BOOKER T. WASHINGTON HIGH SCHOOL
STEAM PROGRAMMING

September 6, 2023

School Board Work Session

An Added Focus

NORFOLK SCHOOL BOARD :: Approved Motion May 17, 2023

BOOKER T. WASHINGTON STEAM HIGH SCHOOL

The School Board of the City of Norfolk hereby designates Booker T. Washington as a STEAM (Science, Technology, Engineering, Arts, and Mathematics) high school and further directs the administration to develop comprehensive curricula and programs within that framework.

An Added Focus

NORFOLK SCHOOL BOARD :: Approved Motion May 12, 2023

BOOKER T. WASHINGTON STEAM HIGH SCHOOL

The School Board of the City of Norfolk hereby designates Booker T. Washington as a STEAM (Science, Technology, Engineering, Arts, and Mathematics) high school and further directs the administration to develop comprehensive curricula and programs within that framework.

Further, the framework includes but is not limited to the educational specifications and programming offering enhanced Performance, Visual and Multimedia Arts, A/V (Audio Visual) and Communications Technology, Cybersecurity, Entrepreneurship, and Hospitality commencing in phases beginning in 2024.

STUDENT EXCELLENCE

Create authentic and culturally relevant learning experiences so that each student will be a creative, collaborative, civic-minded, critical thinker with effective communication skills.

Objective 3
Increase access and opportunities to diverse learning experiences for each student to promote growth and life readiness upon graduation.

SCIENCE | TECHNOLOGY | ENGINEERING | ARTS | MATHEMATICS

STEAM

SCIENCE | TECHNOLOGY | ENGINEERING | ARTS | MATHEMATICS

Norfolk Public Schools
The cornerstone of a proudly diverse community

✓ **STEAM is an integrated approach to learning which requires an intentional connection between standards, assessments, and lesson design/implementation.**

✓ **True STEAM experiences involve two or more standards from science, technology, engineering, math and the arts to be taught and assessed in and through each other.**

✓ **Inquiry, collaboration, and an emphasis on process-based learning are at the heart of the STEAM approach.**

✓ **Utilizing and leveraging the integrity of the arts themselves is essential to an authentic STEAM initiative.**

Benefits of STEAM Education

1. Our future relies on new solutions to help people and the planet.

As humanity faces increasing change, challenges, and complexity, we need people with the ability to ask the right questions and find new solutions. STEAM—with its focus on not only the "how" and "what" but also the "who" and "why"—is specifically designed to develop future innovators. It encourages students to approach real-world scientific problems with consideration for their impact on humanity.

STEAM is at its heart about innovation, and innovation is about more than developing the latest gadget. Innovation is one of the keys to solving the most pressing problems of our time and ensuring a healthy, sustainable future.

Benefits of STEAM Education

2. STEAM education prepares students for an ever-changing workforce.

As we enter the "innovation revolution", educators must prepare students for manty jobs that don't even exist yet. Automation will gradually take over repetitive tasks - up to 30% of tasks in 60% of jobs (McKinsey & Co.), but there is no substitute for human ingenuity and creativity. Humans will need to take on jobs that require creativity, critical thinking, and the ability to solve novel problems—the core foundational skills addressed by STEAM.

Benefits of STEAM Education

3. STEAM engages students in learning.

Many students have greater aptitude and affinity for either arts and humanities or mathematics and science. STEAM education, with its integrated and holistic approach, helps students conceptualize these disciplines as parts of a greater whole. Rather than feeling alienated or tuned out of certain subjects, they can collaborate with others to solve problems and see subjects they struggle with in a different way.

STEAM also taps into one's natural curiosity and creativity. STEAM lessons focus on deep questioning and finding novel solutions rather than memorizing standard facts and figures that can easily be "Googled."

