SS4A Grant Overview

Citizens Transportation Advisory Committee (CTAC)
May 21, 2025

Thomas Jefferson Planning District Commission
Charlottesville/Albemarle MPO

University of Virginia

VDOT
Virginia Department of Transportation



Grant Funding: USDOT Safe Streets and Roads for All (SS4A) Grant Proposal (Planning and Demonstration)

Lead Applicant: Charlottesville-Albemarle Metropolitan Planning Organization (CA-MPO)

Strategic Partners: University of Virginia Research Team

Critical Stakeholders: Albemarle County, City of Charlottesville, Honda Motor Company, VDOT, VTRC

Project Title: Crash Analytics and Injury Research (CAIR) – Holistic Approach to Vulnerable Road User Safety

Application Type: Conduct Demonstration or Other Supplement Planning Activities (only)

Anticipated Letters of Endorsement: Virginia Senators Warner and Kaine, City of Charlottesville, Albemarle County

Anticipated Grant Funding Request: $4,620,000 over 3 years, 20% match (10% Honda, 10% UVA)

Strategic Collaboration

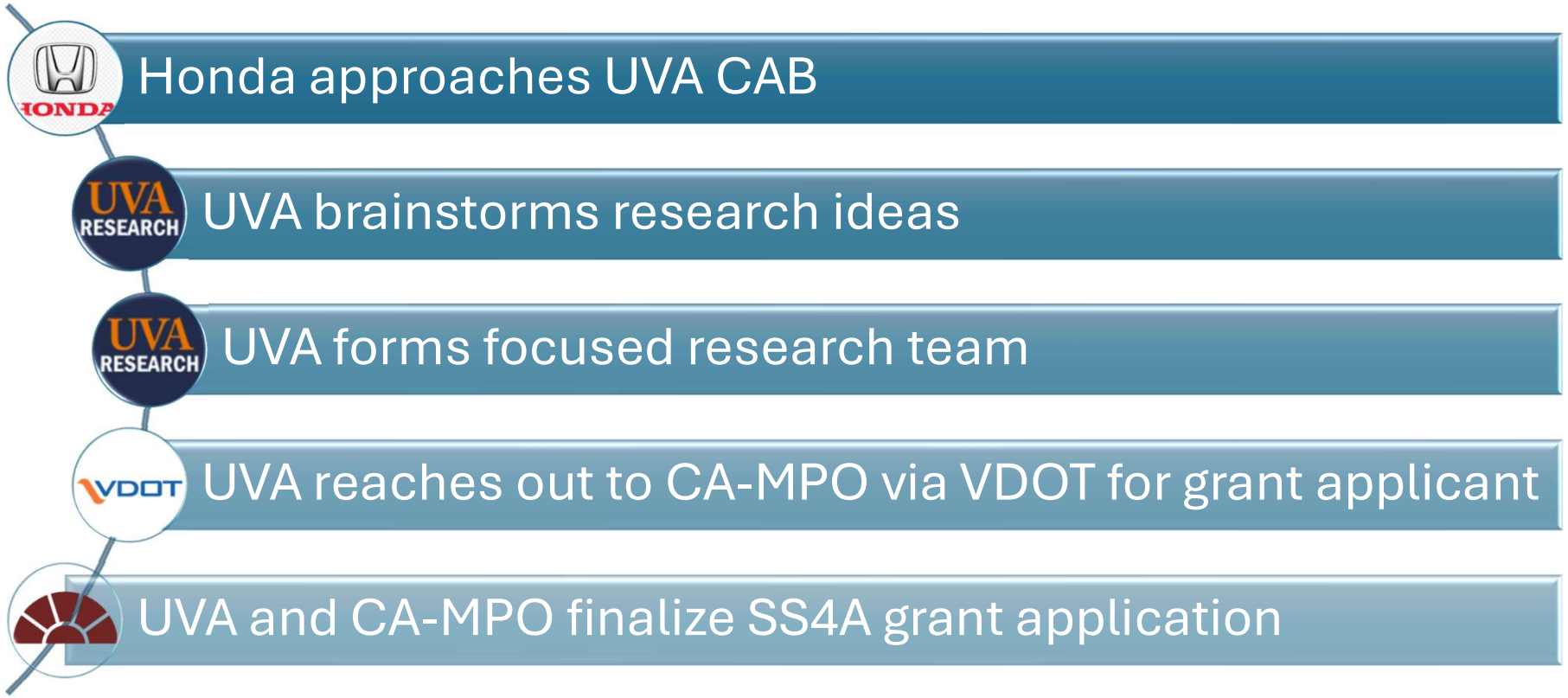


What problem are we trying to solve?



- Public expects existing and new roadway systems safely support all multimodal forms of transportation
- Industry challenges with risk-based safety design due to minimal VRU crash data and a limited understanding of VRU behaviors based on infrastructure characteristics and interaction with vehicular traffic

How we got here?



