

# The National Transportation Center & The SMARTER Center



# History of the NTC



- Established by Congress under the Intermodal Surface Transportation Efficiency Act of 1991
- Tier-1 UTC: Urban Mobility and Equity Center (2016-2023)
- Regional UTC: SMARTER Center (2023-2028)
- MDOT- MSU Internship
  - Over 650 Graduate and Undergraduate Interns
  - Over 40 years, national model and a pipeline to employment
- The National Summer Transportation Institute
  - Over 600 students across 30+ years
- Brought over \$60M and Completed about 150 research projects

# The SMARTER Center



The SMARTER Center is the USDOT-designated University Transportation Center for the Mid-Atlantic (Region 3).

Led by Morgan State, our consortium of eight universities develops innovative solutions to mobility challenges across the region.



# The NTC & Morgan's Strategic Plan



1. Research Excellence - R1 Classification
  - Hundreds of peer-reviewed publications and conference presentations
  - Research grants worth tens of millions of dollars
  - 3 issued and 2 pending patents; 14 IPDS
2. Student Success
  - Graduate and undergraduate fellowships, scholarships, assistantships
  - Hundreds of internship placements
  - Hands-on experience with real-world projects
3. Community Engagement
  - Improving safety and traffic management across Baltimore (BCDOT partnership)
  - Robust partnerships with local governments, transportation agencies, and non-profits
4. Infrastructure and Capacity Building
  - Advanced research facilities (Innovation lab, SABA lab, SMART Corridor, ... )
5. Inclusivity and Diversity
  - Diverse student cohort
  - Research promotes accessible mobility for all

# Research

## Strategic Plan – 1: Research Excellence



### **Assessing the Aftermath: An In-Depth Analysis of the Regional Impact of the Francis Scott Key Bridge Collapse**

This project proposes a comprehensive investigation of the regional impacts following the Francis Scott Key Bridge collapse in Baltimore. Through...

[Read More](#)



### **Multimodal Planning and Asset Management of Transportation Systems in Small Urban and Rural Communities**

This project explores sustainable planning and asset management practices for transportation systems in small urban and rural communities. The study...

[Read More](#)



### **Transportation Infrastructure Development Under Uncertainties**

This project proposes to improve a framework for analyzing and optimizing interrelated transportation infrastructure projects under conditions of uncertainty. The...

[Read More](#)

# The Autonomous Wheelchair

- Design and Construction by Morgan State faculty and students
- Mobile App currently in development
- Previous Demonstrations:
  - *USDOT Secretary Visit at Morgan State, 2022*
  - *Future of Transportation Summit, USDOT Headquarters, 2024*
  - *Maryland CAV Working Group, 2024*
  - *Assistive Technology Day, NIST, 2024*
  - *SpArc Tank Ig-Nite, The ARC Maryland, 2024*
  - *Transforming Transportation, The World Bank, 2025*
  - *SMARTER Symposium, 2025*



# The Autonomous Wheelchair

- ✓ Research Excellence
- ✓ Student Success
- ✓ Community Engagement
- ✓ Inclusivity and Diversity



*“Morgan State students test autonomous wheelchair that uses AI,” WMAR ABC TV 2, September 2024.*

