



COMMONWEALTH *of* VIRGINIA  
*Office of the*  
SECRETARY *of* TRANSPORTATION

## VTrans Briefing – FHWA Virginia Division

Via Web

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March 17, 2020



# OUTLINE AND PURPOSE

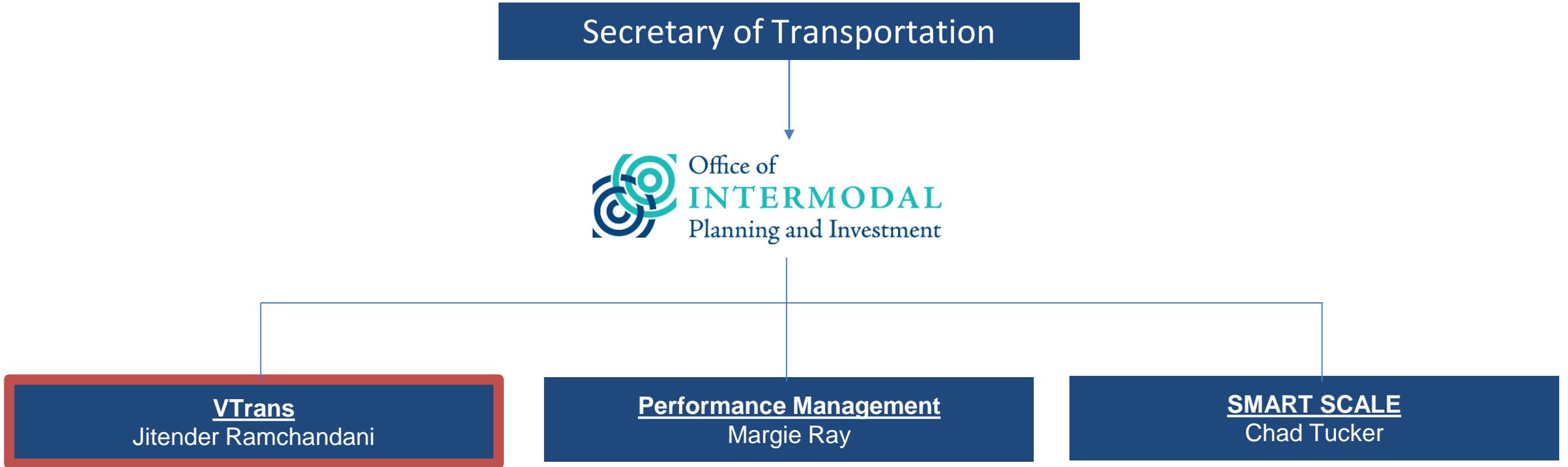
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- **Outline**
  - VTrans Overview
  - Vision, Goals, Objectives, and Guiding Principles
  - Mid-term Needs Assessment
- **Purpose**
  - Inform FHWA Virginia Division of the progress towards completion of the state plan
  - Solicit ideas and guidance on best practices
  - Identify opportunities to disseminate noteworthy successes



# OVERVIEW

# VTRANS OVERVIEW | OIPI'S ROLE



*OIPI* assists the Commonwealth Transportation Board in the Development of VTrans.

# VTRANS OVERVIEW | REQUIREMENTS

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- Federal and State Requirements
  - Federal requirements per [23 U.S.C. 135](#) and other
  - State requirement [§ 33.2-353](#): OIPI to **assist the CTB** in the development and **update of a Statewide Transportation Plan**. Conduct a statewide needs assessment of CoSS, RN, UDA travel markets
  - State requirement [§ 2.2-229](#): OIPI to assist the Commonwealth Transportation Board in the **development of a comprehensive, multimodal transportation policy**, which may be developed as part of the Statewide Transportation Plan pursuant to § 33.2-353

# VTRANS OVERVIEW | REQUIREMENTS

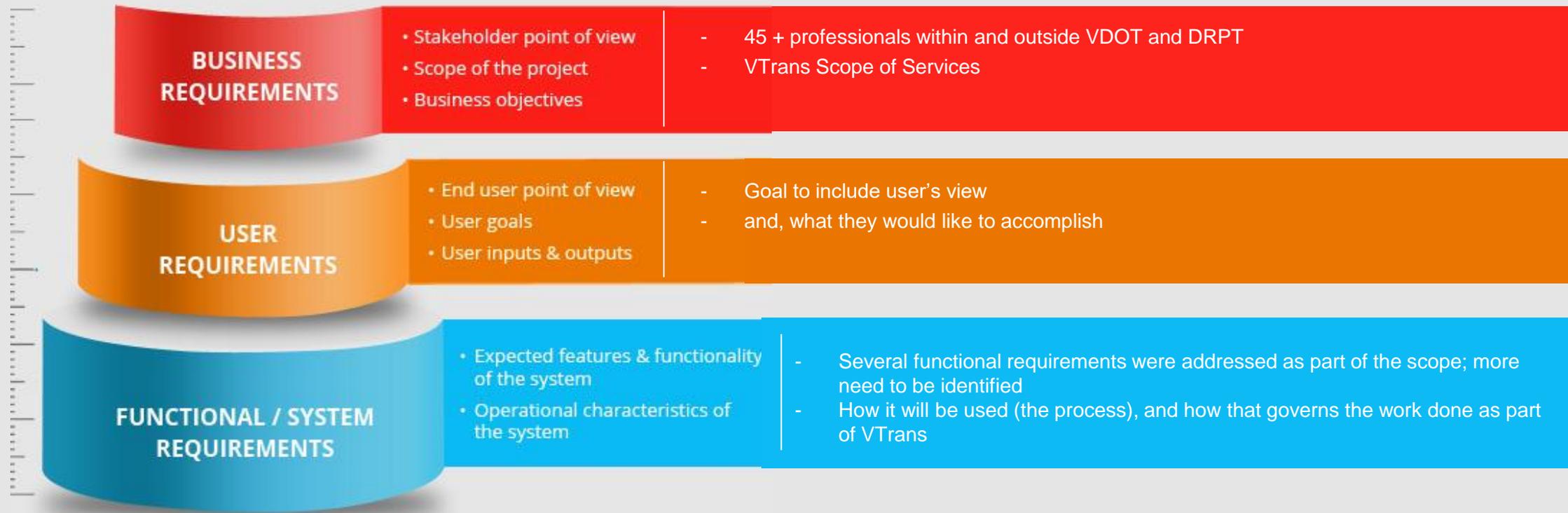
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- Virginia-specific Business Requirements
  - Identify Mid-term safety needs to guide state funding programs (e.g. SMART SCALE per [§ 33.2-214.1](#), Revenue Sharing Priority 2 Projects per [the policy](#))
  - [Guide project development and advance activities](#)
- Per [§ 33.2-353](#). Commonwealth Transportation Board to develop and update Statewide Transportation Plan

