



GRANTS OFFICE
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Assistance to Firefighters Ultimate Funding Guide

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INTRODUCTION

From January 1st through September 30th, approximately six million acres have burned in the United States this year. Every day we hear stories about firefighters, career and volunteer alike, risking their lives to contain ever-increasing wildfires.

With the increasing challenges fire departments face, many look to additional funding sources to help address these challenges. These sources include the Federal Emergency Management Agency (FEMA), the U.S. Department of Agriculture (USDA), and private and corporate foundations.

In response to budget shortfalls created by the ongoing COVID-19 pandemic, the American Rescue Plan Act was passed on March 11, 2021. This act provided an additional \$200,000,000 to the Staffing for Adequate Fire and Emergency Response Grant (SAFER) program, an additional \$100,000,000 to the Emergency Management Performance Grant (EMPG) program, and an additional \$100,000,000 to the Assistance to Firefighters Grant (AFG) program.

GRANT FUNDING FOR FIRE AND EMS

FEDERAL FUNDING

The federal government issues more than \$500 billion in grant awards each year through its 26 grant-making agencies. Federal grant programs often support projects that act as testbeds for innovative solutions or strategies. These funders then use data from awarded projects as the basis for best practices or to influence future policy. Given these programs are open to applicants from across the U.S., they tend to be some of the most competitive funding opportunities available. That said, federally funded grant programs usually have the largest funding pools and are able to make the biggest awards. Some examples include:

Assistance to Firefighters Grant Program (AFG)

The primary goal of AFG is to meet the daily firefighting and emergency response needs of fire departments and emergency medical services (EMS) organizations.

Since its inception in 2001, AFG has provided more than \$12 billion to help firefighters and other first responders obtain critical resources necessary for protecting the public and emergency personnel from fires and related hazards.

While program priorities may change year to year, AFG has three main funding categories: Operations and Safety, Vehicle Acquisition, and Regional Projects.

An additional \$100 million was appropriated to the AFG program through the American Rescue Plan in March.



Check out the appendices for more information on these grant programs and sample successful proposals!

Fire Prevention and Safety Grant Program (FP&S)

This year the FP&S Program provided \$35.5 million to conduct fire prevention education and training.

In 2021, priority areas included community and wildfire risk reduction, code enforcement, arson investigation, regional programs, and research and development.

STATE FUNDING

State governments distribute additional funding using local tax proceeds or dollars “passed-through” from a federal agency. In general, grants from state agencies offer a much lower application burden than federal funders. Programs are designed to support local priorities and demand fewer action steps from applicants. State awards tend to be smaller than federal grants and may require a local funding match from the applicant.

Volunteer Fire Assistance Grant Program (VFA)

The USDA provides passthrough funding to each state for administering its VFA program. The program provides assistance to state foresters and other officials to organize, train, and equip fire departments in rural communities with populations of 10,000 or fewer. Funding amounts, priorities, and application deadlines vary by state.

Emergency Management Performance Grant (EMPG)

FEMA provides passthrough funding to each state for administering its EMPG program. In 2021, \$355.1 million was provided to assist in preparing for all hazards. This includes projects that address emerging threats, including cybersecurity, and projects that enable continuous operation of critical business and government functions – including those essential to human health, safety, and economic security.

In March, an additional \$100 million was appropriated to the EMPG program through the American Rescue Plan; funds were allocated to states using the same formula as the traditional EMPG program. Deadlines for EMPG and supplemental ARP funding vary by state.

FOUNDATION FUNDING

Private giving provides an additional \$50 billion each year in funding. This support is great for those small projects that fall outside the parameters of large publicly sourced grant funds. Some foundations prefer to add value to an existing project rather than grow a new initiative from nascency. To align with these efforts, agencies often pair private funding with an existing state or federal grant or use private grant funding to satisfy another grant’s requirement for a local match.

Below are just a few examples of national foundation funding opportunities for fire and EMS initiatives. If your agency has an existing relationship with a local foundation, approach them about your current project. The history you have with a funder will be a boon in your grant-seeking quest. And if you don’t currently have relationships with local foundations, start them! Don’t be afraid to reach out to funders.

Firehouse Subs Public Safety Foundation

The Firehouse Subs Public Safety Foundation provides quarterly grants to assist first responders and public safety organizations within 60 miles of a Firehouse Subs restaurant in acquiring life-saving equipment and resources to protect and save lives in their communities.

