COMMONWEALTH of VIRGINIA

Commonwealth Transportation Board

Shannon Valentine
Chairperson

1401 East Broad Street
Richmond, Virginia 23219

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COMMONWEALTH TRANSPORTATION BOARD WORKSHOP AGENDA

VDOT Central Office
Auditorium
1221 East Broad Street
Richmond, Virginia 23219
December 7, 2021
10:00 a.m.

Attendees will be required to wear a mask unless Proof of COVID vaccination is provided.

1. I-95/395 Express Lanes
   Concessionaire Project Enhancements on Opitz Boulevard and Seminary Road
   Susan Shaw, Virginia Department of Transportation

2. Economic Development Access Program
   Russell Dudley, Virginia Department of Transportation

3. Route 1
   Rob Cary, Virginia Department of Transportation

4. SMART SCALE Proposed PROJECT CANCELLATION Intersection Realignment Route 220 and Route 40
   UPC 111369 – Salem District
   Kim Pryor, Virginia Department of Transportation

5. Evaluation of SMART SCALE Project Performance.
   Margie Ray, Office of Intermodal Planning and Investment

6. SmartScale Round 5
   Brooke Jackson, Office Intermodal Planning and Investment

7. Virginia Highway Safety Program
   Behavioral and Infrastructure Investment Plan
   George Bishop, Virginia Department of Motor Vehicles
   Mark Cole, Virginia Department of Transportation

8. Virginia Transit Equity and Modernization Study
   Grant Sparks, Virginia Department of Rail and Public Transportation

9. U.S. Route 58 Corridor Transportation Revenue Bonds, Series 2022
   Laura Farmer, Virginia Department of Transportation

10. Route 28 District Contract Amendment
    Laura Farmer, Virginia Department of Transportation

11. VTRANS Strategic Actions
    Nick Donohue, Deputy Secretary of Transportation
    Jitender Ramchandi, Office of Intermodal Planning and Investment

12. Virginia Institute of Marine Science Recurrent Flooding Study
    Michael Fitch, Virginia Department of Transportation

13. Noise Manual Update
    Angel Deem, Virginia Department of Transportation

14. Transportation Revenues and Opportunities – Part 3
    Nick Donohue, Deputy Secretary of Transportation

15. Transportation Revenues and Opportunities – Part 4
    Nick Donohue, Deputy Secretary of Transportation

16. Virginia's Bridge Program under the Infrastructure Investment and Jobs Act
    Kendal Walus, Virginia Department of Transportation

17. JLARC Review of Transportation Infrastructure and Funding
    Nick Donohue, Deputy Secretary of Transportation

18. Director's Items
    Jennifer Mitchell, Virginia Department of Rail and Public Transportation

19. Commissioner's Items
    Stephen Brich, Virginia Department of Transportation

20. Secretary's Items
    Shannon Valentine, Secretary of Transportation

# # #


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I-95/395 EXPRESS LANES – CONCESSIONAIRE PROJECT ENHANCEMENTS ON OPITZ BOULEVARD (I-95) AND SEMINARY ROAD (I-395)

Susan Shaw, PE

December 7, 2021

(1) OPITZ BOULEVARD RAMP PROJECT

I-95 Express Lanes – Concessionaire Project Enhancement

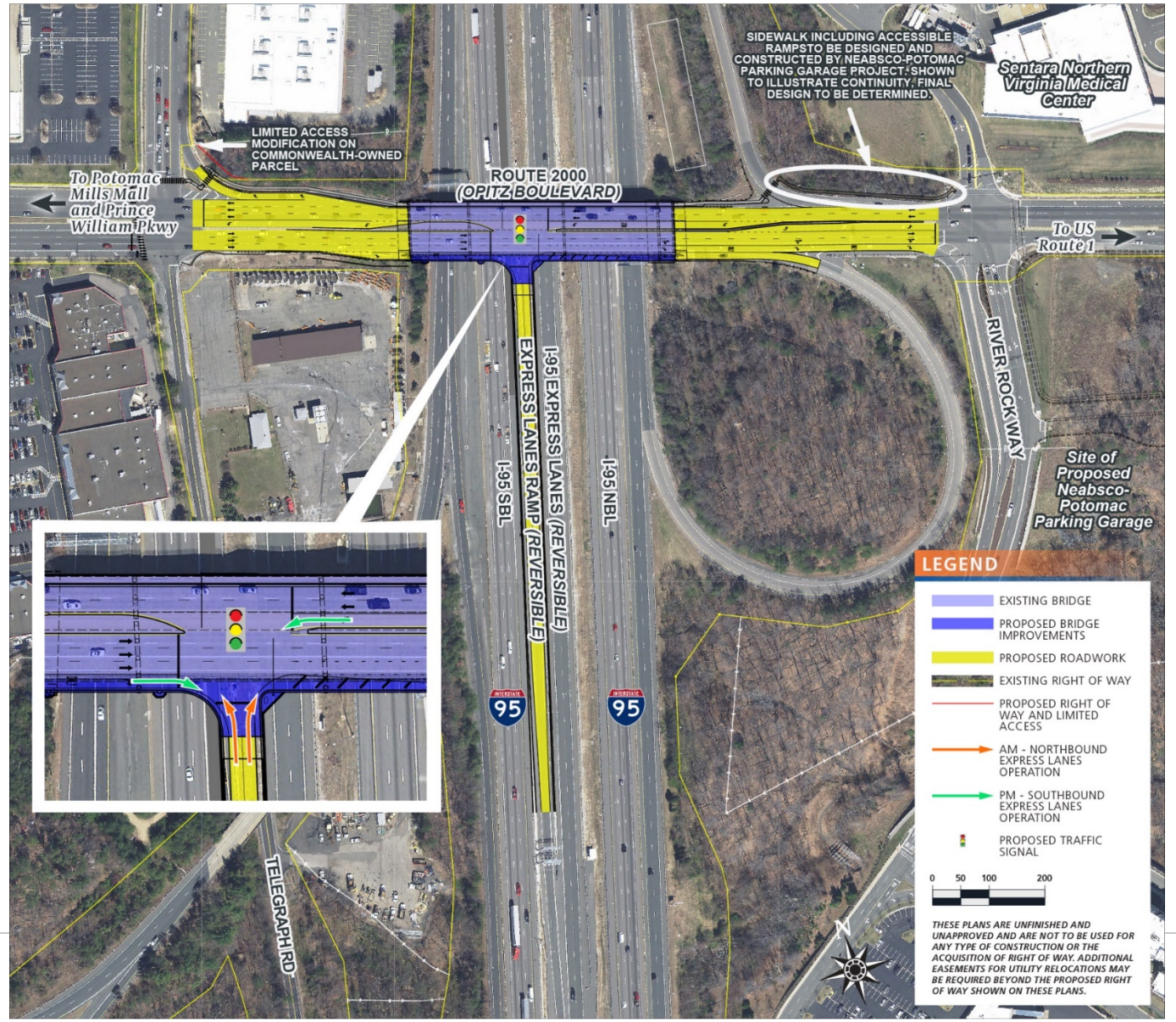
I-95 Express Lanes - Opitz Boulevard Ramp Project

PURPOSE AND NEED

- Provide an additional travel choice for I-95 corridor users
- Increase accessibility to and from the 95 Express Lanes corridor

SCOPE

- New reversible ramp from Opitz Boulevard to 95 Express Lanes
- Signalized ramp intersection
- Gate-controlled left and right-turn lanes to ramp
- Sidewalk connection across north side of bridge between Telegraph Road and River Rock Way
- Dedicated lane for loop to northbound I-95
- Relocate existing slip ramp (not shown) further south

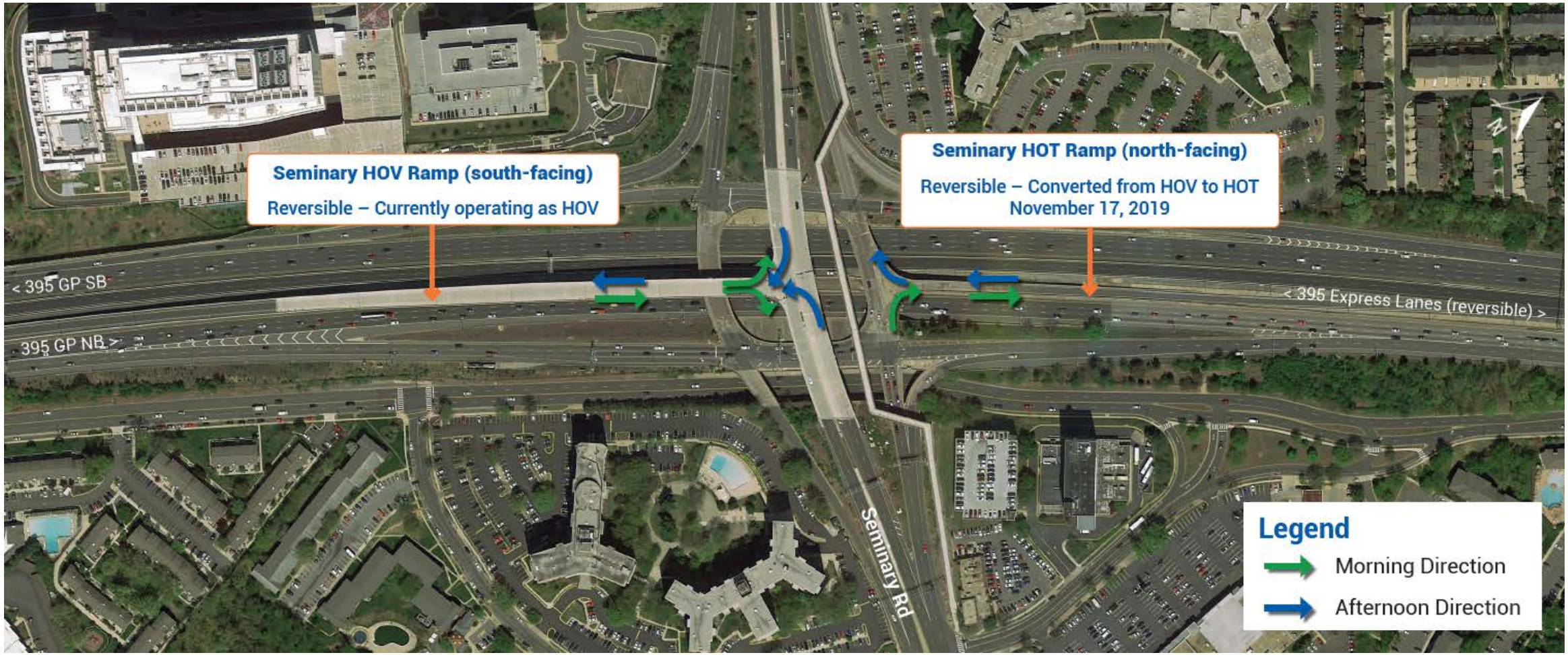


Opitz Boulevard Ramp Project - Milestones Schedule

(2) SEMINARY ROAD RAMP PROJECT

I-395 Express Lanes – Concessionaire Project Enhancement

Seminary Road - Existing Conditions



I-395 Express Lanes – Seminary Road Ramp Project (HOV to HOT Conversion)

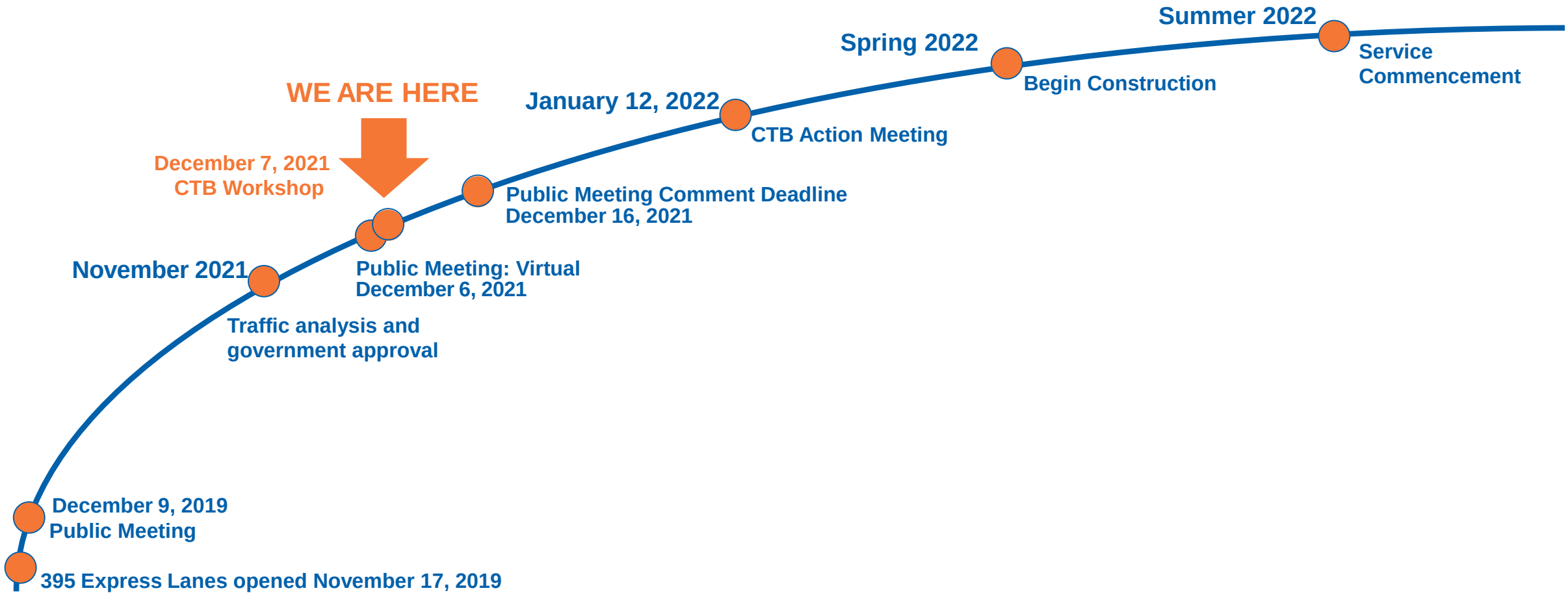
To develop a transportation solution that:

