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# Building the Future of East Tennessee's Workforce

Pilot Project Case Study

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**LOCATION**

East Tennessee

**PROJECT COSTS**

**\$645,420**

Spend to Date

**\$311,345**

TVA Connected Communities

**\$343,075**

Pilot Team Match

**FOCUS AREAS**



Economic Empowerment

# Project Summary

East Tennessee PBS produced a series of videos and curriculum to introduce early learners to regional workforce opportunities amplifying science, technology, engineering and math skills (STEM) in the Tennessee Valley Authority (TVA) service region.

**TOPICS**

- ✓ Workforce Development
- ✓ STEM Education

**TECHNOLOGY**

- ✓ Media Production

**KEY PARTNERS**

- Local University
- Chamber of Commerce
- Media Producer
- Television Network
- Project Advisor







“ A diverse, sustainable workforce is foundational for the economic stability of any region, and shoring up the workforce for today and the future is key to reaching the potential of East Tennessee. While many excellent workforce development programs focus on our immediate needs, East Tennessee PBS identified an opportunity to help fill the talent pipeline by creating programming around introducing STEM skills and careers to young children.

**BARBARA SHIPLEY** | chief development/marketing officer, East Tennessee PBS

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# Challenge and Solution



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## Challenge

Addressing the labor shortage in the TVA service region requires both near- and long-term strategies. Many effective programs address the immediate problem but few look beyond the five- to ten-year timeframe. Present efforts do not provide equal access to information that introduces young people to the jobs, skills and careers needed in the region today and in the future.



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## Solution

East Tennessee PBS produced a series of videos and curriculum to introduce early learners to regional workforce opportunities amplifying science, technology, engineering and math skills (STEM) in the TVA service region.

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# Focus Areas Supported



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## Economic Empowerment

When children understand the correlation between what they are learning and how it applies to everyday life, they will become much more invested in that learning. Career paths are no different. This project serves primary school students grades K-8, with a focus on those five to eight years old. A benefit of this work is an increased interest in vocational and STEM career fields by introducing students as early as possible to the regional possibilities and outlining the steps to success. Engaging the youngest community members and creating awareness about potential future careers and the skills required is necessary for ensuring that the region serves as a pipeline of skilled and trained workers for years to come.

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# Goals, Approach and Results

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## Project Goals

In partnership with the University of Tennessee (UT), East Tennessee PBS produced the *Job Pop!* video series for public television broadcast, online distribution and in-classroom use covering skilled labor and STEM-field career opportunities within the Tennessee Valley. The videos mix the style and aesthetic of TikTok with the substance of Mr. Rogers to create engaging content that is both enjoyable and informative. Additionally, East Tennessee PBS created a companion digital curriculum for teachers, parents and students to expand engagement around regional workforce development.

Ultimately, this work aims to improve the value students place on their education by demonstrating real-world opportunities that are visible and accessible. By removing barriers to accessibility, students in the Tennessee Valley can connect with various workforce development opportunities in a way that also supports teachers and parents. The project team envisions students' active participation in creating an increased and sustainable labor force through the materials created in this pilot project.



### PILOT PROJECT GOAL

**Generate awareness and engagement in youth around STEM careers and regional workforce development opportunities.**

# Goals, Approach and Results

## Project Approach

The project was first envisioned by the board at East Tennessee PBS, originating from a feasibility study on a capital campaign to determine an impactful initiative. Workforce development consistently emerged as a priority, especially in the pre-COVID context, signaling the need for a project that aligns with PBS's core competencies. Initial ideas included producing videos on practical skills like car repair using the PBS studio. However, recognizing PBS's strength in capturing the attention of a young audience and being a trusted resource for children's educational media, the focus shifted to integrating workforce development into early childhood education.

Research supports the idea that introducing young learners to workforce development early provides critical context for their

education, thereby engaging them more deeply in the learning process. This insight was drawn from studies indicating that early exposure to career concepts helps children understand the practical applications of their education.

The parameters of the Connected Communities funding opportunity and the questions that were asked in the grant process played a significant role in how the project team structured the project, ultimately deciding to create short, engaging video segments that introduce children to various jobs. To make complex career concepts accessible and interesting to young viewers, these segments were designed to be snappy and visually appealing like TikTok, but with the educational substance reminiscent of Mr. Rogers.

“ My son was probably in 4th or 5th grade, and I was reading a word problem with him. A chicken laid 2 eggs on Monday, 1 egg on Tuesday, 3 eggs on Wednesday, no eggs on Thursday, and on Friday it laid 2 eggs. So, on Saturday, what do you have? He answered, ‘a farm.’ I realized the context is completely gone. That’s the whole idea, to provide context.