“It is the intent of the General Assembly that this plan assess transportation needs and assign priorities to projects on a statewide basis, **avoiding** the production of **a plan that is an aggregation of local, district, regional, or modal plans.**”

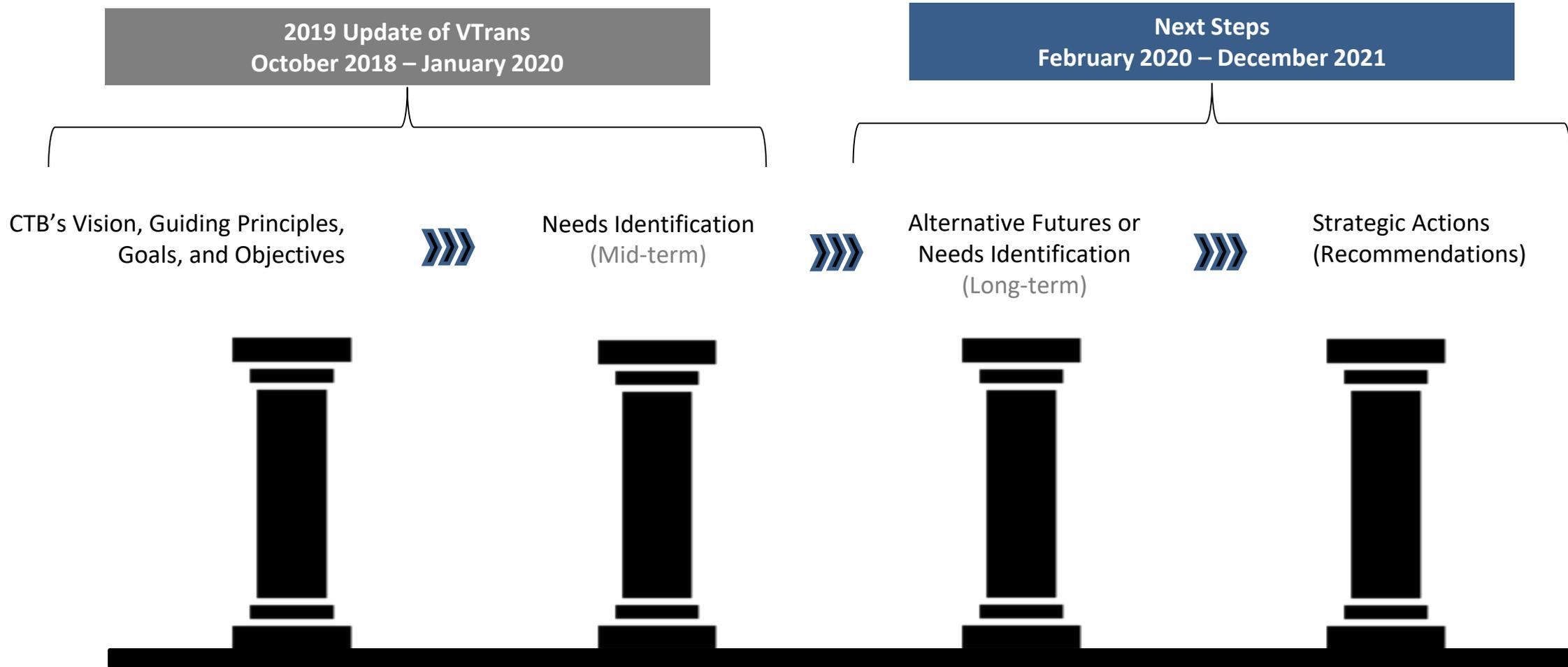
# VTRANS OVERVIEW | REQUIREMENTS

High Level



Detailed

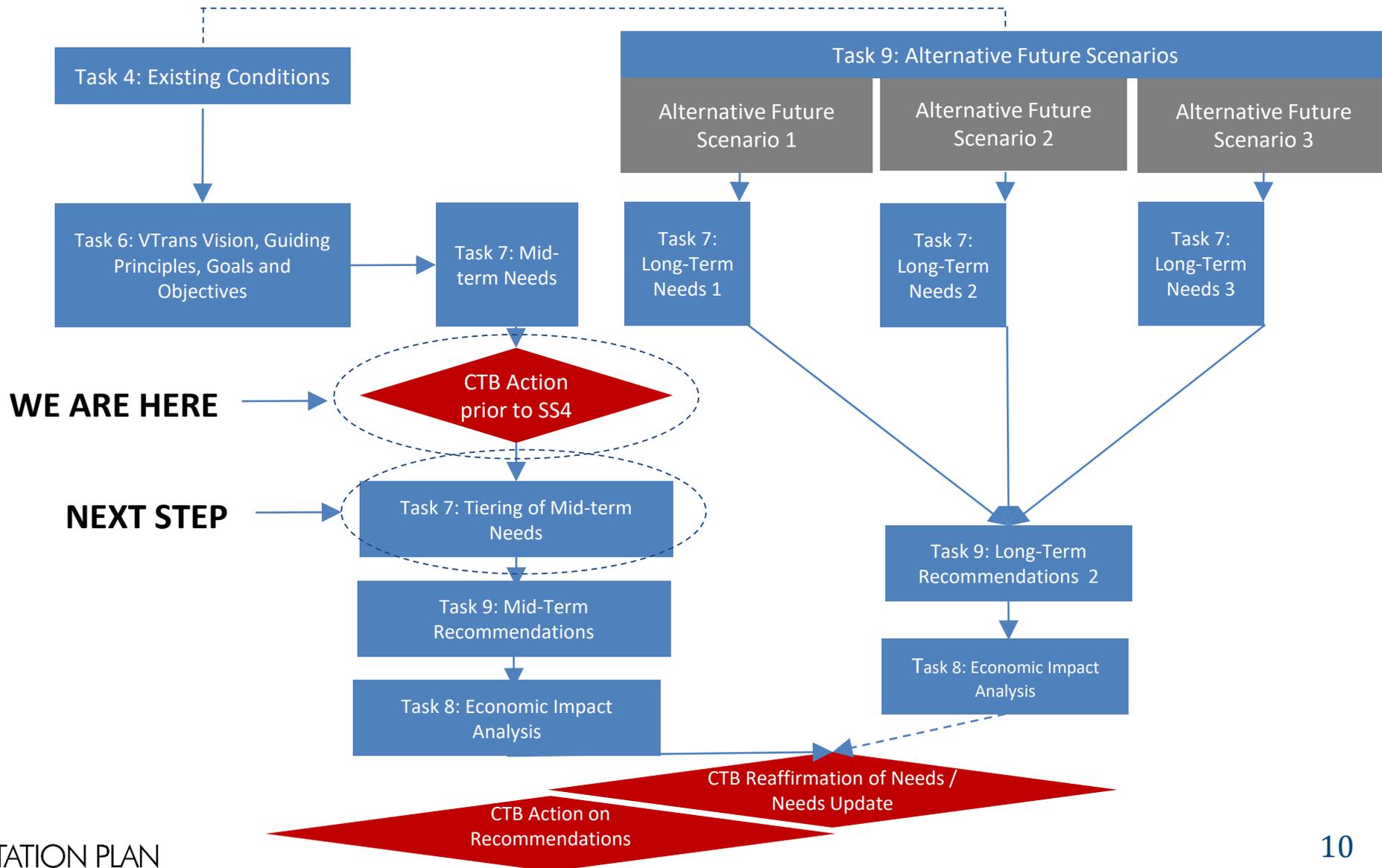
# VTRANS OVERVIEW | MAJOR COMPONENTS



# VTRANS OVERVIEW | PLANNING HORIZON

Mid-Term Needs	Long-Term Needs
7 - 10 year time horizon	10 + year time horizon
Performance measures with current data to determine	Performance measures through scenario analysis with forecast data to determine
Used as screening criteria for SMART SCALE, to prioritize Revenue Share applications	Used to inform policy and planning to prepare for 10+ years out
Action in January 2019	Expect to request action in 2020 or 2021

# VTRANS NEXT STEPS



**Notes:**

- Please refer to the [VTrans Scope of Services](#) for detailed descriptions of the depicted Tasks.
- Only tasks on the project critical path are shown.

**Other Noteworthy Tasks**

- Vulnerability Assessment
- Economic Trends
- Technology Trends
- Financial Trends
- Partnership Opportunities



# VISION, GOALS, OBJECTIVES, AND GUIDING PRINCIPLES

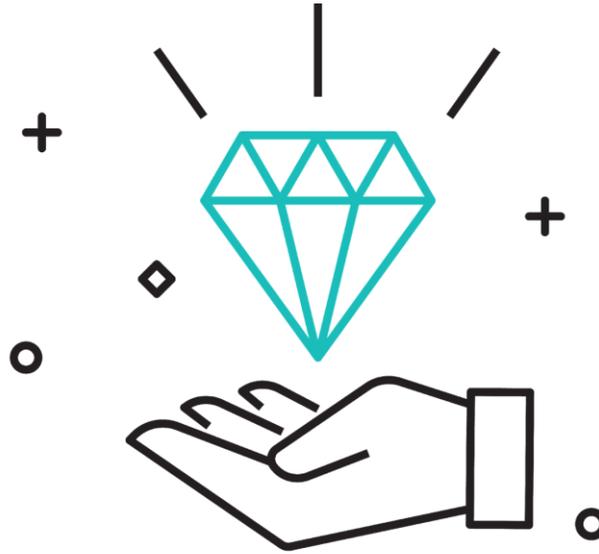
