



**Presentation to Sully
District Council**

February 24, 2016



VTrans 2040

- VTrans is the long-range, statewide multimodal policy plan that lays out overarching Vision and Goals for transportation in the Commonwealth.
- It identifies transportation Investment Priorities and provides direction to transportation agencies on strategies and programs to be incorporated into their plans and programs.
- VTrans2040 produces two independent, but connected documents:
 - VTrans2040 - 25 year vision document
 - VTrans2040 - Multimodal Transportation Plan (VMTP) includes Multimodal Needs Assessment

VTrans 2040 – Vision

- The VTrans2040 Vision lays out Virginia’s Guiding Principles, Vision, Goals, and Objectives in a policy framework to guide partner agency investment decisions over the next 25 years. It is informed by detailed trend analyses and stakeholder input regarding transportation-related issues and opportunities associated with potential changes in catalytic factors such as major economic generators, freight movement, household characteristics, land development patterns, transportation technology, and the natural environment.



VTrans 2040 – Trends Analysis*

- VTrans vision informed by trends analysis
- Smart Infrastructure/Intelligent Transportation Systems
 - Surface Materials
 - Dynamic Paint/Markings
 - Asset Condition Monitoring
 - Energy Roadways
 - Crash Avoidance Technology
 - Vehicle Automation

**from Trends Analysis Technical Report for Vtrans 2040,
prepared for VA Office of Intermodal Planning and
Investment by CDM Smith*

Trends Analysis

- Surface Materials
 - Increase safety through pavement design
 - Various private companies looking at ways to:
 - Increase Integrity and loading capacity
 - Create/restore smooth, skid-resistant surface
 - Extend pavement life
 - Eliminate potholing
 - Reduce maintenance costs
 - Prevent ice/frost formation
- Dynamic Paint/Markings
 - Light absorbing glow-in-the-dark markings
 - Weather-sensitive markings - snowflakes



Trends Analysis

- Asset Condition Monitoring
 - Road Weather Information Systems*
 - Pavement Condition Monitoring*
- Energy Roadways
 - Solar Roadways – heating elements to withstand snow and ice, and LEDs to illuminate road signage
 - Electric Charging Roadways – coils to extend driving range of electric vehicles through inductive power transfer
 - Piezoelectric Roadways – generate energy from vibrations caused by vehicles



Trends Analysis

- **Crash Avoidance Technology**
 - In-Vehicle Warning Systems
 - Vehicle-to-Vehicle Communications
 - Vehicle to Infrastructure Communications/Intelligent Networked Highways
- **Vehicle Automation**
 - No Automation
 - Function Specific Automation
 - Combined Function Automation
 - Limited Self-Driving Automation
 - Full Self-Driving Automation

State agencies, including the Department of Motor Vehicles, State Police and Virginia Department of Transportation have formed a task force to discuss implications of automated vehicles in the State.