- ✓ Encourages greater use of existing interstate network and capacity
- ✓ Reduces congestion on the General Purpose lanes
- ✓ Improves safety
- ✓ Improves network reliability and provides predictable travel choices

Conversion information

- Ramp constructed by VDOT in 2012, opened in 2016
- No additional civil construction required
- No new signage or digital messaging boards
- Changes on Seminary Road to include: sign removals, overlays, replacements
- Changes on I-95/395 Express Lanes to include: sign removals, overlays, replacements

Seminary Road Ramp Project - Milestones Schedule



Project Delivery – Partnership with Transurban

- Development Framework Agreements with Transurban (Concessionaire) to develop Opitz Boulevard Ramp Project and Seminary Road Ramp Project
- Concessionaire to submit a proposal that meets project-delivery technical and financial criteria, subject to VDOT approval

VDOT Responsibilities	Concessionaire Responsibilities	
	Opitz Boulevard Ramp Project	Seminary Road Ramp Project
▪ Review and approval of Interchange Access Report (IAR) ▪ Obtain necessary governmental approvals, including CTB ▪ Review and approve design and final construction ▪ Oversight and coordination with Concessionaire and Federal, State, and local government entities	▪ Preliminary engineering ▪ Interchange Access Report (IAR) ▪ Categorical Exclusion (CE) ▪ Project delivery: Design-Bid-Build ▪ Project funding ▪ Operate and maintain	▪ Preliminary engineering ▪ Interchange Access Report (IAR) ▪ Project delivery ▪ Project funding ▪ Operate and maintain

Designation as HOT Lanes

- Section 33.2-502 of the *Code of Virginia* requires the CTB to designate HOT lanes and to specify the high-occupancy requirement for use of the HOT lanes as HOV lanes by certain users

- The draft resolution (January 2022) will:
  - Designate the Opitz Boulevard Ramp as HOT lanes
  - Designate the Seminary Road Ramp as HOT lanes
  - Establish the high occupancy requirement as HOV-3 matching the existing I-95/395 Express Lanes facility
  - Authorize the Commissioner of Highways to establish the conditions for use of the I-95/395 Express Lanes and to negotiate with 95 Express Lanes, LLC to finalize amendments for the I-95/395 agreement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Proposed Revisions to the Economic Development Access Program

Russell Dudley, Local Assistance Division

Economic Development (EDA) Program Overview

The Economic Development Access Program provides adequate access to development sites for qualifying businesses

- **A qualifying business will meet the Virginia Economic Development metric of a basic employer**
- **Adequate access, in consideration of the type and volume of traffic anticipated to be generated by the subject site, may require the construction of a new roadway, improvement of an existing roadway, or both, to serve the designated site**

General Assembly allocates $5.5M annually for the EDA, Airport and Rail Access programs.

CTB Policy establishes maximum allocation per locality, per year

- **$500,000 unmatched; $150,000 matched**

Often part of larger incentive packages

Project Types

Regular

- Localities must provide information on a business, the planned facility or operation, and its anticipated investment prior to requesting funds from the Board
  - VDOT reviews the proposed development and road access concept and ensures the project is appropriate and the anticipated investment will support the use of EDA funding
  - VEDP confirms business meets basic employer criteria as part of allocation request

Bonded

- Localities must provide information regarding the development site
  - VDOT reviews traffic projection and proposed road
  - VEDP provides recommendation to VDOT based on determination of the adequacy and location of the development site to attract business that would qualify under the Program
  - VEDP confirms businesses that locate on roadway meet criteria to qualify their investment
- Provides opportunity for a locality to quickly build a roadway in order to make sites more attractive

Recent Actions

- JLARC report published on September 14, 2020, titled Infrastructure and Regional Incentives, recommended several changes to the EDA program
  - Develop new guidelines that include provisions for the # of jobs, capital investment, or other relevant criteria
  - Revise guidelines to align with VEDP's project selection criteria, which are designed to enhance economic benefits
- At its 2021 Special Session, the General Assembly amended § 33.2-1509
  - Amendment provides for changes and requires guidelines for the use of funds to take into account job creation, capital investment, and other relevant economic development considerations
- VEDP Surveyed Stakeholders and researched other similar state programs/Consultation with VDOT

VDOT and VEDP Collaborated to Identify Potential Improvements to the EDA Program

Date	Event Description
Oct 2020	VDOT staff requested VEDP support to develop proposals to increase utilization of EDAP funding
Nov 2020 - Mar 2021	VEDP staff engaged with stakeholders to understand their perspectives on the program and potential changes that might increase applications
Apr - Jun 2021	VEDP and VDOT Staff engaged to review stakeholder insights and potential program changes
Jul – Oct 2021	VDOT staff reviewed potential program changes and developed recommendations

VEDP Stakeholders Offered Feedback on the Program and Proposed Changes

Localities are reluctant to pursue bonded projects under current conditions

- Localities perceive they are bearing all the risk
- Localities believe they will likely need to repay
- Clawbacks are especially daunting for rural, distressed localities

EDAP's timeline does not align with the market

- Five year window is too short given lead times for attracting economic development projects
- Timeline should incentivize quick construction of road, offer add'l time to attract projects

Design-only grants should be open to non-MEI projects

- Completing design, permitting work expedites road projects and clarifies costs
- Design-only grants free up resources for other aspects of road construction, site development
- Design-only grants should require construction before permits expire

Alternative methods to justify funding are attractive

- Incorporating job creation into project metrics would broaden qualifying projects
  - Especially useful in small communities
- Incorporating Virginia Business Ready Sites Program Tier advancement into metrics supports holistic goal of site readiness

Stakeholders feel that funding has not kept pace with rising development costs

- Road construction costs have continued to increase, while per project EDAP funding levels remain the same

Some developers are unfamiliar with EDAP

- Localities who proactively invest in site development are familiar, but neighbors are not
- New economic developers do not hear about the program as it is little used

VDOT Program Recommendations

Update Application Process

Increase Maximum Allocation

Provide Design-Only Grants

Reduce Capital Investment Requirements for Economically Distressed Localities

Provide Credit for Capital Investment for Jobs Created

Modified Application Process

Today's Process

- Evaluate Access Need
- Determine Eligibility of Business

Recommendation for More Robust Application Process

- To Increase Potential for Success
- To Address Amended Code

Criteria

- Planned Capital Investment
- Site Potential
- Access Need
- Job Creation
- Locality Economic Distress

Challenge: Criteria for Speculative Projects

Increase the maximum allocation available

- **Current Policy**
  - Maximum allocation to a locality within any one fiscal year is $650,000, with $500,000 unmatched and $150,000 matched dollar for dollar.
- **Proposed Policy**
  - Maximum allocation to a locality within any one fiscal year would be $850,000 with $700,000 unmatched and $150,000 matched dollar for dollar.
- **Supports Findings/Needs**
  - CTB last increased the maximum unmatched allocation in 2009 when it increased from $300,000 to $500,000

Provide Design-Only Allocations

- **Current Policy**
  - Design-Only allocations are available for Major Employment and Investment (MEI) Sites
  - For MEI Design-Only projects, award up to $500,000 (unmatched) state funds, and an additional $150,000 (matched) state funds
- **Proposed Policy**
  - Access road projects to sites that are not designated as MEI would be eligible for Design-Only allocations
  - Localities may receive up to $150,000 (unmatched) state funds, and an additional $50,000 (matched) state funds
  - Requests under $100,000 allocated administratively, with delegated Board approval
- **Supports Findings / Needs**
  - Addresses Lead Times needed to businesses (on-the-shelf design)
  - Show potential businesses level of readiness
  - VEDP has found that in order to be competitive for projects, all sites, regardless of size, need to have a plan to complete development in a 12-18 month timeframe.

Reduce Capital Investment Requirement for Regions in Economic Distress

- **Current Policy**
  - **No related policy**
- **Proposed Policy**
  - **The amount of Qualifying Capital Investment needed for a project will be based on the locality's level of distress, as defined by the Commonwealth Opportunity Fund.**
  - **Non-Distressed: Capital Investment documentation needed for five times the allocation for cost of the road construction.**
  - **Distressed: Capital Investment documentation needed for four times the allocation for cost of the road construction.**
  - **Double-Distressed: Capital Investment documentation needed for three times the allocation for cost of the road construction.**
- **Supports Findings / Needs**
  - **Models Commonwealth Opportunity Fund Grant Program**
  - **Provides new incentives where investment is needed the most**

Provide Credit as Capital Investment for Jobs Created

- **Current Policy**
  - Localities must document 5X-Allocation as Capital Investment within Five Years
- **Proposed Policy**
  - Provide a credit as capital investment of $5,000 per new full time job created and $1000 per full time job retained.
- **Supports Findings/Needs**
  - Approximately one-third of EDAP bonded funding was returned due to failure to attract sufficient investment within the current timeframe
  - Current capital investment requirements may be especially onerous to distressed localities, as they face additional obstacles in attracting large economic development projects.
  - Provides an incentive to recruit businesses adding to local employment

NEXT STEPS

Continue Coordination with VEDP to Define Responsibilities

Policy Resolution to Board in January (Draft Provided)

Develop new Guidelines which must go through Town Hall for Public Comment


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Virginia Department of Transportation

2022 Commonwealth Transportation Board

Economic Development Access Fund Policy

GENERAL

1. The Commonwealth Transportation Board and the Department of Transportation (the Department) will consult and work closely with the Virginia Economic Development Partnership (VEDP) in determining the use of economic development road access funds and will rely on the recommendations of the VEDP in making decisions as to the allocation of these funds. In making its recommendations to this Board, the VEDP and the Department will take into consideration the impact of the proposed facility on the employment and tax base of both the area in which the facility is to be located and the Commonwealth of Virginia. Further, in developing guidelines for the use of the funds, the Board directs the Department to take into consideration, at a minimum, the following criteria: proposed capital investment by the private sector at the economic development site, site readiness, transportation need, potential and/or predicted job creation, and economic stress of the community in which the project is proposed.

2. The use of economic development access funds shall be limited to: (a) providing adequate access to economic development sites on which new or substantially expanding manufacturing, processing, research and development facilities, distribution centers, regional service centers, corporate headquarters or other establishments that also meet basic employer criteria as determined by the Virginia Economic Development Partnership in consultation with the Virginia Department of Business Assistance; (b) improving existing roads that may not be adequate to serve the establishments as described in (a); and (c) providing for costs associated directly with program administration and management of project requests prior to CTB approval with such costs not expected to exceed 1% of the allocation annually.

3. Economic development access funds may not be used for the construction of access roads to schools, hospitals, libraries, airports, armories, speculative office buildings, shopping centers, apartment buildings, professional offices, residential developments, churches, hotels, motels, or similar facilities, whether public or private. (Access roads to licensed, public-use airports, while provided for in the *Code of Virginia* (*COV*) Section 33.2-1509, are funded and administered separately)

4. No cost incurred prior to this Board's approval of an allocation from the economic development access fund may be reimbursed by such funds, except administrative costs as specified in *COV* 33.2-1509 paragraph 2(c). Economic development access funds shall be authorized only after certification that the economic development establishment as listed or meeting the criteria as described will be built under firm contract, or is already constructed, or upon presentation of acceptable surety in accordance with paragraph A of Section 33.2-1509 of the *COV*.

5. Funds for economic development access road projects are to be used only for the physical construction and/or engineering of an access road necessary to support the traffic generated

by a new or expanding qualified establishment. Access funds may be used to relocate existing utilities only to the extent the location of those utilities conflict with access road construction. Economic development access funds shall not be used for the acquisition of rights of way. Where an existing economic development access road is part of the road system of the Department or the locality in which it is located, economic development access funds may be used to upgrade the existing road only to the extent required to meet the needs of traffic generated by new or expanding eligible establishments.

6. Economic development access funds shall not be used to construct or improve roads on a privately owned economic development site. Nor shall the construction of a new access road to serve any economic development site on a parcel of land that abuts a road constituting a part of the systems of state highways or the road system of the locality in which it is located be eligible for economic development access funds, unless the existing road is a limited access highway and no other access exists

7. In the event an economic development site has access according to the foregoing provisions of this policy, but it can be determined that such access is not adequate in that it does not provide for safe and efficient movement of the traffic generated by the eligible establishment on the site or that the site's traffic conflicts with the surrounding road network to the extent that it poses a safety hazard to the general public, consideration will be given to funding additional improvements. Such projects shall be evaluated on a case-by-case basis upon request, by resolution, from the local governing body. Localities are encouraged to establish planning policies that will discourage incompatible mixes such as industrial and residential traffic.

8. Prior to this Board's allocation of funds for such construction or road improvements to an eligible economic development establishment proposing to locate or expand in a county, city or town, the governing body shall by resolution request the access funds and shall be responsible for the preliminary negotiations with the eligible establishment and others interested. Engineers of the Department will be available for consultation with the governing bodies and others, and may prepare surveys, plans, engineering studies, and cost estimates, when requested and funded by the locality.

BOARD ALLOCATIONS

9. Allocations made available under this program may be for projects in Counties, Cities, or Towns that receive street maintenance payments under section 33.2-319 of the *COV*. A town whose streets are maintained under either Section 33.2-339 or 33.2-340 of the *COV*, shall be considered as part of the county in which it is located.

10. A locality may receive an unmatched allocation of economic development access funds up to $150,000 in any fiscal year and an additional $50,000 in economic development access funds matched dollar-for-dollar from funds not administered by this Board for a design-only project. The local governing body shall guarantee by bond or other acceptable surety that the plans will be developed to standards acceptable to the Department and will be completed to standards acceptable to the Department within 24 months of the allocation. The Department is authorized to provide design-only unmatched allocations up to $100,000 without Board approval provided all other provisions of this policy are met and the Department provides the Board with an annual report of those allocations.