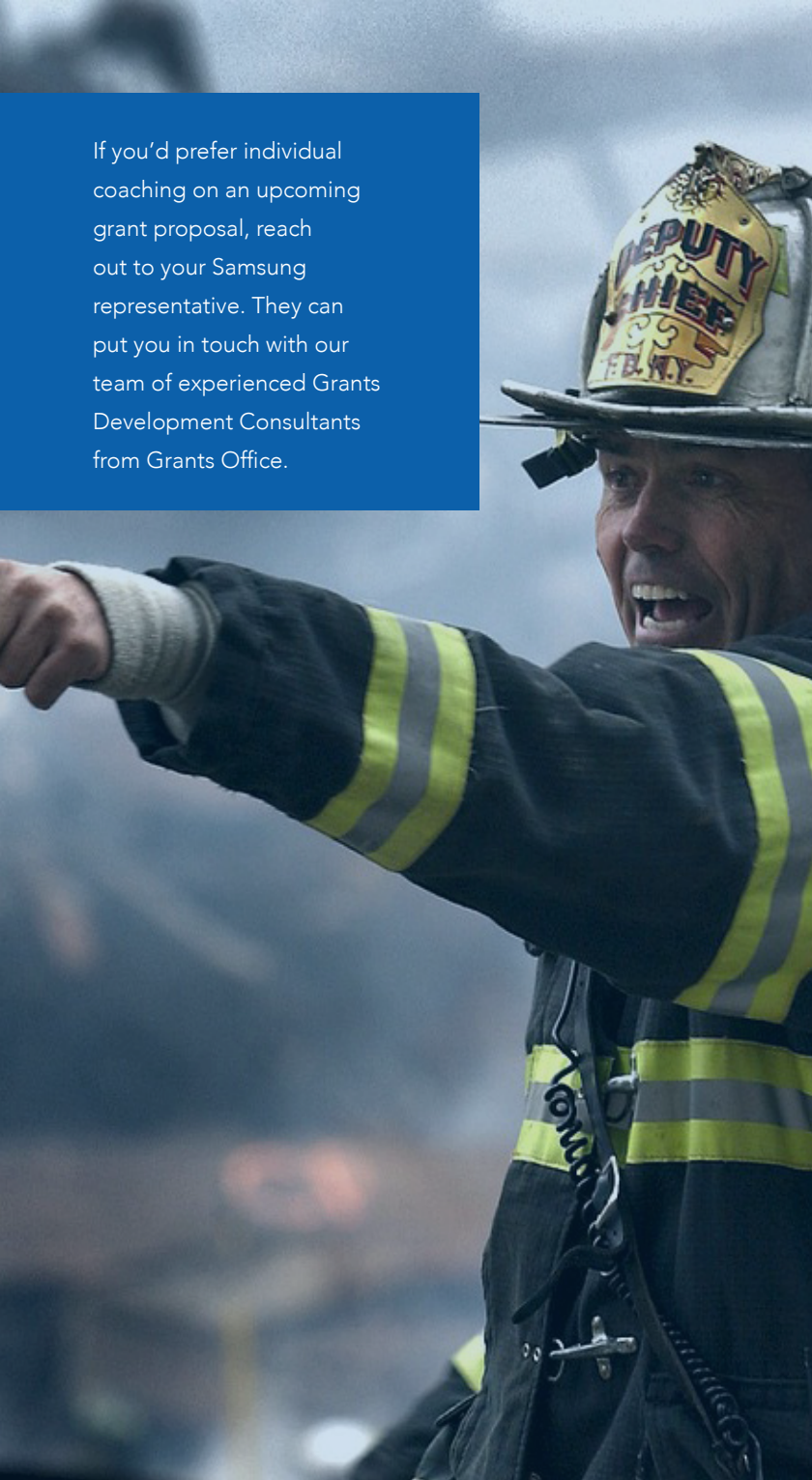
The Leary Firefighters Foundation

The Leary Firefighters Foundation provides annual grant funding for training, equipment, and technology for paid and volunteer fire departments in the U.S.

F.M. Global Fire Prevention Grant Program

FM Global offers quarterly grants to fire departments and community organizations to support a wide array of fire prevention, preparedness, and control efforts. These efforts may include pre-fire planning, fire prevention education and training, and arson prevention/fire investigation.

If you'd prefer individual coaching on an upcoming grant proposal, reach out to your Samsung representative. They can put you in touch with our team of experienced Grants Development Consultants from Grants Office.



BEING GRANT READY

In these times of economic austerity many fire and EMS organizations decide that obtaining grant funding may be the safest, and in some cases the sole method of funding their operations. With so many more organizations applying for grant funding, there are ever more qualifications, rules, procedures, and hurdles an organization must overcome to be a successful recipient of funding. In short, it is a rather formalized and exacting path from the idea to obtain a grant and being prepared to obtain one.

Before beginning to apply for any grant, your organization must take a good hard look at itself and answer the question: "Is My Organization Grant Ready?" Before spending a significant amount of time, effort and energy applying for grants, determining your organization's grant readiness is beyond merely a recommended best practice; indeed, to avoid failure, it is absolutely mandatory.

COMPLETE REGISTRATIONS AND START BUILDING YOUR TEAM

- Acquire a DUNS Number from [Dun & Bradstreet](#). A DUNS Number is a unique nine-digit identification number for each physical location of a business. It is required by the U.S. Federal government for contracts or grants.
- Acquire or renew registration with [SAM](#). SAM is an application that collects and disseminates business information about the federal government's trading partners related to contracts, grants, and electronic payment processes.
- Register with [FEMA Go](#).
- Obtain copies of items relevant to your agency's financials: budgets, banking details, etc.
- Start a secure file for storing all the above items.
- Identify and train the right staff members to lead and support agency grant efforts.
- Foster and encourage partnerships with:
 - City Hall or other municipal government officials
 - Local businesses/Chamber of Commerce members
 - Corporations, Non-Profit Organizations, Private Individuals
- Know the contact information for State and Federal FEMA contacts associated with your grant program.



ESTABLISH YOUR NEEDS

- Analyze the current operations budget for areas frequently funded by grants.
- Conduct a comprehensive “Needs and Capabilities Assessment” of your department.
- Identify at-risk areas in your organization/community.
- What specific benefits would grants provide to those areas?
- Are there alternative or “outside the box” funding ideas that can mitigate a budget, training or equipment need?
- Reach out to other area agencies to identify any common needs that might be combined into a regional grant application project.
- What specific needs, goals and objectives do you have that a grant would fulfill?
- What problems do you have with current equipment?
- What training do you need but don’t have funds for?
- How would a grant help your agency better serve your citizens?

GATHER YOUR DATA

- What is the square mileage of your first-due response area?
- What is the population of your response area?
- How many structures in your area are more than three (3) stories tall?
- How many stations are operated by your organization?
- How many active firefighters does your department have who perform firefighting duties?
- How many of your active firefighters are Career members?
- How many of your active firefighters are Volunteer or Paid On-Call?
- What is the department’s call volume?
- Has your agency applied for grants in the past? Which ones? What was the outcome?

PREPARING THE APPLICATION


Once you have decided that your organization is grant ready and your documentation is properly gathered, it is time to begin the application process. A successful grant proposal is one that is well-prepared, thoughtfully planned, and concisely packaged. As a starting point, consider the following general tips, which apply to a variety of grant programs:

- Thoroughly familiarize yourself with all the criteria pertaining to the grant program to include various deadlines, basic formatting instructions, page/word/character limitations, font size, page margins and the process for submitting applications. **Perhaps the single most important piece of information in the instructions is the due date.** Be sure to **follow all directions given by the funding entity carefully** and to the letter.
- While providing all documentation requested is critical, you should **avoid adding documentation that is not specifically mentioned or requested by the funder.** Just as insufficient information may result in your proposal not being read, unwanted extraneous materials included merely to make the application longer or to impress the reviewers may make the grant seem unfocused.
- In the grant world, partnerships can be very important. That said, be judicious in involving others and **be sure each partner you do include meaningfully contributes to the project.**
- **Ensure your narrative and budget are consistent.** Everything contained and reflected in your budget must be justified in the narrative. You should also explain clearly and simply in either the project or budget narrative why you chose that particular approach, solution, or technology.
- **Delineate and delegate responsibilities** to those best suited to execute those duties and be specific as to the timeline for each. Include a detailed work plan in your narrative that identifies responsibilities and timelines for each milestone activity. Each activity must be connected to one or more of the objectives you have set forth in the proposal.
- **Ensure your objectives are both measurable and realistic.** You must be able to demonstrate the capability of fulfilling these objectives, and reviewers will look carefully at this. Avoid broad, unfocused objectives. Remember, you are a fire department seeking equipment in support of your work. Keep focused!



