

**BRYAN-COLLEGE STATION CHAMBER OF COMMERCE
2026 ECONOMIC OUTLOOK CONFERENCE**

GINGER CARRABINE, SUPERINTENDENT



BRYAN ISD

CHILDREN FIRST. ALWAYS

BY THE NUMBERS



BRYAN ISD BOARD OF TRUSTEES

BRYAN ISD BY THE NUMBERS

7 BOARD MEMBERS



JOEL BRYAN
PRESIDENT



FELICIA BENFORD
VICE PRESIDENT



RUTHIE WALLER
SECRETARY



**DR. JULIE
HARLIN-WOLF**
BOARD MEMBER



TIM PAVLAS
BOARD MEMBER



DAVID STASNY
BOARD MEMBER



DAVID STENNIS
BOARD MEMBER





BY THE NUMBERS

BRYAN ISD, EST. 1877



BRYAN ISD BY THE NUMBERS

16K
STUDENTS

BRYAN ISD BY THE NUMBERS

11+K
FAMILIES

BRYAN ISD BY THE NUMBERS

2900
EMPLOYEES

BRYAN ISD BY THE NUMBERS

23
SCHOOLS



WE ARE BRYAN ISD



BRYAN ISD BY THE NUMBERS

61%

HISPANIC

BRYAN ISD BY THE NUMBERS

18%

WHITE

BRYAN ISD BY THE NUMBERS

17%

AFRICAN
AMERICAN

BRYAN ISD BY THE NUMBERS

4%

OTHER

TEXAS
DEMOGRAPHICS:

HISPANIC (54%)

WHITE (24%)

AFRICAN
AMERICAN (13%)

OTHER (9%)

