SUBMISSION FORM

All submission forms must include the following information. Separate submission forms must be turned in for each eligible program. **Deadline: July 1, 2025.** Please include this submission form as the first page of your 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: Arlington County

Program Title: Next Generation 9-1-1

Program Category: Criminal Justice & Public Safety

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Name: Mark J. Schwartz

Title: County Manager

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Executive Summary: Arlington County's Next Generation 9-1-1 Initiative

Arlington County's Emergency Communications Center (ECC) faced a significant challenge with non-emergency calls, accounting for over 70% of the total call volume in 2022. This issue strained resources, diverted staff from real emergencies, and worsened staffing shortages. To address this, the Next Generation 9-1-1 initiative was launched, modernizing operations and improving service delivery.

Innovation

Arlington County implemented AI and machine learning to manage non-emergency calls. An AI-driven system developed with Amazon Web Services (AWS) categorized caller intent and redirected non-emergency inquiries to online resources. The ECC also adopted the Priority Dispatch System (PDS) to standardize emergency call handling and streamline training.

Partnering and Collaboration

Strategic partnerships were key to the initiative's success. Collaborations with Autura for towing management and Manpower, Inc. for remote staffing support were instrumental. These partnerships allowed Arlington County to implement the program cost-effectively, leveraging external expertise and resources.

Implementation and Results

The initiative yielded significant results, including a reduction of over 4,000 non-emergency calls between June and December 2023 compared to the previous year. From May 2024 to February 2025, over 74,000 calls were redirected through AI workflows, with projections exceeding 100,000 annually. The ECC saw a 54% reduction in total call volume and an 829-hour decrease in administrative phone time in Q1 2025. These improvements strengthened emergency response capacity, reduced staff burden, and enhanced operational efficiency.

Arlington County's initiative has set a precedent in modernizing emergency communications, receiving national recognition and demonstrating leadership in public safety innovation.

Problems and Challenges

The Arlington County Emergency Communications Center (ECC) operates as a primary Public Safety Answering Point (PSAP) with staff of 53 full-time employees, including administrative personnel, processing both emergency and non-emergency calls. The ECC services Arlington County, Virginia with a population of over 240,000 residents and home to critical federal infrastructure such as the Pentagon, Arlington National Cemetery and Joint-Base Myer-Henderson Hall.

The ECC faced a growing operational challenge: an overwhelming volume of **non-emergency calls** that significantly strained resources. In 2022, administrative (non-emergency) calls totaled 264,414, compared to just 78,552 emergency 9-1-1 calls, with over 70% of the total call volume being non-emergency.

This imbalance diverted trained telecommunicators from handling life-threatening emergencies and contributed to chronic staffing shortages and increased overtime. For instance, in 2022, the ECC handled over 24,000 fire alarm calls and 19,000 private property towing inquiries—tasks that consumed an estimated three hours of each shift. In contrast, the same year saw 839 cardiac arrests, 320 structure fires, 1,759 trouble-breathing calls, and 2,732 domestic incidents.

The ECC operated under persistent understaffing, often starting shifts below minimum levels and relying heavily on overtime, backfilling by police and fire personnel, and temporary hires. Vacancy durations ranged from 1 to 12 months, and training timelines for new hires were lengthy. The ECC urgently needed a transformative solution to reduce non-emergency call volume, improve staffing efficiency, and ensure responsive emergency services.

How the Program Fulfilled the Awards Criteria

Innovation

Arlington County's ECC implemented **artificial intelligence (AI)** and **machine learning** to address excessive non-emergency calls and chronic understaffing. Key strategies included:

1. **Outsourcing non-emergency call functions:** Partnering with **Autura** to manage private property towing notifications, reducing call center workload.
2. **Integrating with Amazon Web Services (AWS):** Leveraging AWS AI solutions to create a machine-learning-based call filtering system.
3. **Conducting utterance collection and data analysis:** Using AI to categorize non-emergency call types and develop effective workflows.
4. **Implementing automated workflows:** Designing automated responses to guide callers to online reporting portals, eliminating telecommunicator intervention.
5. **Adopting the Priority Dispatch System (PDS):** Standardizing evidence-based call handling protocols to streamline dispatcher training and ensure consistent, high-quality emergency call handling.

This system was first deployed during a severe weather event, successfully redirecting storm-related inquiries. It was later expanded to include workflows for towing, graffiti, and fire alarm notifications.