PREPARING THE APPLICATION (CONTINUED)

- **Neatness Counts!** Inspect the application package to ensure complete uniformity throughout your submission. A neat, well organized, and attractive proposal package will impress reviewers and help give them the distinct understanding of your organization's professionalism, dedication, sincerity, and ability to wisely handle the responsibility of a grant award.
- Submit quality documents on time! **Punctuality of submission is life and death to a proposal.** By filing your submission on time you'll begin to build a good working relationship with the funder, which enhances your stature and makes the grantor aware that it is working with a professional organization. Grant programs are often a cyclical phenomenon. Thus, it is important to establish a good reputation with funding entities; should you not be successful with this proposal, it will secure your organization's stature with the funder for the future.
- Keep very careful watch as to where the funds you may receive are going. Regardless of whether the funding source is governmental or private, these are austere times and watchdogs from various agencies are becoming ever more stringent. **Accountability and transparency are absolutely critical** and you have to be able to demonstrate this on a continual basis in required reports.
- Be conservative and careful when naming specific vendors, systems, part numbers, etc. in your proposal and err on the side of caution. Proposals that give the appearance (actual or otherwise) of favoring particular entities – be they vendors or equipment that is sold only by specific vendors – run the risk of disqualification. Thus, it is wise to **draft your proposal specifying how your organization will follow its local and well-established procurement rules in spending any funding you are awarded.**
- Give thought to the review process once the proposal is written and before it is formally submitted. After a first or second draft proposal has been completed seek out a neutral third party to review the draft for continuity, clarity, and incongruity (ideas that do not congeal, typos, slang or jargon, failure to adhere to the application requirements, etc.). **Obtain good constructive criticism** at this juncture, as opposed to receiving such "helpful" feedback from the granting agency's reviewers as they reject your proposal.



A neat, organized, and attractive proposal package will impress reviewers.

THE GRANT PROPOSAL

Armed with the checklists and key tips listed above, your organization is now prepared to formulate the proposal itself. The proposal is undoubtedly the most important component of any grant application. It is the strength or weakness of your proposal that will in all likelihood determine the ultimate success or failure of your application for funding. Your proposal must be easy to understand, clearly set forth and have a consonance to it – it must flow together well. Your proposal should tell a story of your organization, its need and how the grant will address that need.

As you are writing your grant, always keep the reviewers in mind and think like one. They are busy people and may only spend a limited amount of time evaluating your application. Make your grant application, particularly narratives, easy for them to read and understand. Avoid the use of slang, jargon or acronyms as your reviewer may not understand them and will likely not take the time and effort it takes to decipher your “code.”

BASIC COMPONENTS OF A PROPOSAL

There are eight basic components of a solid proposal package:

1. The proposal summary;
2. Introduction of the organization;
3. The problem statement (or needs assessment);
4. Project objectives;
5. Project methods or design;
6. Project evaluation;
7. Future funding (sustainability)
8. The project budget.

The following will provide an overview of these components.

The Proposal Summary: Outlining of Project Goals

The proposal summary outlines the proposed project, usually appears at the beginning of the proposal, and should be brief – no longer than two or three paragraphs. It is this document that becomes the cornerstone of your proposal, and the initial impression it gives will be critical to the success of your application.

Introduction: Presenting a Credible Applicant or Organization

The applicant should gather data about its organization from all available sources. Most grant proposals require a description of an applicant’s organization to describe its past and present operations.

The Problem Statement: Stating the Purpose at Hand

The problem statement (or needs assessment) is a key element of a grant proposal that makes a clear, concise, and well-supported statement of the problem to be addressed. The best way to collect information about the problem is to conduct and document either a formal or informal needs assessment for the target area. The information provided should be both factual and directly related to the problem addressed by the proposal. In this section of the proposal the applicant must present information that details the full scope of the risk or problem to be addressed by the proposed solution.

Types of data that may be collected include historical, geographic, quantitative, factual, statistical, and even philosophical information.

Project Objectives: Goals and Desired Outcomes

This refers to specific activities that will address your problem statement. It is necessary to identify all objectives related to the goals to be reached, and the methods employed to achieve those objectives. Quantifiable items capable of being measured are the best here. Refer to your problem statement and the outcome of proposed activities when developing a well-stated objective. Keep in mind that should your application be successful and your project proposal funded, your stated objectives will likely be used to evaluate your program’s progress and success, so be realistic!

Program Methods and Program Design: A Plan of Action

This is how the project is expected to work and solve the problem for which you are requesting funding. The purpose of this section is to demonstrate to the granting agency that your organization has already engaged in sufficient and meaningful project planning and is fully prepared to successfully carry out the project. Your organization can demonstrate this fact through a preliminary project work plan that outlines key activities, related milestones, the timeframe in which the activities will occur, and the persons responsible for ensuring that the activities are executed as specified in the proposal.

Evaluation: Product and Process Analysis

Many funding sources are federal agencies that usually require some form of program evaluation for an application to be successful. Note that here you should do two separate evaluations – one for project and one for process. The first, project evaluation, is focused on your achievements as directly related to the project you proposed as well as to how well your project has fulfilled the objectives you stated in your proposal. Process evaluation, on the other hand, discusses how you conducted the project and how well your organization remained faithful to your stated plan and objectives in executing the project. Your organization in its proposal should set out the time you require to properly evaluate program progress, how feedback from stakeholders will be handled, and what review sessions are to be scheduled to amass and analyze this type of information.