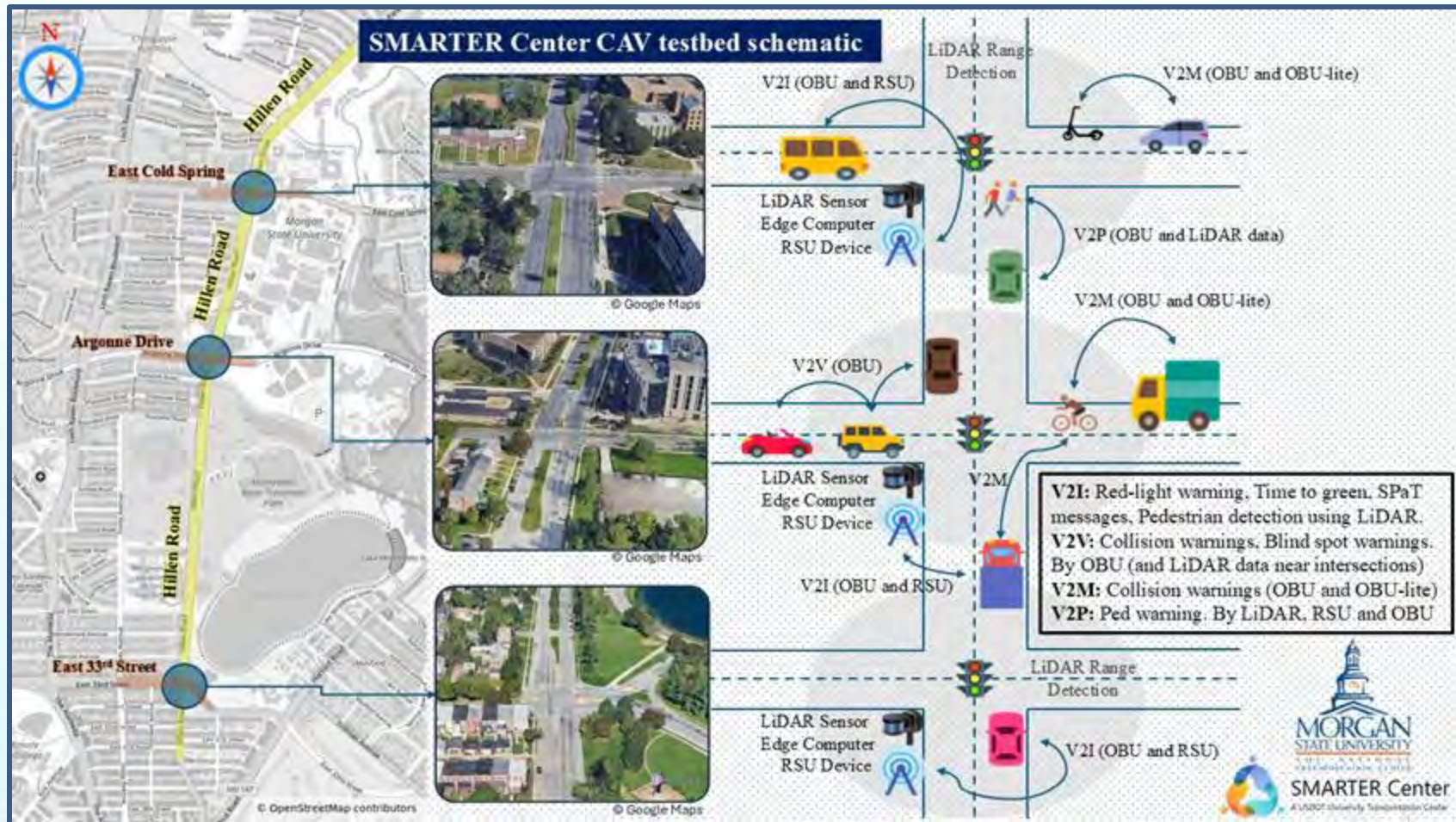


# The Autonomous Wheelchair



The wheelchair is currently being deployed in a pilot program in partnership with BWI Thurgood Marshall Airport.





# Building a SMART City



# The SMART Intersection/Corridor



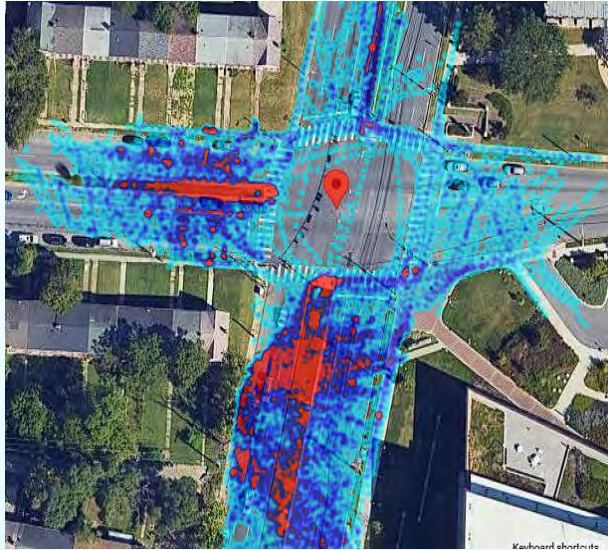
- ✓ Research Excellence
- ✓ Student Success
- ✓ Community Engagement
- ✓ Infrastructure and Capacity Building



