



Commonwealth Transportation Board Environmental Subcommittee

DoubleTree by Hilton
1900 Pavilion Drive
Virginia Beach, VA 23451
October 25, 2022

Minutes

The meeting was called to order at 09:03 a.m.

Members of the Subcommittee in attendance: Angel Deem (Chair), Mary Hynes, Scott Kasprowicz, Mark Merrill, and Raymond Smoot.

Welcome

Angel Deem, VDOT Chief of Policy, welcomed everyone and introduced Chris Swanson, VDOT Environmental Division Director, as the meeting's facilitator.

Approval of June 2022 minutes

Minutes approved

Sustainability Office

Staffing Update

The staffing process continues for the new Office of Transportation Sustainability (OTS). Mr. Swanson introduced Ms. Erin Belt as the OTS Decarbonization Program Manager.

Resilience

Virginia Institute of Marine Science (VIMS) Study Update

Mr. Mike Fitch, Director of the Virginia Transportation Research Council, provided an update on the VIMS Study. Mr. Fitch provided an overview of the VDOT/VIMS partnership, including the two established tasks and the project timeline. For Task 1, *Transportation Infrastructure Vulnerability*, Mr. Fitch provided a brief discussion on subtasks that have been previously presented to the Subcommittee. Mr. Fitch provided a summary of new subtask efforts that have progressed since the June Subcommittee meeting, which included progress on the Road Network Analysis and Interactive Planning Portal. Mr. Fitch noted during his discussion on the planning portal a need to get information to localities in an efficient manner.

Discussion from the CTB members respective to Task 1 included the need for the Department to assess the order of magnitude of the problem and begin to identify what needs to be accomplished and how much it is going to cost to address. The subcommittee inquired as to when the VIMS model would be available for localities. Several members indicated a sense of urgency given the importance of the issue as well as a need to revamp funding programs as appropriate.

Mr. Fitch also presented on Task 2, *Study Ecosystem Impacts of Transportation Infrastructure*, which had not been previously presented to the Subcommittee. Mr. Fitch's discussion focused on

the effort to assess the potential for shifting habitat distribution, local land use changes, and transportation infrastructure to impact rare, threatened, or endangered species habitats by virtue of changing proximities between 2020 and 2080.

Decarbonization

VDOT Greenhouse Gas Emission Reduction Update

Mr. Chris Berg, Director of OTS, provided an update on the Department's Greenhouse Gas (GHG) Emission reduction efforts since the June Subcommittee meeting. Mr. Berg provided a brief overview of emissions related to Virginia's Transportation Sector as well as GHG policy and regulations that drive emission reductions. Mr. Berg provided an overview of the Department's proposed reduction approach including utilization of funding available through the federal Bipartisan Infrastructure Law (BIL), which includes such programs as the National Electric Vehicle Infrastructure (NEVI), Carbon Reduction Program (CRP), and the discretionary Corridor Charging Grant Program.

Discussion from the CTB members respective to the GHG update included the need for more up-to-date emission information versus the 2005 and 2018 inventories that were referenced during the meeting. There was a discussion on the state taking the lead on emission reduction efforts from their own operations as a means to provide lessons learned to the private sector. In addition, there was a request to clarify what parts of the highway system the CRP program applies. In follow-up to the meeting, Department staff have verified the CRP program applies to Federal-aid highways, defined as roads, streets, parkways, and interstates, the cost of which is assumed by a State transportation department, and excluding local roads or rural minor collectors.

Public Comment

There was one public comment from Ms. Whitney Katchmark, from Hampton Roads Planning District Commission. Ms. Katchmark stated an interest in becoming more involved with the Subcommittee, and welcomed ideas on how to improve collaboration.

The meeting was adjourned at 9:50 a.m.

Virginia Institute of Marine Science (VIMS) Study Update

CTB Environmental Subcommittee
October 25, 2022

VDOT/VIMS Partnership

VDOT partnered with VIMS and SNR to initiate a study to begin to address recurrent flooding

Task 1) Assess climate vulnerability and adaptation of transportation infrastructure

Task 2) Assess ecosystem impacts of transportation infrastructure under rising sea levels

