



COMMONWEALTH of VIRGINIA
Office of the
SECRETARY of TRANSPORTATION

Updates: OIPI Statewide Transportation Planning

OIPI-VDOT-DRPT-MPO Quarterly Coordination Meeting

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TODAY'S PRESENTATION: PURPOSE

- ▶ VTrans Policy for Development and Monitoring of the Long-term Risk & Opportunity Register (LT-ROR)
 - ▶ VTrans Key Long-term Takeaways
 - ▶ FY22 GAP Technical Assistance Program
- ▶ VTrans Strategic Actions

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

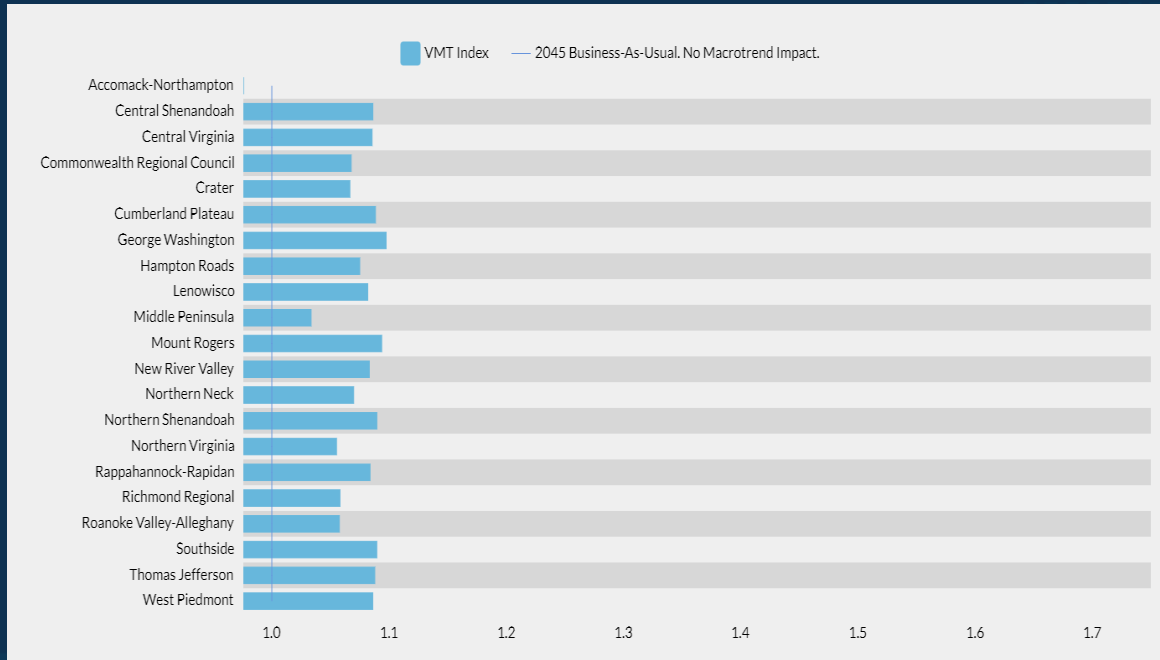
DEVELOP VTRANS LONG-TERM RISK
& OPPORTUNITY REGISTER

STEP 5

TRACK MACROTRENDS FOR ANNUAL REPORTING

MEGATREND	IMPACT OF CLIMATE CHANGE / GREENHOUSE GAS EMISSIONS	TECHNOLOGICAL ADVANCEMENTS	CHANGE IN CONSUMPTION PATTERNS	SOCIO-DEMOGRAPHIC / EMPLOYMENT CHANGES
MACROTREND	 <p>Increase in Flooding Risk</p> <ul style="list-style-type: none"> Sea-level Rise Storm Surge Inland/Riverine Flooding 	 <p>Adoption of Highly Autonomous Vehicles</p>  <p>Adoption of Electric Vehicles</p>  <p>Growth in Shared Mobility</p>	 <p>Growth in E-commerce</p>  <p>Greater Automation of Production and Services</p>	 <p>Growth of Professional Service Industry</p>  <p>Increase in Workplace Flexibility</p>  <p>Growth of the 65+ Cohort</p>  <p>Population and Employment Shift</p>