# VTRANS VISION AND GOALS

## VISION

Virginia's multimodal transportation system will be **Good for Business, Good for Communities, and Good to Go**. Virginians will benefit from a sustainable, reliable transportation system that advances Virginia businesses, attracts a 21st century workforce, and promotes healthy communities where Virginians of all ages and abilities can thrive.



# VTRANS GUIDING PRINCIPLES



## GUIDING PRINCIPLES

Guiding Principle 1: **Optimize Return on Investments**

Guiding Principle 2: **Ensure Safety, Security, and Resiliency**

Guiding Principle 3: **Efficiently Deliver Programs**

Guiding Principle 4: **Consider Operational Improvements and Demand Management First**

Guiding Principle 5: **Improve Coordination Between Transportation and Land Use**

Guiding Principle 6: **Ensure Efficient Intermodal Connections**





# MID-TERM NEEDS ASSESSMENT

# MID-TERM NEEDS ASSESSMENT | TRAVEL MARKETS REVIEW

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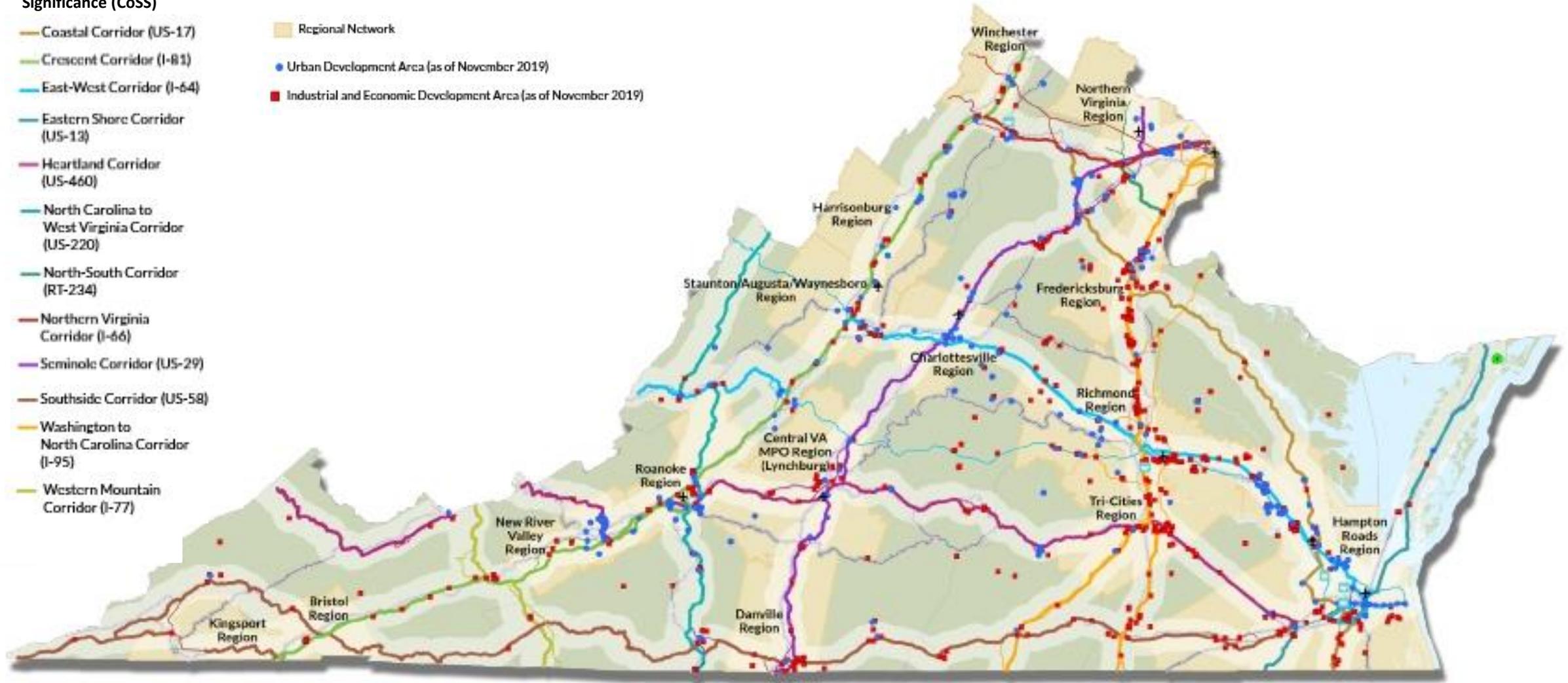
- **Corridors of Statewide Significance (CoSS)** [Code of Virginia [§ 33.2-353](#)]
  - Serve inter-regional travel
- **Regional Networks** [Code of Virginia in in [§ 33.2-353](#)]
  - Serve commuters, intra-regional, and local travel
- **Urban Development Areas (UDA)** [Code of Virginia [§ 33.2-353](#) and [§ 15.2-2223.1](#)]
  - Designated by local governments
  - Intended to promote walkable development and traditional neighborhood design
  - Industrial and Economic Development Areas (IEDA)
- **Safety**

