

# Research Strategy / Plan

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- The National Transportation Center
  - Established by the US Congress in 1992
  - Was Earmarked until 2012
  - Fully on soft money



- My Current Grants (\$25M)
  - Sustainable Mobility & Accessibility Regional Transportation Equity Research (SMARTER) Center, *USDOT*, 2023-2029, \$15M
  - Maryland SMARTER – *MDOT*, 2023-2029, \$4M
  - National Center for Transportation Cybersecurity and Resiliency (TraCR), *USDOT*, 2023-2029, \$2M
  - Center for Multi Modal Mobility (CMMM), *USDOT*, 2023-2029, \$1.25M
  - Cyber/Electromagnetic Spectrum Virtual Institute Consortium, *GRIFISS Institute*, 2023- 2025, \$1.5M



- My Current Grants (Cont'd)
  - Safe Streets for All (SS4A), *USDOT-Baltimore City*, 2024-2025, \$200K
  - CMV Safety Countermeasures using Telematics and Driving Simulator, *Federal Motor Career Safety Administration (FMCSA)*, 2022-2024, \$300K
  - Investigating the Effect of Different Bike Lane Types on Bicyclists' Safety and Behavior in Baltimore, *MDOT*, 2023-2024, \$81K
  - Research to Practice Initiative, *Federal Transit Administration (FTA)*, 2022-2024, \$350K.
  - ELET2: Engaged Learning Environment for Emerging Transportation Technologies, *NSF*, 2023- 2025, \$220K.



## Research Strategy

- Knowledge
  - Find Topics/ Research Areas that are likely to be funded
  - Find the gaps in the literature
  - Have ideas/solutions for them
  - Have some white papers ready
  - Be flexible and able to shift your research a bit



- Funding Agencies
  - Specify the agencies that are likely to fund your research
    - ✓ Federal (NSF, NIH, NAS, DoE, DoT, DoD, ...)
    - ✓ State
    - ✓ Local
    - ✓ Non-profit
    - ✓ Industry
  - Visit funding agencies or invite them and showcase your capabilities
    - ✓ Use DC proximity to your advantage
  - Find NOFOs, RFPs
  - Find Program Managers
  - ***Participate in their webinars, ... for the NOFO***





- Partners for large grants
  - Morgan-wide
  - Academia
  - Industry
  - Maybe start as part of a big team
  - Be in several teams for the same RFP if possible
  - Power of collaboration
    - ✓ Sharing knowledge and resources
  - Make sure you are part of research not only for workforce development
  - Networking/ connection is the key





- How to Write a Successful Proposal / Research Plan
  - Understand what the RFP/NOFO asking for
  - Specify keywords and main goals/objectives
  - Write your proposal in line with the main goals/objectives
  - Understand and articulate the problem (problem statement)
  - Literature review, existing gaps, and how your research fits in
  - Articulate how you will solve the problem
    - ✓ Tradeoff between details/page limit and clarity
    - ✓ Show how your method is innovative





- Research Plan
  - Rationale and significance of your research
  - Methods and procedures
  - Significance of your methodology / why you choose it
  - Goals and Objectives
    - Use strong verbs like *identify, define, quantify, establish, determine.*
  - Outputs and outcomes
  - Deliverables and timeline
  - Evaluation
  - Dissemination



- How to Write a Successful Proposal
  - Show/connect it to your past research (you have the expertise and experience)
  - Describe preliminary studies and new and highly relevant findings in the field
  - Broader Impact
  - Workforce development
  - Tech transfer / implementation
  - Equity



- How to Write a Successful Proposal
  - Use Visualization (may have to hire)
  - Beautify the document
  - Use an external reviewer if possible
  - Edit the proposal (professional editor)
  - Make sure you follow formatting/font and all required details
  - Work with the ORA ahead (not the last day)
  - Budget
    - ✓ Consider buying equipment, Travel, Course release
  - Consider Postdocs
  - Cost share



Questions?