Virginia Association of Counties

ACHIEVEMENT AWARDS

SUBMISSION FORM

All submission forms must include the following information. Separate submission forms must be turned in for each eligible program. **Deadline: July 1, 2021.** 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: CTE Helps Solve the PPE Shortage

Program Category: Health and Human Services

CONTACT INFORMATION

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SIGNATURE OF COUNTY ADMINISTRATOR OR DEPUTY/ASSISTANT COUNTY ADMINISTRATOR

Name: Brandon Hinton

Title: Deputy County Manager for Administration

Signature:

Program Overview

In the early weeks of the COVID-19 pandemic, Henrico County medical facilities found that providing ample personal protective equipment (PPE) would be a challenge.

Henrico County Public Schools' Career and Technical Education (CTE) teachers were able to collaborate on a design, prototype, and then manufacture over 650 face shields to help offset local supply constraints of PPE. These face shields were then delivered to almost a dozen different medical facilities to help equip the professionals working tirelessly to support our community. Design and construction took place between March and May of 2020.

Problem/Challenge/Situation Faced by Locality

As the COVID-19 pandemic began to take hold locally in March, it became increasingly clear that providing adequate supplies of PPE was going to be a challenge. Nursing homes in Henrico County were hit particularly hard with COVID-19 cases, but other medical facilities were also struggling with maintaining the necessary PPE inventory to help keep their staff safe.

How Program Fulfilled Awards Criteria

The program required collaboration between multiple county entities, including the Facilities Department and HCPS, as well as the contribution of business partners, to make this successful. It is an example of the outstanding partnership within the school division and the larger community. The teachers involved in this program went above and beyond to help and give something to their community in a time of critical need. They each possess a valuable skill set from which students are fortunate to benefit each day and were able to use their skills for the good of the broader community. These teachers unselfishly donated their time and ingenuity to get this project up and running during a difficult period.

How Program Was Carried Out

In seeking to figure out a way to support the medical essential workers in our community, several stakeholders met to discuss viable options to provide assistance. An educational specialist for CTE met virtually with several engineering teachers to determine what was possible. Ultimately, this group devised a solution that would allow them to construct face shields that could be donated to medical workers to help address shortages. While PPE was in short supply, so too were many of the materials used to manufacture them. Through creative sourcing of materials, the group was able to 3D-print a headband and use acrylic as the shield in order to create the prototype.

Though county buildings (including school facilities) were largely closed at this time, the team was able to coordinate with the facilities department to set up a location to begin production. Leveraging existing equipment and 3D-printing material, the Facilities Department helped to relocate multiple 3D printers from various schools to the manufacturing location. In addition, the team was fortunate to have several 3D printers and printing materials provided by education business partners such as Amtek.

The team created rotational shifts, keeping the 3D printers running for almost 24 hours a day, seven days a week, to print the headbands. Additional equipment was made available for use from Pearson Packaging Systems. Once a week, the team held a “build session” to assemble the shields and then coordinated with the community to set up deliveries of the finished face shields.

Financing and Staffing

The program was able to make use of existing 3D printers and materials in CTE classrooms throughout the school division. This equipment and the materials were sitting unused, as schools

had been closed due to the pandemic. In addition, Amtek helped by loaning us several 3D printers to increase build capacity, as well as donating additional print material so we could start production immediately while sourcing remaining materials. As part of the federal Coronavirus Aid, Relief, and Economic Security Act, the program received additional funding for the supplies needed to produce and deliver the face shields.

Each face shield was valued at approximately $4 each, based on the various materials available to produce at that time.

Program Results

With the production of more than 650 face shields, critically needed personal protective equipment was provided to multiple medical facilities to help support and protect the essential workers in the community.

The quality of the face shields constructed was also noted to be better than some of the solutions that were quickly made available for purchase from other companies. As a result, the school division requested that an additional 300 face shields be constructed to provide additional PPE to public-facing staff in the school buildings.

Brief Summary

Within the first month of the COVID-19 pandemic, medical facilities, nursing homes and other critical entities were already facing a shortage of critical PPE supplies needed to keep staff and patients safe.

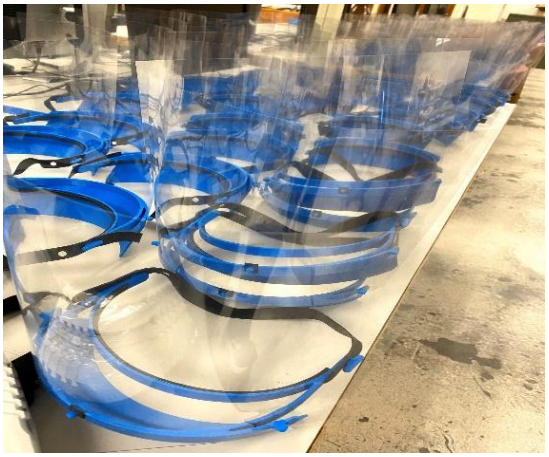
Henrico County Public Schools' Career and Technical Education (CTE) teachers, with the help of other school division and county departments, as well as key business partners, responded to this challenge by collaborating on a design, prototype, and then manufacture over 650 face

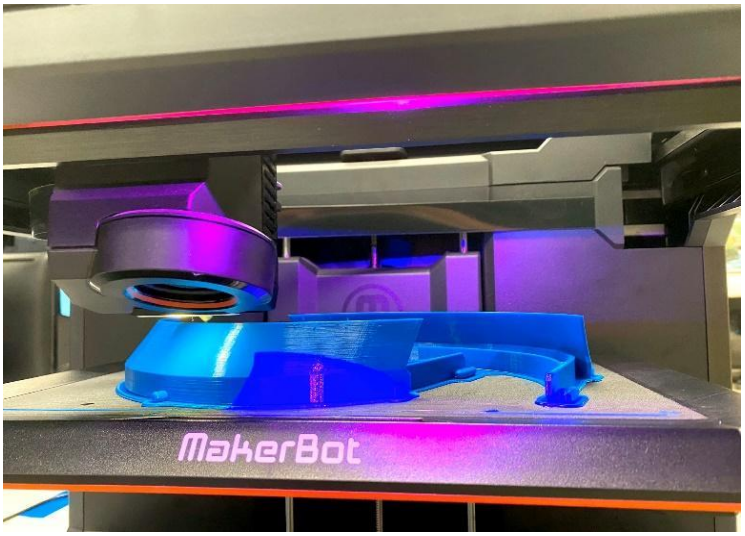
shields to help offset local supply constraints of PPE. These face shields were created utilizing 3-D printers that were gathered from various school locations throughout the district. They were then delivered to almost a dozen different medical facilities to help equip the professionals working tirelessly to support our community. Design and construction took place between March and May of 2020.

The quality of the face shields constructed was excellent. As a result, the school division requested that an additional 300 face shields be constructed to provide additional PPE to public-facing staff in the school buildings. These additional face shields were then produced and made available for school personnel.

CTE Helps Solve the PPE Shortage

Supplemental Materials

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