# MID-TERM NEEDS ASSESSMENT | TRAVEL MARKETS REVIEW

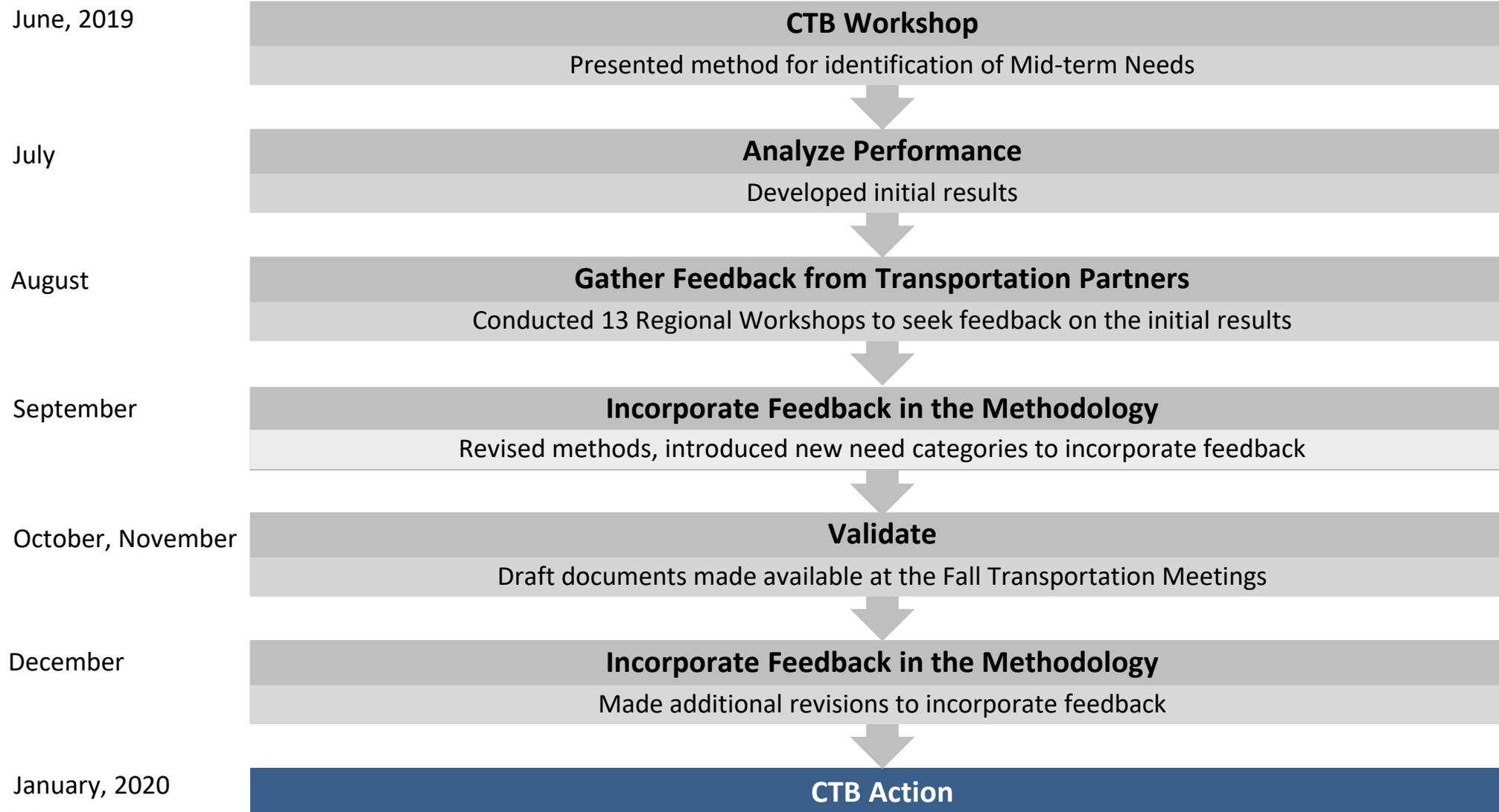
## Corridors of Statement Significance (CoSS)

- Coastal Corridor (US-17)
- Crescent Corridor (I-81)
- East-West Corridor (I-64)
- Eastern Shore Corridor (US-13)
- Heartland Corridor (US-460)
- North Carolina to West Virginia Corridor (US-220)
- North-South Corridor (RT-234)
- Northern Virginia Corridor (I-66)
- Seminole Corridor (US-29)
- Southside Corridor (US-58)
- Washington to North Carolina Corridor (I-95)
- Western Mountain Corridor (I-77)

- Regional Network
- Urban Development Area (as of November 2019)
- Industrial and Economic Development Area (as of November 2019)



