



COMMONWEALTH of VIRGINIA  
*Office of the*  
SECRETARY of TRANSPORTATION

**Key Takeaways: VTrans Risk & Opportunity Register**

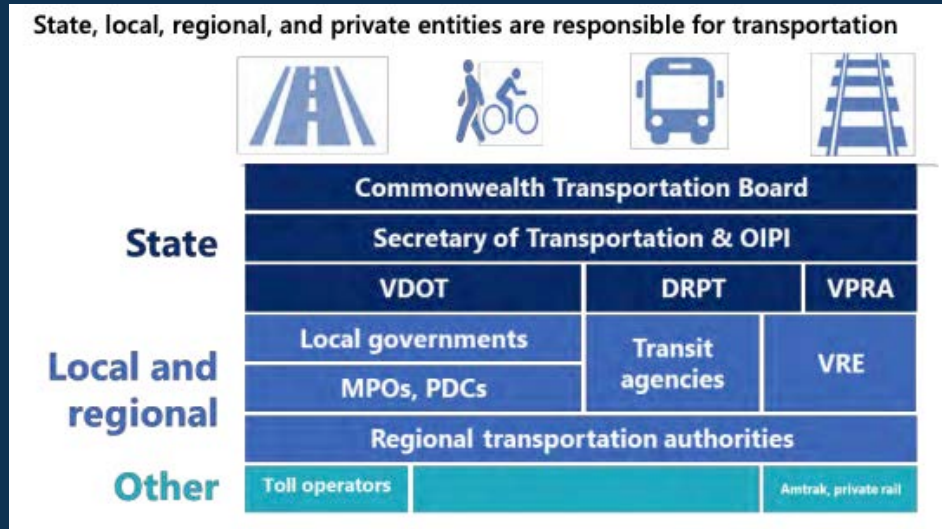
The National Capital Region Transportation Planning Board

Jitender Ramchandani, OIPI Statewide Transportation Planning Manager  
Virginia Office of Intermodal Planning and Investment

Agenda Item 8  
January 7, 2022



# ABOUT OIPI - STATEWIDE TRANSPORTATION PLANNING (STP) SECTION



## ROLE OF AGENCIES IN [TRANSPORTATION PLANNING](#)

- Establish policies for **identification and prioritization of needs**, long-term **scenario planning**
- Project planning** to develop solutions for the identified needs

Source: Transportation Infrastructure and Funding. 2021. [Joint Legislative Audit and Review Commission \(JLARC.\)](#)

## TODAY'S PRESENTATION: PURPOSE

- ▶ VTrans Policy for Development and Monitoring of the Long-term Risk & Opportunity Register (LT-ROR)
  - ▶ VTrans Key Long-term Takeaways