Future Funding: Long-Term Project Planning

Show your project's sustainability by detailing a plan for continuation beyond the grant period or after exhaustion of the grant funds. Reviewers want to ensure that they are investing in viable organizations with solid programs and that the money will not be wasted. As a practical matter, as many of these grants are cyclical, the fact that you have a plan in place to continue on with or without grant funding will only enhance your stature with the funding agency when these grants come around again. In other words, you may well continue to be funded through successive grants but be prepared in case you are not and demonstrate that preparedness to the reviewers.



Grant funders want to ensure they are investing in reliable organizations.



The Proposal Budget: Planning the Budget

This is the most critical, often the most difficult, and sometimes the most frustrating piece of the overall application. In planning your budget, you should never plan for the grant to be your sole support for the project. This maxim should be reflected in your overall budget requirements. You should attempt to reasonably anticipate future cost increases but make sure you do not “pad” the items for which you are asking even considering inflation. Be especially careful when setting down costs for salaries, utilities, telephones, and transportation, particularly if you are a municipal entity. You should properly consider costs of audits, information maintenance and storage, and other longer-term financial commitments. Post grant budget adjustments are rare and if granted are a very complex lengthy process.

You should gather those staff members who handle your organization’s budget and establish its parameters early on. Your goal is a budget that clearly and rationally justifies all expenses listed and is in alignment with your narrative. If you need to purchase equipment, ensure that it is permitted by the granting agency. If you are counting on matching funding, such additional funding should be excluded from your budget unless otherwise required by the granting agency in its instructions.

The Budget Narrative should thoroughly and clearly describe every category of expense listed in the Budget. Budgets must be complete, cost effective, and allowable (e.g., reasonable, allocable, and necessary for project activities).

MEETING THE FUNDERS' OBJECTIVES

Grant funding agencies offer money for specific purposes in furtherance of their own objectives. From the outset, your organization must be crystal clear on the funding agency's intent – why they are offering “free money”. The closer you can align your organization's project and reason for the funding request with the granting agency's intent, the better your chances for award. Reviewers keep the funding agency's intent uppermost in their minds when they review applications; if a project does not com–port, the application is tossed without further review. As this point is so critical to overall success, if, after carefully reading the requirements and purpose of the grant you are still unclear or have any questions, take the time to contact the agency (there is no penalty for doing this and indeed most agencies appreciate it as it saves time and miscommunication down the road) to find out exactly what the purpose of the fund is and how the money is to be directed. Remember, regardless of your project's merit, if you fail to meet the criteria and requirements of the funder, there is no point in applying in the first place.

Unsuccessful Applications

It is useful at this point to discuss unsuccessful applications and why that may have been the case. As mentioned previously in this guide, you must be certain to be in compliance with the intent of the grant. Grants are usually very specific in what they offer and to whom. If you do not meet the grantor's intent, it is best not to apply at all, for it will only be a waste of your time and effort. Also, you will get a bad name with the granting agency, which may affect future funding.

Among the most common reasons grant applications are unsuccessful or rejected outright are:

- Applicants fail to demonstrate need – why their organization, community, or target population needs their project.

- The project is poorly planned with no clear vision as to how the money will be spent.
- The granting agency's guidelines have not been faithfully followed or the applicant has failed to show it understands and can fulfill the grantor's criteria.
- The applicant's budget is inaccurate, unreasonable, hard to understand, and fails to demonstrate sound fiscal responsibility.
- There is lack of proof of good management and that the applicant organization is capable of properly administering the grant and evaluating its progress.

A Final Word

Treat applications for grant assistance as you would a job application. Ensure that you are addressing the criteria fully and make your application memorabile. Never send the application in right away –always get at least one other person who has not worked on the application to review it first. It is amazing what a fresh pair of eyes can contribute! Put yourself in the shoes of the funder and imagine it is your money. Would you be convinced by your application?

If you'd prefer individual coaching on an upcoming grant proposal, reach out to your Samsung representative. They can put you in touch with our team of experienced Grants Development Consultants from Grants Office. This assistance – provided totally free by Samsung – will guide your agency through the entire grant-seeking process, including a comprehensive inventory of grant opportunities that fit with your project, as well as one-on-one consultation that will help your agency navigate the grant funding landscape.

Contact your [Samsung Representative](#) to get started today!

APPENDIX A: GRANT PROGRAM SUMMARIES

ASSISTANCE TO FIREFIGHTERS GRANT (AFG)

The purpose of the AFG Program is to enhance the safety of the public and firefighters with respect to fire and fire-related hazards by providing direct financial assistance for critically needed resources to equip and train emergency personnel, enhance operational efficiencies, foster interoperability, and support community resilience.

The AFG Program supports the basic mission of Strengthening National Preparedness and Resilience. The AFG Program also addresses the following Core Capabilities of the National Preparedness Goal:

- Fire Management and Suppression;
- Environmental Response/Health and Safety;
- Threats and Hazards Identification;
- Public Health, Healthcare, and Emergency Medical Services;
- Operational Coordination;
- Operational Communications;
- Community Resilience; and
- Long-term Vulnerability Reduction.

Eligible applicants include municipal fire departments and nonprofit EMS organizations. EMS organizations cannot be affiliated with a hospital. State Fire Training Academies are also welcome to apply.

Up to \$414,000,000 is available in 2022 to fund up to 2,500 awards. Maximum award amounts vary based upon population of the jurisdiction served by the recipient.

- Jurisdiction of less than 100,000 residents - Maximum award of \$1,000,000
- Jurisdiction of 100,001 to 500,000 residents - Maximum award of \$2,000,000
- Jurisdiction of 500,001 to 1,000,000 residents - Maximum award of \$3,000,000
- Jurisdiction of 1,000,001 to 2,500,000 residents - Maximum award of \$3,550,000
- Jurisdiction of more than 2,500,000 residents - Maximum award of \$3,550,000

Cost sharing requirements vary based upon population of the jurisdiction served by the recipient.

- Jurisdiction of less than 20,000 residents - Cost sharing/matching of 5% is required.
- Jurisdiction of 20,000 to 1,000,000 residents - Cost sharing/matching of 10% is required.
- Jurisdiction of more than 1,000,000 residents - Cost sharing/matching of 15% is required.