VDOT/VIMS Partnership

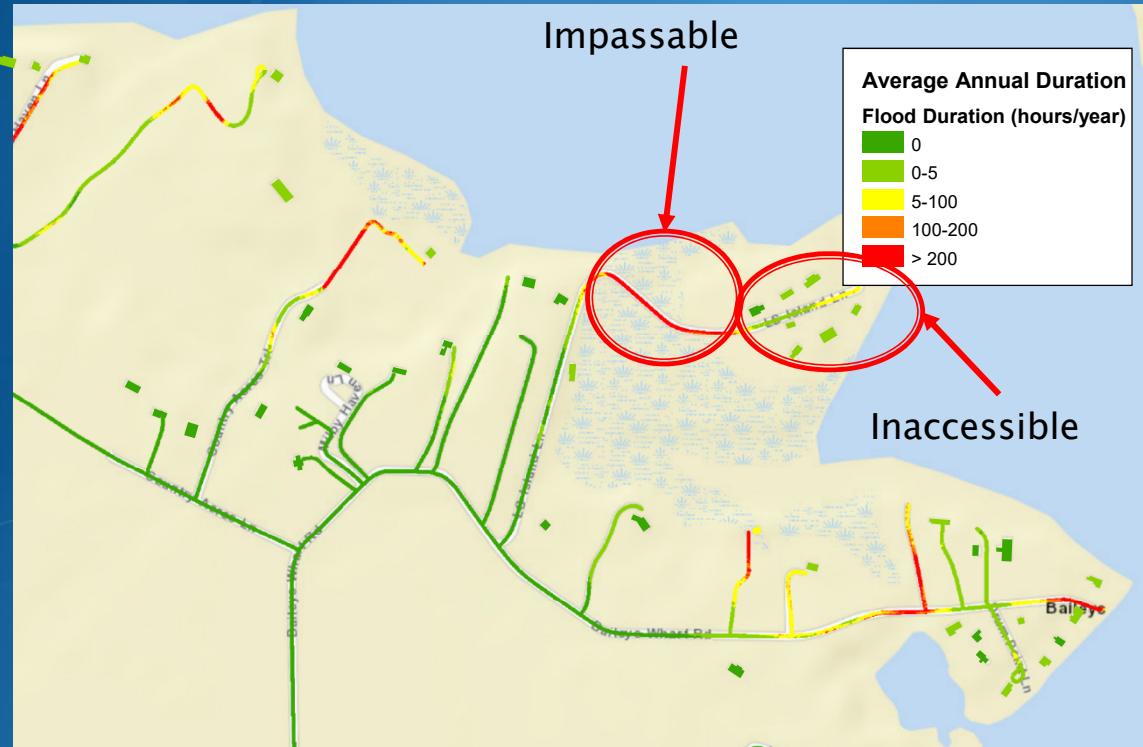
PROJECT BACKGROUND

- MOU between VDOT and Secretary of Natural Resources: signed June 2019
- Official start date: August 2019
- Anticipated completion date: September 2024
- Timeframe covered: 2020 – 2100
- Study Area: Virginia's Coastal Zone and Planning District 8 – 46 localities: 29 counties and 17 cities

Task 1. Transportation Infrastructure Vulnerability

- *Examine all roads with respect to FEMA Flood Hazard Zones*
- *Update recurrent road flooding maps*
- *Analyze road elevations and Return Flood Frequency (RFF) relative to the Best Available Tide Gauge data for the area*
- **Road Network Analysis (RNA) to evaluate vulnerability of important VDOT infrastructure**
- **Interactive planning portal for VDOT**

A Road Network Analysis



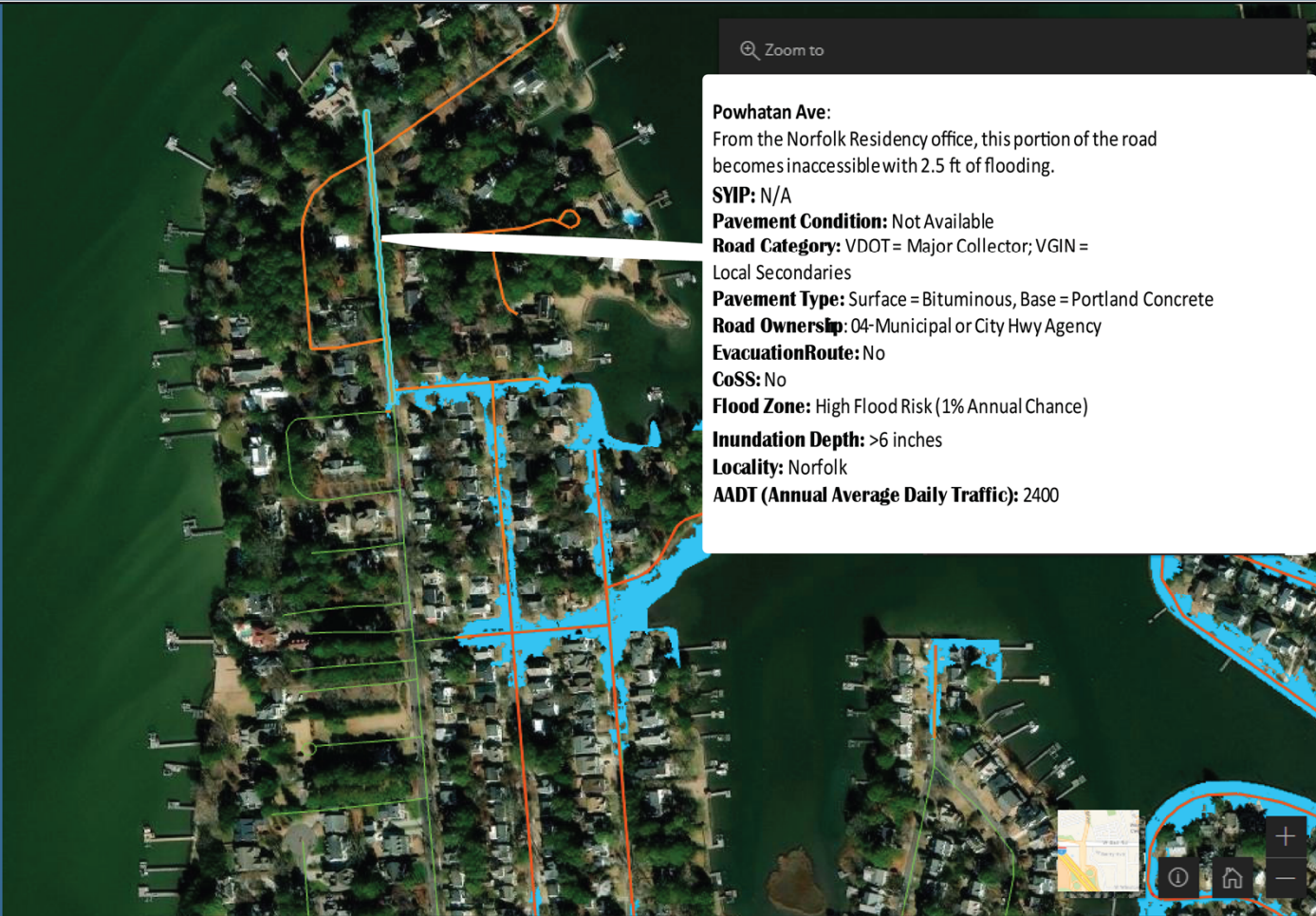
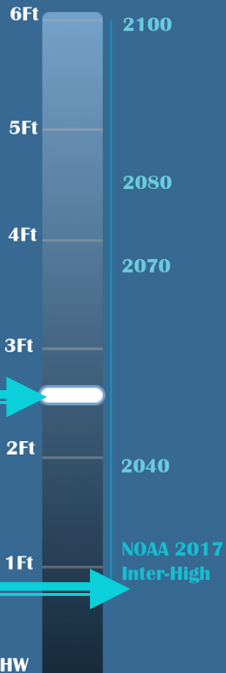
Average Annual Flooding: 2050