11. A locality may receive an unmatched allocation of economic development access funds up to $700,000 in any fiscal year for the construction of an access road project or for the combined design and construction of an access road project. The unmatched allocation may be supplemented with up to $150,000 in economic development access funds, to be matched dollar-for-dollar from funds other than those administered by this Board. Such supplemental funds shall be considered only if the total estimated cost of eligible items for the economic development access improvement exceeds $700,000.

12. No locality may receive allocations exceeding $850,000 in a single fiscal year

13. If an eligible site is owned by a regional industrial facility authority, as defined in Section 15.2-6400 et seq. of the *Code*, funds may be allocated for construction of an access road project to that site without penalty to the jurisdiction in which the site is located. This provision may be applied to one regional project per fiscal year in any jurisdiction, with the same funding limitations as prescribed for other individual projects.

14. Notwithstanding the provisions herein, for Major Employment and Investment (MEI) projects as defined in Section 2.2-2260, of the *Code* and administered by the Virginia Economic Development Partnership, the locality may receive up to $500,000 unmatched allocation and $150,000 dollar for dollar matched allocation for a design-only project. The local governing body shall guarantee by bond or other acceptable surety that plans for a MEI project will be developed to standards acceptable to VDOT.

15. In addition, for projects utilizing economic development access funds to serve approved MEI projects, the locality may receive up to $700,000 unmatched allocation and an additional $500,000 matched allocation for a road construction project. Project allocations for a given MEI project may be cumulative for not more than two years.

16. Eligible items of construction and engineering shall be limited to those that are essential to providing an adequate facility to serve the anticipated traffic while meeting all appropriate CTB and state policies and standards. However, additional pavement width or other features may be eligible where necessary to qualify the road facility in a city or town for maintenance payments under Section 33.2-319, of the *Code*.

17. Except as provided for in paragraph 15 pertaining to MEI projects, it is the intent of the Board that economic development access funds not be anticipated from year to year. Unused eligibility cannot be allowed to accumulate and be carried forward from one fiscal year to another.

18. As a condition of the any economic development allocations for a construction or combined design and construction project, the locality must demonstrate that capital investment outlay of the eligible establishment and certain investment by the locality in the land and the building on the site occupied by the eligible establishment as follows:

    a. Investments shall be five times or greater of the allocation for a locality that is not designated as a single or double distressed locality, as defined by VEDP in the year that the allocation is made, or

b. Investments shall be four times or greater of the allocation for a locality that is designated as a single distressed locality, as defined by the VEDP, in the year that the allocation is made, or

c. Investments shall be three times or greater of the allocation for a locality that is designated as a double distressed locality, as defined by the VEDP, in the year the allocation is made.

19. Further, to encourage job creation in the establishment of such facilities, the Department shall consult with VEDP to establish an appropriate dollar value credit toward the required capital investment for jobs created and jobs retained.

BONDED (SPECULATIVE) PROJECTS

20. When an eligible establishment is not yet constructed or under firm contract and a local governing body chooses to guarantee by bond or other acceptable surety that such will occur, the maximum time limit for such bond shall be five years, beginning on the date of the allocation of the economic development access funds by the Commonwealth Transportation Board. At the end of the five-year period, the amount of economic development access funds expended on the project and not justified by eligible capital outlay of one or more eligible establishments acceptable to the Board shall be reimbursed to the Department of Transportation voluntarily by the locality or by forfeiture of the surety unless the locality elects to utilize the payback provisions outlined in paragraph 21.

21. At the end of the five year time bond period specified in paragraph 20 or at the termination of an extended bond period, rather than reimbursing the Department in full those funds expended on the project but not justified by eligible capital outlay, the locality may elect to extend the bond or other acceptable surety for another 4 year period and, on an annual basis, reimburse the Department 20% of those funds expended on the project but not justified by eligible capital outlay, with the first annual payment to be made on or before the 1st day of the new bonded period, until such time that 100% of the required reimbursement is provided or until the locality can document sufficient capital investment by an eligible establishment. The locality's bond or other acceptable surety may be reduced annually by the amount repaid to the Department. In the event that during the extended bonded period, the locality can document sufficient capital investment by an eligible establishment, the locality may request a refund of any reimbursements made to the Department. Such request may be granted if funds are available and on a first come, first served basis in competition with applications for economic development access funds from other localities. The Commonwealth Transportation Commissioner is directed to establish administrative procedures to assure adherence and compliance with the provisions of this policy and the associated legislative directives.

AMAZON TRANSPORTATION PROJECT UPDATE

Commonwealth Transportation Board

December 7, 2021 **Robert H. Cary, PE, LS – Chief Deputy Commissioner**

VDOT | DRPT

Amazon Transportation Project Update

Route 1 Multimodal Improvements Feasibility Study

Rob Cary, P.E., L.S. | VDOT Chief Deputy Commissioner

Project Locations

Route 1 Multimodal Improvements
Feasibility Study

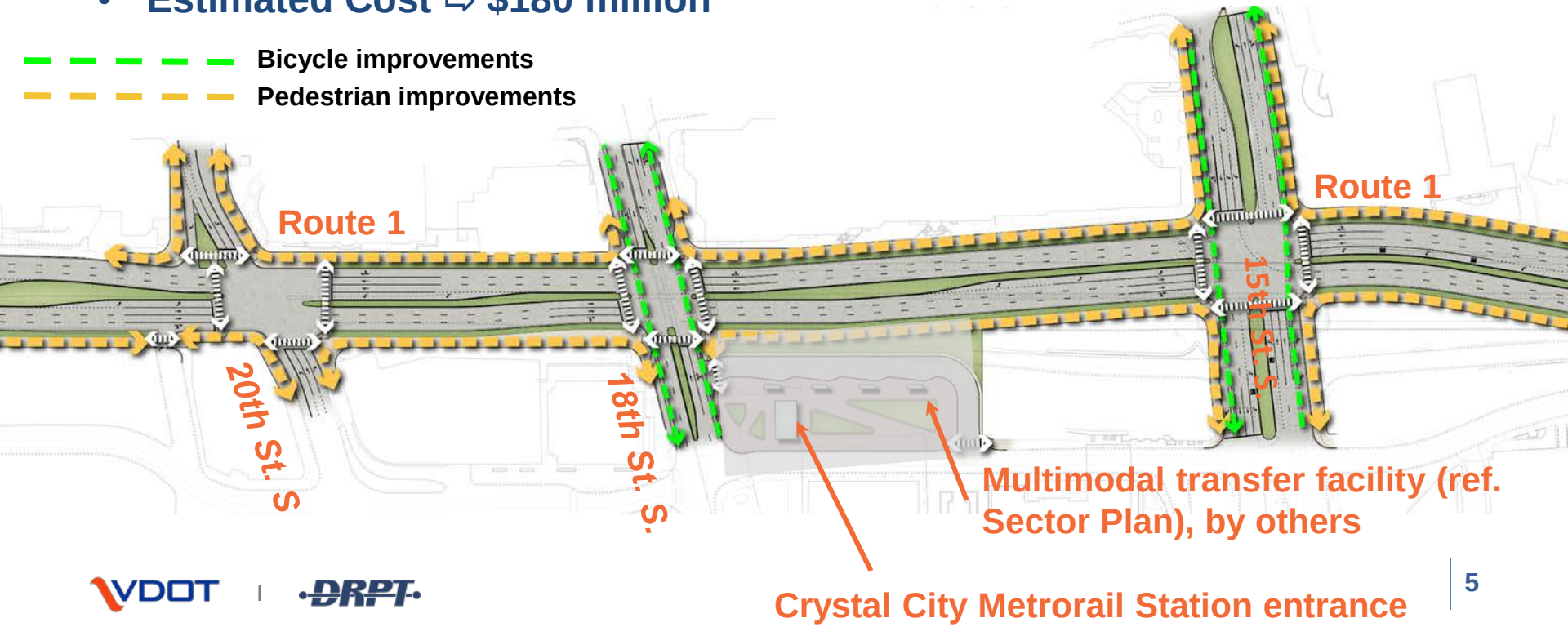
- Agreement between the Commonwealth of Virginia and Amazon includes a transportation project for Route 1 in National Landing to “improve safety, accessibility, and the pedestrian experience crossing Route 1...”
- Feasibility study aims to provide sufficient information to make the best decision on a future project on Route 1 to meet transportation needs with the coming of Amazon and other related development
- The study examines converting Route 1 to an at-grade or elevated urban boulevard or improving the existing elevated roadway from 12th St. to 23rd St. South

Concept Planning Study Area

Route 1 Multimodal Improvements
Feasibility Study

Phase 1 of the study recommends an at-grade configuration with future multimodal transfer station, pedestrian facilities, and bicycle facilities

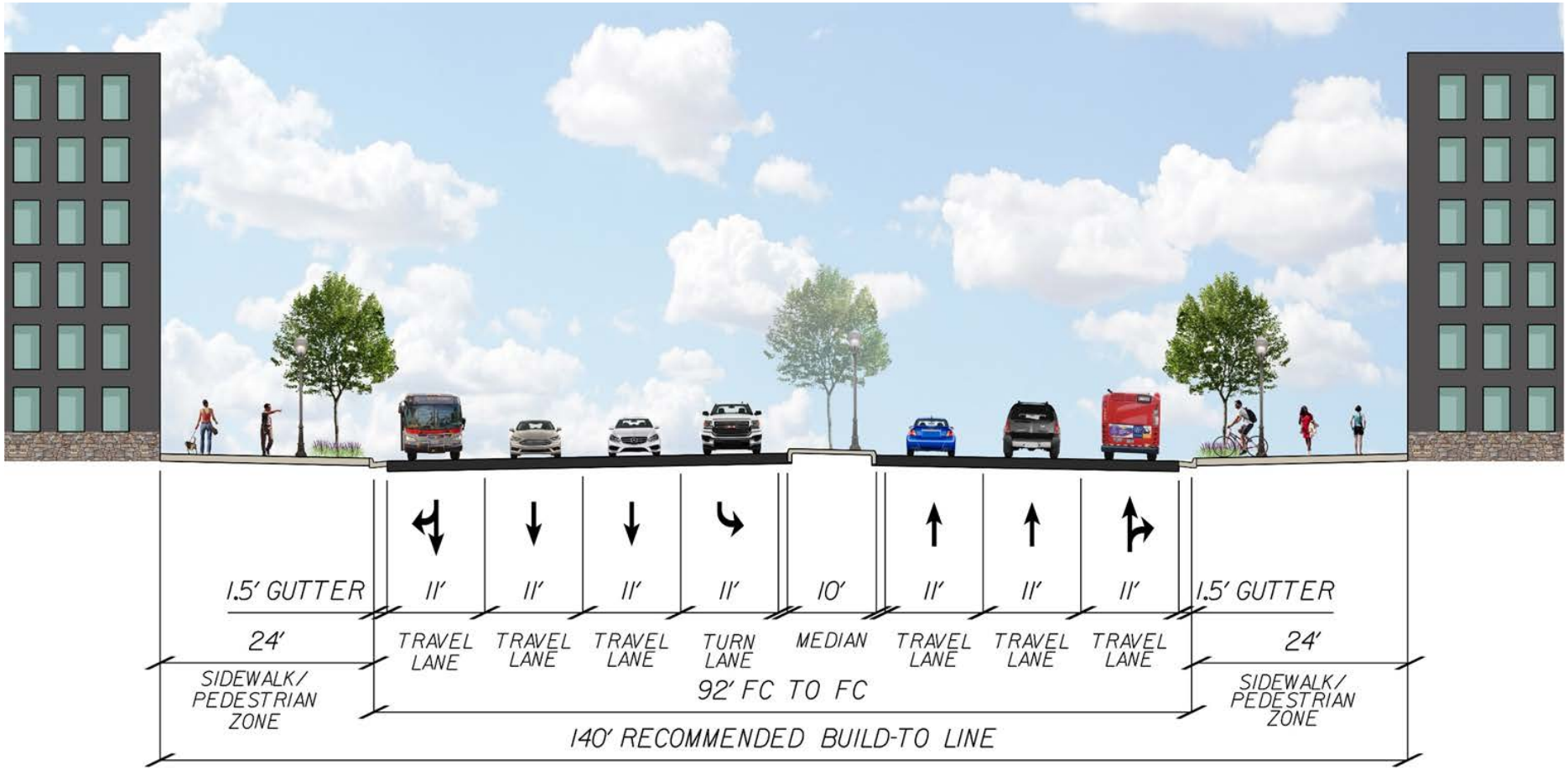
- Most desirable characteristics for multimodal vision at National Landing
- Needs Travel Demand Management (TDM strategy to reduce future traffic volumes by 20% to 30% below 2019
- Further study for separate pedestrian grade crossing at 18th Street
- Estimated Cost ⇨ $180 million