More information can be found at <http://www.fema.gov/assistance-firefighters-grant>

FIRE PREVENTION AND SAFETY (FP&S)

The objective of FP&S Program is to provide critically needed resources to carry out fire prevention education and training, fire code enforcement, fire/arson investigation, firefighter safety and health programming, prevention efforts, and research and development. In F.Y. 2021, FP&S offers grants to support activities in two categories:

Fire Prevention and Safety Activity:

FP&S Activities are projects designed to reach high-risk target groups and mitigate the incidence of death caused by fire and fire related hazards. Accordingly, the four project categories eligible for funding under this activity are:

- Community Risk Reduction
- Wildfire Risk Reduction
- Code Enforcement/Awareness
- Fire & Arson Investigation

Firefighter Safety Research and Development (R&D) Activity:

R&D Activity Projects are aimed at improving firefighter safety, health, or wellness through research and development that reduces firefighter fatalities and injuries. The five project categories eligible for funding under this activity are:

- Clinical Studies
- Technology and Product Development
- Database System Development
- Dissemination and Implementation Research
- Preliminary Studies

Eligibility varies based upon program area:

- **Fire Prevention and Safety (FP&S) Activity**- Fire departments; and national, regional, state, local, tribal and non-profit organizations that are recognized for their experience and expertise in fire prevention and safety programs and activities. Both Private and public non-profit organizations are eligible to apply for funding this activity.
- **Firefighter Safety Research and Development (R&D) Activity** - National, state, local, Native American Tribal, and non-profit organizations, such as academic (i.e. universities), public health, occupational health, and injury prevention institutions. Both private and public non-public organizations are eligible to apply for funding in this activity.

Up to \$35,500,000.00 was available in 2021 for an anticipated 100 awards. Individual awards may not exceed \$1,500,000. Cost sharing/matching of at least 5% is required.

More information can be found at

<https://www.fema.gov/fire-prevention-safety-grants>

APPENDIX B: SAMPLE GRANT APPLICATIONS

On the following pages, you'll find applications and summary descriptions from past funded Assistance to Firefighters Grant (AFG) proposals. **Feel free to use this information as inspiration for your agency's next grant proposal. Let the samples serve as launching points, NOT as paragraphs to copy and paste.**

Not plagiarizing these samples is important for three reasons:

1. The best grant applicants write proposals to address local problems. A volunteer fire department in a rural Missouri county, for example, will be experiencing an entirely different set of daily challenges than an urban department in St. Louis.
2. These narratives are specific to the Assistance to Firefighters Grant (AFG). This grant program asks a unique set of questions and requires entirely different sets of documentation than a project with the Volunteer Fire Assistance Program or the Firehouse Subs Program. One application will not fit all grant programs.

3. Grant reviewers do not appreciate reading a proposal created from a template. It's obvious to readers if the foundation of a project was based off another, entirely different, program. It's also not wise to duplicate a previous application from your own agency – Evaluators often refer to old proposals while reviewing current applications. To avoid this duplication, speak directly to the specific needs of your agency and the application at-hand. Provide well-documented, compelling arguments as to why this project is crucial to the success of the community. In short, give evaluators a reason to fund your application.

In general, it's good practice to not rely heavily on other's work to get you over the hump. While it may be intimidating to start typing in that huge blank page all on your own, at the end of the day, your proposal will benefit from original work. So, take some time to review these model proposals. Use them to jump start your own ideas. Then put these documents away, clear your desk, and get writing!

STERLING HEIGHTS, MI FIREFIGHTING EQUIPMENT - NARRATIVE

Section# 1 Project Description

Making national news, on September 26, 2017, while dining at a restaurant in Sterling Heights, a 15-year-old male suffered a sudden cardiac arrest and collapsed to the ground. An unidentified restaurant patron jumped into action and after assessing the situation began CPR and continued to administer the life-saving maneuver until she was relieved by members of the Sterling Heights Fire Department. As the shocked crowd witnessed the event, Sterling Heights Fire Department (SHFD) Paramedics utilizing both basic and advanced life support equipment performed life-saving efforts to affect a positive outcome for this young man.

One key piece of equipment used in these life-saving efforts was an Automatic Chest Compression Device (ACCO) which just happened to be available at the time. The department was investigating its use and efficacy on a trial basis. There is no doubt in the minds of those that responded and treated this young man had such a device not been effectively utilized, his outcome may not have been as positive. As a result of using this ACCO, the young man not only survived, but has recovered with no physical or neurological damage.

A needs analysis by the SHFD evaluated our EMS operations with the goal of identifying ways to improve our level of service and providing for firefighter safety. We have determined that the purchase of automatic chest compression devices would be the best single equipment purchase towards achieving this goal. Therefore, the SHFD is requesting funding to purchase 5 ACCDs, one for each front line ambulance (4) and heavy rescue apparatus (1) in the amount of

\$84,700 or \$16,940 each. Placement of this equipment would be strategically located, 1 in each corner fire station, where ambulances are located and 1 in the center of the city where the heavy rescue is located. The heavy rescue responds to all EMS call for service types of cardiac arrests and patients not breathing. This equipment will be used by more than our community as we provide mutual aid to our surrounding communities as we are centrally located.

SHFD provides Advanced Life Support (ALS) on all front line apparatus, both ambulances and fire engines, which are staffed with at least two paramedics. 68% of incidents we respond to are medical emergencies as a result of the high percentage of older adults in the communities we serve. There are 10 major senior living centers that require a high volume of monthly medical responses, many of which are cardiac arrests.

SHFD has a long history of consistent improvement in its level of medical services. In 1992, we transitioned to providing advanced life support which resulted in an immediate improvement of the survivability of our cardiac patients. In 1995, we transitioned our paramedic program to include paramedic fire engines in response to escalating response times from our private ambulance provider. In 2012, we were awarded AFG grant EMW-2012-FO-01571 to upgrade our outdated cardiac monitor/defibrillators to 15-lead monitors with C.O. & CO2 monitoring. In 2017, we began providing Advanced Life Support transport which dramatically improved our customer service and allowed our agency to increase the standard of care provided to our community. In the last 26 years, SHFD has experienced incremental improvements in our patient care due to improved equipment, training and protocols. Partnering with FEMA/AFG to purchase these devices will take us to the next level of patient care.

