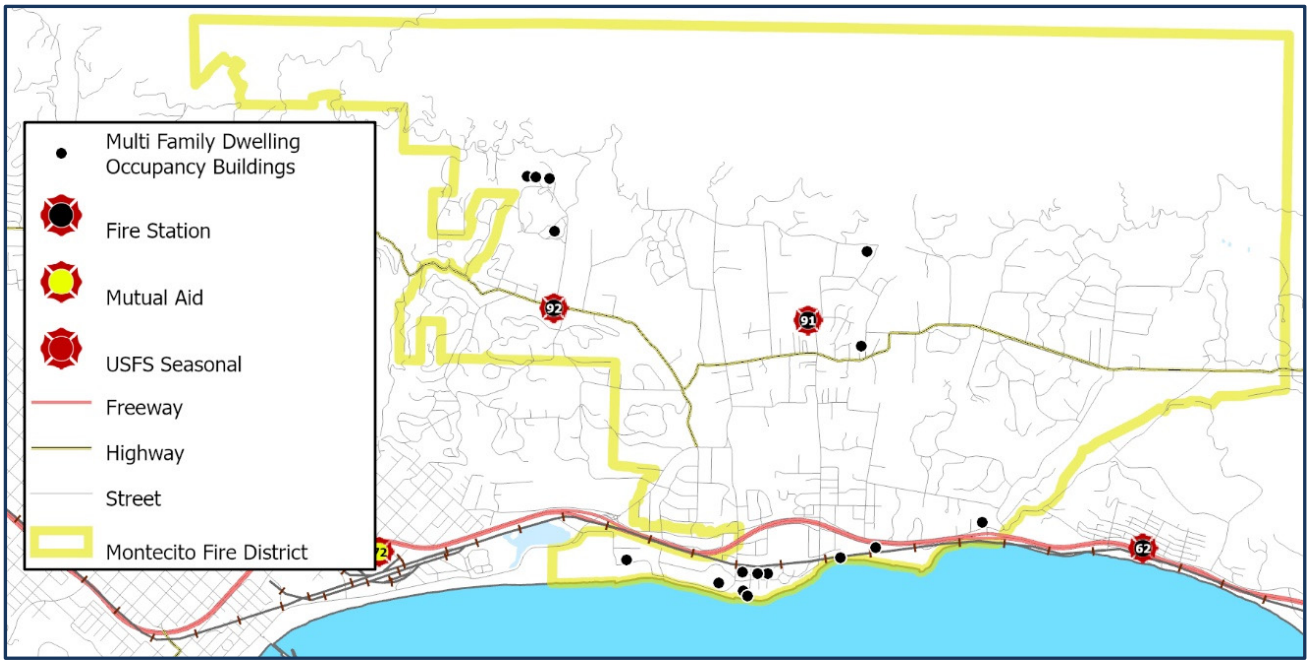
Institutional

Occupancies that house people that may need assistance evacuating a building present a particular risk. The occupants and employees should understand proper evacuation procedures during an emergency if they are capable. While there are few institutional occupancies, the District's pre-plan system includes these facilities.

Residential Multi-Family Occupancies

Residential multi-family properties create a higher risk for occupants than most commercial buildings because of the number of people living in the same building. Most fire fatalities occur at these locations and represent numerous risks, such as occupants with accessibility issues or buildings built without fire sprinkler protection. The common areas of these occupancies are inspected annually by MFPD.

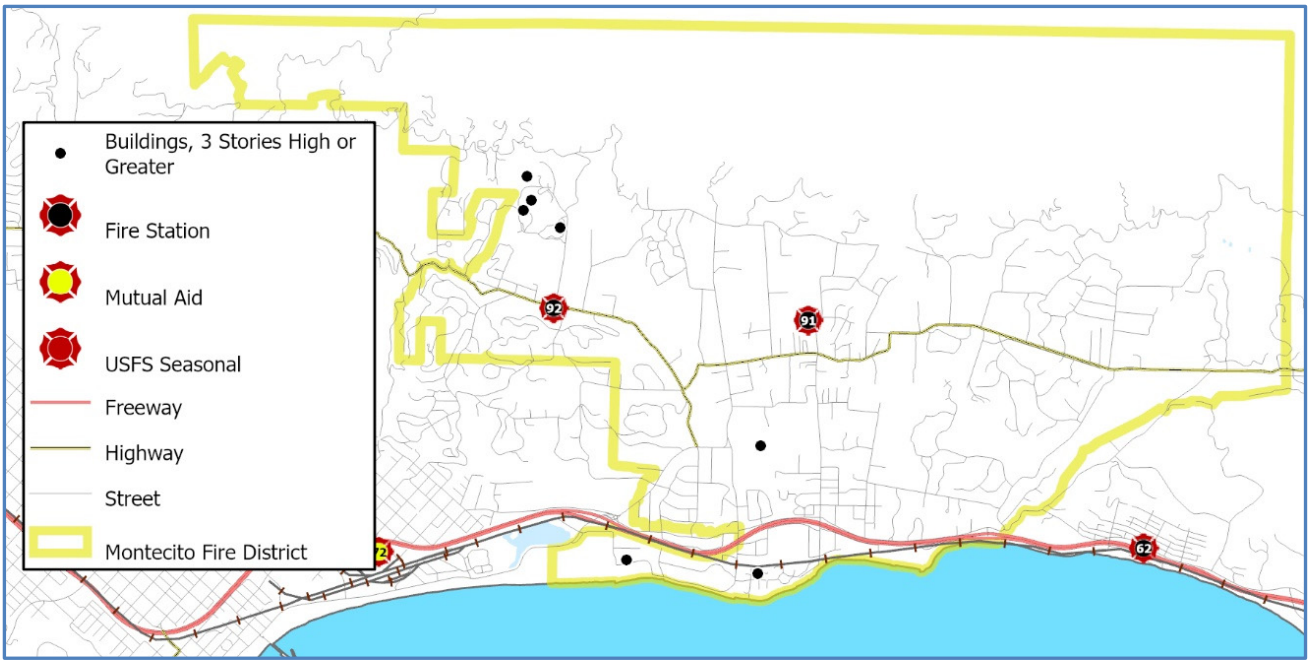
Figure 92: MFPD Residential Multi-Family Occupancies (n=16)



Buildings Three or More Stories in Height

Although there are few buildings greater than three or more stories in height, these buildings do present additional hazards. They typically require an aerial apparatus with an elevated master stream or ladder to extinguish a fire. The Insurance Service Office reviews the coverage area for all buildings within 2.5 miles for a ladder truck. To access the upper floors or roofs of these higher buildings, a ladder truck may be necessary since most ground ladders cannot reach these heights. The following figure provides locations of all buildings three or more stories in height.

Figure 93: MFPD Buildings Three or More Stories in Height (n=7)



Large Square Footage Buildings

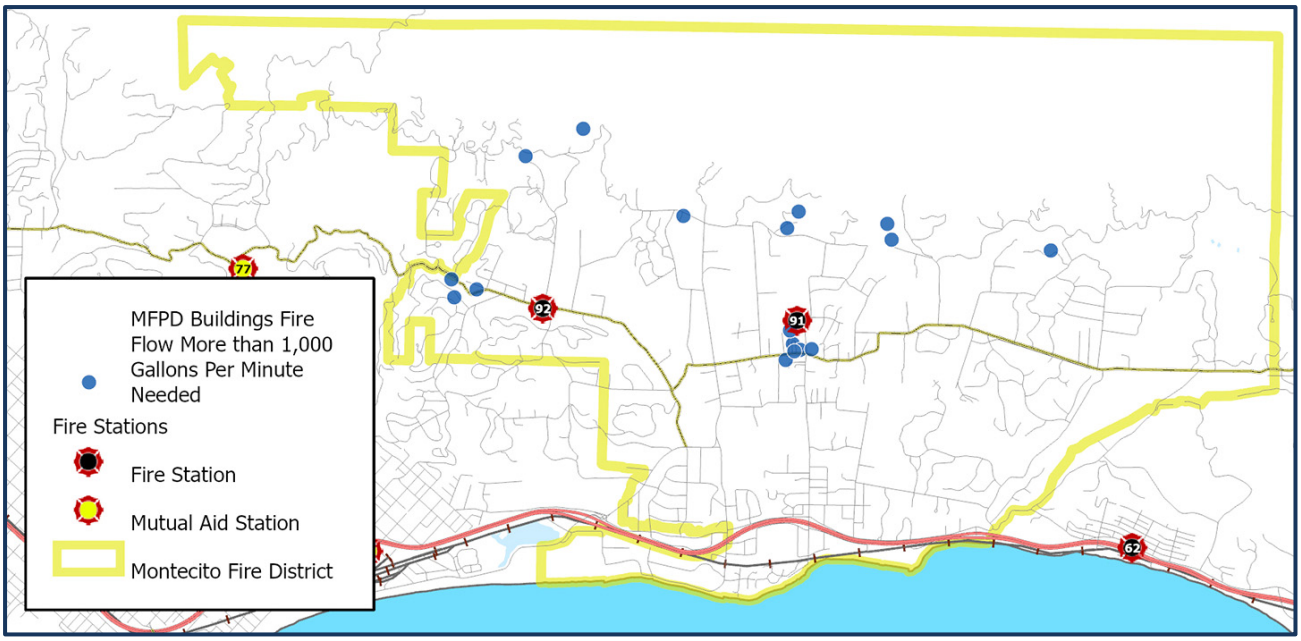
During Triton's review of risks, it was noted—while there are no large square footage buildings (greater than 100,000 square feet) in Montecito—there are other significant occupancies on the campus of Westmont College that should be considered when completing pre-incident surveys.

Large Fire-Flow Occupancies

Occupancies can be classified according to their risk level. Risk factors that classify occupancies as low, medium, or high include the size of the building(s), construction type, the presence or absence of fire suppression features such as sprinklers and standpipes, the needed fire flow, the risk to life, the presence of chemicals and/or hazardous processes, and the amount of water available in relation to the required fire flow.

The Insurance Service Office develops what they call the Batch Report that lists the needed fire flow (NFF) for most commercial occupancies in MFPD. The NFF formula was developed based on a review of large-loss fires by ISO that included the construction and occupancy type, area of the building, and exposures. The following figure lists the properties with an NFF of 1,000 gallons per minute or greater.

Figure 94: MFPD Fire Flows more than 1,000 gpm (n=37)



Comparison of Fire Risk in Other Communities

Fire Loss

The most recent National Fire Protection Association (NFPA) fire incident data reported in 2018 that United States fire departments responded to an estimated 1,318,500 fires. These fires resulted in 3,655 civilian fire fatalities, 15,200 civilian fire injuries, and an estimated $25.6 billion in direct property loss (this figure includes a $12 billion loss in Northern California wildfires). Home fires caused 2,720, or 74%, of the civilian fire deaths.

The fire loss for Montecito in 2018 was $9.41 per capita, which is much less than the per capita rate of the United States. The rate of fire loss can fluctuate from year-to-year based on factors such as the number of incidents or their severity. An example would include the Thomas Fire in 2017, where the total fire loss for the year was more than $34 million. When reviewing fire incident data between 2016–19, the average was much higher than the U.S. at $4,006.34, primarily due to the Thomas Fire. The number of fires is 4.6 per thousand is higher than the national average of 3.7 for 2018. This number can fluctuate much like annual fire loss and ranges from 6.1 in 2013 to a low of 2.9 in 2015.

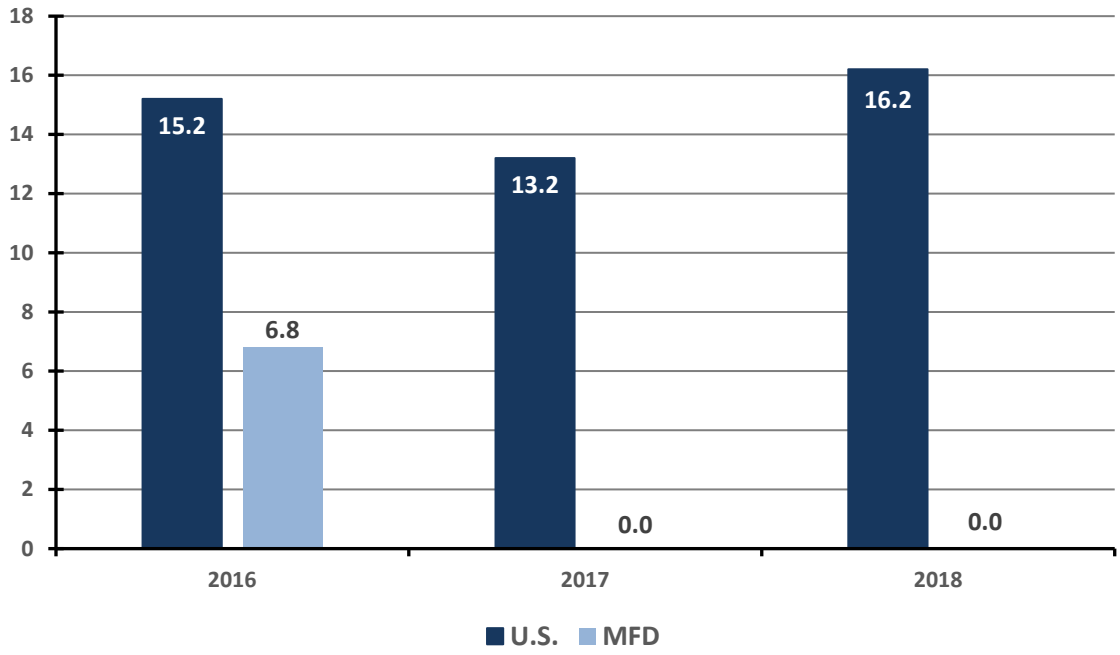
Figure 95: MFPD Number of Fire & Loss Per Capita (2018)

Community (10,000 to 24,999)	Number of Fires per 1,000 Population	Property Loss per Capita
Montecito FPD	4.6	$9.41
United States	3.7	$78.25

Intentionally Set Fires

Intentionally set fires, or in many cases considered as arson, is defined as "any willful or malicious burning or attempt to burn, with or without intent to defraud, a dwelling house, public building, motor vehicle or aircraft, personal property of another."[51] According to data from MFPD, there was only one intentionally set fire between 2016–2018, which is much less than the national average.

Figure 96: MFPD Intentionally Set Fires per 100,000 Population (2016–2018)



Insurance Services Office

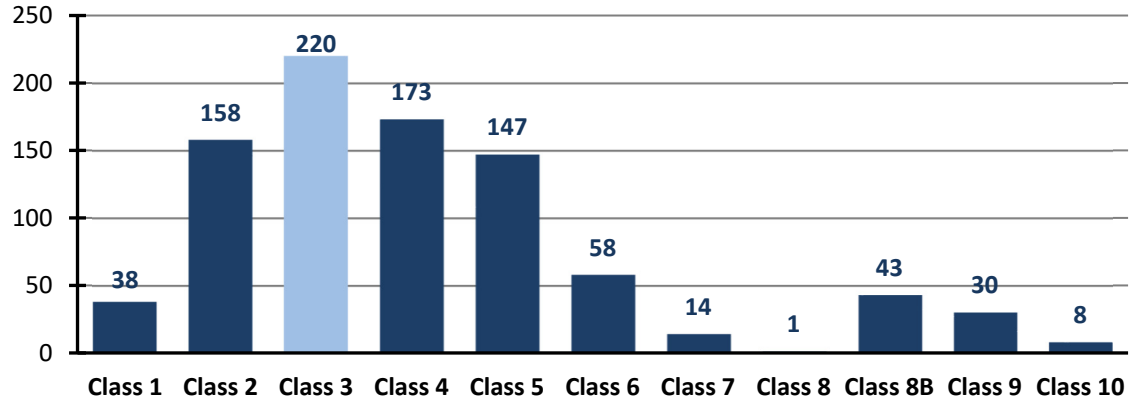
The Insurance Services Office, Inc. (ISO) is an independent organization that collects and analyzes data from fire departments in communities throughout the United States to determine fire insurance rates. According to their report, the ISO's Public Protection Classification program, or PPC, "is a proven and reliable predictor of future fire losses." Commercial property insurance rates are expected to be lower in areas with lower (better) ISO PPC Class rating.

The ISO Fire Suppression Rating Schedule (FSRS) measures four primary elements of a community's fire protection system: *Emergency Communications* (max 10 points); *Fire Department* (max 50 points); *Water Supply* (max 40 points), and *Community Risk Reduction* (max 5.5 points) for a maximum possible total of 105.5 points. ISO then assigns a grade using a scale of 1 to 10, with Class 1 representing the highest degree of fire protection. Class 10 designates a fire suppression program that does not meet ISO's minimum criteria.

In 2017, MFPD was assigned an ISO classification of 3/3X. MFPD is one of 220 communities out of 890 organizations surveyed across the State to achieve the rating, as shown in the following figure. MFPD received 77.58 points, which translates to their assigned classification. The second rating of the classification is for properties more than 1,000 feet from a hydrant but within five road miles of a recognized fire station.

A review of the Public Protection Classification Summary Report revealed 0.45 credits out of 4 for ladder service. The closest truck company is in Santa Barbara City. A credit of 4.8 of 7 was provided for inspection and flow testing of hydrants.

Figure 97: MFPD Comparison of ISO Class Ratings (California)



CRITICAL TASKING & ALARM ASSIGNMENTS

The MFPD and CSFPD service areas represent a moderately populated suburban environment and, as such, contain limited density and distribution of risk typically found in coastal interface environments. As the actual or potential risk increases, the need for higher numbers of personnel and apparatus also increases. With each type of incident and corresponding risk, specific critical tasks need to be accomplished, and certain numbers and types of apparatus should be dispatched.

Tasks that the Districts must perform at a fire can be broken down into two key components: life safety and fire flow. Life safety tasks are based on the number of building occupants, their location, status, and ability to take self-preservation action. Life safety-related tasks involve the search, rescue, and evacuation of victims. The fire flow component involves delivering sufficient water to extinguish the fire and create an environment within the building that allows entry by firefighters.

The number and types of tasks needing simultaneous action will dictate the minimum number of firefighters required to combat different types of fires. In the absence of adequate personnel to perform concurrent action, the commanding officer must prioritize the tasks and complete some in chronological order rather than concurrently. These tasks include the following:

- Command
- Scene safety
- Search and rescue
- Fire attack
- Medical assistance
- Water supply
- Pump operation
- Ventilation
- Backup/rapid intervention

Critical task analyses also apply to non-fire-type emergencies, including medical, technical rescue, and hazardous materials emergencies. Numerous simultaneous tasks must be completed to control an emergency effectively. The District's ability to muster needed numbers of trained personnel quickly enough to make a difference is critical to successful incident outcomes.

The following figure illustrates the minimum emergency incident staffing recommendations of the Commission on Fire Accreditation International (CFAI). The following definitions apply to the figure:

- **Low Risk:** Incidents involving fires in single-family dwellings and equivalently sized commercial office properties (fire flow between 250 gallons per minute to 1,000 gallons per minute), life-threatening medical emergencies, hazardous materials emergencies requiring specialized skills and equipment, rescues involving technical skills and equipment, and larger wildland fires.
- **High Risk:** High-risk incidents involving fires in large square footage residential and commercial properties with a sustained attack (fire flows more than 1,000 gallons per minute), multiple patient medical incidents, major releases of hazardous materials, high-risk rescues, and wildland fires with extreme weather or fire behavior.

Figure 98: Staffing CFAI Recommendations Based on Risk

Incident Type	High Risk	Low Risk
Structure Fire	29	15
Emergency Medical Service	12	4
Rescue	15	8
Hazardous Materials	39	20

MFPD and CSFPD have developed the following Critical Task Analysis using the risk matrices included in the Critical Task Section for various incident types. Further, the districts have defined, based on current unit staffing levels, the number and type of apparatus needed to deliver sufficient personnel to meet the critical tasking identified. Triton's review of the Critical Task Analysis concludes that all are generally in keeping with industry standards; however, both districts rely on automatic aid to provide the minimum number of personnel needed for effective incident operations beyond a low-risk response.

Establishing resource levels needed for various types of emergencies is a uniquely local decision. Factors influencing local decisions for incident staffing include the type of equipment operated, training levels of responders, operating procedures, geography, traffic, and the nature of buildings and other risks protected.

Critical Tasking

Critical tasks are those activities that must be conducted early and promptly by firefighters at emergency incidents to control the situation, to stop loss, and to perform necessary tasks required for a medical emergency. CSFPD and MFPD are responsible for assuring the responding companies are capable of performing all of the described tasks in a prompt, efficient, and safe manner. These are the minimum number of personnel needed by incident type. More personnel will be required for incidents of increased complexity or size.

CSFPD & MFPD Critical Tasking

The following figures list the critical tasking numbers for each of the fire districts by type of incident. Each figure shows a comparison of CSFPD and MFPD.

Figure 99: Low-Risk Structure Fire

Task	CSFPD No. of Personnel	MFPD No. of Personnel
Command	1	1
Safety	1	1
Pump Operations	1	1
Attack Line	2	2
Backup Line	3	3
Search and Rescue	3	3
Ventilation	2	2
Rapid Intervention Crew	2	2
Hydrant	1	1
Total:	**16**	**16**

Figure 100: High-Risk Structure Fire (≥ 5,000 square feet)

Task	CSFPD No. of Personnel	MFPD No. of Personnel
Command/Safety	2	2
Pump Operations	1	1
Aerial Operator (if truck company requested)	1	1
Attack Line	4	4
Backup Line/Support	2	2
Search and Rescue	3	3
Ventilation/Ground Ladders	3	3
Rapid Intervention Crew	3	3
Medical (AMR)	2	2
Total:	**21**	**21**

Figure 101: Wildland Fire

Task	CSFPD No. of Personnel	MFPD No. of Personnel
Command	4	4
Safety	1	1
Pump Operations/Lookout	4	4
Attack Line	20	20
Exposure Lines	9	9
Structure Protection	12	12
Water Supply	3	3
Other (Mop-Up, Overhaul)	23	23
Total:	**76**	**76**

Figure 102: Aircraft Emergency

Task	CSFPD No. of Personnel	MFPD No. of Personnel
Command/Safety	3	3
Pump Operations	1	1
Attack Line	9	9
Backup Line	3	3
Rescue	3	3
Emergency Medical Care	2	2
Water Supply	1	1
Total:	**22**	**22**

Figure 103: Hazardous Materials—Low Risk

Task	CSFPD No. of Personnel	MFPD No. of Personnel
Command	1	1
Research/Support	1	1
Entry Team & Backup Team	1	1
Total:	**3**	**3**

Figure 104: Hazardous Materials—High Risk

Task	CSFPD No. of Personnel	MFPD No. of Personnel
Command/Safety	3	3
Decontamination	6	6
Research Support	3	3
Team Leader, Entry Team, & Backup Team	15	15
Total:	**27**	**27**

Figure 105: Emergency Medical Aid

Task	CSFPD No. of Personnel	MFPD No. of Personnel
Patient Management	1	1
Patient Care	3	3
Documentation	1	1
Total:	**5**	**5**

Figure 106: Major Medical Response (10+ patients)

Task	CSFPD No. of Personnel	MFPD No. of Personnel
Incident Command	1	1
Safety	1	1
Triage	1	1
Treatment Manager	1	1
Patient Care	9	9
Transportation Manager	1	1
Documentation	1	1
Total:	**15**	**15**

Figure 107: Motor Vehicle Accident (Non-Trapped)

Task	CSFPD No. of Personnel	MFPD No. of Personnel
Scene Management/Documentation	2	2
Patient Care/Extrication	4	4
Total:	**6**	**6**

Figure 108: Motor Vehicle Accident (Trapped)

Task	CSFPD No. of Personnel	MFPD No. of Personnel
Command	1	1
Patient Care	2	2
Extrication	3	3
Pump Operator/Suppression Line	1	1
Vehicle Stabilization	2	2
Total:	**9**	**9**

Figure 109: Technical Rescue—Water

Task	CSFPD No. of Personnel	MFPD No. of Personnel
Command/Safety	1	2
Rescue Team	5	5
Backup Team	5	5
Patient Care	2	2
Rope Tender	1	1
Upstream Spotter	1	1
Downstream Safety	2	2
Total:	**17**	**17**

Figure 110: Technical Rescue—Rope

Task	CSFPD No. of Personnel	MFPD No. of Personnel
Command/Safety	2	2
Rescue Team	10	10
Backup Team	6	6
Patient Care	2	2
Rope Tender	2	2
Total:	**22**	**22**

Figure 111: Technical Rescue—Confined Space

Task	CSFPD No. of Personnel	MFPD No. of Personnel
Command	2	2
Safety	1	1
Rescue Team	10	10
Backup Team	6	6
Patient Care	2	2
Rope Tender	2	2
Total:	**23**	**23**

Figure 112: Technical Rescue—Trench

Task	CSFPD No. of Personnel	MFPD No. of Personnel
Command/Safety	3	3
Rescue Team	10	10
Back up Team	6	6
Shoring	2	2
Patient Care	2	2
Total:	**23**	**23**

Alarm Assignments

To ensure sufficient personnel and apparatus are dispatched to an emergency event, the following first alarm response assignments have been established. "Total Staffing Needed" is the number identified in the previous Critical Tasking Analysis. The number of personnel and apparatus required to mitigate an active and complex working incident will require additional resources above and beyond the numbers listed next. With currently available resources, including automatic and mutual aid, the districts can staff a number of incident types in accordance with its Critical Tasking Analysis.

CSFPD & MFPD Alarm Assignments

The following figures show the alarm assignments for each fire district by type of incident. Each figure shows a comparison of CSFPD and MFPD.

Figure 113: Structure Fire—Low Risk

	— CSFPD —		— MFPD —	
Unit Type	Number of Units	Total Personnel	Number of Units	Total Personnel
Engine	5	15	5	15
Truck	1	3	1	3
Squad	1	2	1	2
Battalion Chief	3	3	3	3
Total Staffing Provided:		**23**		**23**
Total Staffing Needed:		**16**		**16**

Figure 114: High-Risk Structure Fire (≥ 5,000 square feet)

	— CSFPD —		— MFPD —	
Unit Type	Number of Units	Total Personnel	Number of Units	Total Personnel
Engine	5	15	5	15
Truck	1	3	1	3
Squad	1	2	1	2
Battalion Chief	3	3	3	3
Total Staffing Provided:		**9**		**9**
Total Staffing Needed:		**23**		**23**

Figure 115: Wildland Fire

Unit Type	— CSFPD —		— MFPD —	
	Number of Units	Total Personnel	Number of Units	Total Personnel
Engine Type 1 or 3	23	43	23	43
Engine Type 6	3	6	3	6
Hand Crew	3	23	3	23
Battalion Chief	5	5	5	5
Total Staffing Provided:		**77**		**77**
Total Staffing Needed:		**75**		**75**

Figure 116: Aircraft Emergency

Unit Type	— CSFPD —		— MFPD —	
	Number of Units	Total Personnel	Number of Units	Total Personnel
Engine	5	15	5	15
Truck	1	3	1	3
Squad	1	2	1	2
Battalion Chief	3	3	3	3
Total Staffing Provided:		**23**		**23**
Total Staffing Needed:		**23**		**23**

Figure 117: Hazardous Materials—Low Risk

Unit Type	— CSFPD —		— MFPD —	
	Number of Units	Total Personnel	Number of Units	Total Personnel
Engine	1	3	1	3
Total Staffing Provided:		**3**		**3**
Total Staffing Needed:		**3**		**3**

Figure 118: Hazardous Materials—High Risk

	— CSFPD —		— MFPD —	
Unit Type	Number of Units	Total Personnel	Number of Units	Total Personnel
Engine	5	15	5	15
Truck				
Squad	1	2	1	2
Battalion Chief	3	3	3	3
Hazardous Materials Unit	1	4	1	4
Total Staffing Provided:		**24**		**24**
Total Staffing Needed:		**27**		**27**

Figure 119: Motor Vehicle Accident (Non-Trapped)

	— CSFPD —		— MFPD —	
Unit Type	Number of Units	Total Personnel	Number of Units	Total Personnel
Engine	1	3	1	3
Squad	1	2	1	2
Battalion Chief	1	1	1	1
Total Staffing Provided:		**6**		**6**
Total Staffing Needed:		**6**		**6**

Figure 120: Motor Vehicle Accident (Trapped)

	— CSFPD —		— MFPD —	
Unit Type	Number of Units	Total Personnel	Number of Units	Total Personnel
Engine	2	6	2	6
Squad	1	2	1	2
Battalion Chief	1	1	1	1
Total Staffing Provided:		**9**		**9**
Total Staffing Needed:		**9**		**9**

Figure 121: Emergency Medical

Unit Type	— CSFPD —		— MFPD —	
	Number of Units	Total Personnel	Number of Units	Total Personnel
Engine	1	3	1	3
Squad	1	2	1	2
Total Staffing Provided:		**5**		**5**
Total Staffing Needed:		**5**		**5**

Figure 122: Major Medical Response (10+ Patients)

Unit Type	— CSFPD —		— MFPD —	
	Number of Units	Total Personnel	Number of Units	Total Personnel
Engine	4	12	4	12
Squad	1	2	1	2
MCI Trailer	1	1	1	1
Battalion Chief	2	2	2	2
Total Staffing Provided:		**17**		**17**
Total Staffing Needed:		**15**		**15**

Figure 123: Technical Rescue—Water

Unit Type	— CSFPD —		— MFPD —	
	Number of Units	Total Personnel	Number of Units	Total Personnel
Engine	3	9	3	9
Water Rescue Team	2	8	2	8
Rescue Water Craft	1	1	1	1
Squad	1	2	1	2
Battalion Chief	2	2	2	2
Total Staffing Provided:		**22**		**22**
Total Staffing Needed:		**18**		**18**

Figure 124: Technical Rescue—Rope

Unit Type	— CSFPD —		— MFPD —	
	Number of Units	Total Personnel	Number of Units	Total Personnel
Engine	2	6	2	6
Squad	1	2	1	2
UTV	1	1	1	1
SAR (Volunteers)	2	4	2	4
Battalion Chief	1	1	1	1
Total Staffing Provided:		**14**		**14**
Total Staffing Needed:		**23**		**23**

Figure 125: Technical Rescue—Confined Space

Unit Type	— CSFPD —		— MFPD —	
	Number of Units	Total Personnel	Number of Units	Total Personnel
Engine	3	9	3	9
Squad	1	2	1	2
USAR	2	6	2	6
Haz Mat Unit	1	3	1	3
Battalion Chief	3	3	3	3
Total Staffing Provided:		**23**		**23**
Total Staffing Needed:		**23**		**23**

Figure 126: Technical Rescue—Trench

Unit Type	— CSFPD —		— MFPD —	
	Number of Units	Total Personnel	Number of Units	Total Personnel
Engine	3	9	3	9
USAR	2	6	2	6
Squad	1	2	1	2
HazMat Unit	1	3	1	3
Battalion Chief	3	3	3	3
Total Staffing Provided:		**23**		**23**
Total Staffing Needed:		**23**		**23**

Figure 127: CSFPD Automatic & Mutual Aid Resources[A]

Mutual Aid Department	Engines	Ladder Trucks	Other	Total Available Staff
Montecito FPD	1	0	Squad, USAR, BC	6
Santa Barbara Fire Department	1	1	HazMat, BC	12
Ventura County Fire Department	1	0	BC	3
Santa Barbara County FD	2	1	BC	11
Los Padres National Forest	3	0	BC, Hand Crew, Dozer, WT	40
Totals:	**8**	**2**		**72**

[A]Includes resources available through a third alarm.

Figure 128: MFPD Automatic & Mutual Aid Resources[A]

Mutual Aid Department	Engines	Ladder Trucks	Other	Total Available Staff
Carpinteria-Summerland FPD	1	0	Squad, Water Rescue, BC	7
Santa Barbara Fire Department	1	1	HazMat, BC	12
Santa Barbara County FD	2	1	BC	11
Los Padres National Forest	3	0	BC, Hand Crew, Dozer, WT	40
Totals:	**7**	**2**		**70**

[A]Includes resources available through a third alarm.

HISTORICAL SYSTEM WORKLOAD AND PERFORMANCE

Operational Performance Standards

Likely the most noticeable component of an emergency services delivery system is that of response time performance. Policymakers and citizens want to know how quickly they can expect services in the event of an emergency.

What may be the most commonly accepted response time performance standards for fire departments are found in the recommended benchmarks developed by the National Fire Protection Association (NFPA) or Center for Public Safety Excellence (CPSE), Commission on Fire Accreditation International (CFAI). Other standards exist with organizations such as the Commission on Accreditation of Ambulance Services (CAAS). In most national standards, the total response time (TRT) is defined and comprised of several components:

- *Alarm Handling (or call processing) Time*: The time interval between when a dispatcher answers the 911 call and resources are dispatched.
- *Turnout Time:* The interval between the time a unit is dispatched and the time the unit goes en route.
- *Travel Time:* The interval between when the time a unit begins to respond and the time the unit arrives at the incident. The amount of time the responding unit spends traveling to the incident.
- *Total Response Time:* The combination of Alarm Handling Time, Turnout Time, and Travel Time.

In some cases, historical Alarm Handling data is unavailable for analysis by the fire department. In such cases, response performance is based on the interval between the time the unit was notified of an incident until the time the unit arrives at the incident. In these cases, this is often referred to as Response Time (as opposed to Total Response Time).

Some fire departments continue to use "average" response performance measures since the term is commonly used and widely understood. The most important reason for not using the average for performance standards is that it may not be an accurate reflection of the entire dataset. Data outliers can skew the results. Most progressive systems use the "fractile" method of analyzing response performance. This method uses percentile measurements (usually the 90th percentile) and is a better measure. They show that the large majority of the data set has achieved a particular level of performance.

NFPA/CFAI Recommended Standards

CFAI relies on many of the NFPA standards for response times, as well as its recommendations.[52] For staffed stations, the benchmark recommendations are as follows:

- Alarm Handling Time: 60 sec. or less at 95% (CFAI lists this at 90%)
- Turnout Time: EMS—60 sec. or less at 90%; Fires & Special Operations—80 sec. or less at 90%

- Travel Time:
  - Urban (first unit)—4 minutes or less at 90%
  - Suburban (first unit)—5 minutes or less at 90%
  - Rural (first unit)—10 minutes or less at 90%

The NFPA 1710 standard applies to career departments.

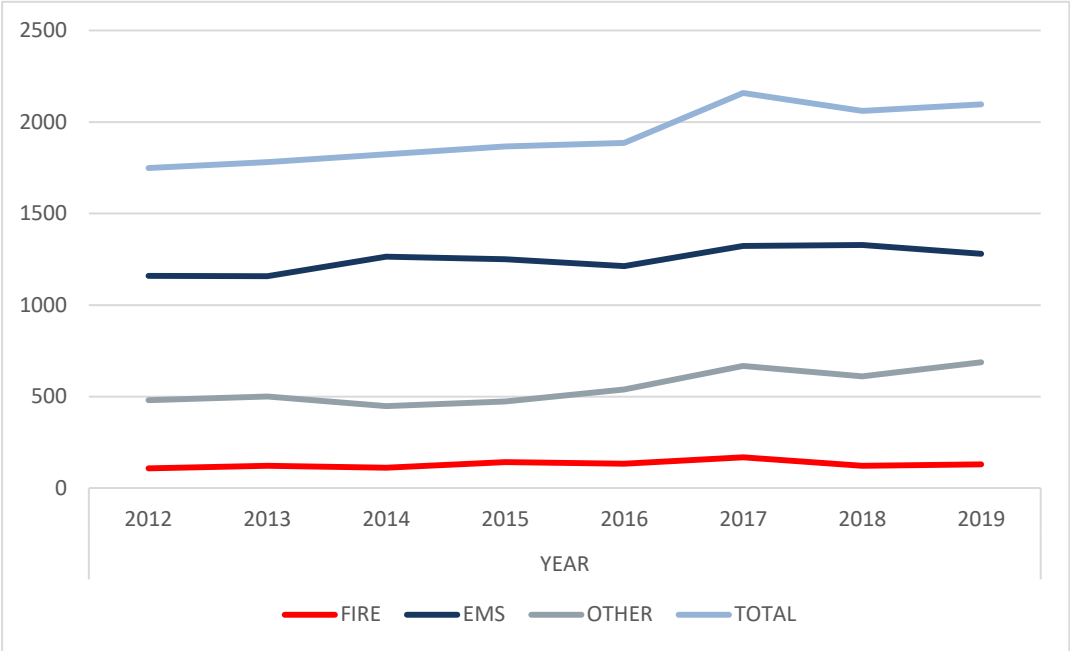
Carpinteria-Summerland Fire Protection District

Historic Response Workload

Before a full response time analysis is conducted, it is essential first to examine the level of workload (service demand) that a fire department experiences. Higher service demands can strain a department's resources and may result in a negative effect on response time performance.

The following figure shows CSFPD response workload for the years 2012 through 2019.

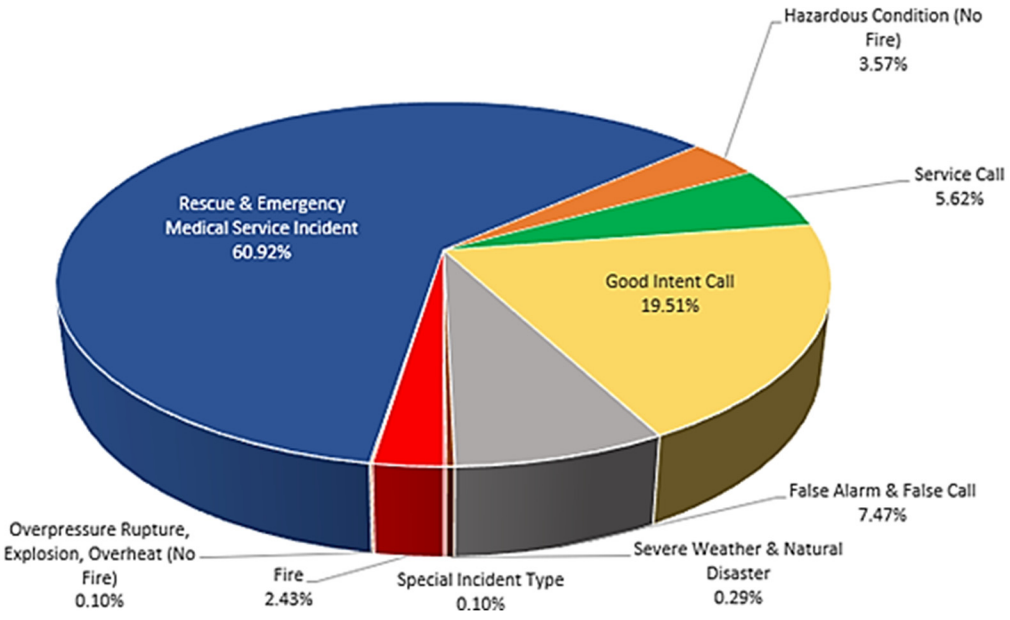
Figure 129: CSFPD Response Workload 2012–2019



Total response workload over the eight years was relatively unchanged until 2016, when an increase of 16.6% was experienced. This increase is primarily driven by an increase in emergency medical type incidents; however, other incident types increased in 2018 and 2019. The community utilization rate of fire district services in 2019 was 145 incidents per 1,000 population. Urban communities typically range between 70 and 120 incidents per 1,000 population.

During 2019, CSFPD responded to 2,097 incidents. The next figure shows responses by type of incident during 2019. Emergency medical type responses (EMS and motor vehicle accidents) are the most common at 60.92% of total responses.

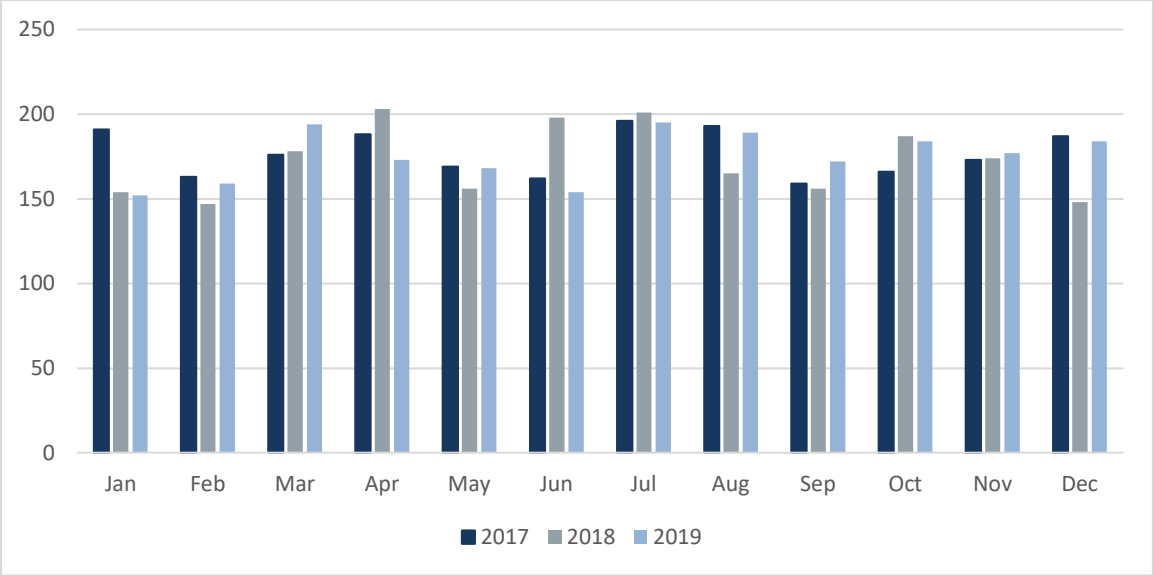
Figure 130: CSFPD Responses by Type of Incident (2019)



Temporal Analysis

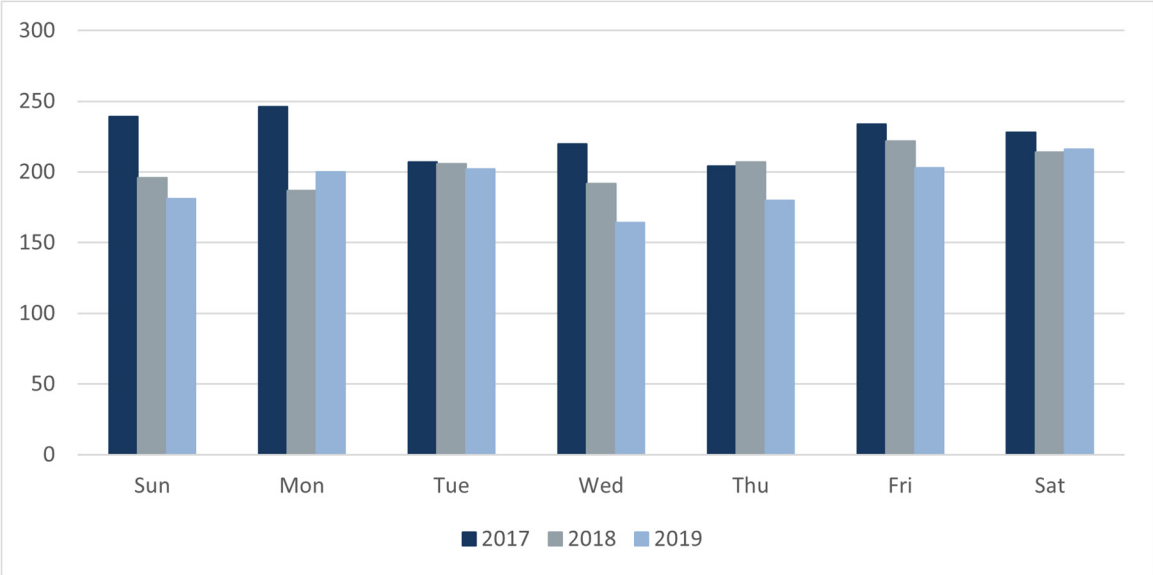
A review of incidents by time of occurrence also reveals when the greatest response demand is occurring. The following figures show how activity and demand change for CSFPD based on various measures of time. The following figure shows the response activity during the study period by month. There is a noticeable variation in incident counts from 2017 to 2019.

Figure 131: CSFPD Monthly Response Workload



Next, the response workload is compared by day of the week. Again, there is some variation in response workload by weekday.

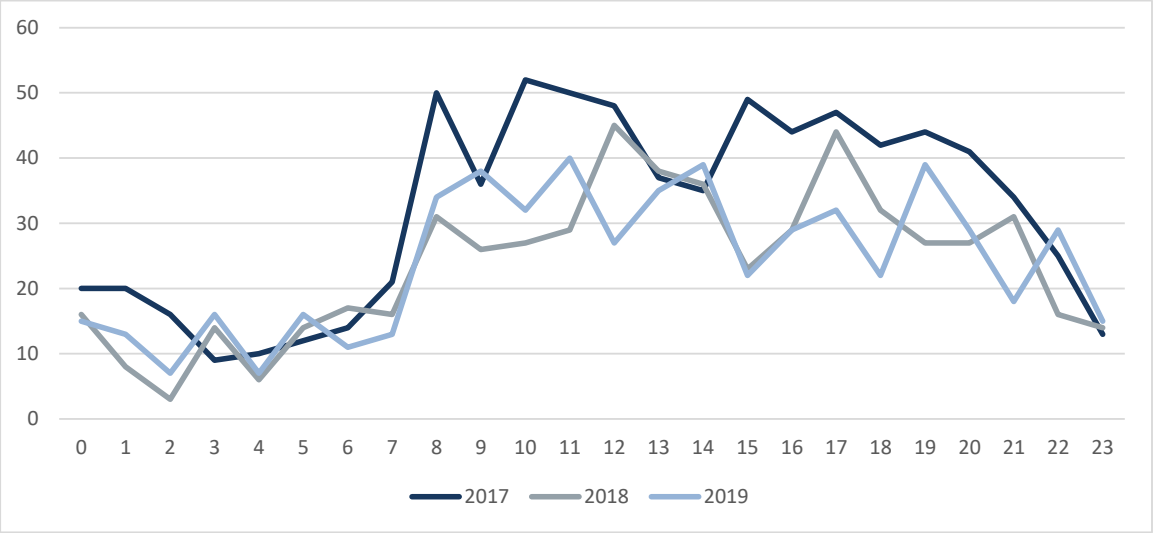
Figure 132: CSFPD Daily Response Workload



The time analysis that always shows significant variation is response activity by the hour of the day. Response workload directly correlates with the activity of people, with workload increasing during daytime

hours and decreasing during nighttime hours, as shown in the following figure. Incident activity is at its highest between 8:00 a.m. and 6:00 p.m.

Figure 133: CSFPD Hourly Response Workload (number of annual responses/hour)

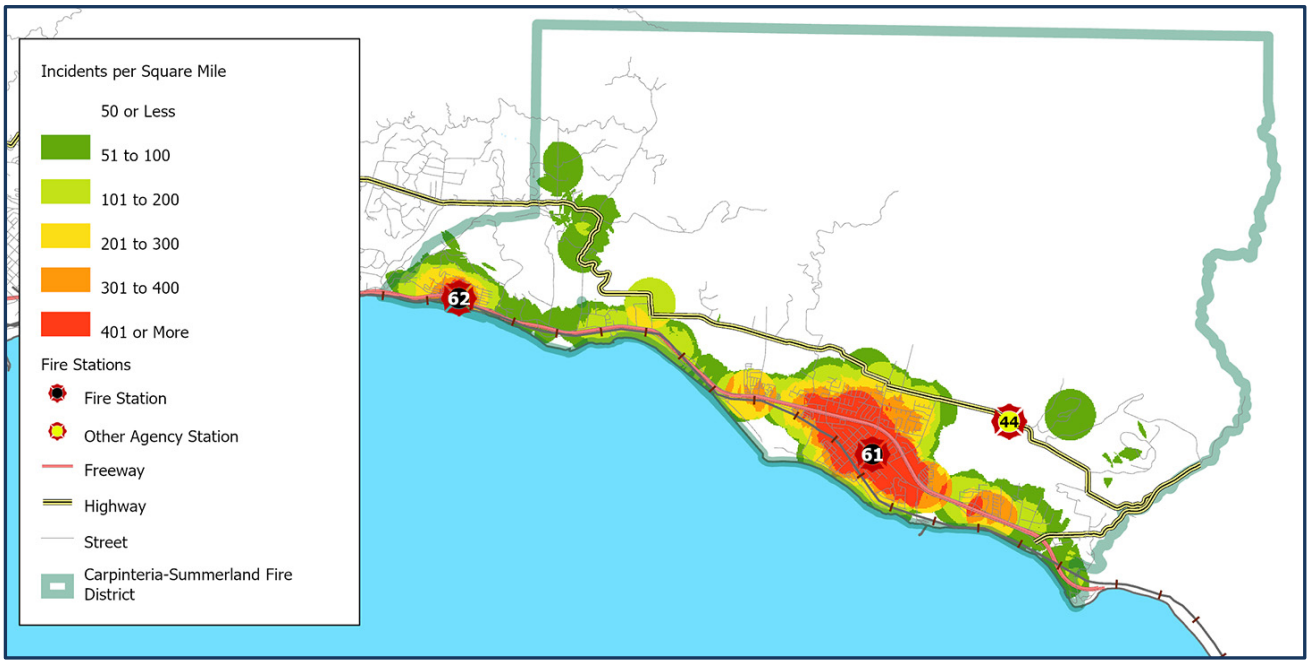


Spatial Analysis

In addition to the temporal analysis of the current service demand, it is useful to examine the geographic distribution of service demand. The following figures indicate the distribution of emergency incidents in CSFPD during 2019.

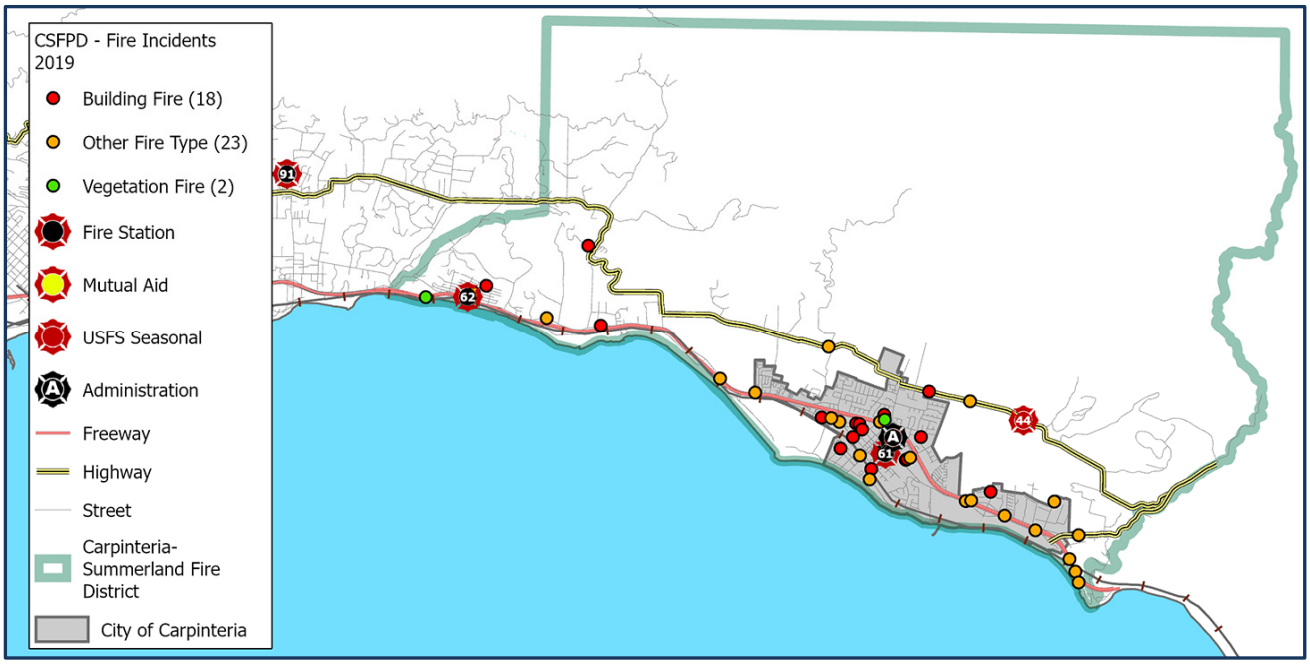
The first figure displays the number of incidents per square mile within various parts of the City. The greatest service demand is the area around Fire Station 61 in the City of Carpinteria. There is an area of significant density near Station 62 in Summerland.