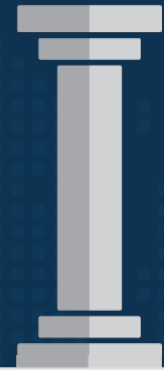
# COMPONENTS OF VTRANS

1  
CTB's Vision, Guiding  
Principles, Goals  
and Objectives

2  
VTrans Mid-term  
Needs: Identification  
and Prioritization

3  
VTrans Long-term  
Risk & Opportunity  
Register

4  
Strategic Actions  
(Recommendations)



# LT-ROR POLICY FRAMEWORK

STEP 1 IDENTIFY MEGA- & MACROTRENDS

STEP 2 IDENTIFY METRICS FOR CTB GOALS

STEP 3 ESTIMATE IMPACTS OF MACROTRENDS ON METRICS

STEP 4 DEVELOP VTRANS LONG-TERM RISK  
& OPPORTUNITY REGISTER

STEP 5 TRACK MACROTRENDS FOR ANNUAL REPORTING

MEGATREND

CLIMATE

TECHNOLOGICAL

CONSUMPTION  
PATTERNS

SOCIO-DEMOGRAPHIC

MACROTREND



Increase in  
Flooding Risk

- Sea-level Rise
- Storm Surge
- Inland/Riverine Flooding



Adoption of  
Highly  
Autonomous  
Vehicles



Adoption of  
Electric Vehicles



Growth in  
Shared Mobility



Growth in E-  
commerce



Greater  
Automation of  
Production and  
Services



Growth of  
Professional  
Service Industry



Increase in  
Workplace  
Flexibility

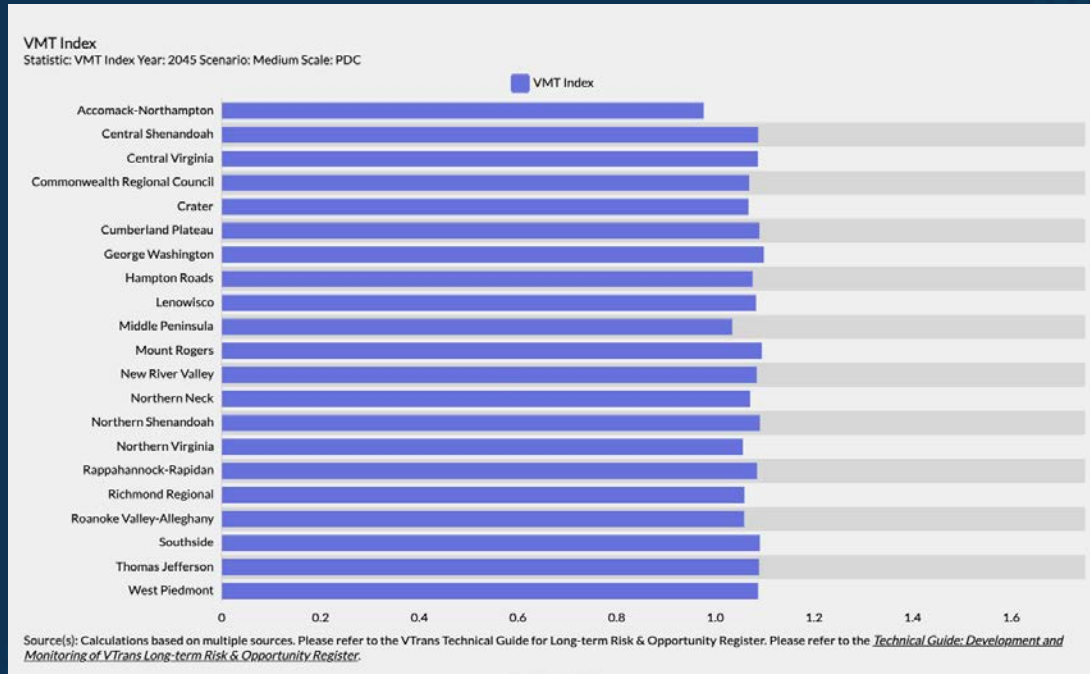


Growth of the  
65+ Cohort



Population and  
Employment  
Shift

## VEHICLE MILES TRAVELED (VMT) INDEX: ESTIMATED CHANGE IN VMT DUE TO VTRANS MACROTRENDS COMPARED TO THE 2045 BUSINESS-AS-USUAL SCENARIO