Section# 2 Cost/Benefit

The benefits provided by the purchase and use of Automatic Chest Compression Devices (ACCDs) would be shared by members of the Sterling Heights Fire Department as well as those in our community and mutual aid communities. A 2013 meta-analysis of 8 research studies, found the odds of a return of spontaneous circulation (ROSC) to be 1.6 times greater with automatic CPR device use instead of manual compression. Studies have also shown that the use of ACCDs is safe, effective and highly reliable.

ACCDs are designed to ensure high quality, uninterrupted chest compressions are delivered, automatic CPR devices are not complicated or time consuming allowing for quick deployment, allow the ability to manage a cardiac arrest with fewer people as urban systems are affected by budgetary constraints reducing the number of personnel available for this type of response. ACCDs allow for operation in tight quarters working a cardiac arrest more effectively and improving safety to firefighters during transport. CPR in a moving ambulance is dangerous and ineffective. Research shows compressions are frequently interrupted or performed one-handed as unrestrained personnel brace themselves against the g-forces associated with an emergency transport. Similar to a stair chair or power stretcher, an automatic CPR device could pay for itself with the first serious injury prevented by allowing personnel to remain seated, seat belted, and safe, if patient condition necessitates performing CPR during transport.

Research shows approximately 300,000 persons in the United States experience an out-of-hospital cardiac arrest (OHCA); approximately 92% of persons who experience an OHCA event die. The majority

(70%-85%) of such events have a cardiac cause. Emory University School of Medicine has established the Cardiac Arrest Registry to Enhance Survival (CARES),

which collects data to improve the quality of care and outcomes of patients who experience an OHCA. CARES utilizes Utstein-style reporting. National Utstein data reflects an overall OHCA survival rate of 10.6% (53,831). The SHFD has an Utstein survival rate of; 15.9% (88) in 2015; 14.6% (89) in 2016; and 9.7% (103) in 2017. While this data shows a better than national average ROSC in the OHCA patients, the past 3 years demonstrate an overall decrease in survival rates. One variable to consider in these results are a decrease in personnel to perform high quality, uninterrupted CPR. Utilizing an ACCO, should just one patient have a better chance of surviving to hospital discharge with a favorable neurological status, extending their quality of life proves to be well worth the overall value of this proposed funding need.

Members of the SHFD would be best served by eliminating the current practice of performing manual chest compressions in compromising and unsafe situations. The citizens served will benefit from more consistent and effective compressions, at a rate of at least 100 to 120 compressions per minute with a compression depth of at least 2 inches, allowing for full recoil of the chest and fewer interruptions, leading to increased survival. The effectiveness of emergency crews will be improved as the use of an ACCO relieves one rescuer from performing manual chest compressions allowing him/her to perform other critical tasks such as those performed on our 15 year old cardiac arrest victim.

In the event that the SHFD does not receive funding to purchase ACCDs, patients suffering cardiac arrest will continue to receive limited care. We will continue with our current practice of manual chest compressions with its limitations | minimal blood circulation, interruptions in compressions to move patients and compromised firefighter safety. Due to both city and the fire department's current and projected budget limitations, the purchase of ACCDs will be delayed several years.

Section# 3 Statement of Effect

Should the Sterling Heights Fire Department (SHFD) be awarded grant funding for the purchase of five ACCD's, daily operations would be affected not only for the benefit of the patient in cardiac arrest requiring high-quality, uninterrupted chest compressions but improvements in firefighter/paramedic safety during transport to the hospital would be realized. Further benefits defined by this grant award would possibly be an increase in the overall patient survival to hospital discharge with a favorable neurological status. Review of SHFD statistics over the past three years (2015-2017) consistently reflects a yearly increase of 14.56% (N=103) of patients that were in need of CPR. This data solidifies that this equipment, if funded, would be used minimally two times per week. This use may not seem significant; however, the potential of this equipment to provide improved clinical outcomes for patients who suffer out of hospital cardiac arrest is significant to the patient, family and firefighter/paramedics delivering this service.

This award would protect lives and property in our community in that an ACCO is equivalent to a "mechanical" fourth person during cardiac arrest incidents that require high performance, uninterrupted CPR is performed. The SHFD ALS engines are staffed as three person companies, which according to NFPA 450, Guide for Emergency Medical Services and Systems, Chapter 5, Section 5.5.2.3.4 reads "Most experts agree that four responders, at least two trained in advanced cardiac life support (ACLS) and two trained in basic life support (BLS), are the minimum required to provide ACLS to cardiac arrest victims." The ability to save lives in our community due to a sudden cardiac arrest event and provide life-sustaining circulation can be created through effective, high performance and uninterrupted chest compressions with an ACCO. Performing effective manual chest compressions is exceedingly difficult and quality varies depending

on responders and resources, which can deteriorate quickly, often times within 1-2 minutes.

An ACCO is a safe and efficient tool that standardizes the rate of chest compressions in accordance with the latest scientific guidelines and research. This equipment provides consistent, quality uninterrupted compressions, independent of transport conditions, rescuer fatigue, or variability in the experience level of the caregiver. ACCDs consistently perform compressions allowing rescuers to sit firmly seat belted and available to perform other critical patient care procedures.

While improving our level of service and increasing our community's survival rate from sudden cardiac arrest, the SHFD eagerly anticipates making this much needed advancement in improving patient outcomes while protecting the lives and property of our community. This equipment will place the SHFD in voluntary compliance with our county medical director and NFPA, which require responders to be seat belted in the back of an ambulance for safety which requires mechanical CPR. Our medical director requires consistent AHA compliant CPR which is achieved with the use of an ACCO instead of manual CPR. Voluntary compliance is in the public and the SHFDs best interest to behave in a socially responsible manner in pursuit of better patient care.

In December 2017, a survey conducted by ETC Institute was sent to a random sampling of residents covering topics from the overall perception of the City as a place to satisfaction with public services including police & fire. The random sample was completed with a 95% level. One category of note in ETC's results was public safety. 90% of respondents were satisfied with fire response time and overall quality of local fire protection. 87% were satisfied with how quickly EMS responds in an emergency. These high scores represented are a direct reflection of the outstanding performance from City employees and commitment to public safety.