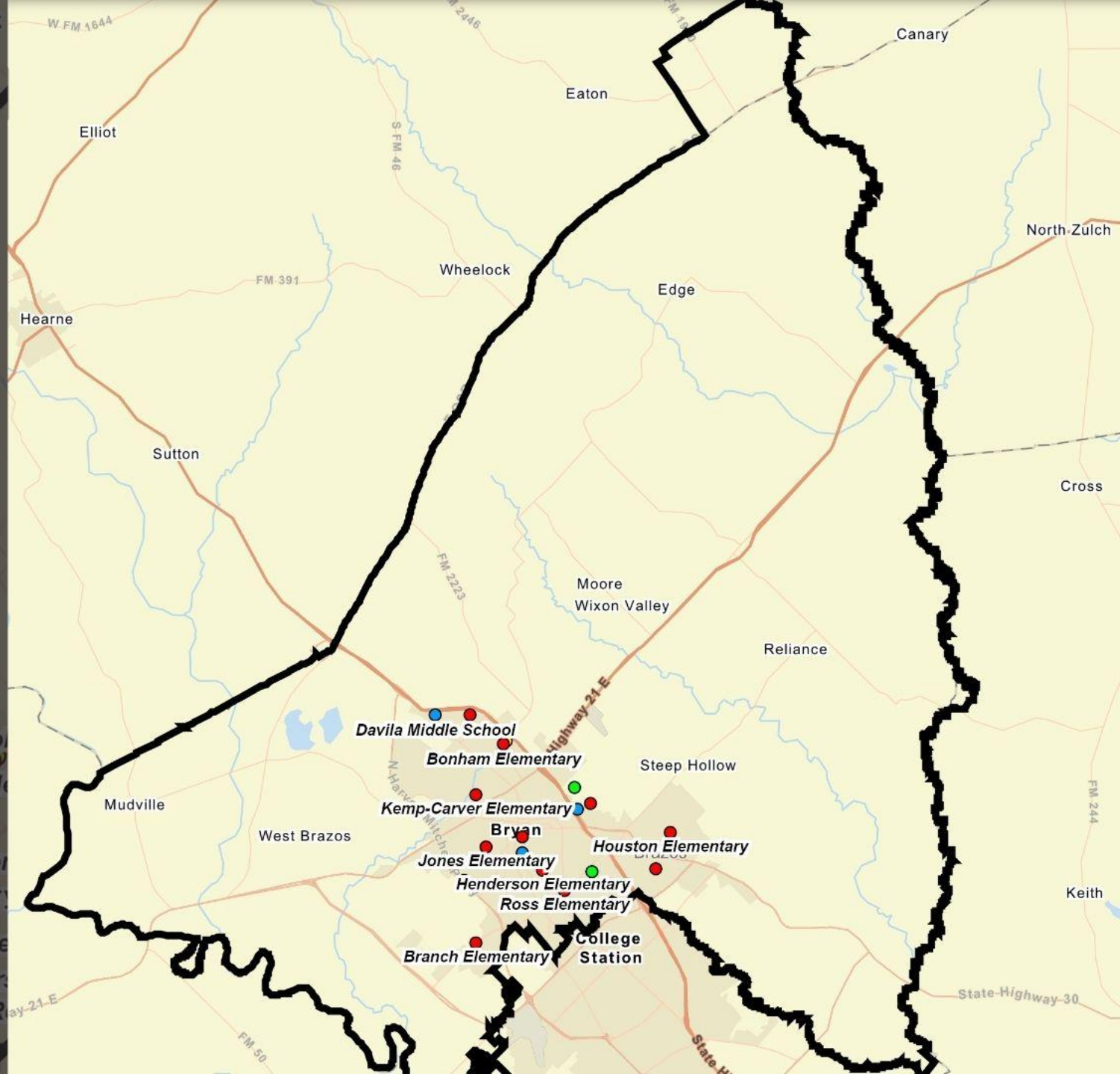


STRONG PRESENCE

BRYAN ISD BY THE NUMBERS

423

SQUARE MILES





COMMITTMENT TO EXCELLENCE

BRYAN ISD BY THE NUMBERS

21

CONSECUTIVE YEARS

BRYAN ISD BY THE NUMBERS

2%

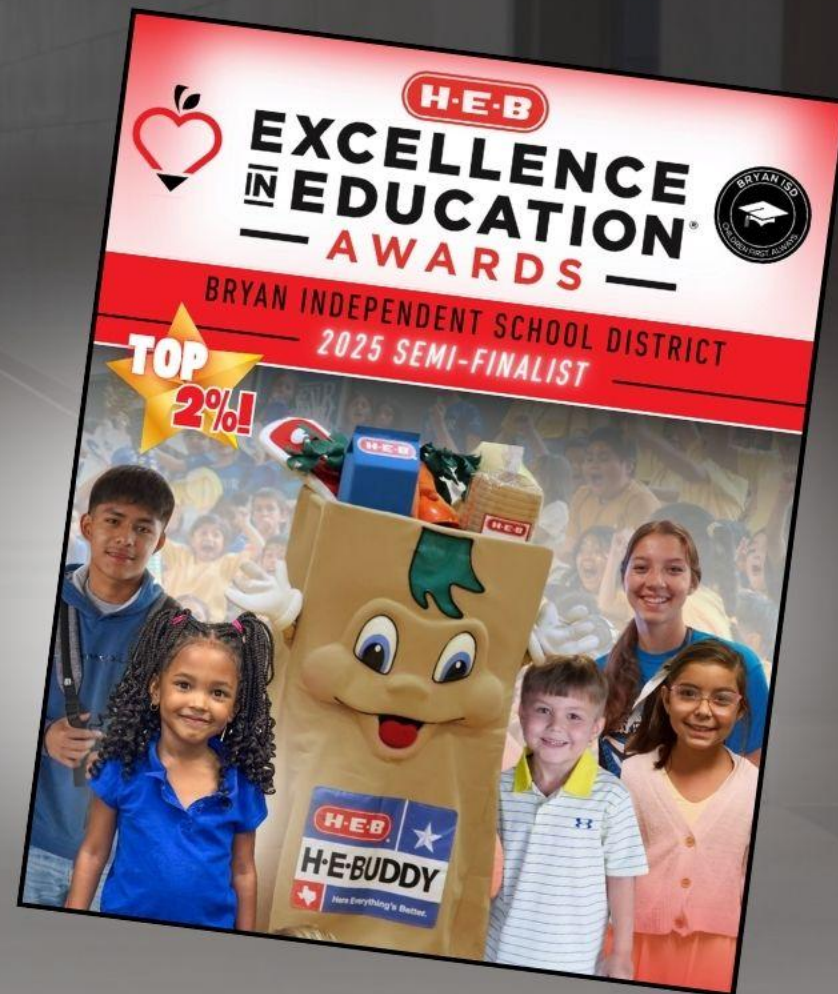
OF SCHOOL DISTRICTS



FINANCIAL RATING

School FIRST

FINANCIAL INTEGRITY RATING SYSTEM OF TEXAS





A PATTERN OF TRUST

BRYAN ISD BOND ELECTIONS

BRYAN ISD BY THE NUMBERS

12M

2019



BRYAN ISD BY THE NUMBERS

175M

2020



BRYAN ISD BY THE NUMBERS

397M

2025



BRYAN ISD BY THE NUMBERS

584M

TOTAL



2025 BRYAN ISD BOND



BRYAN ISD BY THE NUMBERS
397M

BRYAN ISD BY THE NUMBERS
326M

PROPOSITION A

64.81% FOR

BRYAN ISD BY THE NUMBERS
67M

PROPOSITION B

53.4% FOR

BRYAN ISD BY THE NUMBERS
4M

PROPOSITION C

67.3% FOR



2025 BRYAN ISD BOND

MAJOR PROJECTS*

- REBUILD BRYAN COLLEGIATE HIGH SCHOOL
- REBUILD FIELD HOUSE AT MERRILL GREEN STADIUM
- NEW FINE ARTS AUDITORIUM AT BRYAN HIGH SCHOOL
- NEW CTE MULTI-PURPOSE TEACHING & TRAINING FACILITY

