



Using NextGen NHTS Data for Model Development and Data-Driven Programs

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Zachary Hanson

Virginia Department of Transportation

NextGen Add-On Perspectives

Summary

- Background and purpose
- Potential NHTS NextGen use cases
- Agency needs and expectations
- Conclusions and takeaways

NextGen Add-On Perspectives

Background

- VDOT is an add-on agency for the NextGen NHTS pooled fund study
- Virginia was an add-on region in the 2009 NHTS, with VDOT purchasing 14,584 additional samples
- VDOT supplemented FHWA's 2009 NHTS Add-On effort by partnering with the Weldon Cooper Center and four universities to better understand university student travel behavior

NextGen Add-On Perspectives

Purpose

- Support metropolitan and rural transportation planning efforts statewide
- Increase sample size at local level and provide more reliable data for transportation analysis
- Adapt add-on questions to meet agency needs
- Compare Virginia results against NHTS data from other states, the nation, and past NHTS efforts

Summary of Potential NextGen Uses

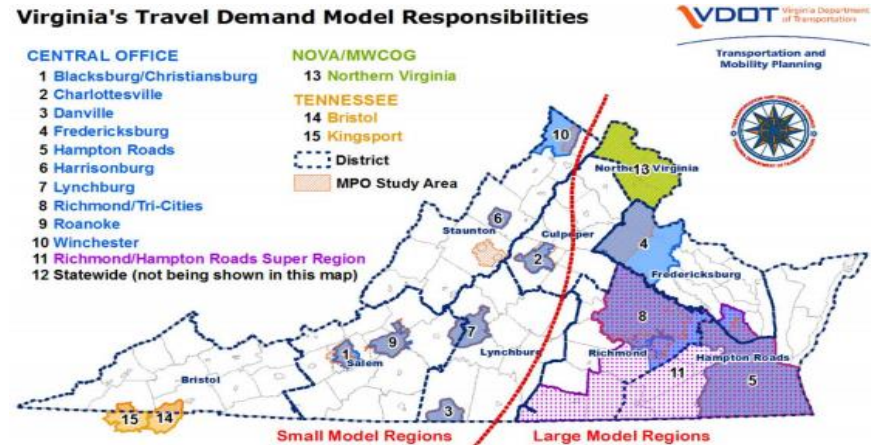
- Assist future VTrans updates by supplementing regional or statewide travel surveys
- Travel Demand Model development
- STARS and Arterial Preservation Program
- SMART SCALE
- Analyze regional and local multimodal travel trends

NextGen Uses: VTrans Updates

- **VTrans 2040** is the commonwealth's current statewide long-range multimodal policy plan
- Virginia Multimodal Transportation Plan (VMTP) Needs Assessment component identifies transportation and safety needs at the corridor level, along intraregional networks, and in designated urban development areas
- A key purpose of the **VMTP Needs Assessment** is to screen projects applying for consideration under the SMART SCALE/HB2 prioritization process
- As travel behavior changes, Needs Assessment will be updated in future VTrans

NextGen Uses: Travel Demand Models

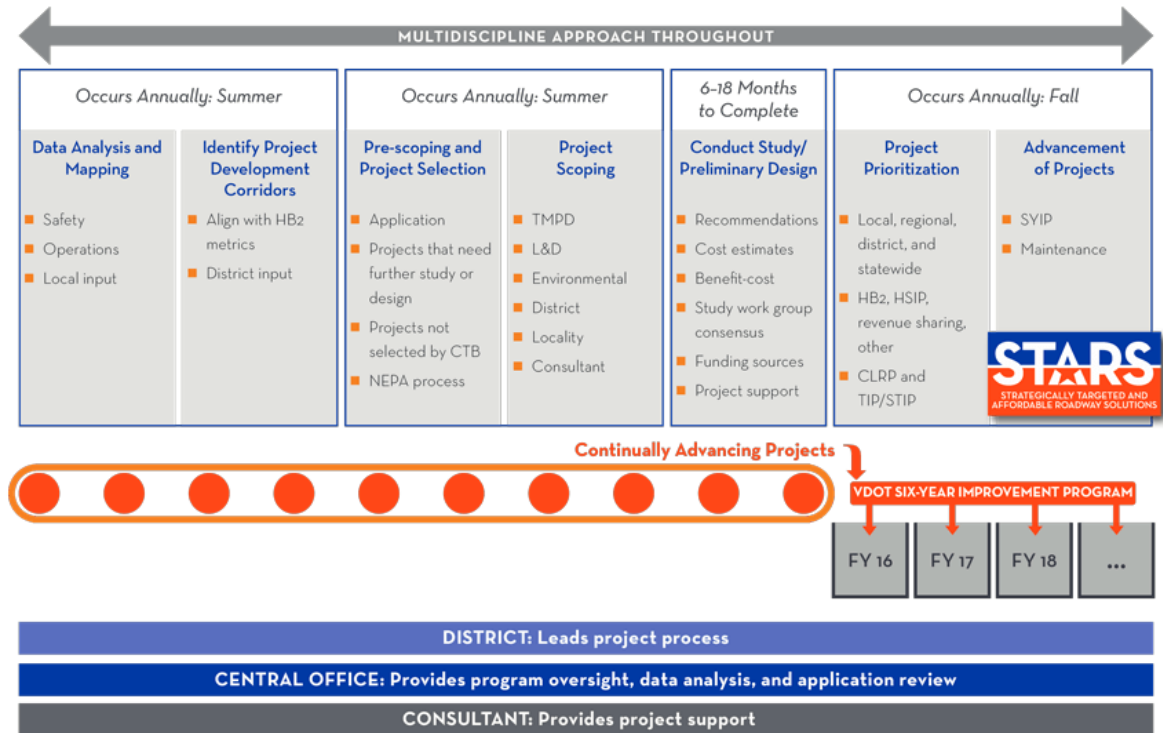
- Estimate, calibrate and validate regional and statewide travel demand models
- Develop trip generation models
- Get average trip lengths, trip length frequency distributions for trip distribution estimation
- District-district trip patterns
- Aggregate mode shares