FIREFIGHTING WELLNESS AND FITNESS PROGRAMS – NARRATIVE

Section# 1 Project Description

The Sterling Heights Fire Department (SHFD) has implemented Wellness and Fitness programs in past years, however, as municipal budgets diminished; this was one of the first programs eliminated by city management. The SHFD would like to bring back this program to reduce injuries and enable members to develop and maintain a level of fitness that allows them to safely perform their assigned job functions.

If this grant is received, the program will be mandatory, non-punitive, and confidential. This program will comply with NFPA 1500, 1582, and 1583. This program will be delivered and managed by a qualified health and fitness coordinator in order to ensure the efficacy and safety of the program to include the following components: 1) Periodic physical exam/Health screening 2) Education and counseling regarding health promotion and 3) Process for collecting and maintaining program data. The fire department shall ensure that a confidential, permanent health file is established and maintained on each individual member.

After surveying local medical facilities, that provide this service, the contractual cost to implement this program would be \$105,200. This would include periodic physical exams and health screenings, a job related immunization program, education and health promotion and a process to collect and maintain confidential health data. The value of this program is recognized by the SHFD and its Fire Chief who has made firefighter Wellness and Fitness one of his priorities for the department. The city manager and the city finance director have agreed to provide the matching funds for this grant.

Section # 2 Cost/Benefit

City management, fire department senior officers, and our members have become increasingly concerned not only with injuries but with the risks involved in firefighting and EMS work. The frequency and severity of on-duty injuries and the long term effects of being in poor health must be addressed. It is our responsibility to initiate a cost-effective, productive, formal Wellness and

Fitness program, which will reduce the number of on and off-duty injuries. With a formal Wellness and Fitness program in place, firefighters can achieve the goal of having more stamina, strength, and cardiovascular endurance. This would result in more efficient fire department and a safer community while also saving taxpayers money in the long run due to reduced sick days and firefighter injuries.

Over the past three years from January 2014 through December 2017), the SHFD has suffered a total of 56 on-the-job injuries; 36 back/neck injuries, 9 core/extremity injuries, 9 other injuries and 2 cardiac/lung events. 47 injuries or 84% of the total reported injuries may have been prevented or minimized had a Wellness and Fitness program been in place. Each year heart attack is the leading cause of line-of-duty deaths for firefighters. In 2015 and 2016, the SHFD had two firefighters experience massive heart attacks. Both incidents resulted in the firefighters being off work for greater than 4 months, for treatment and rehabilitation, before returning to full duty.

The proposed funding is \$106,200 for our formal fitness program. This price includes periodic physical exam/health screening, education and counseling regarding health promotion, and a process for collecting and maintaining program data.

In the 2010 study by Harvard University, Wellness/Fitness programs can generate money. The study reveals that medical costs fall about \$3.27 for every dollar spent on wellness programs, and absentee day costs fall by about \$2.73 for every dollar spent. In the sixth edition of Proof Positive: An Analysis of the Cost-Effectiveness of Wellness, published in 2008, public health expert Larry Chapman analyzed 60 peer-reviewed studies of worksite health promotion programs and found they can be credited for substantial reductions in sick leave (27 percent, on average), health costs (28.7 percent), disability (33.5 percent) and workers comp costs (33.5 percent).

It is difficult to put a financial value on the quality and longevity of a firefighter's life. Michigan's economy has forced significant budget cuts, leaving our department unable to secure the necessary funding to purchase all the essential components of the Wellness and Fitness program. The safety of our citizens, the safety of our firefighters, job efficiency, and quality of life in the long run significantly outweighs the financial costs.

Section # 3 Statement of Effect

This award would impact the daily operations of the Sterling Heights Fire Department by increasing the health and fitness of its members and allow them to safely perform their duties while minimizing the risk of injury or long term health issues. A Wellness and Fitness program should be an objective at every fire department as a means of reducing firefighter injuries and deaths. The evaluation, guidance, and education that this program provides would help the community by increasing the efficiency of firefighters that the citizens of Sterling Heights depend on. Additionally, it would prepare them, both physically and mentally, to better meet the extreme demands, hazardous conditions, and other high risks involved in providing public safety.

Research has repeatedly shown the need for high levels of fitness to perform safely in the fire and rescue service. The fire and rescue provider is subjected to long hours, shift work, sporadic high intensity work, strong emotional involvement, and exposure to human suffering and loss. This places the fire service profession among the most stressful occupations in the world.

The Sterling Heights Fire Chief has been supportive and is an advocate of daily physical fitness. The value of this time would be maximized by having the proper exercise equipment along with the evaluation and physical fitness prescription that each firefighter would receive if this award was granted. Being a firefighter is

inherently dangerous and being an unfit firefighter can be deadly. This program seeks to demonstrate the value of investing resources over time to maintain fit, healthy and capable firefighters throughout their careers. For this reason, the Wellness and Fitness program has the full support of both fire administration and the local union. The success of this program would be measured through improved results in annual physical exams, lower BMIs; fewer work related injuries, less use of sick time, and eventually reduced health care costs. This benefits not only the firefighters, but also the citizens of Sterling Heights.

In December 2017, a survey was conducted by ETC Institute and was sent to a random sampling of residents covering a wide range of topics; from the overall perception of the City as a place to live and raise a family to satisfaction with public services including police & fire. The random sample was completed with a 95% level of confidence with at least +/- 3.7%.

One category of note highlighted in ETC's results was public safety. Ninety-three percent (93%) of respondents felt safe in their neighborhoods during the day. Ninety percent (90%) of respondents were satisfied with fire response time and overall quality of local fire protection. 87% were satisfied with how quickly EMS responds in an emergency. These high scores represented in the survey are a direct reflection of the outstanding performance from City employees and commitment to public safety.