Figure 134: CSFPD Service Demand Density (2019)



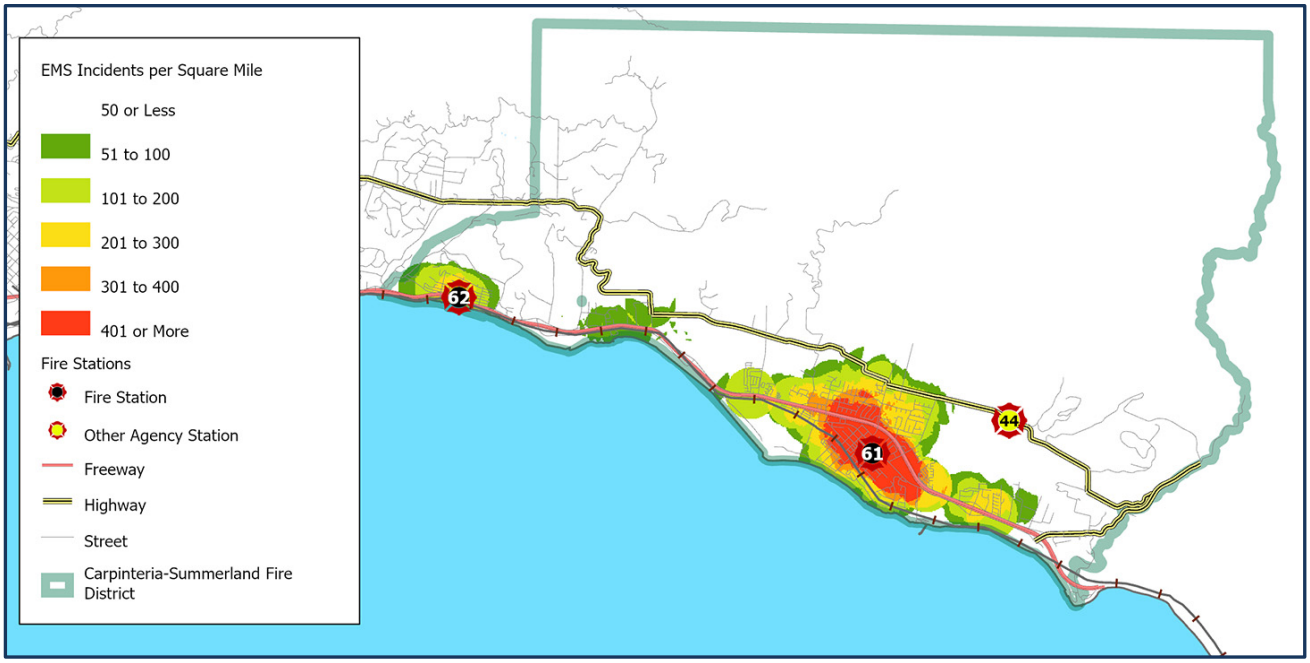
The preceding figure reflects all calls within the fire protection district served by CSFPD. Service demand can vary by area based on incident type. The following figure displays the location of fires occurring within the CSFPD service area during 2019. This illustrates that fire incidents are distributed throughout the District. The number of incidents by type are noted in the legend.

Figure 135: CSFPD Fires (2019)



Similarly, emergency medical incidents also occur in greater concentration in areas of higher population density. The following figure displays emergency medical incidents per square mile during 2019. Incident concentration follows population density.

Figure 136: CSFPD Emergency Medical Incidents per Square Mile (2019)



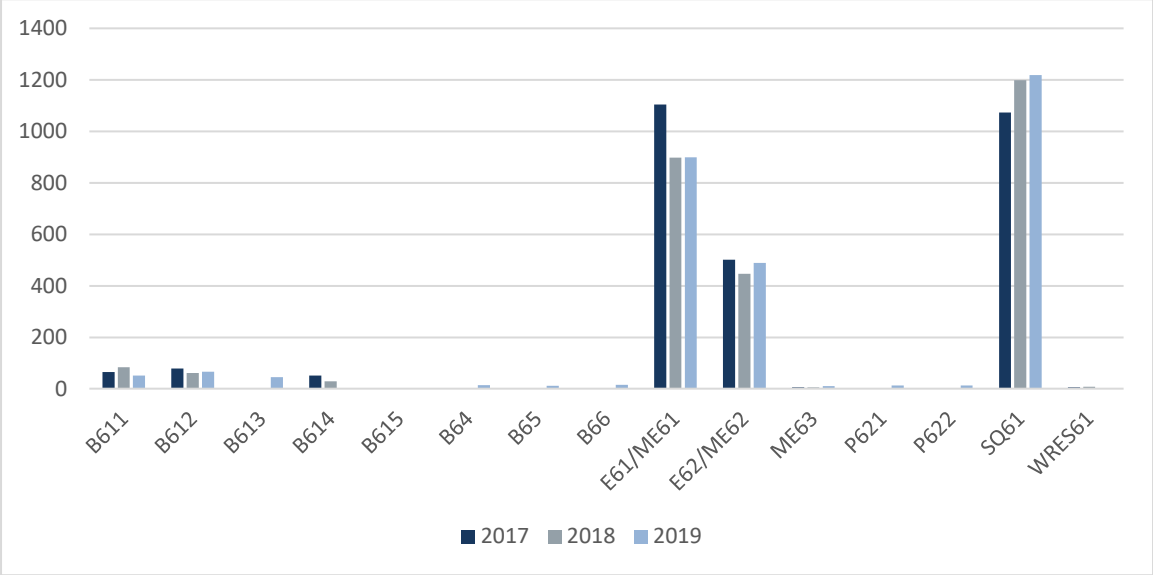
Unit Workload Analysis

A review of workload by response unit can reveal much about response time performance. Although fire stations and response units may be distributed to provide quick response, that level of performance can only be obtained when the response unit is available in its primary service area. If a response unit is already on an incident and a concurrent request for service is received, a more distant response unit will need to be dispatched. This will increase response times.

Response Unit Workload

The workload on individual response units during the study period is shown in the following figure. Individual response unit workload can be greater than the workload in its home station area. Many incidents, such as structure fires, require more than one response unit. Squad 61 and Medic Engine 61 are the busiest units.

Figure 137: CSFPD Response Unit Workload



The amount of time a given unit is committed to an incident is also a critical workload factor. The following figure illustrates the average time each unit was committed to an incident, from initial dispatch until it was available for another incident.

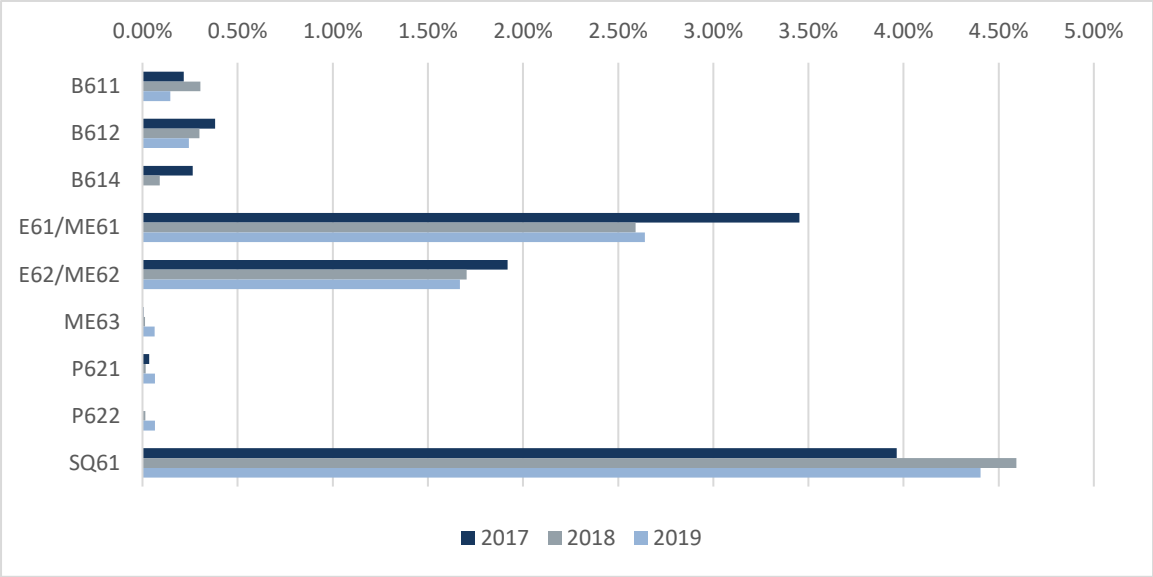
Figure 138: CSFPD Average Time Committed to an Incident by Unit

Unit	2017	2018	2019
630	N/A	N/A	42:36
B611	12:03	29:44	15:55
B612	29:46	52:39	12:57
B613	N/A	N/A	17:27
B614	32:02	17:28	N/A
B615	N/A	N/A	08:00
Battalion 64	N/A	N/A	11:39
Battalion 66	N/A	N/A	09:00
Engine 61	09:32	N/A	39:48
Engine 63	N/A	N/A	07:49
Medic Engine 61	27:30	58:16	30:09
Medic Engine 62	24:53	36:59	17:03
Medic Engine 63	03:58	03:41	N/A
Squad 61	12:08	54:15	22:55

Unit hour utilization (UHU) is an important workload indicator. UHU is calculated by dividing the total time a unit is committed to all incidents during a year divided by the total time in a year. Expressed as a percentage, it describes the amount of time a unit is not available for a response since it is already committed to an incident. The larger the percentage, the greater a unit's utilization, and the less available it is for assignment to an incident.

Unit hour utilization is an important statistic to monitor fire agencies using percentile-based performance standards, as does CSFPD. In CSFPD's case, where performance is measured at the 90th percentile, a response unit with greater than 10% utilization will not provide an on-time response to its 90% target even if the response is its only activity. No CSFPD response units are close to a 10% UHU. Squad 61 is more active than all other units.

Figure 139: CSFPD Response Unit Workload

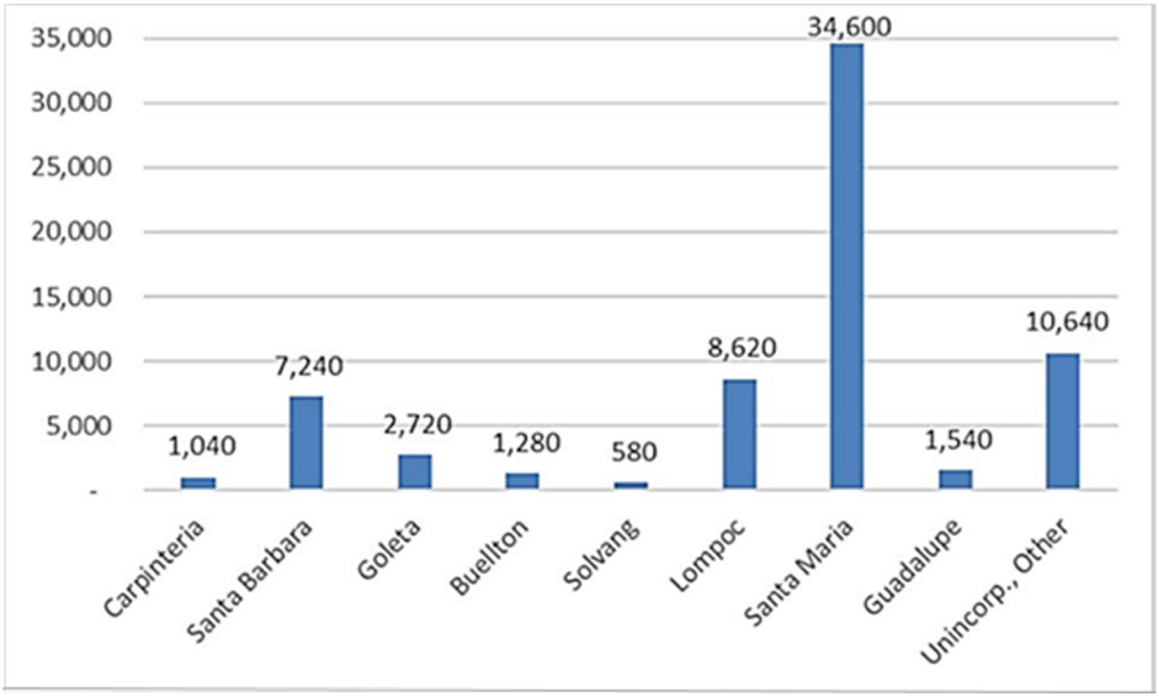


Population & Incident Workload Projection

The most significant predictor of future incident workload is population—100% of emergency medical services requests are people-driven. The National Fire Protection Association reports that approximately 70% of all fires result from people either doing something they should not have (i.e., misuse of an ignition source) or not doing something they should have (i.e., failure to maintain equipment). It is reasonable to use forecast population growth to predict future fire department response workload.

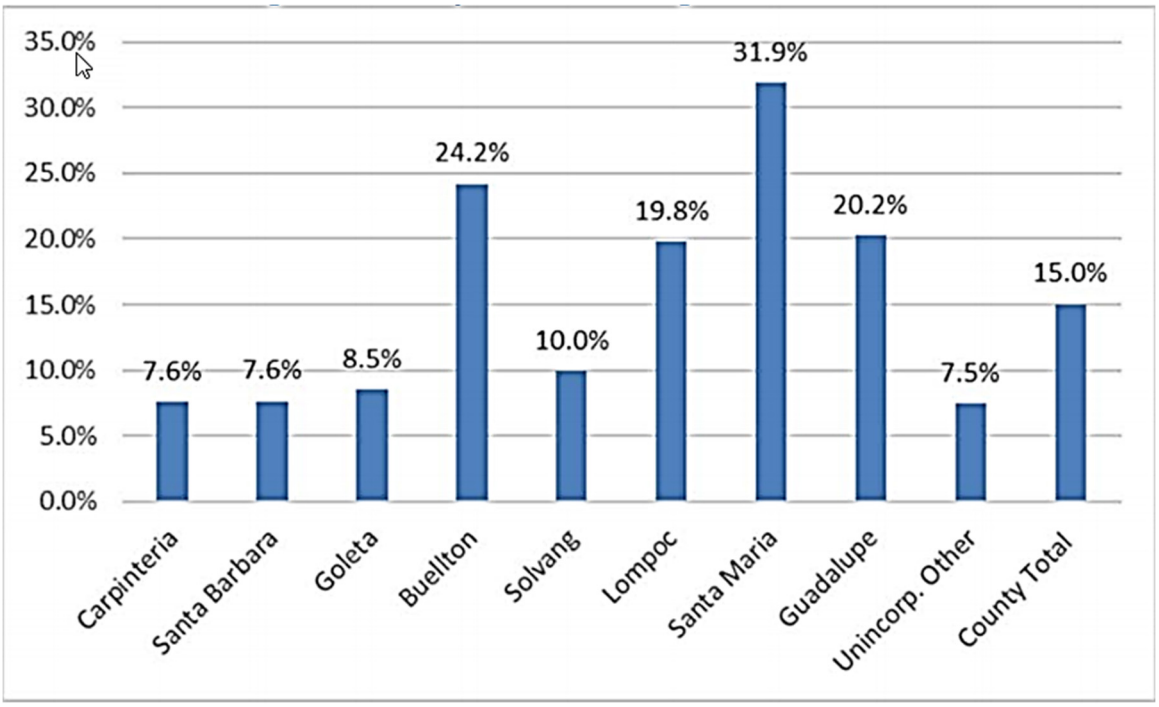
Santa Barbara County Association of Governments prepared a population forecast in January 2019. Population growth for Carpinteria/Summerland is forecast to be just under 7.6% through 2050. Using this estimate, the district's population could reach 14,700 by 2050.

Figure 140: Population Growth Projection (2017–2050)[53]



According to the Santa Barbara County Association of Governments projection report: *The South Coast Cities of Carpinteria, Santa Barbara, and Goleta are forecast to increase by less than 9% by 2050.*

Figure 141: Population Percentage Growth Projection (2017–2050)[54]



The current fire department utilization rate is 93 incidents per 1,000 population. This utilization rate is lower than in similar-sized communities. NFPA data benchmarks low urban activity between 129-152 incidents per 1000. The total utilization rate has increased modestly over the past eight years but has declined in the last two. The following illustrates that growth.

Figure 142: CSFPD Incidents per 1,000 Population

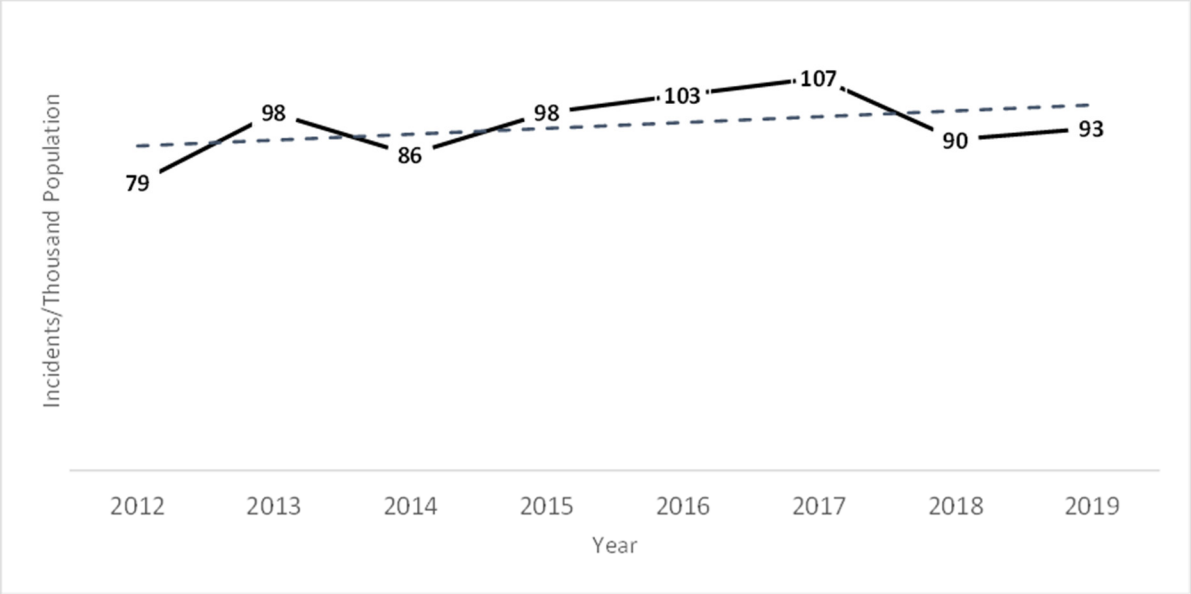
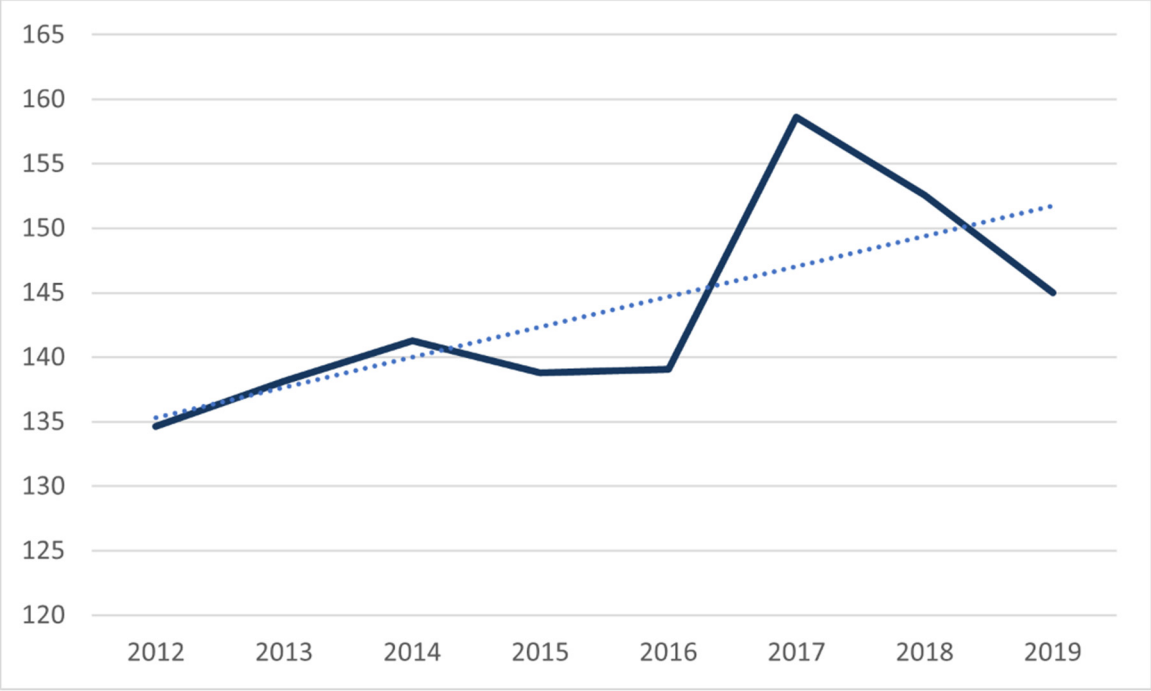
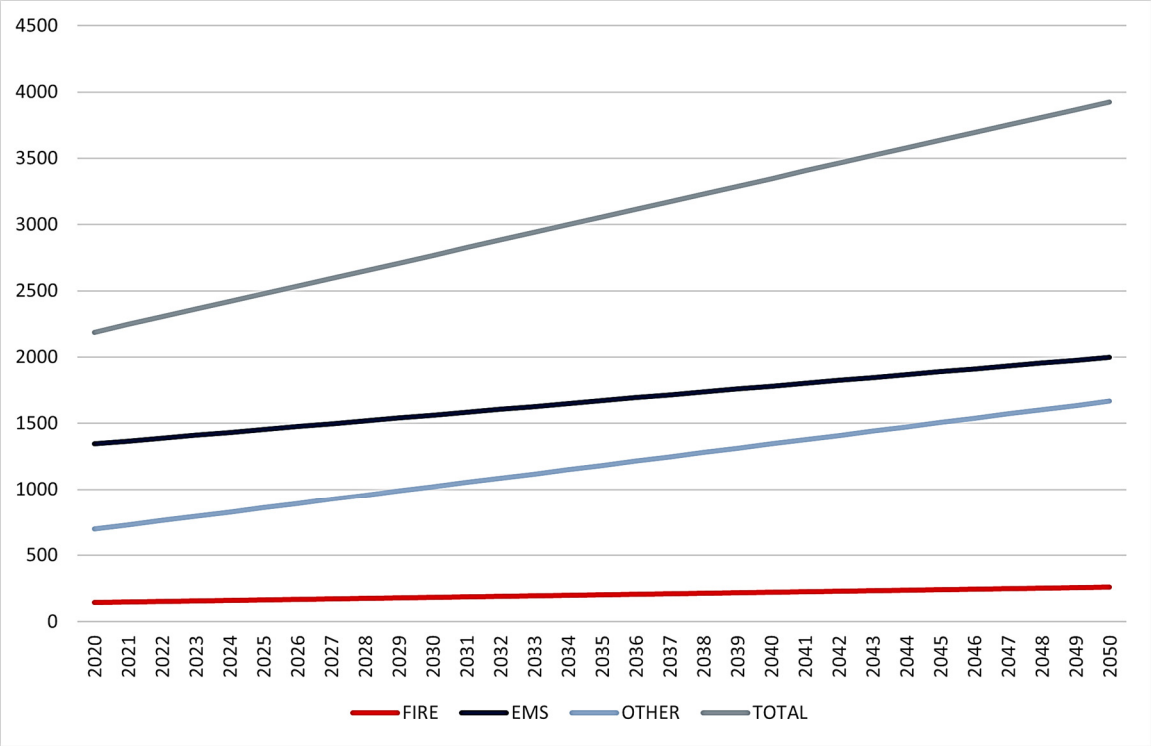


Figure 143: CSFPD Incidents per 1,000 Population



Suppose the utilization growth rate of the past eight years continues. In that case, the total utilization rate could reach 267 incidents per 1,000 population by 2050 if calculating population growth using a linear forecast. Using the Santa Barbara Association of Government's prediction of a total 7.6% growth, the utilization rate could be higher. The increased utilization rate, plus expected population growth, will increase the CSFPD's workload, as shown in the following figure. Response workload could reach over 2,684 incidents per year by 2050, driven primarily by requests for emergency medical services and other incidents. The actual forecast population based on data from the US Census is 11.8% higher than in 2010. (2010:14,205 versus 2050:16,104). Census data for the City of Carpinteria and the Summerland area were combined to make these projections.

Figure 144: CSFPD Response Forecast (2020–2050)



Review of CSFPD Historical System Performance

Incident data for the period between January 1, 2017, and December 31, 2019, were evaluated in detail to determine CSFPD's current performance. AP Triton obtained data from CSFPD incident reports and the dispatch center's computer-aided dispatch system.

Incidents with valid time interval stamps were included in the analysis. Test calls were excluded, as were all incidents without complete data. Reasons for rejecting records from the analysis are outlined in the following figure.

Figure 145: CSFPD Data Elements Excluded from Analysis

Data Exclusion	Count
Test Calls	66
Wrong Priority	2
En Route Time Missing	60
Invalid Arrive at Scene Year	3
Missing Arrive at Scene Time	529
Canceled Calls (Service)	2
Data Outliers	**Count**
Call Process >300 seconds (5 minutes)	24
Turnout >300 seconds (5 minutes)	11
Travel >1,200 seconds (20 minutes)	6
Response >1,500 seconds (25 minutes)	4
Received to Scene >1,800 seconds (30 minutes)	0
Total Incidents Excluded:	**722**

Only Priority 1 incidents occurring within the CSFD service area are included. No incident responses into other jurisdictions are included.

Priority incidents involve emergencies to which the fire department initiated a "Code 3" (using warning lights and sirens) response (1,296 incidents during 2017, 1,236 during 2018, and 1,222 incidents during 2019). AP Triton excluded non-emergency public assistance requests. Performance is reported based on the initial type of incident as dispatched. Three categories are used to report performance:

- Fire—Responses to a report of a fire.
- Emergency medical—All emergency medical incidents.
- Other—Any other incident to which the fire department responded with lights and sirens.

Each phase of the incident response sequence was evaluated to determine the current performance. This allows an analysis of each phase to determine where opportunities might exist for improvement.

The total incident response time continuum consists of several steps, beginning with the initiation of the incident and concluding with the incident's appropriate mitigation. The time required for each of the components varies. The policies and practices of the fire department directly influence some steps.

AP Triton compared CSFPD's response performance to the NFPA 1710 and 1221 standards. The following figure summarizes the NFPA's performance objectives.

Figure 146: Summary of CSFPD Performance Objectives

Incident Interval	Performance Goal
9-1-1 call answer time (time from the first ring to answer)	Within 15 Seconds, 90% of the time
Call process time (time from acceptance at dispatch center until notification of response units)	Within 60 seconds, 90% of the time
Turnout time (time from notification of personnel until initiation of movement towards the incident) • Fire incidents and special operations • All other emergency incidents	 Within 80 seconds, 90% of the time Within 60 seconds, 90% of the time
First unit travel time (time from initiation of response until the arrival of the first unit at the incident)	Within 4 minutes, 90% of the time
First unit response time (time of unit notification until arrival at the scene of the incident). • Fire incidents and special operations • All other emergency incidents	 Within 5 min., 20 sec., 90% of the time Within 5 minutes, 90% of the time
Full effective response force response time (time from dispatch until all units initially dispatched arrive at the incident. Response resources needed for a low-rise building fire are used for evaluation)	Within 9 min., 20 sec., 90% of the time

In keeping with CSFPD's performance objectives, all response time elements are reported at a given percentile. Percentile reporting is a methodology by which response times are sorted from least to greatest, and a "line" is drawn at a certain percentage of the calls to determine the percentile. The point at which the "line" crosses the 90th percentile, for example, is the percentile time performance. Thus, 90% of the times were at or less than the result. Only 10% were longer.

Percentile differs significantly from average. Averaging calculates response times by adding all response times together and dividing the total number of minutes by the total number of responses (mean average). Measuring and reporting average response times is not recommended. Using averages does not give a clear picture of response performance because it does not identify the number and extent of events with times beyond the stated performance goal.

What follows is a detailed description and review of each phase of the response time continuum. AP Triton will compare all phases to CSFPD's performance objectives.

Detection

The detection of a fire (or medical incident) may occur immediately if someone happens to be present or if an automatic system is functioning. Otherwise, detection may be delayed, sometimes for a considerable period. This phase begins with the inception of the emergency and ends when the emergency is detected. It is mainly outside the fire department's control and not a part of the event sequence that is reliably measurable.

Call Answer and Transfer

Most emergency incidents are reported by telephone to the 9-1-1 center. Call takers must quickly elicit accurate information about the nature and location of the incident from persons who are apt to be excited. A citizen well-trained in how to report emergencies can reduce the time required for this phase. The dispatcher must identify the correct units based on incident type and location, dispatch them to the emergency, and continue to update information about the emergency while the units respond. This first part of call processing begins when the 9-1-1 call is answered at the primary public safety answer point (PSAP) and ends when the information is passed to the secondary public safety answer point.

The Santa Barbara Sheriff's Office is the primary 9-1-1 call answer point for the Carpinteria/Summerland Fire Protection District. It answers the 9-1-1 call, queries the caller to determine nature and location, and then transfers the information to the secondary PSAP at Montecito, which dispatches CSFPD units.

Triton submitted several requests for data related to the transfer time from SBSO to the Montecito FPD secondary PSAP. SBSO was unable to provide the data requested.

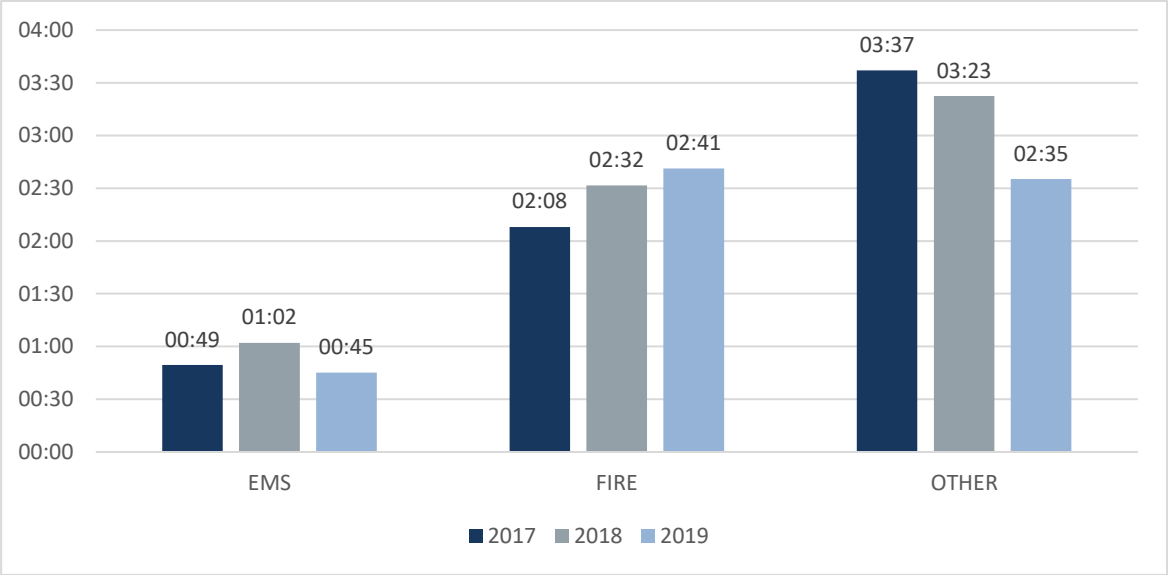
National Fire Protection Association Standard 1221 recommends that 9-1-1 calls be answered within 15 seconds, 95% of the time (within 40 seconds, 99% of the time). Call answer data was not available to include in this analysis.

Call Processing Time (Dispatch Time)

The third part of call processing time, dispatch time, begins when the call is answered (time of phone pickup) and ends when response units are notified of the incident (units assigned). CSFPD's performance goal should be that this phase should occur within 60 seconds, 90% of the time.

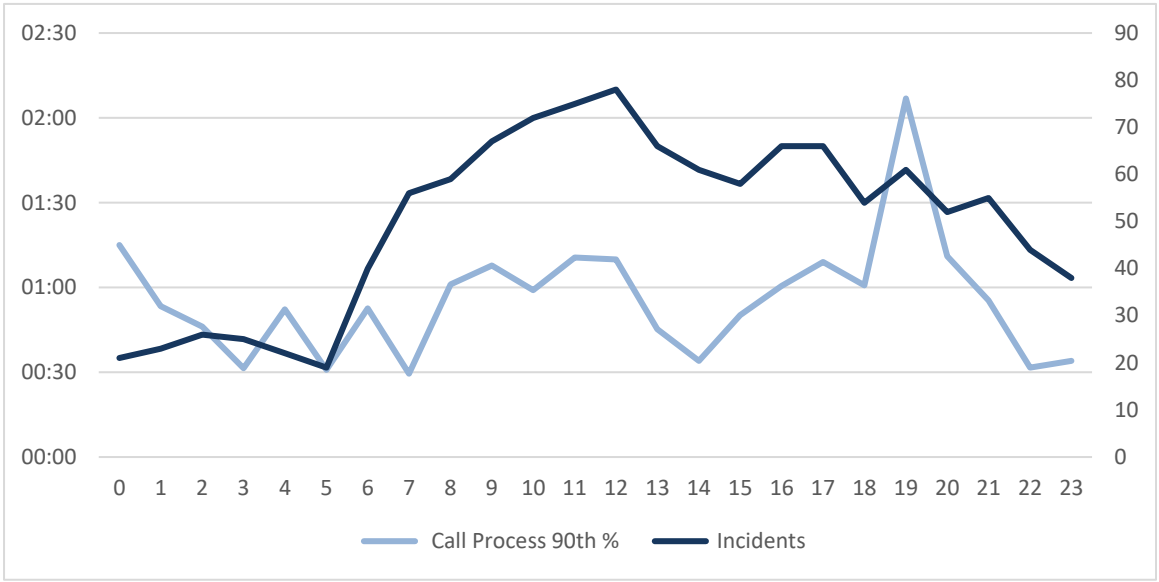
The following figure illustrates performance by CSFPD from the time the Montecito secondary PSAP answers the call until it notifies response units. Overall performance during 2019 was within 1 minute, 1 second, 90% of the time. Dispatch center performance has improved significantly over the past three years for EMS and Other call types. Fire call types call process performance has lengthened in the same period.

Figure 147: CSFPD (Montecito) Dispatch Performance



The workload at the Montecito dispatch center can influence call processing performance. The following figure illustrates performance at different times of the day compared to the fire department's response workload. The workload does not appear to be a factor affecting performance. There is a noticeable increase in the 19:00 to 20:00 hour. The following figure shows the call processing performance. The x-axis represents the hour of the day, the primary y-axis on the left represents elapsed time, and the secondary y-axis represents the number of incidents.

Figure 148: CSFPD (Montecito) Call Processing vs. Incidents (2019)



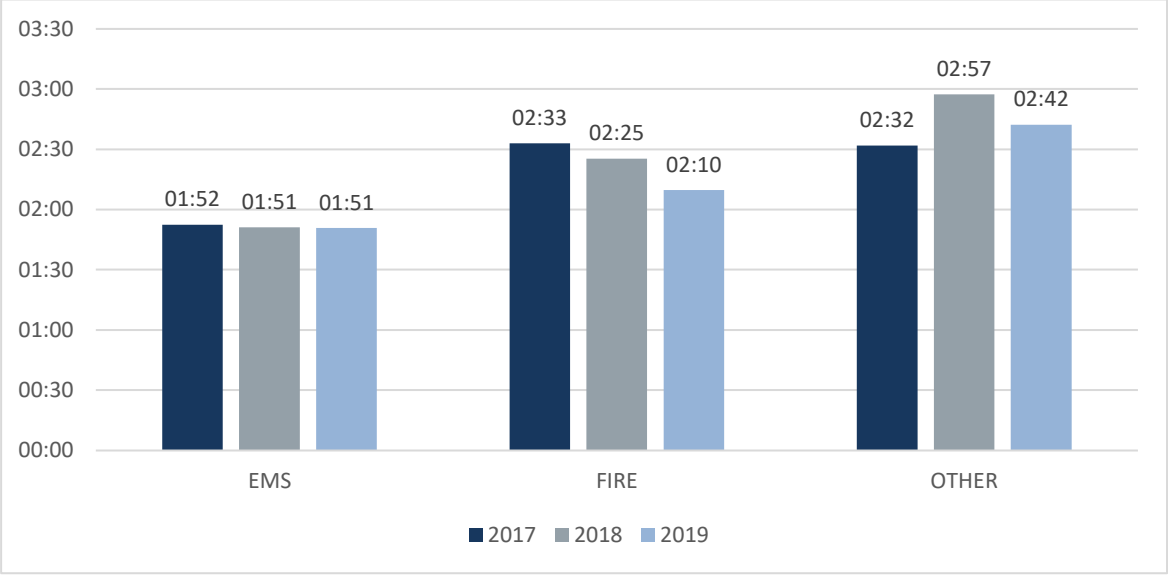
Turnout Time

Turnout time is a response phase controllable by the fire department. This phase begins at the notification of an emergency in progress by the dispatch center and ends when personnel and apparatus begin to move towards the incident location. Personnel must don appropriate equipment, assemble on the response vehicle, and begin travel to the incident. Good training and proper fire station design can minimize the time required for this step.

The performance objective for turnout time is within 60 seconds, 90% of the time; however, NFPA allows 80 seconds for fire and special operations incidents because of the need to don personal protective equipment.

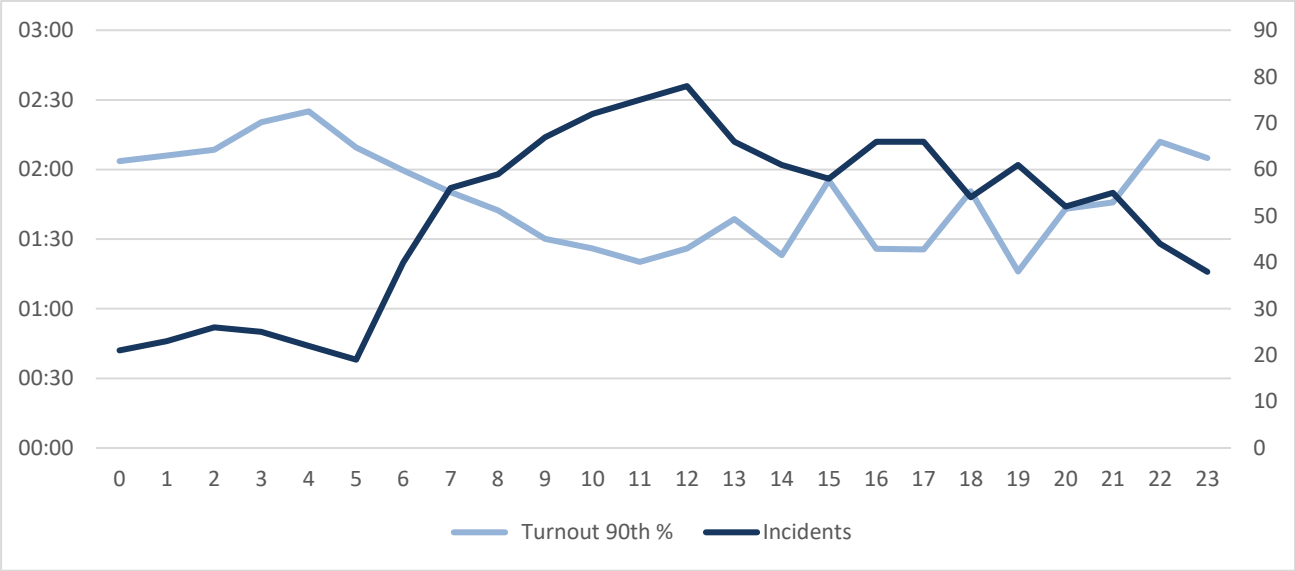
The following figure lists turnout time for specific incident types. Turnout times for all incident types exceed standards. During 2019, turnout time was within one minute, 51 seconds, 90% of the time. This represents a very slight improvement from 2017.

Figure 149: CSFPD Turnout Time Performance



Turnout time can vary by hour of the day. In this case, turnout time varied by 64 seconds between the early morning hours and daytime hours.

Figure 150: CSFPD Turnout Time by Hour-of-Day (2019)

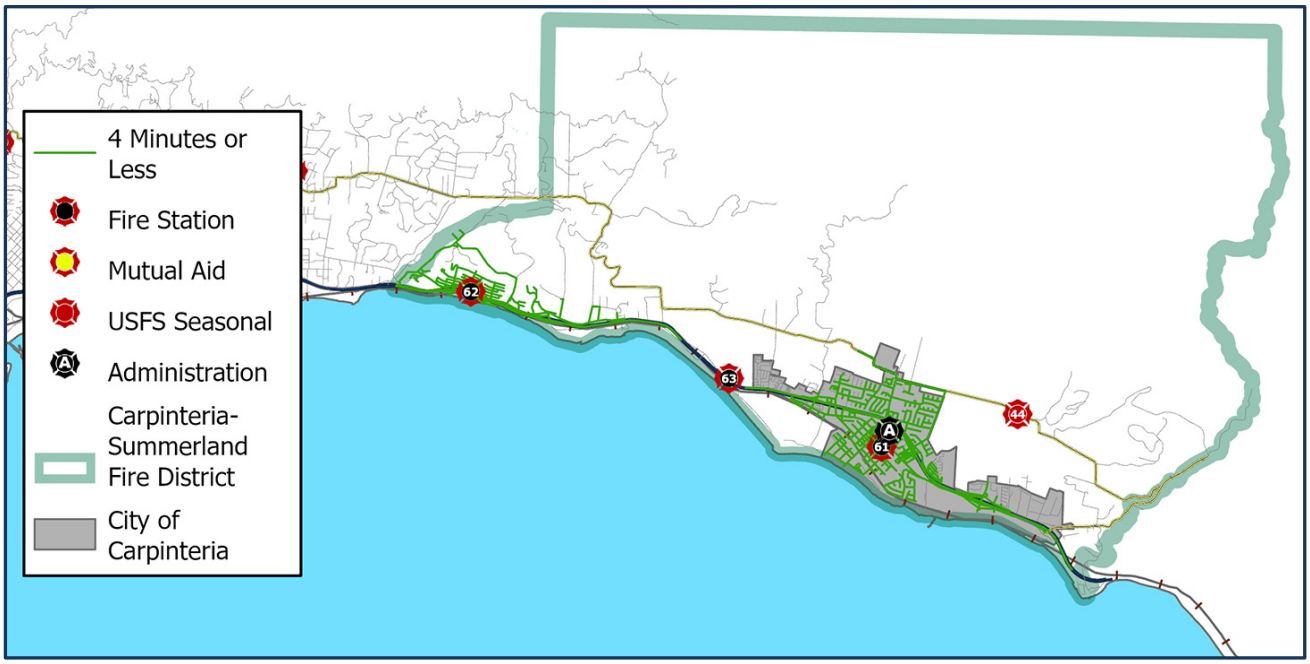


Distribution & Initial Arriving Unit Travel Time

Travel time is potentially the longest of the response phases. The distance between the fire station and the location of the emergency influences response time the most. The quality and connectivity of streets, traffic, driver training, geography, and environmental conditions are also factors. This phase begins with the initial apparatus movement towards the incident location and ends when response personnel and apparatus arrive at the emergency's location. Within the performance goal, four minutes is allowed for the first response unit to arrive at an incident. CSFPD selects units for the response to an incident based on which station is closest to the incident.

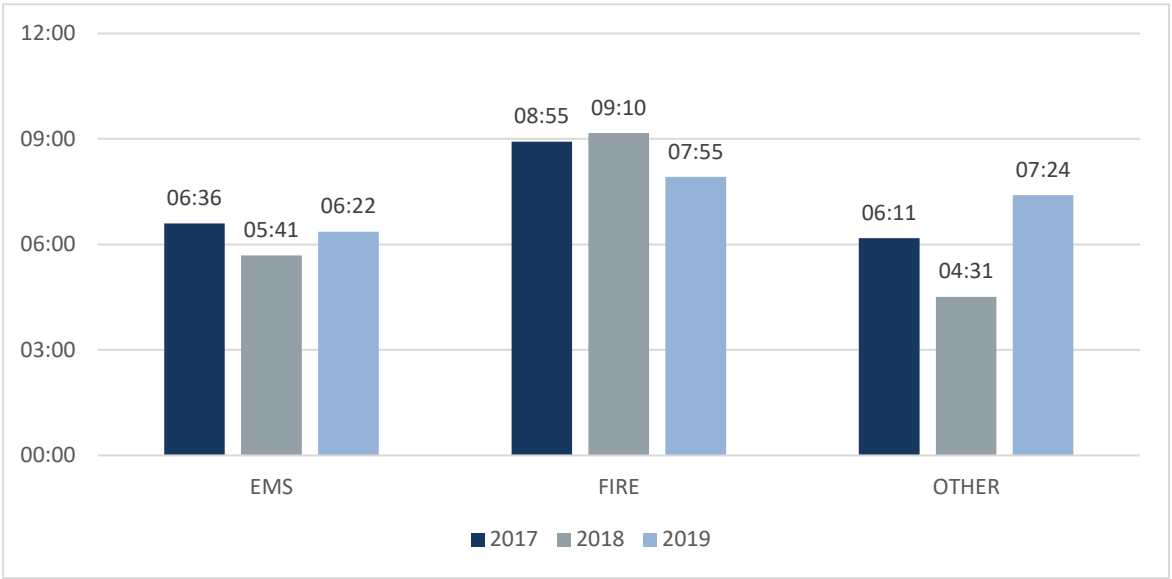
The following figure illustrates the street sections that can be reached from all CSFPD fire stations in four minutes of travel time. It is based on posted road speeds modified to account for turning, stops, and acceleration. Several portions of the District are beyond four travel minutes of a fire station. There are significant areas of the district above and below Highway 92 that cannot be reached in four minutes.

Figure 151: CSFPD Initial Unit Travel Time Capability



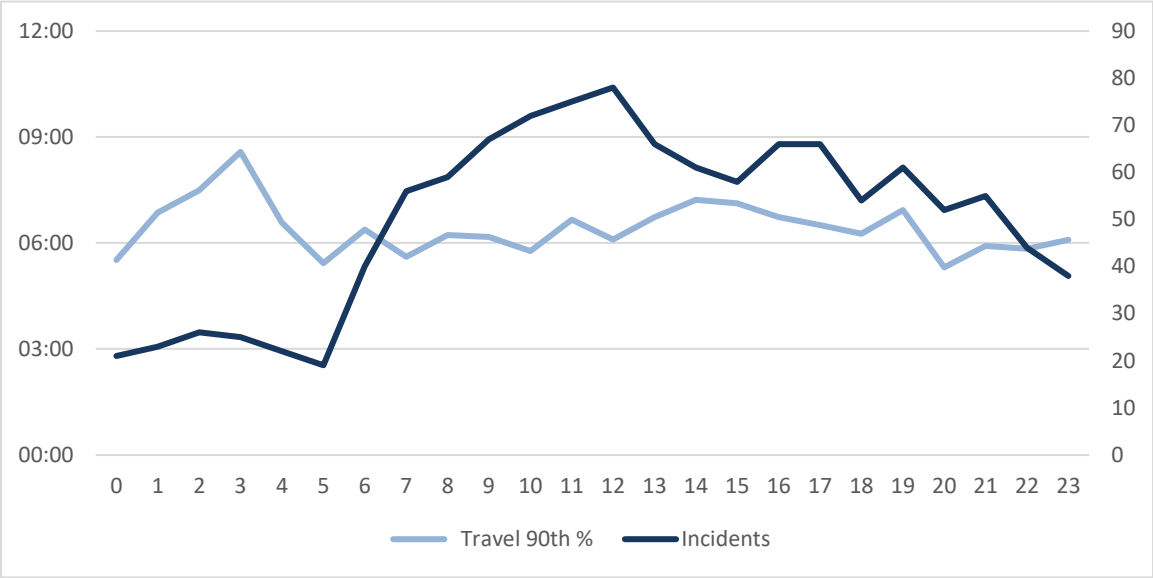
The following figure lists travel time for all priority incidents as well as specific incident types. CSFPD's travel times exceed the NFPA 1710 goal in all incident types. Travel time for all incidents during 2019 was within six minutes, 32 seconds, 90% of the time.

Figure 152: CSFPD Travel Time Performance—First Arriving Unit



Travel time can vary considerably by the time of day. Heavy traffic in the morning and evening rush hours can slow response. In CSFPD, travel time remains consistent except for early morning hours. Concurrent incidents can also increase travel time since units from more distant stations would need to respond.

Figure 153: Overall Travel Time & Incidents by Hour of Day—First Arriving Unit (2019)



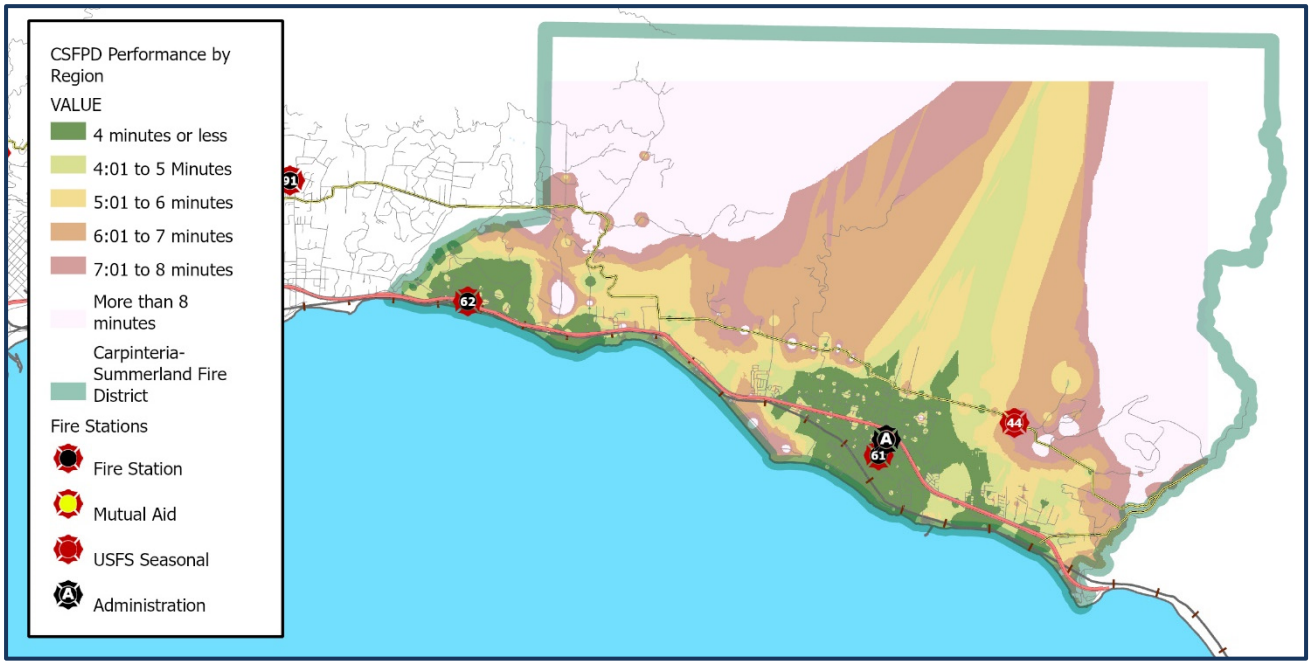
A response unit must be within four travel minutes of the incident to provide a timely response. Incidents were reviewed to identify how many occurred within four travel minutes of a fire station. During 2019, 1,172 of the 1,218 incidents inside the district (96.2%) occurred within four travel minutes of a fire station.

