



San Diego State University



## Community Informed AI-Based Vehicle Technology Simulator with Behavioral Strategies to Advance Neurodiverse Independence and Employment

Nilanjan Sarkar, Keivan Stassun, Mary Baker-Ericzen



Motivation

System

Our

Research

articipatory

4

tv-Based

Communit

**Individuals in the United States have Autism Spectrum Disorder (ASD)** 



Each year in the US, approximately

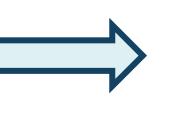
autistic children become adults and face a litany of disheartening statistics regarding:







Fewer than 30% of driving-age autistic individuals are licensed to drive.



**Lack of independence** and ability to gain work opportunities

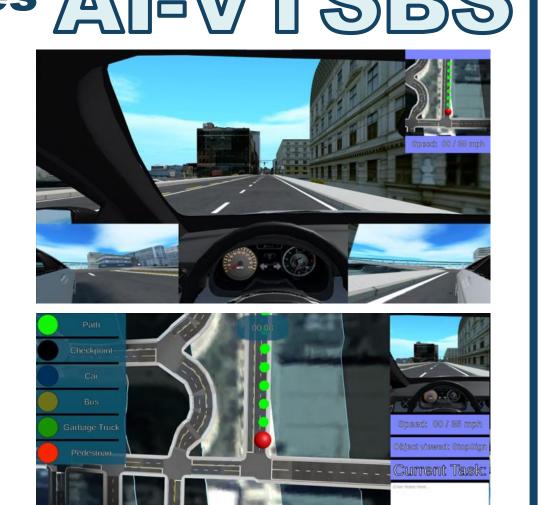
## Al-based Vehicle Technology Simulator with Behavioral Strategies 🗚 🗀

**FOVE VR Head Mounted** Display



Virtual-Reality Driving Simulator with Artificial **Intelligence-based Analysis and Feedback** 

**Curriculum built on a Cognitive Behavioral Intervention for Driving** 



**Goodwill** ABS





Our Civic Partners who allow us to achieve significant impact in the community



**Thompson Policy Institute** on Disability

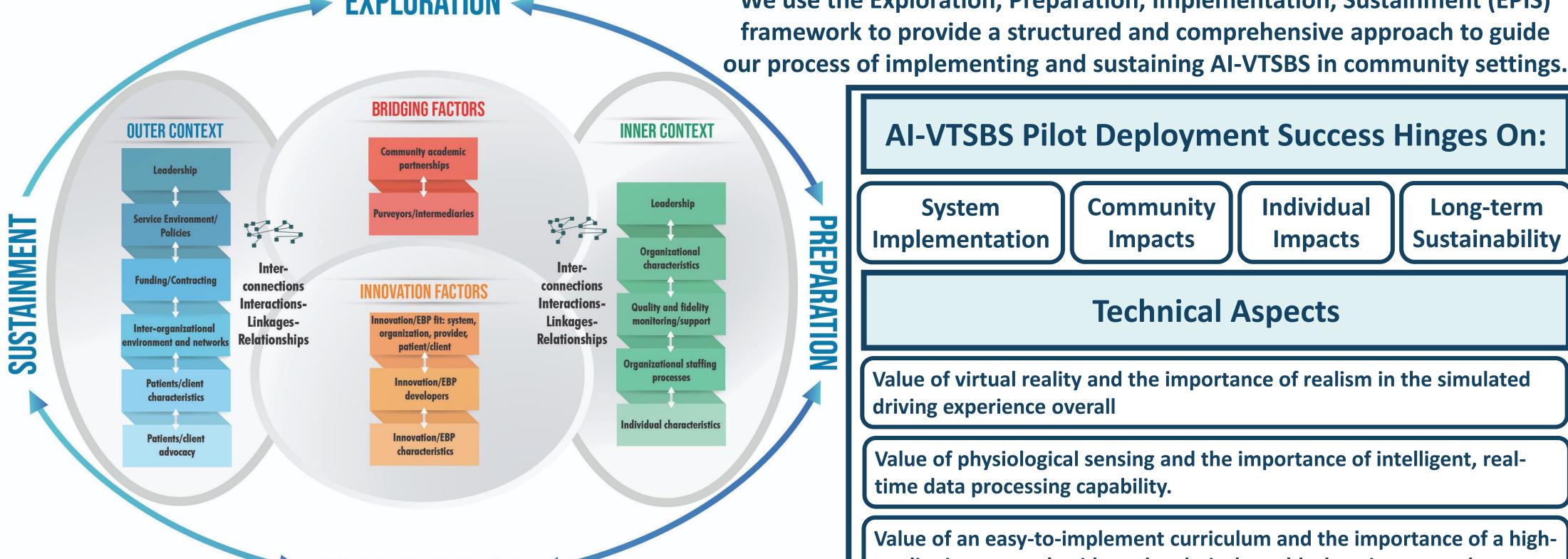
Amerigroup





We learned from the community that this project addresses a problem of real significance, and that this problem will benefit

from inclusion of research to leap beyond the ways the community has worked to address this problem previously. **EXPLORATION** We use the Exploration, Preparation, Implementation, Sustainment (EPIS) framework to provide a structured and comprehensive approach to guide



## **AI-VTSBS Pilot Deployment Success Hinges On:**

**System Implementation** 

Community **Impacts** 

Individual **Impacts** 

Long-term **Sustainability** 

## **Technical Aspects**

Value of virtual reality and the importance of realism in the simulated driving experience overall

Value of physiological sensing and the importance of intelligent, realtime data processing capability.

Value of an easy-to-implement curriculum and the importance of a highquality instructors' guide and technical troubleshooting manual.