# MID-TERM NEEDS ASSESSMENT | TIMELINE



# MID-TERM NEEDS ASSESSMENT | PERFORMANCE MEASURES, CATEGORIES

GOAL	MID-TERM NEEDS MEASURES AND CATEGORIES	CoSS	RN	UDA	STATE-WIDE
<b>A. Economic Competitiveness</b> 	Congestion: Percent Person Miles Traveled in Excessively Congested Conditions (PECC) <sub>1</sub>	✓	✓		
	Congestion: Travel Time Index (TTI) <sub>2</sub>	✓	✓		
	Reliability: Level of Travel Time Reliability (LOTTR)	✓	✓		
	Reliability: Passenger and Intercity Rail On-time Performance	✓			
<b>B. Accessible Places</b> 	Transit Accessibility to Activity Centers for Workers		✓		
	Non-Motorized Access to Activity Centers for Workers		✓		
	Transit Access for Equity Emphasis Areas		✓		
	Access to Industrial and Economic Development Areas (locally-determined) <sub>3</sub>				✓
	UDA Area Needs (locally-determined) <sub>4</sub>			✓	

# MID-TERM NEEDS ASSESSMENT | PERFORMANCE MEASURES, CATEGORIES

GOAL	MID-TERM NEEDS MEASURES AND CATEGORIES	CoSS	RN	UDA	STATE-WIDE
<b>C. Safety</b> 	Locations with High Number of Crashes and High Crash Severity				✓
	Pedestrian Safety Improvement Locations				✓
<b>D. Proactive System Management</b>	Capacity Preservation	✓	✓		
<b>E. Healthy, Sustainable Communities</b>	Transportation Demand Management	✓	✓		

1 PECC: All of limited-access CoSS, plus select limited access facilities within Regional Networks

2 TTI: All of non-limited access CoSS, plus all other facilities within Regional Networks

3 Access to IEDAs: Locations included in Virginia Economic Development Partnership's Business-Ready Site Program

4 UDA Area Needs: Includes improvements such as bicycle and pedestrian infrastructure, circulation and access, safety, transit enhancements and access, etc.

# MID-TERM NEEDS ASSESSMENT | OUTREACH AND ENGAGEMENT ACTIVITIES



Meetings – (1) [Meeting Log](#), (2) [Meeting Content and Documentation](#)

# MID-TERM NEEDS ASSESSMENT | OUTREACH AND ENGAGEMENT ACTIVITIES

- **Attendance at Regional Workshops**

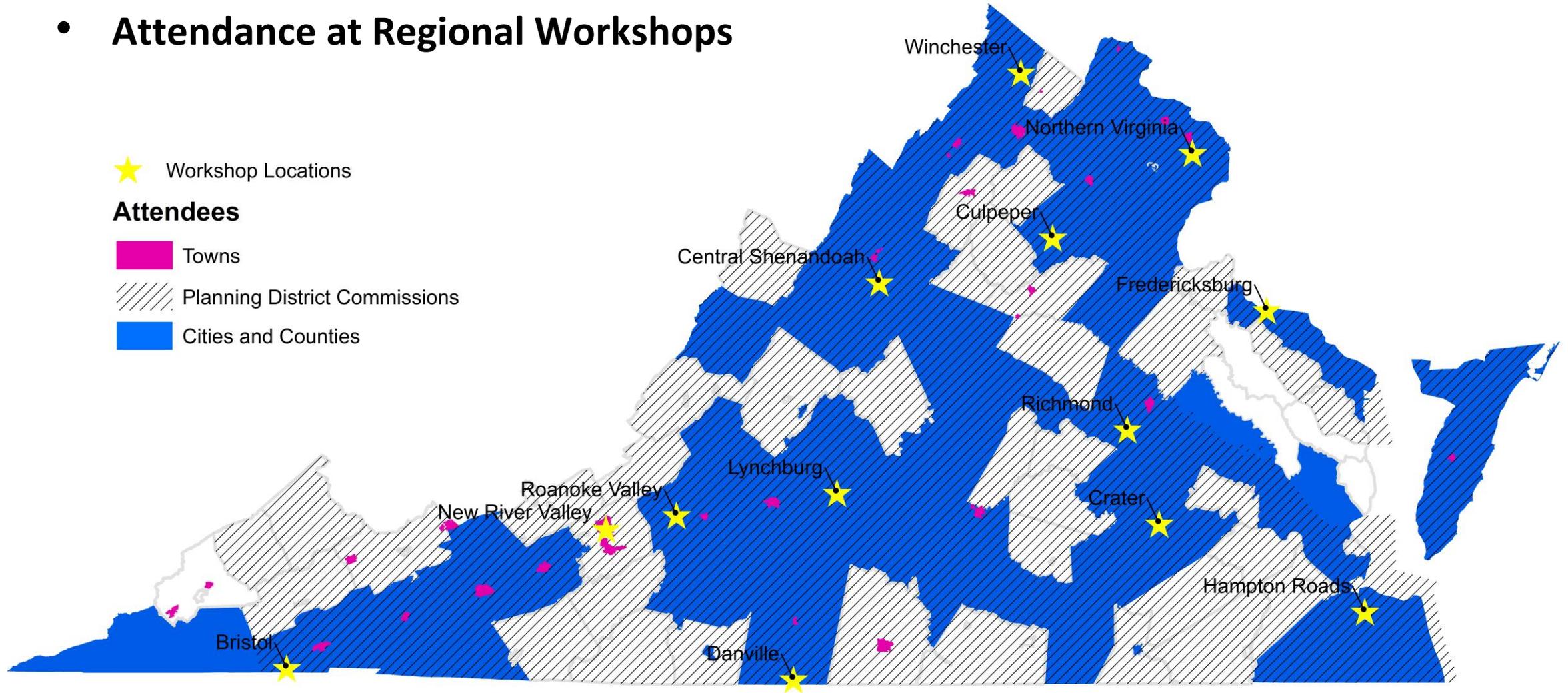
- o 83 Cities and Counties
- o 30 Towns
- o 15 MPO's
- o 16 PDC's
- o 16 Transit Agencies
- o 4 TDM agencies
- o 4 airports
- o 3 universities
- o Various other state and regional stakeholders

More information ([Web link](#))



# MID-TERM NEEDS ASSESSMENT | OUTREACH AND ENGAGEMENT ACTIVITIES

- **Attendance at Regional Workshops**



This map shows jurisdiction boundaries.