Possible Pathways Using a Phased Approach

Multimedia Arts
2D & 3D Art, Mixed Media, Production Management, Sound and Lighting Design, Stage Design, Costume Design

Hospitality
Culinary/Hospitality Entrepreneurship, Travel, Tourism, Recreation and Lodging Management, Digital and Social Media Management

Performing Arts
Theater, Theater Tech, Dance, Music

Audio/Visual and Communications Technology
Digital Visualization and Technology, Audio Production and Recording, Entertainment Design and Technology

Entrepreneurship
Entrepreneurship Incubator, Business Startup Challenges

Cybersecurity
Cybersecurity, Networking, Programming and Gaming

STEAM — SCIENCE | TECHNOLOGY | ENGINEERING | ARTS | MATHEMATICS

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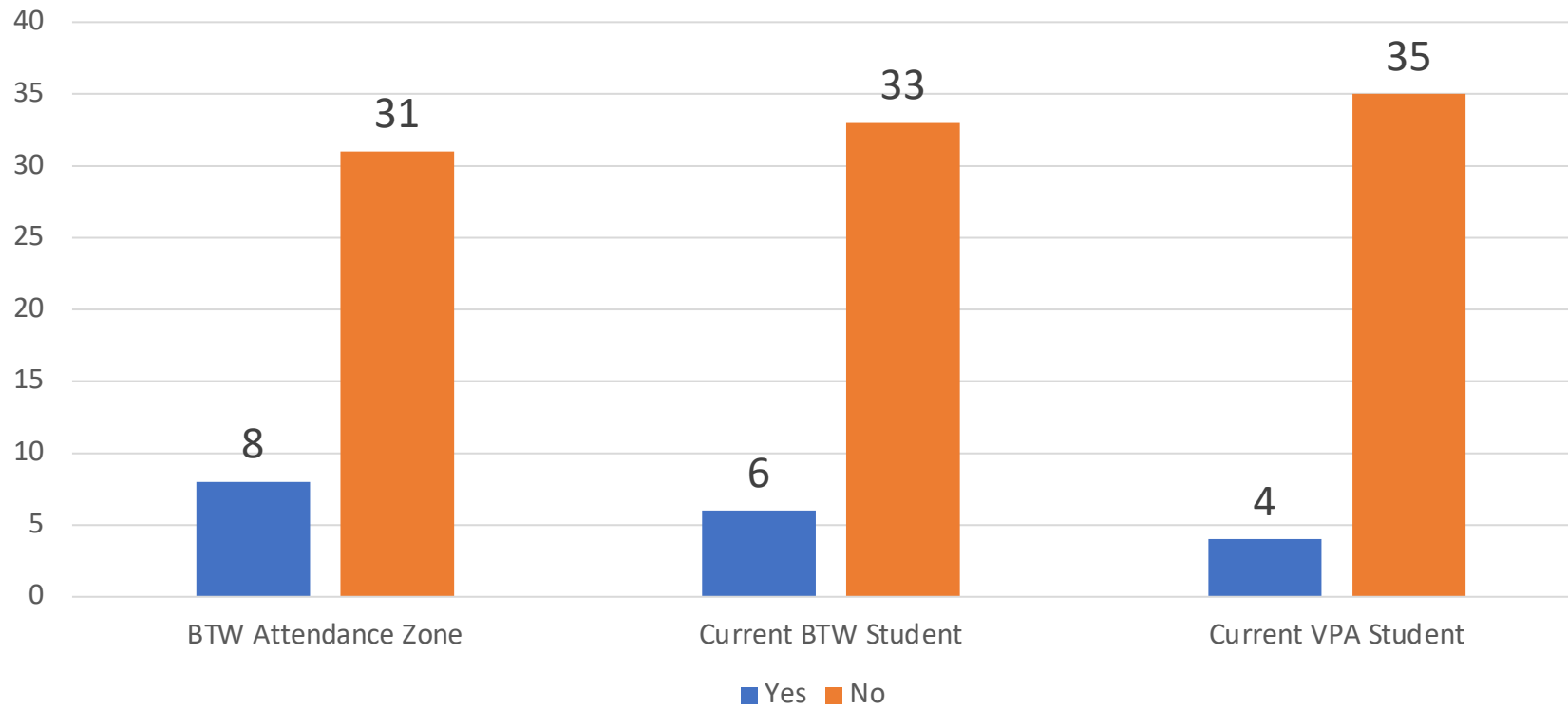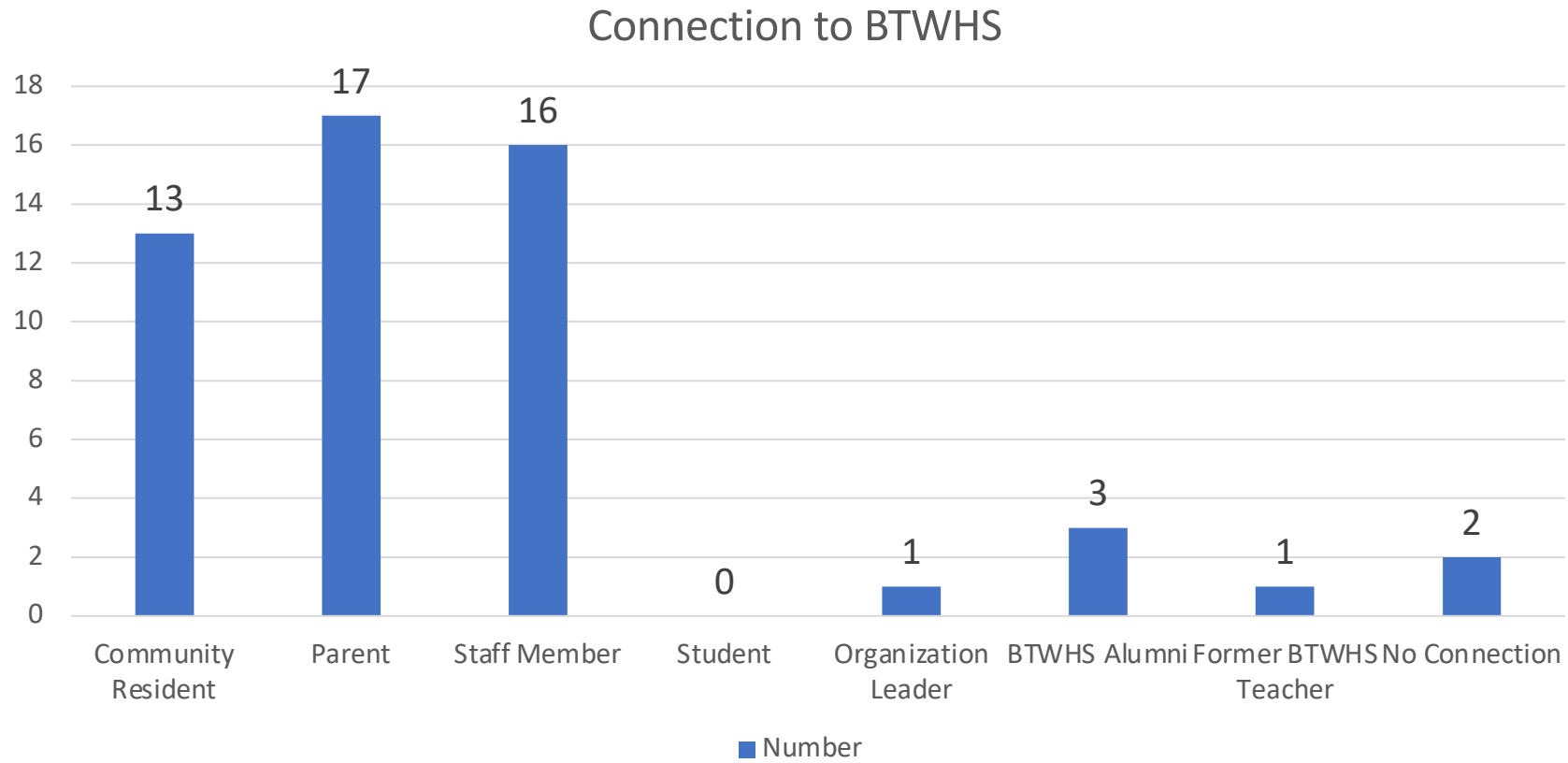| 2024-2025	2025-2026	2026-2027	2027-2028
9th Grade Core Classes Intro Electives Aligned to Pathway	9th and 10th Grades Core Classes Addition of Level II Classes Aligned to Pathway	9th, 10th, and 11th Grades Core Classes Addition of Level III, NTC, and DE Classes	9th, 10th, 11th, and 12th Grades Core Classes Addition of Level IV Classes and Work Experiences