AURORA, CO – AFG 2020 COVID SUPPLEMENTAL

Section# 1 Project Description

The City of Aurora (which sits within portions of Adam, Arapahoe, and Douglas Counties) has been severely impacted by COVID-19. Aurora has more positive COVID-19 cases (6,195) than the two largest cities in Colorado combined: Denver with 4,118 and Colorado Springs 1,137. The number of hospitalized COVID-19 patients is trending down with a 24 percent decrease from 4.27.20 through 5.9.20 (606 to 460), yet that number is expected to increase due to the relaxation of social distancing orders. Overall hospital census is that COVID-19 infections will increase due to the paced resumption of elective procedures as well as the number of patients on ventilators, remains far higher than normal operating capacity. University Hospital of Colorado (located in Aurora) has the highest number of confirmed COVID-19 patients (107), followed by over Health (59) and the Medical Center of Aurora (54). In terms of Aurora Fire Rescue response, year to date AFR has responded to 12,099 medical calls, of which 514 calls have been possible COVID-19 exposures. This supplemental grant opportunity has the specific objectives to enhance AFR's future response capabilities by outfitting its members with critical PPE. Currently, the department has had 56 members lose time due to the related symptoms and 5 members have tested positive. Failure to provide the essential and critical PPE will place our members and consequently our customers in jeopardy. By using YTD response numbers, AFR modeled both a-E responses as well as possible COVID-19 exposure calls for the rest of the year. These forecasts show that through December 31, 2020 AFR will respond to an additional 24,554 EMS calls, of which 2,850 will be possible COVID-19

exposures. For EMS calls, AFR will continue using its medical protocols whereby a minimum of one paramedic will don a N-95 respirator, eye wear, face shield, a gown, and gloves. Based on our current burn rate and EMS reports, 25% of these calls may require an additional member to don a gown, respirator, eye wear, and gloves. In addition, the patient(s) will be given a basic surgical mask to reduce potential exposure to our members. On possible COVID-19 exposures, protective coveralls and an N-95 respirator will be used by the responding paramedic. 5% of these calls have been at nursing and assisted living facilities, which require more than one member to respond. In addition, advanced medical interventions may require more AFR members to use PPE on these calls. Aurora Fire Rescue forecasts that an additional X will be needed to provide adequate PPE to front line personnel through 2020. This PPE includes disposable items such as gloves, surgical masks, N-95 respirators, gowns, and protective coveralls. In addition, AFR will need to purchase reusable a-E goggles for new recruits and anticipated lost and damaged items. Year to date, Aurora Fire Rescue has spent X on PPE listed above as well as tapped into its reserve supplies for pandemic response and decon. AFR traditionally receives a 1 for 1 exchange with the transport agency when a patient is transported. Due to PPE shortages in that organization, this one for one exchange of used PPE with new items has not occurred and AFR has needed to purchase all PPE to protect its members. The 2020 budget allocates X for EMS supplies and through five months, AFR has exhausted this budget. As the city faces significant revenue shortfalls, AFR will find it difficult to spend an additional X on needed PPE without asking members to take on additional risk by reusing PPE and/or cutting other budget items in the department.

Section # 2 Cost/Benefit

Aurora Fire Rescue's Logistics Center has faced several challenges while coordinating the ordering, purchasing, and distribution of PPE for Aurora Fire Rescue personnel. Supply chain issues/shortages, order delays, inconsistent pricing including attempted price gouging, vetting of potential vendors, and varying pandemic models have made it difficult to supply first responders with necessary PPE. As a result, AFR's Medical Director issued new medical protocols aimed at limiting member exposure to the virus while at the same time allow AFR to conserve critical PPE through reuse. These protocols limit the number of members that suit up on EMS calls and allows N-95 respirators to be reused until they are soiled. These protocols were developed with a cost benefit model that balanced member safety with AFR's ability to procure PPE. Because of these new protocols and incremental ordering of PPE when it becomes available, the AFR Warehouse has been able to keep levels consistent and maintain a 3-week supply of respirators, masks, and protective coveralls during the pandemic. The funding provided by this grant would allow AFR to ease PPE restrictions on reuse and allow more medical providers to provide patient care when needed which will result in better outcomes for our patients. In addition, the probability of cross contamination would be reduced due to the fact the department would dispose of PPE as opposed to the need to reuse. The department also has a large mutual aid and automatic assistance footprint that allows the sharing of our resources to respond to both fire and medical calls into adjoining jurisdictions/communities. This designated funding source, AFR would like to get to a more consistent ordering model; placing larger PPE orders to take advantage of bulk pricing and/or purchasing agreements with neighboring agencies allowing the department to made direct orders to manufactures. We are prevented currently from doing so as our budget limits order size and focuses us to work with our existing vendors to get resupplied. AFR administrative staff is supporting these efforts, and the City of Aurora is examining other funding sources like the CARES Act to seek reimbursement of these members' time. That said, AFR does not require the AFG supplemental grant to provide any overhead and administrative costs, allocating 100% of the award to critical PPE for first responders.

Section # 3 Statement of Effect

Aurora Fire Rescue resources respond to approximately 100 EMS/Fire requests for service on a given date. Many agencies/jurisdictions report a considerable decrease in requests for service during the COVID-19 pandemic; however, Aurora Fire Rescue has not experienced that anomaly. Our requests for service have increased approx. 3% over the same period last year. As you are aware, with the prevalence of community spread, all patients and contacts must be assumed to be a potential COVID-19 patient. The new normal for universal precautions must include gloves, mask for patients, masks for the providers, and also eye protection. Invasive interventions will require additional protections such as gowns, coveralls, Tyvek suits, et... This grant proposal will fund a "daily" need to maintain the universal precautions our community/department needs as represented/justified by the aforementioned data. This funding will assist the department by augmenting our immediate needs/gaps and assist with strengthening our organization's resilience in preparation for the upcoming resurgence of the virus. Our analysis, based upon our burn rates, trends, utilization methodology, and response metrics determines/forecasts that an additional X will be needed to provide adequate PPE to front line personnel through the remaining portion of 2020. This total does not include the X of PPE that the department has spent since March 14 responding to the COVID-19 pandemic through May 15. AFR is not seeking reimbursement for these items already spent but would like to include these items as part of the match requirement. AFR considers this upfront cost for PPE money well spent. The department has had 56 members or approximately 15% of our workforce lose time (which has caused overtime and staffing challenges) due to COVID-19 and failure to provide adequate PPE would see those numbers rise. Through this process, we have identified several vendors that can consistently provide quality PPE products. In addition, we have been successful at calculating our weekly burn rates and ensuring that the Fire Warehouse retains a minimum of 3 weeks of par levels for critical PPE like N-95 respirators and protective overalls. As AFR has purchased continuous replacement items, AFR respirator stockpiles have remained constant, but the funding stream is the biggest issue at this point which is why we are applying and requesting the AFG Supplemental grant funding.