# MID-TERM NEEDS ASSESSMENT | OUTPUTS

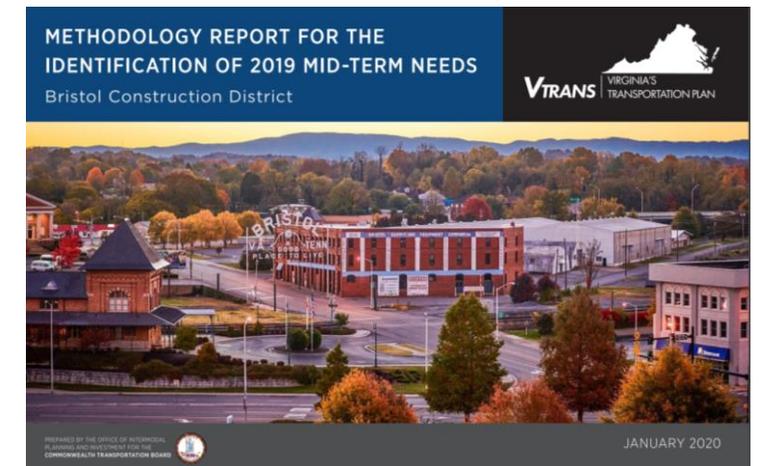
	PRINT-READY DOCUMENTS	INTERACTVTRANS	DATABASE – ARCMAP PACKAGE
<b>OPTION</b>	<p><a href="#">Executive Summary and maps showing Mid-term Needs</a></p> <p><a href="#">Methodology Report</a></p>	<p><a href="#">InteractVTrans</a></p> <ul style="list-style-type: none"> <li>• Find / download Needs by geography</li> <li>• Overlay additional layers, such as crashes</li> <li>• <b>Locate where multiple Needs exist on a Segment</b></li> <li>• Identify Segment and Node IDs for use in Smart Portal</li> </ul>	<p><a href="#">Download</a></p>
<b>TARGET AUDIENCE</b>	<ul style="list-style-type: none"> <li>• Policy makers, MPO and PDC Directors, Administrators, etc.</li> </ul>	<ul style="list-style-type: none"> <li>• Senior Planners and Engineers</li> </ul>	<ul style="list-style-type: none"> <li>• Power users / analysts with access to ArcGIS and a need to query and customize information</li> </ul>

# MID-TERM NEEDS ASSESSMENT | OUTPUTS – PRINT-READY DOCUMENTS

## OPTION 1

Executive Summary  
and Mid-term Needs  
(Overview, Mid-term Needs)

Methodology  
Documents  
(Detailed methodology,  
performance measures used to  
develop Mid-term Needs)



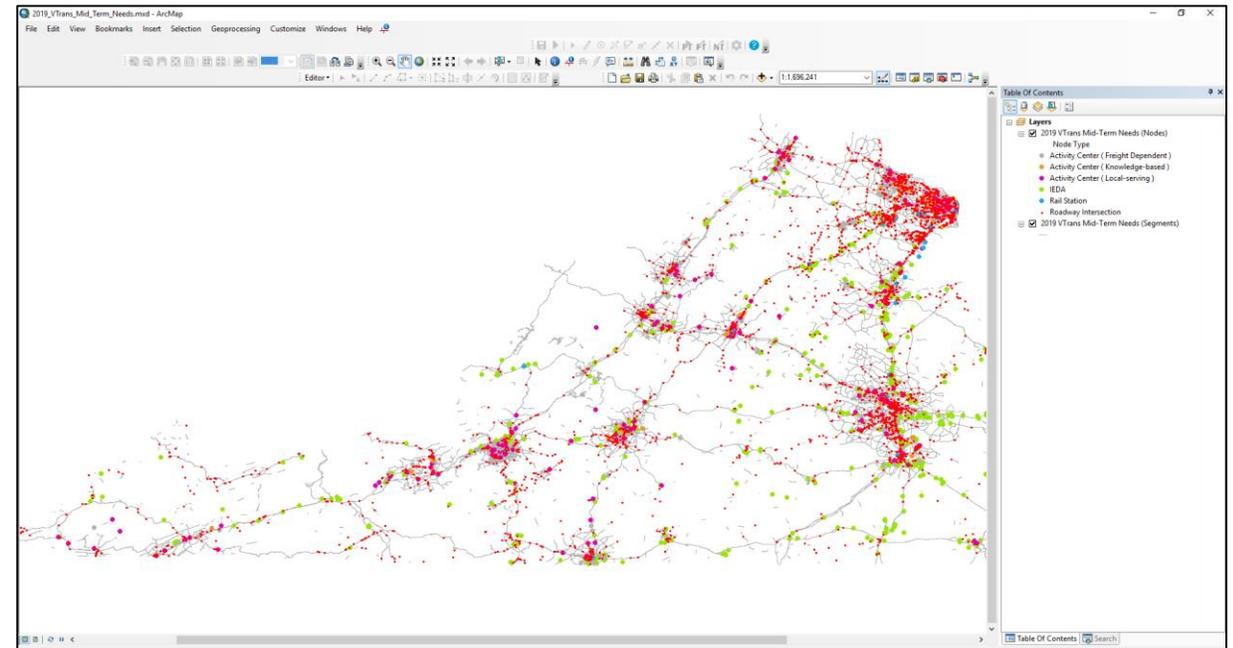
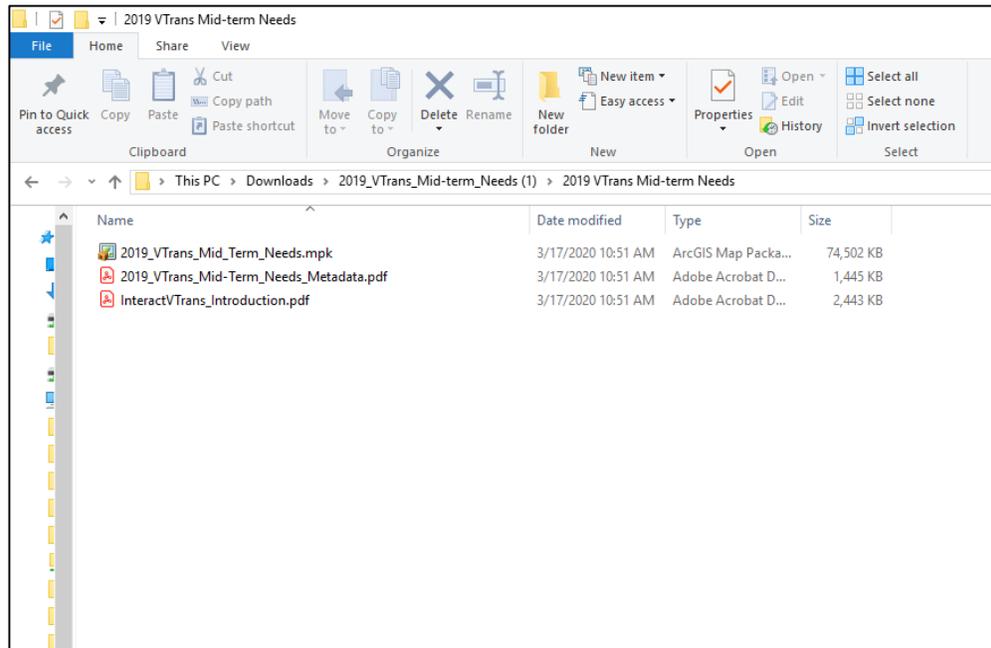
# MID-TERM NEEDS ASSESSMENT | OUTPUTS – INTERACTVTRANS