### STATEWIDE IMPACT

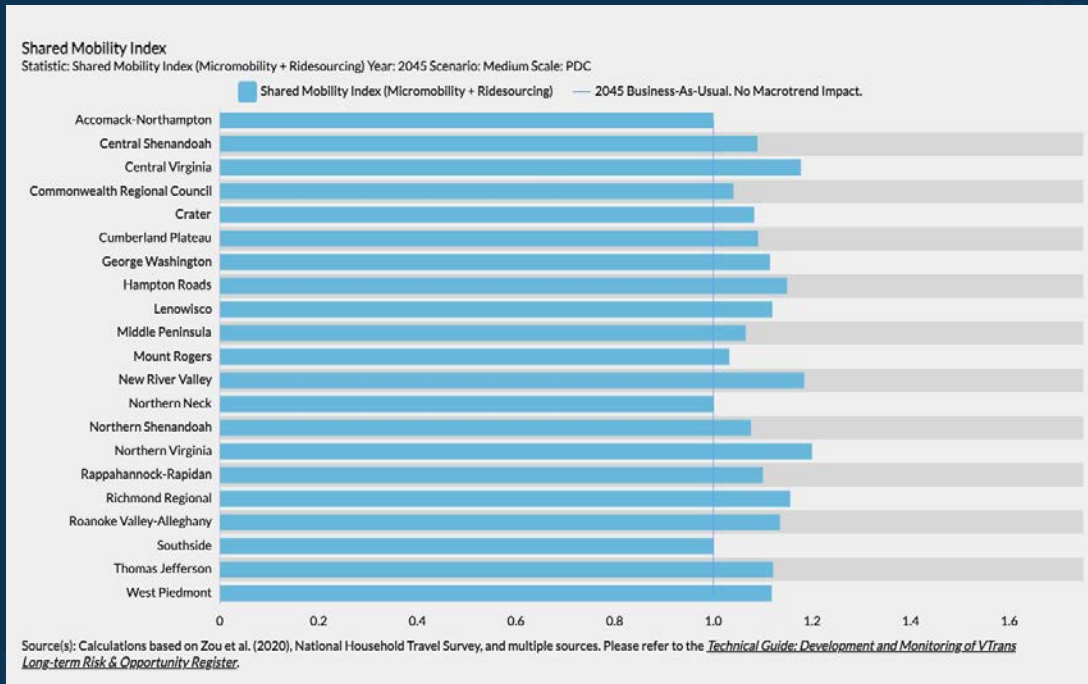
**+4%**  
LOW

**+8%**  
MEDIUM

**+17%**  
HIGH



## SHARED MOBILITY INDEX: ESTIMATED SWITCHABLE URBAN AUTO SOV VMT TO MICROMOBILITY + RIDESOURCING DUE TO VTRANS MACROTRENDS COMPARED TO THE 2045 BUSINESS-AS-USUAL SCENARIO



**STATEWIDE IMPACT**

**+9%**

LOW

**+18%**

MEDIUM

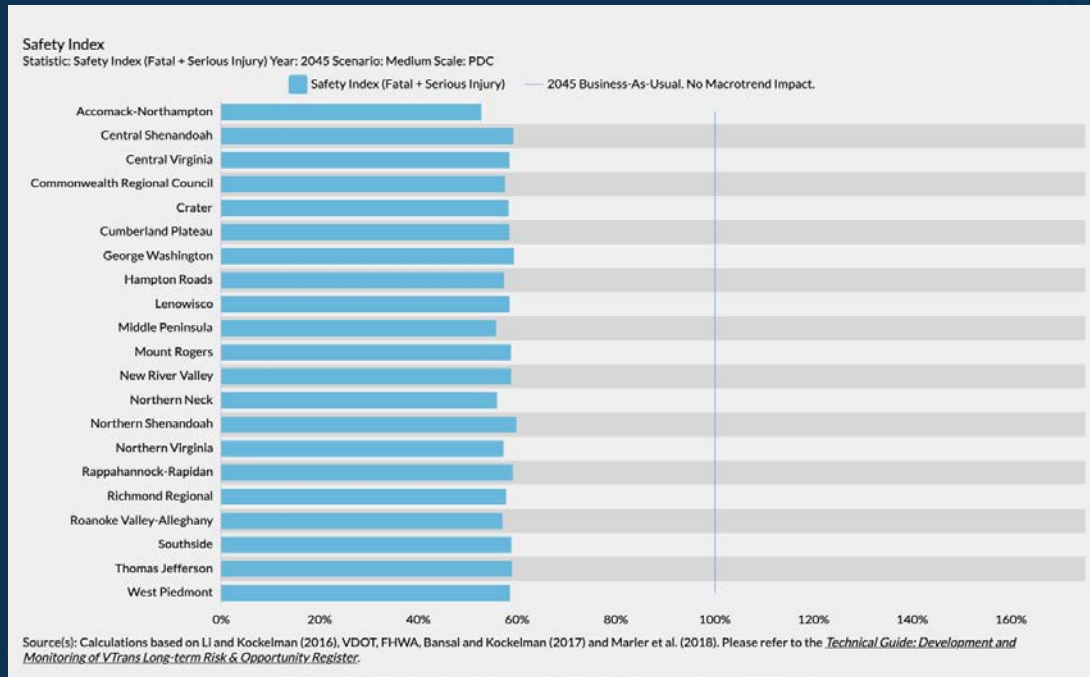
**+27%**

HIGH





## SAFETY INDEX: ESTIMATED CHANGE IN NUMBER OF CRASHES INVOLVING FATALITIES + SERIOUS INJURIES DUE TO VTRANS MACROTRENDS COMPARED TO THE 2045 BUSINESS-AS-USUAL SCENARIO