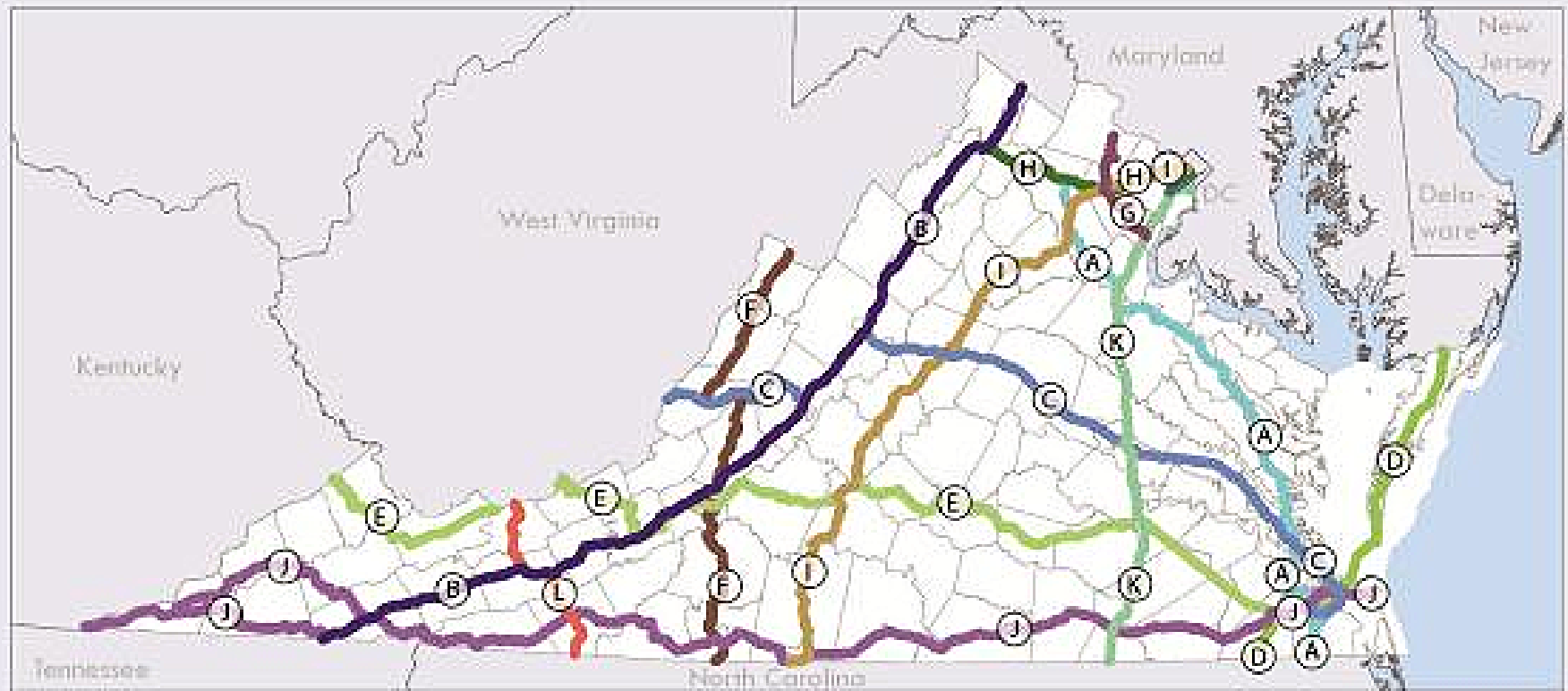
VTrans 2040 Multimodal Transportation Plan

- Guiding document for modal agency business plans and statewide transportation funding programs
- Includes the statewide transportation needs assessment which assesses the State's transportation needs at three scales, plus safety:
 - Corridor of Statewide Significance (COSS) - Interregional travel market
 - Regional Networks - Intraregional travel market
 - Urban Development Areas (UDA) Local activity center market
 - Safety

Corridors of Statewide Significance (CoSS)

- Approved by the CTB
- Demonstrate the following characteristics:
 - Multiple modes and/or an extended freight corridor
 - Connection among regions, states and/or major activity centers
 - High volume of travel
 - Unique statewide function and/or fulfillment of statewide goal
- Includes parallel/connecting facilities, rail lines, ports, airports, etc (not just the Interstates)