View impacts of flooding on roads

1. Choose a starting point:

Norfolk Residency

2. Adjust flood level



Powhatan Ave:
 From the Norfolk Residency office, this portion of the road becomes inaccessible with 2.5 ft of flooding.
SYIP: N/A
Pavement Condition: Not Available
Road Category: VDOT = Major Collector; VGIN = Local Secondaries
Pavement Type: Surface = Bituminous, Base = Portland Concrete
Road Ownership: 04-Municipal or City Hwy Agency
EvacuationRoute: No
CoSS: No
Flood Zone: High Flood Risk (1% Annual Chance)
Inundation Depth: >6 inches
Locality: Norfolk
AADT (Annual Average Daily Traffic): 2400

Task 2. Study ecosystem impacts of Transportation Infrastructure

- Model current habitat distribution for rare, threatened or endangered (RTE) and migratory bird species
- Forecast habitat distribution shifts for target species
- Assess the potential for existing and planned local land use changes and transportation infrastructure to become a detrimental impact on future RTE species habitats by virtue of changing proximities between 2020 and 2080
- Provide outcomes in *Interactive planning portal for VDOT*

Coastal Zone RTE Species & Migratory Birds - 32 total



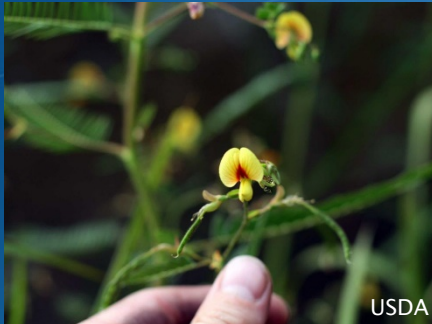
Mabee's Salamander



Saltmarsh Sparrow



Northeastern Beach
Tiger Beetle



Sensitive Joint-vetch

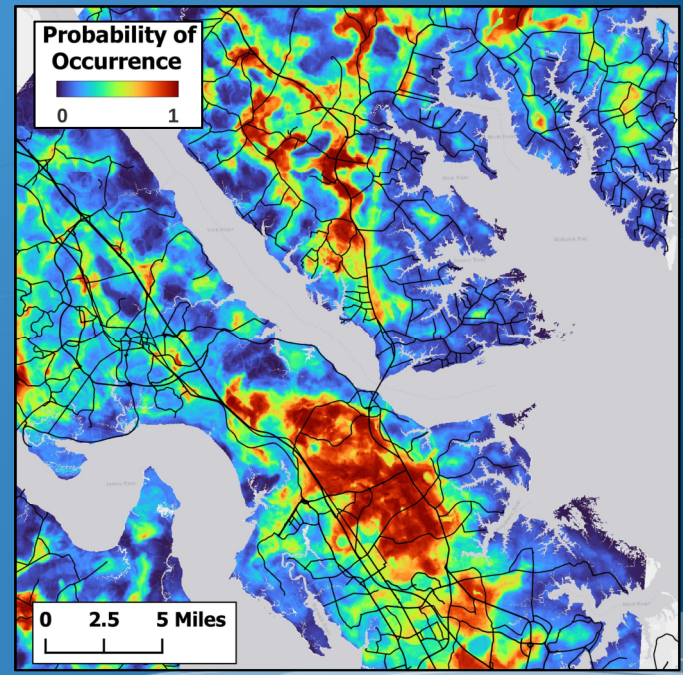
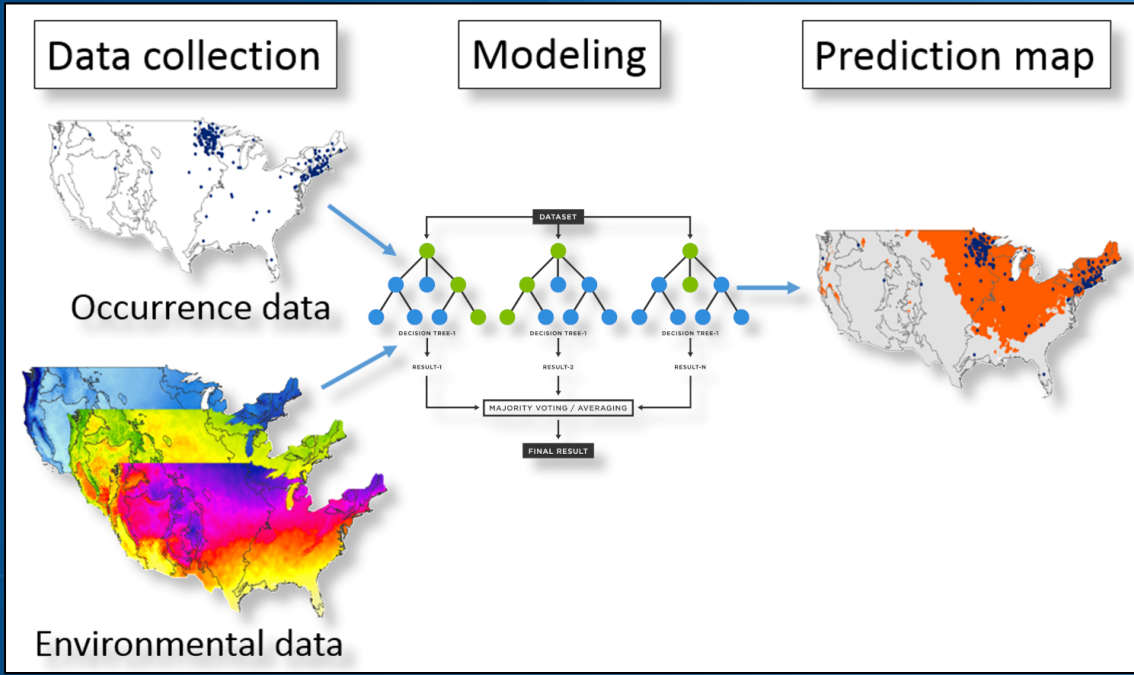