Travel Time Performance by Region

Travel time performance by region is variable and influenced by several factors, including individual station area workload and the number of times a station must cover another station's area. Additional factors include the size of the station's response area and the street system serving it. More highly connected, grid-patterned street systems contribute to faster response times than areas with meandering streets with numerous dead-ends.

The following figure evaluates travel time performance by sub-area using inverse distance weighting analysis (IDW). This process uses travel time for known points (actual incidents) to predict travel time for the area surrounding the actual incident. Better performance is generally noted near fire stations, with progressively longer response times for those incidents more distant from the stations.

Figure 154: CSFPD Performance by Region

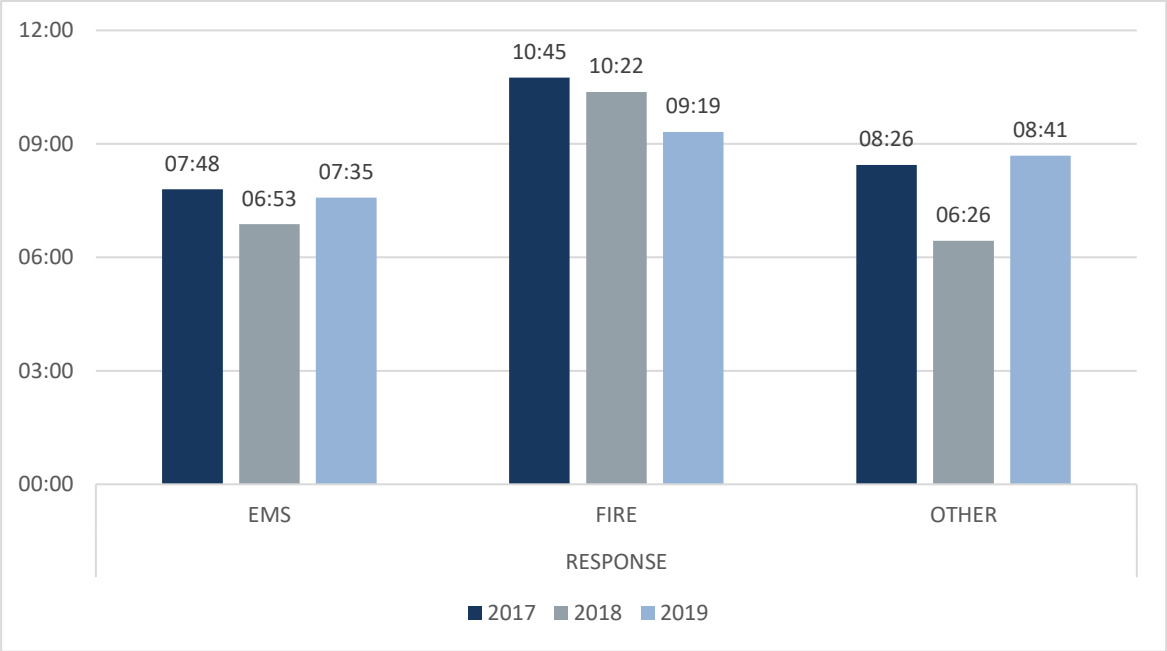


First Arriving Unit Response Time

Response time is defined as the period between the notification of response personnel by the dispatch center that an emergency is in progress until the arrival of the first fire department response unit at the emergency. When turnout time and travel time are combined, the NFPA 1710 performance objective for response time is within 5 minutes, 90% of the time, with 5 minutes and 20 seconds for fire and special operations incidents.

The following figure illustrates the response time for all priority incidents as well as specific incident types. Overall, response time for all priority incidents was within 7 minutes, 42 seconds, 90% of the time during 2019.

Figure 155: CSFPD Response Time Performance—First Arriving unit



The next figure shows response time and the number of incidents by the hour of the day for all incidents. Response time is slowest during the nighttime hours and fastest during the day. Generally, CSFPD's best response times occur during the day when response activity is at its highest. The x-axis represents the hour of the day, the primary y-axis on the left represents elapsed time, and the secondary y-axis represents the number of incidents.

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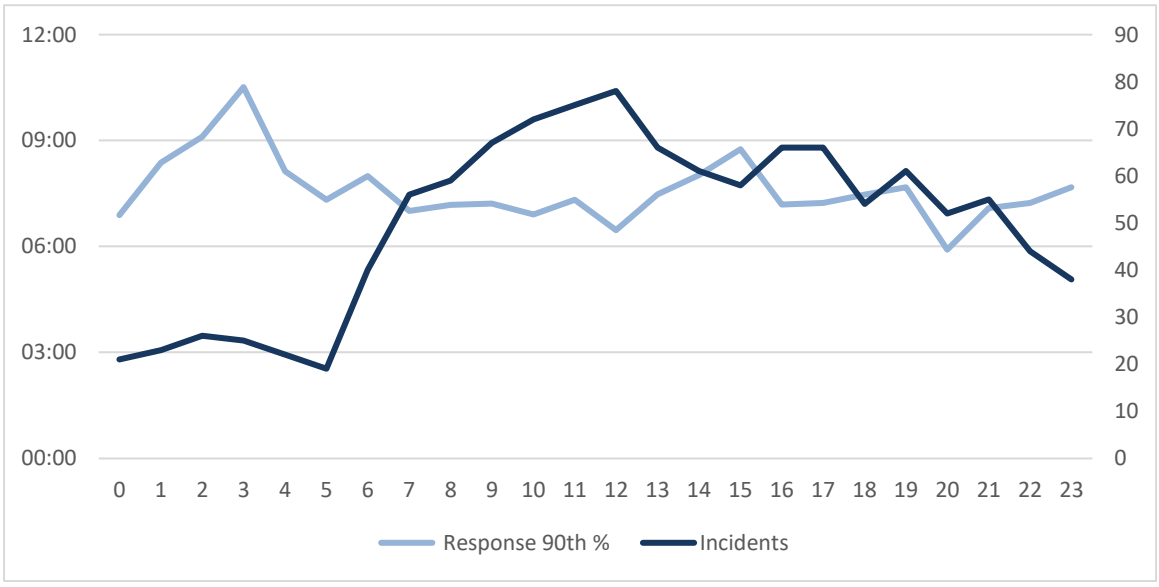
Figure 156: CSFPD Hourly Response Time Performance (2019)

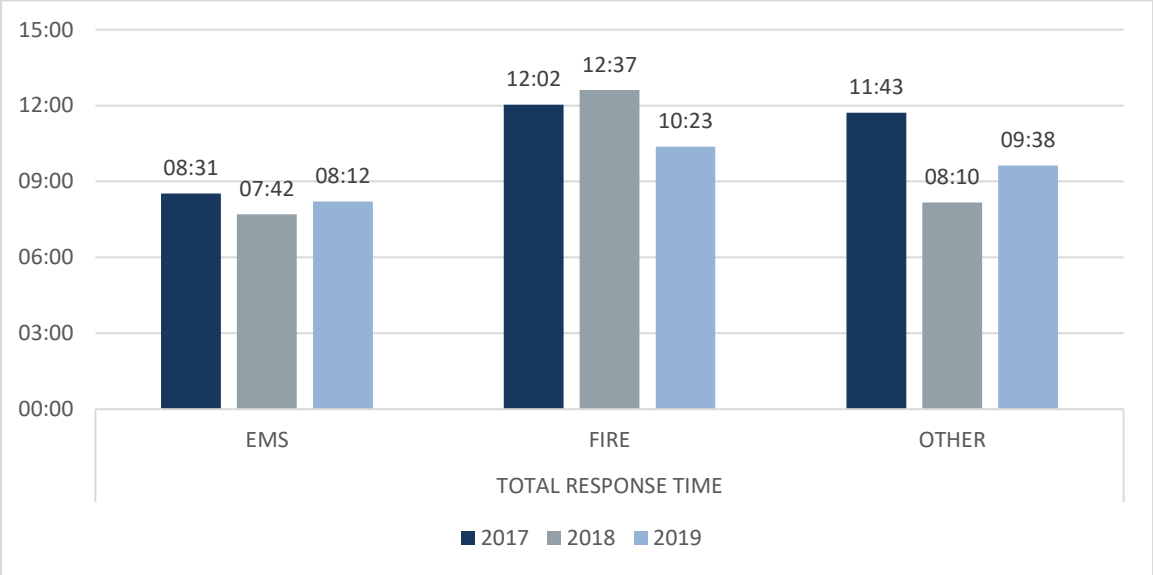


First Arriving Unit Received-to-Arrival Time (Total Response Time)

From the customer's standpoint, response time begins when the emergency occurs. Their first contact with emergency services is when they call for help, usually by dialing 9-1-1. Received (Time of Phone Pickup) to arrival time combines answer/transfer, call processing, turnout, and travel time. When the performance objectives are combined, received to arrival time should be within 6 minutes, 90% of the time.

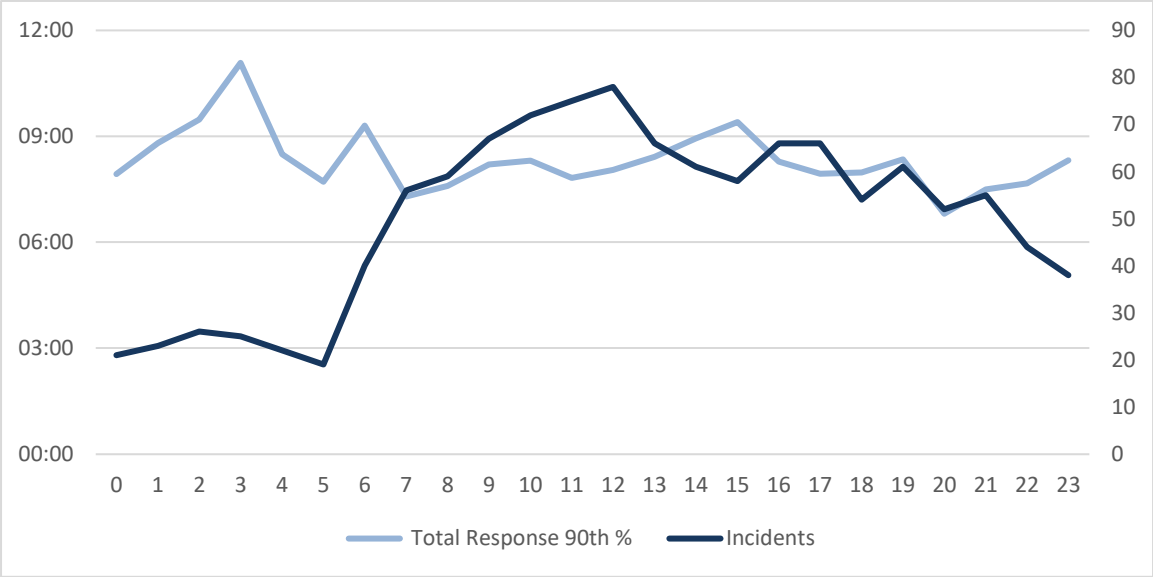
The next figure shows received-to-arrival time performance for priority incidents within the CSFPD service area. Overall (all call types considered), the received-to-arrival time was within eight minutes, 21 seconds, 90% of the time during 2019.

Figure 157: CSFPD Received to Arrival Time—First Arriving Unit



The next figure shows the 90th percentile of received-to-arrival performance by time of day, also compared to incident activity by time of day. Received to arrival from the customer's standpoint is quickest during the day and slowest during the early morning hours. The x-axis represents the hour of the day, the primary y-axis on the left represents elapsed time, and the secondary y-axis represents the number of incidents.

Figure 158: CSFPD Hourly Received to Arrival Performance (2019)



Concentration and Effective Response Force Capability Analysis

Effective Response Force (ERF) is the number of personnel and apparatus required to be present on the scene of an emergency incident to perform the critical tasks in such a manner to effectively mitigate the incident without unnecessary loss of life and/or property. The ERF is specific to each type of incident and is based on the critical tasks that must be performed.

The response time goal for delivering the full ERF to a building fire is within 9 minutes, 90% of the time. CSFPD has defined the minimum full effective response force for low-risk building fires as four fire engines, one truck, and two Battalion Chiefs with a total of 16 firefighters.

No data is available to identify building fires by type of risk (low-rise, high-risk, commercial, etc.). All building fires have been evaluated using the low-risk effective response force criteria. The following figure illustrates effective response performance during the study period. CSFPD delivered the effective response (firefighters and apparatus) force to two building fires during the study period.

Actual performance fell far short of the stated goal. There were no recorded Battalion Chief responses in three years of CAD data, but it should be assumed that these officers did respond to working structure incidents. The actual performance is shown in the next figure.

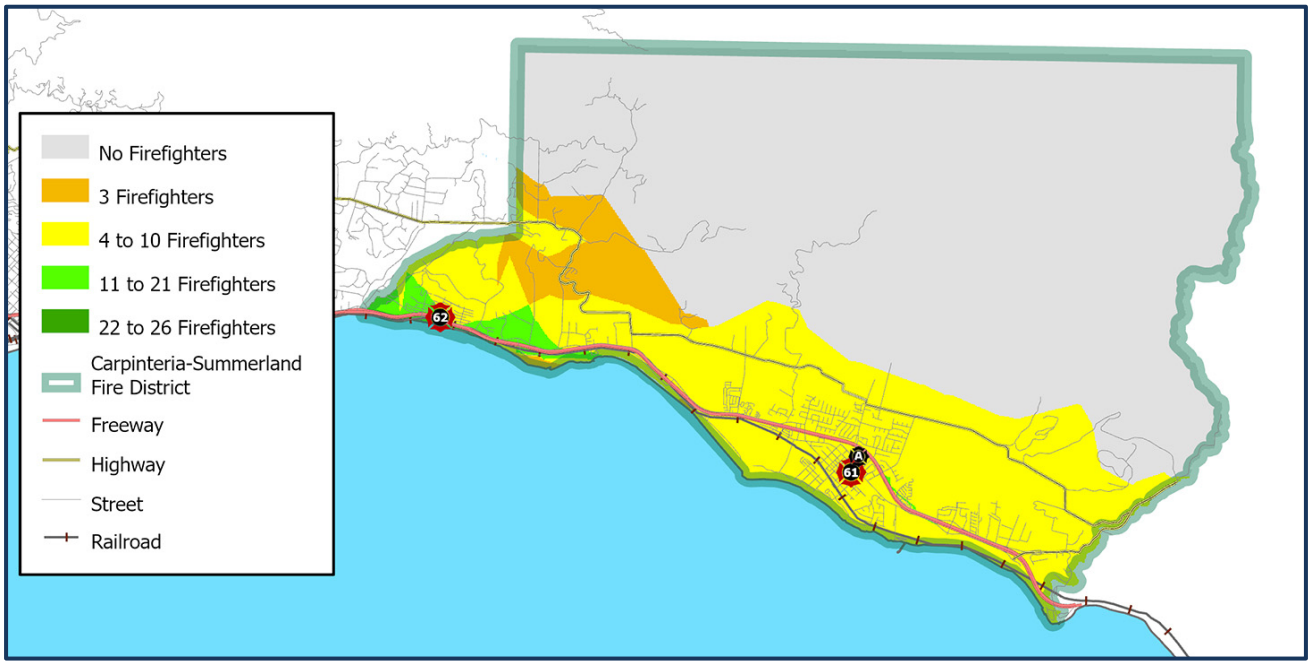
Figure 159: CSFPD Effective Response Force Performance

Description	2017	2018	2019
Reported Fires	15	12	17
Number of Fires with Full Firefighter ERF	1	2	1
Number of Fires with Full Apparatus ERF	0	2	0
Time to deliver Full Firefighter ERF	14:26	14:08	13:19
Second instance that ERF was Achieved		17:24	
90th Percentile Fire Fighters	14:26	17:04	13:19
Time to deliver Full Apparatus ERF		24:27	
Second instance that ERF was Achieved		25:09	
90th Percentile Apparatus		25:05	

The first figure shows the area that can be reached by the various numbers of firefighters. Eight minutes of travel time is allotted to assemble the defined full firefighter effective response force on the scene. This figure includes the resources of adjacent agency stations. The minimum complement of 16 firefighters needed for a low-rise residential fire cannot be provided to most of the district's developed areas. CSFD can provide at best nine firefighters, provided there are no other active incidents.

Small regions near Summerland that indicate a response force of this size can be assembled in eight minutes.

Figure 160: CSFPD Effective Response Force Firefighters with Mutual Aid



Carpinteria-Summerland Fire Protection District has outlined a required amount of apparatus for critical tasking for a low-risk structure fire and delivery of an effective response force. The required apparatus configuration for a low-risk structure fire is five engine companies, one squad, one ladder truck, and three Battalion Chiefs. CSFPD currently supplies two three-person engine companies, and two more are obtained via mutual aid. The ladder truck is provided via mutual aid from Santa Barbara City, which is more than 15 minutes away. CSFPD provides one squad, and two chief officers from CSFPD and one more from mutual aid departments complete the effective response apparatus assignment.

Analysis of travel time within the study area and boundaries of CSPD reveals that there is no area within the district boundaries where this amount of apparatus can be delivered within the stated assembly time objectives. The 9- minute, 20-second effective apparatus assembly goal and 80 second turnout time leave a travel time of eight minutes for all first alarm apparatus. This objective is currently not attainable within the district boundary, even when an 8-minute travel time is considered. Eight-minute travel/assembly time was used for the preceding analysis.

Second Unit Arrival Time

CSFPD staffs its fire engines with three personnel. OSHA safety regulations Cal/OSHA {5144 (g) (4) require that at least four firefighters be on scene before firefighters can enter a burning building. The only exception is if it is known that a person is inside the building and needs rescue. Current staffing levels on engines require a second response unit's arrival before non-rescue interior firefighting activities can be initiated.

Triton reviewed incident data for building fires during 2019 to determine when the second response unit arrived on the scene. According to the data, the second unit arrived on the scene of a structure fire within 1 minute, 59 seconds, 90% the time after the first unit's arrival (53 seconds on average).

Incident Concurrency and Reliability

When evaluating the effectiveness of any resource deployment plan, it is necessary to evaluate the individual response units' workload to determine to what extent their availability for dispatch affects the response time performance. In simplest terms, a response unit cannot make it to an incident across the street from its station in four minutes if it is unavailable to be dispatched to that incident because it is committed to another call.

Concurrency

One way to look at resource workload is to examine the number of times multiple incidents happen within the same time frame. Incidents during the study period were examined to determine the frequency of concurrent incidents. This is important because concurrent incidents can stretch available resources and delay response to other emergencies. This factor significantly impacts total response times to emergencies in the jurisdiction.

The next figure shows the number of times during the study period that one or more incidents occurred concurrently within the region. This shows within the District's geographic boundaries that 1,752 times during 2019, only one incident was in progress at a time. However, 122 times there were two incidents in progress simultaneously and on three occasions, there were three incidents in progress simultaneously.

In this system, mutual/automatic aid is an important component of system design and impacts resource utilization reliability within CSFPD. The figure below highlights the regional view of incident concurrency. This includes in-district incidents and aid provided into Ventura County, Santa Barbara City, Montecito, and other undefined areas outside the district. Total incidents with at least one unit assigned were 1,856, with 171 times that two incidents happened concurrently.

Figure 161: CSFPD Regional Incident Concurrency

Concurrent Incidents	2017	2018	2019
One Incident	1,905	1,814	1,856
Two Incidents	199	185	171
Three Incidents	17	4	6
Four Incidents	0	0	0
Five Incidents	6	1	3
Six Incidents	0	1	0
Seven Incidents	1	0	0

To evaluate the impact of mutual aid on the depletion of resources in CSFPD, it is again useful to review the number of times one or more response units are committed to incidents at the same time when providing in district and aid responses. The following figure shows the number of times one or more CSFPD response units were committed to incidents inside and outside the district. It is more common than not for multiple response units to be simultaneously committed to incidents, with two to four concurrent responses occurring in significant numbers. There is a notable increase in fourth unit responses in 2019.

Figure 162: CSFPD Regional (Aid) Response Unit Concurrency

Concurrent Unit Responses (includes aid given)	2017	2018	2019
One Incident	1,906	1,814	1,887
Two Incidents	881	840	797
Three Incidents	269	251	285
Four Incidents	112	107	140
Five Incidents	7	6	21
Six Incidents	4	1	1
Seven Incidents	1	0	0

Station Area Reliability

Assessment of reliability involves determining a geographic area that each station serves, sometimes referred to as a First Due area. Each time a station unit responds into that geographic area as the first arriving unit, it is said to be "reliable." The percentage of reliability indicates how often a unit from outside the station area had to respond to handle the incident. Reliability percentages, such as shown for station 61, could indicate that 2nd or greater units may be too far away, and Station 61 handles all their incidents with a likely impact on response time. Comparatively, from 2017 to 2019, Station 61 experienced a very slight increase in reliability while Station 62 exhibited a marked decline.

Figure 163: CSFPD Station Reliability

	— 2017 —			— 2018 —			— 2019 —		
Station	1st Due Unit	Total Incidents	Reliable %	1st Due Unit	Total Incidents	Reliable %	1st Due Unit	Total Incidents	Reliable %
Station 61	1,518	1,617	93.9%	1,414	1,499	94.3%	1,408	1,487	94.7%
Station 62	322	403	79.9%	297	363	81.8%	322	435	74.0%

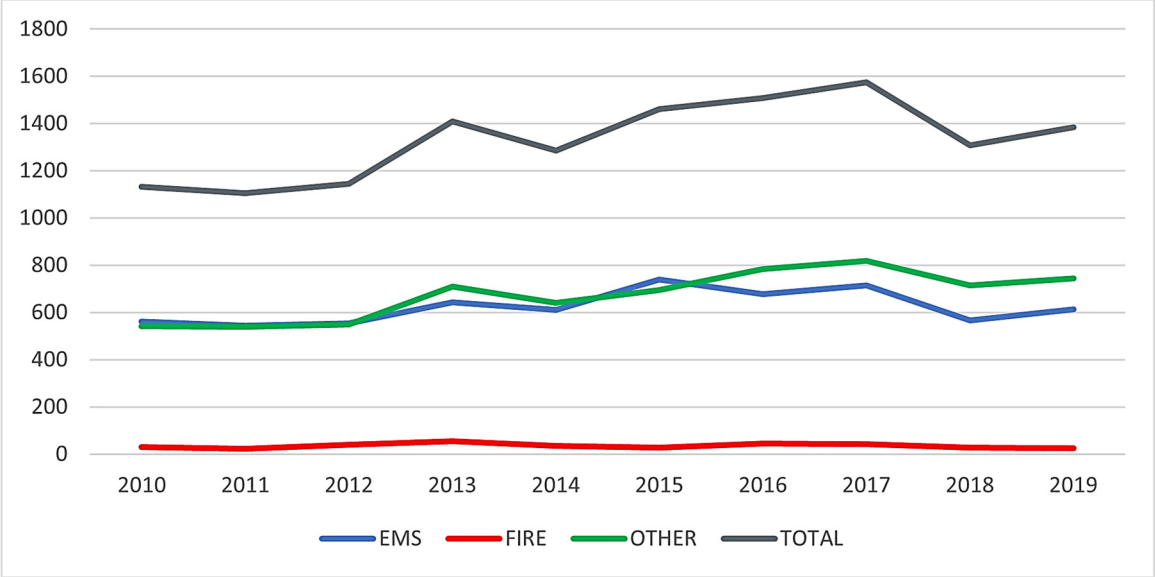
Montecito Fire Protection District

Historic System Workload

Before a full response time analysis is conducted, it is important first to examine the level of workload (service demand) that a fire department experiences. Higher service demands can strain a district's resources and may result in a negative effect on response time performance.

The following figure shows the response workload for 2010 through 2019.

Figure 164: MFPD Response Workload (2010–2019)

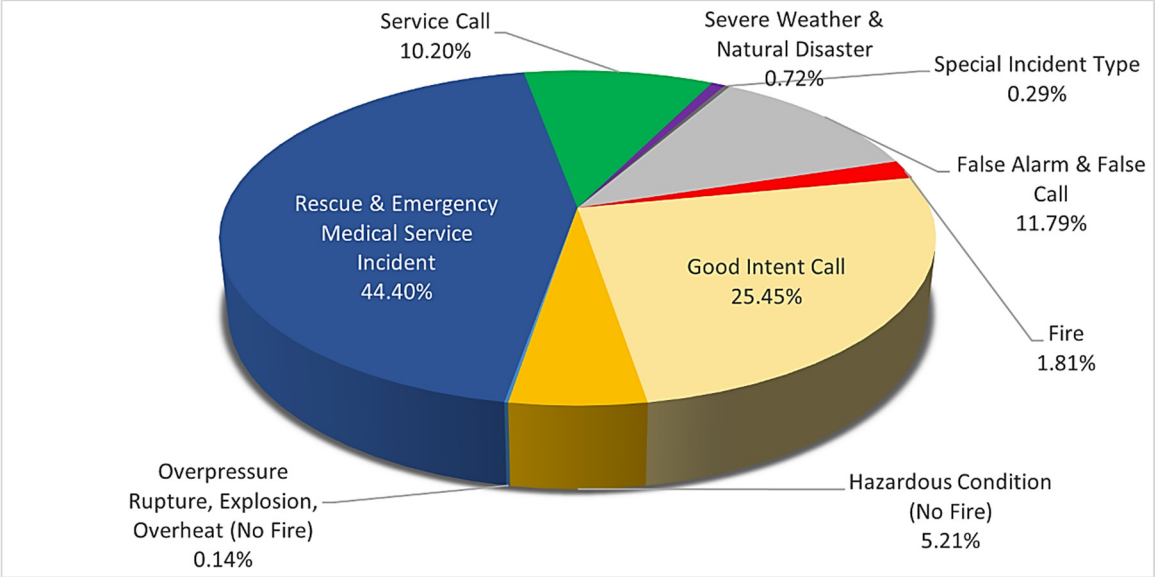


Total response workload over the ten years was relatively unchanged until 2017, when a combined decrease of 20.5% was experienced. In the months following the Thomas Fire and Debris Flow in 2018, Montecito experienced an 85% reduction in population due to evacuations. This resulted in a decrease in emergency medical type incidents of 26%, fire incidents by 55.6%, and other types by 14.6%. EMS and Other incident types increased in 2019, resulting in a 5.5% overall increase in workload.

The community utilization rate of fire department services in 2019 was 161 incidents per 1,000 population.

During 2019, MFPD responded to 1,383 incidents. The next figure shows responses by type of incident during 2019. Emergency medical type responses (EMS and traffic accidents) are the most common at 44.4% of total responses.

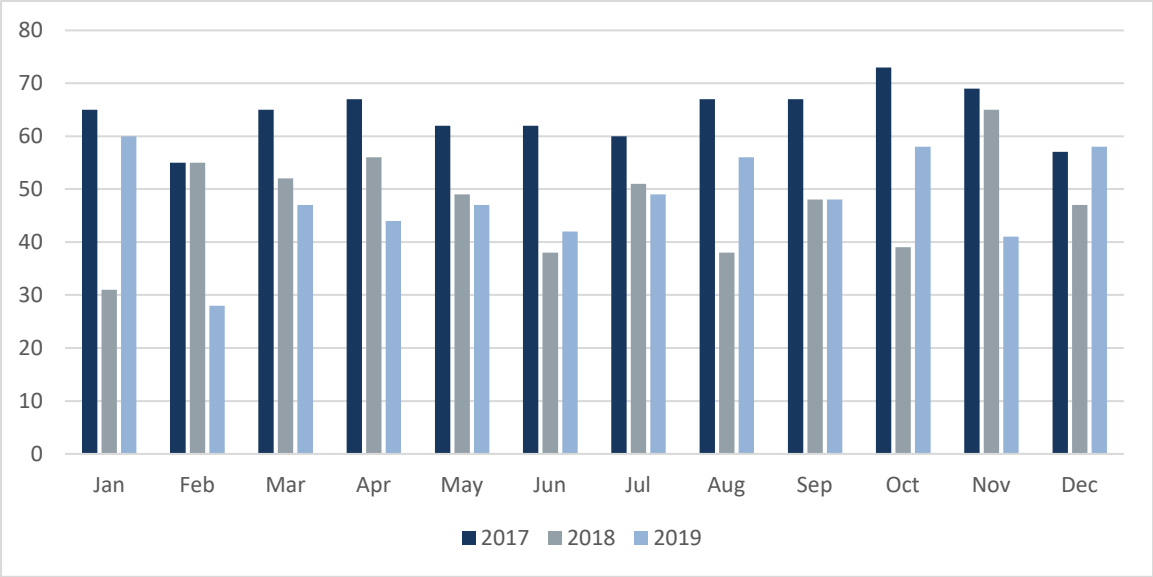
Figure 165: MFPD Service Demand by Incident Type (2019)



Temporal Analysis

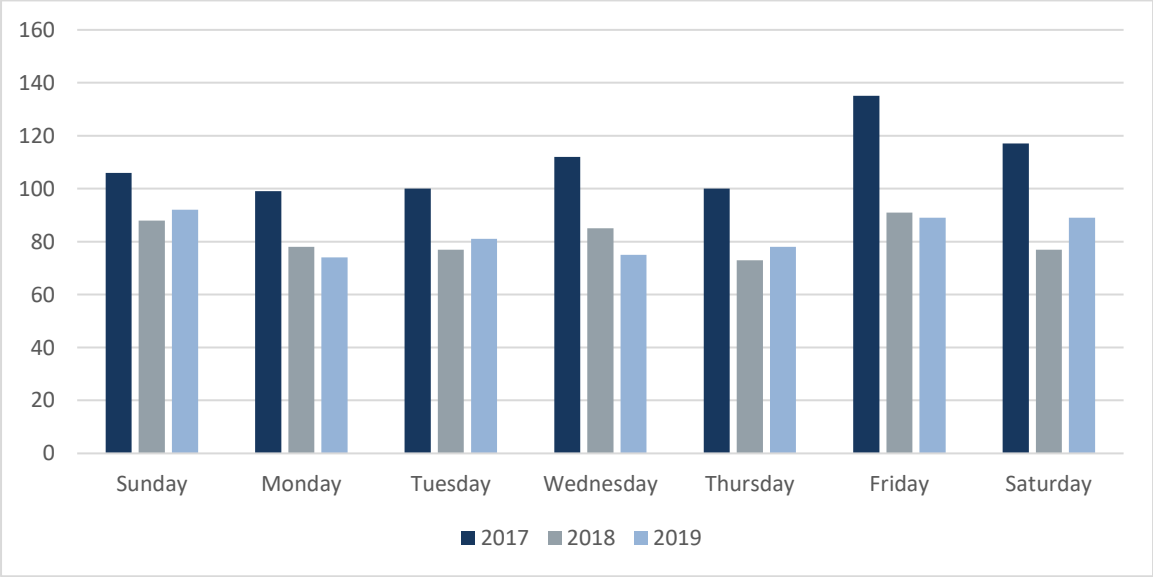
A review of incidents by time of occurrence also reveals when the greatest response demand is occurring. The following figures show how activity and demand change for MFPD based on various measures of time. The following figure shows the response activity during the study period by month. There is a noticeable variation in incident counts from 2017 to 2019. This variation is directly attributable to the impact of the Thomas Fire Debris Flow incident evacuation duration and the repopulation process, which included repair and rebuilding of structures.

Figure 166: MFPD Service Demand by Month



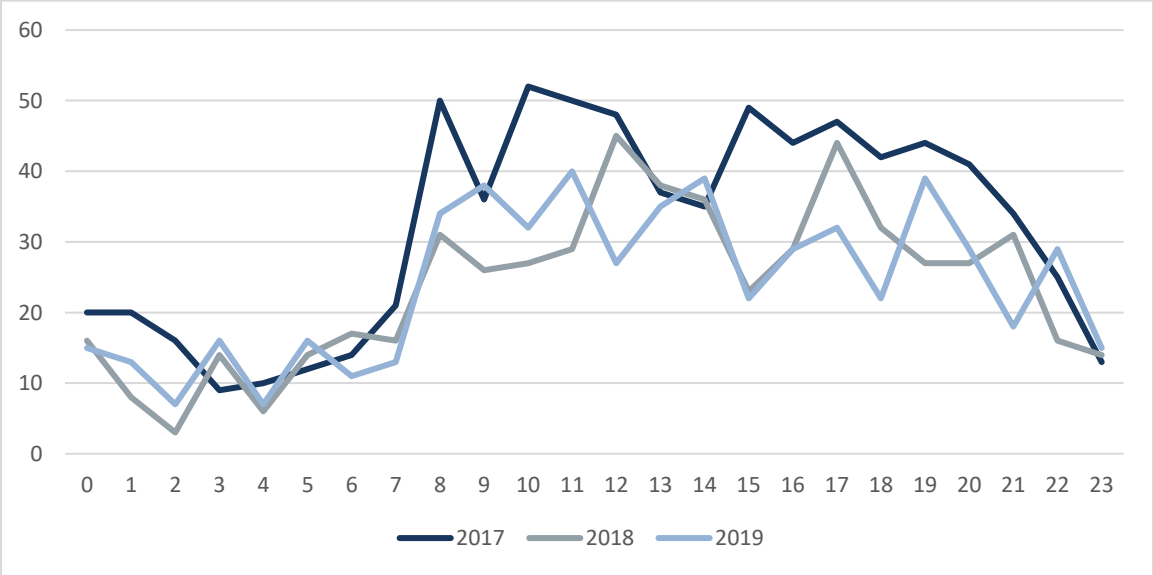
Next, the response workload is compared by day of the week. Again, there is some variation in response workload by weekday, with the notable example of 2017 being higher than in 2018 and 2019.

Figure 167: MFPD Service Demand by Weekday



The time analysis shows significant variation in response activity by the hour of the day. Response workload directly correlates with the activity of people, with workload increasing during daytime hours and decreasing during nighttime hours, as shown in the following figure. Incident activity is at its highest between 8:00 a.m. and 8:00 p.m. The higher volume of response workload is evident in the 2017 data.

Figure 168: MFPD Service Demand by Hour (average number calls by hour of day)

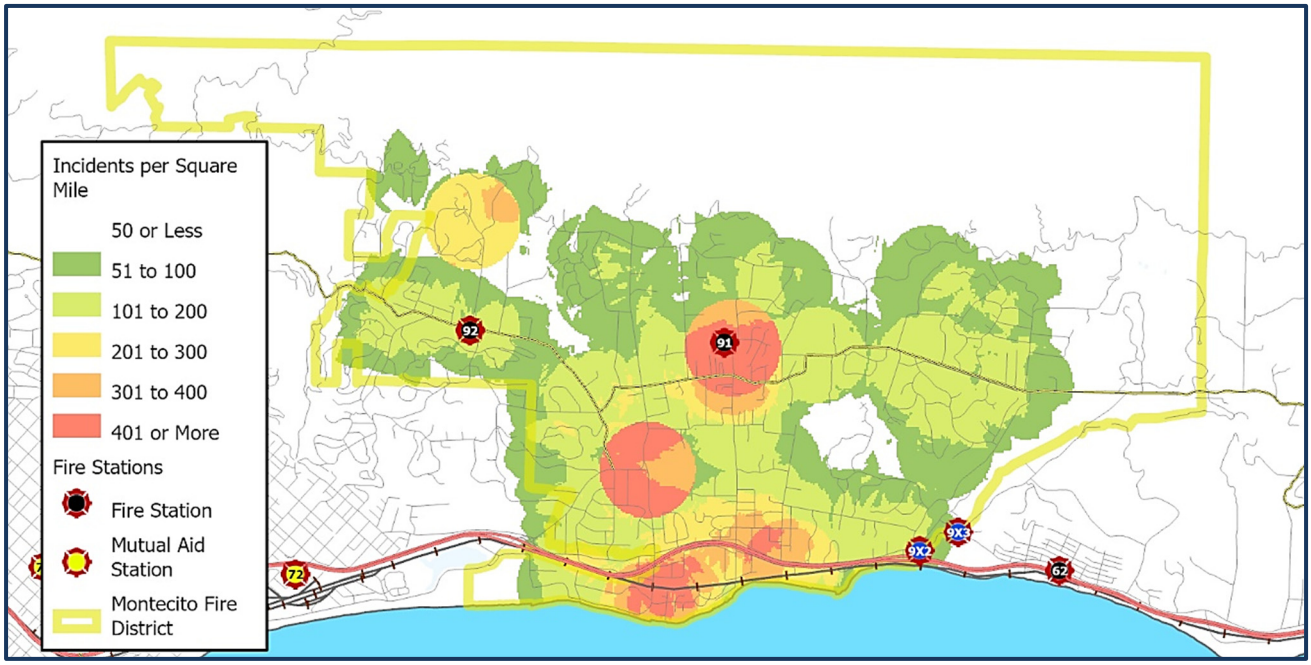


Spatial Analysis

In addition to the temporal analysis of the current service demand, it is useful to examine the geographic distribution of service demand. The following figures indicate the distribution of emergency incidents in MFPD during 2019.

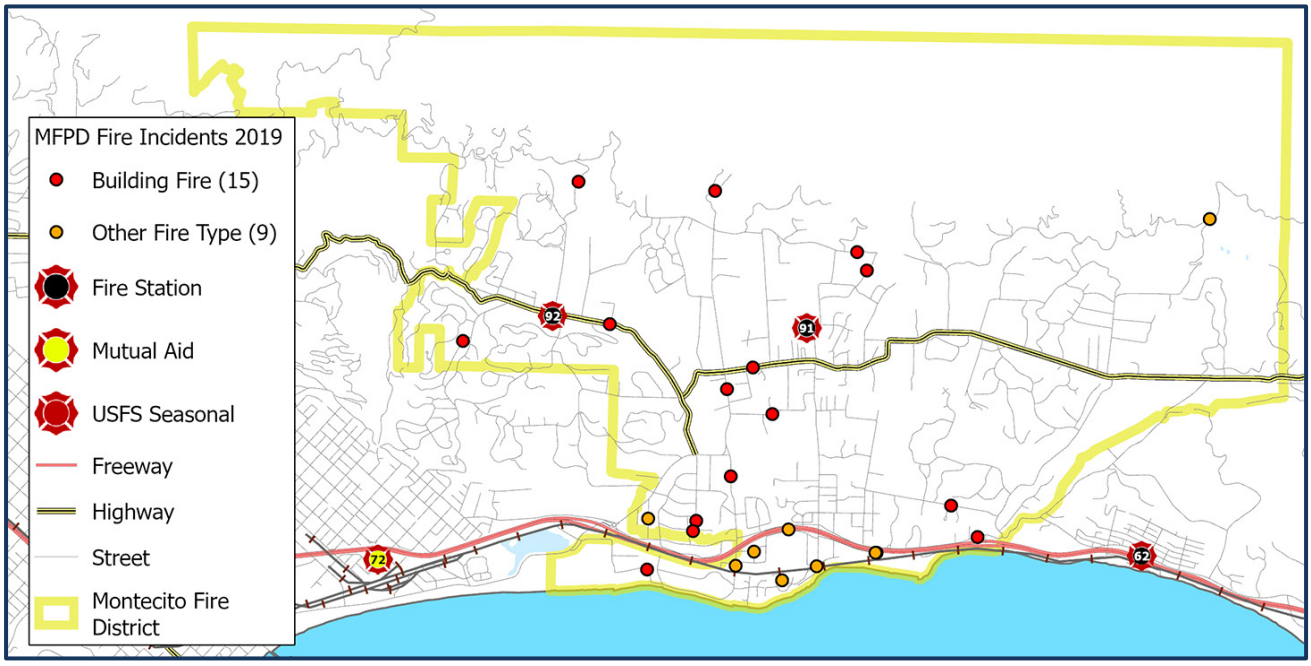
The first figure displays the number of incidents per square mile within various parts of the district. The greatest service demand is the area around Fire Station 91 in the center of the District and a significant area along the coast. There is an area of significant density southwest of Fire Station 91 and another to Westmont College's northwest.

Figure 169: MFPD Incident Density (2019)



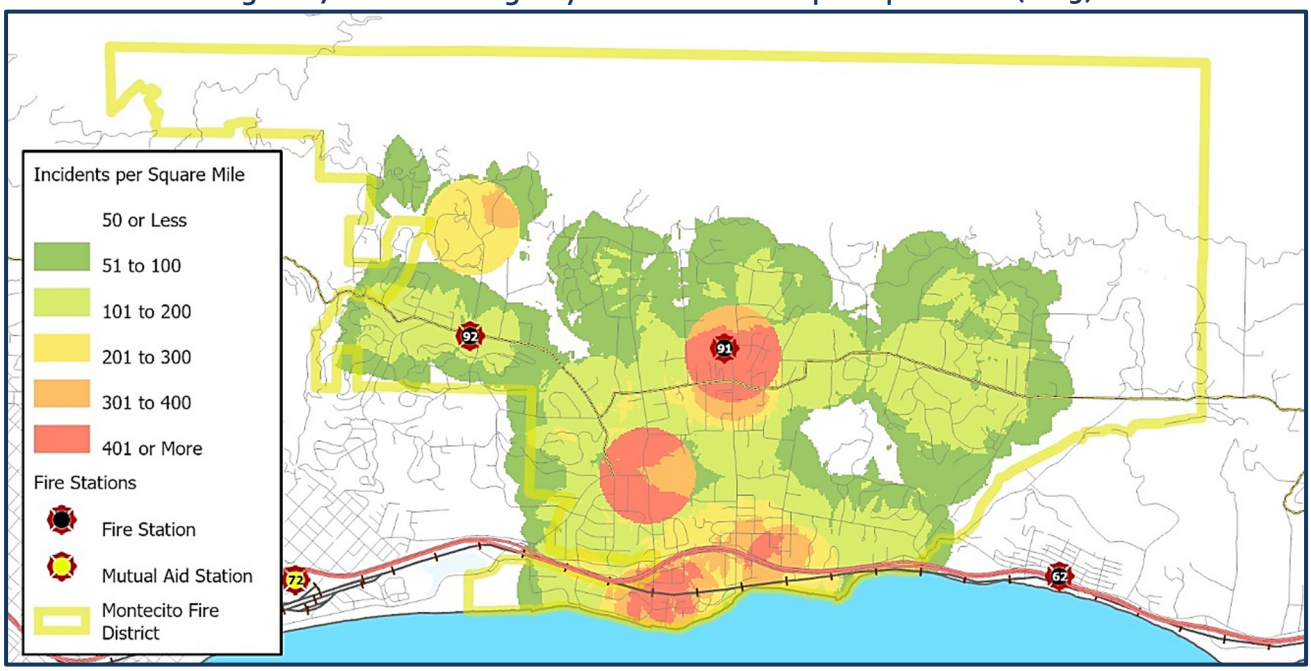
The preceding figure reflects all calls within the fire protection district served by MFPD. Service demand can vary by area based on incident type. The next figure displays the location of fires (including the quantity in the legend) occurring within the MFPD service area during 2019. This illustrates that fire incidents are distributed throughout the District.

Figure 170: MFPD Fire Incidents (2019)



Similarly, emergency medical incidents also occur in greater concentration in areas of higher population density. The following figure displays emergency medical incidents per square mile during 2019. Incident concentration follows population density. The zones of increased density are a close match to the overall incident density.

Figure 171 MFPD Emergency Medical Incidents per Square Mile (2019)



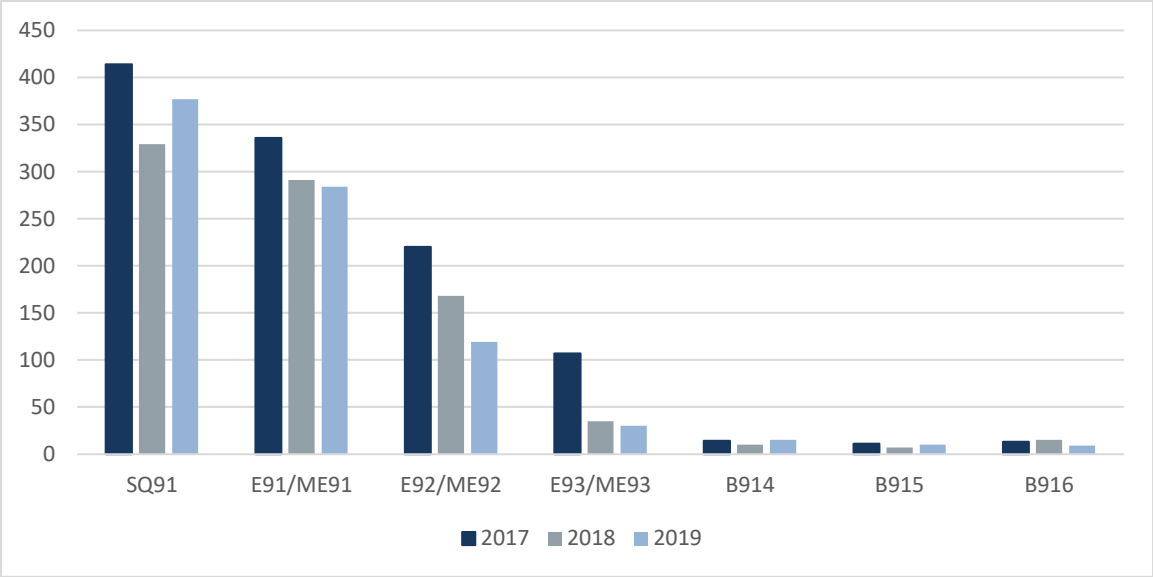
Unit Workload Analysis

A review of workload by response unit can reveal much about response time performance. Although fire stations and response units may be distributed to provide quick response, that level of performance can only be obtained when the response unit is available in its primary service area. If a response unit is already on an incident and a concurrent request for service is received, a more distant response unit will need to be dispatched. This will increase response times.

Response Unit Workload

The workload on individual response units during the study period is shown in the following figure. Individual response unit workload can be greater than the workload in its home station area. Many incidents, such as structure fires, require more than one response unit. Squad 91 and Medic Engine 91 are the busiest units. The following figure shows the unit responses for the period 2017–2019. The y-axis represents the volume of calls.

Figure 172: MFPD Response Unit Workload



The amount of time a given unit is committed to an incident is also an important workload factor. The following figure illustrates the average time each unit was committed to an incident, from initial dispatch until it was available for another incident.

Figure 173: MFPD Average Time Committed (2017–2019)

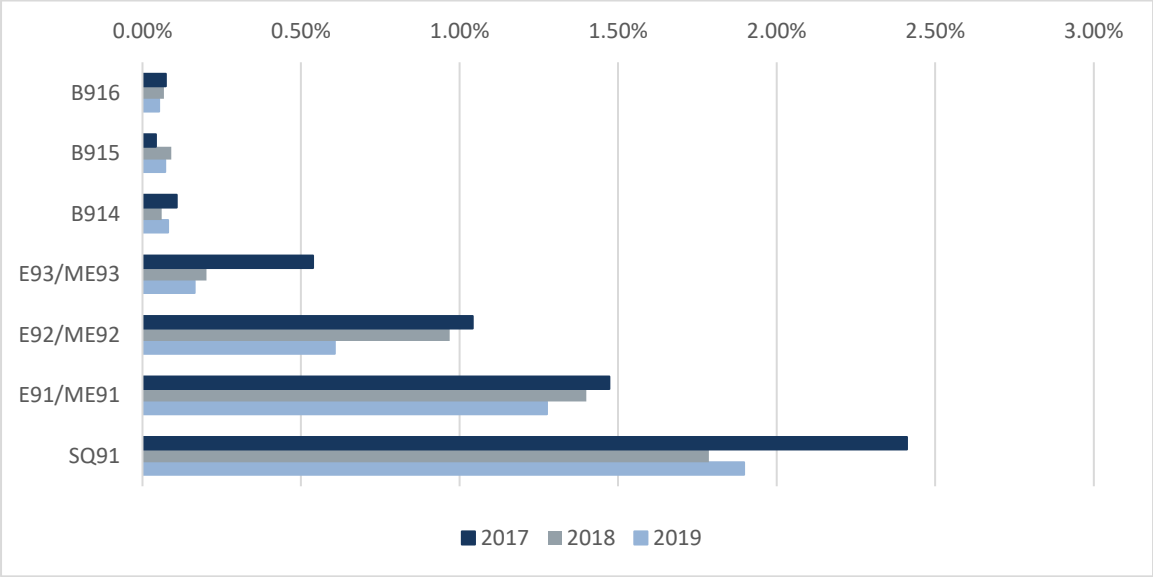
Unit	2017	2018	2019
Battalion 94	40:34	32:07	28:16
Battalion 95	20:14	08:34	37:39
Battalion 96	29:51	23:49	30:38
Engine 91/Medic Engine 91	23:02	25:17	23:47
Engine 92/Medic Engine 92	24:52	30:18	26:48
Engine 93/Medic Engine 93	26:24	30:15	28:52
Squad 91	30:37	28:33	26:44

Unit hour utilization (UHU) is an important workload indicator. UHU is calculated by dividing the total time a unit is committed to all incidents during a year divided by the total time in a year. Expressed as a percentage, it describes the amount of time a unit is not available for a response since it is already committed to an incident. The larger the percentage, the greater a unit's utilization, and the less available it is for assignment to an incident.

Unit hour utilization is an important statistic to monitor fire agencies using percentile-based performance standards, as does MFPD. In MFPD's case, where performance is measured at the 90th percentile, a response unit with greater than 10% utilization will not provide an on-time response to its 90% target even if the response is its only activity.

No MFPD response units are close to 10%-unit hour utilization. Squad 91 is more active than all other units.