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



STATEWIDE IMPACT

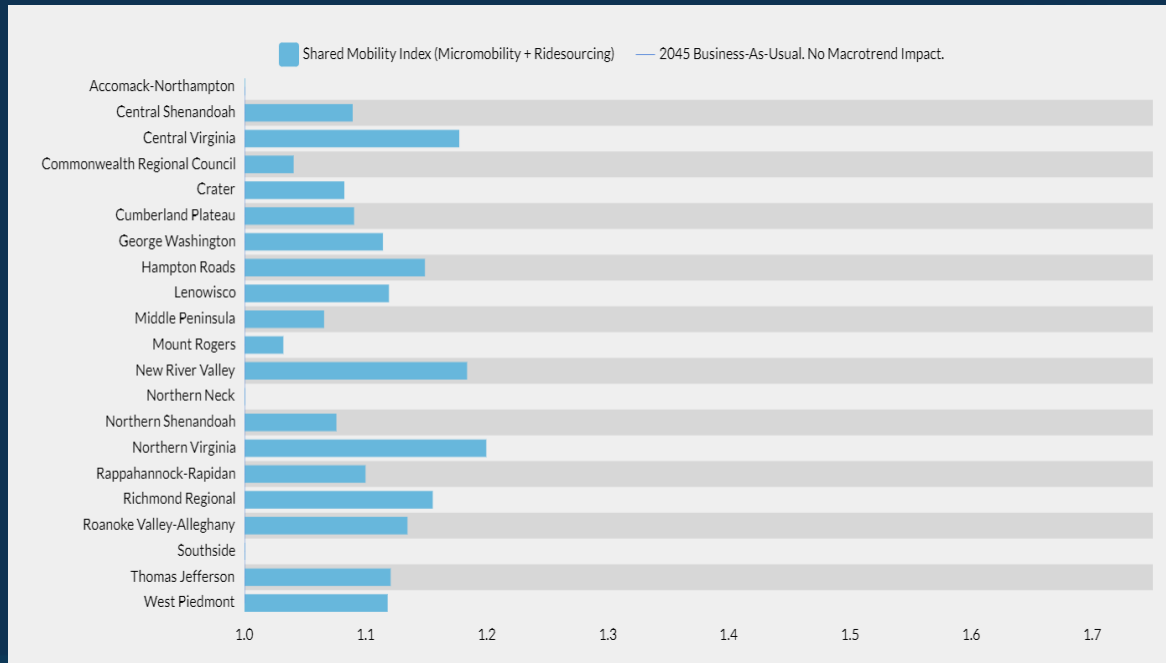
+4%
LOW

+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%

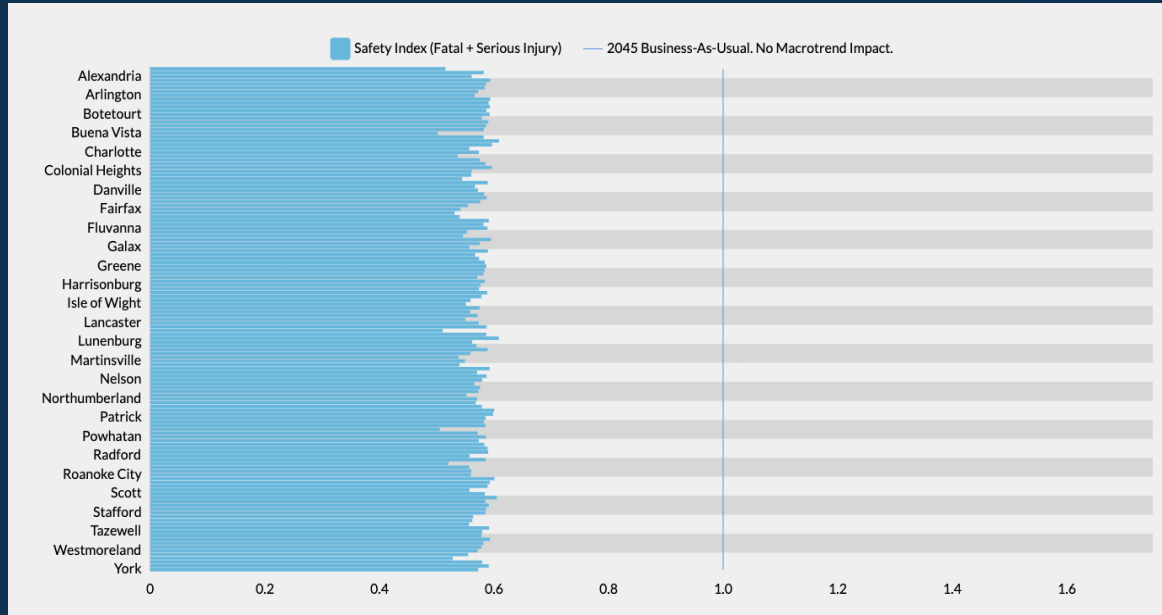
MEDIUM

+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

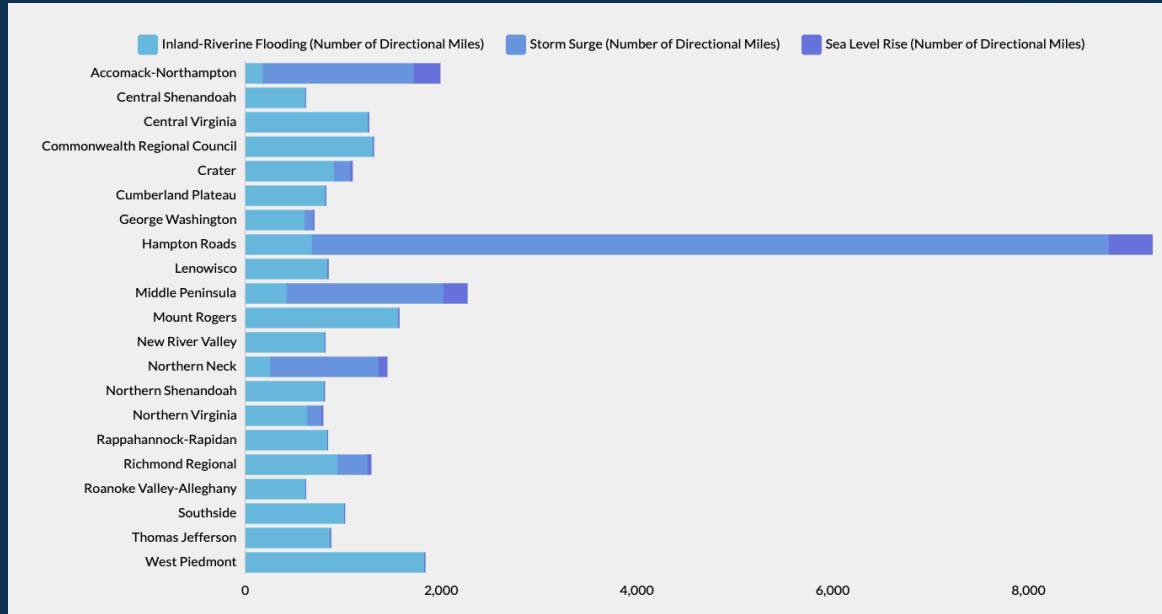
-26%
LOW

-38%
MEDIUM

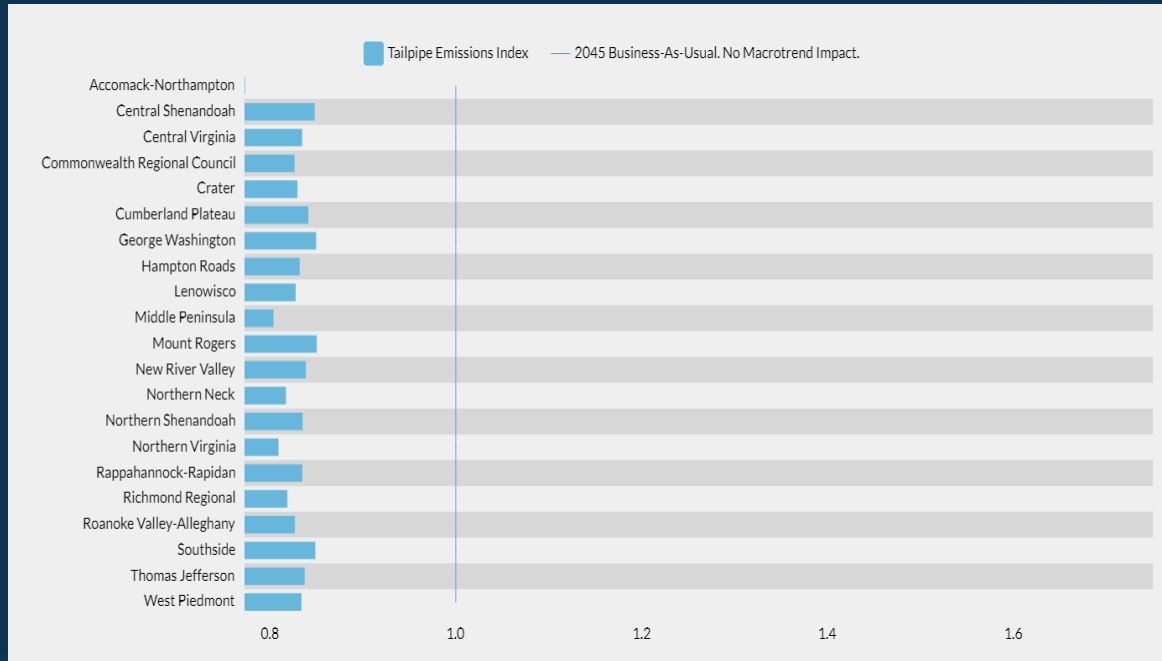
-67%
HIGH



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

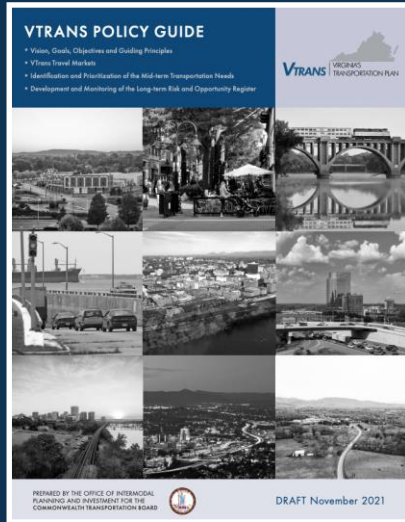
-69%
HIGH