At-Grade Concept 1 at 15th and 20th Street

All turns permitted – Seven lane pedestrian crossing

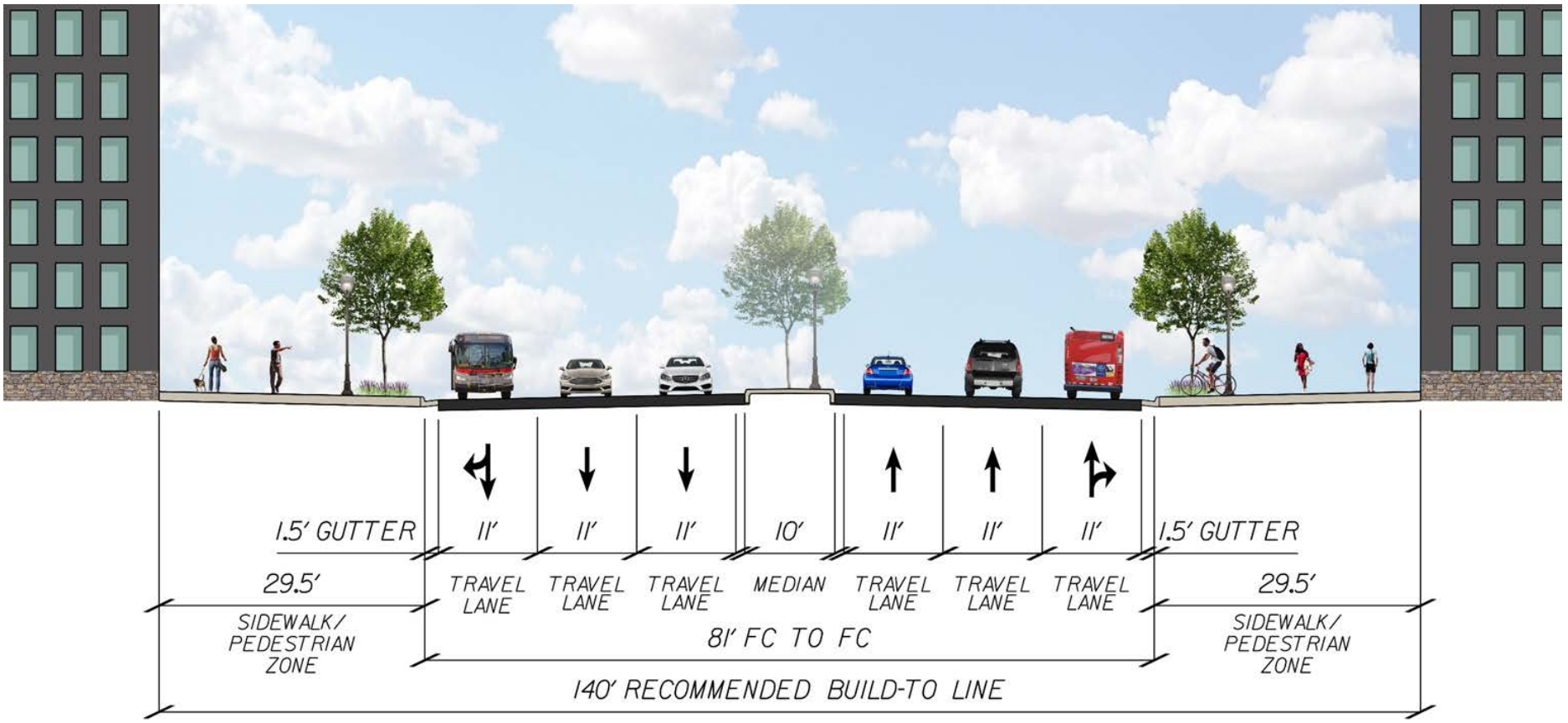
34% space allocated to pedestrians



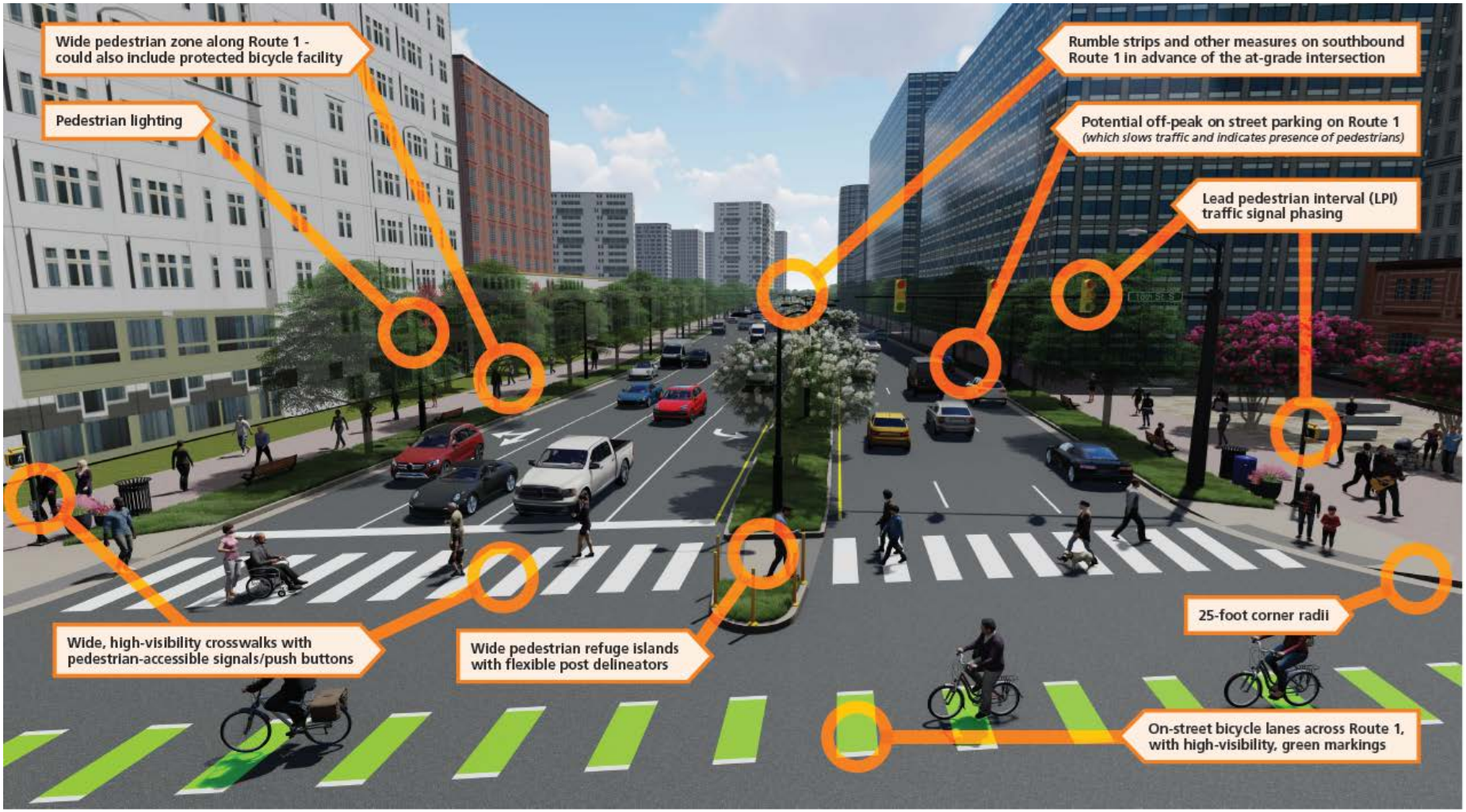
At-Grade Concept 2 at 18th Street Intersection

No left turns from Route 1 – Six lane pedestrian crossing

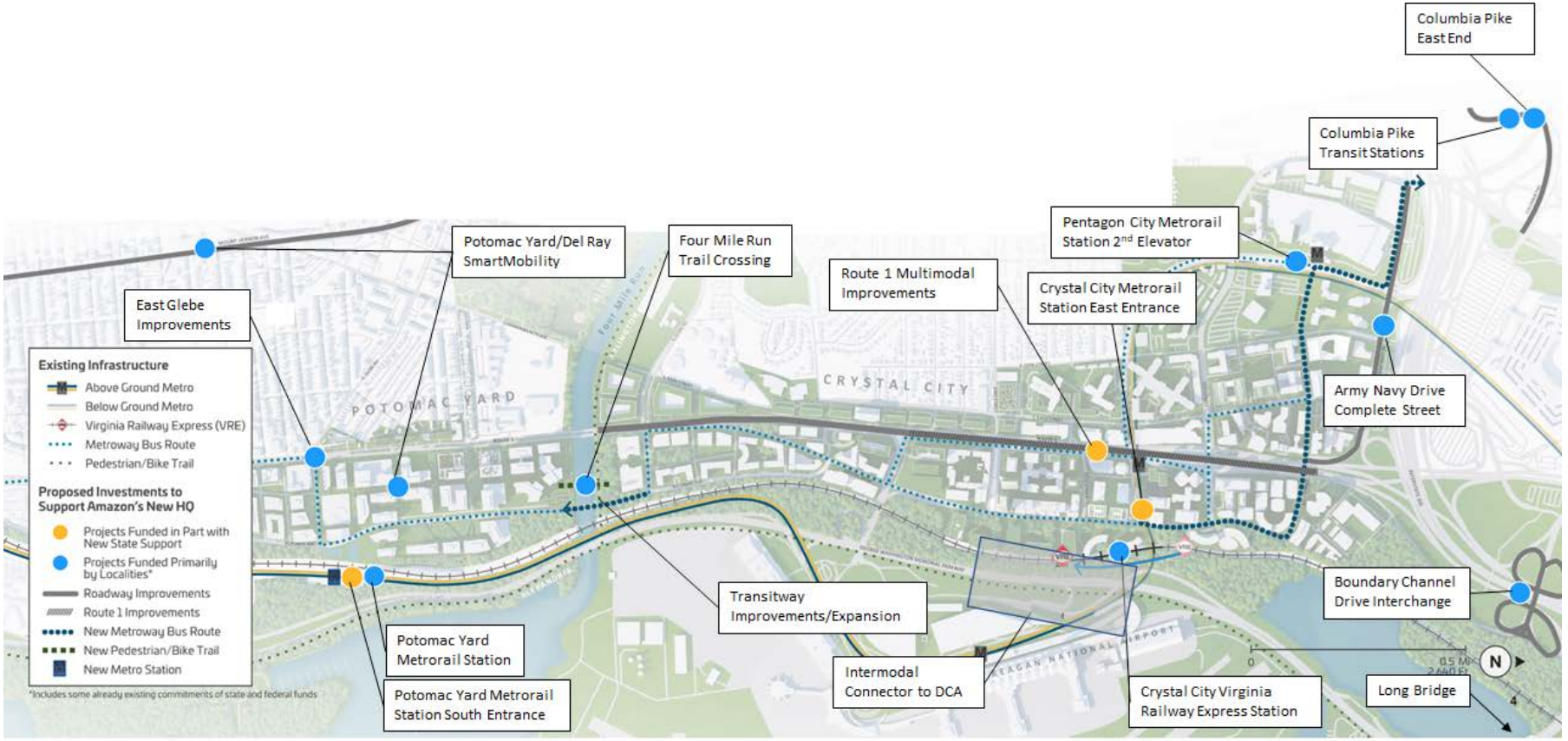
42% space allocated to pedestrians



Intersection Safety



Potential Travel Demand Management Targets



Potential Travel Demand Management Targets

Potential Targets for Shift to Transit

- Through trips (60%) given the significant transit investments in Crystal City/Pentagon City
- Large number vehicle trips originating in Pentagon City (36%) that are destined for Washington, DC
- Vehicular trips starting in Pentagon City that are destined for the Rosslyn/Ballston Corridor (8%)
- Significant local, regional and state investment for road and transit in the Crystal City area
- Ongoing development is less focused on accommodations for vehicles such as parking

Potential Targets for Shift to Bike/Walk

- Vehicular trips starting in Pentagon City and using 15th St. and still ending in the Pentagon City/Crystal City area (14%)

Next Steps

- October: Final Report was Issued
- Nov-Dec 21: Initiate Phase 2 Study including:
  - Post-COVID traffic counts/update traffic analysis
  - Feasibility of grade-separated overpass/underpass at 18th St.
  - Expand intersection analysis
  - 5% plan development
  - TDM Strategy Development
  - Engineering speed study for 25 mph ⇨ Vision Zero
  - Interim improvements at 23rd St. ⇨ Vision Zero
  - Identify location for relocated 18th St. bus stops
  - Coordination with transit providers

Questions?

SMART SCALE PROPOSED PROJECT CANCELLATION

INTERSECTION REALIGNMENT ROUTE 220 AND ROUTE 40
UPC 111369 – SALEM DISTRICT

Commonwealth Transportation Board

Kimberly Pryor – Director, Infrastructure Investment

December 2021

SMART SCALE Policy - Project Cancellation

SMART SCALE Policy on Project Cancellation, February 2020

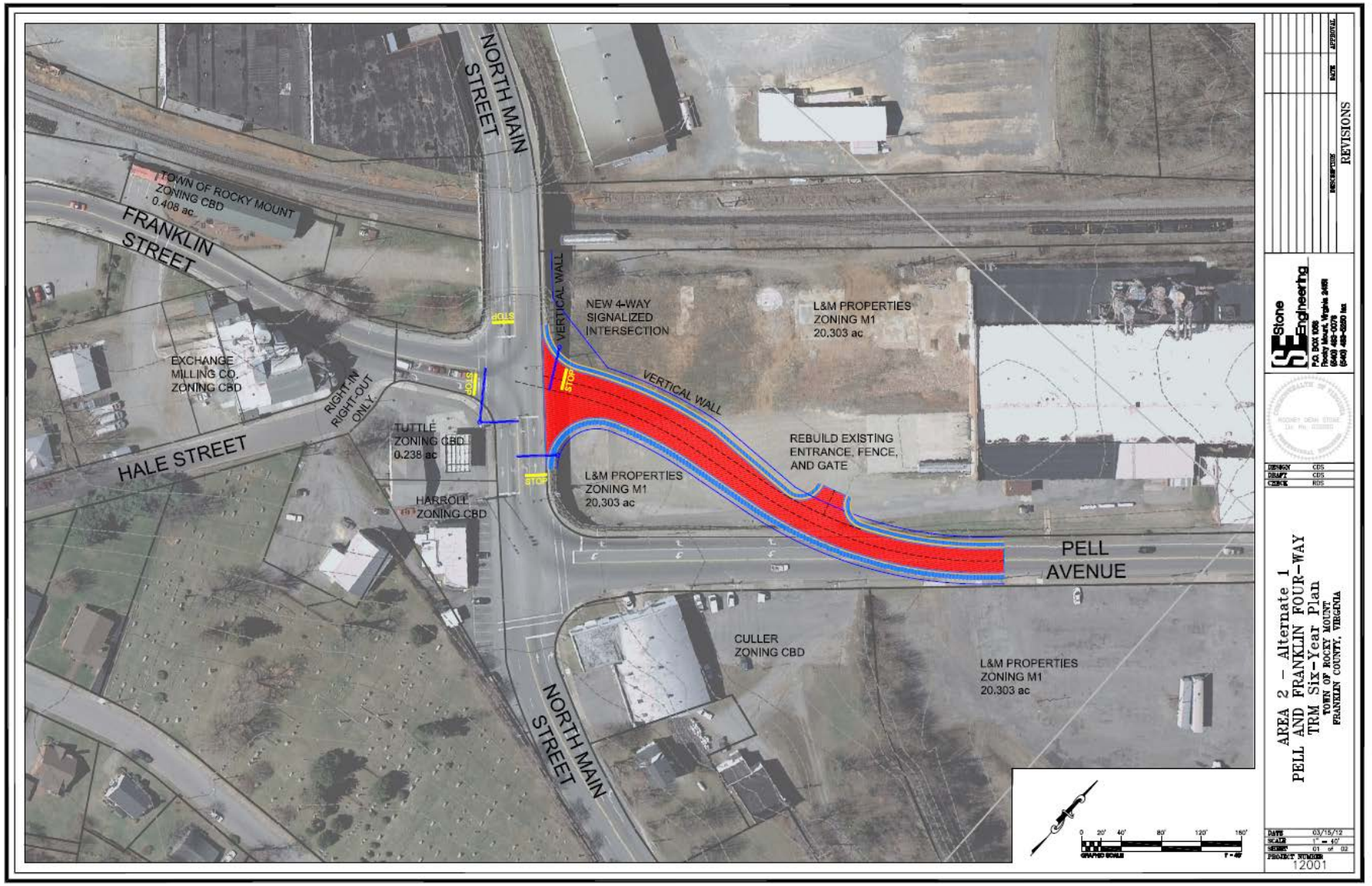
- A project that has been selected for funding through either the High Priority Projects Program or Construction District Grant Program may be cancelled only by action of the Board