*LIST IS NOT EXHAUSTIVE

LEARN
MORE

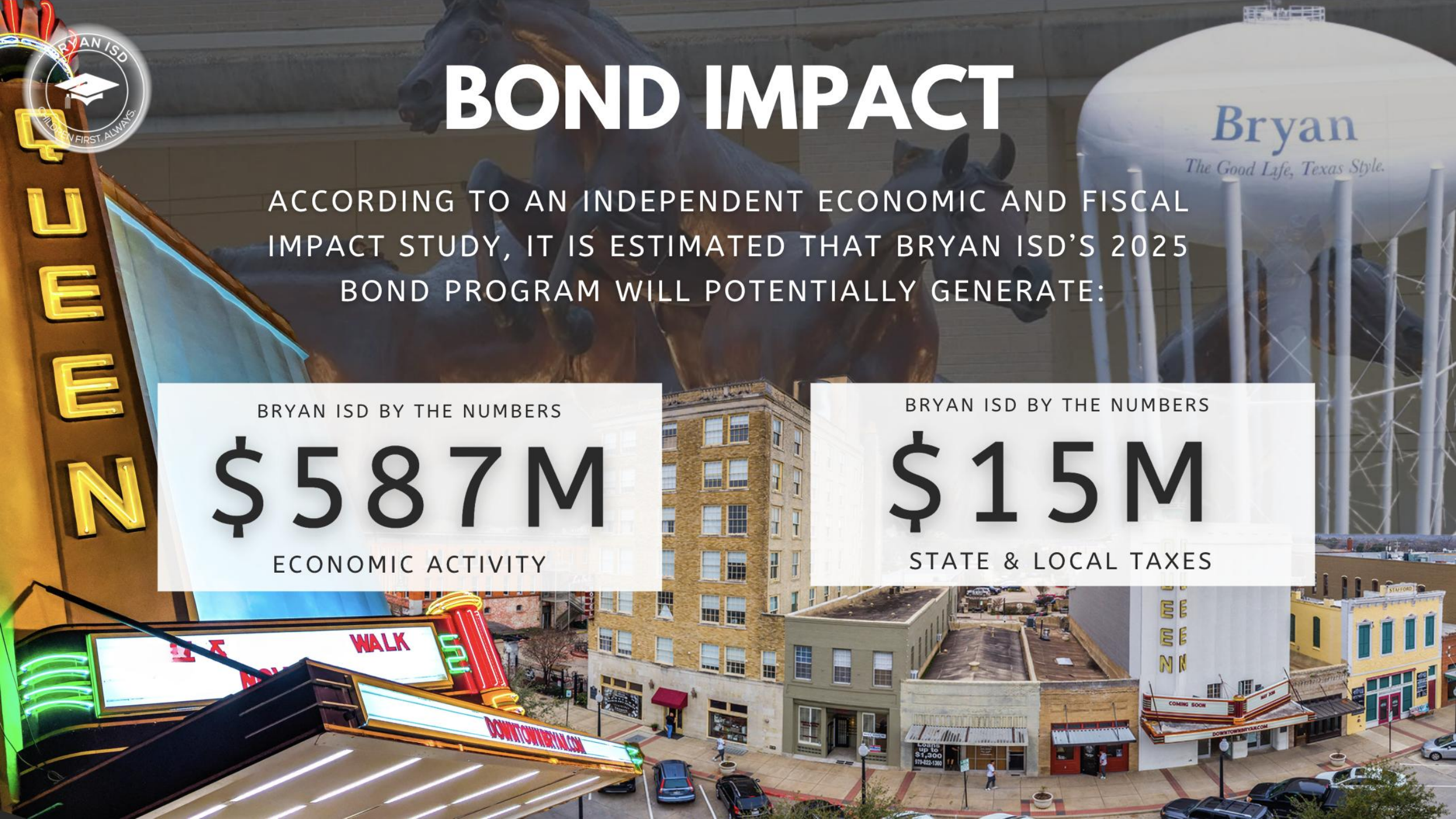


BRYAN ISD BY THE NUMBERS

23

SCHOOLS IMPACTED





BOND IMPACT

ACCORDING TO AN INDEPENDENT ECONOMIC AND FISCAL IMPACT STUDY, IT IS ESTIMATED THAT BRYAN ISD'S 2025 BOND PROGRAM WILL POTENTIALLY GENERATE:

BRYAN ISD BY THE NUMBERS

\$587M

ECONOMIC ACTIVITY

BRYAN ISD BY THE NUMBERS

\$15M

STATE & LOCAL TAXES



PROMOTING WITH PURPOSE

INTENTIONAL MARKETING. MEASURABLE IMPACT

BRYAN ISD BY THE NUMBERS

18.5M

VIEWS ON SOCIAL MEDIA

BRYAN ISD BY THE NUMBERS

23.5K

FOLLOWERS

BRYAN ISD BY THE NUMBERS

562K

VISITS

BRYAN ISD BY THE NUMBERS

363K

CONTENT INTERACTIONS

Follow us!





ADVANCED ACADEMICS



Gait Analysis using Multivariate Extended Kalman Filter to Improve
BRYAN ISD BY THE NUMBERS
Ethan Wingfield, Hayden Belvers, Helen Gomez, Makharjone Basim, Syed Hasib Akhter Faruqui
*Department of Engineering Technology, Sam Houston State University, Texas



1. Introduction

Gait analysis is a critical component of many medical and engineering applications. Parameters such as step length and foot clearance provide valuable information for researchers and clinicians. However, gait analysis relies on 3D consuming, expensive, and inaccessible in clinical settings. Measurement Units (IMUs) are an accessible alternative to traditional motion capture systems. This research explores the use of IMUs as an accessible alternative to traditional motion capture systems. The biggest advantage of IMUs is their portability, allowing for data collection in a variety of environments. The research also explores the use of IMUs for gait analysis in clinical settings, providing a more accessible and cost-effective method for gait analysis.

2. Research Objective

Develop a practical, accurate, and affordable system for gait analysis that provides instant feedback to patients and clinicians, making gait assessment accessible in any environment without fixed equipment.

3. Device Development & Implementation

The system architecture consists of hardware and software components.

3.1. Hardware Setup

- IMUs: Six MPU 6050 IMUs placed at key leg points (knee, ankle, wrist).
- Mounting: 3D-printed components with Velcro for adjustable fit.
- Connectivity: I2C serial connection allowing sensors to relay data simultaneously.
- Calibration: Microcontroller starts output at zero regardless of initial orientation.

3.2. Data Processing Pipeline

- Data Collection: IMUs gather acceleration data during patient walking.
- Position: Position data is collected and transferred to central computer.
- Filtering: MEKF eliminates sensor noise from the data stream.
- Angle Calculation: Computing knee and ankle angles from filtered positions.
- Anomaly Detection: MEVMA identifies gait irregularities.
- Result Storage and Transfer: The calculated results are transferred to central computer for further analysis.

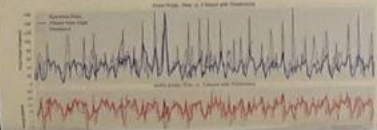
1.1. Data Collection & System Flow



Figure 3: IMU setup with Arduino Uno and Steppers for attaching them to subjects

4.1. MEKF for Signal Processing

- The system starts at zero when standing still, measuring changes relative to ground. This is the calibration phase.
- Subject testing was conducted with a participant walking on a treadmill for several minutes to gather baseline data.
- MEKF is used to filter signal noise (solid lines).
- At certain intervals (optional addition for future development) the MEKF is used to predict possible future (knee and foot angle) position (green solid line).



