



**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

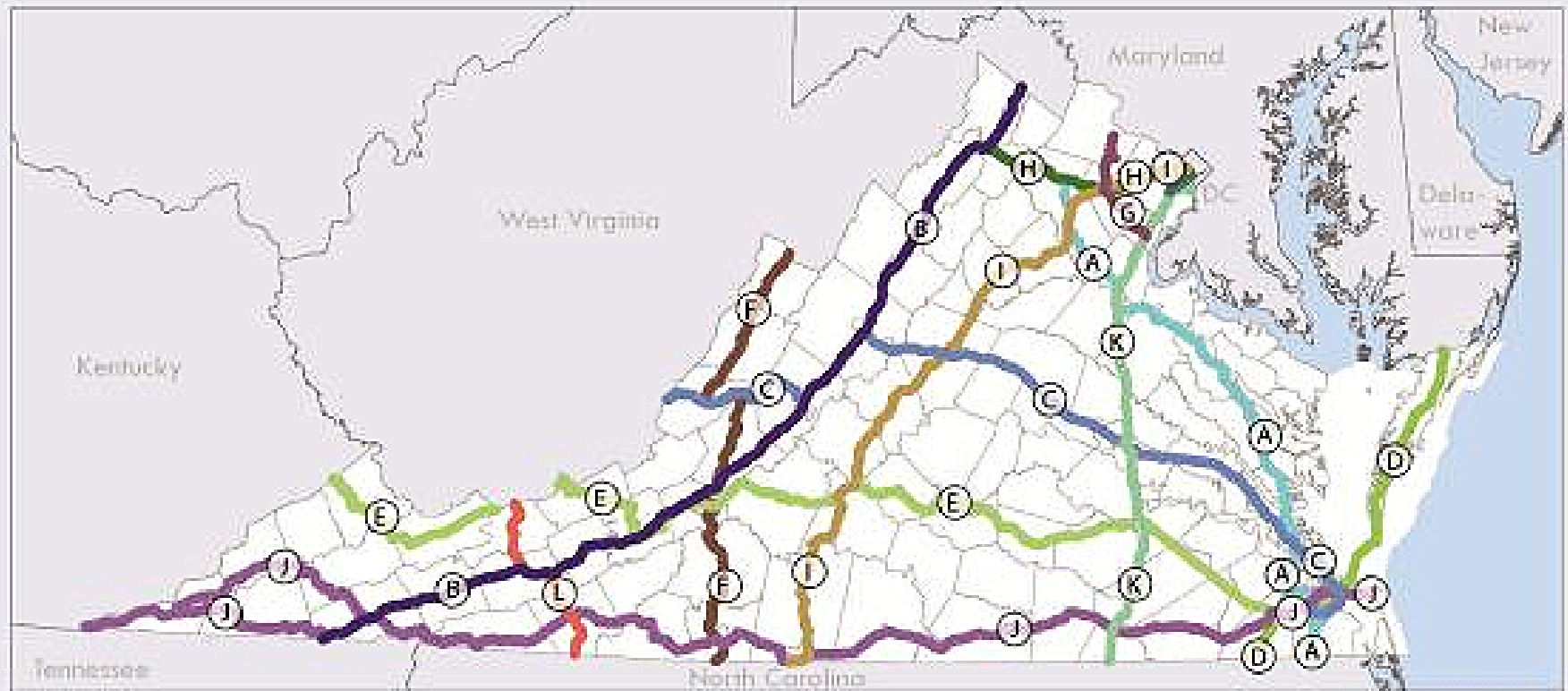
- Guiding document for modal agency business plans and statewide transportation funding programs
- Includes the statewide transportation needs assessment which assesses the State's transportation needs at three scales, plus safety:
  - Corridor of Statewide Significance (COSS) - Interregional travel 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

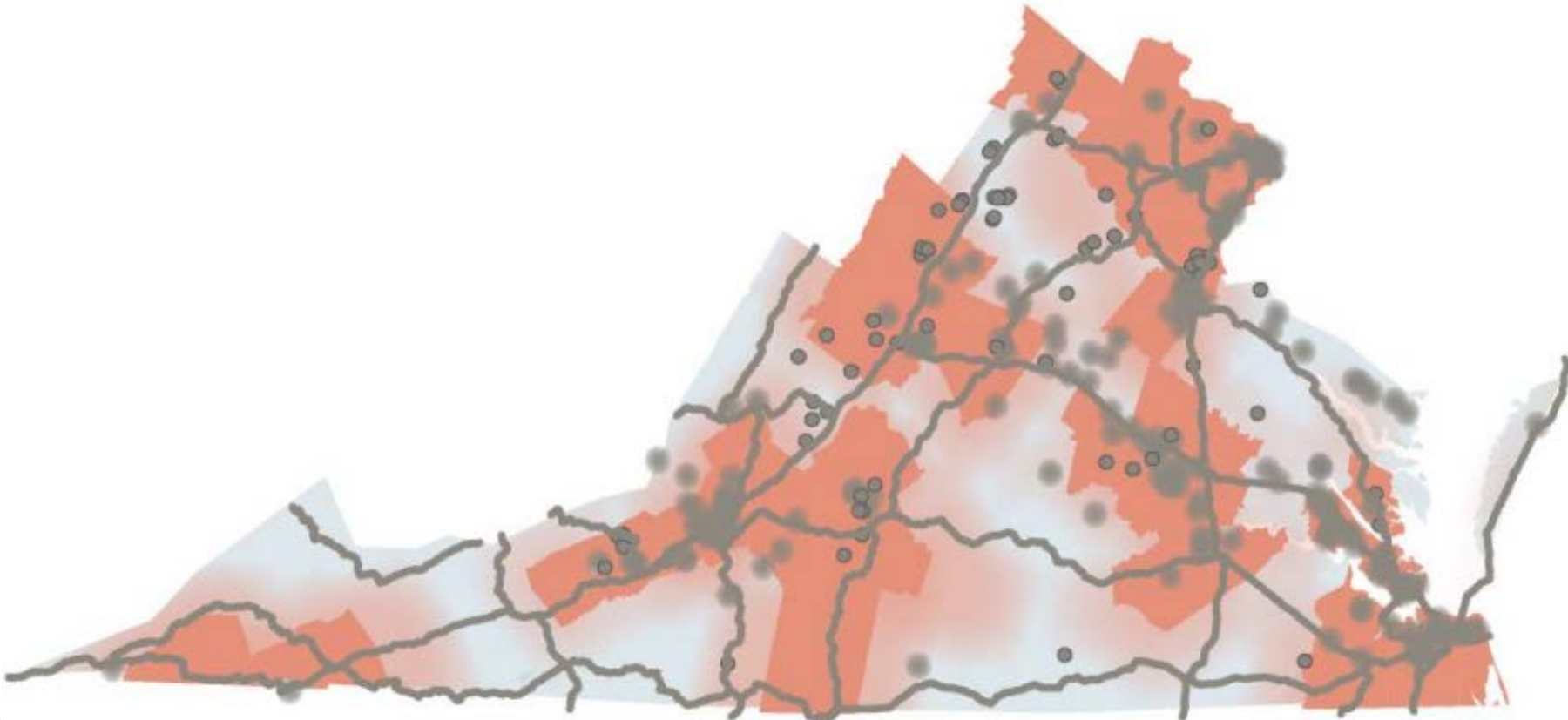


- |                                 |  |                                       |  |
|---------------------------------|--|---------------------------------------|--|
| (A) Coastal Corridor (Route 17) | (D) Eastern Shore Corridor (Route 13)                    | (G) North-South Corridor (New)        | (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?