American Shad



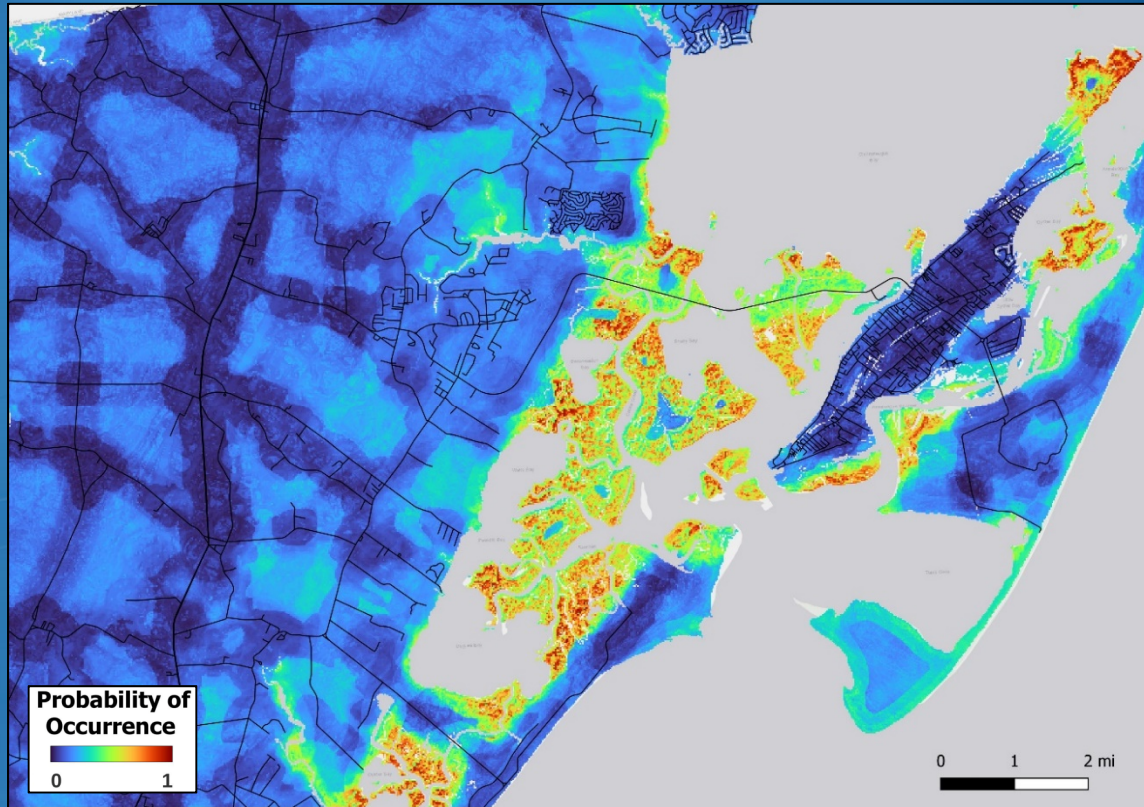
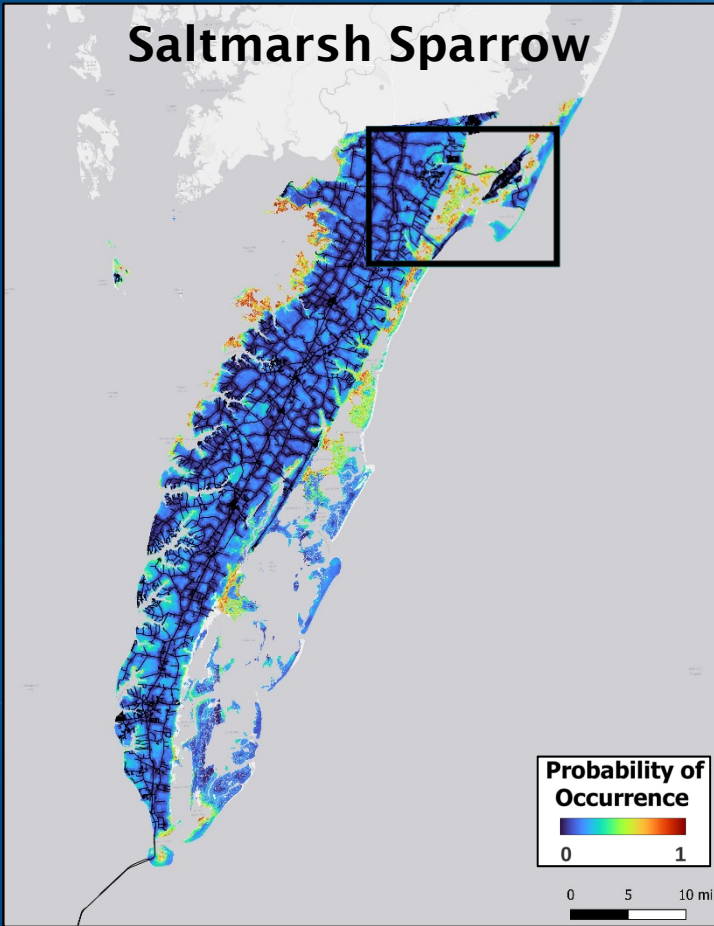
Eastern Chicken Turtle