Partnering and Collaboration

The success of the Next Generation 9-1-1 initiative was enabled by strategic public-private partnerships. Arlington County collaborated with **AWS** to design and implement the AI-driven call diversion system. A contract with **Autura** removed over 25,000 towing-related calls annually from the ECC. Additionally, partnerships with staffing agencies like **Manpower, Inc.** allowed for the hiring of remote call takers,

alleviating staffing pressures. These collaborations demonstrate how local governments can leverage public oversight and private innovation to solve complex service delivery challenges.

A Model for Other Localities

Arlington County's approach offers a replicable model for jurisdictions nationwide. As the first locality in the Commonwealth to adopt AI solutions for its ECC, Arlington demonstrates how AI and automation can effectively manage non-emergency call volume, improve staffing efficiency, and enhance emergency response. The ECC's transition to internationally recognized training standards through its Priority Dispatch protocols and its shift to skills-based advancement further streamline workforce development and retention.

The program's national visibility—highlighted by a feature on *Good Morning America* and a visit from Governor Glenn Youngkin—underscores its significance and scalability. By documenting its methodology and outcomes, Arlington County has created a blueprint for other localities to adapt.

Implementation Details, Financing, and Staffing Strategies

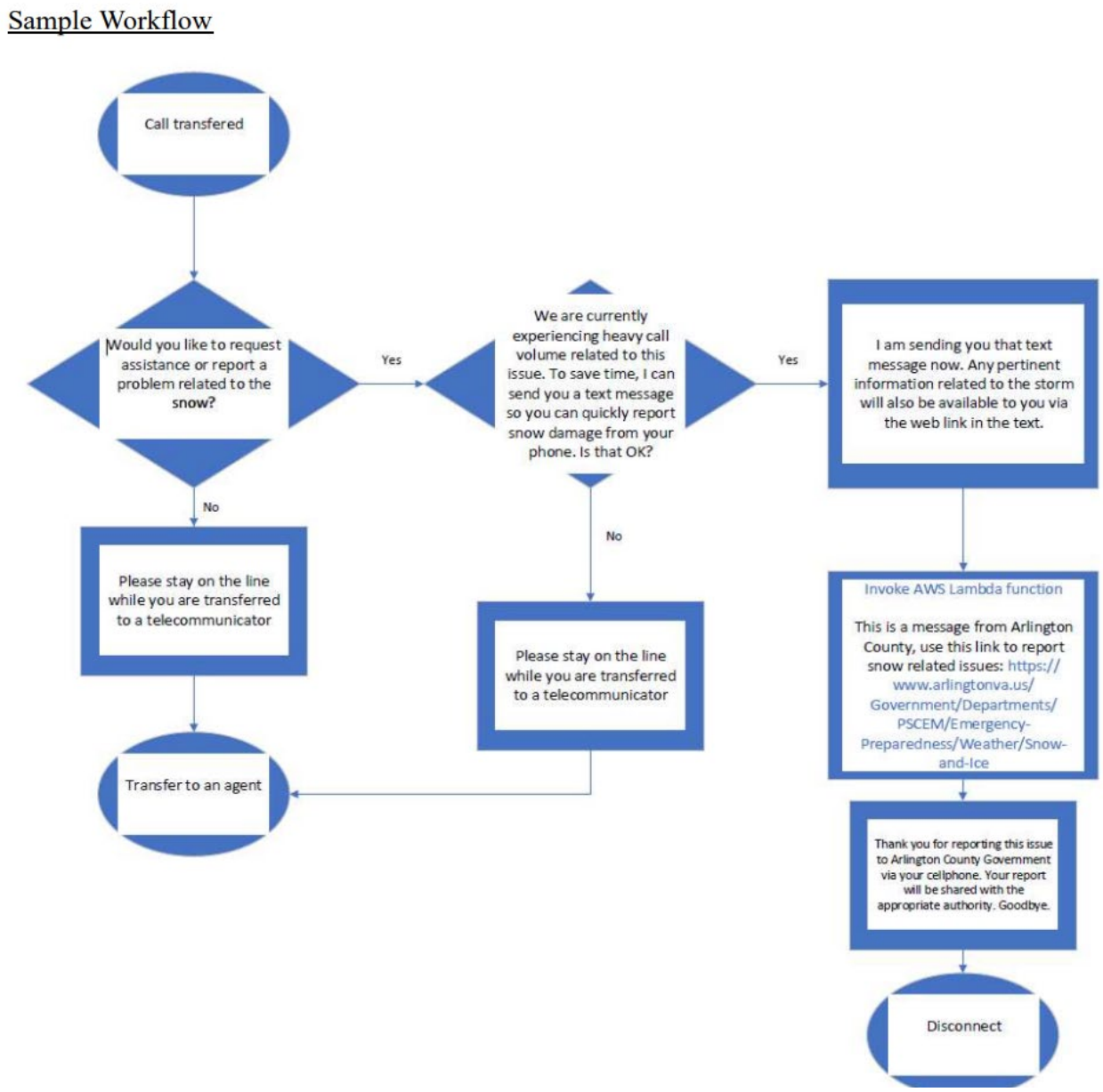
Implementation Details

The Next Generation 9-1-1 initiative integrates AWS AI and machine learning to automate non-emergency call diversion. Implementation began with a 30-day utterance collection phase, where the AI system categorized caller responses to identify common non-emergency call patterns and inform workflow development. The AI was then configured to intercept these calls, prompt callers for their inquiry, and redirect them to online resources or send SMS links to self-service portals.

The initial use case was during a derecho, where the system successfully directed callers with storm-related inquiries to an online reporting page, bypassing telecommunicators. The workflow operated by:

- Prompting callers for the reason for their call.
- Collecting utterances and checking them against predefined workflows.
- Confirming if the caller was inquiring about a defined issue (e.g., "Storm").
- If confirmed, sending an SMS link to the appropriate reporting page.
- Disconnecting the call once the function was performed.

Figure 1: Visual Workflow Mapping



Following this success, the system was expanded to handle towing-related calls. The ECC transitioned from telecommunicators providing information to a public-facing portal updated in real-time, with an SMS link sent to callers for self-service vehicle location. Contracting with Autura for towing further streamlined operations, improving response times, service levels, and oversight while decreasing administrative costs.

Financing