Project Information

Route 220 and Route 40 Intersection Realignment UPC 111369

- Submitted by the Town of Rocky Mount in Round 2 of SMART SCALE
  - Total Original Project Cost: $4,936,472
  - Total SMART SCALE Request: $4,926,472
  - Request funded with DGP funds
- Project is VDOT administered
  - Project has not yet started
  - $0 has been spent to date
- Original Scope Included:
  - Realignment of Route 40 to eliminate the current offset and create a single signalized intersection at Route 220

Project Location



Project Snapshot

	Original Application
Total $	$4.9M
SMART SCALE $	$4.9M (DGP)
Score	9.4
Funding Scenario	12/17
Expenditures	$0K
Current Project Estimate	$4.9M

Change in Project Design

What changed after project selection?

- Property owners directly adjacent to the intersection made investments to the property significantly increasing the cost of right-of-way impacts
- Alternatives were developed and reviewed with the Town, but most still had significant right-of-way impacts or did not achieve the same benefits
- The Town of Rocky Mount passed a resolution cancelling the project on November 8, 2021

Recommendation for Action

- **Approve proposed project cancellation in January**
- **Transfer funds back to the Salem District Grant Program balance entry (UPC -21767)**


VDOT
Virginia Department of Transportation

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EVALUATION OF SMART SCALE PROJECT PERFORMANCE

Pilot Study

Margie Ray

December 7, 2021

Agenda

- Purpose and Goals of Study
- Measures Under Evaluation
- Challenges and Observations/Conclusions
- Status of Project Evaluations – Sample Results
- Next Steps

Purpose and Goals of Study

- Purpose: develop and implement ongoing systems for evaluating and monitoring benefits of SMART SCALE investments and refining application criteria and the prioritization process.

- Current phase: Pilot test proposed methods and measures to evaluate performance before and after construction of individual projects.
  - Test alternative measures to evaluate project performance
  - Discern sensitivity of evaluation measures across project types and scales
  - Develop / refine analysis methodologies
  - Evaluate data sources
  - Evaluate potential for automation
  - Consider implications for SMART SCALE application criteria / evaluation process.
    - Provides a feedback loop and continuous process improvement

Study Background

Conducted peer review of before/after analysis practices

- Evaluated project “types” and performance measures similar to SMART SCALE factors and measures

Identified SMART SCALE factor areas for pilot study application

- Safety - reduce the number and rate of fatalities and serious injuries
- Congestion - reduce person hours of delay and increase person throughput
- Accessibility - increase access to jobs and travel options
- Economic Development - support economic development and improve the movement of goods
  - Reliability Only

Measures Under Evaluation

Measure	Key Question
Person/ Vehicle Miles of Travel (PMT/VMT)	Has traffic demand been impacted significantly?
Person/ Vehicle Hours of Delay (PHD/VHD)	Has traffic congestion been reduced?
Transit Index/Transit Ridership	Has transit ridership activity increased?
Auto and Transit Seat Utilization	Has the share of occupied seats increased?
Freight Destination Accessibility	Has the movement of goods improved?
Bicycle/Pedestrian Activity Index	Has bicycle and pedestrian activity increased?

Measure	Key Question
Average Trip Distance / Time	Has the characteristics of trips changed?
Travel Time Index	Has the level of peak period congestion improved?
Buffer Time Index/Planning Time Index	Has the reliability of travel times improved?
Average Delay	Has average traffic congestion been reduced?
Fatal and Serious Injuries/year Equivalent Property Damage Only/year	Has there been a reduction in reported severe (fatal and serious) or all injury crashes, weighted by economic value?
Access to Jobs and Jobs for dis-advantaged population	Has access to jobs and for disadvantaged populations improved?

Pilot Project Selection

- 30 projects available for pilot testing
  - Construction (CN) complete before January 1, 2019
  - Avoids using 2020 data for post-CN analysis
- 10 projects identified to provide a mix of
  - Project Types
  - Roadway systems
  - Geographic distribution
  - Includes 7 Smart Scale Round 1 (R1) projects, 3 Round 2 (R2) projects
- Additional projects evaluated for some measures if:
  - Measure not relevant to project type, limiting testing opportunities
    - highway project without transit or TDM features
  - Data sources inadequate due to data range availability

Initial Ten Pilot Projects

APP ID	UPC	District	Description	Construction Period
495	108900	Salem	N Main Intersection Improvements at Rte 460 Bypass	2/27/18 - 10/26/18
609	107044	Hampton Roads	I64/Northampton Boulevard Interchange Modification	3/14/17 - 4/17/18
616	109302	Hampton Roads	General Thomas Highway Signalization Project	12/13/16 - 11/17/17
622	98213	Culpeper	Rural Roundabout at US 15/53	6/14/16 - 9/16/17
652	98815	Hampton Roads	Godwin Blvd/Route 58 Park & Ride Lot	6/2/17 - 8/17/18
724	100702	NOVA	I-95SB / SR 784 Off Ramp and Signal	12/30/16 - 8/15/17
735	94847	Staunton	I-81 to Rt 37 Through Lane and Left Turn Lanes	11/8/16 - 11/29/17
1087	110765	Lynchburg	RT 460 / Rt 626 Dynamic Flashers	11/2/2017 - 6/15/18
1394	11881	Salem	Blacksburg Transit Expansion Bus Purchase	2/1/18 - 6/20/18
1448	111304	Lynchburg	Rt 29/Rt 151 Dynamic Flashers	11/2/17 - 6/15/18

Additional Pilot Projects

APP ID	UPC	District	Description	Construction Period
474	103320	Bristol	Add merging lane on I77N in Ft. Chiswell	6/13/17 - 8/31/18
585	105495	Bristol	Conn. Road - 2 Lanes With Curb & Gutter - Phase Ii	11/8/16 - 11/14/18
734	109326	Staunton	Fox Drive Turn Lanes	3/13/18 - 6/29/18
519	110542	Lynchburg	Lynchburg Central Business District Circulator	9/1/2016 - 8/22/2017
602	109578	Fredericksburg	Rappahannock Community College Site Access Improvements	6/12/2018 - 12/14/2018
696	109288	Salem	Transit Accessibility Improvements on Edgewood St. (Roanoke)	7/3/2017 - 7/6/2018
722	109541	NOVA	App 722 – ART Service Restructuring & Expansion	4/18/2017 - 10/29/2019
560	108908	Salem	US220 Communications and Adaptive System Project	3/14/2017 - 6/22/2018
552	103725	Fredericksburg	Turn Lane Extension Dahlgren Naval Base	4/11/2017 - 10/30/2017

Challenges

- **Data Sources**
  - Limited historical availability for multiple sources of data
  - Data gaps
- **Data variability and interpretation**
  - What represents a true change as opposed to “decimal dust” or “noise” in the data?
    - need to establish thresholds - what represents change?
  - Insufficient analysis to test sensitivity of data/measures
- **Methodology Testing and Evaluation**
  - Validity of measures/method for certain project types or projects without identified benefits within the measure category
- **Changes to prioritization methodology, evaluation tools, etc.**

Challenges

- **Defining the project area**
  - Use of SMART SCALE segmentation may not reflect where the project benefits actually occur
  - Defining the project area can have significant impacts on the results of measures
    - ex. used SMART SCALE segmentation for park and ride lot to measure change in access to jobs. Delays (reduction in speeds) within the project area resulted in reduction in access to jobs, noted increased congestion some distance from the project, not likely influenced by the park and ride lot
  - Scale/size and type of project has influence on defining the project area
- **Attributing project benefits**
  - Discerning impacts of project vs. external influences
- **Consider project purpose / context / tradeoffs**
  - A roundabout that improves safety may result in reduced travel times/travel speeds on some or all of the affected segments, which could be considered a decline in accessibility or an increase in delay

Observations and Conclusions

- **SMART SCALE is working!**
- **Post Construction Project Benefits**
  - Measured benefits are consistent with estimated benefits
    - in the factor areas where a project received most points (and the basis for funding selection), and
    - in magnitude of estimated benefits
  - For some projects, additional benefits were observed
- **Measure Selection and Testing**
  - Not all measures worked due to limited data or data gaps
  - Similar to SMART SCALE, need to develop methodology and assumptions that can be applied to many projects
    - May not capture all of the benefits
  - For certain project types (i.e. park and ride lot), direct observation data may need to be obtained

N Main Intersection Improvements at Rt 460 Bypass

Salem District

Information from SMART SCALE APPLICATION

- Project Purpose: Improve safety at the intersection of Rte. 460 Bypass and N. Main St. by lengthening and adding turn lanes and limiting dangerous left turning movements
- Pre-Construction: Two-way stop-controlled intersection

• Area Type	C
• Total Project Cost	$3,316,565
• Total SMART SCALE Request	$3,316,565

http://smartscale.org/documents/scorecards/salem.pdf

N Main Intersection Improvements at Rt 460 Bypass

Salem District

Information from Scorecard

- Project Benefit Score: 3.1
- Statewide Rank*: 67/287
- District Rank*: 10/37

- **Primary Benefit - Improve Safety**

Congestion Mitigation		Safety		Accessibility			Environment		Economic Development			Land Use
15% of score		25% of score		25% of score			10% of score		25% of score			N/A
50%	50%	50%	50%	60%	20%	20%	50%	50%	60%	20%	20%	N/A
Increase in Daily Person Throughput	Decrease in Person Hours Delay	Reduction in Fatal and Severe Injury	Reduction in Fatal and Severe Injury Rate	Increase in Access to Jobs	Increase in Access to Jobs for Disadvantaged Populations	Improved Access to Multimodal Choices (Users Benefit Value)	Air Quality (Total Benefit Value)	Acres of Natural/Cultural Resources Potentially Impacted	Economic Development Support (Sq. ft.)	Intermodal Access Improvements (Tons Benefit Value)	Travel Time Reliability Improvement	Transportation Efficient Land Use
0	0	9.1	12.6	0	0	0	0	0.3		3.1	4.4	

*Rank based on SMART SCALE requested amount

N Main Intersection Improvements at Rt 460 Bypass Before and After Performance Results

Before-After Analysis Periods

- Before Period: 11/2016 - 11/2017
- After Period: 01/2019 - 01/2020
- Safety Period: 11/2018 - 02/2020 (16 months)

Primary Benefit

- No fatalities or serious injury crashes since construction complete
- Reduction in EPDO exceeded projections - actual reduction of 91% compared to projected reduction of 35%

Additional Benefits

- Average delay (AM peak period) was reduced by 50%, no delay benefits projected

Construction Period: 2/27/18 - 10/26/18

I-64/Northampton Blvd Interchange Modification

Hampton Roads District

Information from SMART SCALE APPLICATION

- Project Purpose: Modify off-ramp terminal interfaces with Northampton Boulevard. Project includes ramp widening and ramp re-alignment as well as traffic signal modifications for I-64 approaches to Northampton Blvd to improve traffic merges.