The screenshot displays the InteractVTRANS web application interface. At the top, it identifies itself as 'An Agency of the Commonwealth of Virginia' and includes the VTRANS logo and 'VIRGINIA'S TRANSPORTATION PLAN'. A navigation menu includes 'About', 'Vision', 'Mid-Term Planning', 'Long-Term Planning', and 'Archive'. The main content area is titled 'OPTION 2' and features a search tool with a search bar and a 'Find' button. Below the search bar, there are sections for 'Locations' (with a dropdown for 'Select a Location Type') and 'Search Criteria' (with three dropdowns for 'Feature Type to Search For'). A map of Virginia is shown with numerous red and blue markers, indicating search results. The map includes labels for various cities and states, and a legend is visible in the bottom right corner.

# MID-TERM NEEDS ASSESSMENT | OUTPUTS – ARCMAP PACKAGE

## OPTION 3

- Allows for complex queries in desktop environment



# VTRANS MID-TERM NEEDS | NOTEWORTHY ITEMS

## 1. CTB approved Methodology and accepted 2019 VTrans Mid-Term Needs

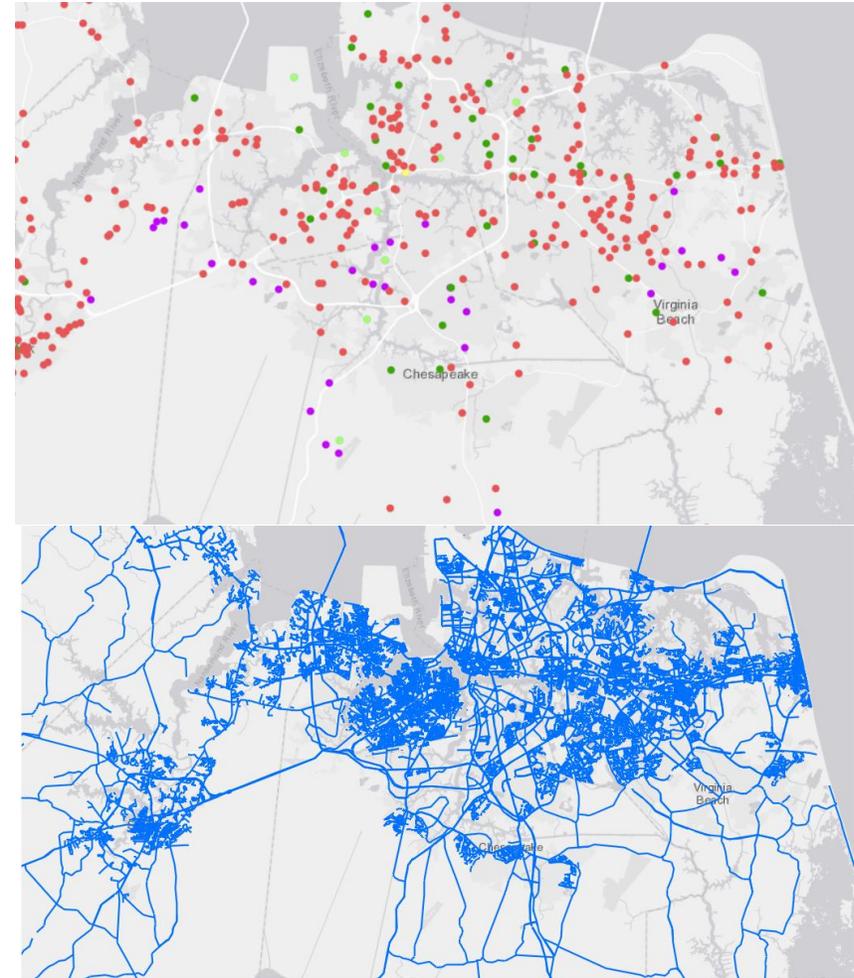
- Through data-driven Needs assessment over 80 million data points were processed
- If a data point is found to be inconsistent with the Commonwealth Transportation Board (CTB) approved 2019 Mid-term Needs Identification Methodology, the **approved methodology takes precedent.**



# VTRANS MID-TERM NEEDS | NOTEWORTHY ITEMS

## 2. Method of Analysis and Presentation

- Needs are more specific and assigned to:
  - **Nodes:** Intersections, Rail Stations, Activity Center Centroid, Industrial and Economic Development Area.
  - **Segments:** Congestion, Reliability, Transit Access, Non-motorized Access, etc.



# VTRANS MID-TERM NEEDS | NOTEWORTHY ITEMS

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## 3. Allows for a comprehensive view of the Mid-term Needs

- There is one document per Construction District for Mid-term Needs. It includes Needs for CoSS, RN, UDA, and Safety.
- Mid-term Needs can be **viewed across travel markets and need types.**
  - o Example: Identify segments that have both, Need for Safety Improvement **AND** Need for Bicycle Access
  - o Example: Identify segments that have both, Need for Transit Accessibility Improvement for Equity Emphasis Areas **AND** Need for Sidewalks