Species distribution models to inform potential use conflicts

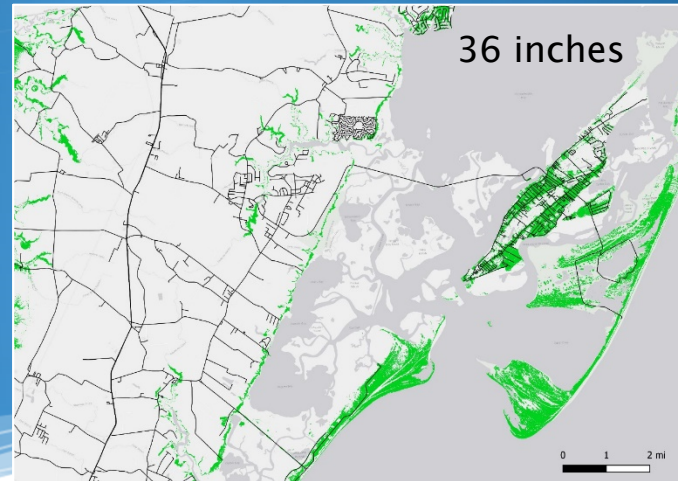
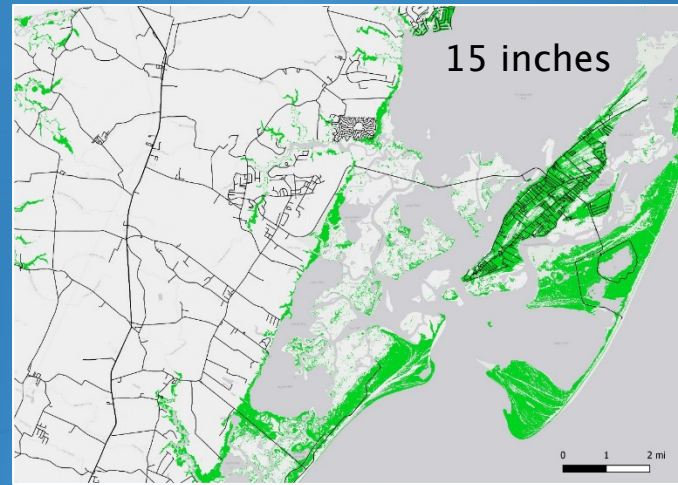
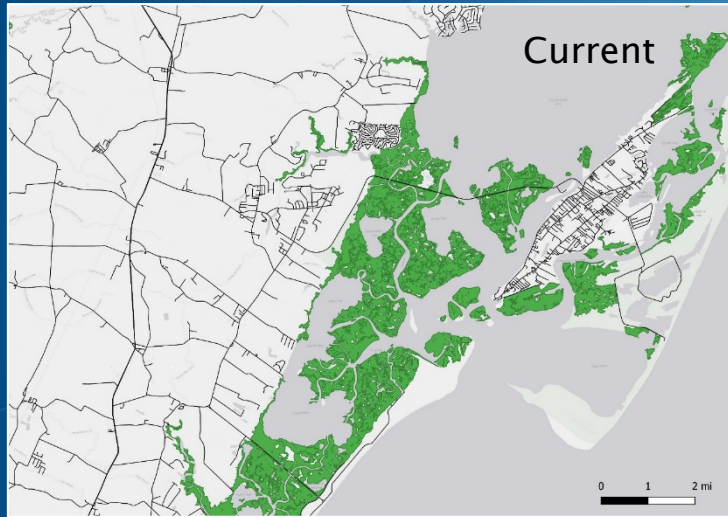