- Area Type A
- Total Project Cost $9,300,000
- Total SMART SCALE Request $9,300,000

http://smartscale.org/documents/scorecards/Hampton_roads.pdf

I-64/Northampton Blvd Interchange Modification

Hampton Roads District

Information from Scorecard

- Project Benefit Score: 0.9
- Statewide Rank*: 186/287
- District Rank*: 18/40

- **Primary Benefit: Improve safety and traffic flow**

Congestion Mitigation		Safety		Accessibility			Environment		Economic Development			Land Use
45% of score		5% of score		15% of score			10% of score		5% of score			20% of score
50%	50%	50%	50%	60%	20%	20%	50%	50%	60%	20%	20%	100%
Increase in Daily Person Throughput	Decrease in Person Hours Delay	Reduction in Fatal and Severe Injury	Reduction in Fatal and Severe Injury Rate	Increase in Access to Jobs	Increase in Access to Jobs for Disadvantaged Populations	Improved Access to Multimodal Choices (Users Benefit Value)	Air Quality (Total Benefit Value)	Acres of Natural/Cultural Resources Potentially Impacted	Economic Development Support (Sq. ft.)	Intermodal Access Improvements (Tons Benefit Value)	Travel Time Reliability Improvement	Transportation Efficient Land Use
1.1	0.8	6.0	6.3	0	0	0	0	1.0	0.3	8.3	4.3	0

*Rank based on SMART SCALE requested amount

I-64/Northampton Blvd Interchange Modification Before and After Performance Results

Before-After Analysis Periods

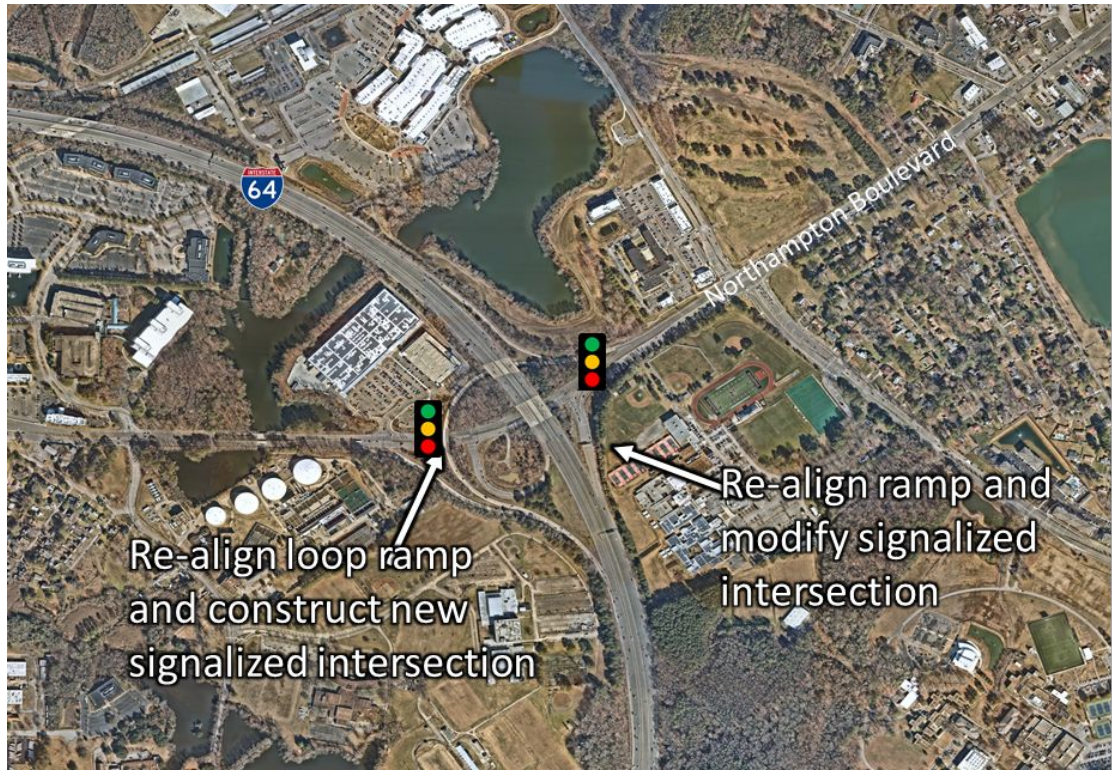
- Before Period: 12/2015 – 12/2016
- After Period: 07/2018 – 07/2019
- Safety Period: 05/2018 - 02/2020 (22 Months)

Primary Benefit

- No fatalities or serious injury crashes since construction complete
- Reduction in EPDO exceeded projections - actual reduction of 55% compared to projected reduction of 35%
- Reliability improved

Additional Benefits

- Average delay for Rt 13 was reduced by 10-20% during the peak period



Construction Period: 03/14/2017 - 04/17/2018

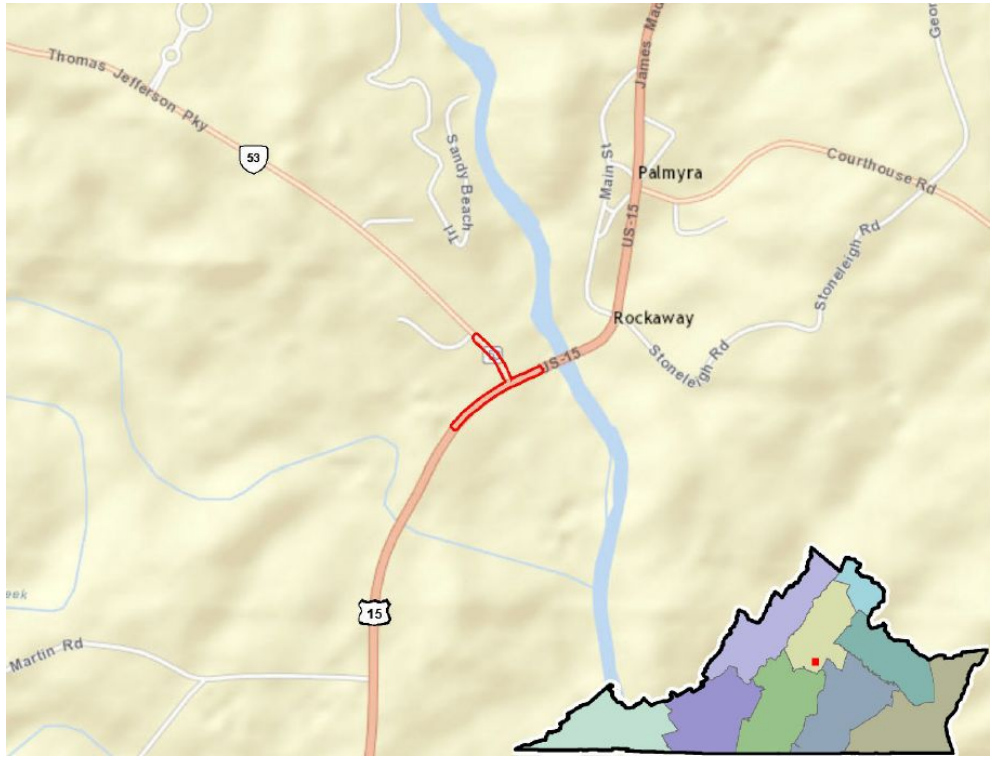
Rural Roundabout at US 15/53

Culpeper District

Information from SMART SCALE APPLICATION

- Project Purpose: The project currently under development will improve safety by replacing the existing unsignalized “T” intersection at US Route 15 and Route 53 in Fluvanna County with a single lane roundabout and includes sidewalks, bike lanes, and a multi-use trail
- Additional Information: Project is located on the Route 76 Bicycle Route and includes improvement for this route as well as a construction of a new sidewalk

- Area Type C
- Total Project Cost $2,500,600
- Total SMART SCALE Request $1,400,600



http://smartscale.org/documents/scorecards/culpeper.pdf

Rural Roundabout at US 15/53

Culpeper District

Information from Scorecard

- Project Benefit Score: 2.1
- Statewide Rank*: 39/287
- District Rank*: 3/17

Primary Benefit: Improve safety

Congestion Mitigation		Safety		Accessibility			Environment		Economic Development			Land Use
15% of score		25% of score		25% of score			10% of score		25% of score			N/A
50%	50%	50%	50%	60%	20%	20%	50%	50%	60%	20%	20%	N/A
Increase in Daily Person Throughput	Decrease in Person Hours Delay	Reduction in Fatal and Severe Injury	Reduction in Fatal and Severe Injury Rate	Increase in Access to Jobs	Increase in Access to Jobs for Disadvantaged Populations	Improved Access to Multimodal Choices (Users Benefit Value)	Air Quality (Total Benefit Value)	Acres of Natural/Cultural Resources Potentially Impacted	Economic Development Support (Sq. ft.)	Intermodal Access Improvements (Tons Benefit Value)	Travel Time Reliability Improvement	Transportation Efficient Land Use
0.6	0.3	3.4	12.3	0	0	0.1	0.1	0	0.1	0	1.2	

*Rank based on SMART SCALE requested amount

Rural Roundabout at US 15/53
Before and After Performance Results

Before-After Analysis Periods

- Before Period: 03/2015 – 03/2016
- After Period: 12/2017 – 12/2018
- After Period: Safety 10/2017 – 02/2020 (29 months)

Primary Benefit

- Through February 2020, only PDO crashes have occurred post-construction, a 100% reduction compared to a projected reduction of 80%

Additional Benefits

- Reliability improved
- Average delay was significantly reduced for NB US-15 and somewhat reduced for SB US-15. Projected a 78% reduction in delay and realized a 40-50% delay. Average speed decreased

Construction Period: 06/14/2016 – 09/16/2017

Construct Auxiliary Lane I77 North Exit 32 onto I81 South

Bristol District

Information from SMART SCALE APPLICATION

- Project Purpose: Construct additional merge lane on ramp from I-77 North to I-81 South. The merge lane designed to become a drop lane at Exit 80 for exiting vehicles. The additional lane reduces congestion at junction of two Interstates 81 & 77

- Area Type D
- Total Project Cost $9,100,000
- Total SMART SCALE Request $9,000,000

http://smartscale.org/documents/scorecards/bristol.pdf

Construct Auxiliary Lane I77 North Exit 32 onto I81 South

Bristol District

Information from Scorecard

- Project Benefit Score: 1.4
- Statewide Rank*: 156/287
- District Rank*: 14/22

Primary Benefit: Improve congestion and intermodal access

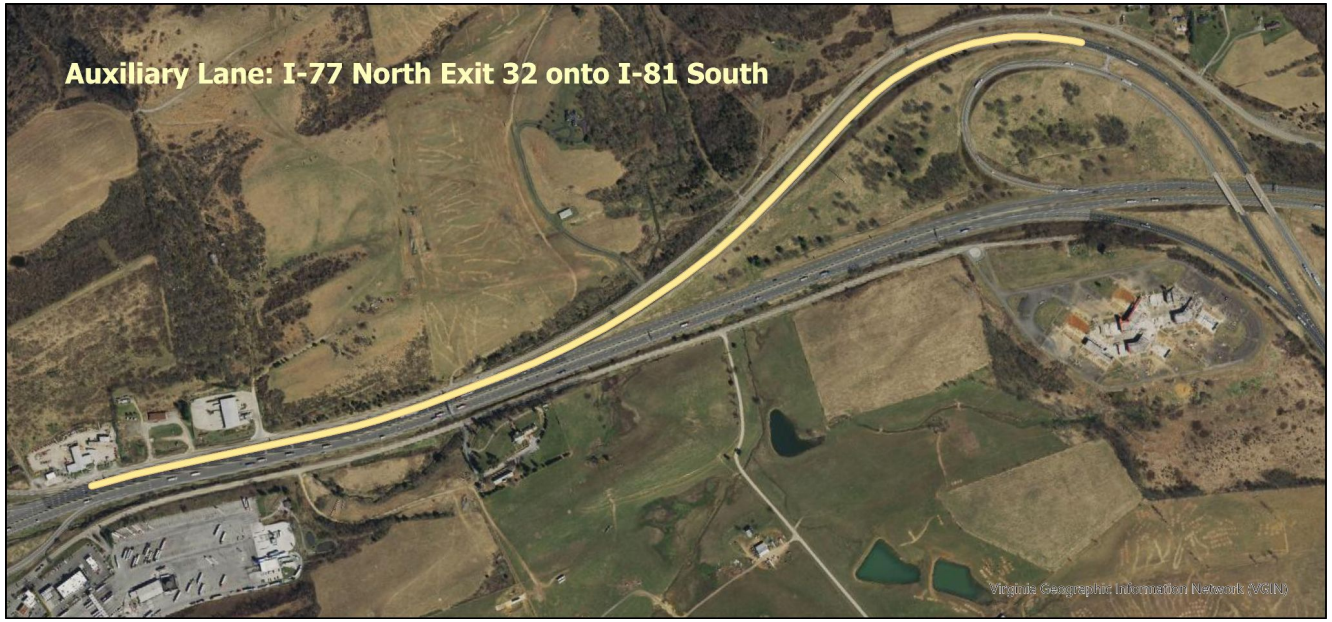
Congestion Mitigation		Safety		Accessibility			Environment		Economic Development			Land Use
10% of score		30% of score		15% of score			10% of score		35% of score			N/A
50%	50%	50%	50%	60%	20%	20%	50%	50%	60%	20%	20%	N/A
Increase in Daily Person Throughput	Decrease in Person Hours Delay	Reduction in Fatal and Severe Injury	Reduction in Fatal and Severe Injury Rate	Increase in Access to Jobs	Increase in Access to Jobs for Disadvantaged Populations	Improved Access to Multimodal Choices (Users Benefit Value)	Air Quality (Total Benefit Value)	Acres of Natural/Cultural Resources Potentially Impacted	Economic Development Support (Sq. ft.)	Intermodal Access Improvements (Tons Benefit Value)	Travel Time Reliability Improvement	Transportation Efficient Land Use
4.0	1.3	0	0	0.2	0.4	0	0.5	0.2	0	15.3	0	

*Rank based on SMART SCALE requested amount

Construct Auxiliary Lane I77 North Exit 32 onto I81 South Before and After Performance Results

Before-After Analysis Periods

- Before Period: 03/2016 – 03/2017
- After Period: 12/2018 – 12/2019
- After Period: Safety 09/2017 – 02/2020 (18 months)



Primary Benefits

- Average delay was reduced by 54% in the AM peak period*, compared to a projection of 99%
- Truck travel speeds have increased despite increases in truck volumes

*peak period changed to 6am-8am

Construction Period: 06/13/2017 – 08/31/2018

Route 11 North Improvements between Exit 317 and Rt 37

Staunton District

Information from SMART SCALE APPLICATION

- Project Purpose: Project increases capacity on US 11 with the addition of a third southbound through lane between Highway 37 and I-81, Exit 317. The additional lane will also improve the operation and safety of the existing intersection with Welltown Road