Figure 174: MFPD Response Unit Workload

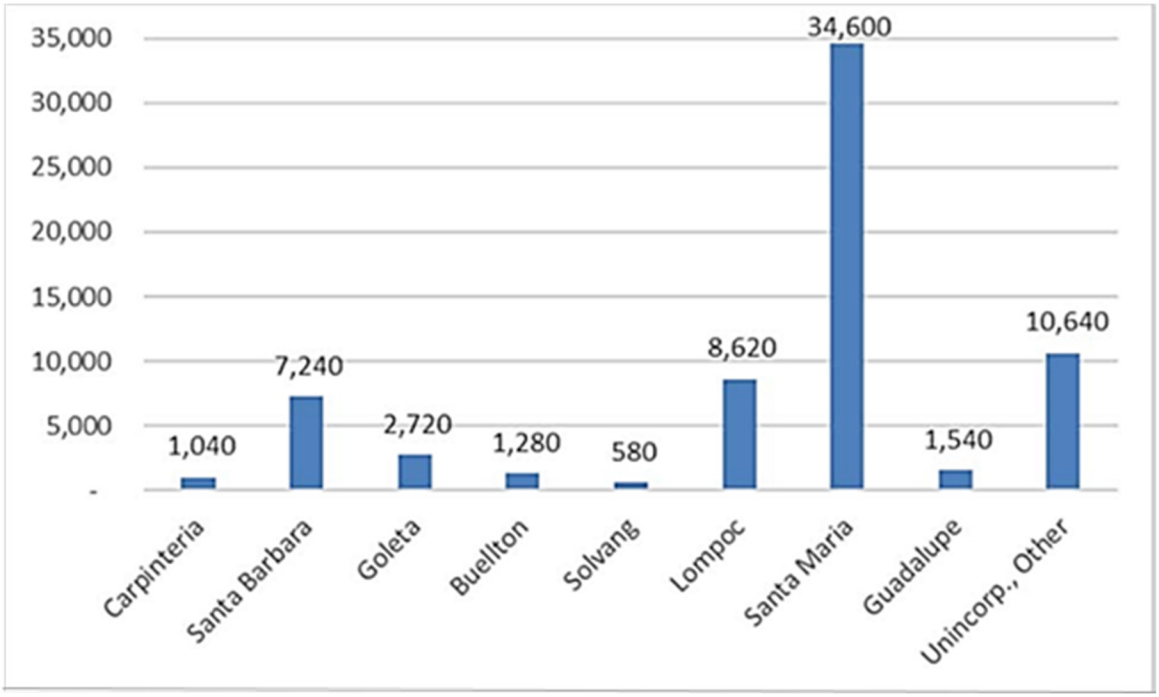


Population & Incident Workload Projections

The most significant predictor of future incident workload is population. EMS incidents are people-driven. The National Fire Protection Association reports that approximately 70% of all fires result from people either doing something they should not have (i.e., misuse of an ignition source) or not doing something they should have (i.e., failure to maintain equipment). It is reasonable to use forecast population growth to predict future fire department response workload.

Santa Barbara County Association of Governments (SBCAG) prepared a population forecast in January 2019. Population growth for Montecito is forecast to be just under 7.6% from 2017 through 2050. Using this estimate, the District's population could reach 10,000 by 2050.

Figure 175: Population Growth Estimates (2017–2050)[55]



From the Santa Barbara County Association of Governments projection report: "The South Coast Cities of Carpinteria, Santa Barbara, and Goleta are forecast to increase by less than 9% by 2050." Montecito would be included in the Unincorporated Other category and is classified as other. Triton utilized this published data to develop the following figure and related narratives. It is important to note that the SBCAG forecasts may not be consistent with data tracked by the Montecito community.

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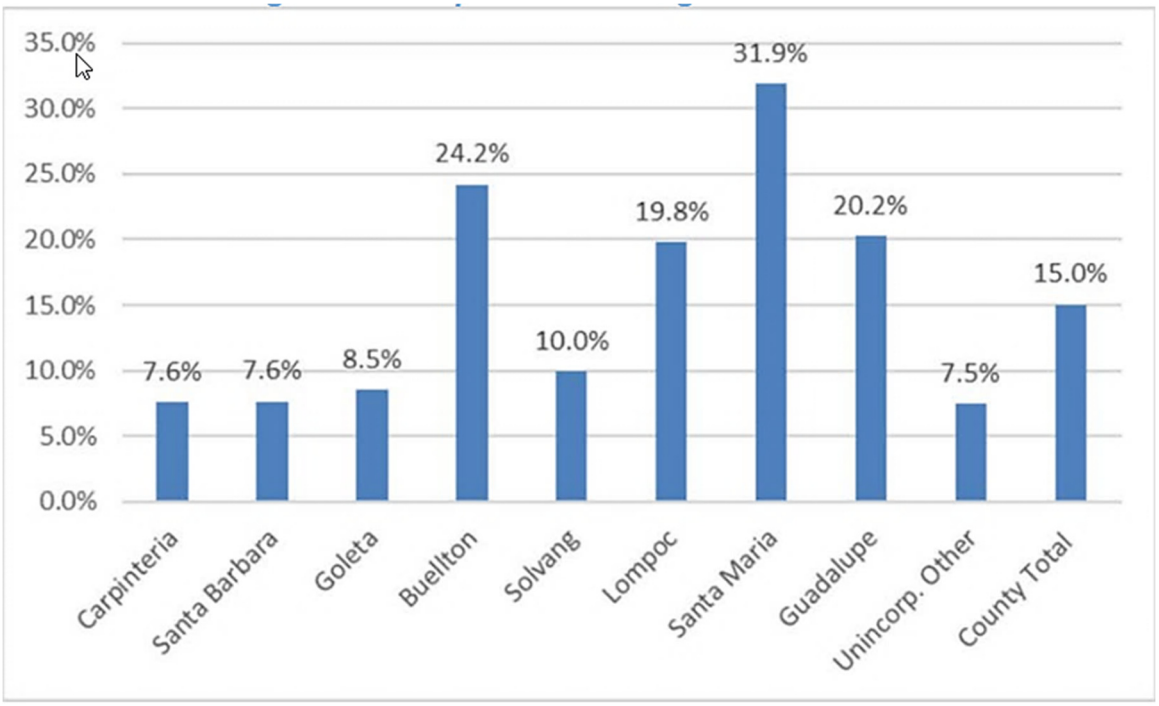
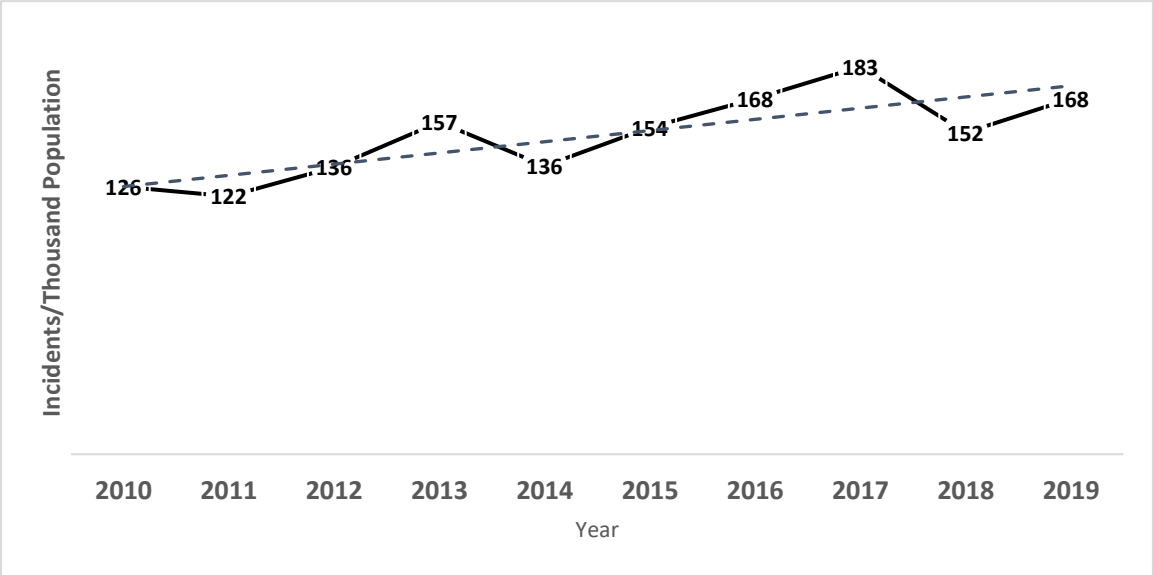
Figure 176: Population Percentage Growth Projection (2017–2050)[1]



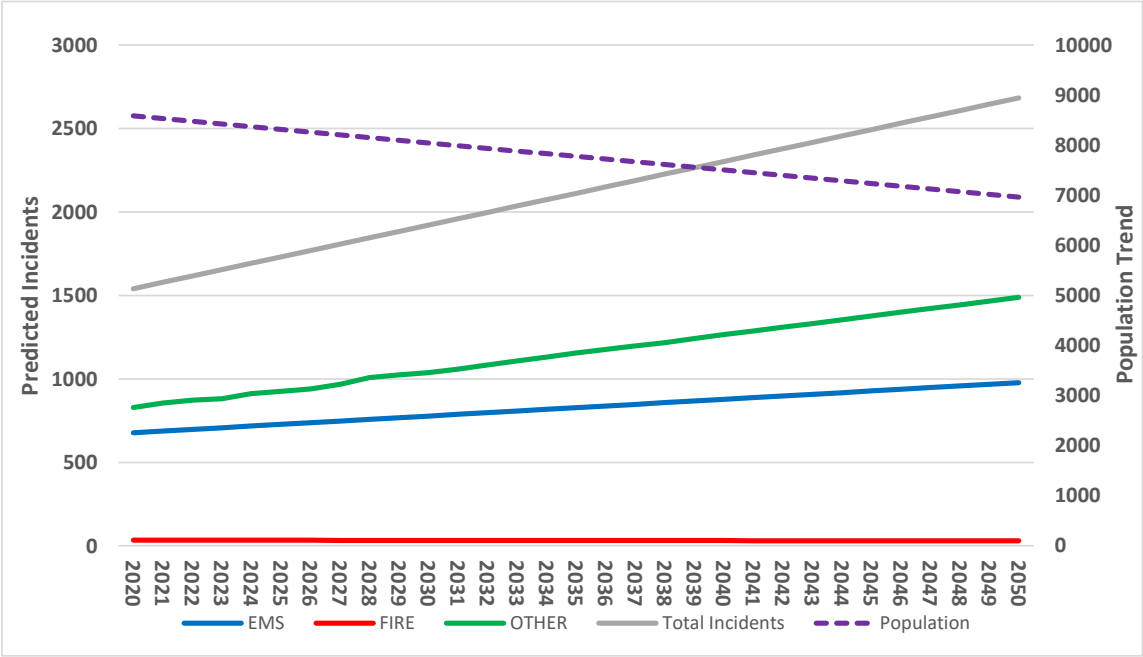
The District currently has a utilization rate of 161 incidents per 1,000 population. This utilization rate is higher than in similar-sized communities. NFPA data benchmarks urban activity at 129–152 incidents per 1,000. The total utilization rate has increased modestly over the past eight years but has declined in the last two. The following illustrates that growth.

Figure 177: MFPD Incidents per 1,000 Population



The increased utilization rate, plus expected population growth, will increase the MFPD's workload, as shown in the following figure. Workload in 2019 was 1,383 incidents representing 168 calls per 1,000 population. Response workload could reach over 2,190 incidents per year by 2050, driven primarily by requests for emergency medical services and other incidents. The forecast for population growth from 2010 to 2050 is a negative 28.7% using a linear calculation method (8,965 versus forecast 6,965). This would indicate an increased workload of 385 per 1,000 population.

Figure 178: MFPD Response Forecast (2020–2050)



Review of MFPD Historical System Performance

Incident data for the period between January 1, 2017, and December 31, 2019, were evaluated in detail to determine MFPD's current performance. AP Triton obtained data from MFPD's National Fire Incident Reporting Systems (NFIRS) incident reports and the dispatch center's computer-aided dispatch system.

Incidents with valid time interval stamps were included in the analysis. Test calls were excluded, as were all incidents without complete data. The following figure lists the reasons for rejecting records from Triton's previous analysis.

Figure 179: MFPD Data Elements Excluded from Analysis

Data Exclusion	Count
Test Calls	404
Bad Year Recorded	1
Priority 0, 2, 3 & 4 Incidents	1,225
Time of Phone-Pickup Blank	15
Unit did not go En Route/Canceled	430
Unit did not Arrive at Scene/Canceled	873
Data Outliers	**Count**
Call Process >300 seconds (5 minutes)	90
Turnout >300 seconds (5 minutes)	26
Travel >1,200 seconds (20 minutes)	90
Response >1,500 seconds (25 minutes)	34
Received to Scene >1,800 seconds (30 minutes)	0
Total Incidents Excluded:	**3,188**

Only Priority 1 incidents occurring within the MFPD service area are included. No incident responses into other jurisdictions are included. Priority incidents involve emergencies to which the fire department initiated a "Code 3" (lights and siren) response (749 incidents during 2017, 561 during 2018, and 517 incidents during 2019). AP Triton excluded non-emergency public assistance requests. Performance is reported based on the initial type of incident as dispatched. Three categories are used to report performance:

- Fire—Responses to a report of a fire.
- Emergency medical—All emergency medical incidents.
- Other—Any other incident to which the fire department responded with lights and sirens.

Each phase of the incident response sequence was evaluated to determine the current performance. This allows an analysis of each phase to determine where opportunities might exist for improvement. The total incident response time continuum consists of several steps, beginning with the initiation of the incident and concluding with the incident's appropriate mitigation. The time required for each of the components varies. The policies and practices of the fire department directly influence some steps.

AP Triton compared MFPD's response performance to the standards the District adopted in 2015. The following figure summarizes MFPD's performance objectives.

Figure 180: Summary of MFPD Adopted Performance Objectives

Incident Interval	Performance Goal
9-1-1 call answer time (time from first ring to answer)	Within 15 Seconds, 90% of the time *(NFPA 15 seconds)*
Call process time (time from acceptance at dispatch center until notification of response units).	Within 60 seconds, 90% of the time *(NFPA 60 seconds 90% of the time)*
Turnout time (time from notification of response personnel until the initiation of movement towards the incident).	Within 120 seconds, 90% of the time *(NFPA 60 seconds for EMS, 80 seconds for Fire)*
First unit travel time (time from initiation of response until arrival of the first unit at the incident)	Within 4 minutes, 90% of the time *(NFPA 4 minutes)*
Total Response Time, from phone answer to arrival at the scene of the first unit	Within 7 minutes, 90% of the time *(NFPA 6 minutes or 6 minutes 20 seconds for Fire)*
Full effective response force travel time (time from dispatch until all units initially dispatched arrive at the incident. Response resources needed for a low-rise building fire are used for evaluation)	Within 11 minutes, 90% of the time *(NFPA 9 minutes, 20 seconds for Fire)*

In keeping with MFPD's performance objectives, all response time elements are reported at a given percentile. Percentile reporting is a methodology by which response times are sorted from least to greatest, and a "line" is drawn at a certain percentage of the calls to determine the percentile. The point at which the "line" crosses the 90th percentile, for example, is the percentile time performance. Thus, 90% of the times were at or less than the result. Only 10% were longer.

Percentile differs greatly from average. Averaging calculates response times by adding all response times together and dividing the total number of minutes by the total number of responses (mean average). Measuring and reporting average response times is not recommended. Using averages does not give a clear picture of response performance because it does not identify the number and extent of events with times beyond the stated performance goal.

What follows is a detailed description and review of each phase of the response time continuum. AP Triton will compare all phases to MFPD's performance objectives.

Detection

The detection of a fire (or medical incident) may occur immediately if someone happens to be present or if an automatic system is functioning. Otherwise, detection may be delayed, sometimes for a considerable period. This phase begins with the inception of the emergency and ends when the emergency is detected. It is largely outside the fire district's control and not a part of the event sequence that is reliably measurable.

Call Answer and Transfer

Most emergency incidents are reported by telephone to the 9-1-1 center. Call takers must quickly elicit accurate information about the nature and location of the incident from persons who are apt to be excited. A citizen well-trained in how to report emergencies can reduce the time required for this phase. The dispatcher must identify the correct units based on incident type and location, dispatch them to the emergency, and continue to update information about the emergency while the units respond. This first part of call processing begins when the 9-1-1 call is answered at the primary public safety answer point (PSAP) and ends when the information is passed the secondary public safety answer point.

Santa Barbara Sheriff's Department (SBSO) is the primary 9-1-1 call answer point for the Montecito Fire Protection District. It answers the 9-1-1 call, queries the caller to determine nature and location, and then transfers the information to the secondary PSAP at Montecito, which dispatches MFPD units.

AP Triton submitted several requests for data related to the transfer time from SBSO to the Montecito FPD secondary PSAP. SBSO was unable to provide the data requested.

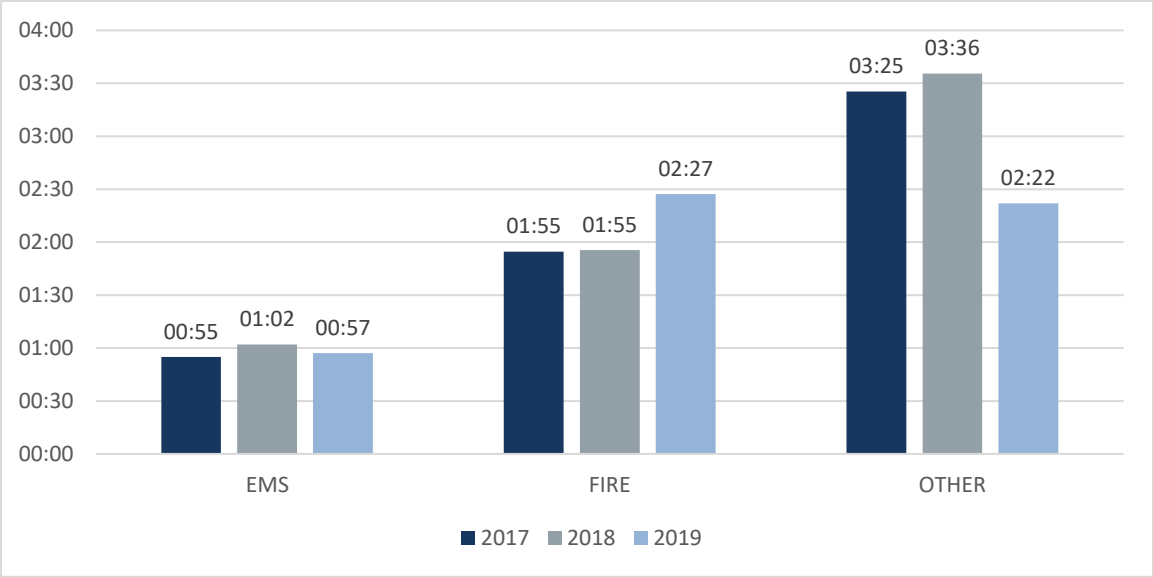
National Fire Protection Association Standard 1221 recommends that 9-1-1 calls be answered within 15 seconds, 95% of the time (within 40 seconds, 99% of the time). Call answer data was not available to include in this analysis.

Call Processing Time

The third part of call processing time, dispatch time, begins when the call is answered by the secondary PSAP (time of phone pickup) and ends when response units are notified of the incident (units assigned). MFPD's performance goal is that this phase should occur within 60 seconds, 90% of the time.

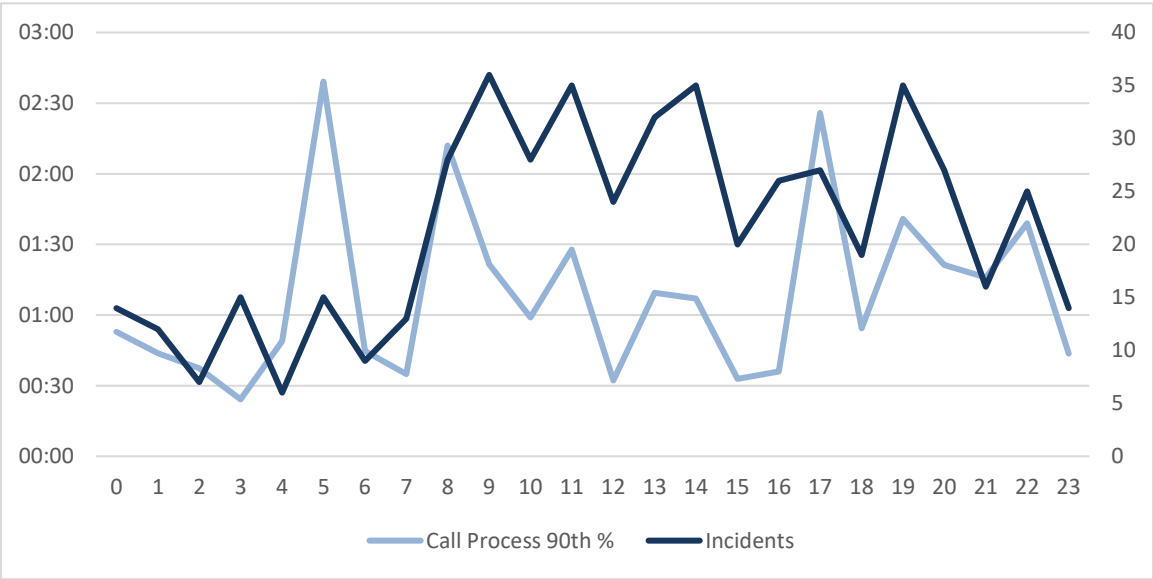
The following figure illustrates performance by MFPD from the time it answers the call until it notifies response units. Overall performance during 2019 was within 57 seconds, 90% of the time.

Figure 181: MFPD (Montecito) Dispatch Performance



The workload at the Montecito dispatch center can influence call processing performance. The following figure illustrates performance at different times of the day compared to the fire department's response workload. The x-axis represents the hour of the day, the primary y-axis on the left represents elapsed time, and the secondary y-axis represents the number of incidents.

Figure 182: MFPD Call Processing Performance vs. Incidents (2019)

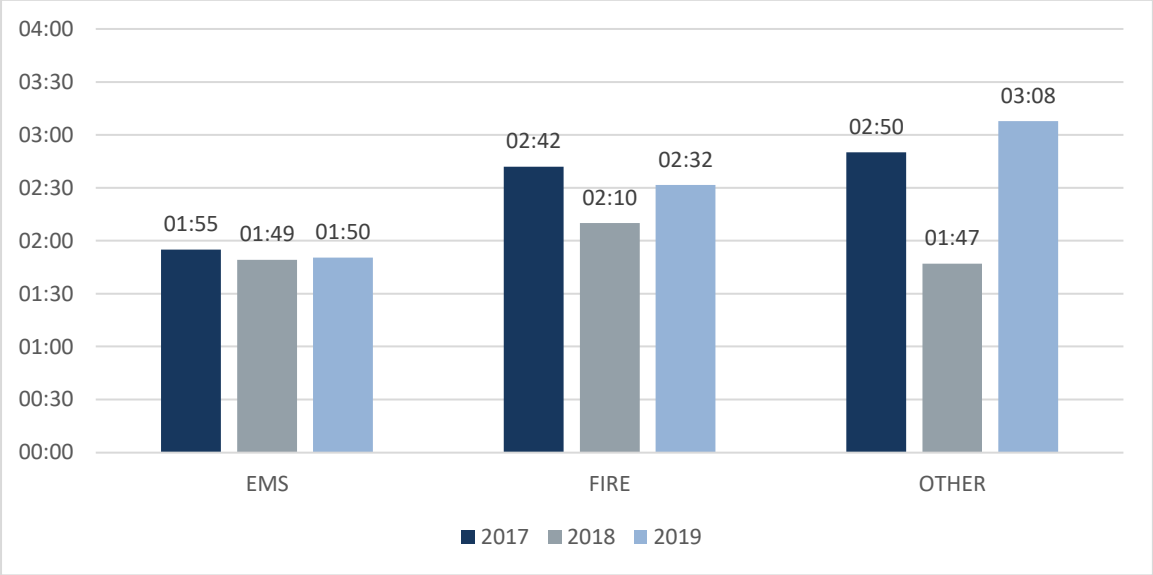


Turnout Time

Turnout time is a response phase controllable by the fire department. This phase begins at the notification of an emergency in progress by the dispatch center and ends when personnel and apparatus begin to move towards the incident location. Personnel must don appropriate equipment, assemble on the response vehicle, and begin travel to the incident. Good training and proper fire station design can minimize the time required for this step.

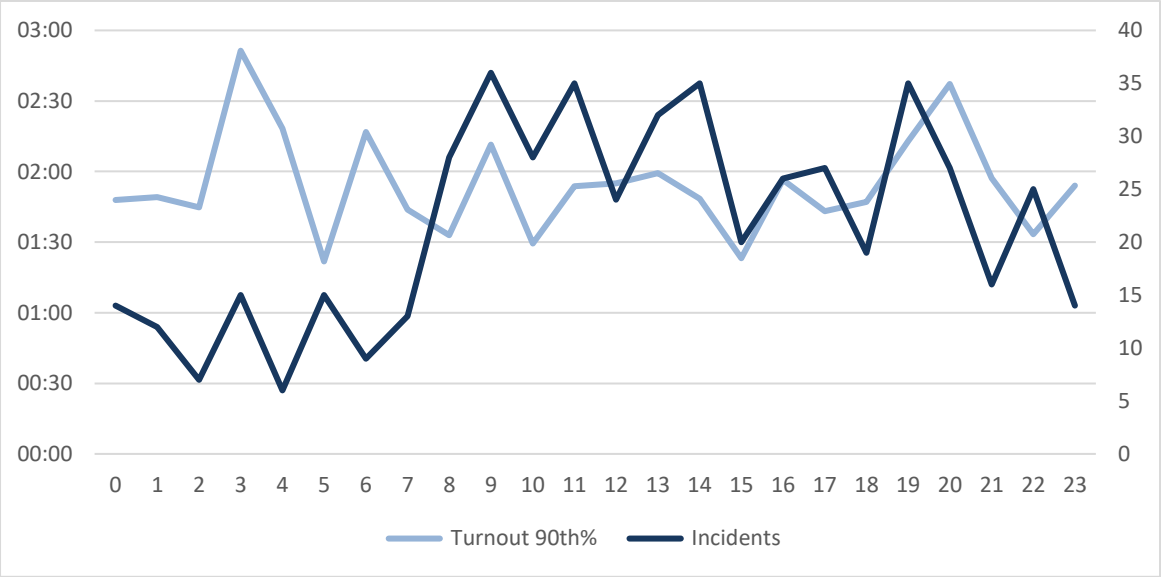
The performance objective for turnout time is within 120 seconds, 90% of the time. The following figure lists turnout time for specific incident types. Turnout times for all incident types meet MFPD's objectives. During 2019, turnout time was within one minute, 57 seconds, 90% of the time. This represents a very slight improvement from 2017. While this time is below MFPD's adopted Objective for turnout time, it is greater than NFPA Recommendations.

Figure 183: MFPD Turnout Time Performance (2019)



Turnout time can vary by hour of the day. In this case, turnout time varied by 64 seconds between the early morning hours and daytime hours. The following figure shows turnout time versus incidents by hour of the day. The x-axis represents the hour of the day, the primary y-axis on the left represents elapsed time, and the secondary y-axis represents the number of incidents.

Figure 184: MFPD Turnout Time vs. Incidents by Hour of the Day (2019)

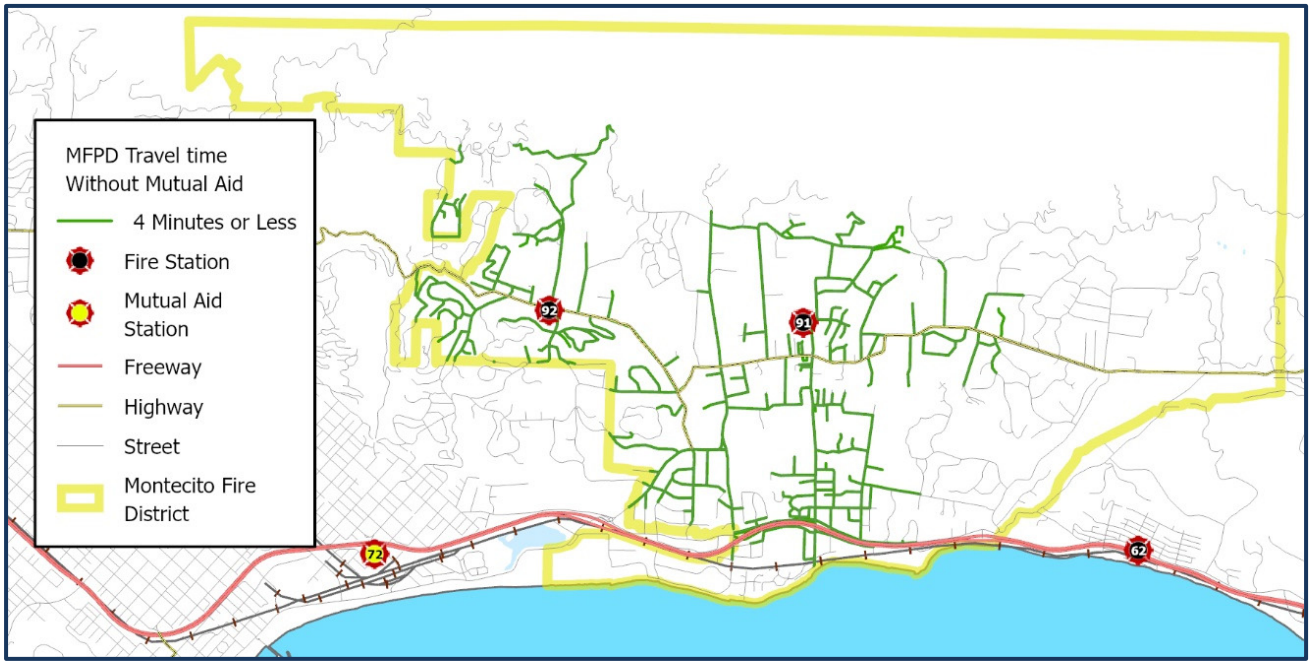


Distribution & Initial Arriving Unit Travel Time

Travel time is potentially the longest of the response phases. The distance between the fire station and the location of the emergency influences response time the most. The quality and connectivity of streets, traffic, driver training, geography, and environmental conditions are also factors. This phase begins with the initial apparatus movement towards the incident location and ends when response personnel and apparatus arrive at the emergency's location. Within the performance goal, four minutes is allowed for the first response unit to arrive at an incident. MFPD selects units for the response to an incident based on which station is closest to the incident.

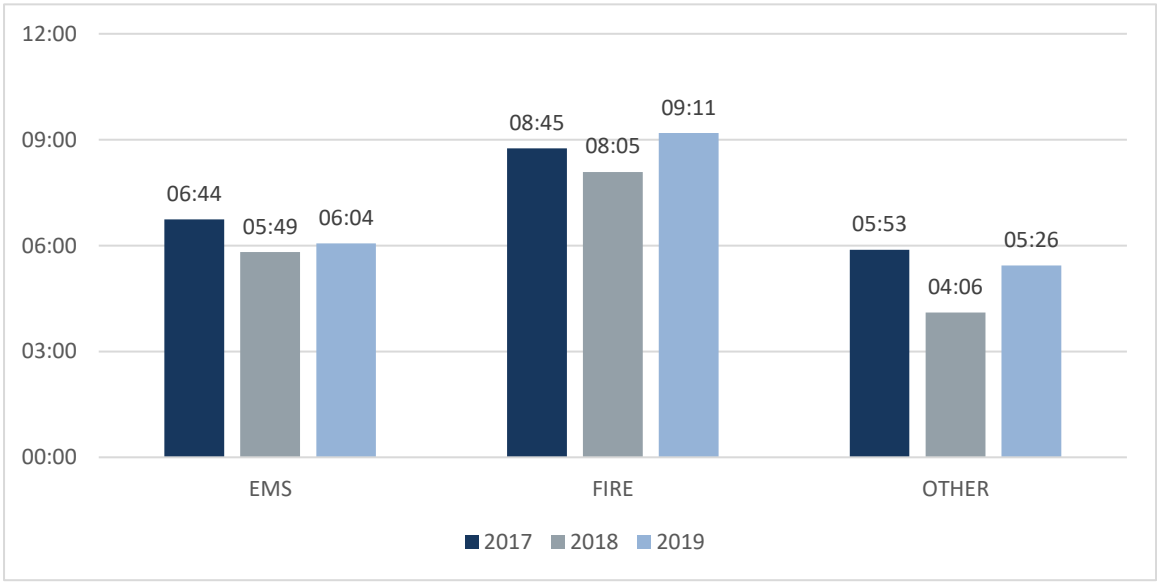
The following figure illustrates the street sections that can be reached from all MFPD fire stations in four minutes of travel time. The modeling is based on posted road speeds modified to account for turning, stops, and acceleration. Several portions of the district are beyond four travel minutes of a fire station. There are areas between Stations 91 and 92, the eastern end of the District, and the coast that cannot be reached in four minutes.

Figure 185: MFPD Initial Unit Travel Time Capability



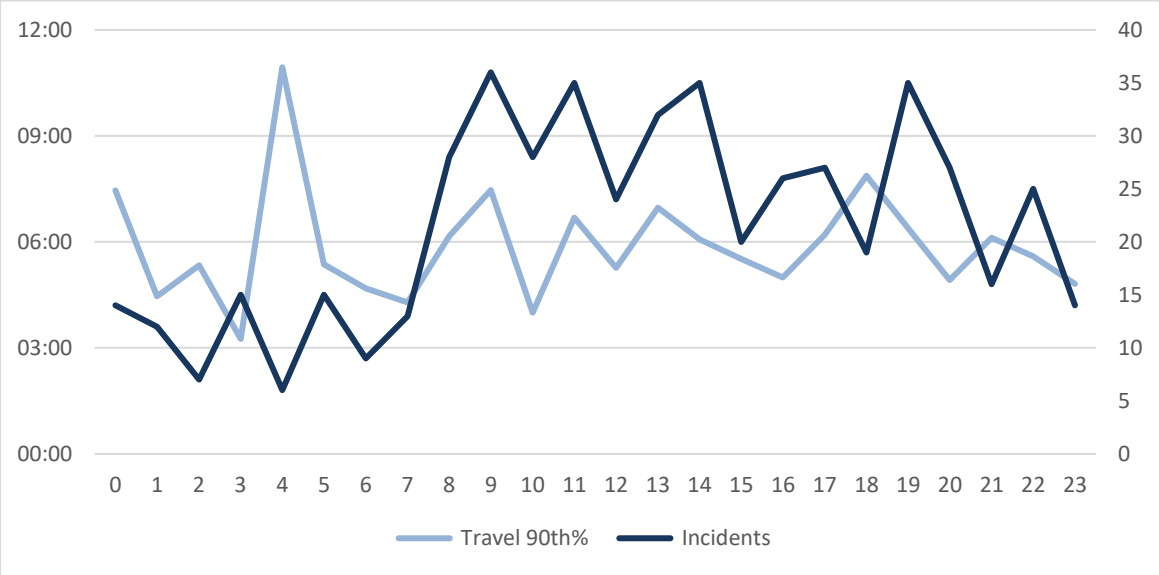
The following figure lists travel time for all priority incidents as well as specific incident types. MFPD's travel times exceed the adopted objective of four minutes, 90% of the time, in all incident types. Travel time for all incidents during 2019 was within six minutes, 35 seconds, 90% of the time.

Figure 186: MFPD Travel Time Performance—First Arriving Unit



Travel time can vary considerably by the time of day. Heavy traffic in the morning and evening rush hours can slow the fire department's response. Concurrent incidents can also increase travel time since units from more distant stations would need to respond. Travel times are the fastest in the afternoon. Travel time appears to remain relatively consistent. The x-axis represents the hour of the day, the primary y-axis on the left represents elapsed time, and the secondary y-axis represents the number of incidents.

Figure 187: MFPD Overall Travel Time & Incidents by Hour of Day—First Arriving Unit (2019)



A response unit must be within four travel minutes of the incident to provide a timely response. Incidents were reviewed to identify how many occurred within four travel minutes of a fire station. During 2019, 261 of the 477 incidents evaluated inside the district (54.7%) occurred within four travel minutes of a fire station.

Travel Time Performance by Region

Travel time performance by region is variable and influenced by several factors, including individual station area workload and the number of times a station must cover another station's area. Additional factors include the size of the station area and the street system serving it. More highly connected, grid-patterned street systems contribute to faster response times than areas with meandering streets with numerous dead-ends.

The following figure evaluates travel time performance by sub-area using inverse distance weighting analysis (IDW). This process uses travel time for known points (actual incidents) to predict travel time for the area surrounding the actual incident. Better performance is generally noted near fire stations, with progressively longer response times for those incidents more distant from the stations.

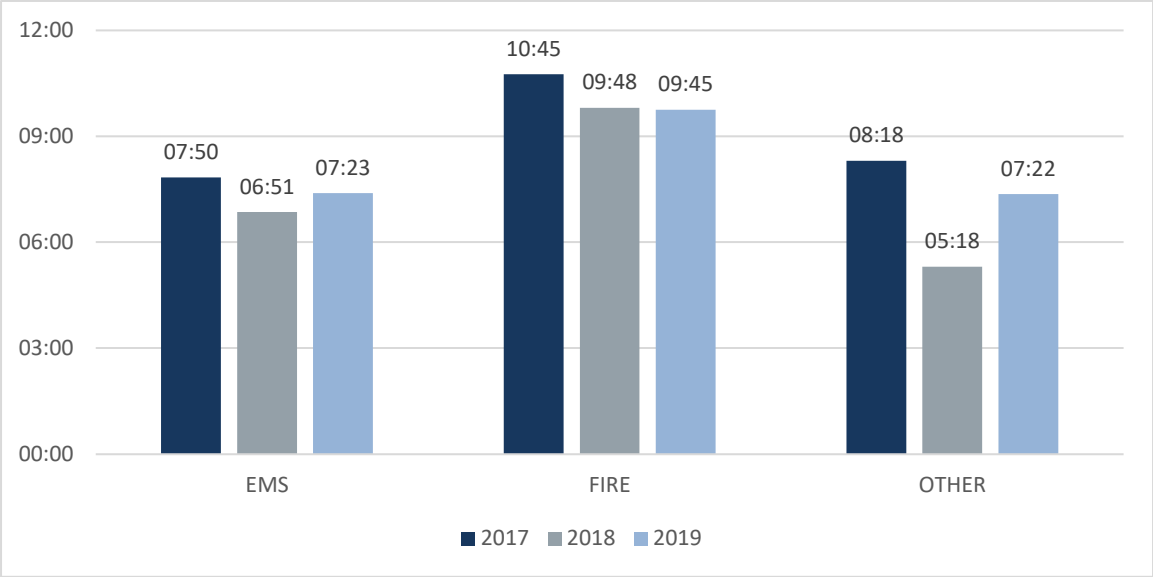
Figure 188: MFPD Travel Performance by Region

First Arriving Unit Response Time

Response time is defined as the period between the notification of response personnel by the dispatch center that an emergency is in progress until the arrival of the first fire department response unit at the emergency. When turnout time and travel time are combined, the adopted MFPD performance goal for response time is within 6 minutes, 90% of the time. This includes a two-minute turnout and four-minute travel time.

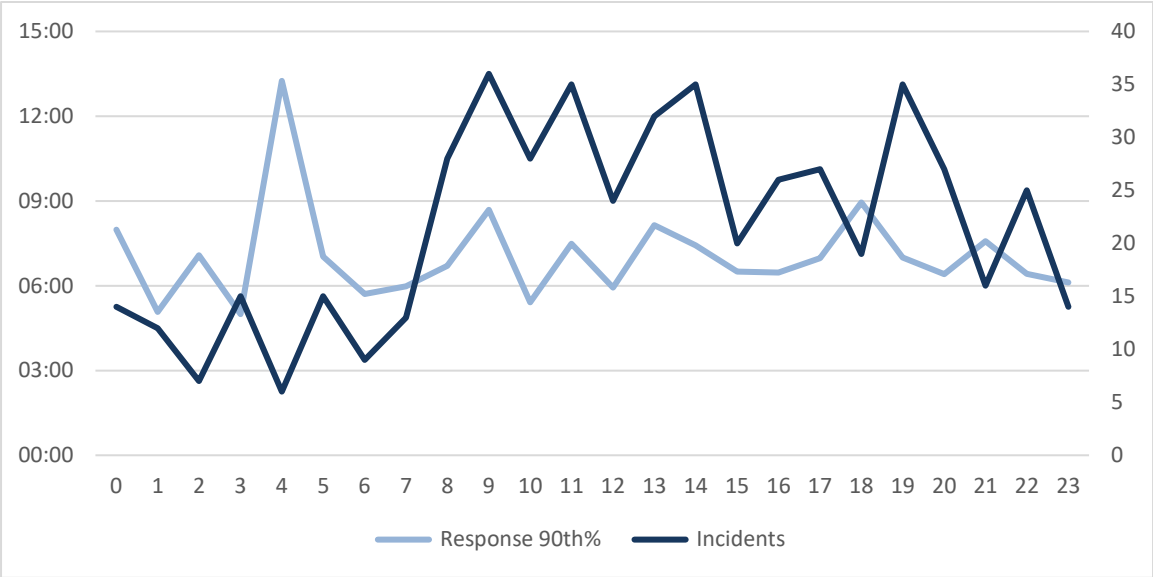
The following figure illustrates the response time for all priority incidents as well as specific incident types. Overall, response time for all priority incidents was within seven minutes, 42 seconds, 90% of the time during 2019. This exceeds the adopted response time objective of six minutes.

Figure 189: MFPD Response Time Performance—First Arriving unit



The next figure shows the 90th percentile of response time and the number of incidents by the hour of day for all incidents. Response time is slowest during the nighttime hours and fastest during the day. The x-axis represents the hour of the day, the primary y-axis on the left represents elapsed time, and the secondary y-axis represents the number of incidents.

Figure 190: MFPD Hourly Response Time Performance (2019)

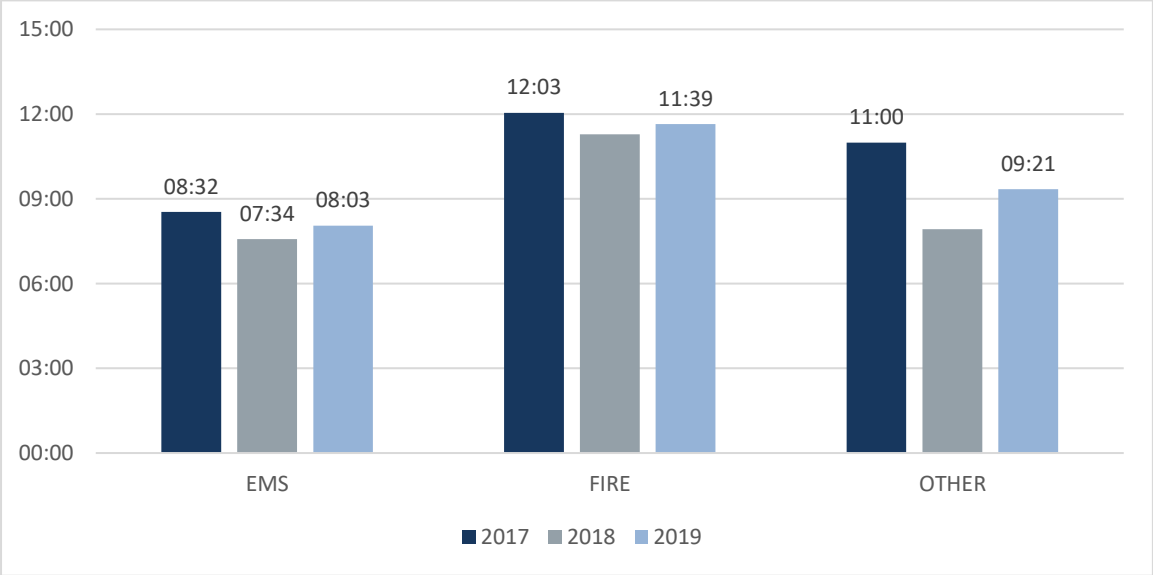


First Arriving Unit Received-to-Arrival Time (Total Response Time)

From the customer's standpoint, response time begins when the emergency occurs. Their first contact with emergency services is when they call for help, usually by dialing 9-1-1. Received (Time of Phone Pickup) to arrival time combines answer/transfer, call processing, turnout, and travel time. When the performance objectives are combined, received to arrival time should be within seven minutes, 90% of the time.

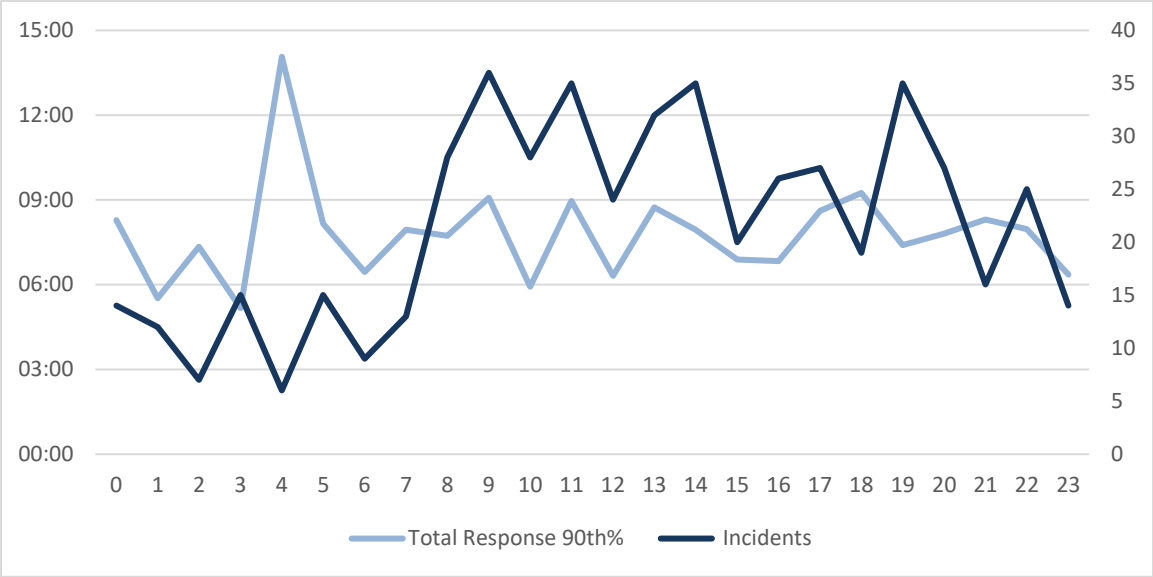
The next figure shows receive-to-arrival performance for priority incidents within the MFPD service area. Overall, received-to-arrival time was within eight minutes 18 seconds, 90% of the time during 2019.

Figure 191: MFPD Received to Arrival Time—First Arriving Unit



In the next figure, the x-axis represents the hour of the day, the primary y-axis on the left represents elapsed time, and the secondary y-axis represents the number of incidents.

Figure 192: MFPD Hourly Received to Arrival Performance (2019)



Concentration & Effective Response Force Capability Analysis

Effective Response Force (ERF) is the number of personnel and apparatus required to be present on the scene of an emergency incident to perform the critical tasks in such a manner to effectively mitigate the incident without unnecessary loss of life and/or property. The ERF is specific to each type of incident and is based on the critical tasks that must be performed.

The approved response time objective for delivering the full ERF to a building fire is within 11 minutes, 90% of the time. MFPD has defined the minimum full effective response force for low-risk structure fires as five fire engines, one truck, one squad, and three Battalion Chiefs with a total of 16 firefighters.

No data is available to identify building fires by type of risk (low-risk, high-risk, commercial, etc.). All building fires have been evaluated using the low-risk effective response force criteria. The following figure illustrates effective response performance during the study period. MFPD delivered the effective response force to two building fires during the study period. The required number of apparatus, however, was not delivered in any situation.

Actual performance fell far short of the stated goal. There were no recorded Battalion Chief responses in three years of CAD data, but it should be assumed that these officers did respond to working structure incidents. The actual performance is shown in the following figure.

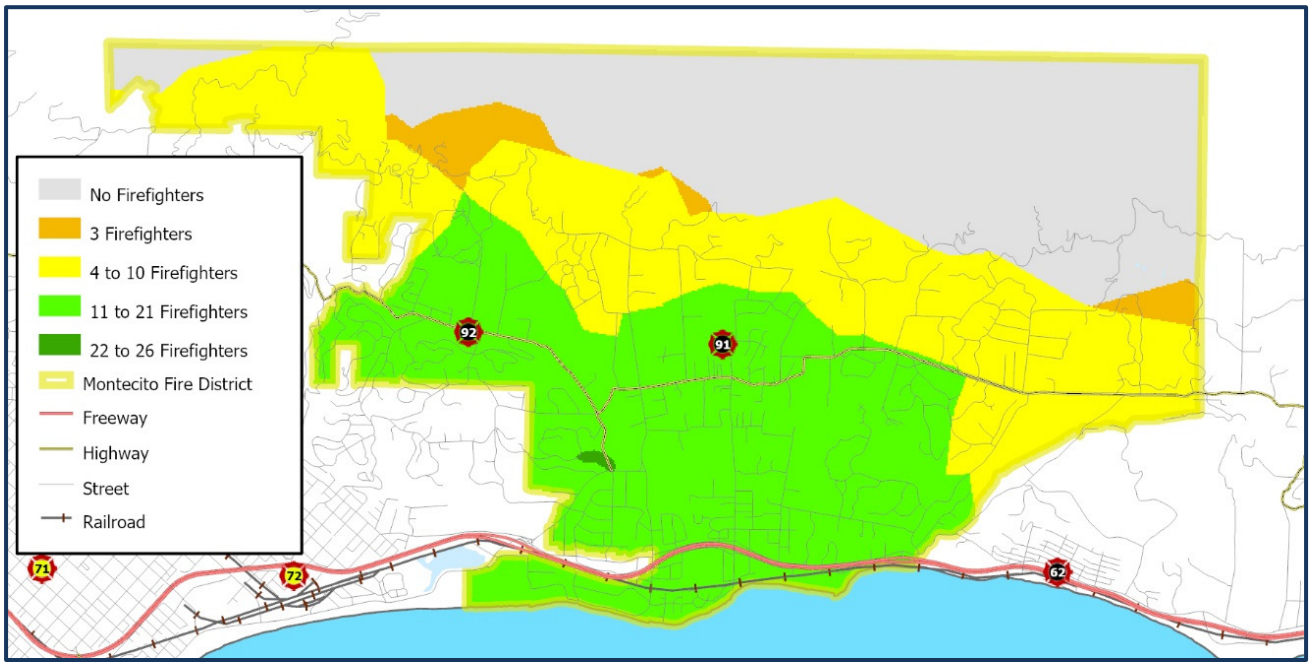
Figure 193: MFPD Effective Firefighter Response Force Performance

Description	2017	2018	2019
Reported Fires	6	7	12
Number of Fires with Full Firefighter ERF	—	1	1
Number of Fires with Full Apparatus ERF	—	—	—
Time to deliver Fire Fighters ERF	—	18:41	54:23
Time to deliver Full Apparatus ERF	N/A	N/A	N/A
90th Percentile Apparatus	N/A	N/A	N/A

There are no events that provided the apparatus objective of 5 Engines, 1 Squad, 1 Truck (three Battalion Chiefs assumed but staff not counted). The last arriving unit response time and the longest response times are listed in minutes/seconds. Assembled personnel is the sum of all typical staff members assigned to an apparatus.

The first figure shows the area that can be reached by the various numbers of firefighters. Eight minutes of travel time can assemble the defined full effective response force on the scene in many populated areas of the district. This figure includes the resources of adjacent agency stations. The minimum complement of 16 firefighters needed for a low-risk residential fire can be provided to about two-thirds of the District's developed areas within eight minutes. MFPD can provide at best nine firefighters from district staffing, provided there are no other active incidents.

Figure 194: MFPD Effective Response Force—Firefighters with Mutual Aid



The District's portions south of Stations 91 and 92 areas indicate a response force of this size can be assembled in eight minutes of travel time. The 16 required firefighters cannot serve about 38% of the District's developed area in eight minutes.

Montecito Fire Protection District has outlined a required amount of apparatus for critical tasking for a low-risk structure fire and delivery of an effective response force. MFPD supplies two Engine Companies, and three more are obtained via automatic/mutual aid. The need for a ladder truck here also is provided by automatic aid from Santa Barbara City. MFPD provides one squad and one Battalion Chief from MFPD and two more from mutual/automatic aid departments complete the effective response apparatus assignment.

Analysis of travel time within the study area and boundaries of MFPD reveals that there is nowhere within the District boundaries this number of apparatus can be delivered within the stated assembly time objectives. The 11-minute effective apparatus assembly goal, minus the one-minute call processing and two-minute turnout time, leaves a travel time of eight minutes, used for the preceding analysis.