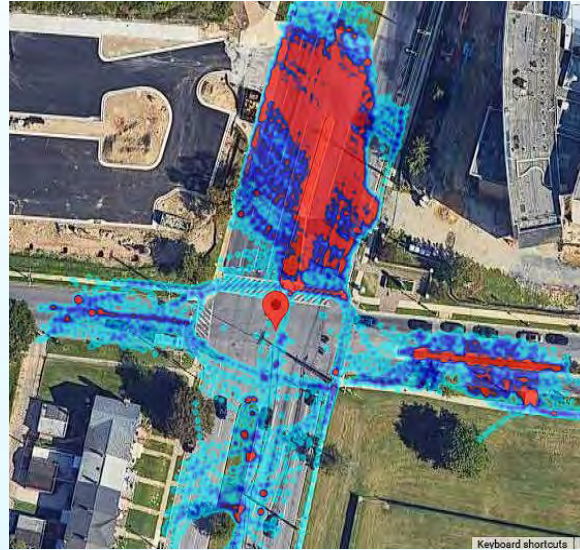
*SMART Corridors are being deployed throughout the state, from downtown Baltimore to Prince George's County.*



# Building a SMART City



E Cold Spring & Hillen Rd



Argonne Dr & Hillen Rd



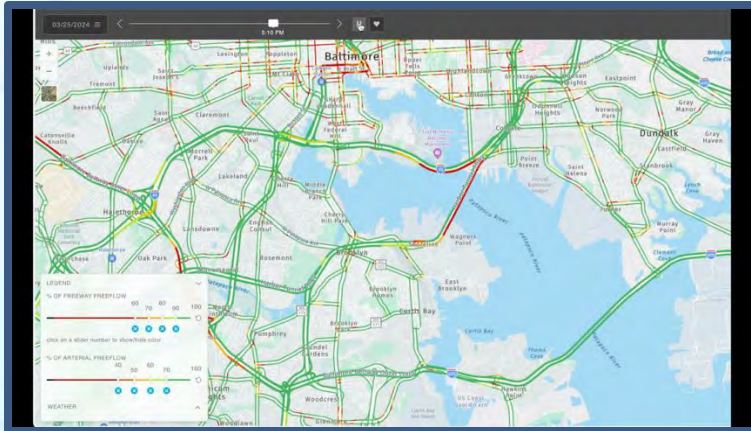
33<sup>rd</sup> & Hillen Rd

# Key Bridge Collapse Analysis



*The SMARTER Center is conducting a series of studies on the effects of the Key bridge collapse, from traffic patterns and economic impacts to travel behavior and supply chain function.*

- ✓ Research Excellence
- ✓ Student Success
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- ✓ Inclusivity and Diversity