**BARBARA SHIPLEY** | chief development/marketing officer, East Tennessee PBS

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# Goals, Approach and Results

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## Project Approach (CONTINUED)

The project aimed to link educational content to real-world applications, such as illustrating how kindergarten activities like building Lego patterns relate to programming skills, thereby creating a continuous learning thread.

This approach helps children understand how early educational activities connect to future job opportunities. Early discussions with educators revealed a significant gap in workforce development programming aligned with Tennessee academic standards, prompting the project team to ensure that their content met these educational requirements comprehensively.

To ensure the content was relevant to the region, the team collaborated with the local chamber of commerce, which had researched future job needs within the TVA service region. This strategic collaboration aimed to prepare children for jobs projected

to be in demand over the next 10-20 years, rather than focusing solely on current job markets. This forward-thinking approach ensured the project addressed long-term workforce development needs specific to the local community.

The project emphasized accessibility and diversity by featuring professionals from various backgrounds to reflect the community's demographic and the unique needs of an adolescent audience. An advisory committee, comprising educators, technical experts and government representatives, was established to guide the content creation process and ensure it met the diverse needs of the community. This committee provided valuable insights and feedback, ensuring the content was inclusive, accessible and representative.

“ Teachers said it set them up to do a deeper dive. It set them up to talk about topics like how machinists measure things that are less than the width of a hair, and what that would look like. It started really good conversations. A springboard that sparks the interest.

**BARBARA SHIPLEY** | chief development/marketing officer, East Tennessee PBS



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# Goals, Approach and Results

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## Project Approach (CONTINUED)

The project team categorized jobs into three main types: helpers, technical jobs and physical labor. This structure accommodates any topic or profession, ensuring long-term viability and expansion of the program. Each video segment was designed to have an educational angle, aligning with Tennessee academic standards. This alignment ensured the content was educationally relevant and could be easily integrated into the school curriculum.

The production process involved collaborating with subject matter experts and a production team from UT to film the segments. Key educational points were identified, and scripts were meticulously written to introduce and contextualize each job. The advisory panel provided critical feedback, such as correcting mathematical content in a machining video, ensuring accuracy and educational value. This iterative process of feedback and revision ensured the final product was both informative and engaging.

Each video was accompanied by a comprehensive lesson plan hosted on PBS Learning Media. These plans included discussion points, questions and interactive activities, providing teachers with ready-to-use resources that facilitated classroom integration. The PBS Learning Media platform facilitated the adaptation of content to different state standards, making it broadly applicable and useful for educators across various states.

The positive feedback from the project's recent reading program lessons indicated the effectiveness and practical utility of these educational segments. Teachers appreciated the concise, 10-minute lessons that seamlessly fit into their classroom schedules, demonstrating the project's potential to enhance workforce development education across the region.

# Goals, Approach and Results

## Project Results

This innovative project’s objective is to provide all young people in the Tennessee Valley with resources to connect classroom learning with future career opportunities in their communities.

To date, the *Job Pop!* video series and companion curricula have been adopted by the Knox County School System for use in the following cases:



***Job Pop!* content was adapted and used to publicize 865 Academies**—a program focusing on workforce and trade development for high school students—on social media platforms.



**Select *Job Pop!* videos were chosen to accompany One Book Read City**—a communitywide program that distributes the same book to all Knox County elementary school students for them to read together—helping draw a connection between learning, reading and future career aspirations.

# 39,964

## impressions

on ***Job Pop!*** videos through the PBS streaming service in May 2024

# Goals, Approach and Results

## Project Results (CONTINUED)

### **Job Pop! Wins Big at The Telly Awards**

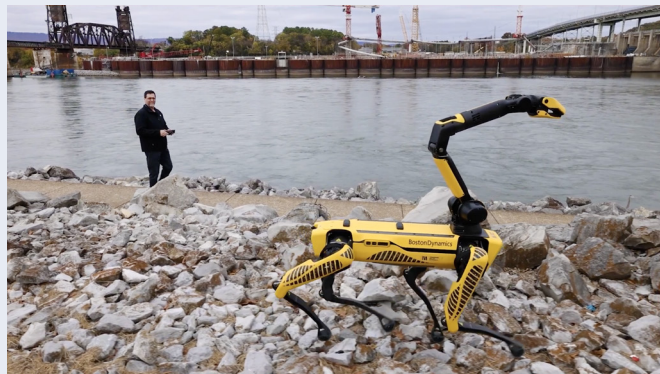
The Telly Awards is an annual competition that honors excellence and celebrates creativity and innovation in video production, showcasing the best work among 13,000+ entries from agencies, companies and individuals worldwide.

The **Job Pop!** series was globally recognized for its innovative approach to helping students envision future careers in STEM.