- ▶ Step 4: OIPI has identified 19 risks and opportunities (view them [here](#))
- ▶ Step 5: CTB has directed OIPI to monitor these Mega and Macrotrends and provide annual updates.

POLICY GUIDE

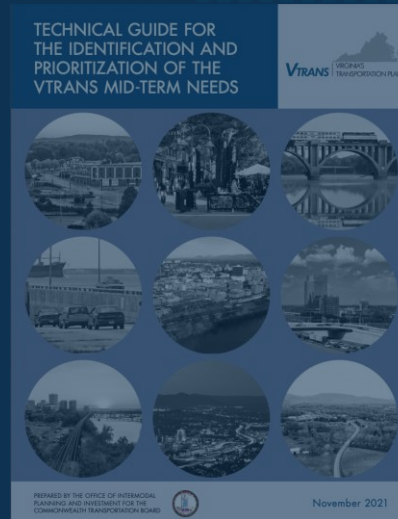
For Policy Makers | Adopted by the CTB



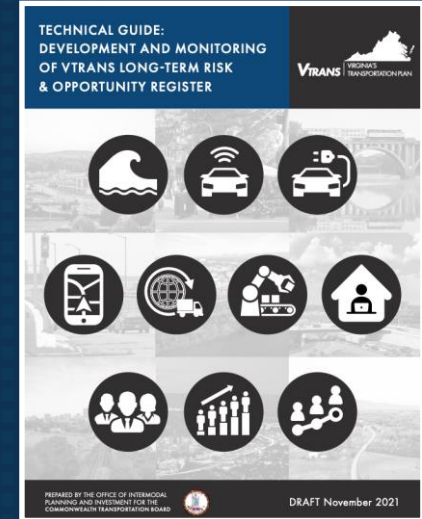
Includes all policies

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. Share with your policy board members
 - ▶ Convey why this matters
2. Make your jurisdictions aware of it
 - ▶ Convey why this matters. This is the time to get ahead of the curve on some of the more local items.
3. Evaluate the extent to which your LRTPs will be impacted
4. Monitor the 19 identified risks and opportunities
5. Study and develop pilots to address the identified risks and opportunities
 - ▶ GAP-TA Program Component 2 offers resources

VTRANS STRATEGIC ACTIONS: CONTEXT AND OVERVIEW

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VTRANS STRATEGIC ACTIONS: CONTEXT AND OVERVIEW

- ▶ At the end of the VTrans planning process, CTB has adopted actions or recommendations that guide OIPI, VDOT, and DRPT business plans.