Producing graduates who are college ready with dual enrollment credits and career ready with career certifications.
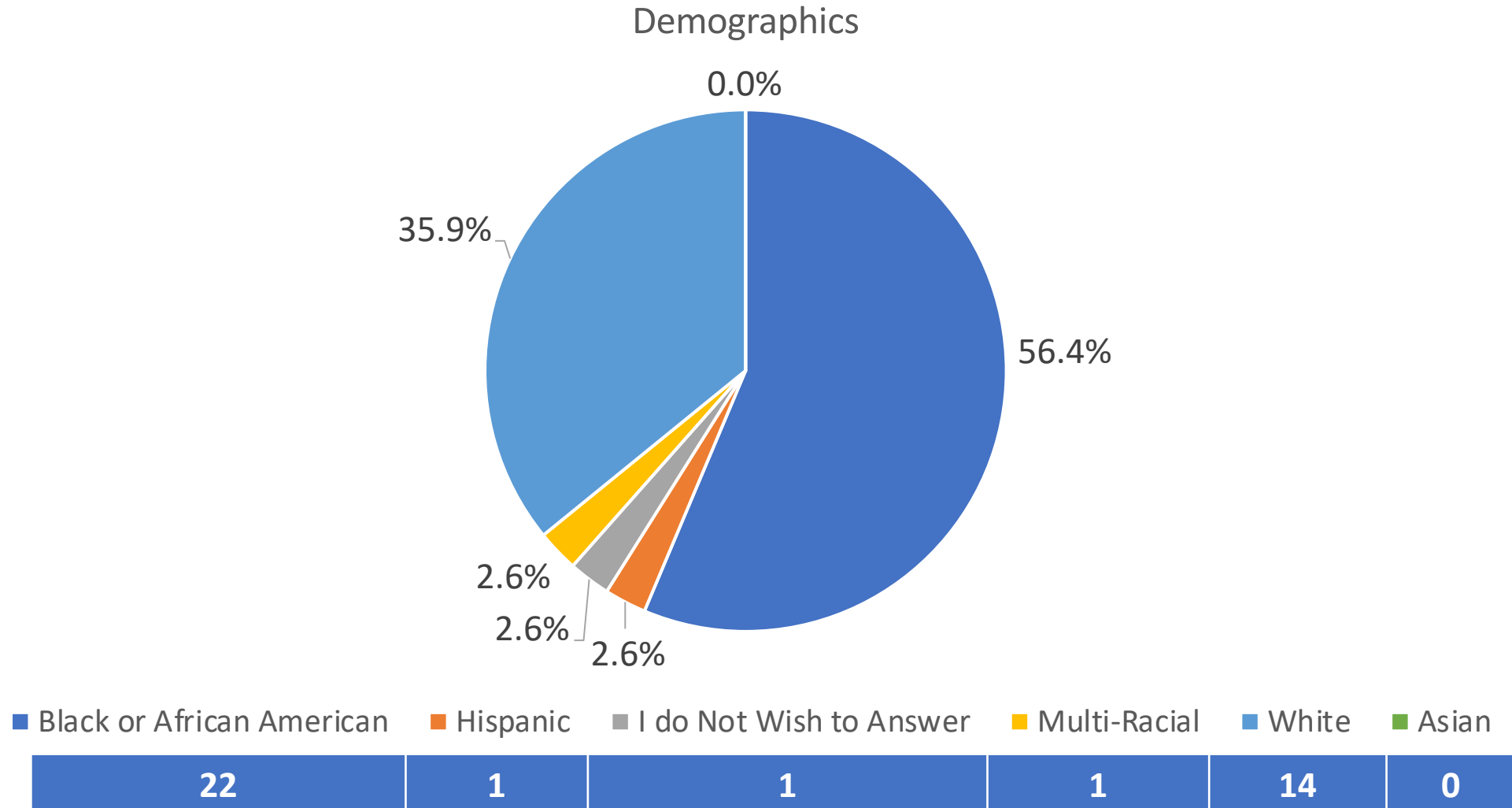
Community Survey