- Area Type C
- Total Project Cost $2,500,755
- Total SMART SCALE Request $1,078,947

http://smartscale.org/documents/scorecards/staunton.pdf

Route 11 North Improvements between Exit 317 and Rt 37

Staunton District

Information from Scorecard

- Project Benefit Score: 4.2
- Statewide Rank*: 11/287
- District Rank*: 1/29

Primary Benefit: Increase capacity, improve safety and operations

Congestion Mitigation		Safety		Accessibility			Environment		Economic Development			Land Use
15% of score		25% of score		25% of score			10% of score		25% of score			N/A
50%	50%	50%	50%	60%	20%	20%	50%	50%	60%	20%	20%	N/A
Increase in Daily Person Throughput	Decrease in Person Hours Delay	Reduction in Fatal and Severe Injury	Reduction in Fatal and Severe Injury Rate	Increase in Access to Jobs	Increase in Access to Jobs for Disadvantaged Populations	Improved Access to Multimodal Choices (Users Benefit Value)	Air Quality (Total Benefit Value)	Acres of Natural/Cultural Resources Potentially Impacted	Economic Development Support (Sq. ft.)	Intermodal Access Improvements (Tons Benefit Value)	Travel Time Reliability Improvement	Transportation Efficient Land Use
0	0.3	6.0	9.2	0.1	0	0	0	0	3.2	11.6	23.8	

*Rank based on SMART SCALE requested amount

Route 11 North Improvements between Exit 317 and Rt 37 Before and After Performance Summary

Before-After Analysis Periods

- Before Period: 08/2015 - 08/2016
- After Period: 02/2018 - 02/2019
- After Period: Safety 01/18 - 02/2020 (26 months)

<u>Primary Benefits:</u>

- Average delay was reduced by 25% in the AM peak period, projected a 56% reduction
- Improved travel time, speed, and reliability
- No fatalities or serious injury crashes since construction complete
- Reduction in EPDO exceeded projections - actual reduction of 63% compared to projected reduction of 20%

Construction Period: 11/8/2016 - 11/29/2017

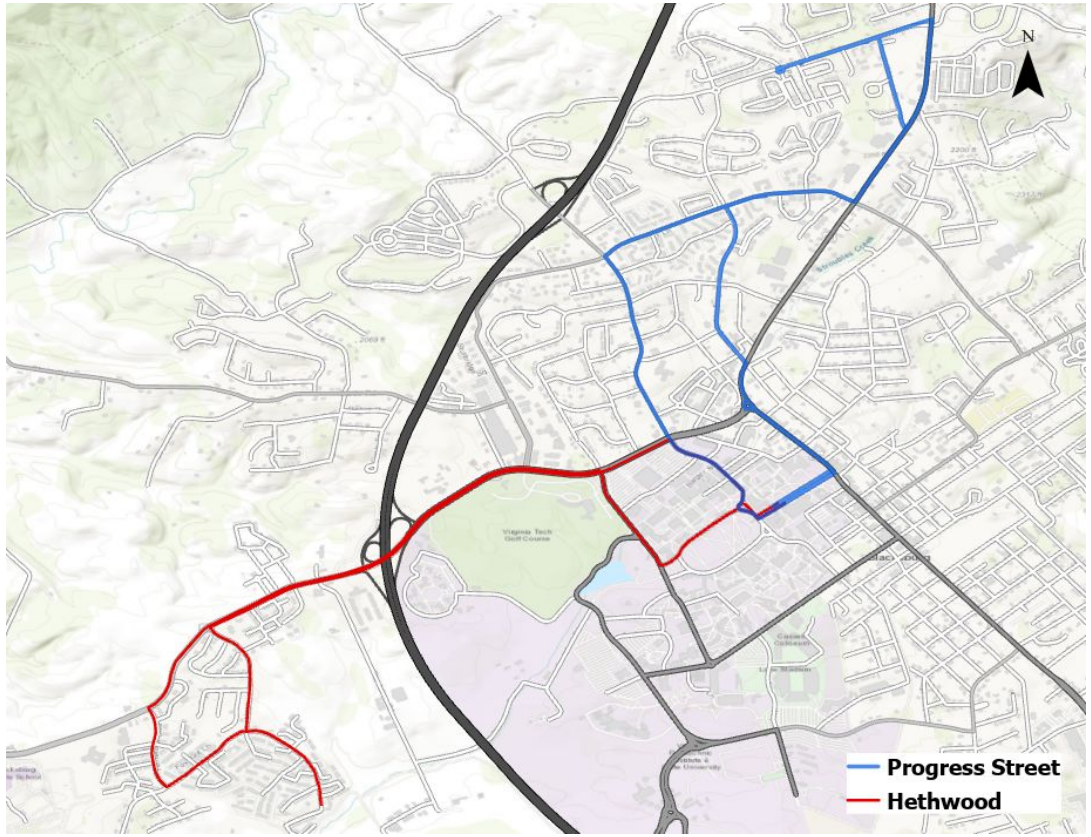
Blacksburg Transit Expansion Bus Purchase

Salem District - Round 2

Information from SMART SCALE APPLICATION

- Purpose: This project added two 60-ft articulated buses to the Blacksburg Transit (BT) fleet. The 60-ft buses are able to carry 54% more passengers than a standard 40-ft bus. Adding more capacity to the vehicle fleet is part of BT's strategy to meet growing needs, along with an aggressive program to hire additional operators.

- Area Type C
- Total Project Cost $1,928,250
- Total SMART SCALE Request $1,928,250



https://paptprd.blob.core.windows.net/scorecards/F2-0000001394-R02.PDF

Blacksburg Transit Expansion Bus Purchase

Salem District

Information from Scorecard

- Project Benefit Score: 2.3
- Statewide Rank*: 64/404
- District Rank*: 12/50

Primary Benefit: Improve congestion by increasing transit ridership, increase accessibility to jobs

Congestion Mitigation		Safety		Accessibility			Economic Development			Environment		Land Use
Increase in Peak Period Person Throughput	Reduction in Peak Period Delay	Reduction in Fatal and Injury Crashes	Reduction in Fatal and Injury Crash Rate	Increase in Access to Jobs	Increase in Access to Jobs for Disadvantaged Populations	Increase in Access to Multimodal Travel Choices	Square Feet of Commercial/Industrial Development Supported	Tons of Goods Impacted	Improvement to Travel Time Reliability	Potential to Improve Air Quality	Other Factor Values Scaled by Potential Acreage Impacted	Support of Transportation-Efficient Land Development
354.0	0.4	14.3	0	0	0	1,770.0	0	19,935.4	0	354.0	2.1	
thousand persons	thousand person hrs.	EPDO	EPDO / 100M VMT	jobs per resident	jobs per resident	adjusted users	thousand adj sq. ft.	thousand adj daily tons	adj. buffer time index	adjusted points	tscaled points	adjusted jobs & pop.

Blacksburg Transit Expansion Bus Purchase

Salem District

Before-After Analysis Periods

- Before Period: 01/2016 – 12/2016
- After Period: 01/2019 – 12/2019

Primary Benefits

- Increase in transit ridership exceeded projections on both routes
- Progress Street – actual increase of 17% compared to projected increase of 6%
- Hethwood – actual increase of 114% compared to a projected increase of 6%

Progress Street		
Calendar Year	Avg Weekday Ridership (Projected)	Avg Weekday Ridership (Actual)
2016	N/A	2835
2017	2892	2647
2018	2950	2954
2019	3009	3303

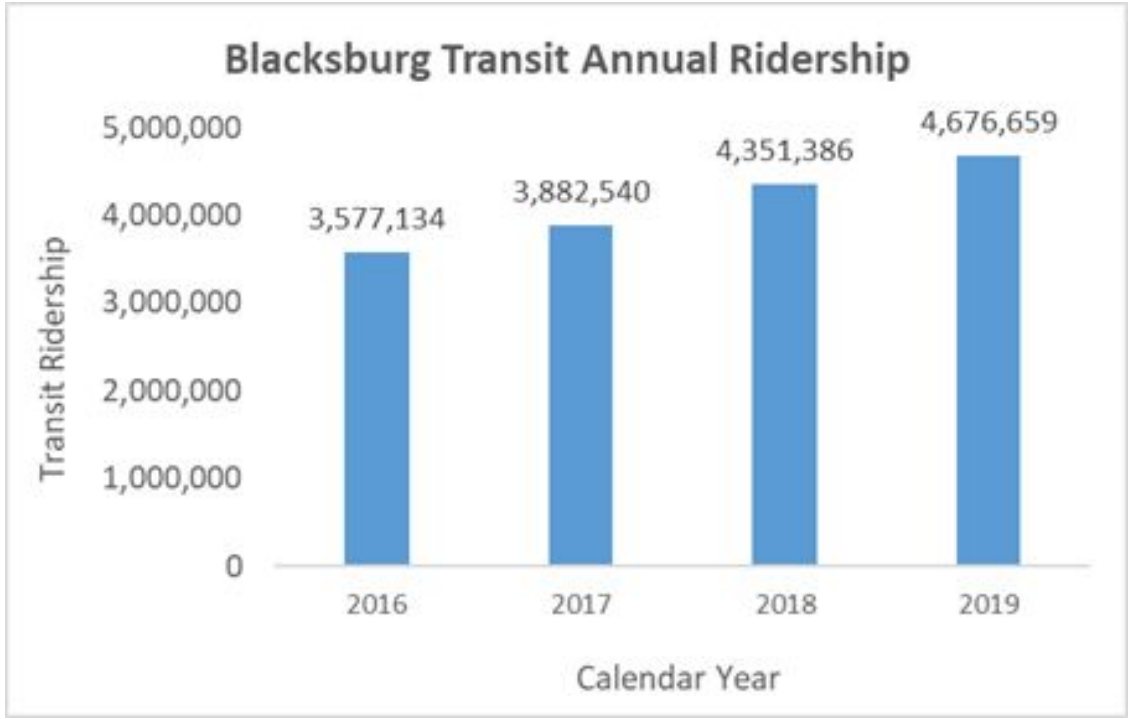
Hethwood		
Calendar Year	Avg Weekday Ridership (Projected)	Avg Weekday Ridership (Actual)
2016	N/A	2279
2017	2325	3937
2018	2371	4368
2019	2418	4869

Blacksburg Transit Expansion Bus Purchase

Salem District

Additional Benefits

- BT has increased the passenger capacity with the addition of 60-ft articulated buses
- Combined average ridership increased by over 3,000 boardings per day from 2016 to 2019 on transit routes that share corridors with Hethwood and Progress Street Routes
- BT system ridership increased 31% over forecasted period
- BT can provide more efficient service with the same (or fewer) bus operators
- Increased access to jobs and jobs for disadvantaged populations



Next Steps - Phase 2

- Develop process recommendations for Board consideration
  - Frequency of analysis
  - Timing, etc.
- Identify additional projects for testing
  - Validate and refine methodology as needed
- Assess project impacts relative to identified VTrans needs
- Consider measures for other Factor areas
- Develop tools for automation where possible

Questions?

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SMART SCALE ROUND 5

Proposed Changes

December 7, 2021

Summary

- **Round 5 Proposed Changes**
  - **Environmental Quality Measures**
    - E.1 (Air Quality)
    - E.2 (Impact to Natural and Cultural Resources)
  - **Land Use Measure**
  - **Cost Estimates**
- **Feedback Received**
- **Next Steps**

Environmental E.1 – Air Quality

<u>Round 5 Updates</u>
Improve measure by refining existing qualitative and adding quantitative

Part 1 - Improved Qualitative Process (Weight 50%)

Normalized Non-SOV User Based Points + Normalized Freight Points

Part 2 - New Quantitative Calculation (Weight 50%)

Non-SOV CO_2 Offset + Freight CO_2 Offset

Proposed E.1 Measure for Round 5

Environmental E.2 – Impact to Natural and Cultural Resources

Round 5 Updates
Right-size impact buffer to disturbance anticipated based on Project Feature

- **Impact Buffer Acres - Tiered approach based on features selected**
  - Tier 1 = 30 feet
  - Tier 2 = 1/8 mile
  - Tier 3 = 1/4 mile
- **Sensitive Areas**
  - Environmental Division will review for validity every round

Transportation Efficient Land Use L.1 & L.2

Round 5 Updates
Reduce walk buffer and apply measure to Area Types C & D

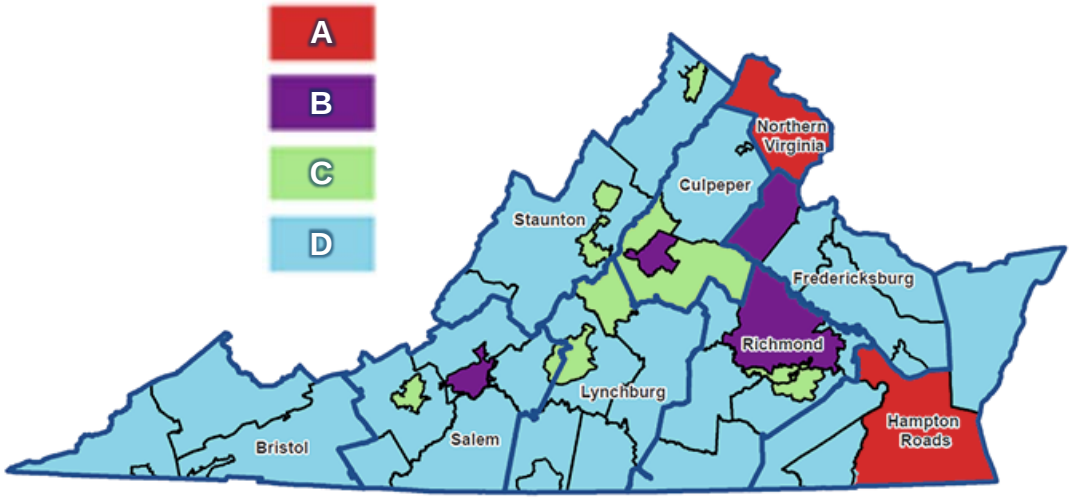
- **Apply Land Use to all Area Types**
  - Weighting Changes for Type B, C & D