STATEWIDE IMPACT

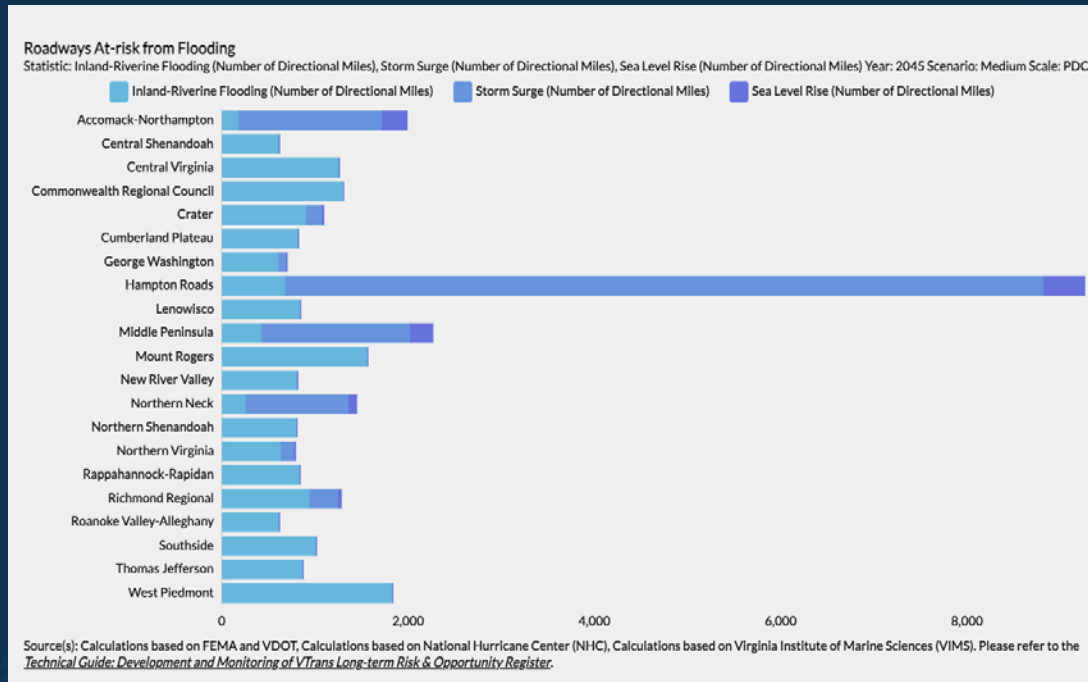
**-26%**  
LOW

**-38%**  
MEDIUM

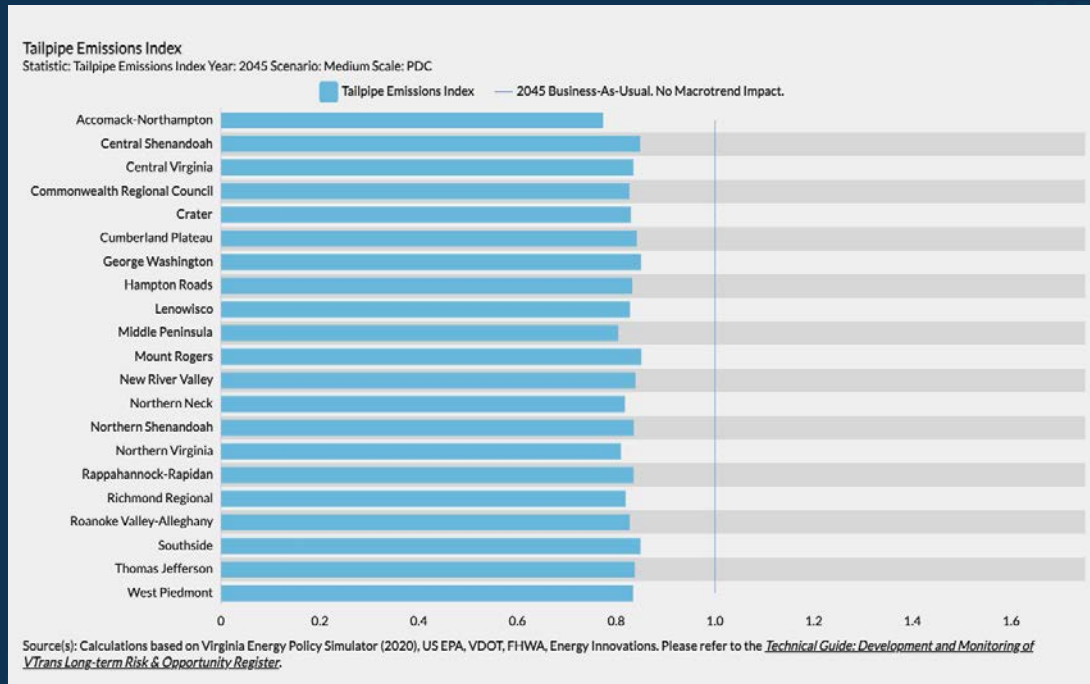
**-67%**  
HIGH



## ROADWAYS AT RISK OF FLOODING: ESTIMATED DIRECTIONAL MILES OF ROADWAY AT RISK OF FLOODING DUE TO SEA LEVEL RISE, STORM SURGE, AND/OR INLAND/RIVERINE FLOODING IN 2045



## TAILPIPE EMISSIONS INDEX: ESTIMATED CHANGE IN TAILPIPE EMISSIONS DUE TO VTRANS MACROTRENDS COMPARED TO THE 2045 BUSINESS-AS-USUAL SCENARIOS



**STATEWIDE IMPACT**

**-3%**  
LOW

**-17%**  
MEDIUM

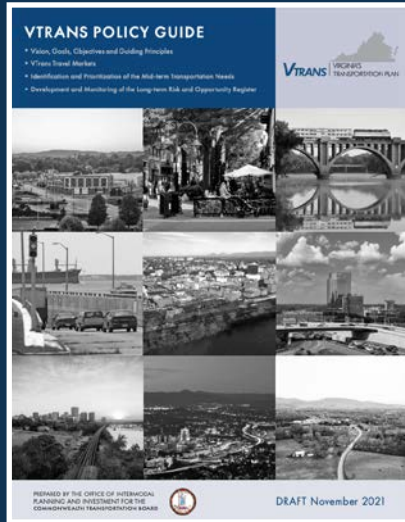
**-69%**  
HIGH



- ▶ Step 4: OIPI has identified 19 risks and opportunities (view them [here](#))
  - ▶ Most of the identified Risks and Opportunities would also be relevant for regional and local entities.
- ▶ Step 5: CTB has directed OIPI to monitor these Mega and Macrotrends and provide annual updates.