Second Unit Arrival Time

MFPD staffs its fire engines with three personnel. OSHA safety regulations Cal OSHA {5144 (g) (4)} require that at least four firefighters be on scene before firefighters can enter a burning building. The only exception is if it is known that a person is inside the building and needs rescue. Current staffing levels on engines require a second response unit's arrival before non-rescue interior firefighting activities can be initiated.

AP Triton reviewed incident data for building fires during 2019 to determine when the second response unit arrived on the scene. According to the data, the second unit arrived on the scene of a structure fire within two minutes, 15 seconds, 90% the time after the first unit's arrival (one minute 51 seconds on average).

Incident Concurrency and Reliability

When evaluating the effectiveness of any resource deployment plan, it is necessary to evaluate the individual response units' workload to determine to what extent their availability for dispatch affects the response time performance. In simplest terms, a response unit cannot make it to an incident across the street from its station in four minutes if it is unavailable to be dispatched to that incident because it is committed to another call.

Concurrency

One way to look at resource workload is to examine the number of times multiple incidents happen within the same time frame. Incidents during the study period were examined to determine the frequency of concurrent incidents. This is important because concurrent incidents can stretch available resources and delay response to other emergencies. This factor significantly impacts total response times to emergencies in the jurisdiction.

Figure 195: MFPD Regional Incident Concurrency

Concurrent Incidents	2017	2018	2019
One Incident	2,026	2,020	2,050
Two Incidents	298	268	210
Three Incidents	26	22	19
Four Incidents	2	2	1
Five Incidents	6	5	3
Six Incidents	2	3	1
Seven Incidents	0	0	1

To evaluate the impact of mutual aid on the depletion of resources in MFPD, it is again useful to review the number of times one or more response units are committed to incidents simultaneously when providing in district and aid responses. The following figure shows the number of times one or more MFPD response units were committed to incidents inside and outside the district. It is more common than not for multiple response units to be simultaneously committed to incidents, with two to four concurrent responses occurring in significant numbers. Concurrent incidents have increased significantly from 2017 to 2019.

Figure 196: MFPD Regional Response Unit Concurrency (Aid)

Concurrent Unit Responses (includes aid given)	2017	2018	2019
One Incident	2,026	2,020	2,050
Two Incidents	268	753	787
Three Incidents	22	248	291
Four Incidents	2	96	82
Five Incidents	5	34	21
Six Incidents	3	11	3
Seven Incidents	0	7	0
Eight Incidents	0	2	0

Station Area Reliability

Assessment of reliability involves determining a geographic area that each station serves, sometimes referred to as a First Due area. Each time a station unit responds into that geographic area as the first arriving unit, it is said to be 'reliable.' The percentage of reliability indicates how often a unit from outside the station area had to respond to handle the incident. Lower reliability percentages, such as shown for Station 92, could indicate that 2nd or greater units may be too far away and outside agencies handle all their incidents with a likely impact on response time. Comparatively, from 2017 to 2019, Station 91 experienced a very slight increase in reliability while Station 92 exhibited a marked decline.

Figure 197: MFPD Station Reliability

	— 2017 —			— 2018 —			— 2019 —		
Station	1st Due Unit	Total Incidents	Reliable %	1st Due Unit	Total Incidents	Reliable %	1st Due Unit	Total Incidents	Reliable %
Station 91	765	992	77.1%	674	839	80.3%	694	847	81.9%
Station 92	255	365	69.9%	222	304	73.0%	177	273	64.8%

PERFORMANCE OBJECTIVES & MEASURES

Dynamics of Fire in Buildings

Most fires within buildings develop predictably unless influenced by highly flammable material. Ignition, or the beginning of a fire, starts the sequence of events. It may take several minutes or even hours from the time of ignition until a flame is visible. This smoldering stage is very dangerous, especially when people are sleeping, since large amounts of highly toxic smoke may be generated during this phase.

Once flames do appear, the sequence continues rapidly. Combustible material adjacent to the flame heat and ignite, which in turn heats and ignites other adjacent materials if sufficient oxygen is present. As the objects burn, heated gases accumulate at the ceiling of the room. Some of the gases are flammable and highly toxic.

The spread of the fire from this point continues quickly. Soon the flammable gases at the ceiling and other combustible material in the room of origin reach ignition temperature. At that point, an event termed "flashover" occurs; the gases and other material ignite, which in turn ignites everything in the room. Once flashover occurs, damage caused by the fire is significant, and the environment within the room can no longer support human life. Flashover usually occurs about five to eight minutes from the appearance of flame in typically furnished and ventilated buildings. Since flashover has such a dramatic influence on the outcome of a fire event, any fire agency's goal is to apply water to a fire before flashover occurs.

Although modern codes tend to make fires in newer structures more infrequent, today's energy-efficient construction (designed to hold heat during the winter) also tends to confine the heat of a hostile fire. Research has also shown that modern furnishings generally ignite more quickly and burn hotter (due to synthetics). In the 1970s, scientists at the National Institute of Standards and Technology found that building occupants had about 17 minutes to escape before being overcome by heat and smoke after a fire broke out. Today, that estimate is as short as three minutes. The necessity of effective early warning (smoke alarms), early suppression (fire sprinklers), and firefighters arriving on a fire scene in the shortest time is more critical now than ever.

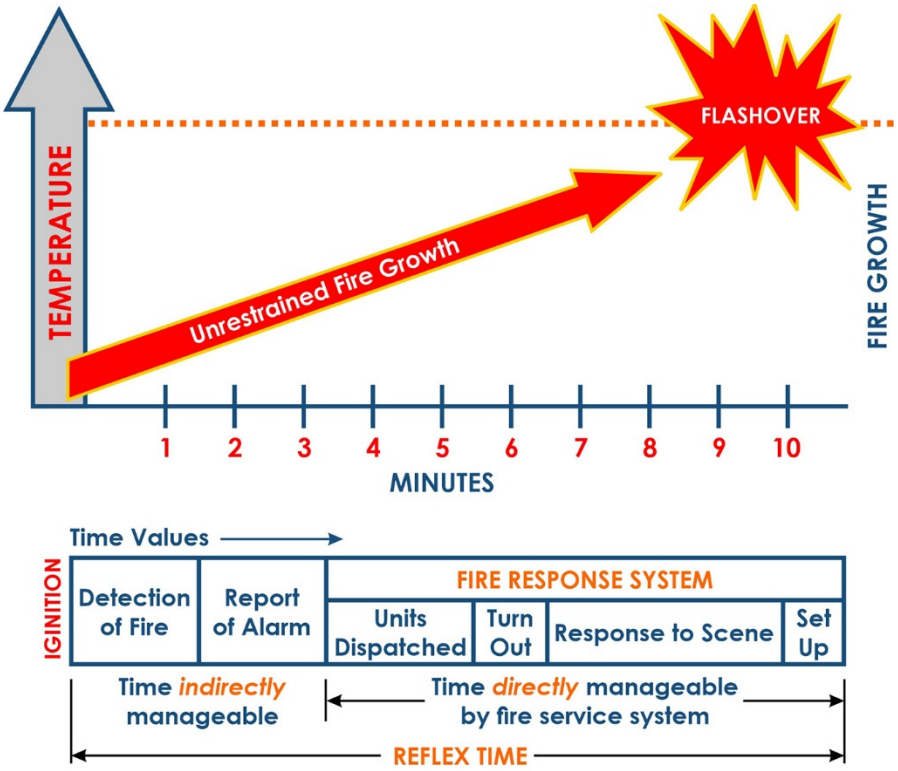
The prompt arrival of at least four personnel is critical for structure fires. Federal regulations (CFR 1910.120) require that personnel entering a building involved in fire must be in groups of two. Further, before personnel can enter a building to extinguish a fire, at least two personnel must be on scene and assigned to conduct search and rescue if the fire attack crew becomes trapped. This is referred to as the "two-in, two-out" rule.

However, if it is *known* that victims are trapped inside the building, a rescue attempt can be performed without additional personnel ready to intervene outside the structure. Further, there is no requirement that all four arrive on the same response vehicle. Many fire departments rely on more than one unit arriving to initiate an interior fire attack.

Perhaps as important as preventing flashover is the need to control a fire before it damages the structural framing of a building. Materials used to construct buildings today are often less fire-resistive than the heavy structural skeletons of older frame buildings. Roof trusses and floor joists are commonly made with lighter materials that are more easily weakened by the effects of fire. "Lightweight" roof trusses fail after five to seven minutes of direct flame impingement. Plywood I-beam joists can fail after as little as three minutes of flame contact. This creates a dangerous environment for firefighters.

In addition, today's contents have a much greater potential for heat production than in the past. The widespread use of plastics in furnishings and other building contents rapidly accelerated fire spread and increased the amount of water needed to control a fire effectively. All of these factors make the need for early application of water essential to a successful fire outcome. The following figure illustrates the sequence of events during the growth of a structure fire over time.

Figure 198: The Dynamics of Fire Growth versus Reflex Time



As is apparent by this description of the sequence of events, water application in time to prevent flashover is a serious challenge for any fire department. It is critical, though, as studies of historical fire losses can demonstrate.

The National Fire Protection Association found that fires contained to the room of origin (typically extinguished before or immediately following flashover) had significantly lower rates of death, injury, and property loss when compared to fires that had an opportunity to spread beyond the room of origin (typically extinguished post-flashover). As evidenced in the following figure, fire losses, casualties, and deaths rise significantly as the extent of fire damage increases.

Figure 199: Fire Extension in Residential Structures—United States (2011–2015)[56]

— Rates per 1,000 Fires —

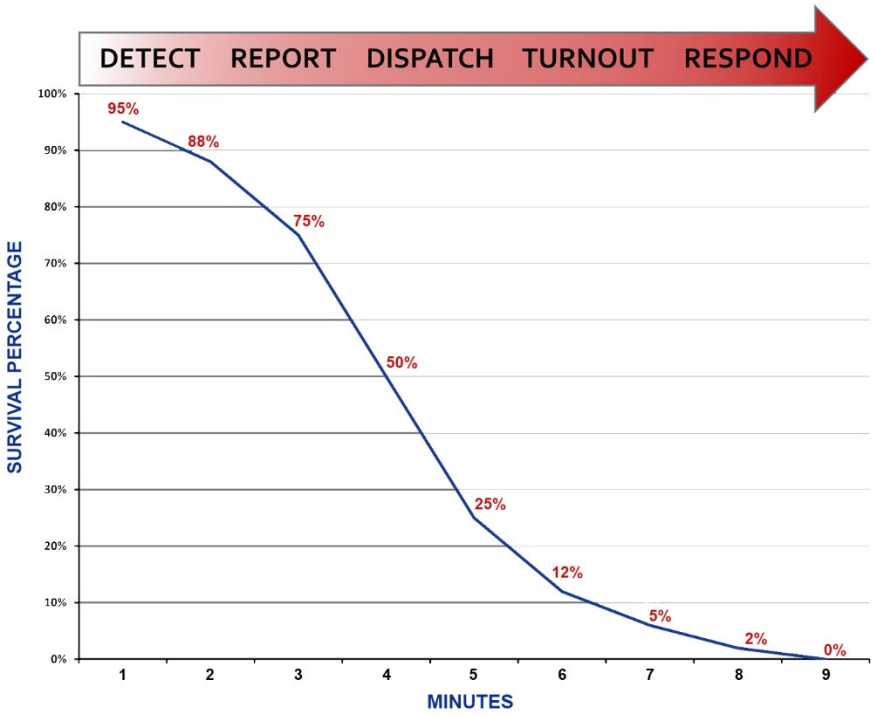
Extension	Civilian Deaths	Civilian Injuries	Average Loss per Fire
Confined to the room of origin or smaller	1.8	24.8	$4,200
Confined to floor of origin	15.8	81.4	$36,300
Confined to building of origin or larger	24.0	57.6	$67,600

Emergency Medical Event Sequence

Cardiac arrest is the most significant life-threatening medical event in emergency medicine today. A victim of cardiac arrest has mere minutes in which to receive lifesaving care if there is to be any hope for resuscitation. The American Heart Association (AHA) issued a set of cardiopulmonary resuscitation guidelines designed to streamline emergency procedures for heart attack victims and increase the likelihood of survival. The AHA guidelines include goals for the application of cardiac defibrillation to cardiac arrest victims. Cardiac arrest survival chances fall by 7 to 10% for every minute between collapse and defibrillation. Consequently, the AHA recommends cardiac defibrillation within five minutes of cardiac arrest.

As with fires, the sequence of events that lead to emergency cardiac care can be graphically illustrated, as shown in the following figure.

Figure 200: Cardiac Arrest Sequence



The percentage of opportunity for recovery from cardiac arrest drops quickly as time progresses. The stages of medical response are similar to the components described for a fire response. Recent research stresses the importance of rapid cardiac defibrillation and administration of certain medications to improve the opportunity for successful resuscitation and survival.

People, Tools, & Time

Time matters a great deal in the achievement of an effective outcome to an emergency event. Time, however, is not the only factor. Delivering enough properly trained, appropriately equipped personnel within the critical period completes the equation.

For medical emergencies, this can vary based on the nature of the emergency. Many medical emergencies are not time-critical, however, for serious trauma, cardiac arrest, or conditions that may lead to cardiac arrest, a rapid response is essential.

Equally critical is delivering enough personnel to the scene to perform all of the concurrent tasks required to deliver quality emergency care. For a cardiac arrest, this can be up to six personnel; three to perform cardiac arrest management (CPR), one to set up and operate advanced medical equipment, one to record the actions taken by emergency care workers, and one to direct patient care.

Thus, for a medical emergency, the real test of performance is the time it takes to provide the personnel and equipment needed to deal effectively with the patient's condition, not necessarily the time it takes for the first person to arrive.

Fire emergencies are even more resource critical. Again, the true test of performance is the time it takes to deliver sufficient personnel to initiate water application to a fire. This is the only practical method to reverse the continuing internal temperature increases and ultimately prevent flashover. The arrival of one person with a portable radio does not provide fire intervention capability and should not be counted as "arrival" by the fire department.

OVERVIEW OF COMPLIANCE METHODOLOGY

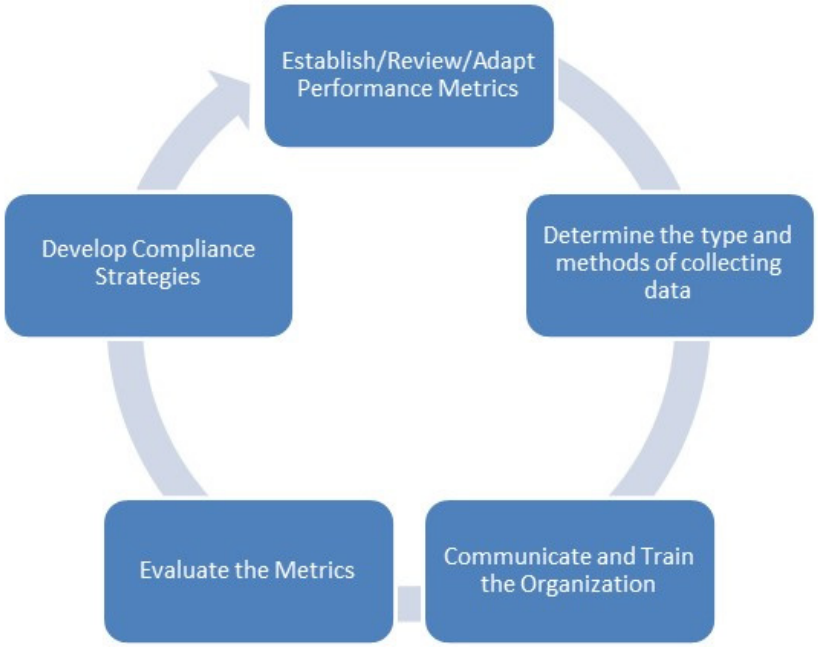
The preceding sections of this report provide a detailed analysis of the Carpinteria-Summerland and Montecito Fire Protection Districts' historical performance. For this analysis to prove beneficial to the agencies and policymakers, continued analysis should be performed regularly. The collection of data for system analysis is essential to monitoring current performance and adapting the systems to the trends portrayed by such data and analytics. The type of data and how it is collected are critical elements to effectively and efficiently evaluate what the agency is doing and how it is performing.

Both CSFPD and MFPD are committed to a continual process of analyzing and evaluating actual performance against the adopted standards of cover. They will enhance the data collection procedures of field operations personnel. A periodic review of the District's records management system reports will be necessary to ensure data compliance and reliability. Compliance methodology is an essential process for organizations seeking continuous improvement in service to the Community.

Compliance Model

Compliance is best achieved through a systematic approach. Best practice organizations utilize various models to seek compliance, including the following five-step compliance model.

Figure 201: Five-Step Compliance Model



Phase 1—Establish/Review Adapt Performance Metrics

Complete the initial Standards of Cover process. Conduct a full review of the performance measures every five years:

- Identify services provided
- Define levels of service
- Categorize levels of risk
- Develop performance objectives and measures:
  - By incident type
  - By geographic demand zone
  - Distribution (first on scene)
  - Concentration (arrival of full first alarm)
- Annual review and evaluation:
  - Performance by unit
  - Performance by first due
  - Overall performance
  - Review of performance by governing body
  - Adjustment of performance standards by governing body as necessary
- A five-year update of Standards of Cover:
  - Performance by unit
  - Performance by first due
  - Full effective response force
  - Overall performance
  - Adoption of performance measures by the governing body
- Establish management processes to deal with future changes in the agency service area

Phase 2—Determine the Type & Methods of Collecting Data

- Performance measures are applied to the actual service provided:
  - System-level
  - First Due Area level
  - Unit level
  - Full effective response force (ERF)

- Methods of collecting data:
  - Records Management System
  - Personnel responsible for collecting and submitting data
  - Quality Assurance program
  - Timeline for data submittal

Phase 3—Communicate & Train the Organization

- Communicate expectations:
  - Explain the method of measuring compliance with personnel who are expected to perform services
  - Provide feedback mechanisms through quality assurance processes
  - Define the consequences of noncompliance, both organizationally and for personnel management
- Train personnel:
  - Provide appropriate levels of training/direction for all affected personnel
  - Communicate consequences of noncompliance
  - Adapt business processes, business application systems, and technical infrastructure as necessary to comply

Phase 4—Evaluate the Metrics

Develop and deploy verification tools and/or techniques that can be used by sub-sections of the organization on an ongoing basis to verify that they are meeting the requirements:

- Monthly evaluation:
  - Performance by unit
  - Overall performance
  - Review of performance by division/section management
- Quarterly evaluation:
  - Performance by unit
  - Performance by first due
  - Overall performance
  - Review of performance by executive management
- Annual Reporting:
  - Performance by unit
  - Performance by first due
  - Overall performance
  - Review of performance by executive management

Phase 5—Develop Compliance Strategies

Determine gaps and opportunities:

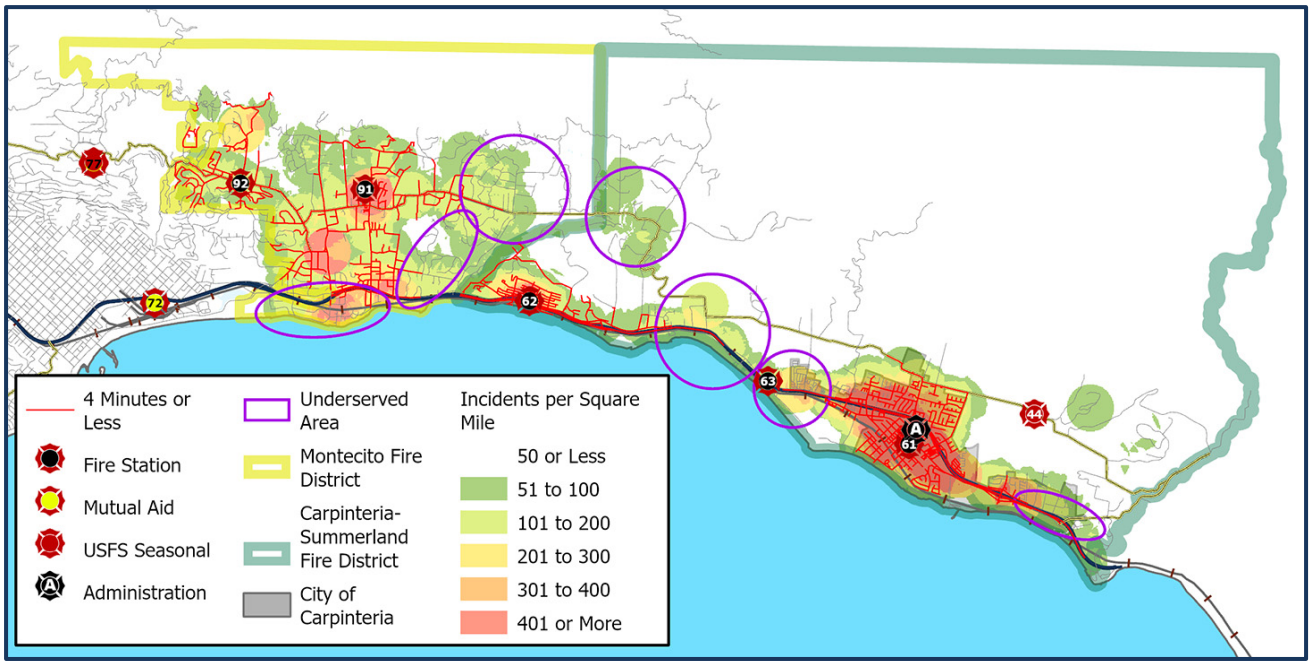
- Determine what needs to be done to close the gaps
- Determine if resources can/should be reallocated
- Seek alternative methods to provide service at the desired level
- Develop budget estimates as necessary that provide a full benefit analysis
- Seek additional funding commitment as necessary

Section IV:
FIRE STATION LOCATION ANALYSIS

FIRE STATION LOCATION DISCUSSION

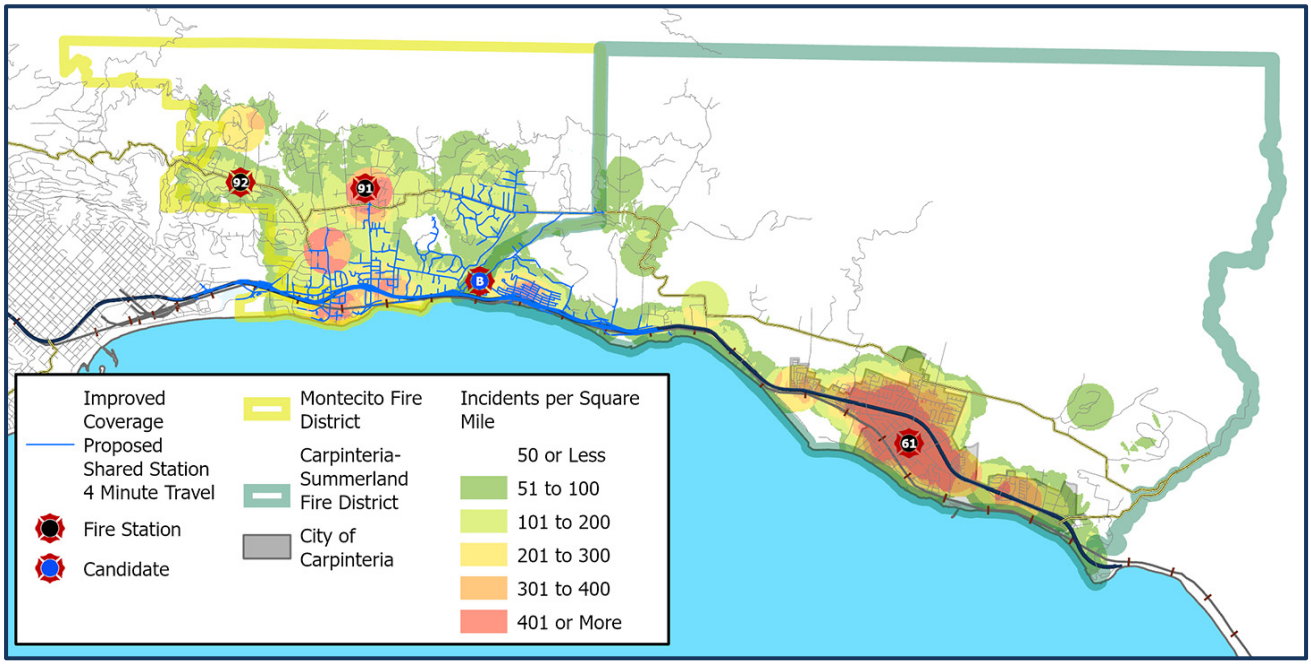
Consistent with the Districts' Request for Proposal and Triton's approved Scope of Work, Triton conducted a risk analysis, performance reviews, and GIS modeling to identify opportunities to construct and or relocate fire stations that would improve service to the Districts. The following figures and recommendations identify opportunities that could enhance service to both Districts. As noted in the historical performance section and previous studies, both districts have areas that could benefit from improved travel times. Figure 202 below utilizes GIS travel time modeling and historic call concentration data to highlight areas that could benefit from improved coverage.

Figure 202: Underserved Response Areas



Utilizing additional GIS modeling, Triton sought out and identified a potential location that could improve service to the eastern and coastal areas of the Montecito Fire Protection District and portions of Carpinteria Fire Protection District. Figure 203 on the following page shows enhanced travel from a potential new fire station in the vicinity of Ortega Ridge Road and Sheffield Drive.

Figure 203: Potential New Fire station at Ortega Ridge Road & Sheffield Drive



200

As was noted during Triton's original modeling and GIS analysis, the area east of Carpinteria-Summerland FPD Fire Station 62 has an area that is a candidate for improved coverage. Figure 204 on the following page models coverage resulting from the potential relocation of Fire Station 62 to the 3800 block of Via Real. This new location enhances coverage to the previously underserved area as well as a second-due response into Carpinteria.

Figure 204: Potential Fire Station 62 Relocation

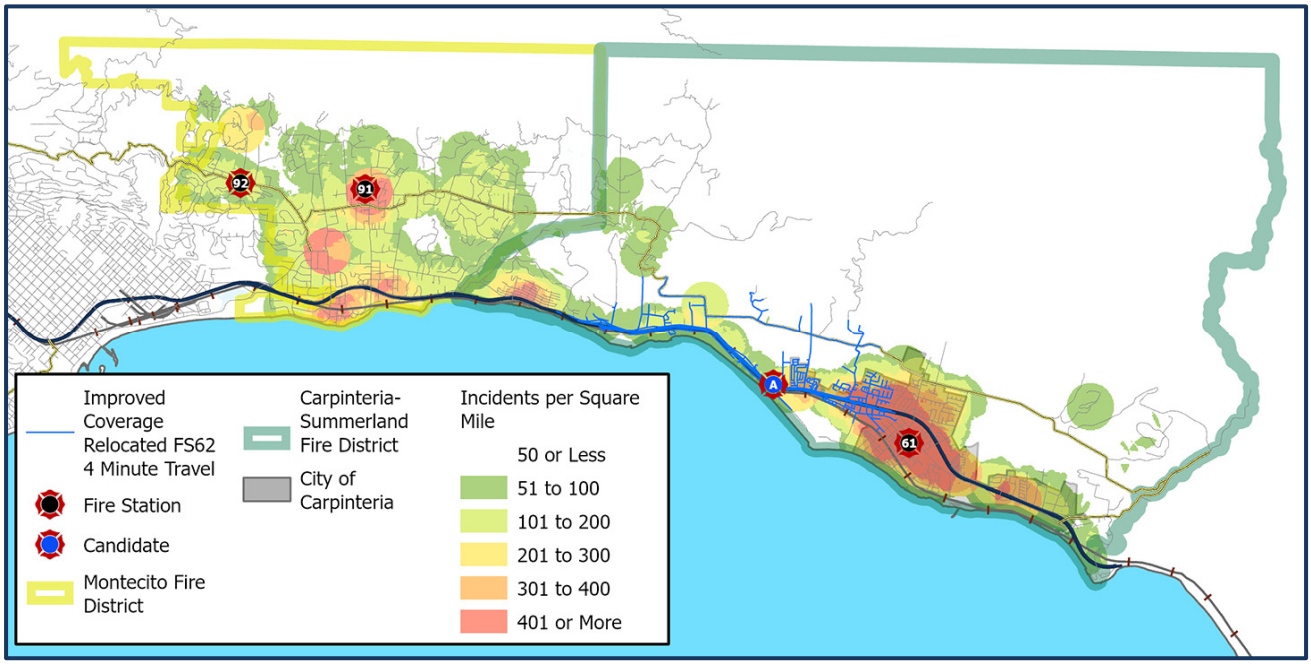


Figure 205 on the next page models the potential new station location near Ortega Ridge Road and Sheffield Drive, with the relocation of Fire Station 62 to Via Real. The model shows enhanced coverage into both districts and the wildland-urban interface and enhanced response to previously underserved areas.

Figure 205: Proposed New Fire Station & Relocated Fire Station 62

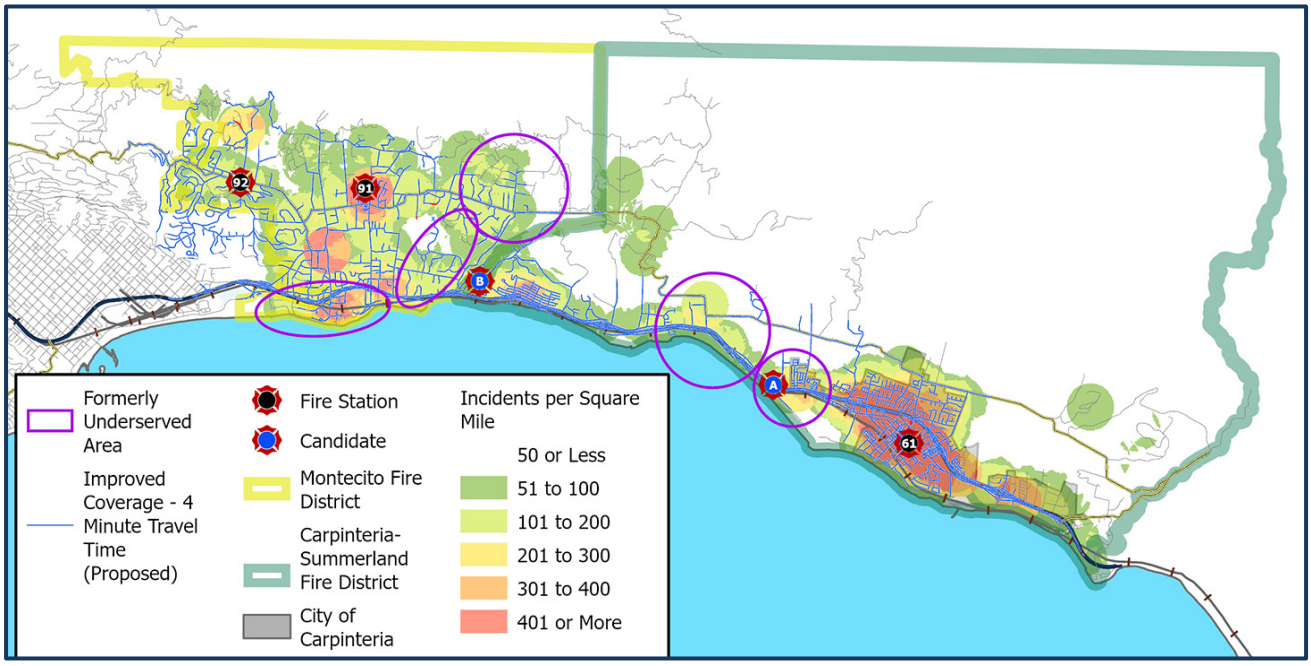
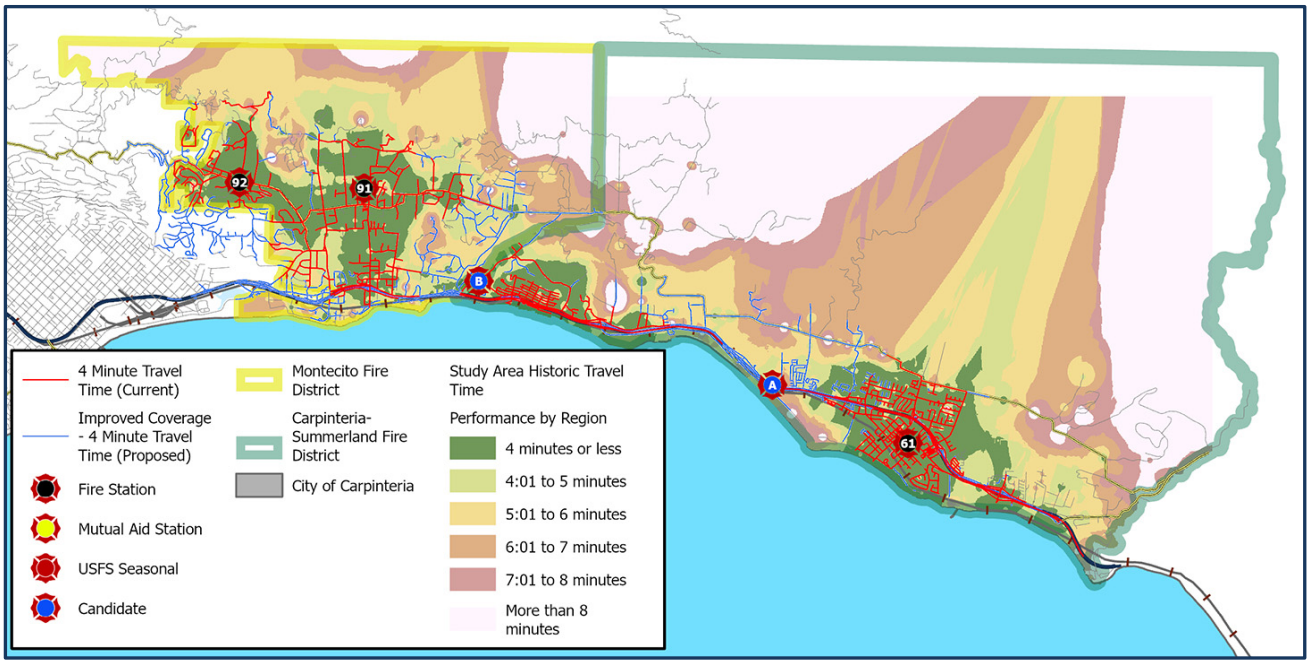


Figure 206 on the next page evaluates travel time performance by sub-area using inverse distance weighting analysis (IDW). This process uses travel time for known points (actual incidents) to predict travel time for the area surrounding the actual incident. Inverse Distance Weighted (IDW) interpolation determines cell values using a linearly weighted combination of a set of sample points. The weight is a function of inverse distance. The surface being interpolated should be that of a locationally dependent variable. This method assumes that the variable being mapped decreases in influence with distance from its sampled location. In our analysis, the variable evaluated was travel time.

Figure 206: IDW of New Locations



Triton understands that the study's desired outcome may have been to identify one new station that would enhance service to all underserved areas with extended response times. Unfortunately, the configuration of the two districts did not lend themselves to one simple solution. While we were unable to identify one standalone new station location, we believe the modeling and subsequent recommendations take into account historical populations, call concentration, road makeup, and freeway access to enhance service to a majority of the areas identified as being candidates for enhanced response times.

Based on the results of the GIS modeling of travel times and incident concentration, Triton recommends consideration be given to constructing a shared facility in the vicinity of Ortega Ridge Road and Sheffield Drive and the relocation of Fire Station 62 to the 3800 block of Via Real.

Section V:
CONCLUSIONS, OBSERVATIONS, & RECOMMENDATIONS

OVERALL EVALUATION, CONCLUSIONS, & RECOMMENDATIONS

Overall Evaluation

The study presented here is based on the *CFAI Standards of Cover, 6th Edition,* and other national and state standards and regulations. The analyses used various tools to review historical performance, evaluate risk, validate response coverage, and define critical tasking and alarm assignments. The analyses relied on staff officers' experience and their perspectives combined with historical incident data captured by both the dispatch center and the districts' in-house records management systems.

The Description of Community Served section provides a general overview of the organizations, including governance, lines of authority, finance, capital, and human resources, and an overview of the service areas, including population and geographic areas served. The Review of Services Provided section details the organizations' core services based on general resource/asset capability, and basic staffing complements.

An overview of community risk was provided to identify the risks and challenges faced by the fire districts. Geospatial characteristics, topographic and weather risks, transportation network risks, physical assets, and critical infrastructure were reviewed and identified as medical incidents, structure fires, and rescues as the primary risks within the communities. As a factor of risk, Triton evaluated community populations and demographics against historical and projected service demand. Population and service demand has increased over the past decade and will continue to increase in the future.

Evaluating risk using advanced geographic information systems (GIS) provided an increased understanding of community risk factors and an improved deployment policy.

During the analysis of service level goals, critical tasking assignments were completed for incident types ranging from a basic medical emergency to a high-risk structure fire. Critical tasking required a review of on-scene staffing requirements to mitigate the effects of an emergency. These tasks ultimately determine the resource allocation necessary to achieve a successful operation. The results of the analysis indicate that a low-risk building fire required a minimum of 16 personnel.

The review of historical system performance evaluated each emergency incident sequence component—these included call processing, turnout, and travel time beyond the initial arrival units' response time. Triton evaluated the additional components of concentration and effective response force, reliability, and call concurrency, fire station locations, travel times, and coverage area deficiencies, as well as potential sites for new and or relocated stations that could enhance coverage and service.

The analyses completed during this study revealed many important findings.

Carpinteria-Summerland FPD Findings

- CSFPD has experienced annual property tax growth of approximately 5.5% for the past five years.
- CSFPD has established a Capital Project Fund and a Capital Replacement Fund.
- CSFPD is making pension payments required under the Santa Barbara County Employees' Retirement System.
- CSFPD provides ocean rescue services that serve the beaches of their District and assists MFPD with team members and equipment necessary to perform a rescue.
- The overall population is decreasing in the District.
- Emergency traffic signal preemption is not available.
- Hydrants are only inspected by Carpinteria Valley Water District on an infrequent basis and received 2.6 credits out of 7 credits from ISO.
- CSFPD total response workload over the eight years was relatively unchanged until 2016, when an increase of 16.6% was experienced.
- The greatest service demand is the area around Fire Station 61 in the City of Carpinteria.
- Turnout times for all incident types exceed standards; however, they have improved since 2017.
- Several portions of the CSFPD are beyond four travel minutes of a fire station.
- Travel time for all incidents during 2019 was within six minutes, 32 seconds, 90% of the time.
- Overall (all call types considered), received-to-arrival time was within eight minutes, 21 seconds, 90% of the time during 2019.
- The second unit arrived on the scene of a structure fire within 1 minute, 59 seconds, 90% the time after the first unit's arrival (53 seconds on average).
- The CSFPD stated Full Emergency Response Force (ERF) goal is not being met due to location and lack of resources

CSFPD Fire Station Findings

Station 61

- The fire station does not meet the California Health and Safety Code (CHSC Chapter 2, Sections 1600-1622) for seismic standards for critical infrastructure (fire station).
- The fire station's flooring has numerous carpeted areas, and the fire crews do not practice footwear exchange processes. This type of flooring is conducive to retaining debris and biological matter brought back from incidents.
- The vehicle exhaust system was not connected to the first out engine exhaust pipe.
- The walls and ceiling of the apparatus bays have vehicle exhaust residue.
- Firefighter protective turnout equipment is stored in the apparatus bay.

Station 62

- The fire station is very old and does not meet the California Health and Safety Code (CHSC Chapter 2, Sections 1600-1622) for seismic standards for critical infrastructure (fire station). The sleeping area is the old-style dorm room where all personnel sleep in the same room. The station is located next to Interstate 101 and is increasingly close to the new widening project's exit ramp. A sound wall has been constructed right behind the station, but there will be increased noise, vehicle exhaust, and particulates, as well as the increased risk factor for errant vehicles leaving the freeway and entering the station. The station's proximity to the new freeway alignment increases the risk of firefighters' health and safety.
- The fire station's flooring has numerous carpeted areas, and the fire crews do not practice footwear exchange processes. This type of flooring is conducive to retaining debris and biological matter brought back from incidents.
- The vehicle exhaust system was not connected to the first out engine exhaust pipe.
- The walls and ceiling of the apparatus bays have vehicle exhaust residue.
- Firefighter protective turnout equipment is stored in the apparatus bay.

Montecito FPD Findings

- The Montecito Fire Protection District has seen an average growth in property tax of 4% annually over the past five years, indicating continuous growth within the District.
- The MFPD has a funding stream sufficient to provide adequate staffing for its two fire stations.
- MFPD has implemented a capital replacement program and has provided a reserve fund to pay for apparatus and equipment.
- MFPD has recognized and taken measures to minimize the financial impact of the unfunded actuarial liability of its employee's pensions.
- The WUI Interactive Story Map on MFPD's website provides excellent information on the wildfire mitigation efforts to reduce risk in their community.
- In the months following the Thomas wildfire in December 2017, Montecito experienced an 85% reduction in population due to evacuations. This resulted in a decrease in emergency medical type incidents of 26%, fire incidents by 55.6%, and other types by 14.6%.
- The greatest service demand is the area around Fire Station 91 in the center of the District and a significant area along the coast. There is an area of significant density southwest of Fire Station 91 and another to Westmont College's northwest.
- MFPD's adopted response performance to the standards the District adopted in 2015 do not fully align with NFPA
- Turnout times for all incident types meet MFPD's objectives. During 2019, turnout time was within one minute, 57 seconds, 90% of the time.
- Several portions of the district along the coast and the eastern part of the district are beyond four fire station travel minutes.
- For priority incidents within the MFPD service area. Overall, received-to-arrival time was within eight minutes 18 seconds, 90% of the time during 2019.
- The MFPD stated Full Emergency Response Force (ERF) goal is not being met due to location and lack of resources
- The overall population is decreasing in the District.

MFPD Fire Station Findings

Station 91

- The fire station's flooring has numerous carpeted areas, and the fire crews do not practice footwear exchange processes. This type of flooring is conducive to retaining debris and biological matter brought back from incidents.
- The vehicle exhaust system was not connected to the first out engine exhaust pipe.
- The walls and ceiling of the apparatus bays have vehicle exhaust residue.
- Firefighter protective turnout equipment is stored in the apparatus bay.

Station 92

- The fire station's flooring has numerous carpeted areas, and the fire crews do not practice footwear exchange processes. This type of flooring is conducive to retaining debris and biological matter brought back from incidents.
- The vehicle exhaust system was not connected to the first out engine exhaust pipe.
- The walls and ceiling of the apparatus bays have vehicle exhaust residue.
- Firefighter protective turnout equipment is stored in the apparatus bay.

Findings Impacting both Fire Districts

- The wildland-urban interface mitigation efforts in both districts are very proactive towards reducing risks.
- Neither district possesses or staffs a ladder truck, although both indicate one is required for first alarms.
- SBSO was unable to provide call-transfer times from the PSAP to the Montecito Dispatch center.
- Overall, 2019 performance by the Montecito secondary PSAP's performance from the time they receive the call from SBSO response units is notified was within 1 minute, 1 second, 90% of the time.

RECOMMENDED OPERATIONAL & OTHER STRATEGIES

Carpinteria-Summerland FPD Recommendations

Recommendation 1: Monitor population fluctuations and determine potential impacts.

Based on the most recent US Census data, the population in CSFPD is decreasing. The district should have conversations with Carpinteria and Santa Barbara County Planning Departments to understand why this occurs and determine if this will impact future service delivery. The population decrease has not affected the number of responses as they have risen each year since 2012.

Estimated cost: *This is an unknown cost but will require staff time to research fully why the population is decreasing.*

Recommendation 2: Add traffic signal preemption equipment at signal-controlled intersections.

CSFPD should determine if funding is available through the Santa Barbara County Association of Governments to begin a project to install traffic signal preemption for emergency vehicles to reduce response times.

Estimated cost: *The cost to implement traffic signal preemption is unknown but will be based on the number of intersections and apparatus where equipment is installed. Other costs will include updating the traffic signal plans to include preemption and annual maintenance.*

Recommendation 3: Improve credits available from ISO for hydrant inspections.

CSFPD should investigate how to improve the credits available from ISO for the inspection of fire hydrants. Only 2.6 out of 7 credits we received during the most recent ISO inspection. Begin discussions with Carpinteria Valley Water District and Montecito Water District to determine how a hydrant inspection program can be implemented.

Estimated cost: *This is an unknown cost but will involve personnel from either CSFPD or the water districts. Software to track the inspections should be available in-house or coordinated with the two water districts.*

Recommendation 4: Acquire and fully staff a ladder truck to improve response capabilities to multi-story and high fire flow occupancies and Effective Response Force.

Based on Triton's risk analysis, review of the building inventory, required fire flows, and a deficient effective response force, the District should acquire and staff a ladder truck with a minimum daily staffing of three. The Ladder truck should be stationed at either the new Ortega Road Station or the relocated Fire Station 62

Cost to Implement: *The cost of a fully equipped ladder truck/quint is approximately $1,000,000. Staffing of the ladder truck will include a Captain, Driver/Operator, and one Firefighter/Paramedic for a minimum of three personnel per shift (approximately $1,700,000 annually). MFPD and CSFPD could share the cost of purchasing and staffing this unit as both districts would benefit from its availability.*

Recommendation 5: Update Station 61with seismic retrofit to enhance facility health and safety.
Update the Station to meet the seismic safety standards as defined by the California Health and Safety Code (CHSC Chapter 2, Sections 1600-1622), or plan for facility replacement in accordance with national standards and a location that aligns with response performance and community risks.

Cost to Implement: *The cost will ultimately entail the time District staff and line personnel will need to develop the scope of work for the seismic updating project to conform to District purchasing requirements.*

Recommendation 6: If MFPD & CSPFD move forward with a shared facility, CSFPD should relocate Fire Station 62.
CSFPD should replace/relocate Station 62 to the 3800 block of Via Real. This move will enhance response capabilities while also providing for enhanced firefighter health and safety.

Station 62 is a very old fire station located next to the ever-encroaching 101 Freeway that is non-compliant to fire station and seismic protection standards. This facility has outlived its life expectancy, and it is now time to retire the facility. The facility needs to be replaced and relocated to provide maximum response coverage based in accordance with national standards and a location that aligns with response performance and community risks.

Cost to Implement: *The estimated cost relates to staff and line personnel time to establish the scope of work for the potential new station and relocation of Fire Station 62. As of January 2021, the estimated cost of construction and furnishing fire stations in the area is approximately $1000 per square foot.*

Montecito FPD Recommendations

Recommendation 1: Monitor population fluctuations and determine potential impacts.

Based on the most recent US Census data, the population in MFPD is decreasing. The district should have conversations with the Santa Barbara County Planning Department to understand why this occurs and determine if this will impact future service delivery. Incident responses have decreased from a high of 1,575 in 2017 to 1,383 in 2019.

Estimated cost: *This is an unknown cost but will require staff time to research why the population is decreasing.*

Recommendation 2: Modify response assignments so that all incident types can receive sufficient resources based on the critical task analysis.

Both fire districts have developed critical task analysis defining the minimum number of personnel needed by incident type. This analysis is in keeping with national recommendations. In a few cases, this analysis defines staffing needs that are not achievable given current resource levels and locations.

The fire districts should review and consider modifying the dispatch center's response assignments to align better the actual number of resources sent to the critical task analysis for all incident types.

Cost to Implement*: Staff time to modify response assignments.*

Joint Recommendations

Recommendation A: Jointly adopt response performance goals to guide service delivery improvement.

As the Districts have adopted boundary drop closest resource first response protocols, it is recommended that both districts consider adopting companion performance goals.

Levels of service and resource allocation decisions are the responsibility of the community's elected officials, in this case, the Montecito Fire Protection District Board of Fire Commissioners and the Carpinteria-Summerland Fire Protection District Board of fire commissioners. The policy-making body must carefully balance its citizenry's needs and expectations when deciding how to allocate money to all the services it provides.

The following are recommended as fire and life safety response performance goals. They align directly with nationally recommended standards. These are not levels of service that must be achieved immediately but, instead, are targets for achievement when resources are available to do so.

The adoption of goals allows fire district management to regularly report progress on achieving these goals, conditions that are impeding progress, and resources needed to improve services.

Call-Processing Performance Goal

The first phase of overall response time is call processing time. This phase begins when the call is received at the PSAP center and ends when response resources are notified of an emergency. There are two components: answer time and dispatch time.

Recommended Call Processing Goal

- 9-1-1 calls will be answered at the primary PSAP within 10 seconds, 90% of the time.
- Response resources shall be notified of a priority incident within 60 seconds from receipt of the call at the dispatch center, 90% of the time.
- Exceptions—These call types shall be processed and dispatched within 90 seconds, 90% of the time:
  - Calls requiring emergency medical dispatch questioning
  - Calls requiring language translation
  - Calls requiring the use of TTY/TTD devices
  - Calls of criminal activity
  - Hazardous materials and technical rescue incidents

MFPD Current performance:

- Fire and Special Operations Call Processing: 01:43 (103 seconds)
- All Other Priority Responses Call Processing: 00:52 (52 seconds) (primarily EMS calls)

CSFPD Current performance:

- Fire and Special Operations Call Processing: 02:39 (159 seconds)
- All Other Priority Responses Call Processing: 00:43 (126 seconds)

Turnout Time Performance Goal

Turnout time is one area over which the fire department has total control and is not affected by outside influences. Turnout time, or the time between when the call is received by the response units (dispatched) and when the unit is en route to the incident location (responding), affects overall response times. Reducing this time component reduces total response time.

The National Fire Protection Association Standard 1710 recommends turnout time performance of 80 seconds or less for fire and special operations response and 60 seconds or less for all other priority responses.

Recommended Turnout Time Goal:

- Response personnel shall initiate the response of a unit capable of mitigating an incident to a priority fire and special operations incident 80 seconds from notification, 90% of the time.
- Response personnel shall initiate a response to all other priority incidents within 60 seconds from notification, 90% of the time.

MFPD Current performance:

- Fire and Special Operations Turnout Time: 02:12 (132 seconds)
- All Other Priority Responses Turnout: 01:56 (116 seconds) (primarily EMS calls)

CSFPD Current performance:

- Fire and Special Operations Call Processing: 02:10 (130 seconds)
- All Other Priority Responses Call Processing: 01:50 (110 seconds) (primarily EMS calls)

Response Time for the First-Due Unit Goal

The time required to deliver the first response unit capable of intervening in the emergency includes both turnout time and travel time, but not call processing time. When the recommended standards for turnout time and travel time are combined, response time should be within 5 minutes, 20 seconds, 90% of the time for fire and special operations incidents, and within 5 minutes, 90% of the time for all other priority incidents.

Recommended First-Due Response Time Goal:

The first response unit capable of initiating effective incident intervention shall arrive at a priority fire or special operations incident within 5 minutes, 20 seconds from notification of response personnel, 90% of the time.

MFPD Current performance: 09:44

- Fire and Special Operations First-Due Response Time: 09:44 (584 seconds)

CSFPD Current performance: 09:03

- Fire and Special Operations First-Due Time: 09:03 (543 seconds)

The first response unit capable of initiating effective incident intervention shall arrive at all other priority incidents within 5 minutes from notification of response personnel, 90% of the time.

MFPD Current performance: 08:07

- All Other Priority Responses First Unit Response Time: 08:07 (487 seconds) (primarily EMS calls)

CSFPD Current performance: 07:34

- All Other Priority Responses First Unit Response Time: 07:34 (454 seconds) (primarily EMS calls)

Recommendation B: Reduce the dispatch call processing time interval.

Once the call is answered at SBSO, the caller is questioned about the emergency's nature and location and then transferred to MFPD for dispatch. Typically, the dispatch of response personnel does not occur until the end of that questioning or very near the end and transfer to MFPD. Despite several attempts to secure transfer time data, SBSO was unable to provide historic call transfer times.