#### WINNING CONTENT

##### **Job Pop!: Programmer** Gold Award: **Children's Television Episode**

Learn why Sam Dean, TVA Quantitative Analyst, compares programming robot dog, Spot, to building with Legos in this [award-winning episode](#).



##### **Job Pop!: Machinist** Silver Awards: **Children's Television Episode, Children's Video in Education and Discovery Series, Children's Television Series**

Explore [machine-related careers](#) and how these professionals use microscopic precision to create everyday items.



# Goals, Approach and Results

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## Key Partners

- **East Tennessee PBS**
  - **Barbara Shipley**, chief development/marketing officer
- **Knoxville Chamber of Commerce**
  - **Lauren Longmire**, director of Regional Enhancement
- **Landgrant Films, University of Tennessee (UT)**
  - **Nick Geidner**, production development, professor at UT in the School of Journalism and Electronic Media
  - **Shalaunda Reeves**, instructional designer, assistant professor at UT in the College of Education, Health and Human Sciences
- **TVA**
  - **Lisa Akins**, senior program manager
  - **Georgia Caruthers**, senior project lead
- **UT, Oak Ridge Office of Innovation Institute**
- **UT, The Office of Research, Innovation and Economic Development**



This pilot project also featured an advisory board that oversaw the project and provided feedback on videos. These experts helped identify in-demand skills or job opportunities for future videos and guided the companion curriculum that accompanies the videos produced. This advisory board was instrumental to the success of this pilot project, as they helped create connections and advertised the pilot project videos with the intent to create future videos.



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# Lessons Learned

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## Enlist Experts to Consult

The advisory panel, consisting of 12 members, included representatives from various technical fields and organizations across the region, such as UT and TVA. This diverse panel provided comprehensive support, facilitating access to necessary resources and expertise. Their assistance in navigating technical challenges and connecting with the right individuals and labs greatly benefited the project, ensuring a well-rounded representation and support from various entities across the region.

One significant benefit to the project was the inclusion of an assistant professor from UT specializing in digital learning on the advisory panel. This expert was instrumental in navigating the PBS Learning Media criteria, bringing invaluable experience in online instructional development and design to the project. This expertise ensured the team could ask the right questions, anticipate potential issues and produce educational content efficiently.

“ I would highly recommend any organization that’s doing something along these lines to seek outside experts. I always say that we do have a wheelhouse, but there are so many other things we support as an organization that we really don’t know that much about. So, we let somebody else be the expert and tell us.

**BARBARA SHIPLEY** | chief development/marketing officer, East Tennessee PBS

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## Create multifunctional content

Developing a format that allows for a variety of use cases. While *Job Pop!* content is primarily delivered through PBS channels and mediums, the micro-learning structure allows for multiple applications of the materials. These include after-school programs, reading programs and in-class use; by proactively designing content that aligned with state curriculum standards, the project team was able to adapt *Job Pop!* content for the Knox County School System to use in formal education settings, assisting educators in their lessons and engaging a broader audience of learners.

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# Lessons Learned

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## Ensure Representation and Accessibility

To develop a diverse workforce and ensure all students feel that STEM careers are within reach, content must be widely accessible and reflect the diversity of the audience. PBS's stringent review process ensured content would be accessible to all; this included developing closed captioning for all videos, being cognizant of teachers who may not have color printers and ensuring accessible language and vocabulary for English as a Second Language (ESL) learners. People from different backgrounds are represented in the videos themselves, and PBS sought to expand diversity among the professionals highlighted whenever possible.

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## Consider Policies and Regulations

The content for *Job Pop!* videos and online material had to be carefully crafted to align with PBS programming and state educational standards. Initially, the team underestimated the complexity of publishing content to a branded, public-facing site, assuming it would be straightforward to meet PBS's requirements. However, unexpected changes in PBS's requirements and school system regulations, particularly regarding privacy rules and content originality, posed challenges. The production team and instructional designers demonstrated remarkable flexibility, quickly adapting to the new requirements and filling gaps as needed, minimizing impact on the project timeline. Their ability to adjust was crucial in navigating the evolving landscape of educational media standards and maintaining project momentum.



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## Looking Ahead

PBS developed the *Job Pop!* videos initially catering to a young age group. Then they started to see the videos as an entry point that could be expanded to new demographics. The team is actively pursuing funding to shift their focus to older audiences, explaining more about job pathways, job placement and career opportunities.

“ We want to speak about the pathways and having jobs that aren’t necessarily deep degree jobs. East Tennessee has a really heavy science and technical corridor. You talk to anyone in the Oak Ridge area, and it’s all about workforce development. You can work in the nuclear field, and you don’t even have to have a degree.

**BARBARA SHIPLEY** | chief development/marketing officer,  
East Tennessee PBS

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