# VTRANS MID-TERM NEEDS | NOTEWORTHY ITEMS

## 4. Needs are not solutions

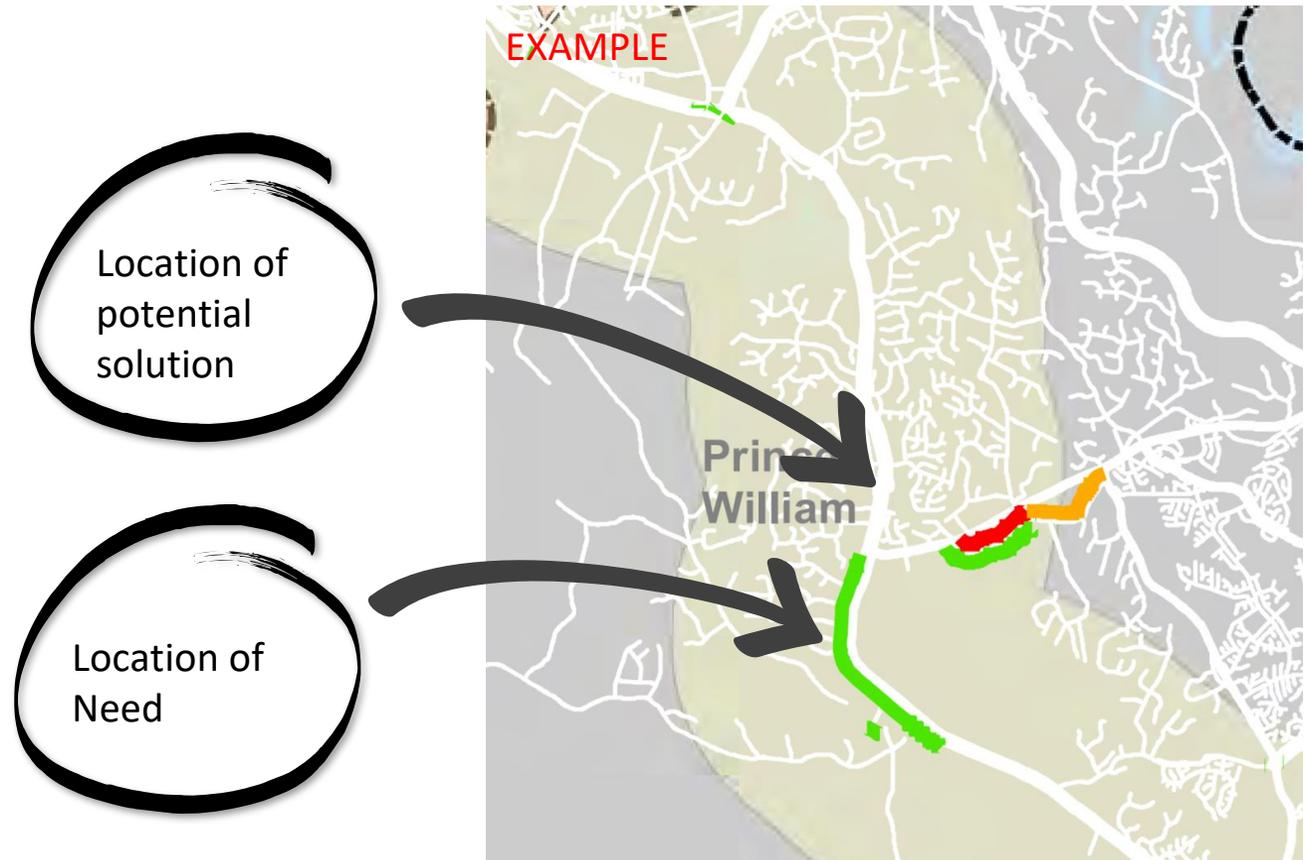
- A highway Congestion or Reliability Need may also be addressed by rail or transit



Source: [Potomac Local](#)

# VTRANS MID-TERM NEEDS | NOTEWORTHY ITEMS

- 5. Location of a Need may not necessarily be same as the location of the solution**
  - A solution to a Need may be elsewhere on the same facility or on a parallel facility



# VTRANS MID-TERM NEEDS | NOTEWORTHY ITEMS

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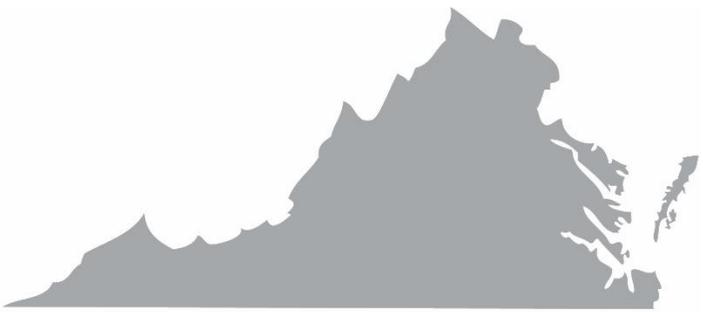
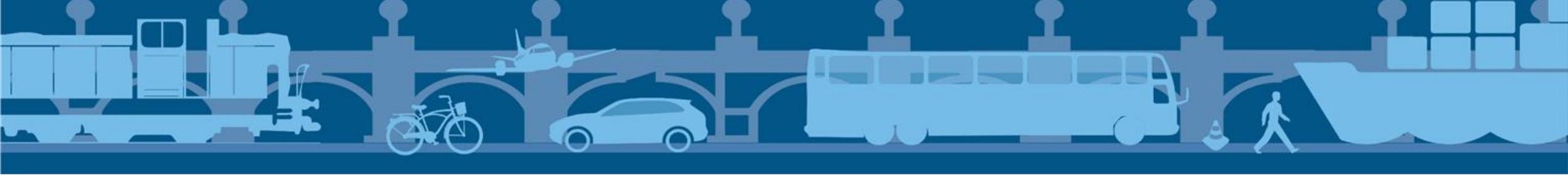
## 6. VTrans Safety Needs include more than “Top 100”

- Based on combination of the Potential for Safety Improvement (PSI) and Fatal/Injury Crash Frequency.
- Method
  - For each Construction District, the VDOT Top 100 Potential for Safety Improvement (PSI) Intersections and Segments
  - Intersections and Segments meeting the following criteria:
    - Locations on PSI List 2+ years out of last five years
    - and, on Fatal/Injury PSI List 2+ years out of last five years
    - and, with at least 3+ Fatal or Injury crashes at the intersection or segment over the last five years

# VTRANS MID-TERM NEEDS | CONSIDERATIONS FOR FUTURE UPDATES

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- **Develop more complete and accurate datasets to better capture:**
  1. Non-recurring congestion
  2. Impact of seasonal variations
  3. Impact of committed improvements
  4. Impact of topography or geographic conditions
  5. Quality of transit and rails services, instead of just availability
  6. Quality and availability of non-motorized infrastructure
  7. Impact of construction activities and work zones
  8. More precise needs for undivided needs



**VTRANS** | VIRGINIA'S  
TRANSPORTATION PLAN