The total project costs for the Computer-Aided Dispatch (CAD) upgrade, VESTA Next Generation 9-1-1 software, call-taking remote staffing, and call-taking protocols amount to $1.4 million. These investments reflect a comprehensive modernization effort, with major contributions from suppliers such as Carahsoft Technology Corp, Carousel Industries of North America Inc, Centralsquare Technologies LLC, Manpower International Inc, and Medical Priority Consultants Inc.

Staffing Strategies

Addressing persistent understaffing, the ECC implemented several innovative staffing strategies:

- **Remote Call Takers:** Re-hiring former employees part-time as remote call takers to expand capacity.
- **Outsourcing Non-Emergency Functions:** The Autura contract reduced both call volume and radio traffic.
- **Teletype Function Expansion:** Enabling teletype functions at every workstation eliminated the need to remove staff from the floor for these tasks.
- **Training Modernization:** Transitioning to a skills-based training model, incorporating International Academies of Emergency Dispatch standards, projected to reduce training timelines from years to 14–16 months, improving retention.

These strategies, combined with AI-driven call diversion, enable Arlington County to maintain high service levels despite recruitment challenges, building a more resilient workforce.

Measurable Results

The Next Generation 9-1-1 initiative has delivered substantial and quantifiable improvements:

Reduction in Call Volume

- Between June and December 2023, non-emergency calls decreased by over **4,000** compared to the previous year.
- A long-term comparison of the first six months of 2022 and 2024 showed a **22,167** decrease in administrative calls.
- From May 28, 2024, to February 15, 2025, the AI system documented **74,601 workflow interactions**, averaging 285 redirected calls per day, projected to exceed **103,928 annually**.
- In a Q1 2024 vs. Q1 2025 comparison, administrative calls dropped by **15,750**, averaging 5,250 calls per month, projecting an additional **63,000 diverted calls annually**.

Workflow Utilization

- The towing workflow alone was used **9,536 times** since July 2024.
- Workflows for storm-related incidents, graffiti, and fire alarm notifications also show high engagement.

Operational Efficiency

- The Emergency Call Tracking System (ECaTS) showed a **54% decline** in total monthly call volume from January to December 2024 (58% for incoming, 45% for outgoing calls).

- Average call duration decreased from 129.3 seconds in 2024 to 105.2 seconds in 2025, a difference of **24.1 seconds per call**.
- This resulted in a reduction of **829 hours of administrative phone time** in Q1 2025, or 9.21 hours per day.

Staffing Impact

- AI-driven call diversion has alleviated pressure on ECC staff, reducing the need for overtime and backfilling.
- The transition to skills-based training is projected to reduce career progression time from several years to 14–16 months, improving retention.

Recognition and Validation

- The program's success has received national recognition, including a feature on *Good Morning America* and a visit from Governor Glenn Youngkin.

These outcomes demonstrate the effectiveness of Arlington County's Next Generation 9-1-1 initiative in addressing systemic challenges through technology and innovation, delivering replicable, collaborative, and impactful results.

Figure 2: Governor Younkin Visits ECC for National Public Safety Telecommunicators Week in April 2025