	ACTIONS OR RECOMMENDATIONS IN THE <u>PREVIOUS VTRANS UPDATES</u>				<u>CURRENT ONES</u>
Year of Update	2004	2009	2013	2018	2021
Total Actions	50	19	37	12	16
Reporting Mechanism	No	No	No	Yes	Yes

► Actions that address Risks & Opportunities related to **Flooding Vulnerability**

1. Collect data (e.g., right-of-way mapping, precipitation, roadway elevation, etc.) to **accurately assess flooding risks for state- and locally-maintained roadways** that can be used to identify funding needs and prioritize investment.
2. Develop policies, based on robust data collection and analysis, to **ensure flooding risks are reflected in transportation asset life cycle and/or transportation project planning processes**.
3. Collaborate with state/regional agencies to systematically **identify solutions that facilitate consistent and systematic prioritization** and support the allocation of state resources to address flooding risks.

- ▶ Actions that address Risks & Opportunities related to **Megatrend: Technology**
 4. Evaluate options to gather **vehicle automation and capability data** for the state's registered vehicle fleet to develop a more complete and accurate assessment of risks and opportunities associated with automated vehicles.
 5. Develop **a roadmap for implementing foundational digital practices** such as digital as-builts (DABs) and information management processes for capturing asset information for transportation infrastructure.
 6. Evaluate and facilitate desirable **deployment of vehicle-to-infrastructure communications** along limited-access highways by the private sector.

► Actions that address Risks & Opportunities related to **Megatrend: Technology**

7. Evaluate opportunities to **provide access to the available real-time or up-to-date state transportation asset and operations data** in digital formats for use by the public and industry partners to support autonomous vehicle deployment.
8. Identify and develop solutions to **address barriers to the installation of electric vehicle charging infrastructure** by the private sector.
9. Evaluate and **establish sidewalk and curb management best practices** for state-owned roadways and promote them for locality-owned roadways.

► Actions that address **Transportation (VTrans Mid-term) Needs** based on CTB Policies

10. Formalize a process for **comprehensive needs identification and prioritization for the § 33.2-372: Interstate Operations and Enhancement Program** utilizing the transportation planning policies established by the CTB in VTrans.
11. **Evaluate the performance of selected construction projects** from the SMART SCALE, Interstate Operations and Enhancement Program, Virginia Highway Safety Improvement Program, and DRPT's MERIT program to determine if the selected projects are providing the anticipated benefits and to support efforts to continue to improve project evaluation criteria and methods.
12. **Establish a regular study cycle for Project Pipeline studies**, as defined in the CTB Policy for the Prioritization of VTrans Mid-term Needs adopted in March 2021, to include solutions for the most up-to-date VTrans Priority 1 and 2 locations.

► Actions that address VTrans Guiding Principles based on CTB Policies

13. Evaluate the feasibility of and alternatives to a **combined dashboard to monitor performance** and delivery of projects and programs included in the Six-Year Improvement Program (SYIP).
14. Evaluate and, if feasible, integrate the remaining application-based highway and transit capital funding programs and transit operating funding programs administered by OIPI, VDOT, and DRPT into the SMART PORTAL to **provide one-stop access to state's funding programs**.

► Actions that address all VTrans Long-term Risks & Opportunities

15. Identify and clarify roles and responsibilities of the state transportation agencies related to emerging areas such as curb management, shared mobility, drones, etc., to ensure greater focus.
16. To methodically address items in the 2021 VTrans Risk & Opportunity Register, formalize OIPI's role in supporting and advising the CTB in the conduct of CTB business and the development of a comprehensive transportation policy as required by 2.2-229.

➤ 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

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