MFPD should work with SBSO to track call transfer from SBSO to MFPD times at the 90th percentile and identify opportunities to minimize transfer time.

Cost to Implement: *None*

Recommendation C: Construction of a shared facility.

Based on the analysis and GIS modeling, construction, and staffing, a new shared facility should be undertaken in the vicinity of Ortega Ridge Road and Sheffield Drive. The implementation of this recommendation will enhance response to underserved areas in both districts.

Cost to Implement: *As of January 2021, the estimated cost of construction and furnishing fire stations in the area is approximately $1,000 per square foot. The approximate annual staffing cost based on CSFPD salary and benefits will include a Captain, Driver/Operator, and one Firefighter/Paramedic, for a minimum of three personnel per shift, is approximately $1,700,000.*

Recommendation D: Continue the pursuit of development and implementation of a regional fire and EMS dispatch center.

During Triton's review of the dispatch process, it became apparent the current system of call processing is not as efficient as it could be. Following our analysis of call processing times, review of history within the county, and related staff reports Triton encourages the districts to continue to aggressively pursue the creation and implementation of a Regional Fire/EMS dispatch center.

Cost to Implement: *As noted in a July 22, 2019, MFPD staff report, approximately $75.00 to $135.00 per call.*

Section VI:
APPENDICES

APPENDIX A: HAZARD VULNERABILITY RISK TABLES

Carpinteria-Summerland FPD

AP TRITON HAZARD AND VULNERABILITY ASSESSMENT TOOL STRUCTURE FIRES								
EVENT	PROBABILITY	SEVERITY = IMPACT - MITIGATION)						RISK
		COMMUNITY IMPACT			MITIGATION CAPACITY			
	Likelihood this will occur	HUMAN IMPACT	PROPERTY IMPACT	BUSINESS IMPACT	PREPARED-NESS	INTERNAL RESPONSE	EXTERNAL RESPONSE	Relative threat*
SCORE	0 = N/A 1= Low 2 = Moderate 3 = High 4 = Very High	0 = N/A 1= Low 2 = Moderate 3 = High 4 = Catastrophic	0 = N/A 1= Low 2 = Moderate 3 = High 4 = Catastrophic	0 = N/A 1= Low 2 = Moderate 3 = High 4 = Catastrophic	0 = Very High 1= High 2 = Moderate 3 = Low 4 = None	0 = Very High 1= High 2 = Moderate 3 = Low 4 = None	0 = Very High 1= High 2 = Moderate 3 = Low 4 = None	*0 - 100%*
Moderate Risk Urban	2	2	2	2	2	2	3	27%
High Risk Urban	2	3	2	3	2	2	3	31%
Moderate Risk Suburban	2	2	2	2	2	2	3	27%
High Risk Suburban	2	3	3	3	2	2	3	33%
Moderate Risk Rural	2	2	2	2	3	3	3	31%
High Risk Rural	2	3	2	2	3	3	3	33%
Low Risk Rural	2	1	2	2	3	3	3	29%
AVERAGE SCORE	2.00	2.29	2.14	2.29	2.43	2.43	3.00	30%

AP TRITON HAZARD AND VULNERABILITY ASSESSMENT TOOL NON-STRUCTURE FIRES								
EVENT	PROBABILITY	SEVERITY = IMPACT - MITIGATION)						RISK
		COMMUNITY IMPACT			MITIGATION CAPACITY			
	Likelihood this will occur	HUMAN IMPACT	PROPERTY IMPACT	BUSINESS IMPACT	PREPARED-NESS	INTERNAL RESPONSE	EXTERNAL RESPONSE	Relative threat*
SCORE	0 = N/A 1= Low 2 = Moderate 3 = High 4 = Very High	0 = N/A 1= Low 2 = Moderate 3 = High 4 = Catastrophic	0 = N/A 1= Low 2 = Moderate 3 = High 4 = Catastrophic	0 = N/A 1= Low 2 = Moderate 3 = High 4 = Catastrophic	0 = Very High 1= High 2 = Moderate 3 = Low 4 = None	0 = Very High 1= High 2 = Moderate 3 = Low 4 = None	0 = Very High 1= High 2 = Moderate 3 = Low 4 = None	*0 - 100%*
High Risk Urban	2	2	2	2	2	2	2	25%
Moderate Risk Urban	2	2	2	2	2	2	2	25%
Low Risk Urban	2	2	2	2	2	2	2	25%
Urban/Wildland Interface	4	4	4	4	1	2	1	67%
AVERAGE SCORE	2.50	2.50	2.50	2.50	1.75	2.00	1.75	34%

AP TRITON HAZARD AND VULNERABILITY ASSESSMENT TOOL								
EMS-MEDICAL ASSISTS								
EVENT	PROBABILITY	SEVERITY = IMPACT - MITIGATION)						RISK
		COMMUNITY IMPACT			MITIGATION CAPACITY			
	Likelihood this will occur	HUMAN IMPACT	PROPERTY IMPACT	BUSINESS IMPACT	PREPARED-NESS	INTERNAL RESPONSE	EXTERNAL RESPONSE	Relative threat*
SCORE	0 = N/A 1= Low 2 = Moderate 3 = High 4 = Very High	0 = N/A 1= Low 2 = Moderate 3 = High 4 = Catastrophic	0 = N/A 1= Low 2 = Moderate 3 = High 4 = Catastrophic	0 = N/A 1= Low 2 = Moderate 3 = High 4 = Catastrophic	0 = Very High 1= High 2 = Moderate 3 = Low 4 = None	0 = Very High 1= High 2 = Moderate 3 = Low 4 = None	0 = Very High 1= High 2 = Moderate 3 = Low 4 = None	*0 - 100%*
High Risk	3	3	1	1	2	2	2	34%
Moderate Risk	3	2	1	1	2	2	2	31%
Low Risk	2	1	1	1	2	2	2	19%
AVERAGE SCORE	2.67	2.00	1.00	1.00	2.00	2.00	2.00	28%

AP TRITON HAZARD AND VULNERABILITY ASSESSMENT TOOL								
RESCUE								
EVENT	PROBABILITY	SEVERITY = IMPACT - MITIGATION)						RISK
		COMMUNITY IMPACT			MITIGATION CAPACITY			
	Likelihood this will occur	HUMAN IMPACT	PROPERTY IMPACT	BUSINESS IMPACT	PREPARED-NESS	INTERNAL RESPONSE	EXTERNAL RESPONSE	Relative threat*
SCORE	0 = N/A 1= Low 2 = Moderate 3 = High 4 = Very High	0 = N/A 1= Low 2 = Moderate 3 = High 4 = Catastrophic	0 = N/A 1= Low 2 = Moderate 3 = High 4 = Catastrophic	0 = N/A 1= Low 2 = Moderate 3 = High 4 = Catastrophic	0 = Very High 1= High 2 = Moderate 3 = Low 4 = None	0 = Very High 1= High 2 = Moderate 3 = Low 4 = None	0 = Very High 1= High 2 = Moderate 3 = Low 4 = None	*0 - 100%*
Rescue - MVA	3	2	2	2	1	1	1	28%
Rescue - Structural Collapse	2	3	3	2	1	1	1	23%
Rescue - Trench	2	1	1	1	2	1	1	15%
Rescue - Low/High Angle	2	2	1	1	2	1	2	19%
Rescue - Confined Space	2	1	1	1	2	1	1	15%
Rescue - Swiftwater	1	1	1	1	2	2	2	9%
Rescue - Stillwater	1	1	1	1	2	2	2	9%
Rescue - Ocean	2	2	1	1	1	1	1	15%
Rescue - Other	1	1	1	1	2	2	2	9%
AVERAGE SCORE	1.78	1.56	1.33	1.22	1.67	1.33	1.44	16%

AP TRITON HAZARD AND VULNERABILITY ASSESSMENT TOOL								
HAZARDOUS MATERIALS								
EVENT	PROBABILITY	SEVERITY = IMPACT - MITIGATION)						RISK
		COMMUNITY IMPACT			MITIGATION CAPACITY			
	Likelihood this will occur	HUMAN IMPACT	PROPERTY IMPACT	BUSINESS IMPACT	PREPARED-NESS	INTERNAL RESPONSE	EXTERNAL RESPONSE	Relative threat*
SCORE	0 = N/A 1 = Low 2 = Moderate 3 = High 4 = Very High	0 = N/A 1 = Low 2 = Moderate 3 = High 4 = Catastrophic	0 = N/A 1 = Low 2 = Moderate 3 = High 4 = Catastrophic	0 = N/A 1 = Low 2 = Moderate 3 = High 4 = Catastrophic	0 = Very High 1 = High 2 = Moderate 3 = Low 4 = None	0 = Very High 1 = High 2 = Moderate 3 = Low 4 = None	0 = Very High 1 = High 2 = Moderate 3 = Low 4 = None	*0 - 100%*
High Risk Hazmat - Urban	2	2	3	3	1	2	1	**25%**
Moderate Risk Hazmat - Urban	2	2	2	2	1	2	1	**21%**
Low Risk Hazmat - Urban	2	2	2	2	1	2	1	**21%**
High Risk Hazmat - Suburban	2	2	3	2	1	2	1	**23%**
Moderate Risk Hazmat - Suburban	2	2	2	2	1	2	1	**21%**
Low Risk Hazmat - Suburban	2	2	2	1	1	2	1	**19%**
High Risk Hazmat - Rural	1	2	2	2	1	2	1	**10%**
Moderate Risk Hazmat - Rural	1	1	1	1	1	2	1	**7%**
Low Risk Hazmat - Rural	1	1	1	1	1	2	1	**7%**
AVERAGE SCORE	1.67	1.78	2.00	1.78	1.00	2.00	1.00	**17%**

AP TRITON HAZARD AND VULNERABILITY ASSESSMENT TOOL								
NATURALLY OCCURRING EVENTS								
EVENT	PROBABILITY	SEVERITY = IMPACT - MITIGATION)						RISK
		COMMUNITY IMPACT			MITIGATION CAPACITY			
	Likelihood this will occur	HUMAN IMPACT	PROPERTY IMPACT	BUSINESS IMPACT	PREPARED-NESS	INTERNAL RESPONSE	EXTERNAL RESPONSE	Relative threat*
SCORE	0 = N/A 1= Low 2 = Moderate 3 = High 4 = Very High	0 = N/A 1= Low 2 = Moderate 3 = High 4 = Catastrophic	0 = N/A 1= Low 2 = Moderate 3 = High 4 = Catastrophic	0 = N/A 1= Low 2 = Moderate 3 = High 4 = Catastrophic	0 = Very High 1= High 2 = Moderate 3 = Low 4 = None	0 = Very High 1= High 2 = Moderate 3 = Low 4 = None	0 = Very High 1= High 2 = Moderate 3 = Low 4 = None	*0 - 100%*
Tornado	1	1	1	1	3	2	2	**10%**
Severe Thunderstorm	2	1	1	1	2	2	2	**25%**
Snow Fall	0	0	0	0	4	4	4	**0%**
Blizzard	0	0	0	0	4	4	4	**0%**
Ice Storm	0	0	0	0	4	4	4	**0%**
Earthquake	4	4	4	4	1	1	1	**83%**
Tidal Wave	1	1	1	1	3	3	3	**17%**
Temperature Extremes	1	2	1	3	2	2	3	**18%**
Drought	3	3	3	3	2	2	2	**63%**
Flood, External	2	2	2	1	3	3	2	**36%**
Wild Fire	4	4	4	4	1	1	0	**78%**
Landslide	3	3	3	2	2	2	2	**58%**
Dam Inundation	1	1	1	1	3	3	3	**17%**
Volcano	0	0	0	0	4	4	4	**0%**
Epidemic	3	3	1	3	2	1	1	**46%**
AVERAGE SCORE	1.67	1.67	1.47	1.60	2.67	2.53	2.47	22%

AP TRITON HAZARD AND VULNERABILITY ASSESSMENT TOOL								
TECHNOLOGIC EVENTS								
EVENT	PROBABILITY	SEVERITY = IMPACT - MITIGATION)						RISK
		COMMUNITY IMPACT			MITIGATION CAPACITY			
	Likelihood this will occur	HUMAN IMPACT	PROPERTY IMPACT	BUSINESS IMPACT	PREPARED-NESS	INTERNAL RESPONSE	EXTERNAL RESPONSE	Relative threat*
SCORE	0 = N/A 1 = Low 2 = Moderate 3 = High 4 = Very High	0 = N/A 1 = Low 2 = Moderate 3 = High 4 = Catastrophic	0 = N/A 1 = Low 2 = Moderate 3 = High 4 = Catastrophic	0 = N/A 1 = Low 2 = Moderate 3 = High 4 = Catastrophic	0 = Very High 1 = High 2 = Moderate 3 = Low 4 = None	0 = Very High 1 = High 2 = Moderate 3 = Low 4 = None	0 = Very High 1 = High 2 = Moderate 3 = Low 4 = None	*0 - 100%*
Electrical Failure	2	2	2	2	2	2	2	25%
Generator Failure	1	1	1	1	3	2	2	10%
Transportation Failure	1	2	2	2	3	3	2	15%
Fuel Shortage	1	3	1	2	3	3	2	15%
Natural Gas Failure	1	2	1	2	3	3	2	14%
Water Failure	1	3	2	3	2	2	2	15%
Sewer Failure	1	3	1	3	2	2	2	14%
Steam Failure	1	1	1	2	3	3	3	14%
Fire Alarm Failure	1	2	2	2	1	1	1	9%
Communications Failure	1	3	2	3	2	2	1	14%
Medical Gas Failure	1	2	1	1	3	3	2	13%
Medical Vacuum Failure	1	1	1	1	3	3	3	13%
HVAC Failure	1	3	1	2	2	3	1	13%
Information Systems Failure	1	3	1	3	3	2	1	14%
Fire, Internal	1	2	2	3	1	1	1	10%
Flood, Internal	1	2	2	3	2	2	2	14%
Hazmat Exposure	1	2	2	2	2	2	2	13%
Supply Shortage	1	3	2	3	3	3	3	18%
Structural Damage	1	2	3	3	2	2	1	14%
AVERAGE SCORE	1.05	2.21	1.58	2.26	2.37	2.32	1.84	14%

Montecito FPD

AP TRITON HAZARD AND VULNERABILITY ASSESSMENT TOOL STRUCTURE FIRES								
EVENT	PROBABILITY	SEVERITY = IMPACT - MITIGATION)						RISK
		COMMUNITY IMPACT			MITIGATION CAPACITY			
	Likelihood this will occur	HUMAN IMPACT	PROPERTY IMPACT	BUSINESS IMPACT	PREPARED-NESS	INTERNAL RESPONSE	EXTERNAL RESPONSE	Relative threat*
SCORE	0 = N/A 1 = Low 2 = Moderate 3 = High 4 = Very High	0 = N/A 1 = Low 2 = Moderate 3 = High 4 = Catastrophic	0 = N/A 1 = Low 2 = Moderate 3 = High 4 = Catastrophic	0 = N/A 1 = Low 2 = Moderate 3 = High 4 = Catastrophic	0 = Very High 1 = High 2 = Moderate 3 = Low 4 = None	0 = Very High 1 = High 2 = Moderate 3 = Low 4 = None	0 = Very High 1 = High 2 = Moderate 3 = Low 4 = None	*0 - 100%*
Moderate Risk Urban	2	2	2	2	2	2	3	27%
High Risk Urban	2	3	2	2	1	2	2	25%
Moderate Risk Suburban	2	2	2	2	2	2	2	25%
High Risk Suburban	2	3	3	2	1	2	2	27%
Moderate Risk Rural	2	2	2	2	2	2	2	25%
High Risk Rural	2	3	3	2	2	2	2	29%
Low Risk Rural	2	2	2	1	2	2	2	23%
AVERAGE SCORE	2.00	2.43	2.29	1.86	1.71	2.00	2.14	26%

AP TRITON HAZARD AND VULNERABILITY ASSESSMENT TOOL NON-STRUCTURE FIRES								
EVENT	PROBABILITY	SEVERITY = IMPACT - MITIGATION)						RISK
		COMMUNITY IMPACT			MITIGATION CAPACITY			
	Likelihood this will occur	HUMAN IMPACT	PROPERTY IMPACT	BUSINESS IMPACT	PREPARED-NESS	INTERNAL RESPONSE	EXTERNAL RESPONSE	Relative threat*
SCORE	0 = N/A 1 = Low 2 = Moderate 3 = High 4 = Very High	0 = N/A 1 = Low 2 = Moderate 3 = High 4 = Catastrophic	0 = N/A 1 = Low 2 = Moderate 3 = High 4 = Catastrophic	0 = N/A 1 = Low 2 = Moderate 3 = High 4 = Catastrophic	0 = Very High 1 = High 2 = Moderate 3 = Low 4 = None	0 = Very High 1 = High 2 = Moderate 3 = Low 4 = None	0 = Very High 1 = High 2 = Moderate 3 = Low 4 = None	*0 - 100%*
High Risk Urban	2	2	3	2	2	2	2	27%
Moderate Risk Urban	2	2	3	2	2	2	2	27%
Low Risk Urban	2	2	3	2	2	2	2	27%
Urban/Wildland Interface	4	4	4	4	1	1	1	63%
AVERAGE SCORE	2.50	2.50	3.25	2.50	1.75	1.75	1.75	35%

AP TRITON HAZARD AND VULNERABILITY ASSESSMENT TOOL								
EMS-MEDICAL ASSISTS								
EVENT	PROBABILITY	SEVERITY = IMPACT - MITIGATION)						RISK
		COMMUNITY IMPACT			MITIGATION CAPACITY			
	Likelihood this will occur	HUMAN IMPACT	PROPERTY IMPACT	BUSINESS IMPACT	PREPARED-NESS	INTERNAL RESPONSE	EXTERNAL RESPONSE	Relative threat*
SCORE	0 = N/A 1= Low 2 = Moderate 3 = High 4 = Very High	0 = N/A 1= Low 2 = Moderate 3 = High 4 = Catastrophic	0 = N/A 1= Low 2 = Moderate 3 = High 4 = Catastrophic	0 = N/A 1= Low 2 = Moderate 3 = High 4 = Catastrophic	0 = Very High 1= High 2 = Moderate 3 = Low 4 = None	0 = Very High 1= High 2 = Moderate 3 = Low 4 = None	0 = Very High 1= High 2 = Moderate 3 = Low 4 = None	*0 - 100%*
High Risk	3	3	1	1	2	2	2	34%
Moderate Risk	3	2	1	1	2	2	2	31%
Low Risk	2	1	1	1	2	2	2	19%
AVERAGE SCORE	2.67	2.00	1.00	1.00	2.00	2.00	2.00	28%

AP TRITON HAZARD AND VULNERABILITY ASSESSMENT TOOL								
RESCUE								
EVENT	PROBABILITY	SEVERITY = IMPACT - MITIGATION)						RISK
		COMMUNITY IMPACT			MITIGATION CAPACITY			
	Likelihood this will occur	HUMAN IMPACT	PROPERTY IMPACT	BUSINESS IMPACT	PREPARED-NESS	INTERNAL RESPONSE	EXTERNAL RESPONSE	Relative threat*
SCORE	0 = N/A 1= Low 2 = Moderate 3 = High 4 = Very High	0 = N/A 1= Low 2 = Moderate 3 = High 4 = Catastrophic	0 = N/A 1= Low 2 = Moderate 3 = High 4 = Catastrophic	0 = N/A 1= Low 2 = Moderate 3 = High 4 = Catastrophic	0 = Very High 1= High 2 = Moderate 3 = Low 4 = None	0 = Very High 1= High 2 = Moderate 3 = Low 4 = None	0 = Very High 1= High 2 = Moderate 3 = Low 4 = None	*0 - 100%*
Rescue - MVA	3	2	2	2	1	1	1	28%
Rescue - Structural Collapse	2	3	3	3	1	1	1	25%
Rescue - Trench	2	1	1	1	2	1	1	15%
Rescue - Low/High Angle	2	2	1	1	2	1	2	19%
Rescue - Confined Space	2	1	1	1	2	1	1	15%
Rescue - Swiftwater	1	1	1	1	2	3	2	10%
Rescue - Stillwater	1	1	1	1	2	3	2	10%
Rescue - Ocean	1	2	1	1	2	3	1	10%
Rescue - Other	1	1	1	1	2	2	2	9%
AVERAGE SCORE	1.67	1.56	1.33	1.33	1.78	1.78	1.44	16%

AP TRITON HAZARD AND VULNERABILITY ASSESSMENT TOOL								
HAZARDOUS MATERIALS								
EVENT	PROBABILITY	SEVERITY = IMPACT - MITIGATION)						RISK
		COMMUNITY IMPACT			MITIGATION CAPACITY			
	Likelihood this will occur	HUMAN IMPACT	PROPERTY IMPACT	BUSINESS IMPACT	PREPARED-NESS	INTERNAL RESPONSE	EXTERNAL RESPONSE	Relative threat*
SCORE	0 = N/A 1 = Low 2 = Moderate 3 = High 4 = Very High	0 = N/A 1 = Low 2 = Moderate 3 = High 4 = Catastrophic	0 = N/A 1 = Low 2 = Moderate 3 = High 4 = Catastrophic	0 = N/A 1 = Low 2 = Moderate 3 = High 4 = Catastrophic	0 = Very High 1 = High 2 = Moderate 3 = Low 4 = None	0 = Very High 1 = High 2 = Moderate 3 = Low 4 = None	0 = Very High 1 = High 2 = Moderate 3 = Low 4 = None	*0 - 100%*
High Risk Hazmat - Urban	2	2	3	3	2	2	1	**27%**
Moderate Risk Hazmat - Urban	2	2	2	2	2	2	1	**23%**
Low Risk Hazmat - Urban	2	2	2	2	1	1	1	**19%**
High Risk Hazmat - Suburban	2	2	3	2	1	2	1	**23%**
Moderate Risk Hazmat - Suburban	2	2	2	2	1	2	1	**21%**
Low Risk Hazmat - Suburban	2	2	2	1	1	2	1	**19%**
High Risk Hazmat - Rural	1	2	2	2	1	2	1	**10%**
Moderate Risk Hazmat - Rural	1	1	1	1	1	2	1	**7%**
Low Risk Hazmat - Rural	1	1	1	1	1	2	1	**7%**
AVERAGE SCORE	1.67	1.78	2.00	1.78	1.22	1.89	1.00	**17%**

AP TRITON HAZARD AND VULNERABILITY ASSESSMENT TOOL								
NATURALLY OCCURRING EVENTS								
EVENT	PROBABILITY	SEVERITY = IMPACT - MITIGATION)						RISK
		COMMUNITY IMPACT			MITIGATION CAPACITY			
	Likelihood this will occur	HUMAN IMPACT	PROPERTY IMPACT	BUSINESS IMPACT	PREPARED-NESS	INTERNAL RESPONSE	EXTERNAL RESPONSE	Relative threat*
SCORE	0 = N/A 1 = Low 2 = Moderate 3 = High 4 = Very High	0 = N/A 1 = Low 2 = Moderate 3 = High 4 = Catastrophic	0 = N/A 1 = Low 2 = Moderate 3 = High 4 = Catastrophic	0 = N/A 1 = Low 2 = Moderate 3 = High 4 = Catastrophic	0 = Very High 1 = High 2 = Moderate 3 = Low 4 = None	0 = Very High 1 = High 2 = Moderate 3 = Low 4 = None	0 = Very High 1 = High 2 = Moderate 3 = Low 4 = None	*0 - 100%*
Tornado	1	1	1	1	3	2	2	**10%**
Severe Thunderstorm	2	1	1	1	2	2	2	**25%**
Snow Fall	0	0	0	0	4	4	4	**0%**
Blizzard	0	0	0	0	4	4	4	**0%**
Ice Storm	0	0	0	0	4	4	4	**0%**
Earthquake	4	4	4	4	1	1	1	**83%**
Tidal Wave	1	1	1	1	3	3	3	**17%**
Temperature Extremes	1	2	1	3	2	2	3	**18%**
Drought	3	3	3	3	2	2	2	**63%**
Flood, External	2	2	2	1	3	3	2	**36%**
Wild Fire	4	4	4	4	1	1	0	**78%**
Landslide	3	3	3	2	2	2	2	**58%**
Dam Inundation	1	1	1	1	3	3	3	**17%**
Volcano	0	0	0	0	4	4	4	**0%**
Epidemic	3	3	1	3	2	1	1	**46%**
AVERAGE SCORE	1.67	1.67	1.47	1.60	2.67	2.53	2.47	22%

AP TRITON HAZARD AND VULNERABILITY ASSESSMENT TOOL								
TECHNOLOGIC EVENTS								
EVENT	PROBABILITY	SEVERITY = IMPACT - MITIGATION)						RISK
		COMMUNITY IMPACT			MITIGATION CAPACITY			
	Likelihood this will occur	HUMAN IMPACT	PROPERTY IMPACT	BUSINESS IMPACT	PREPARED-NESS	INTERNAL RESPONSE	EXTERNAL RESPONSE	Relative threat*
SCORE	0 = N/A 1 = Low 2 = Moderate 3 = High 4 = Very High	0 = N/A 1 = Low 2 = Moderate 3 = High 4 = Catastrophic	0 = N/A 1 = Low 2 = Moderate 3 = High 4 = Catastrophic	0 = N/A 1 = Low 2 = Moderate 3 = High 4 = Catastrophic	0 = Very High 1 = High 2 = Moderate 3 = Low 4 = None	0 = Very High 1 = High 2 = Moderate 3 = Low 4 = None	0 = Very High 1 = High 2 = Moderate 3 = Low 4 = None	*0 - 100%*
Electrical Failure	2	2	2	2	2	2	2	25%
Generator Failure	1	1	1	1	3	2	2	10%
Transportation Failure	1	2	2	2	3	3	2	15%
Fuel Shortage	1	3	1	2	3	3	2	15%
Natural Gas Failure	1	2	1	2	3	3	2	14%
Water Failure	1	3	2	3	2	2	2	15%
Sewer Failure	1	3	1	3	2	2	2	14%
Steam Failure	1	1	1	2	3	3	3	14%
Fire Alarm Failure	1	2	2	2	1	1	1	9%
Communications Failure	1	3	2	3	2	2	1	14%
Medical Gas Failure	1	2	1	1	3	3	2	13%
Medical Vacuum Failure	1	1	1	1	3	3	3	13%
HVAC Failure	1	3	1	2	2	3	1	13%
Information Systems Failure	1	3	1	3	3	2	1	14%
Fire, Internal	1	2	2	3	1	1	1	10%
Flood, Internal	1	2	2	3	2	2	2	14%
Hazmat Exposure	1	2	2	2	2	2	2	13%
Supply Shortage	1	3	2	3	3	3	3	18%
Structural Damage	1	2	3	3	2	2	1	14%
AVERAGE SCORE	1.05	2.21	1.58	2.26	2.37	2.32	1.84	14%

AP TRITON HAZARD AND VULNERABILITY ASSESSMENT TOOL								
HUMAN RELATED EVENTS								
EVENT	PROBABILITY	SEVERITY = IMPACT - MITIGATION)						RISK
		COMMUNITY IMPACT			MITIGATION CAPACITY			
	Likelihood this will occur	HUMAN IMPACT	PROPERTY IMPACT	BUSINESS IMPACT	PREPARED-NESS	INTERNAL RESPONSE	EXTERNAL RESPONSE	Relative threat*
SCORE	0 = N/A 1 = Low 2 = Moderate 3 = High 4 = Very High	0 = N/A 1 = Low 2 = Moderate 3 = High 4 = Catastrophic	0 = N/A 1 = Low 2 = Moderate 3 = High 4 = Catastrophic	0 = N/A 1 = Low 2 = Moderate 3 = High 4 = Catastrophic	0 = Very High 1 = High 2 = Moderate 3 = Low 4 = None	0 = Very High 1 = High 2 = Moderate 3 = Low 4 = None	0 = Very High 1 = High 2 = Moderate 3 = Low 4 = None	*0 - 100%*
Mass Casualty Incident (trauma)	1	3	2	1	2	2	1	**11%**
Mass Casualty Incident (medical/infectious)	1	3	1	1	2	2	2	**11%**
Terrorism	1	3	2	2	2	2	1	**13%**
VIP Situation	1	3	1	3	1	2	1	**11%**
Infant Abduction	1	3	1	1	3	3	1	**13%**
Hostage Situation	1	3	2	2	3	3	1	**15%**
Civil Disturbance	1	3	3	3	2	2	1	**15%**
Labor Action	1	3	1	1	2	3	2	**13%**
Forensic Admission	1	3	1	1	3	3	1	**13%**
Bomb Threat	1	3	1	1	3	3	1	**13%**
AVERAGE SCORE	1.00	3.00	1.50	1.60	2.30	2.50	0.00	13%

APPENDIX B: DETAILED COMMUNITY MEETING RESULTS

AP Triton conducted a community workshop for each of the fire districts. The Montecito Fire Board meeting was held on November 10, 2020, at 6 pm; the Carpinteria-Summerland Fire Board meeting was held on November 12, 2020, at 6 pm. Triton facilitated the community workshop on-line using an interactive PowerPoint tool for the Fire Board and those community members attending via *Zoom* teleconferencing software. Attendance for each community workshop ranged from 5–11 people in each District, which included the District Board of Directors. The format for the workshop was an interactive presentation utilizing the *Swift Polling* on-line platform. This program allowed for a series of questions and input opportunities that could be instantly responded to by the audience with the results displayed in real-time. Responses were collected via text message, internet polling website, or a paper polling form as displayed in applicable figures that follow as "SMS, "Web," or "Paper Vote." All polls and inputs were captured and are as follows

For Triton to gauge the community's awareness of, access to, and experience with the services provided by the fire districts. The survey questions are listed below:

- Please list your expectations for your fire district.
- What expectations are not being met?
- What does your fire department do well?
- Please list any concerns you have regarding your fire district.
- Please list any positive feedback or strengths you would like to share about your fire district.
- How long should it take emergency resources to arrive at an emergency from the time you call?
- What advantages would there be in expanding partnerships with other agencies for services?
- What disadvantages would there be in expanding partnerships with other agencies for services
- Prioritization of Services (to be used during the Strategic Planning process beginning in early 2021 (this ncluded a forced ranking process of eight services provided or contemplated by each district):
  - Fire suppression—responding to all types of fires
  - Public safety education—providing schools, the general public, and businesses life-safety and fire-safety education
  - Public assistance service—lift assists and other non-emergent services
  - Ambulance transportation—should the fire district provide ambulance transportation services (currently provided by AMR Ambulance services)
  - Fire safety inspection—business and multi-family housing life safety inspection services
  - Fire investigation—determining the cause of a fire
  - Emergency medical services—paramedic services provided by your fire department
  - Wildland Fuels Treatment Program—survey, plan, and assist in the removal of wildfire fuels that are determined hazardous

Carpinteria-Summerland FPD

The Carpinteria-Summerland Fire District held a public meeting seeking customer input on their views of the Fire District they reside in and fund through property taxes. The customer input was gathered utilizing online Zoom meeting format and an online survey tool to collect the responses. The public meeting garnered 5–6 responses per question, a low number of participants.

Please list the expectations you have of your fire department:

- To provide prevention and response for safety and fire measures
- Fast response times
- Meet the needs of the community in terms of prevention, regulation, emergency response
- Put out fire
- Five minute or less response times

What expectations are not being met?

- Faster response times to middle district
- Response times, safe fire station (2)
- I would like to see even more public education on all things that this department does.
- Response times!

What is your fire department doing well?

- Overall response time
- Mutual aid, water rescue, task force assignments
- Great team approach, excellent emergency response skills
- Excellent community relations. Well trained and effective on incidents.
- It has a very skilled team on all levels that work well together. Very good standing in the community.

Please list any concerns you have regarding your fire department:

- We need a new Summerland fire station. I am very concerned about the safety of our firefighters.
- Not enough ACLS experience. Need more exposure managing difficult medical cases.
- Response time in and around Cravens Lane
- Would like to get station built in the middle off the district

Please list any positive feedback or strengths you would like to share about you fire department:

- I am very proud of our communities and they represent us so well especially helping us feel safe
- Great leadership moving in the right direction. Dedicated floor staff.
- Fantastic firefighters-great work ethics and attitudes-willing to go the distance
- Staff is terrific
- Top notch employees at all levels

What *advantages* would there be in expanding the partnerships with either agency for services?

- Money saving. Better response times
- Added coverage is always better
- There are multiple advantages. In my opinion it always makes sense to share knowledge and resources when there's mutual benefit.
- Shorter response times; greater breadth of knowledge/experience
- Shared resources

What *disadvantages* would there be in expanding the partnerships with either agency for services?

- There needs to be a continued commitment to good communication between all agencies
- Understanding of issues unique to our district
- Different Unions and expectations from the floor
- Overlapping services
- None

Service Prioritization

Prioritization of Services

Listed below are the services provided by the fire department. Participants were asked to prioritize these items (through a direct comparison process).

Customers were asked to select the service they felt is more important. Example:

If you feel item number one is more important than item number two you would circle number one.

1. Fire suppression
2. Public safety education
3. Public assistance service
4. Ambulance transportation
5. Fire safety inspection
6. Fire investigation
7. Emergency medical service
8. Wildland Fuels Treatment Program

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1 1 1 1 1 1 1
2 3 4 5 6 7 8

2 2 2 2 2 2
3 4 5 6 7 8

3 3 3 3 3
4 5 6 7 8

4 4 4 4
5 6 7 8

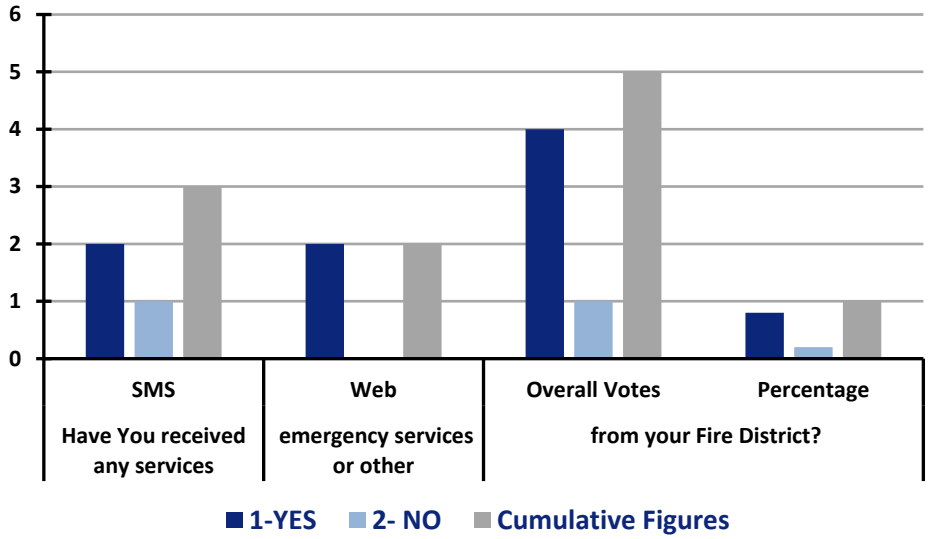
5 5 5
6 7 8

6 6
7 8

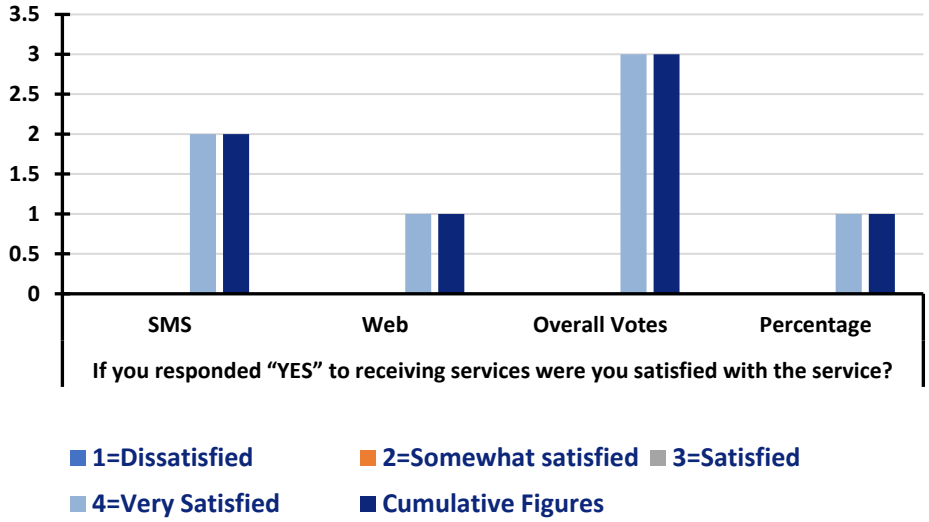
7
8

1	2	3	4	5	6	7	8

Have you ever received any services, emergency service or other, from the Carpinteria-Summerland Fire District?



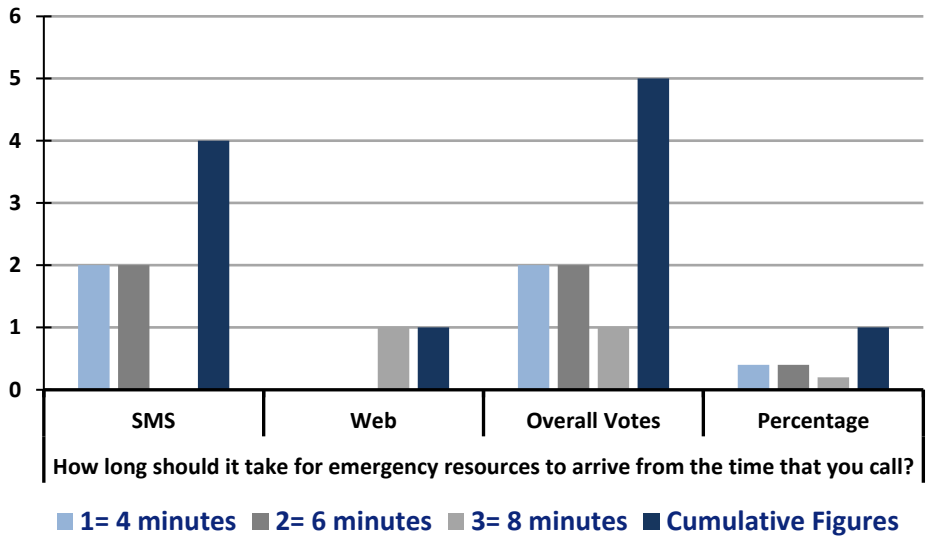
If you responded "YES" to receiving services, were you satisfied with the service?



If you answered "NO" what do you believe is lacking?

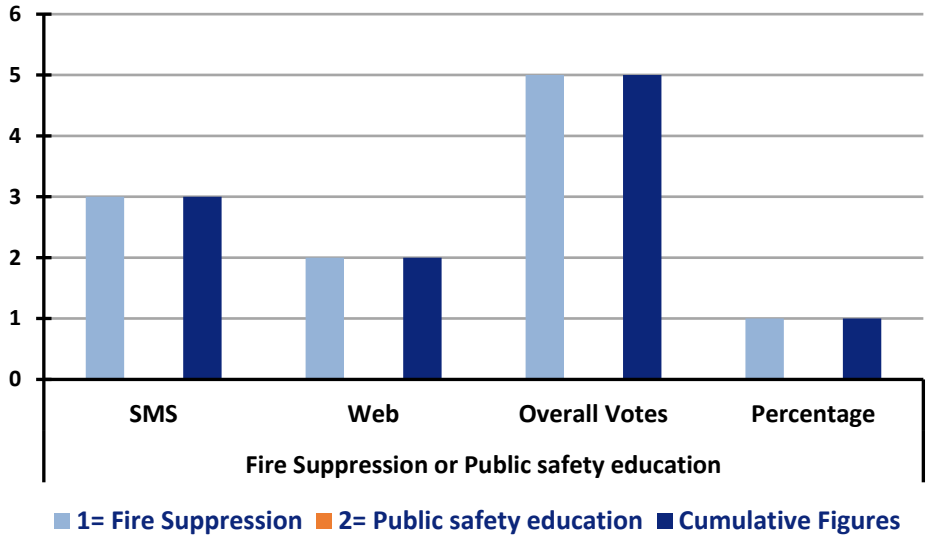
- (no responses)

How long should it take for emergency resources to arrive from the time that you call?

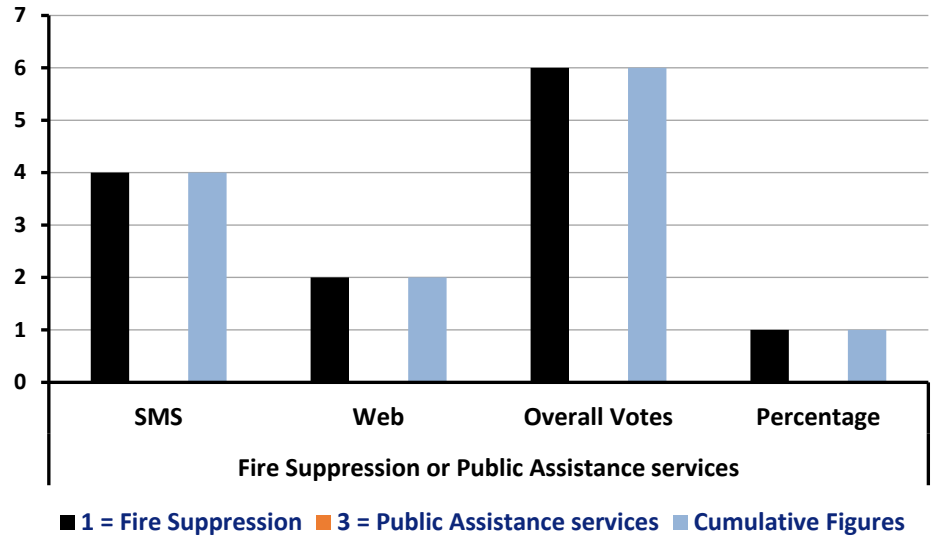


Service Prioritization

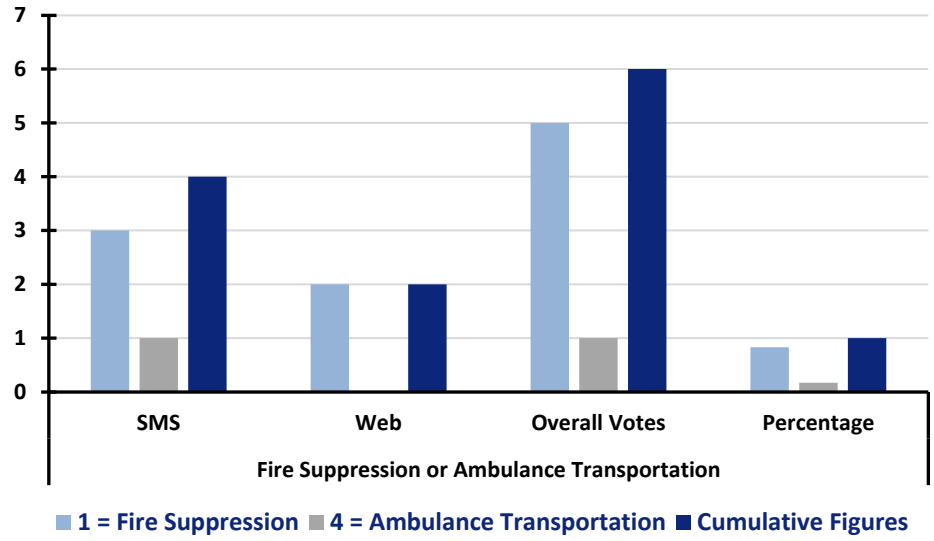
Fire Suppression or Public Safety Education?



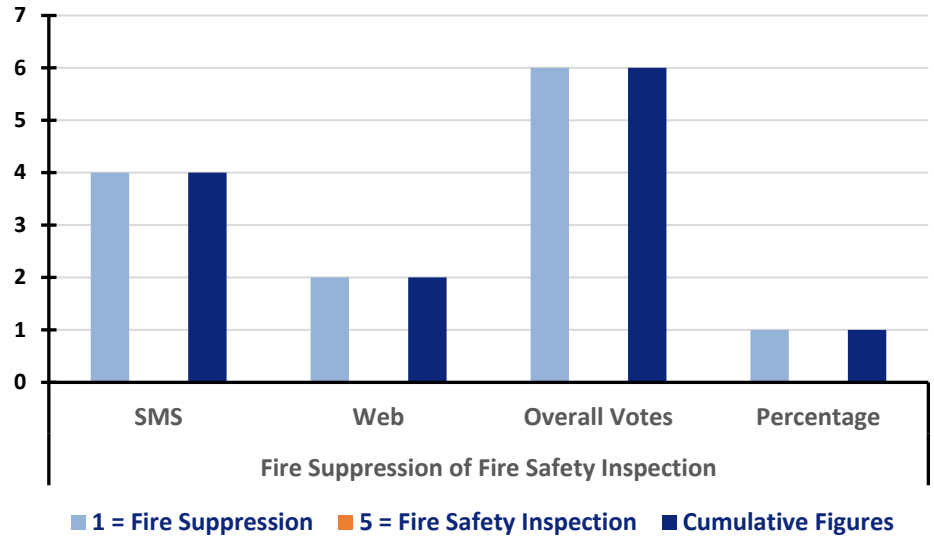
Fire Suppression or Public Assistance Services?



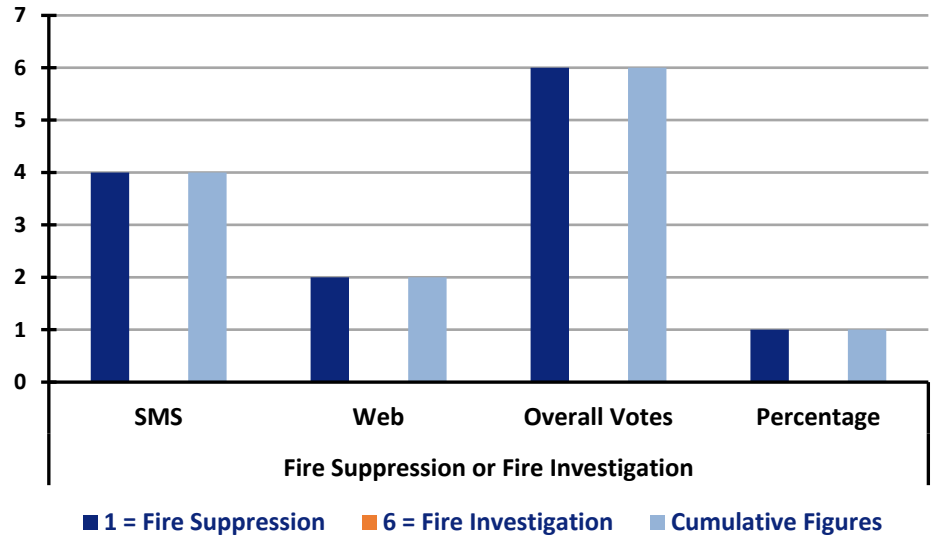
Fire Suppression or Ambulance Transport Services?



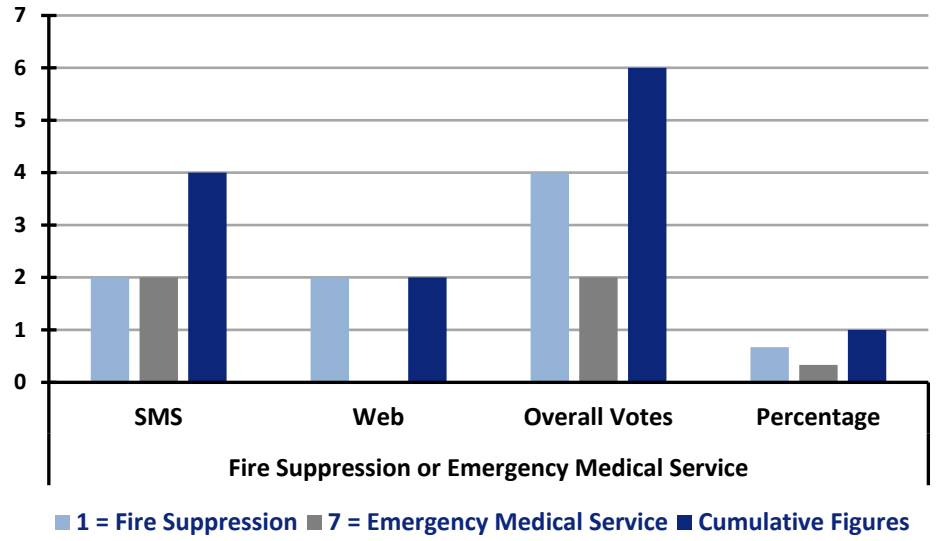
Fire Suppression or Fire Safety Inspection?



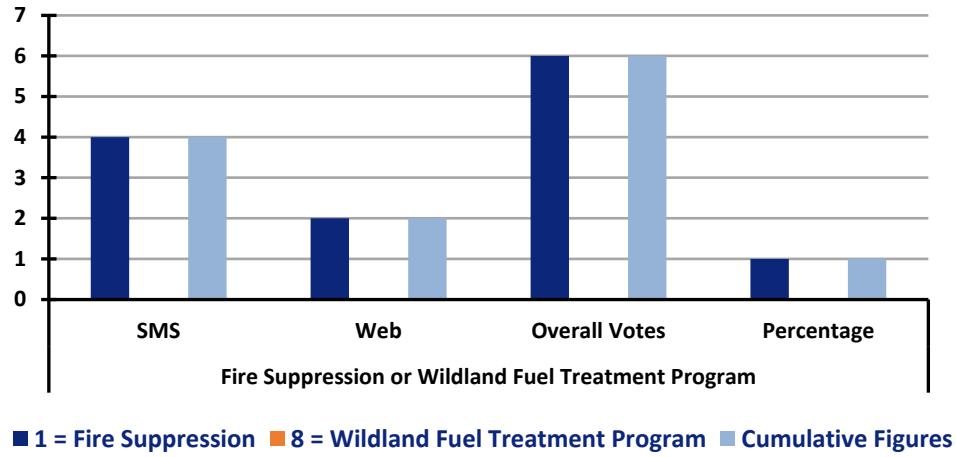
Fire Suppression or Fire Investigation?



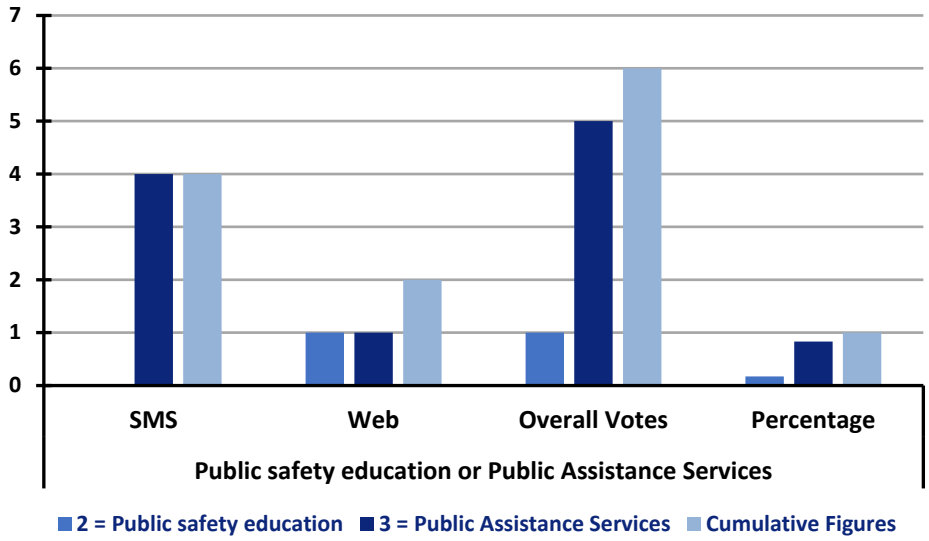
Fire Suppression or Emergency Medical Services?



