

SS4A Grant Overview

CA-MPO Technical Committee Specifics

April 15, 2025



OVERVIEW

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 morbidity 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



Collaborative research
solving global challenges



Brian
Smith

Senior Associate Dean
for Research



Rob
Tieman

Professor of Practice



Omni Reality & Cognition
Lab

Dedicated to the human
interaction with infrastructure
systems and environments



Donna
Chen

Associate Professor



Arsalan
Heydarian

Assistant Professor



Largest university-based
biomechanics lab in the world



Jason
Foreman

Associate Professor



Greg
Shaw

Senior Researcher



Renowned expertise in injury
analysis and consequences of
crash trauma



Mark
Sochor

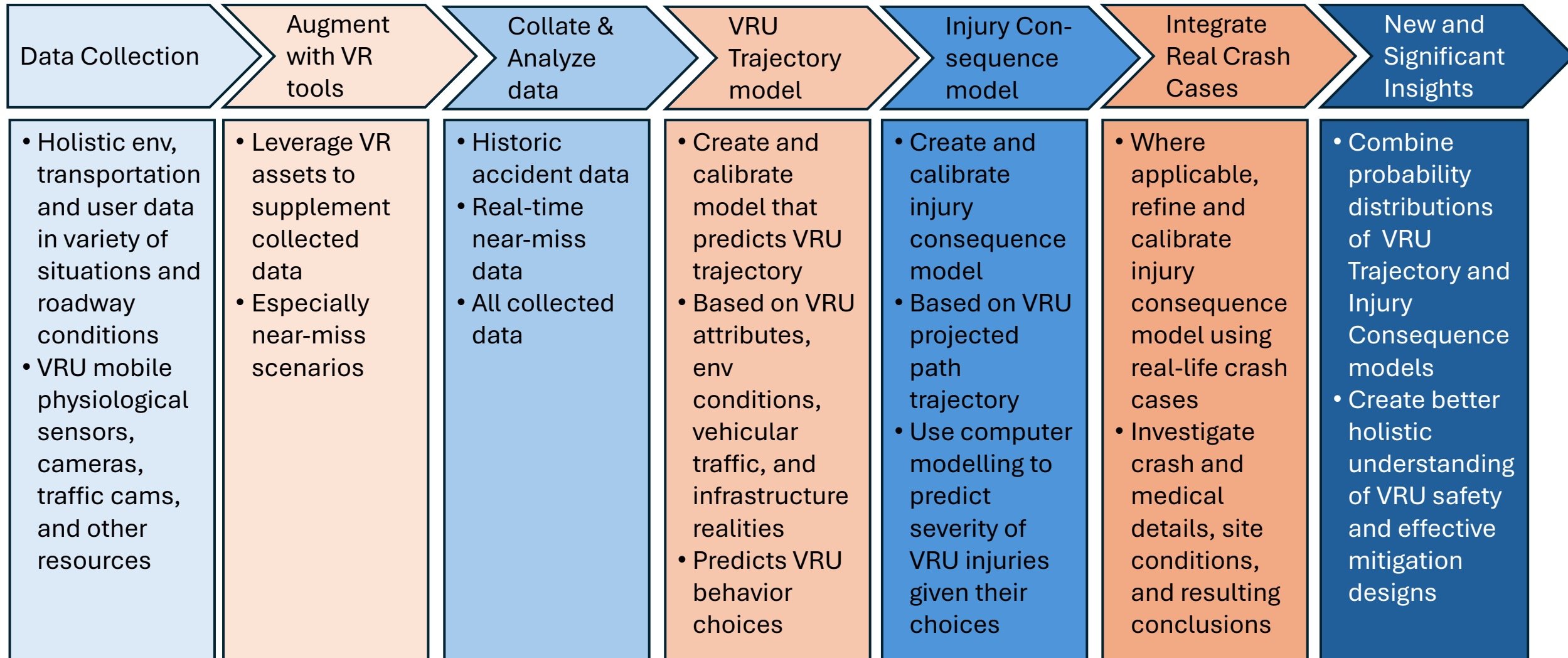
CAB Medical Director



George
Glass

Medical Director
Emergency Management

Approach Methodology...What will we do?



Primary Deliverable

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

- 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



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



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



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:** TJPB 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

Thank You!

Any Questions?