NextGen NHTS Uses: Data-Driven Programs

STARS (Strategically Targeted Affordable Roadway Solutions) is a **data-driven program** that identifies innovative and cost-effective multimodal measures aimed at improving safety and reducing congestion.

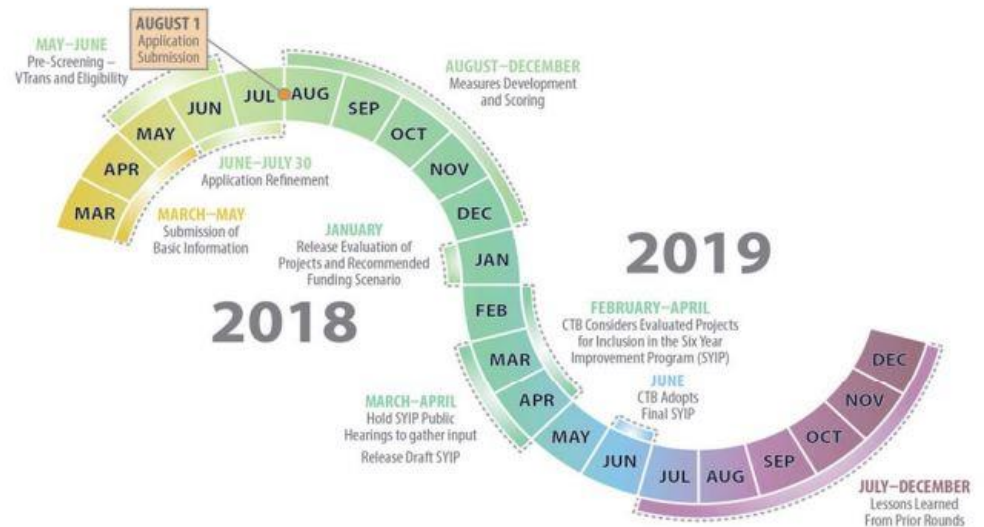
STARS Project Development Cycle



NextGen NHTS Uses: Data-Driven Programs

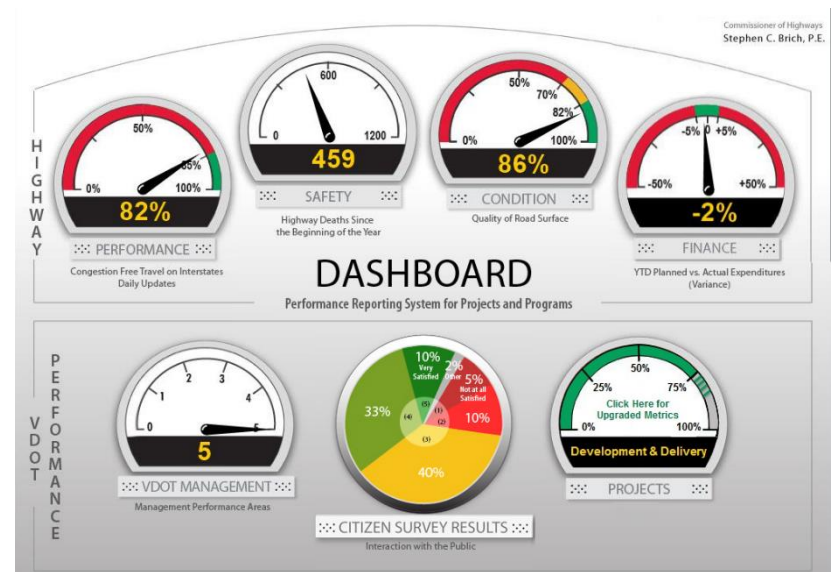
SMART SCALE (§33.2-21.4) prioritizes transportation funding. Project evaluation measure include :

- safety, congestion mitigation, accessibility, environmental quality, economic development, and land use.**



NextGen NHTS: Agency Needs and Expectations

- O-D data at high resolution geographic unit, by time of day, and multiple trip purposes: home based work, non-home based, and home based non-work trip purposes
- Flexibility to designate survey area and time of survey implementation
- Ability to add several agency-specific survey questions related to value of time, preferences, and opinions



NextGen NHTS: Agency Needs and Expectations

- Vehicle occupancy by jurisdiction and time of day with route attributes
- Percent of single and non-single occupancy vehicle information by jurisdiction
- **Add-on questions** that address mode choice, travel time, travel time reliability, distance to work, and travel to non-work destinations supports performance measurement, data-driven programs and the development and evaluation of SMART SCALE project applications

NextGen NHTS: Conclusions and Takeaways

- VDOT is a pooled fund contributor for NextGen National Household Travel Survey
- Provides add-on data and the ability to shape statewide survey in support of agency functions
- Questions?
Zachary.Hanson@vdot.Virginia.gov
(804) 786-2972