5.2. MEVMA Control Chart for Anomaly Detection

The control chart extends univariate EWMA to multivariate data. The control chart is used to detect any anomalous movement in gait (phase II).

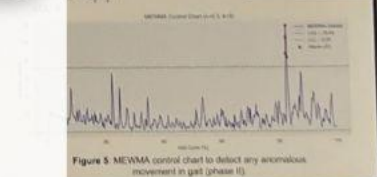


Figure 5: MEVMA control chart to detect any anomalous movement in gait (phase II)

5. Advantages

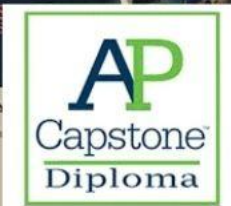
- Accessibility:** Eliminates need for 3D camera-based motion capture systems.
- Portability:** Allows gait analysis in any environment without fixed equipment.
- Real-time:** Online processing provides immediate results to clinicians and patients.
- Cost-effectiveness:** Reduces barriers to implementation in diverse clinical settings.
- Objectivity:** Uses exact positional data rather than subjective visual assessment.

6. Conclusion

Our IMU-based gait analysis system with MEKF processing provides an accessible, cost-effective alternative to traditional motion capture systems.

The system:
1. Effectively distinguishes between normal and abnormal gait patterns.
2. Delivers real-time analysis that can be performed on-foot for instant feedback.
3. Functions in any environment without constraints of fixed equipment.
4. Offers comprehensive visualization matching the assessment methods used by physicians.
We hypothesize that our proposed approach, relying solely on IMU data in addition to the MEKF algorithm, can provide accurate gait analysis while being more accessible and cost-effective, thus broadening the scope of clinical applications and serving a larger patient population.

Acknowledgments:
This project was made possible by funding received from the Sam Houston State University, Department of Engineering Technology, and the Bryan ISD. We would like to thank the following individuals for their support and assistance: Dr. [Name], Dr. [Name], and the Bryan ISD staff.





FINE ARTS



BRYAN ISD BY THE NUMBERS

6

CONSECUTIVE YEARS



BRYAN ISD BY THE NUMBERS

5

CONSECUTIVE YEARS





CAREER & TECHNICAL EDUCATION (CTE)

BRYAN ISD BY THE NUMBERS

2  DISTRICT OF DISTINCTION

OUT OF 2 YEARS

BRYAN ISD BY THE NUMBERS

21

CTE UNIQUE PROGRAMS





WORKFORCE DEVELOPMENT

BRYAN ISD BY THE NUMBERS

97.5%

HAVE TAKEN A CTE COURSE

BRYAN ISD BY THE NUMBERS

780

INDUSTRY CERTIFICATIONS





ATHLETICS

BRYAN ISD BY THE NUMBERS

11+

DIVISION 1 ATHLETES



PVAMU



PROFESSIONAL GRADE

ISAIAH JOHNSON
UFL, DC DEFENDERS

HUNTER DOBBINS
ST. LOUIS CARDINALS

NIC SCOURTON
CAROLINA PANTHERS

BRYAN ISD BY THE NUMBERS

ELITE

ATHLETES



AMONG THE BEST

BRYAN ISD BY THE NUMBERS





COMMUNITY PARTNERSHIPS

DESTINATION
**BRYAN
TEXAS**

BRYAN ISD BY THE NUMBERS

300

ADDITIONAL TEAMS

BRYAN ISD BY THE NUMBERS

\$5.89M

TOTAL ECONOMIC IMPACT





COMMUNITY SERVICE

BRYAN ISD BY THE NUMBERS

17,382

VOLUNTEER HOURS
SINCE. AUG. 1, 2025



Habitat House #313
Bryan/College Station
Habitat
for Humanity

Quintero-Mendez
Family Home

Land Sponsor
Denise Bermudez

Thanks to our
generous sponsors!

BRYAN ISD BUILD
&
The Ruth Clearfield Family
\$40,000 Matching Gift

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SOLD





FAMILY & COMMUNITY ENGAGEMENT

BRYAN ISD BY THE NUMBERS

IMMEASURABLE

BETTER TOGETHER





REASON



CHECK US OUT!

ALWAYS REAL. OFFERING MORE.