## POLICY GUIDE

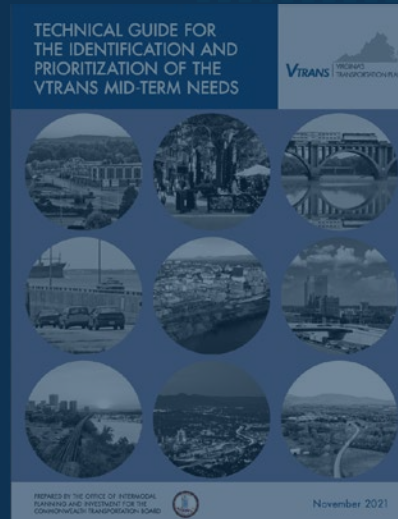
For Policy Makers | Adopted by the CTB



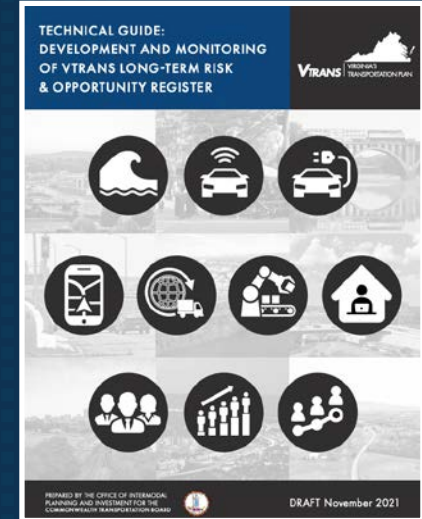
Includes all policies

## TECHNICAL GUIDES

For practitioners | Not adopted by the CTB



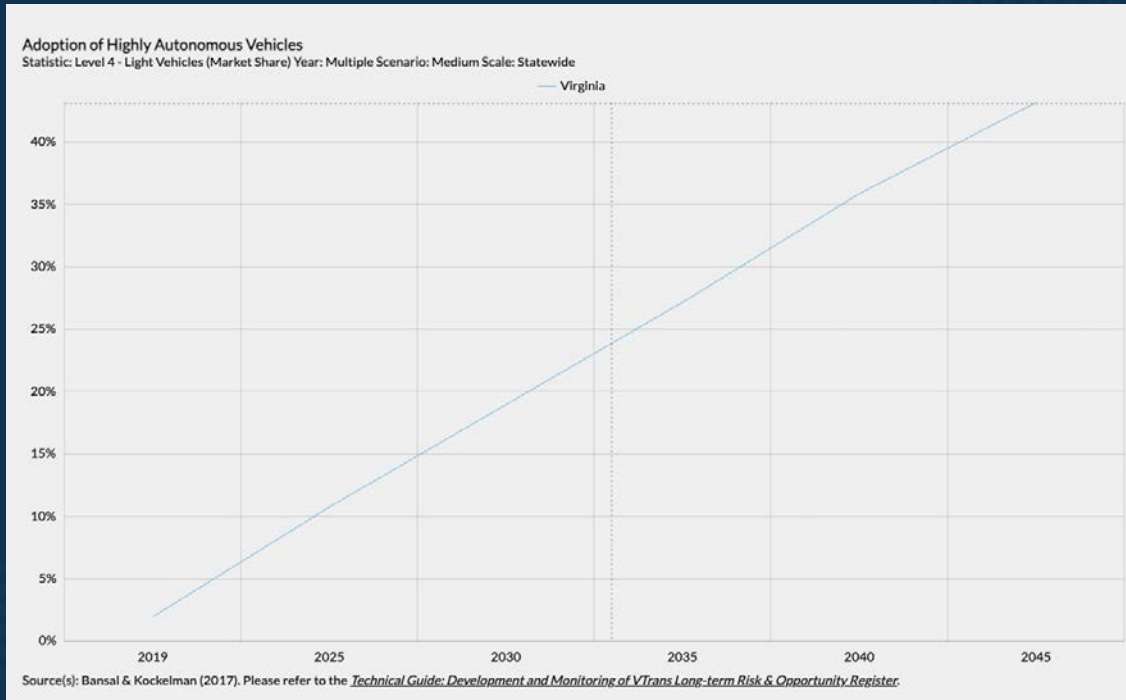
Needs Identification and Prioritization



Long-term Risk & Opportunity Register

## ► Gather jurisdiction- and region-specific impacts of VTrans Macrotrends

VTrans.org > InteractVTrans > Data Explorer



## LT-ROR: WHAT CAN MPO AND PDCs DO WITH THIS INFORMATION?

1. Monitor the 19 identified risks and opportunities
2. Share them with your policy board members
  - ▶ Convey why this matters
3. Make your jurisdictions aware of it
  - ▶ Convey why this matters. Get ahead of the curve on some of the more localized impacts.
4. Study and develop pilots to address the identified risks and opportunities
  - ▶ GAP-TA Program Component 2 offers resources
5. Evaluate the extent to which your L RTPs will be impacted

### ➤ OIPI will:

- Monitor long-term risks & opportunities and modify based on new data and information
- Collaborate with VDOT, DRPT, and other stakeholders to implement and monitor the [VTrans Strategic Actions](#)
- Inform local and regional jurisdictions of available resources to ensure all stakeholders are aware



# THANK YOU!

- ▶ OIPI's Statewide Transportation Planning (STP) Section

- ▶ Jitender Ramchandani | [jitender.Ramchandani@oipi.virginia](mailto:jitender.Ramchandani@oipi.virginia) | 804.489.4295