Virginia CoSS

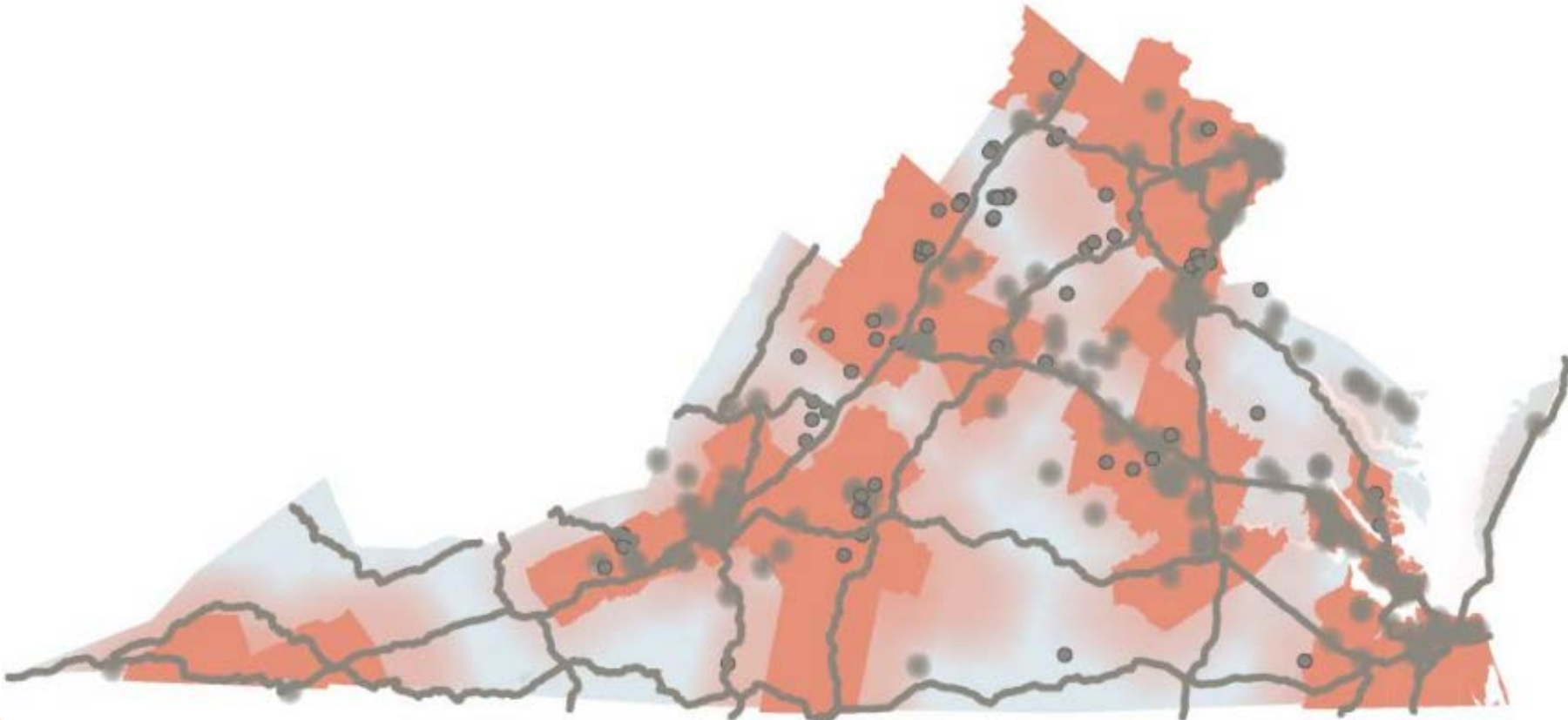


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|---------------------------------|----------------------------------------------------------|---------------------------------------|--------------------------------------------------|
| (A) Coastal Corridor (Route 17) | (D) Eastern Shore Corridor (Route 13) | (G) North-South Corridor (New) | (J) Southside Corridor (Route 58) |
| (B) Crescent Corridor (I-81) | (E) Heartland Corridor (US-460) | (H) Northern Virginia Corridor (I-66) | (K) Washington to North Carolina Corridor (I-95) |
| (C) East-West Corridor (I-64) | (F) North Carolina to West Virginia Corridor (Route 220) | (I) Seminole Corridor (Route 29) | (L) West Mountain Corridor (I-77) |

Regional Networks

Defined as:

- Jurisdictions that are included either in whole or in part within MPO Planning Area Boundaries
- Any additional element of the transportation system that is connected to the MPO area and deemed critical to the MPO



Urban Development Areas

UDAs

- Areas voluntarily designated by local governments as prime areas for future economic growth pursuant to 15.2-2223.1
- Must reflect transportation-efficient land use principles including
 - Mixed-use land use
 - Interconnected streets
 - Moderately compact growth



Neighborhood Street
The Neighborhood Street is a major local street intended for use where the predominant character is residential. This street is used to connect residential neighborhoods.





Transportation Technology Plan

- Focuses on technology investments:
 - In Corridors of Statewide Significance
 - To support mode switch and multimodal travel
 - To Improve efficiency and reliability
 - To Reduce incident duration
 - To Optimize system throughput
 - While using a quantitative, data-driven project selection process
- Guides funding of \$148.1M over next 5 years.
- Solutions derived from Needs Assessment



Example Project: I-66 ATM





Multimodal Solutions - 495 to Haymarket

QUESTIONS?