Objectives

- Improve VRU safety, reduce accidents, reduce injury associated morbity and costs, and save lives
- Improve understanding of VRU interactions with traffic and infrastructure
- Provide holistic safety picture to better evaluate realized safety benefits and risks in infrastructure design
- Develop models to advance automotive crash avoidance systems to further protect VRUs



World-Class UVA Research Team – Key Leaders

University of Virginia School of Engineering

Collaborative research solving global challenges



Brian Smith

Senior Associate Dean for Research

Rob Tieman



Professor of Practice

UVA Engineering

Omni Reality & Cognition Lab

Dedicated to the human interaction with infrastructure systems and environments



Donna Chen

Associate Professor

Arsalan Heydarian



Assistant Professor

University of Virginia Center for Applied Biomechanics

Largest university-based biomechanics lab in the world



Jason Foreman

Associate Professor

Greg Shaw



Senior Researcher

UVA Health

Renowned expertise in injury analysis and consequences of crash trauma



Mark Sochor

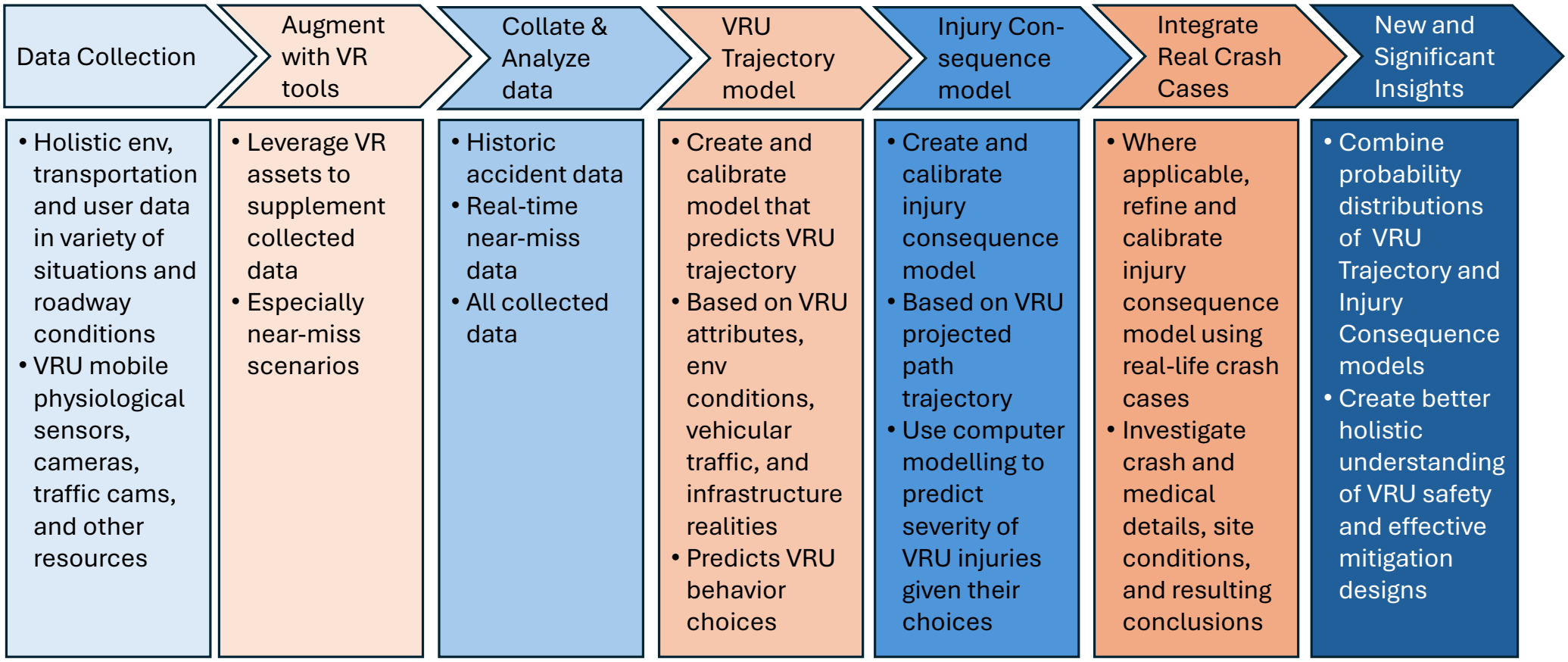
CAB Medical Director

George Glass



Medical Director Emergency Management

Approach Methodology…What will we do?



Primary Deliverable

Enhance TJPDC comprehensive action plan with data-driven VRU safety action plan for CA-MPO area

- Focus on safety, accessibility, and equity
- Actionable items with prioritized short-, mid-, and long-term timelines



Additional Benefits

Resource for Albemarle County, City of Charlottesville, and other multi-modal safety action plans

This information could be used by VDOT, localities, and consultants to better evaluate safety when practicing risk-based, performance-based design

Models and methodology could be extended to improve design and safety of VRUs in high-risk situations, such as urban work zones

These findings could be integrated into automotive crash avoidance technologies to advance predictive safety features which could reduce VRU accidents and fatalities



PATH FORWARD

- **4/15/25:** MPO Technical Committee, informational presentation and request action
- **4/23/25:** MPO Policy Board, informational presentation and request resolution of support
- **5/1/25:** TJPD Commission, request Letter of Support
- **5/21/25:** Citizens Transportation Advisory Committee, Informational presentation
- **May-June:** Secure letters of support (Senators, C'ville, and Albemarle)
- **June:** Finalize application for 6/26/25 due date

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Thank You!

Any Questions?

UVA ENGINEERING

UVA Health