*Traffic Patterns Analysis*



*Scripps News, March 2024*

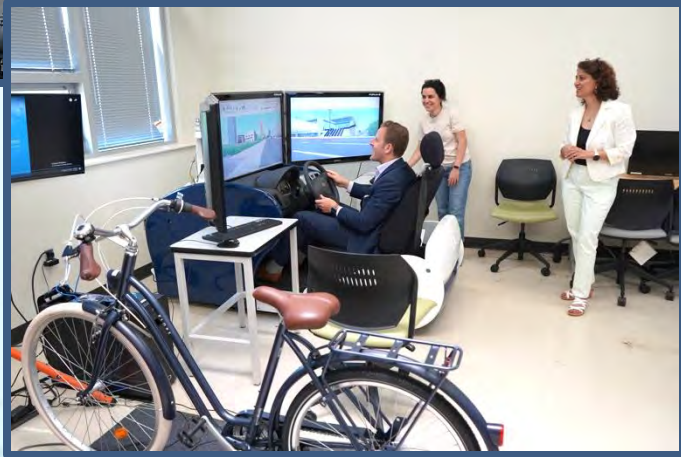


# The SMARTER Symposium

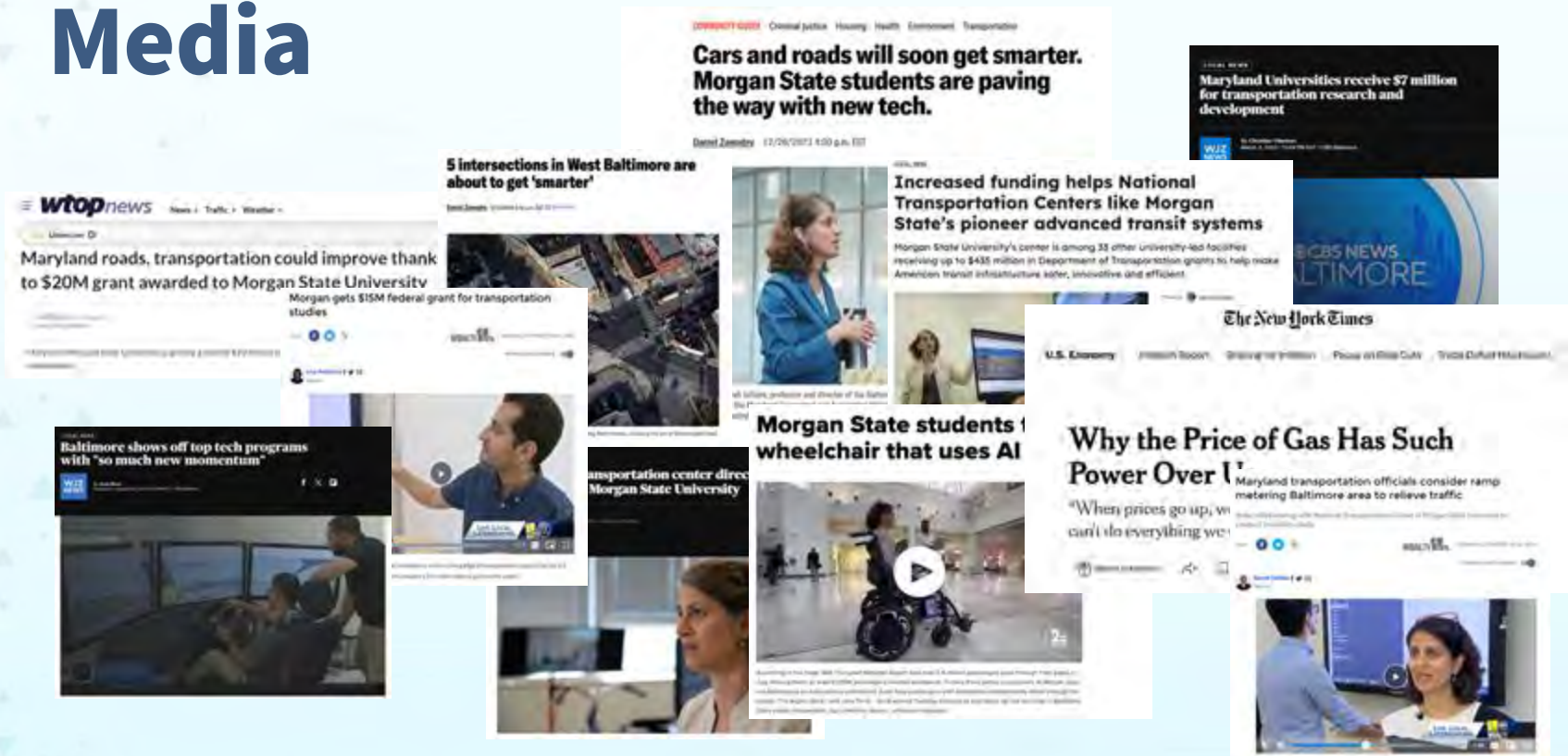




# The Safety & Behavioral Analysis Lab



# Media



Featured in: The Baltimore Banner, The New York Times, CBS News, ABC, WTOP

# Workforce Development: NSTI



The **National Summer Transportation Institute** gives middle and high school students STEM training while introducing them to careers in the transportation sector.

# Workforce Development: MDOT Internship

Through the NTC, SMARTER has partnered with the Maryland Department of Transportation to provide dozens of high-quality interns for the transportation workforce.





# Thank You



## The National Transportation Center:

[www.morgan.edu/soe/ntc](http://www.morgan.edu/soe/ntc)

## The SMARTER Center:

[www.smartercenter.org/](http://www.smartercenter.org/)

*View all our links here!*



@NTCMorgan



National Transportation Center at Morgan State



National Transportation Center at Morgan State