Future SLR shifts and conflicts

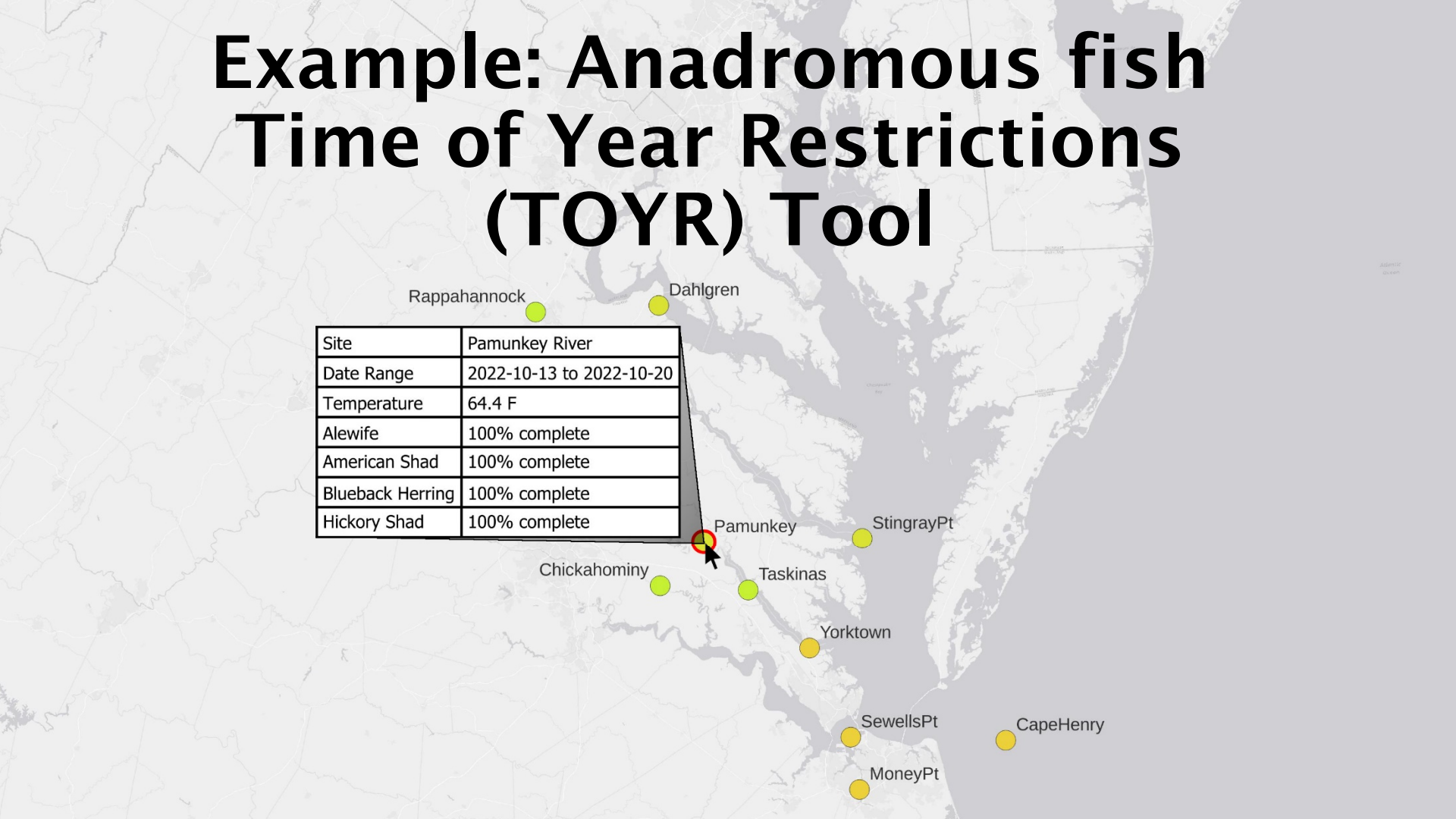
Saltmarsh Sparrow



Example: Saltmarsh Sparrow



Example: Anadromous fish Time of Year Restrictions (TOYR) Tool



Site	Pamunkey River
Date Range	2022-10-13 to 2022-10-20
Temperature	64.4 F
Alewife	100% complete
American Shad	100% complete
Blueback Herring	100% complete
Hickory Shad	100% complete

Rappahannock

Dahlgren

Pamunkey

StingrayPt

Chickahominy

Taskinas

Yorktown

SewellsPt

CapeHenry

MoneyPt

VDOT GREENHOUSE GAS REDUCTION

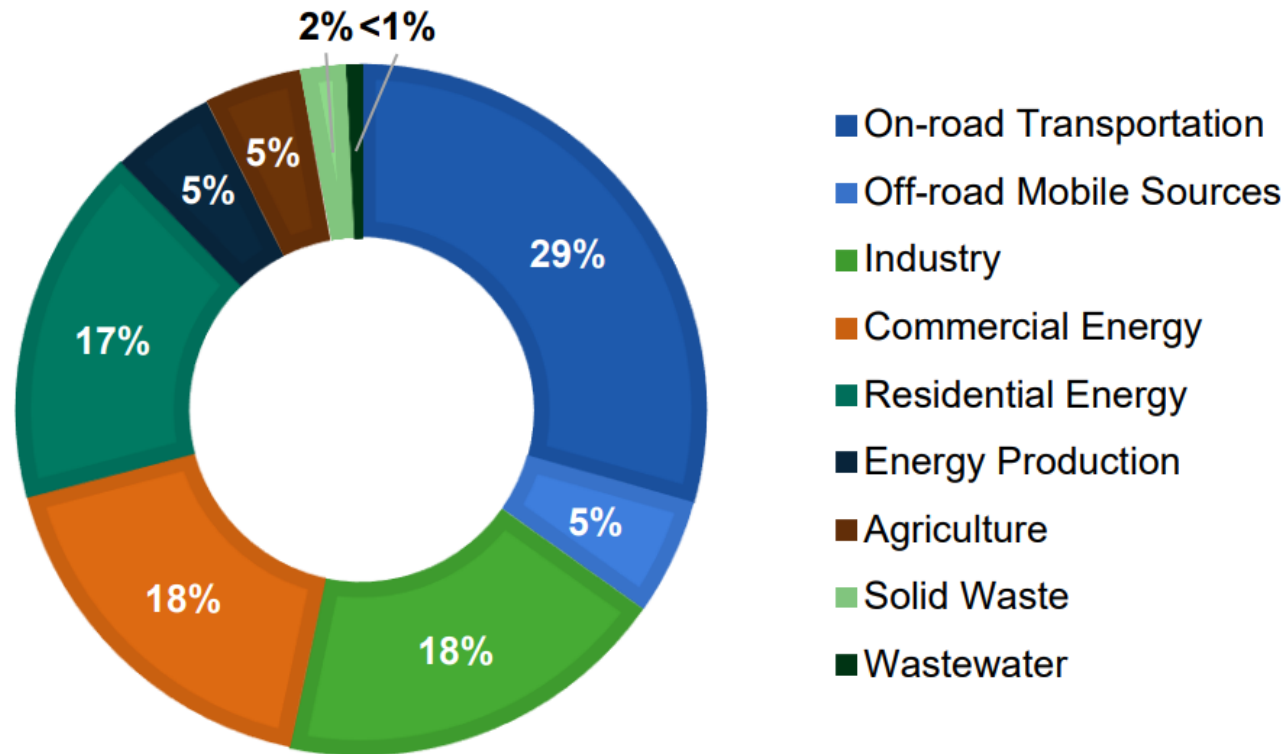
Commonwealth Transportation Board - Environmental Subcommittee

