SUBMISSION FORM

All submission forms must include the following information. Separate submission forms must be turned in for each eligible program. **Deadline: July 1, 2022.** Please include this submission form with the electronic entry. If you do not receive an email confirming receipt of your entry within 3 days of submission, please contact Gage Harter.

PROGRAM INFORMATION

County: **County of Henrico**

Program Title: **Division of Fire Day Sheet**

Program Category: **Criminal Justice & Public Safety**

CONTACT INFORMATION

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Program Overview

The new Henrico Fire Day Sheet is a web application supporting the organization's operational data collection requirements. This tool aids the situational awareness of firefighters as they transition between on and off duty, gathers valuable information for planning purposes, and supports high levels of operational accountability for on-duty personnel. This application was built through an effective partnership between multiple branches of the Henrico County Division of Fire, and trusted partners in Information Technology (IT).

Problem/Challenge/Situation Faced by Locality

The Division of Fire has struggled, for several years, with effective means for passing shift-specific information along, within a given firehouse. Tools the organization used for many years were un-reliable, ineffective and constructed in legacy frameworks that were difficult to technically support in the 21st century. Moreover, the organization struggled to ensure that critical components, such as Knox Box keys, drug boxes, and consumable Personal Protective Equipment, were properly validated and accounted for daily. A daily log, shift by shift, firehouse by firehouse, could be an invaluable avenue for data collection if an innovative tool could be created.

How Program Fulfilled Awards Criteria

The Division of Fire's new Day Sheet application accomplished the need for an accessible, effective, and comprehensive web-based software tool with minimal monetary cost and in a modest software development timeline. The tool is very effective, permitting our operational personnel an ability to convey needed information to other shifts while simultaneously gathering needed, actionable information for the organization and assuring accountability for key inventory items.

The Division enjoys a very high level of cross-department cooperation with the County IT office. This project is an excellent example of how two departments can work together diligently to further achieve objectives, solve difficult challenges, and further enhance i an ongoing relationship. Overall, the new Day Sheet tool will effectively replace our legacy software application and provides the Division with a solid logging platform for many years to come.

How Program Was Carried Out

The developed tool needed to include several key aspects, including:

- A high level of automation, and tight integration with the county's Computer Aided Dispatch system and staffing management platform.

- An ability for officers in-charge to document a specific CAD call as "Event Related", to flag this incident as eligible for FEMA reimbursement. It was determined that the new Day Sheet application would replace hard-copy ICS 214 forms in use by field personnel during storm and major incident responses.

- A robust mechanism to document a day's activities, at the firehouse and shift level, and support the needed pass-along information shared between shifts. This could include firehouse facilities, apparatus, supply, and other relevant informational items.

- Effective documentation of distributed EMS Drug and RSI boxes, including full accountability of box and seal identification. The tool also needed to provide proper electronic notification to Quality Assurance personnel in the event of box integrity or accountability issues.

- Support the accountability of Knox Keys deployed on all suppression units within the Division of Fire. These keys permit entry to commercial structures around the county and accountability, and security, of these keys is a vital priority for the organization. As with

the drug boxes, mechanisms needed to be worked into the tool to properly notify the responsible parties (the Fire Marshal's Office in this case) of any issue with unit keys.

- A mechanism for each shift to perform daily Personal Protective Equipment counts for each firehouse. = Through centralized, automated reporting these distributed tabulations would empower the Fire Logistics office to make informed restocking and ordering decisions during the ongoing COVID-19 pandemic.

- Additionally, automated reporting needed to be developed to notify members of the Fire Command Team (shift commanders) of issues with Knox Keys and Drug Boxes. These reports are generated from entries made, or missed, by each shift, and apprise operational leadership of gaps and deficiencies with individual units. Command officers can then follow up with front line leaders as needed.

Development of the new Day Sheet application commenced in July 2020, with initial stakeholder engagement within the Division of Fire and with Henrico County IT partners. With the project scope finalized, an initial prototype was prepared by the late summer of 2020. As work completed in the following weeks a beta test was commenced with a limited number of shifts and firehouses. Three firehouses, with moderate or high levels of operational activity (and call volume), were selected. With feedback solicited, these shifts were offered online orientation materials to the new tool and asked to begin use. By November 2020, key feedback had been gathered and adjustments to the tool implemented. Critical among these changes was the identified need for a printable summary report. Firehouses operating with watch offices, function well when summary information from the previous shift can be posted for the next shift to digest. A customized report was developed and prepared for daily delivery, to coincide with the 7 am shift change. Division-wide deployment of this new tool will occur by the end of February 2021, coinciding with the roll out of additional tools.

The developed solution was a web application, built atop a free and open-source framework. The application is entirely web browser based and utilized touch-friendly and responsive design technologies. All records are recorded to a Microsoft SQL database, with custom reporting developed and delivered via Microsoft SQL Server Reporting Service. The techniques, technologies and implementation utilize industry-standard approaches and can be replicated if an agency has an effective developer. County IT developers created the application, to Fire's specifications entirely in house, under close engagement around features and functionality.

The Day Sheet web app was coded and developed internally by Henrico County's IT office and the human resources supporting public safety applications.

Financing and Staffing

This program was developed and implemented without any capital costs borne by the Division of Fire. Centrally, within the County IT office, the software, and systems to support the operation of the web application were already in place and leveraged open-source software tools. The software development was performed by an existing human resource leader/member/director, tasked with the development and support activities of Henrico Fire. The Division did not bear any additional cost for making this application available to the individual station locations. The solution was a web application, built atop open-sourced tools and framework. No installed software was required at the firehouse location, aside from a wed browser.

External to Henrico, the costs to replicate this application would be modest, mindful that a qualified developer was on hand to perform the software engineering.

Program Results

This new tool has been in use for almost a year, and Henrico Fire after an organization-wide launch in March of 2021. The program is user friendly, provides an accurate accounting of each duty day, provides a turnover process to on-coming shifts, provides for data collection about activities, and will be supported by County IT indefinitely. The DOF has improved the completion of documentation requirements for all weekly apparatus checks, EMS checks, SCBA functional tests, environmental forms, fixed asset accountability, above ground storage tank inspections, and apparatus equipment checks by transitioning all these forms from a paper documentation format to an electronic process and incorporating a weekly report for accountability tracking. The PPE module of the Day Sheet has enabled our Logistics Section to overcome the current supply chain issues by monitoring inventory par levels and avoiding overstocking of individual fire station locations. The system also gives Logistics the ability to restock any low PPE inventory levels the same day the items are reported. Previously, the PPE items were ordered directly from logistics by the field personnel which lead to a large overstocking of items and high quantities supplies/equipment expiring on the shelves. Thus far, the new day sheet application has proven highly effective.

Brief Summary

The core objective for this program was to develop and implement an effective, and permanent, solution for the day logging needs of the organization at the operations level. The produced solution needed to be cost effective, developed internally, well documented (technically) and easily supported, indefinitely by the IT office. Any deployed tool must be "firefighter friendly", leaning into logical, intuitive interface design, well understood terminology, and touch screen friendly.