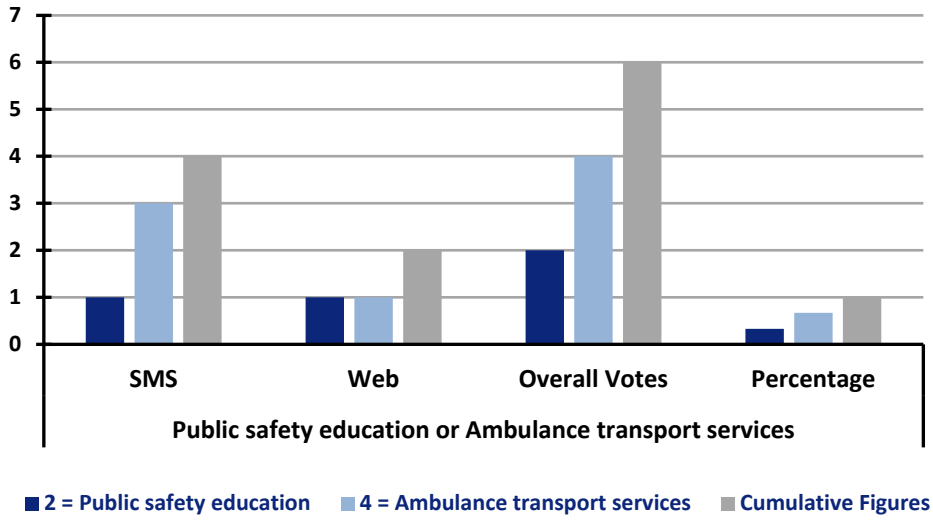
Fire Suppression or Wildland Fuel Treatment Program?



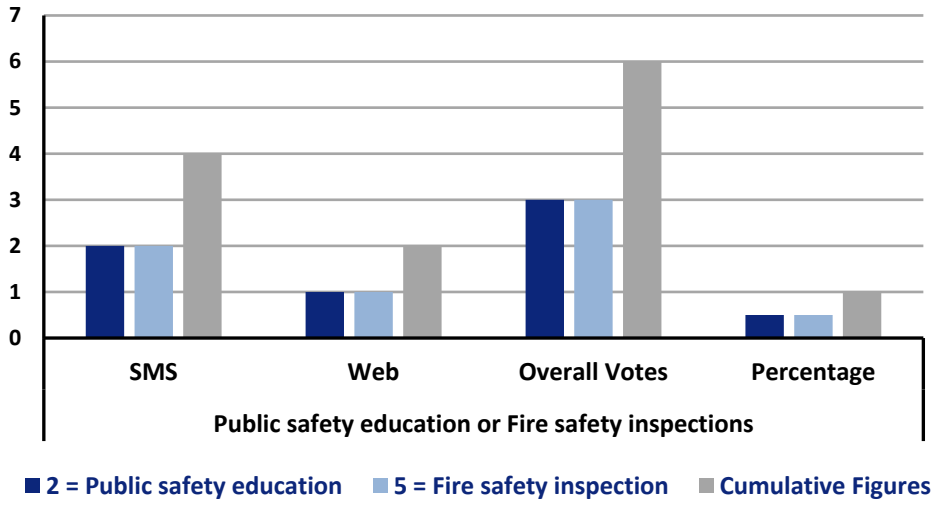
Public Safety Education or Public Assistance Services?



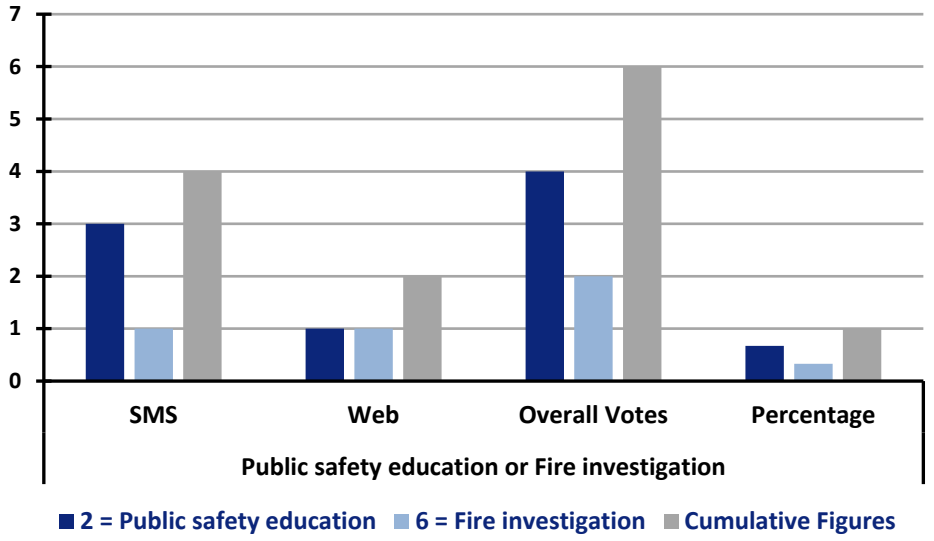
Public Safety Education or Ambulance Transport Services?



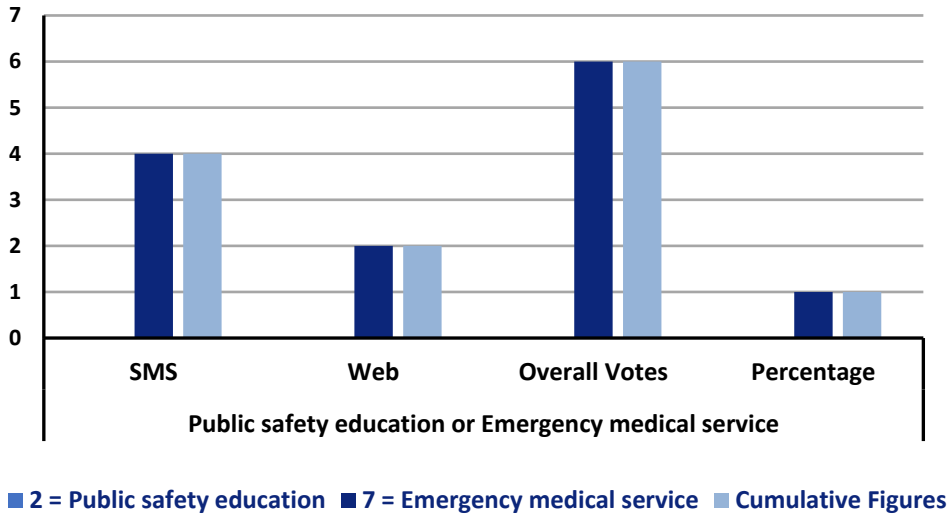
Public Safety Education or Fire Safety Inspections?



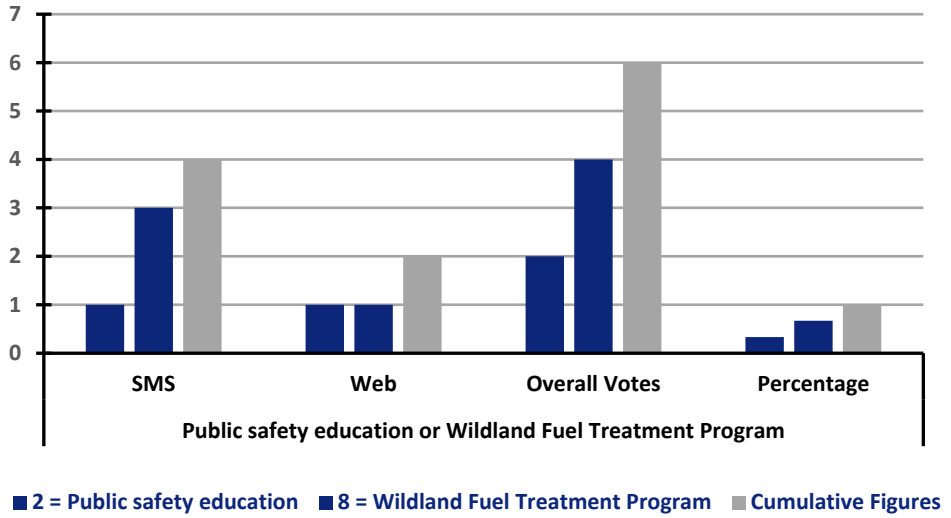
Public Safety Education or Fire Investigation?



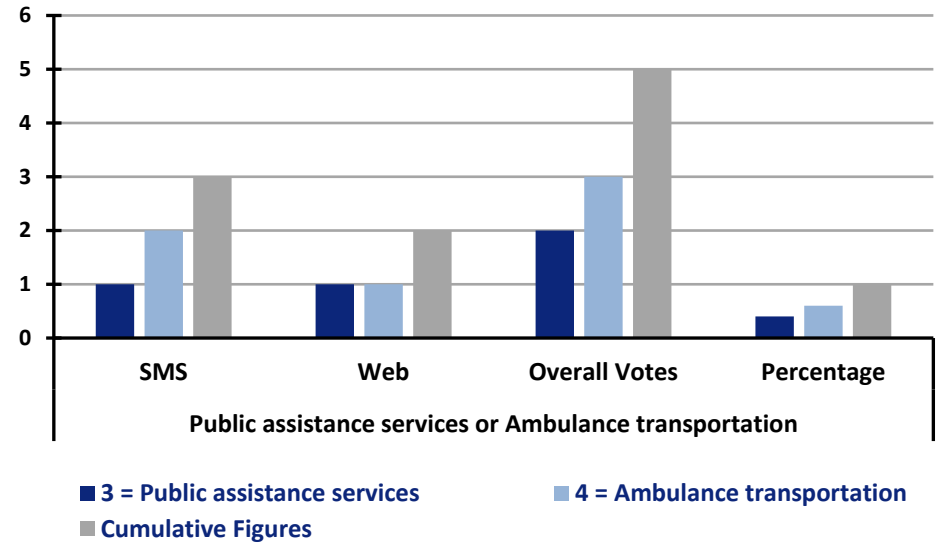
Public Safety Education or Emergency Medical Services?



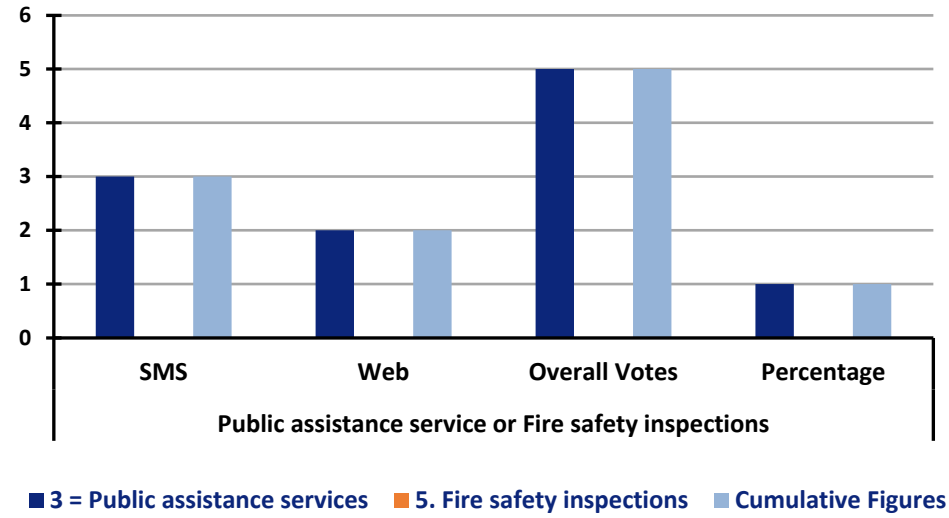
Public Safety Education or Wildland Fuel Treatment Program?



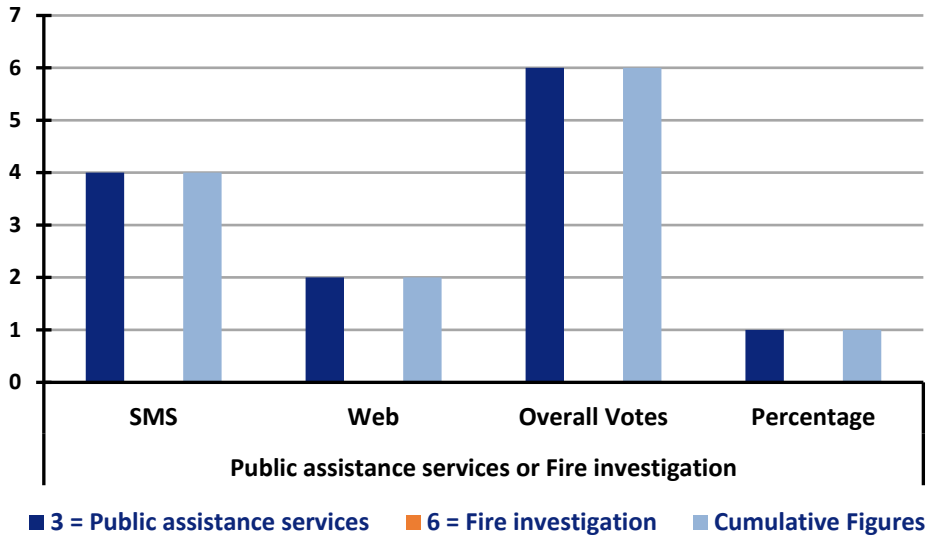
Public Assistance Services or Ambulance Transport Services?



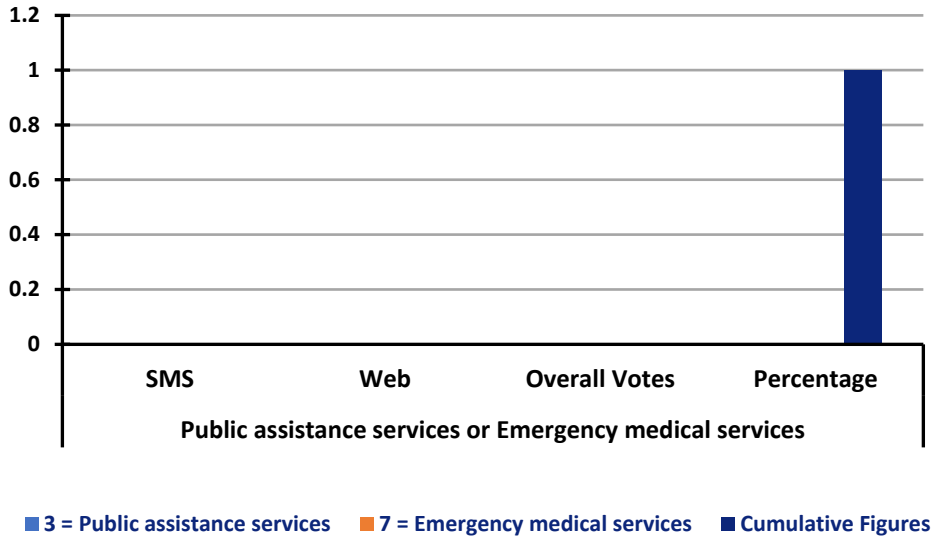
Public Assistance Services or Fire Safety Inspection?



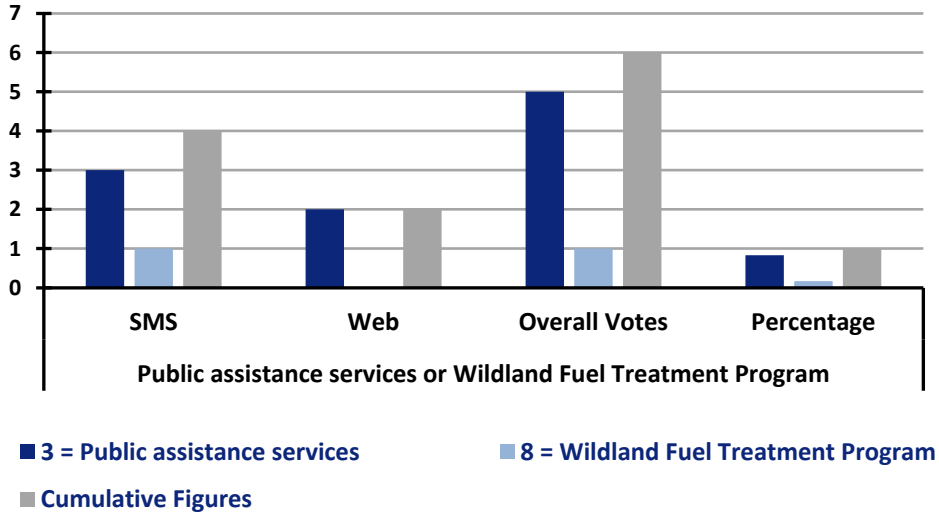
Public Assistance Services or Fire Investigation?



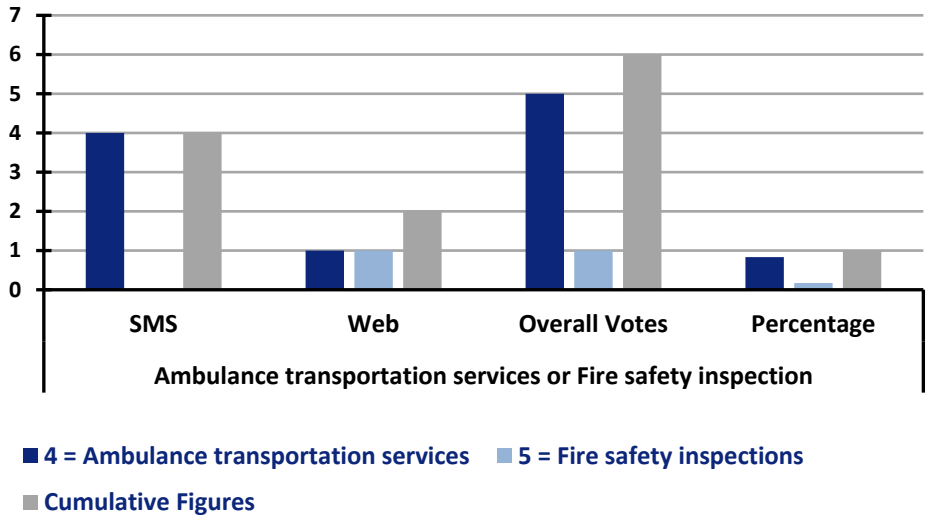
Public Assistance Services or Emergency Medical Services?



Public Assistance Services or Wildland Fuel Treatment Program?



Ambulance Transport Services or Fire Safety Inspection?



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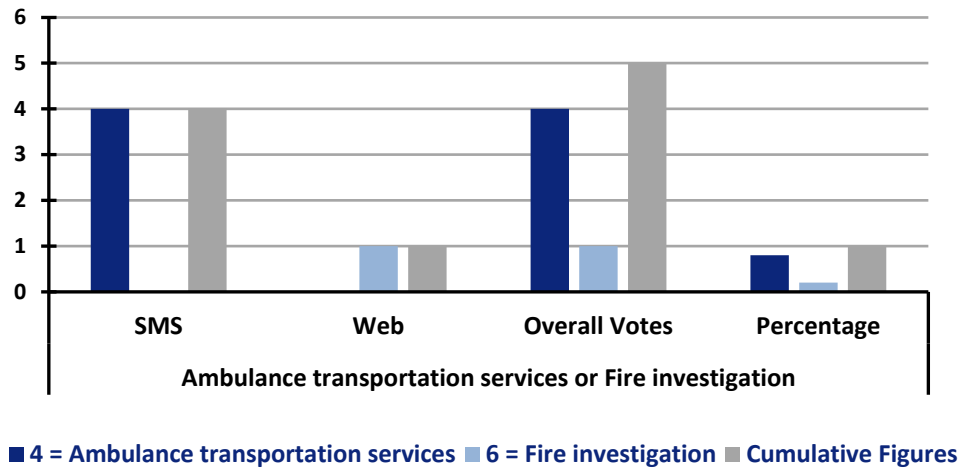

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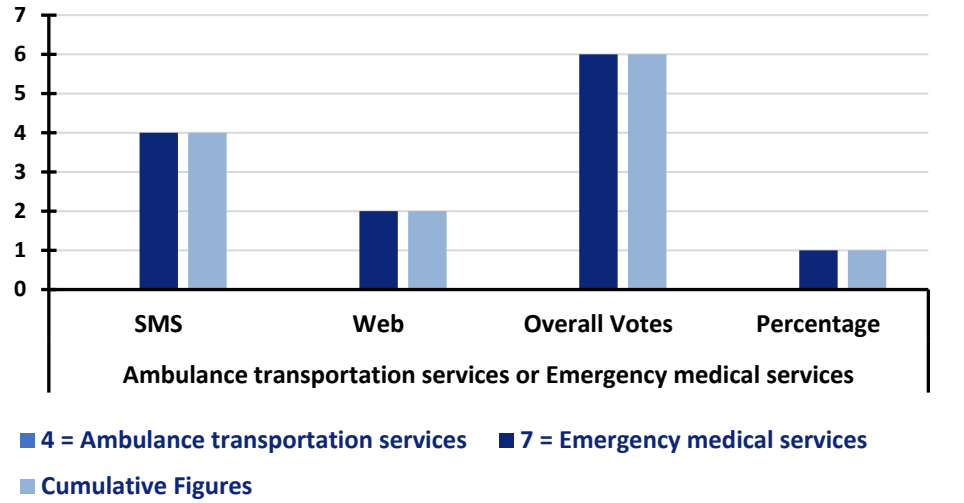

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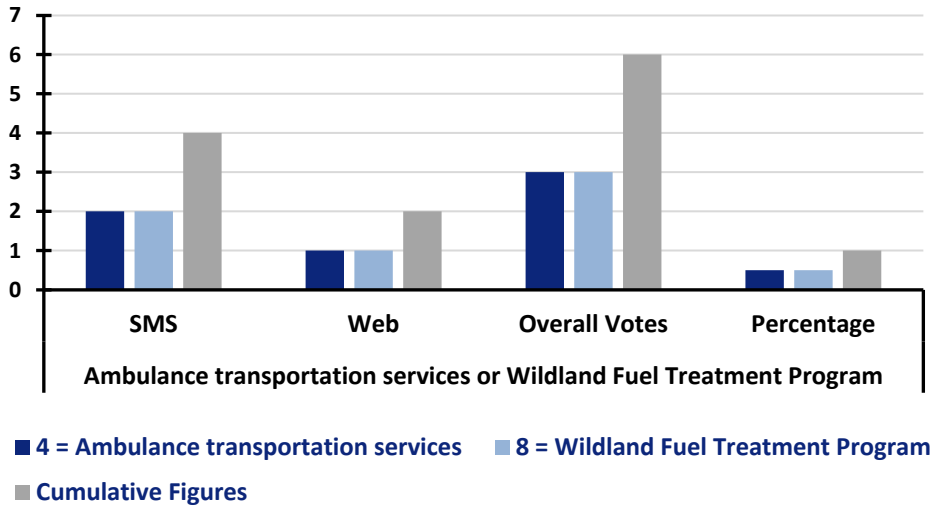

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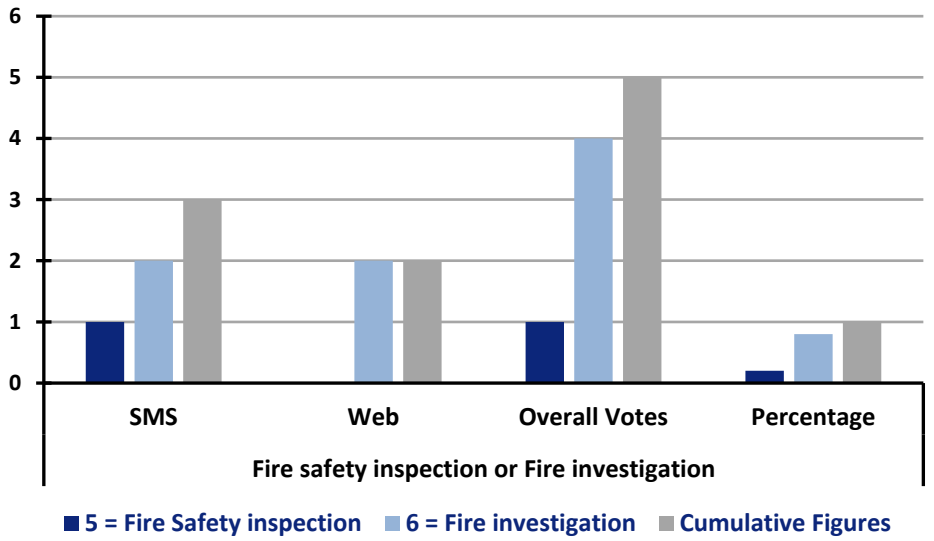

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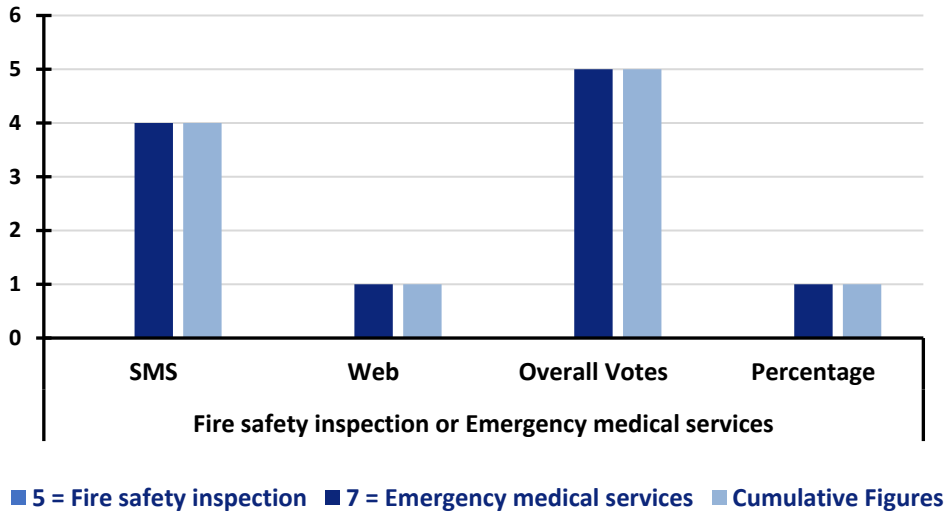

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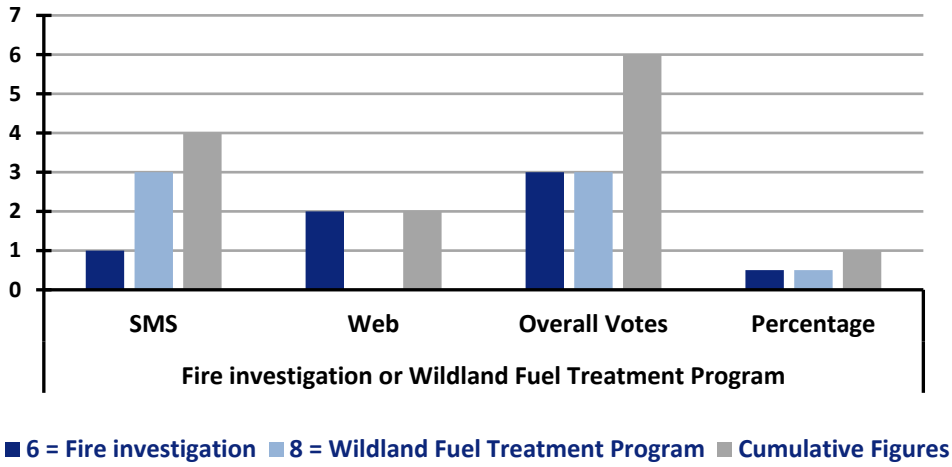
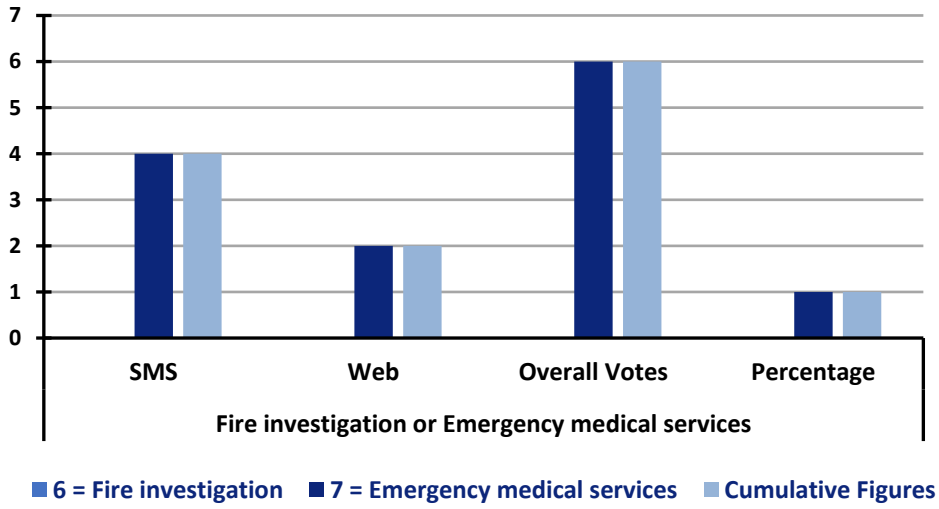
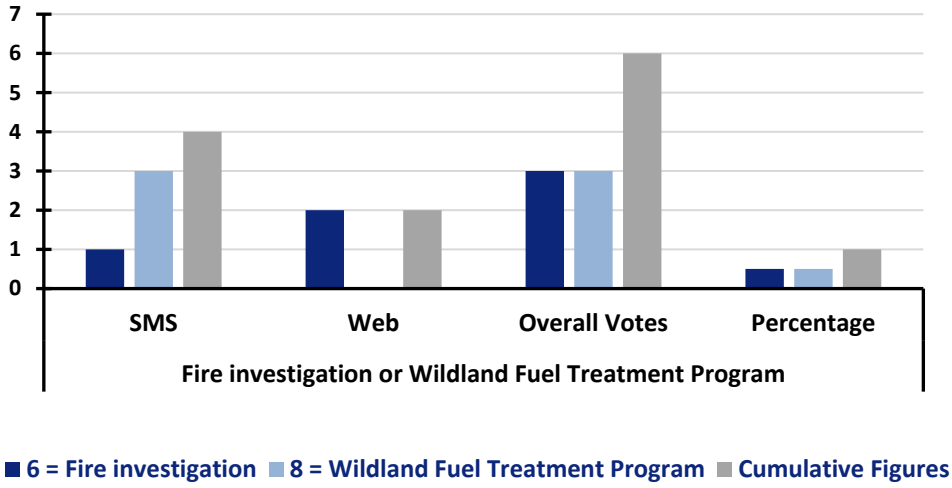


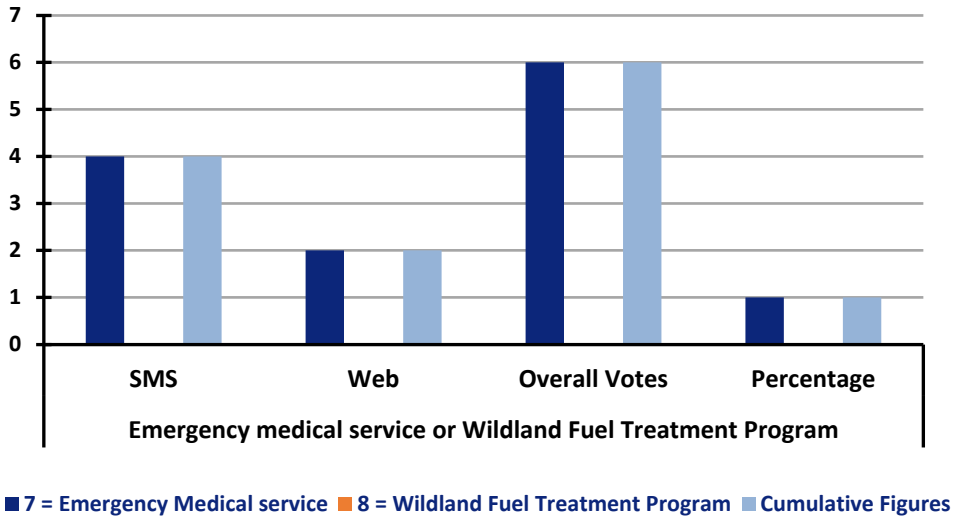
Fire Investigation or Emergency Medical Services?



Fire Investigation or Wildland Fuel Treatment Program?



Emergency Medical Services or Wildland Fuel Treatment Program?



Montecito FPD

The Montecito Fire District held a public meeting seeking customer input on their views of the Fire District they reside in and fund through property taxes. Due to the COVID-19 concerns, the customer input was gathered utilizing online Zoom meeting format and an online survey tool to collect the responses. The public meeting garnered 8-11 responses per question, a low number of participants. The information provided below is a culmination of the two survey segments.

Please list the expectations you have of your fire department:

- Safety for all residents. Increased community outreach between MFPD and residents. A third station to serve East Montecito, Summerland and especially upper Toro/Ladera.
- Equal service for all residents. Thank you!
- I expect to have swift response time for fire and emergency
- Equal coverage for all district members
- They're awesome! They consistently exceed my expectations.

What expectations are not being met?

- (2) Rapid response capability for residents in eastern Montecito.
- (2) My expectations are met

What is your fire department doing well?

(no responses)

Please list any concerns you have regarding your fire department:

- More women firefighters
- Have always worked to provide great training and services
- Seems like a stellar group but 4 firefighters at each station would be a goal.
- I think we need more firefighters and more women firefighters as well
- None

Please list any positive feedback or strengths you would like to share about you fire department:

- Excellent training programs and service personnel
- The leadership at MFPD is world class
- Level of commitment to serve community
- I appreciate the use of Instagram to share updates with the community.
- Outstanding staff
- They are so proactive and community minded. They never misstep and provide top notch service.

What *advantages* would there be in expanding the partnerships with either agency for services?

- Mutual aid means greater safety for communities.
- big financial/community acceptance by both fire agencies
- Faster. Service for the eastern area of Montecito
- Optimizing coverage, quality, and timeliness of service. It's also a force multiplier.
- Magnitude of cooperation in time of wildfire event
- Faster Response times
- Possible cost saving
- Coverage for service at the 'edges' of adjacent districts. Shared costs / infrastructure could give some economies of scale.
- Greater community safety.

What *disadvantages* would there be in expanding the partnerships with either agency for services?

- Financial questions
- Legal questions.
- Control issues
- All investors must have the same commitment
- Who administers?
- All depends on the structure of these partnerships but nothing major is obvious.
- If there are proper legal parameters – none
- There is no disadvantage only deeper investment in our community.
- Financial
- Who's in charge? Non-equal partnership. Burden on one vs other.

Service Prioritization

Listed below are the services provided by the fire department. Participants were asked to prioritize these items (through a direct comparison process). Customers were asked to select the service they felt is more important.

Example:

If you feel item number one is more important than item number two you would circle number one.

1. Fire suppression
2. Public safety education
3. Public assistance service
4. Ambulance transportation
5. Fire safety inspection
6. Fire investigation
7. Emergency medical service
8. Wildland Fuels Treatment Program

1 1 1 1 1 1 1
2 3 4 5 6 7 8

2 2 2 2 2 2
3 4 5 6 7 8

3 3 3 3 3
4 5 6 7 8

4 4 4 4
5 6 7 8

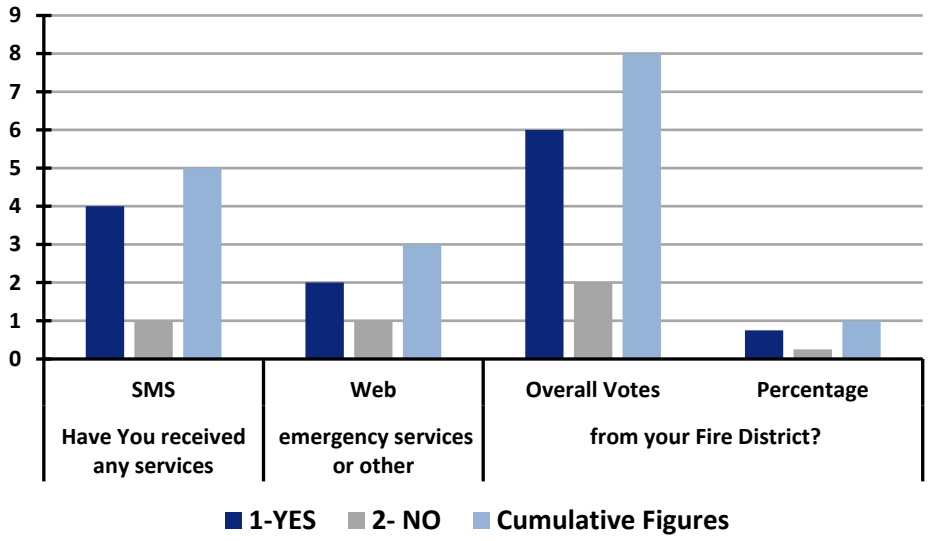
5 5 5
6 7 8

6 6
7 8

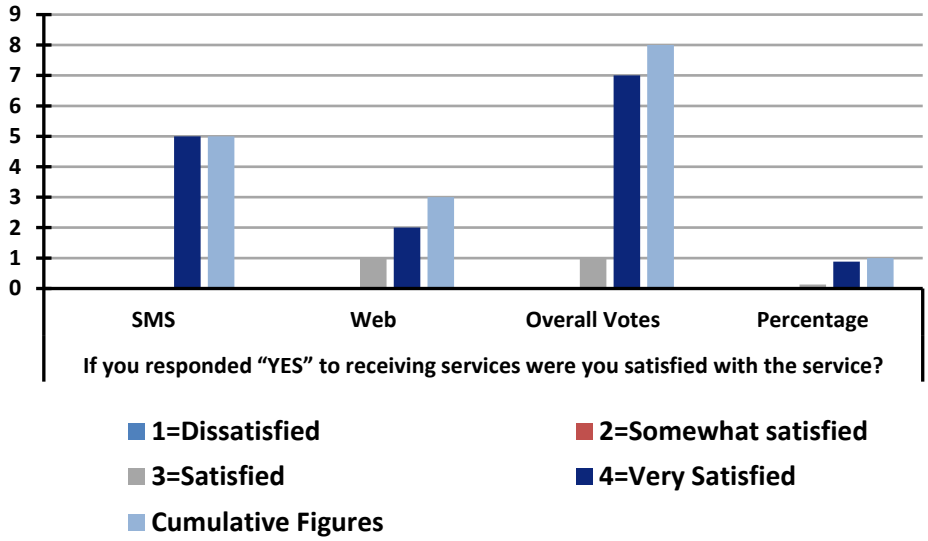
1	2	3	4	5	6	7	8

7
8

Have you ever received any services, emergency service or other, from the Montecito FPD?



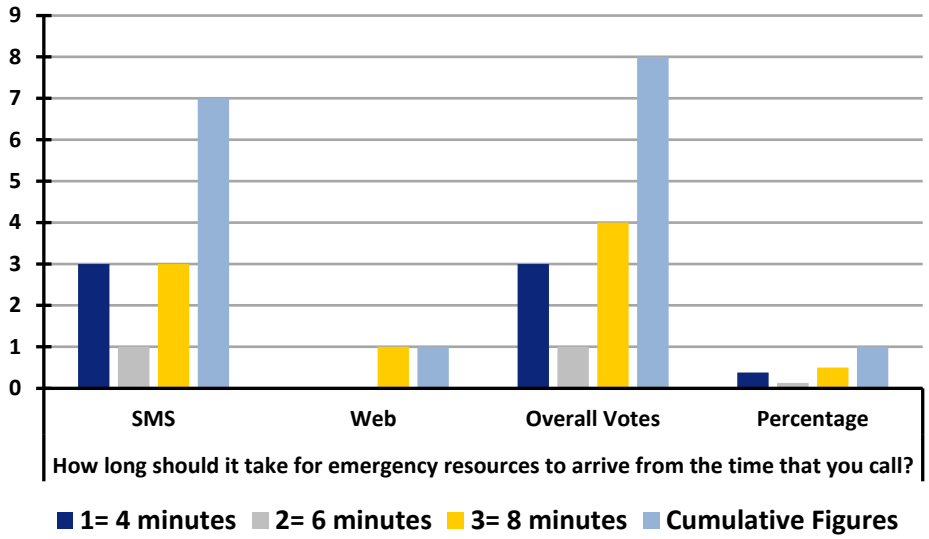
If you responded "YES" to receiving services, were you satisfied with the service?



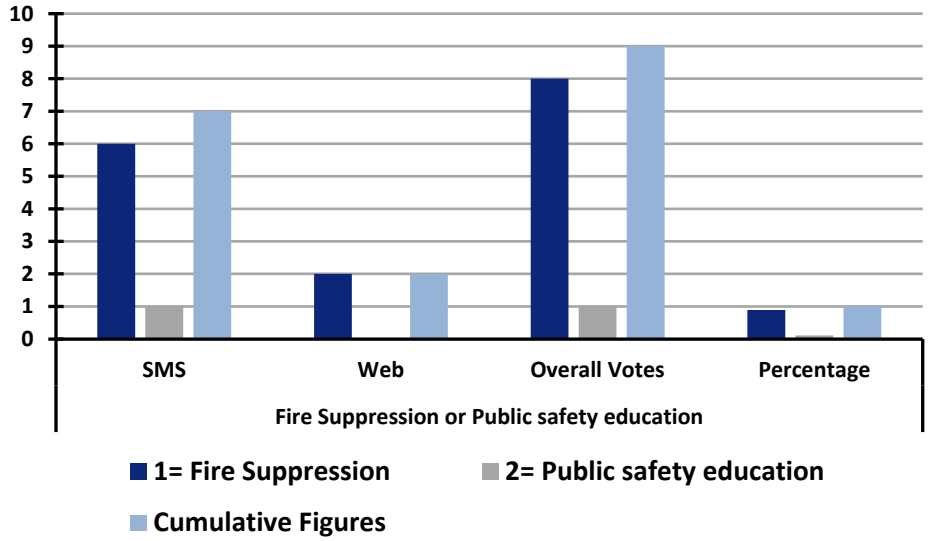
If you answered "NO" what do you believe is lacking?

(no responses)

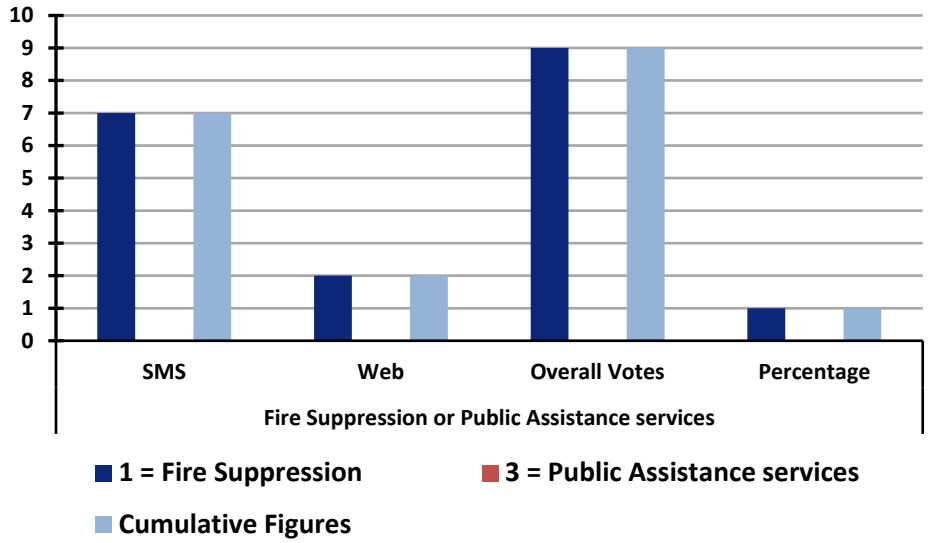
How long should it take for emergency resources to arrive from the time that you call?



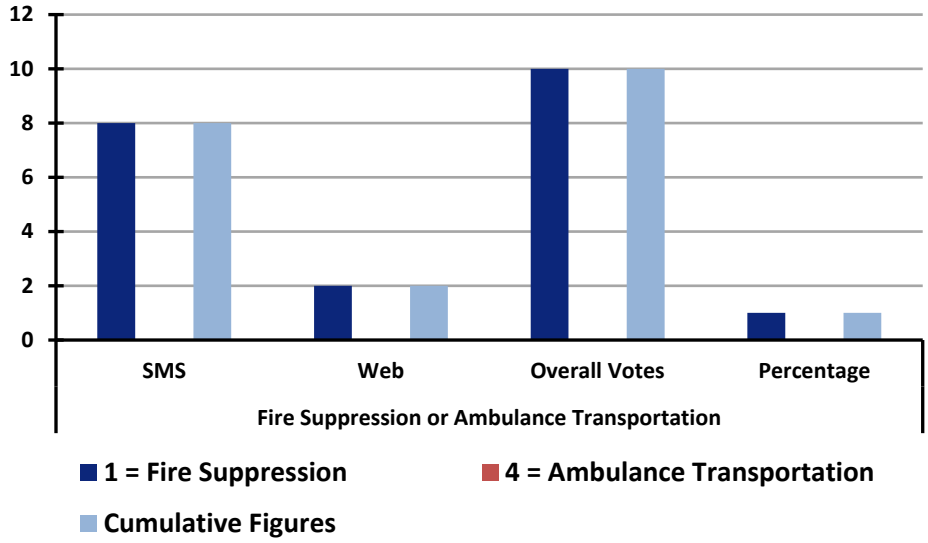
Fire Suppression or Public Safety Education?



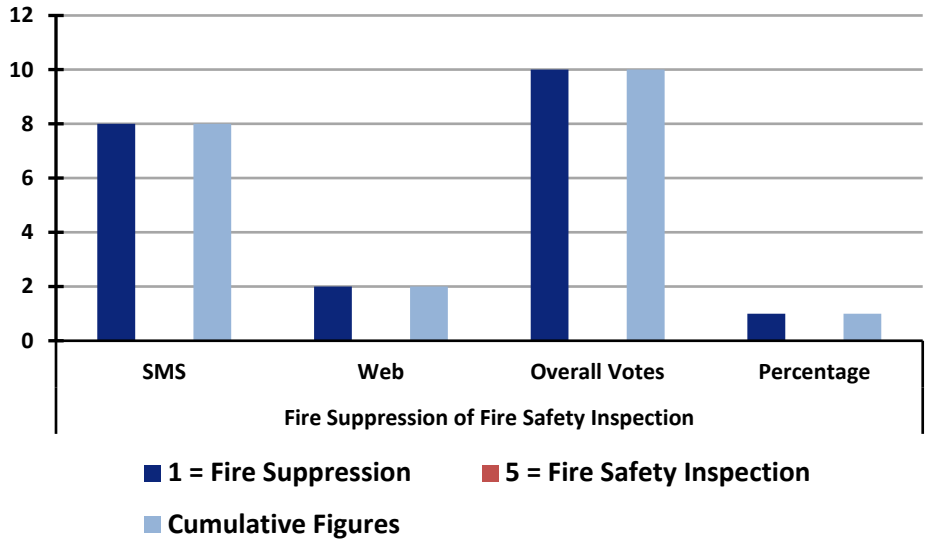
Fire Suppression or Public Assistance Services?



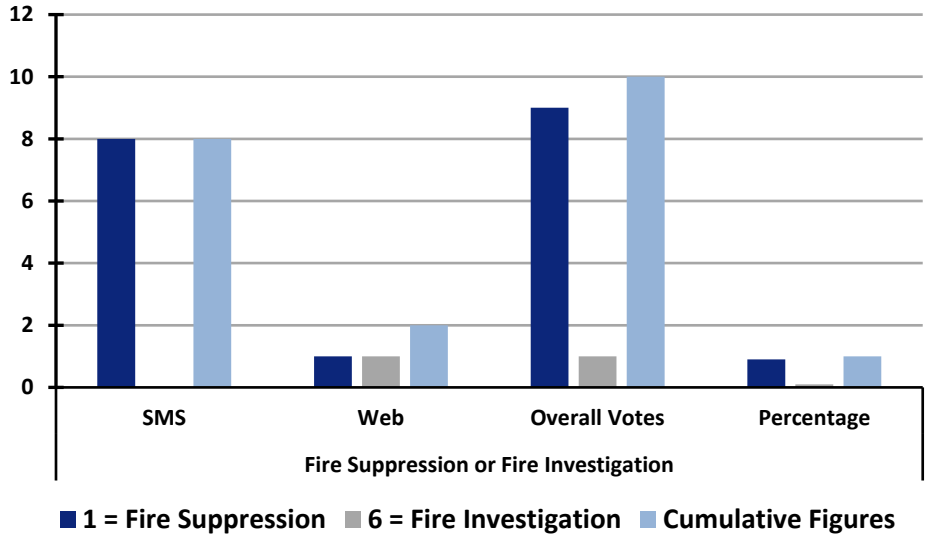
Fire Suppression or Ambulance Transport Services?



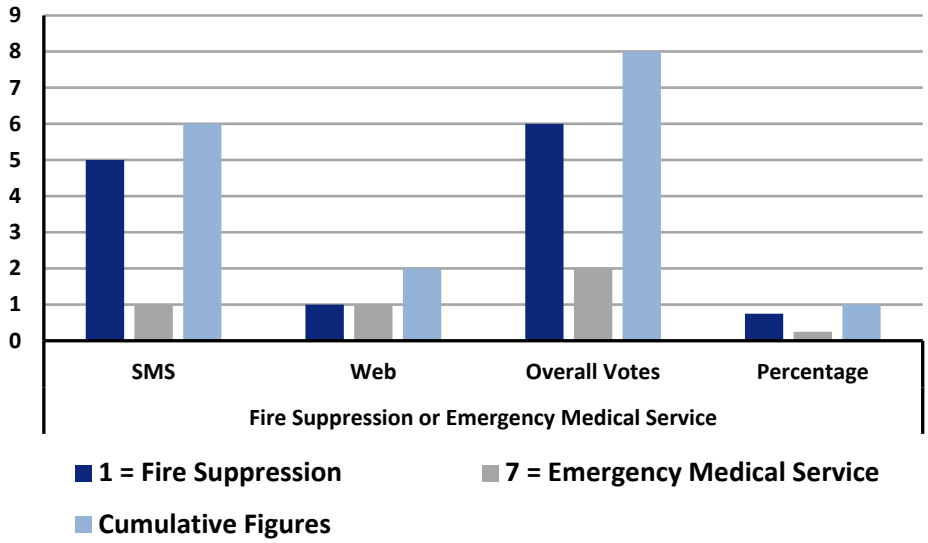
Fire Suppression or Fire Safety Inspection?



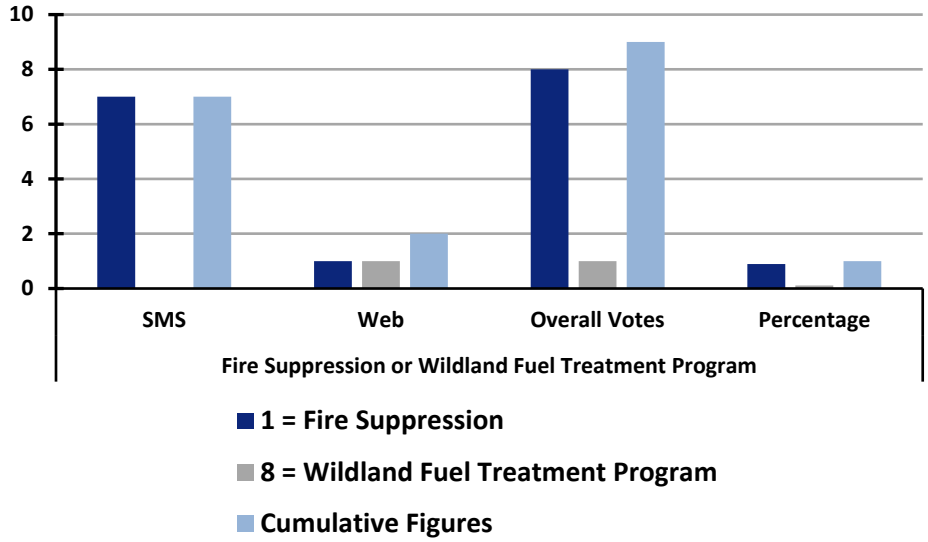
Fire Suppression or Fire Investigation?