 Chris Berg, Director of Office of Transportation Sustainability

October, 25 2022

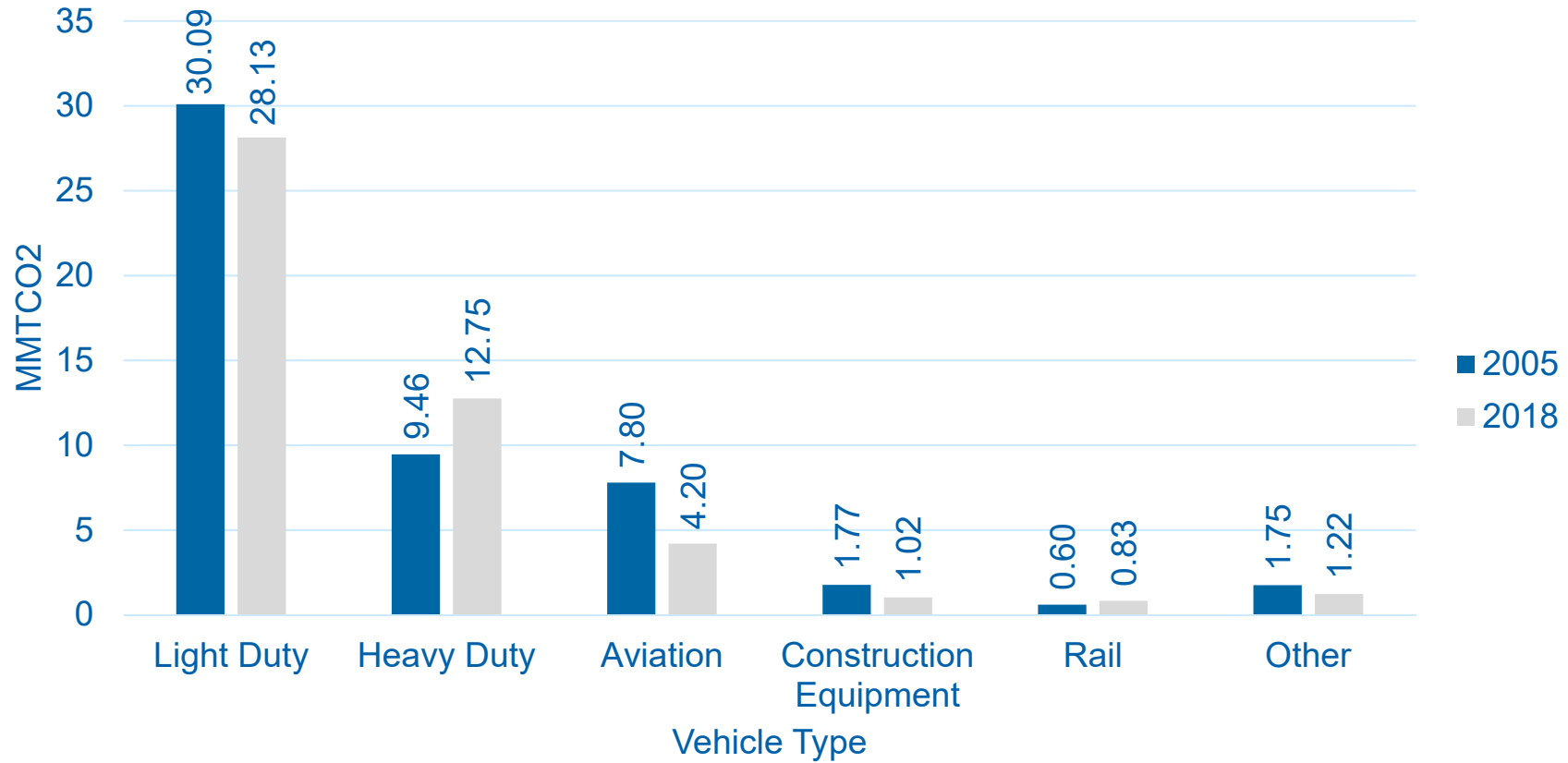
VIRGINIA TRANSPORTATION GHG EMISSIONS

CO2 Emissions by Sector



VIRGINIA TRANSPORTATION GHG EMISSIONS

Transportation CO2 Emissions by Vehicle Type



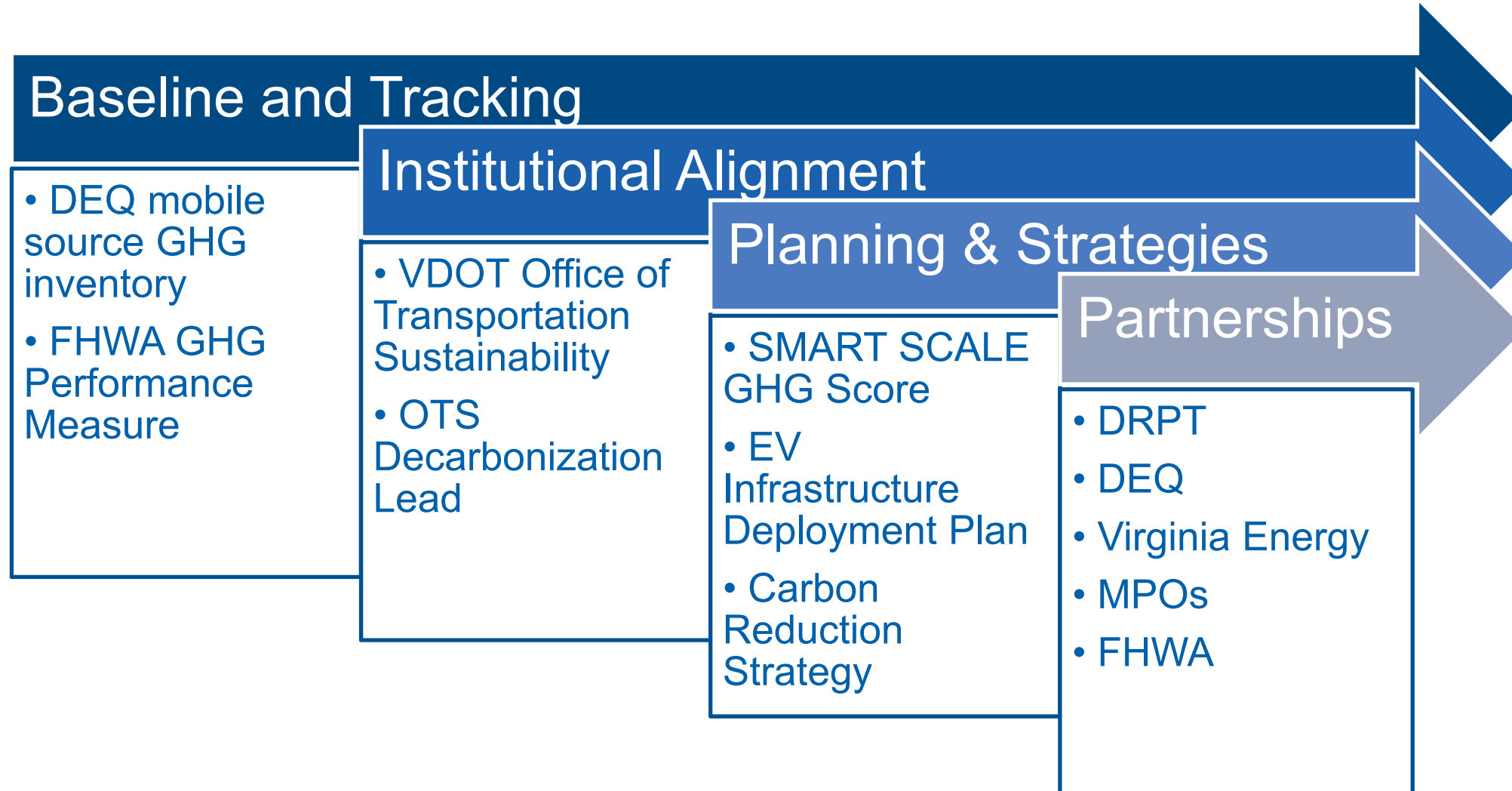
GHG POLICY AND REGULATORY DRIVERS

- IIJA funding for GHG reduction
- DEQ GHG inventory
- Agreement with FHWA to address GHGs in NEPA
 - Quantitative analysis conducted for all Environmental Assessments and Environmental Impact Statements
- Proposed FHWA GHG Performance Measure
 - State DOTs to set 2- and 4-year declining targets, report progress toward Biden Administration goal of 50% GHG reduction by 2030, net-zero by 2050

GHG REDUCTION APPROACH

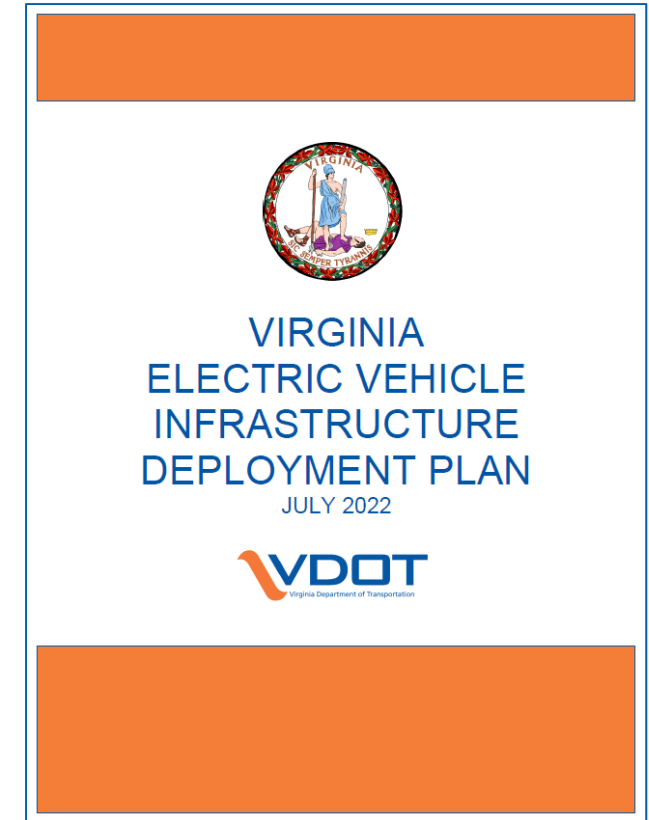
- Data-driven identification of high return on investment strategies to lower the carbon-intensity of transportation system
 - Electrification, multi-modal transportation, reduce vehicle miles travelled, integrate low-carbon materials
- Infrastructure Investment and Jobs Act (IIJA)
 - National Electric Vehicle Infrastructure (NEVI) Program
 - Discretionary Grant Program for Charging and Fueling Infrastructure
 - Carbon Reduction Program (CRP)
 - Additional programs

GHG REDUCTION APPROACH



NATIONAL ELECTRIC VEHICLE INFRASTRUCTURE (NEVI) PROGRAM

- Authorized by Infrastructure Investment and Jobs Act (IIJA)
- Virginia: \$100 million in federal formula funding over 5 years
- IIJA and FHWA Guidance establish program requirements
- Strategically deploy EV charging infrastructure and establish an interconnected national charging network