Connection to BTWHS

Community Survey

Demographics

Black or African American	Hispanic	I do Not Wish to Answer	Multi-Racial	White	Asian
22	1	1	1	14	0

56.4% — Black or African American
35.9% — White
2.6% — Multi-Racial
2.6% — I do Not Wish to Answer
2.6% — Hispanic
0.0% — Asian

Community Survey

Should the STEAM Program be Open City-Wide?
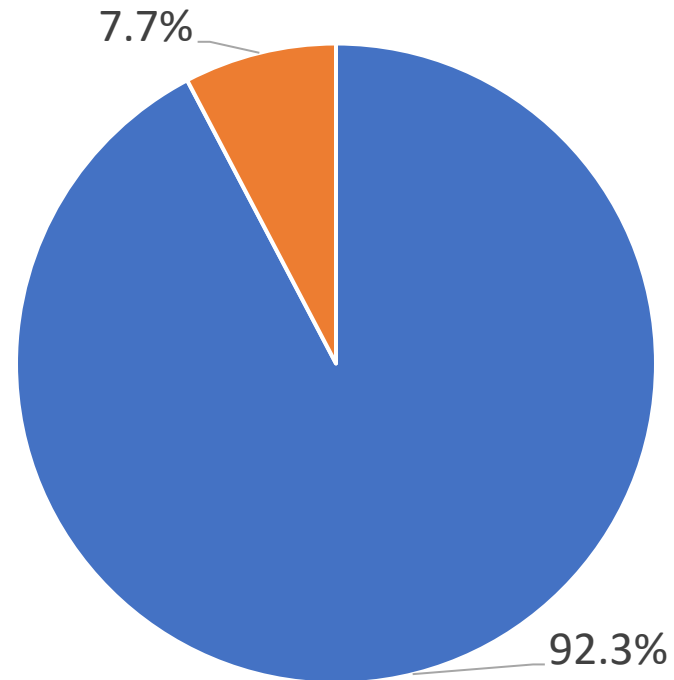
Yes	No
36	3

Community Survey

Pathway a Student is Most Interested	Score
Cybersecurity	104
Audio Visual and Communications Technology	111
Entrepreneurship	121
Performing Arts	156
Multimedia Arts	157
Hospitality	170

The lowest score is the highest-ranking choice.

Community Survey

Overview of Comments
The program is a great idea with adding STEM to the arts, just continue to grow the current arts program.
Great idea! It should be limited to the actual students who attend the school.
Please ensure staffing is hired to fulfill the teaching positions and that they are interested in the field.
Equip the school with everything that is needed for the program to be successful.
I have been impressed with the arts program at BTWHS. Is there redundancy with Norview as the Engineering School?
It's Needed.
Establish a mecca of learning, a model fine arts program, a model IT program, add political science for pre-law…
I think they have finally listened to the community concerns and ideas.
Collaborate with the city in designing the program to meet the employment needs of our community.

Community Survey

Overview of Comments
Why place a STEM-based program at the #4 of 5 ranked area high schools? Is BTWHS really the best school to execute an inaugural program?
If the school is application-based, where will the current students attend?
I do feel the school needs to be renovated/rebuilt before this program begins.
I would feel great if this program could count towards college credits or certifications.
It is important to continue the history and culture of excellence of Booker T. Washington High School.
STEAM curriculum and challenging courses need to be available.
I think STEM programming will be a success with parent involvement and great teachers.
If it's a true STEAM program and a magnet program that would be great.
Collaborating with TCC and offering a certificate or an associates degree option would be beneficial.

Community Input Meeting

Overview of Comments Related to the STEAM Program
Connect with Norfolk State University on Cybersecurity and with other areas that work.
Why wait until next year?
Match the Norfolk economic profile to meet the demand for open jobs.
Create a legacy hall or museum to honor the BTWHS history.
Connect with the US Navy STEM coordinator.
Will this be for all students? What about the average student?
Need teacher PD, equipment, and a focus on trades.
We need to keep the arts program and make it stronger.
There is a need to support mental health.

DATA GATHERING & ANALYSIS
October

Begin the creation of STEAM programming to include the current Visual and Performing Arts Academy.

Visit exemplar STEAM schools.

Gather additional student and teacher feedback.

COMMUNITY ENGAGEMENT
November

Develop a draft STEAM educational program to include strands and concepts.

Continue community engagement meetings.

Conduct community partner interviews.

EDUCATIONAL FACILITIES PLANNING
December

Create a draft STEAM Implementation Plan and student application/selection process.

Conduct education specifications planning labs with stakeholders.

Preliminary implementation Budget estimate.

RECOMMENDATIONS & REPORTING
January

Create draft staffing needs, certifications, professional development requirements, etc.

Present report and recommendations to the NPS School Board.

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STEAM PROGRAMMING

Questions and Discussion