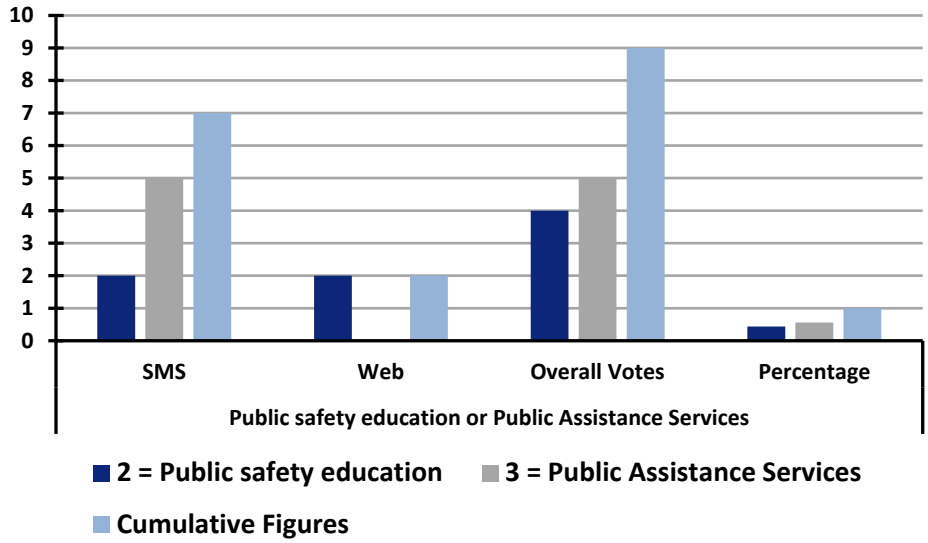
Fire Suppression or Emergency Medical Services?



Fire Suppression or Wildland Fuel Treatment Program?



Public Safety Education or Public Assistance Services?



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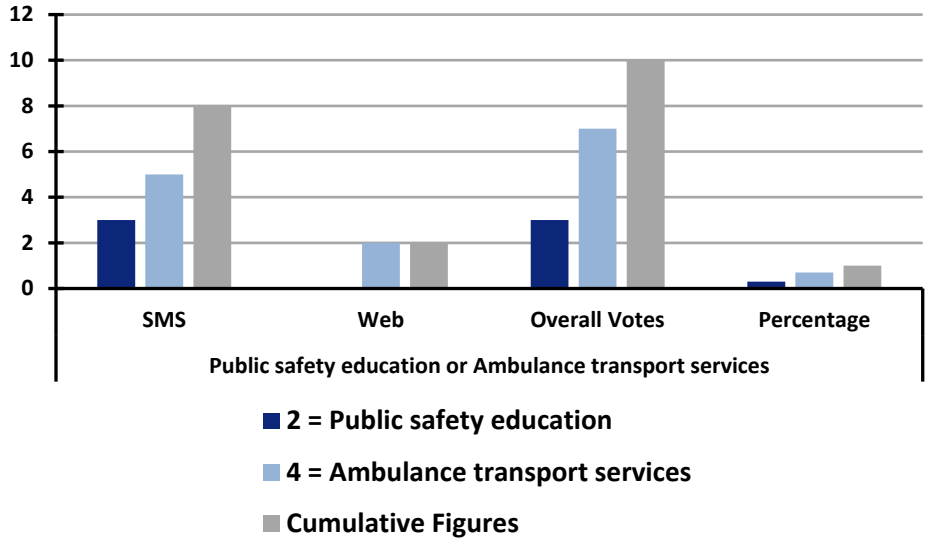

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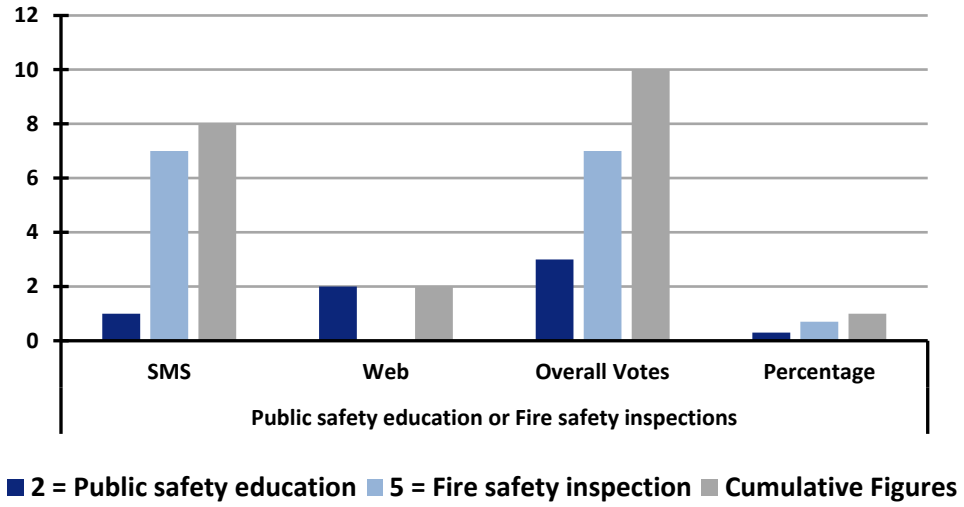
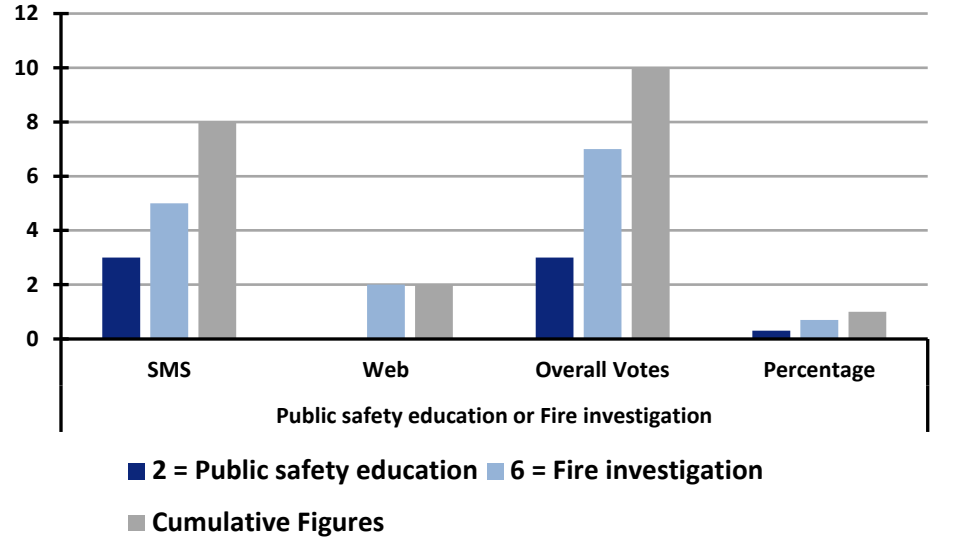


Public Safety Education or Fire Investigation?



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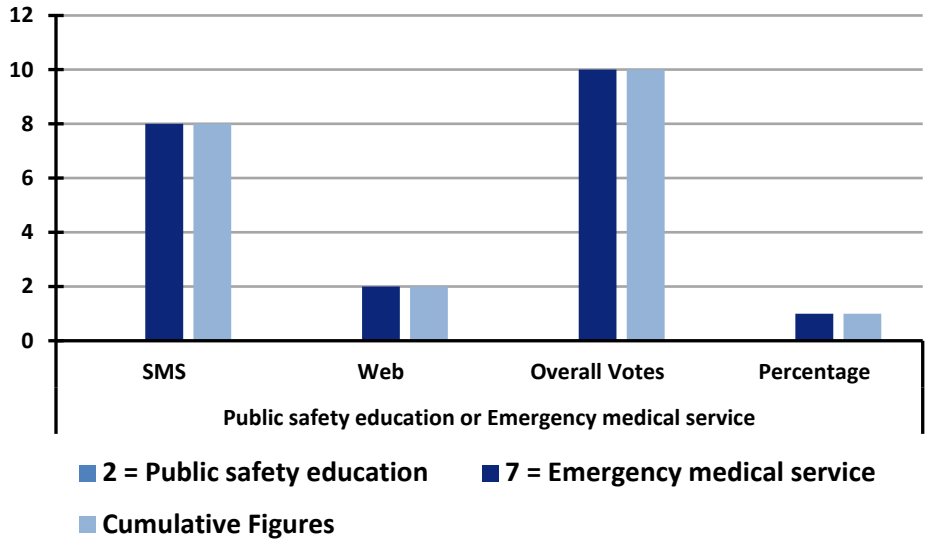

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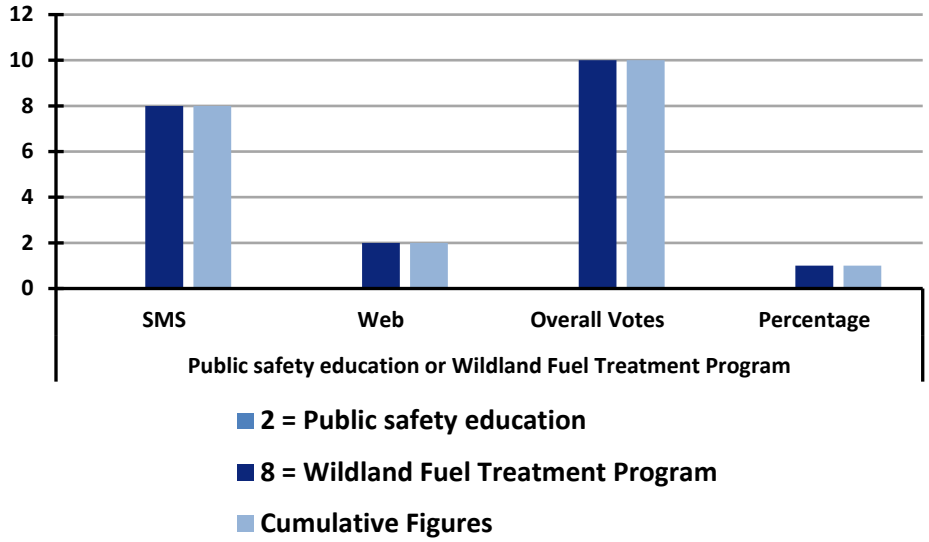
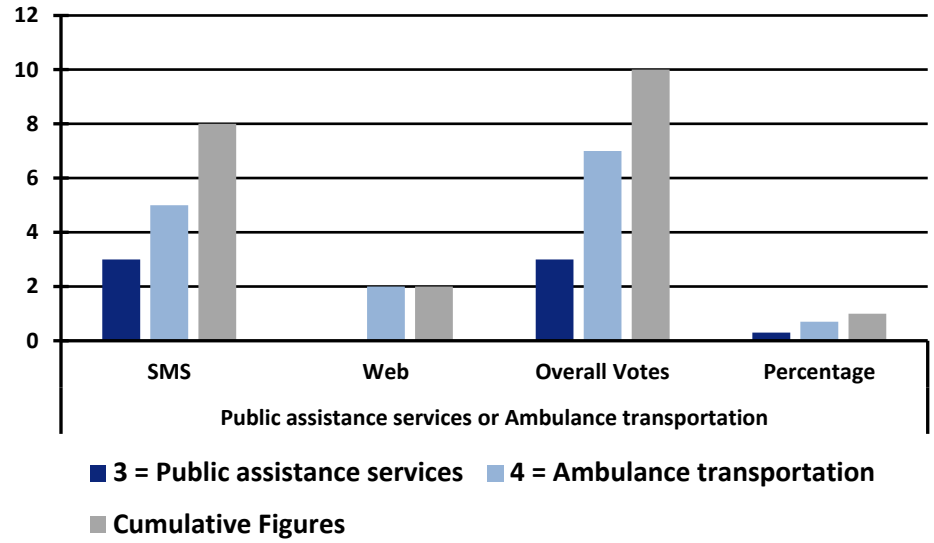


Public Assistance Services or Ambulance Transport Services?



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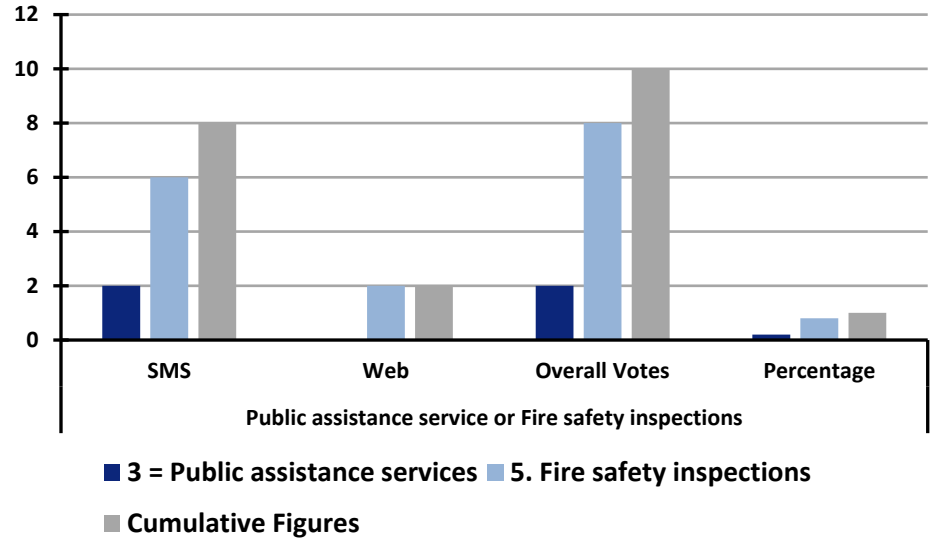

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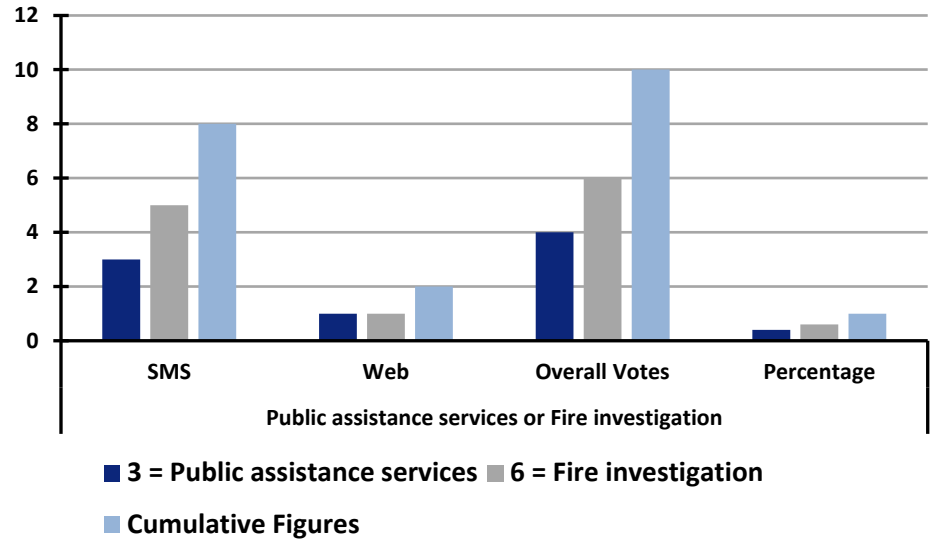

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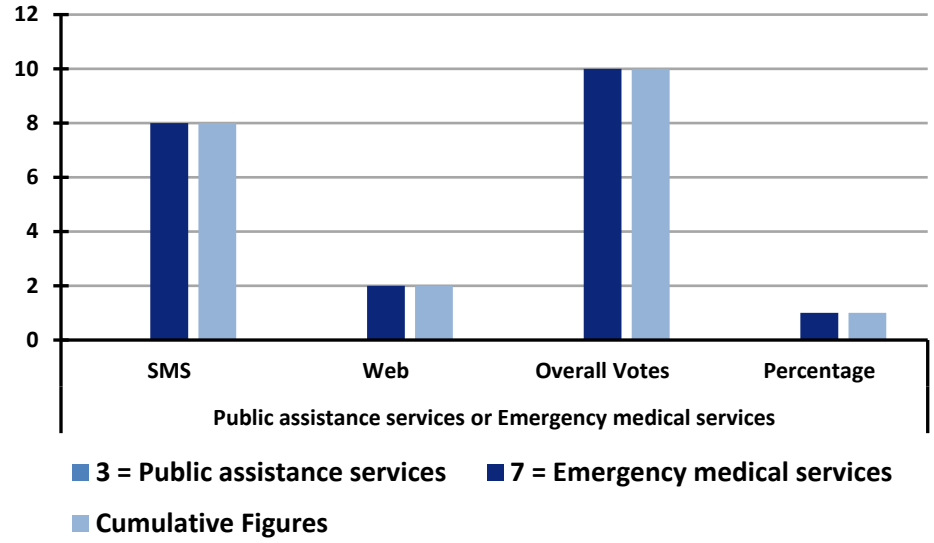

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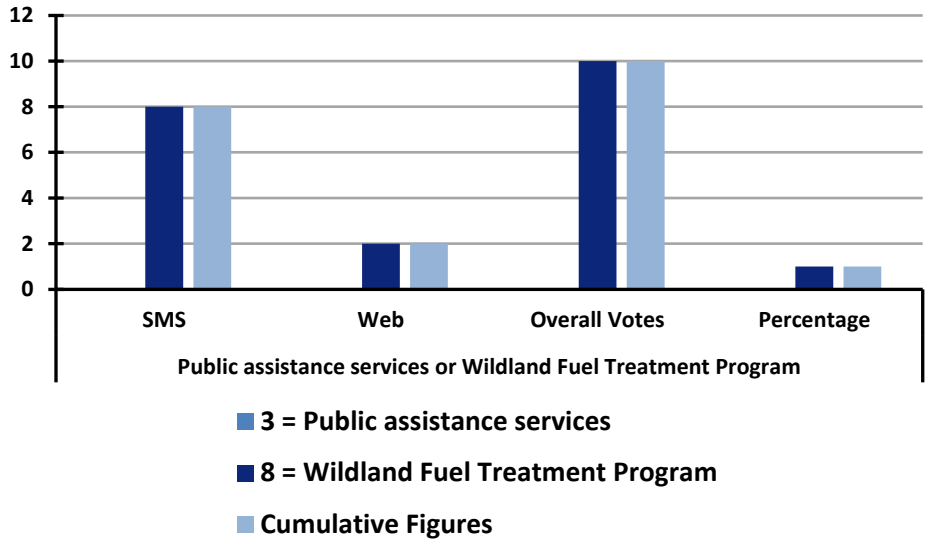

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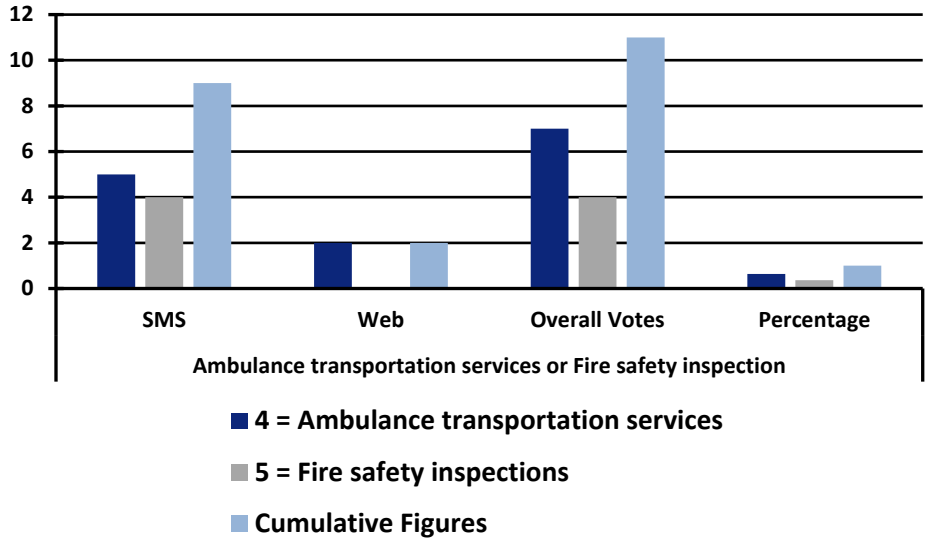

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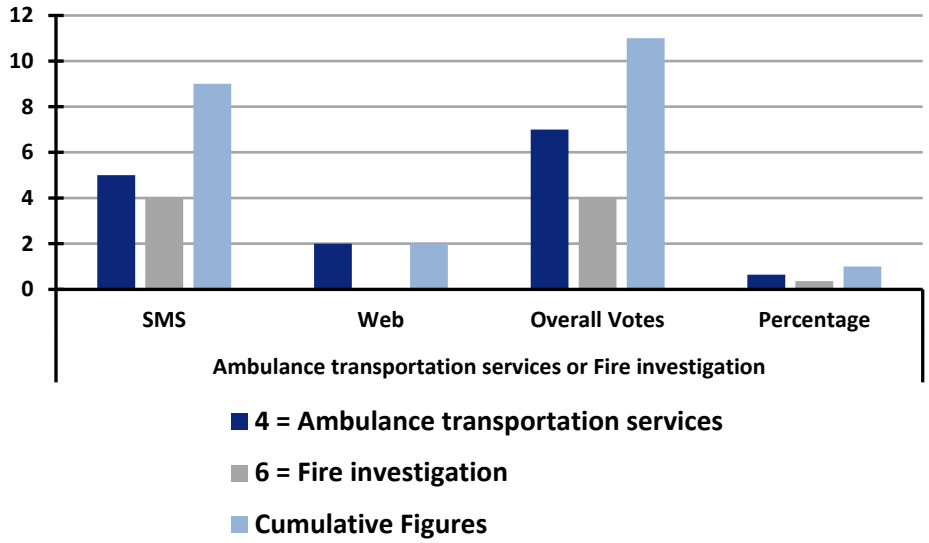

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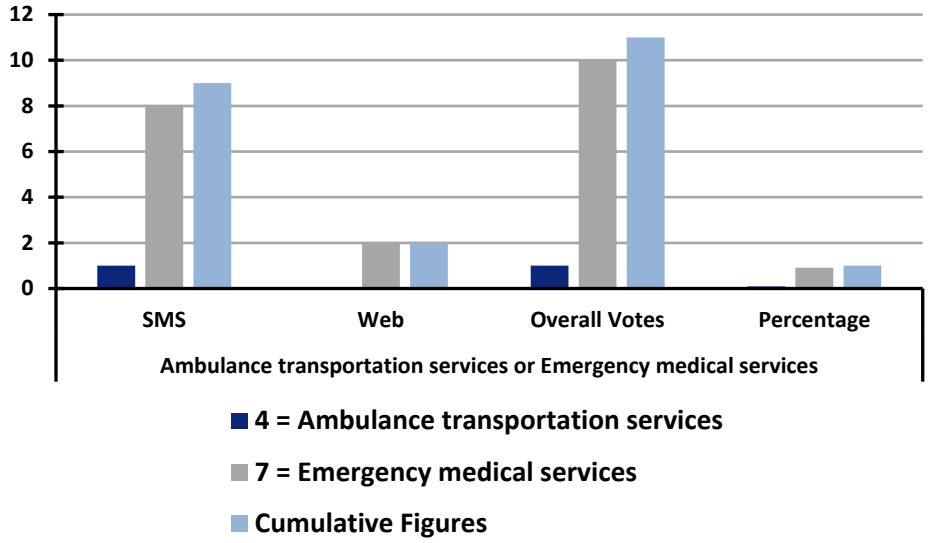

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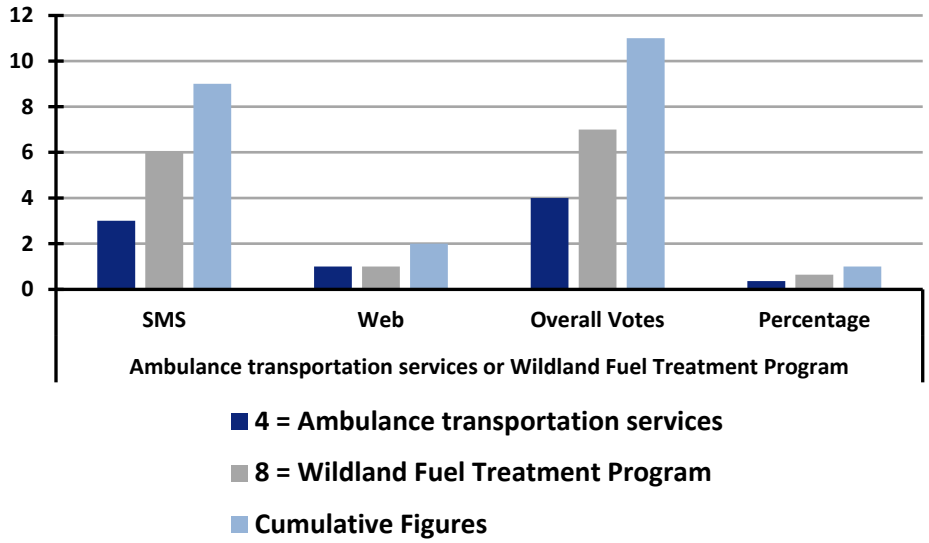

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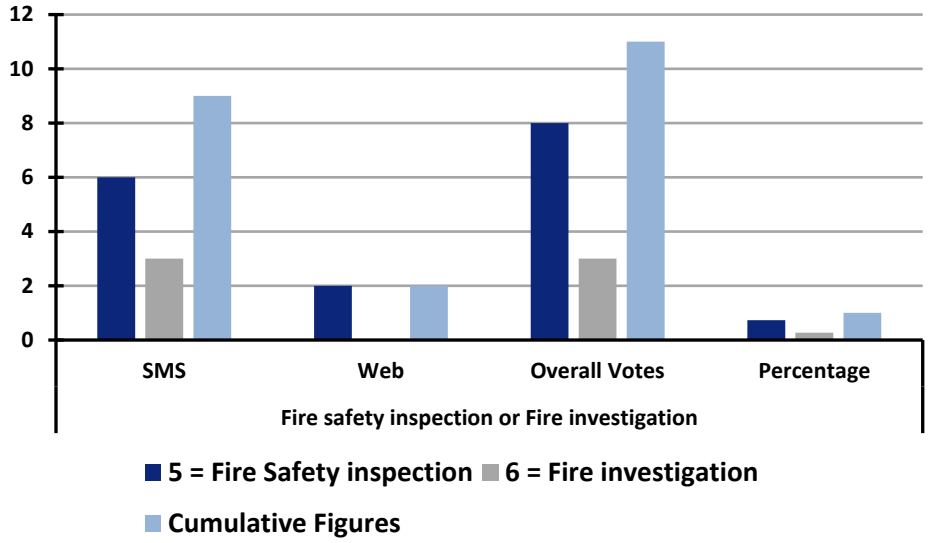
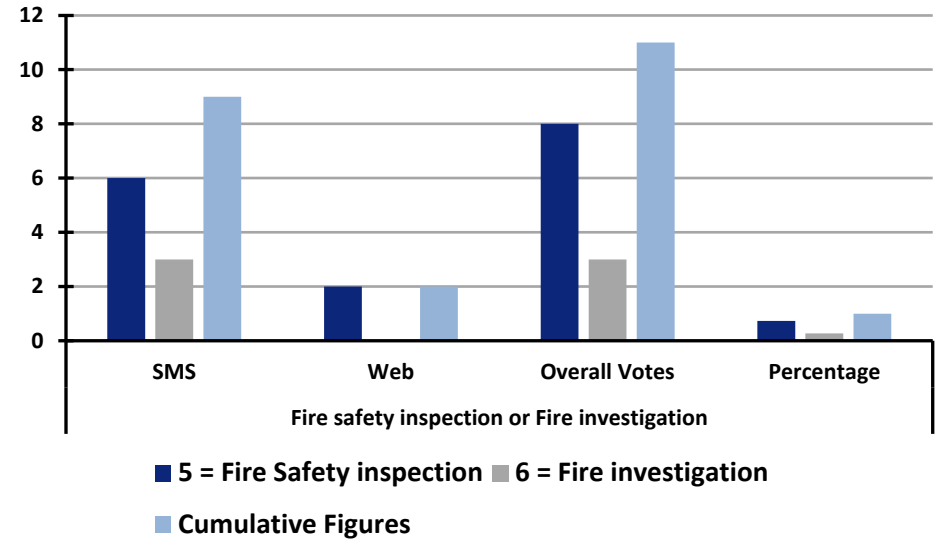
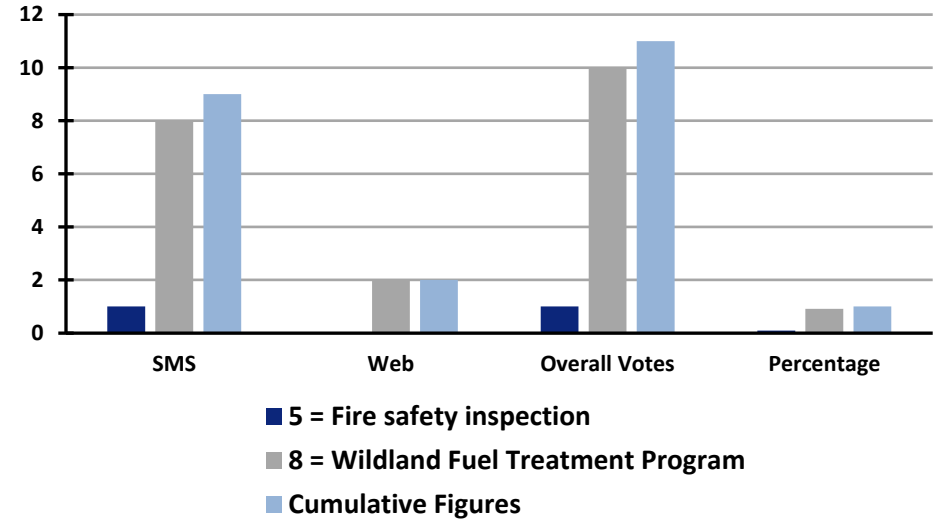


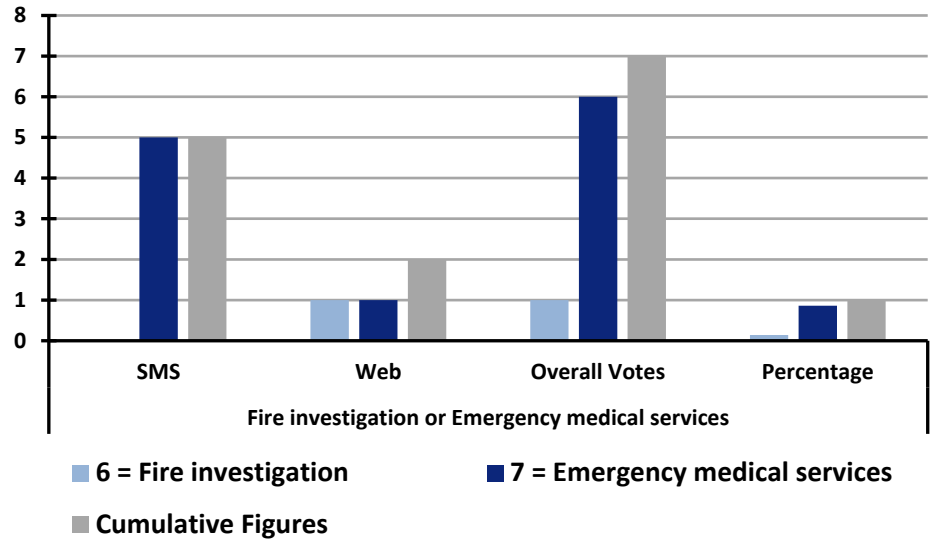
Fire Safety Inspection or Emergency Medical Services?



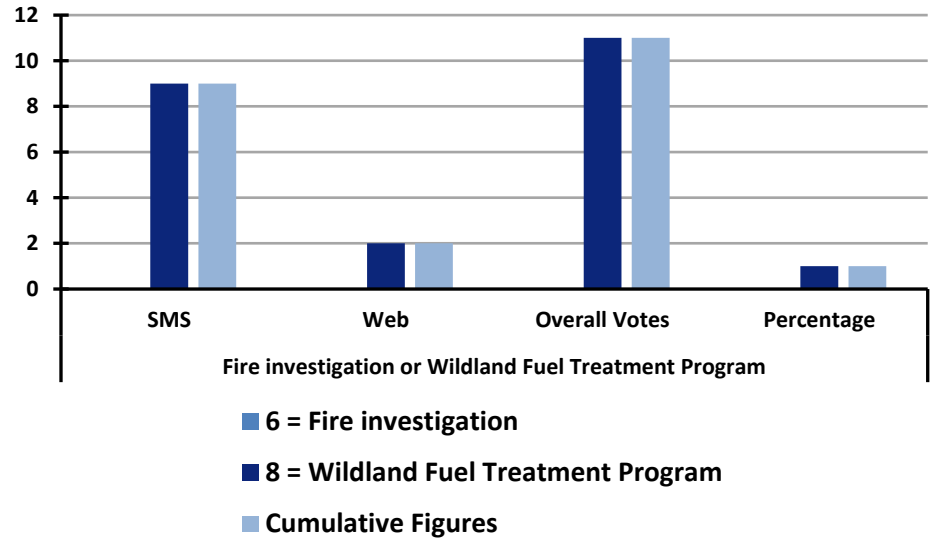
Fire Safety Inspection or Wildland Fuel Treatment Program?



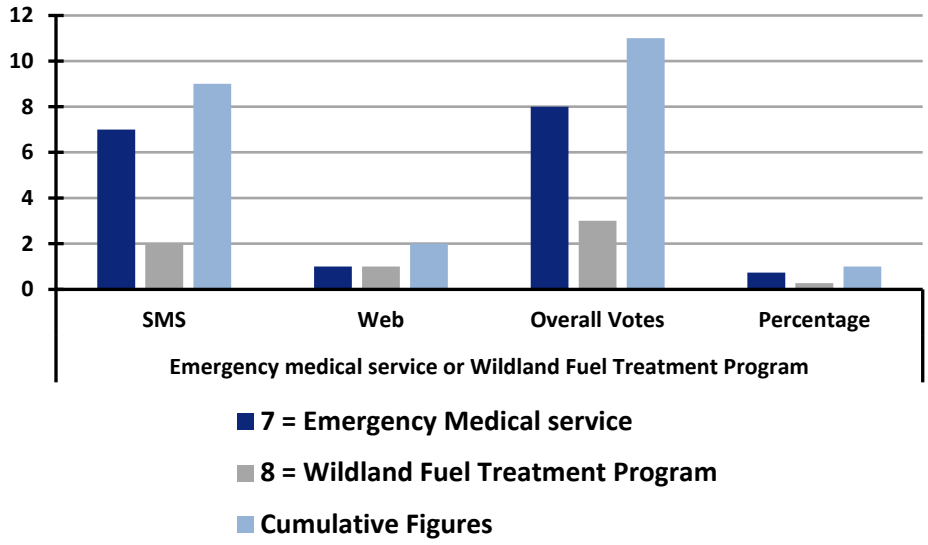
Fire Investigation or Emergency Medical Services?



Fire Investigation or Wildland Fuel Treatment Program?



Emergency Medical Services or Wildland Fuel Treatment Program?



APPENDIX C: RESULTS OF STAKEHOLDER INTERVIEWS

AP Triton interviewed a wide variety of internal and external stakeholders from both districts. The purpose of these interviews was to gain a better understanding of issues, concerns, and options regarding the emergency service delivery system, opportunities for shared services, and expectations from both Montecito and Carpinteria-Summerland community members.

It is important to note that the information solicited and provided during this process was in the form of "people inputs," (stakeholders individually responding to our questions); some of which are perceptions as reported by stakeholders. All information was accepted at face value without an in-depth investigation of its origination or reliability. The project team reviewed the information for consistency and frequency of comment to identify specific patterns and/or trends. The observations included within this report were confirmed by multiple sources or the information provided was significant enough to be included. Based on the information reviewed, the team was able to identify a series of observations, recommendations, and needs which are included within this report.

Stakeholders were identified within eight separate groups: Elected Officials, Business Community Leaders, Chief Officers, Labor Leaders, Rank & File Representatives, Administrative Staff, and MERRAG/CERT members. The responses are summarized as follows:

Business, Community Groups, & Volunteers

Please describe your expectations of the Fire District.

- Be available, respond quickly whenever an emergency arises within their jurisdiction.
- When there is an emergency or services relative to the safety of the community, the expectation is a prompt response.
- Awareness of the District's Wildland Urban Interface.
- Continue providing "First Class" services.
- Provide courteous and professional interactions with the public.
- Always be prepared to meet the requests for assistance.
- Continue providing fuel mitigation using sheep to graze on the vegetation.
- Apply for and be awarded with a fuel mitigation grant.
- Develop and maintain strong community relationships.
- Maintain strong and informative communication with our community.

Which of these expectations are not being met to your satisfaction?

- Unexpected challenges that are not within our control, i.e., a wind event, dispatch issue, etc.
- The relationship between the Fire District and the MERRAG is impacted due to a reduced need for the work they had done as volunteers.
- Maintaining the Community Resilience to Wildfire Program.
- Due to the expansion of Highway 101, current response times need to be decreased.

What do you think the Fire District does particularly well?

- Fighting fire is done exceptionally well.
- Provides a high quality of service.
- Wood/brush Chipping Program.
- The District takes a neighborly approach with the community and represents the community well.
- Great communication between the District and the community.
- Willingness to be flexible based on the needs of the community.

When you dial 9-1-1 to report an emergency, how long do you believe it should take for help to arrive?

- Under 3 minutes unless it is a rural setting; then 6 minutes.
- 2 to 3 minutes.
- Under 6 minutes when responding to a school.
- Between 8 to 10 minutes.

Does that expectation change depending on where in the community you are located?

- Response time can be longer than expected, based on the distance from the nearest available resource and the location where the emergency occurs.
- Service delivery and response time is related to where the emergency is.
- Emergency at a school? 5 minutes or less.
- Does not think it should change dramatically.
- No
- Fire stations should be positioned close to the most populous areas.

Do you believe the first arriving response units should be staffed and equipped to take appropriate actions given the emergency?

- Yes!
- The District is currently doing this.
- The most-trained group should arrive first.
- It is overkill when a Firefighter, Paramedic, and AMR show up.

Fire District Board & Citizens Association

Describe your expectations of the Fire District.

Reduce response times to 5 minutes.

- Build the new fire station at Evans and West 101.
- Equal delivery service to the entire community.
- Responses should function hand-in-hand with the needs of the community.
- The Fire District should make residents aware of the hazards in the area in which they live, such as high fire risk, wind event, etc.
- Both the East side and the West side of the District receive unequal service; both sides should be evenly covered.
- Since the Thomas Fire, the Fire District has demonstrated resilience and preparedness.

Which of these expectations are not being met to your satisfaction?

- The East end does not seem to receive the same level of service.
- Pleased with the District and likes the Cold Springs Station #11.
- Fire incidents receive the most attention.

Are there services that you think the Fire District should be providing that they are not now?

- Improve response time.
- Believe they have done an excellent job.
- Very satisfied; they have maintained what we have with a Joint agreement that does not compromise our integrity.

When you dial 9-1-1 to report an emergency, how long should it take for help to arrive?

- Under 5 (five) minutes.
- Hoping it will be under 10 minutes.
- Have used the system and they arrived within 3 (three) minutes.

Does that expectation change depending on where in the system service area you are located?

- Yes! If you decide to live at the top of a mountain and have a curvy road, the response time will be guided by road conditions, etc., and the response time will be longer.

There are two deployment strategies for fire service resources. The first suggests that all residents of the district should generally receive the same level of service, i.e., the fire stations are spaced uniformly to equalize response time throughout the community. The other suggests resources should be deployed to serve the next most-likely emergency to occur, i.e., the more populated an area, the more likely an emergency will occur. One strategy attempts to create as much equity in the delivery service to all residents. The other will concentrate resources in areas with high incident activity, leaving the areas with slower service. Which strategy do you think makes the most sense for this community?

- Place resources evenly based on demand projections.
- Place resources where they can be best served.
- Equitability of it; population density would be best served.
- A combination of the two strategies.

What are your thoughts on how to improve fire-based service in the region?

- Controlled fire breaks in the wildland areas.
- Focusing on the current dispatch center situation.
- Abolish the line between City and County—an interesting attempt to address the issue.
- The objective is to eliminate all borders.
- Closest resource response.

Surrounding Area Chiefs

What strengths contribute to the success of the Fire Districts? What do they do well?

- Both Districts share a healthy partnership.
- The Districts are willing to make this a success and be part of any solution in the event there is a need.
- Mutual respect.
- Geography has moved the two Districts together and they have a wiliness to assist at any level.
- Has never seen the two Districts at a better place than now and they offer we got your back attitude.

What are some areas in which you think the Districts could make improvements?

- Both Districts are identifying what improvements can be made.
- There exists a willingness to share and hand over resources when needed.
- Improve communications between agencies.
- Maintain sustainability.
- Lack of borderless responses as it is an impediment at this time.

What opportunities, in your view, are available to improve the service capabilities within the region?

- Optimism: coming together at the table to give, not get, something.
- Regional training.
- Capital improvements and expansion.
- Identify what resources are available and place in a regional manner.

What are the critical issues that you believe will need to be addressed within the region in the next five (5) years?

- Regional dispatch.
- Regional training.
- Become more flexible to regional solutions.
- Cohesive Medical Dispatch System.
- Improve and increase the level of medical care.
- Upgrade the ambulance(s).
- Dispatch the correct resource.
- Improve the current transport model.

City & County Elected & Appointed Officials

What strengths contribute to the success of the Fire District/s?

- Both Fire Districts have good relationships with the community.
- No negative comments have been received from the public regarding the services we provide.
- Community Outreach by both fire districts is positive as is their service delivery and prevention.
- The community's perception is that both Districts do a good job.
- There are good relations between the Fire Districts and their Board of Directors.

When you dial 9-1-1 to report an emergency, how long should it take for help to arrive?

- Less than 5 minutes.

What do you see as the top critical issues faced by the Fire District today?

- Keeping up with requests for service.
- Fire stations and equipment maintenance.
- Elevating pension and employee benefit costs.
- Infrastructure
- Climate change and severe weather conditions.
- Significant disasters.
- Robust preparedness i.e., be prepared, educate the community/s regarding the risks.
- Due to the two District' borderline drop, concerned that the District will be out of their own response-area when they are needed to respond in their area of responsibility.
- The demand for Fire District services is a real challenge which demands mutual aid responses more than ever before. This is due to sundowner events, earthquakes, and other acts of nature.

How would you describe the level of services provided by the Fire District?

- They do a great job, including communicative.
- The Fire Chief attends meetings and shares pertinent information to the crews.
- The Fire Inspection Bureau does a great job!
- The District has a good reputation within the community.

What opportunities, in your view, are available to improve the service and capabilities within the region?

- Regional dispatch and Transferring to Fire-based Emergency Medical Services.

Fire District Administrative Staff

What strengths contribute to the success of the Fire District?

- Great leadership – including the Districts' elected officials, qualified Administrative staff, the overall operations of the District, and the ability to have the opportunity to connect with the community.
- Well-funded and managed Budget.
- Receiving support from our community.
- Quick and efficient turnaround time for payroll, reimbursements, etc.
- We are a one-stop-shop as well as the hub of the District.
- The Chief Officers depend on us and we are available 24/7.
- Our processes are streamlined due to being a smaller agency.

What do you do well?

- Transparency
- Maintain a healthy and well-funded Budget.
- Being a smaller agency, our processes are streamlined.
- Writing grants.
- Allocate funding for future purchases of fire equipment.
- Connecting with the community.
- Education availability.

What are some areas in which you believe the District could make improvements?

- Response time is slow when responding to the East portion of the Fire District.
- Having direct communication with our community.
- Increase our Public Outreach efforts i.e., on-going updates on what we are doing.

What opportunities, in your view, are available to improve the service and capabilities of the Fire District?

- Evaluate the hole in the Eastern side of the District.
- Focus on our response area's demographics i.e., elderly population with many livings alone; consider expanding services to better fit their needs.
- Increase public outreach by providing ongoing updates to the community.
- Learn skills so we can better keep our community at ease when there is an emergency.
- Improve response-time to the East portion of the District.

What do you see as the top critical issues faced by the Fire District today?

- Fire station location.
- Post-debris flow which generates anxiety in the community.
- Consistency in continuing messaging our community members is important.
- Pension liabilities
- Validation of Station #3 which is located in the Eastern portion of our District.
- Clear communication at all levels.
- Well-defined plan for leadership.
- Clear plan on the District's plan for the future.

If you could change one thing in the Fire District, what would it be?

- Eliminate the unfunded pension liability.
- Clarify the chain-of-command and job assignments for Administration.
- Communication between Divisions needs improvement.
- A clear plan of the District's vision for the future.

How would you describe the level of emergency services provided by the Fire District, in particular, in your division?

- 9 to 10 – excellent!
- Access to information could be much better.
- Current processes could be improved.
- Our Division is above average, and we have an awesome workgroup.

Chief Officers, Labor Leaders, Rank & File, Fuel Management Group, & Executive Board

What strengths contribute to the success of the Fire District?

- Our customer service is at a high level.
- Maintaining equipment and are proactive regarding advanced technology, GIS, and response technology.
- High level of training.
- We are confident and are open to outside ideas and suggestions.
- The relationships created as well as the personal touch the District offers to the community.
- The enhanced services we provide.
- Excellent communication with the community; we understand and take advantage of the small-sense-of-community here in our Fire District.
- Community has incredibly good repour [*sic*] with the Fire District.
- The solid financial integrity of our Fire District.
- Our customer service coupled with our wiliness to go above and beyond the norm.
- Customers are treated like family.
- Considering resources that are available, we have an adequate level of resources which benefits our communities, i.e., Urban Search and Rescue, HazMat, to identify a few.
- The District offers good governance and financial strength

What do you do well?

- Working with internal customers.
- Maintaining equipment very well.
- Special District Finances remain locally and are governed by the Board of Directors.
- Santa Barbara County and operative partners are part of a larger organization that will lead [to] emergency response; Montecito Fire is seen as one of those leaders.
- Labor and Management work well together.
- The District provides an enhanced and broad range of services such as water rescue, wildland firefighting, and Advanced Life Support services.
- Cross training.
- District is currently on a good trajectory and is fail-safe, in the event the economy turns in the wrong direction.

What are some areas in which you think the District could make improvements?

- Could possibly improve interface with the community by using technology.
- Maintain the upgrade to the District's website, public outreach, and interactive relationships via technology.
- Things fall through the cracks since we are a small agency.
- Staffing levels need to increase in order to keep moving forward.
- Hiring support-level staff to monitor personnel training, facilities, equipment, etc. is needed.
- We are challenged with training availability within the District.
- Enhance training; develop manuals such as Standard Operating Procedures, etc.

What opportunities, in your view, are available to improve the service and capabilities of the District?

- Currently working on providing tools in order for residents to understand fuel conditions, fire hazards, recognizing how important fuel management is, etc.
- Requests for Mutual Aid need to be realistic and balanced.
- Increased training with outside agencies.

What do you see as the top critical issues faced by the Fire District today?

- Being more selective in the hiring process.
- Covid-19
- Urban Interface.
- To meet the needs of the community, there is a need for Firefighter/Paramedics.
- Increasing the District's initial response force; it could use additional staffing.
- Building a fire station in the middle of the two Districts.
- Improve and update radio communication.
- Major disasters.
- Improving the current information technology.
- Addressing issues within the District's internal communication system.
- Maintaining current staffing levels.

If you could change one thing in the Fire District, what would it be?

- Increase workload distribution by delegating across all ranks.
- Additional everyday staffing.
- Promotional opportunities.
- The current way we develop our people.
- Regional Dispatch.
- Communication infrastructure.
- Internal (department) infrastructure.
- Covering the middle of the Fire District.

How would you describe the level of emergency services currently provided by the Fire District?

- We currently provide a high level of services and deliver good response times.
- Filet Mignon
- We offer exceptional services to the community.
- Extremely high level.
- Do a very good job with what we have.

How would you improve fire-based services in the Operations Area /South County?

- Single dispatch.
- Improve the existing ambulance contract.
- Include the County fire within the border drop.
- Having a Type 1 helicopter available.
- Have a Community Wildland Fire Protection Plan County-wide?
- Closest resource across the board.
- Merge Montecito, Carp/Summerland, and Santa Barbara; possibly the entire Santa Barbara County coast.
- Borders have been dropped, why not merge together?
- Response should be based on the need.
- Should not be doubling or tripling our efforts.

APPENDIX D: TABLE OF FIGURES

APPENDIX E: REFERENCES

[1] City of Carpinteria website.

[2] Vintage 2019 Population Estimates. United States Census Bureau.

[3] QuickFacts. United States Census Bureau.

[4] Data USA.

[5] QuickFacts. United States Census Bureau.

[6] Ibid.

[7] Data USA.

[8] Ibid.

[9] Data USA.

[10] Ibid.

[11] 2014–2018 American Community Survey 5-Year Estimates. United States Census Bureau.

[12] Ibid.

[13] Ibid.

[14] Ibid.

[15] Data USA.

[16] Ibid.

[17] Ibid.

[18] American Community Survey 5-Year Estimates. United States Census Bureau.

[19] Ibid.

[20] Data USA.

[21] Source: Carpinteria-Summerland FPD.

[22] County of Santa Barbara, FIN.

[23] 2018 estimates. American Community Survey. United States Census Bureau.

[24] Source: Montecito FPD.

[25] Montecito Fire Protection District Preliminary Budget.

[26] NFPA 1901: Standard for Automotive Fire Apparatus; Section D.3.

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[28] *National Fire Protection Association, 2007; Urban Fire Safety Project, Emmitsburg, MD.*

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[30] Carpinteria-Summerland Community Wildfire Protection Plan, 2013.

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[34] www.safetydata.fra.dot.gov/OfficeofSafety/publicsite/DownloadCrossingInventoryData.aspx.

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[43] Ibid.

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[45] A Retrospective Study of Montecito FPD's Wildland Program during the 2017 Thomas Fire.

[46] www.drgeorgepc.com/Tsunami1812SantaBarbara.html.

[47] Ibid.

[48] dot.ca.gov/programs/traffic-operations/census.

[49] Ibid.

[50] Montecito Water District.

[51] Ibid.

[52] CPSE, Commission on Fire Accreditation International, Fire & Emergency Services Self-Assessment Manual, 9th ed.

[53] Santa Barbara Council of Governments.

[54] Ibid.

[55] Santa Barbara Council of Governments.

[56] Source: National Fire Protection Association

The Report also offers several recommendations to improve service levels in each District. Staff suggests that each District address these recommendations independently and outside of the Fire Station Location Committee.

Conclusion

Staff recommends that the Fire Station Location Committee recommend to both full Board of Directors adoption of Joint Recommendations A, B, C, and D.

Attachments

1. Fire Station Location Study: Community Risk Assessment, Standards of Cover, February 2021