- **Virginia EV Infrastructure Deployment Plan approved September 27**



DISCRETIONARY GRANT PROGRAM FOR CHARGING AND FUELING

- Authorized by IIJA
- Federal guidance is forthcoming
- \$2.5 billion in discretionary grant funding over 5 years
- State and local authorities that own publicly accessible transportation facilities
 - \$1.25 billion Corridor Charging Grant Program
 - Focused on filling gaps in Alternative Fuel Corridors
 - \$1.25 billion Community Charging Grant Program
 - Focused on rural areas, low- and moderate-income neighborhoods and communities with limited private parking

CARBON REDUCTION PROGRAM (CRP)

- Authorized by IIJA
- Reduce CO₂ emissions from on-road highway sources
- \$236M for Virginia over 5 years
- Carbon Reduction Strategy by November, 2023



CARBON REDUCTION PROGRAM (CRP)

- Carbon Reduction Strategy – Will identify projects and strategies to reduce transportation emissions
- Eligible activities:
 - Public transportation projects
 - Trail facilities for pedestrians and bicyclists
 - Congestion management technologies
 - Energy efficient street lighting and traffic control devices
 - Purchase of electric construction equipment/vehicles and retrofit of diesel trucks

ADDITIONAL IJA GHG REDUCTION FUNDING PROGRAMS

New Programs

- Reduction of Truck Emissions at Port Facilities Program
- Congestion Relief Program
- FTA Low or No Emission Vehicle Program

Existing Programs

- Congestion Mitigation and Air Quality Improvement Program
- Transportation Alternatives (TA) Set-Aside

GHG REDUCTION TIMELINE