- **Use a 1 Mile Buffer instead of 3 Mile Buffer**
  - Average Pedestrian Walk Trip Length

Land Use Area Type Weighting Adjustments

Existing						
Area Type	Congestion	Safety	Accessibility	Environment	Economic Development	Land Use
A	45%	5%	15%	10%	5%	20%
B	15%	20%	25%	10%	20%	10%
C	15%	25%	25%	10%	25%	
D	10%	30%	15%	10%	35%	

Proposed						
Area Type	Congestion	Safety	Accessibility	Environment	Economic Development	Land Use
A	45%	5%	15%	10%	5%	20%
B	15%	20%	20%	10%	20%	15%
C	15%	25%	15%	10%	25%	10%
D	10%	30%	10%	10%	30%	10%



Feedback Received

- **Coordinated with VDOT District and DRPT staff on Round 5 Changes**
  - VDOT district staff requested OIPI to test Area Type D refinement of adding to the Safety Measure and removing from Economic Development Measure
- **Several Comments E.2 Tiered Approach – Project Features with "Other" in name should not be automatically assigned**
- **Several requests for earlier release of SMART SCALE Technical Guide**
- **Several requests for more actionable feedback at Pre-Screening**

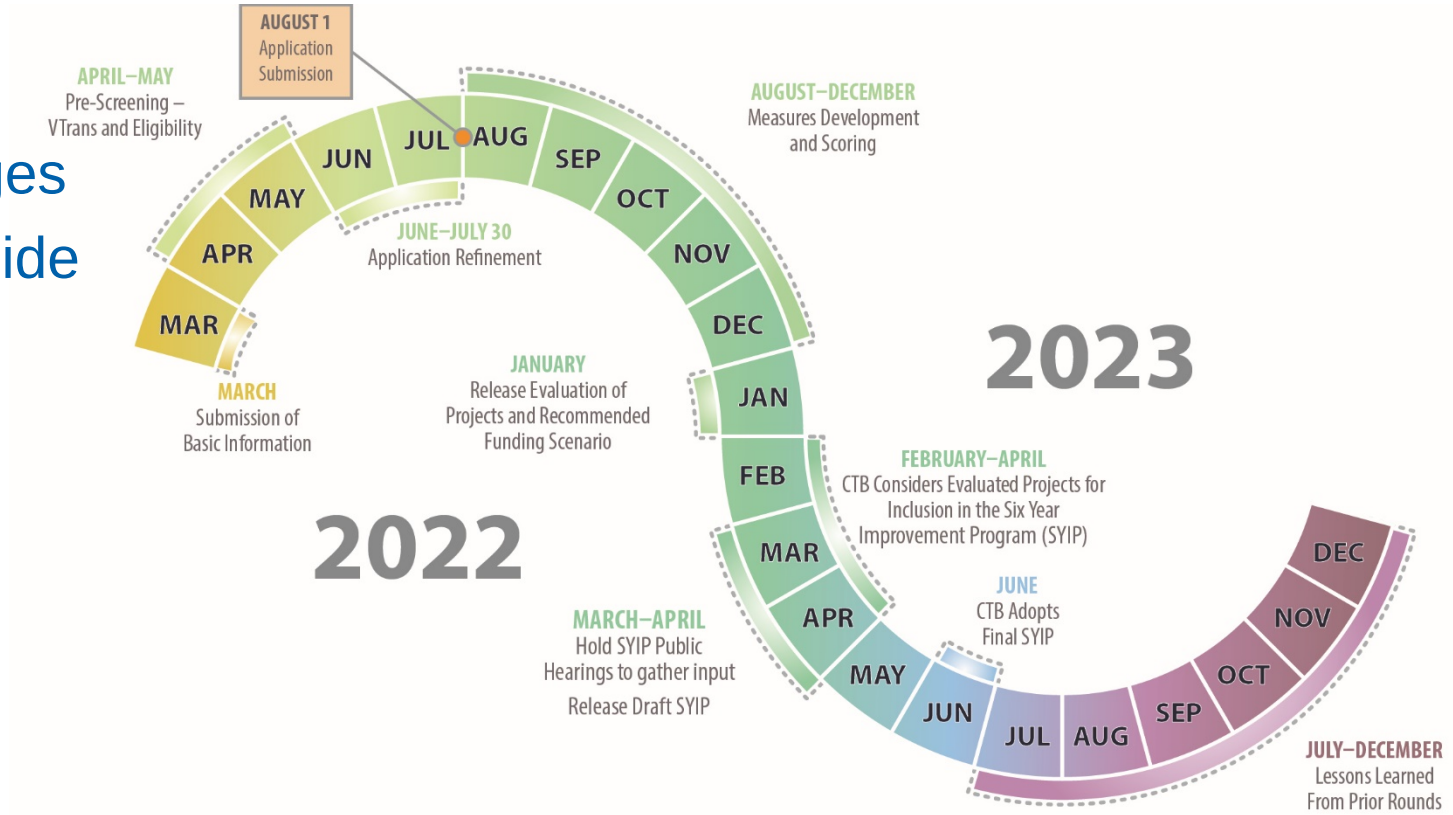
Cost Estimates

Round 5 Updates
Improve Transparency and Consistency

- **Updated Cost Estimate Workbook (CEWB) will continue to improve estimate consistency and validation (December 2021)**
  - Updated to align with VDOT's new Cost Estimating Manual
  - CEWB and User's Guide will be posted on VDOT's public facing website
  - Applicants are also encouraged to use the CEWB
- **Continued training and outreach will occur over the winter for VDOT, localities, and consulting partners**

Next Steps

- **December**
  - Seeking Action Round 5 Changes
  - Release Updated Technical Guide
- **February**
  - Portal Pre-Application Training
- **March**
  - Portal Pre-Application Opens



COMMONWEALTH *of* VIRGINIA

Office of the

SECRETARY *of* TRANSPORTATION

Thank you.

VIRGINIA HIGHWAY SAFETY PROGRAM BEHAVIORAL AND INFRASTRUCTURE INVESTMENT PLAN

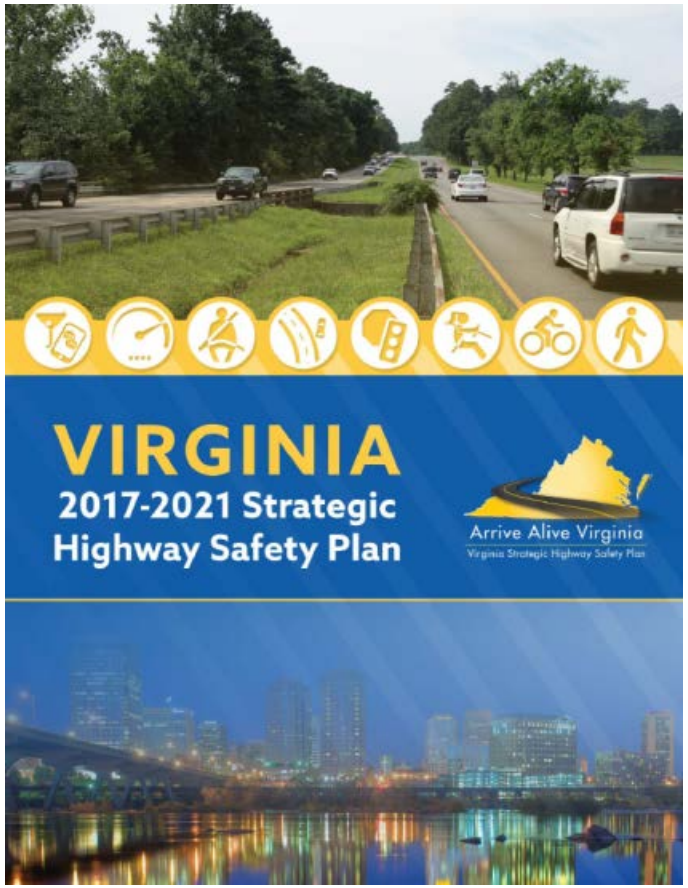
Commonwealth Transportation Board

George W. Bishop IV
Chief Deputy Commissioner, Virginia Department of Motor Vehicles

Mark A. Cole, PE
State Highway Safety Engineer, Virginia Department of Transportation

December 7, 2021

ARRIVE ALIVE VIRGINIA
Virginia Strategic Highway Safety Plan (SHSP)

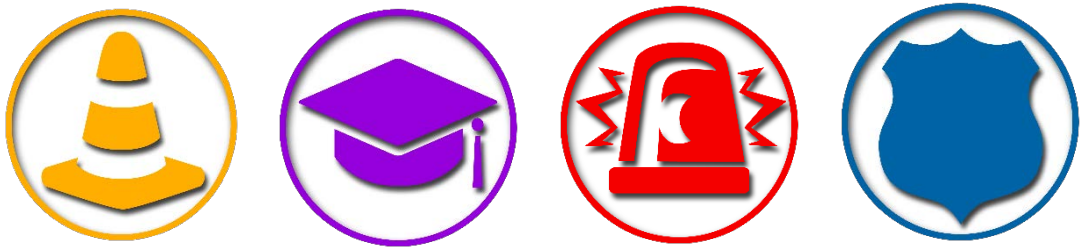


Vision

Toward Zero Deaths

Mission

Save Lives and Reduce Injuries through 4E's of:



http://www.virginiadot.org/info/resources/SHSP/VA_2017_SHSP_Final_complete.pdf

2017-2021 SHSP Emphasis Areas

Emphasis Areas

- Roadway Departure
- Intersections
- Impaired Driving
- Occupant Protection
- Speed
- Young Drivers
- Pedestrians
- Bicyclists

Special Safety Areas

- EMS
- Connected / Autonomous Vehicles
- Data

Will bring NEW 2022-2026 Plan to CTB in January 2022

TREDS 3-Year Data Comparison: Jan. 1 through Oct. 31					
Category	2021	2020	2019	% Change vs. 2020	% Change vs. 2019
Fatalities - All crashes	796	709	690	12.27%	15.36%
Serious Injuries - All Crashes	5,945	5,699	6,097	4.32%	-2.49%
Fatalities+Serious Injuries	6,741	6,408	6,787	5.20%	-0.68%
Alcohol Related *	211	242	227	-12.81%	-7.05%
Speed Related	382	345	293	10.72%	30.38%
Unrestrained	275	288	245	-4.51%	12.24%
Distracted	95	100	100	-5.00%	-5.00%
Motorcycle	95	81	86	17.28%	10.47%
Pedestrian	94	90	101	4.44%	-6.93%
Bicycle	14	8	11	75.00%	27.27%
Moped	10	9	10	11.11%	0.00%
Total Vulnerable Road Users ^	213	188	208	13.30%	2.40%
Teen Driver Involved (Teen Drivers Only)	86 (36)	61 (18)	57 (21)	40.98% (100%)	50.87% (71.42%)
Mature Driver Involved (Mature Drivers Only)	190 (118)	144 (102)	165 (114)	31.94% (15.68%)	15.15% (3.50%)
Large Truck Involved	50	58	42	-13.79%	19.05%
Work Zones	25	10	17	150.00%	47.06%

* Alcohol related fatalities are likely higher due to time associated with receiving final lab results.
^ Vulnerable Road Users include: Pedestrians, motorcyclists, bicyclists, and moped riders.

Multiple Behaviors: Jan. 1 through Oct. 31					
Category	2021	2020	2019	% Change vs. 2020	% Change vs. 2019
Speed + Unrestrained	187	197	151	-5.08%	23.84%
Alcohol + Unrestrained *	103	129	116	-20.16%	-11.21%
Alcohol + Speed *	124	134	113	-7.46%	9.73%
Speed + Unrestrained + Alcohol *	68	82	65	-17.07%	4.62%

* Alcohol related fatalities are likely higher due to time associated with receiving final lab results.

Speed Related Fatalities: Jan. 1 through Oct. 31					
Category	2021	2020	2019	% Change vs. 2020	% Change vs. 2019
Interstate Only	74	71	55	4.23%	34.55%
Non-interstate Only	308	274	238	12.41%	29.41%
Age 15-20	42	29	37	44.83%	13.51%
Age 21-35	141	136	96	3.68%	46.88%
Age 36-50	74	67	62	10.45%	19.35%
Age 51-65	62	69	54	-10.14%	14.81%
Age 66 & Over	44	36	39	22.22%	12.82%

* Alcohol related fatalities are likely higher due to time associated with receiving final lab results.

Alcohol Related Fatalities: Jan. 1 through Oct. 31					
Category	2021	2020	2019	% Change vs. 2020	% Change vs. 2019
Interstate Only	27	30	24	-10.00%	12.50%
Non-interstate Only	184	212	203	-13.21%	-9.36%
Age 20 & Under	21	20	14	5.00%	50.00%
Age 21-35	75	99	83	-24.24%	-9.64%
Age 36-50	55	58	61	-5.17%	-9.84%
Age 51-65	51	55	50	-7.27%	2.00%
Age 66 & Over	9	10	19	-10.00%	-52.63%

Unrestrained Fatalities: Jan. 1 through Oct. 31					
Category	2021	2020	2019	% Change vs. 2020	% Change vs. 2019
Interstate Only	53	58	44	-8.62%	20.45%
Non-interstate Only	275	285	237	-3.51%	16.03%
Age 15-20	36	25	25	44.00%	44.00%
Age 21-35	102	98	78	4.08%	30.77%
Age 36-50	59	66	55	-10.61%	7.27%
Age 51-65	42	59	47	-28.81%	-10.64%
Age 66 & Over	29	35	36	-17.14%	-19.44%

Virginia Highway Safety Plan Overview: Investing in Behavioral Countermeasures in FFY2022

Occupant Protection Grants

$3.9M

Alcohol Grants

$15.9

Speed Grants

$2.9 M

Pedestrian Grants

$680K

Motorcycle Grants

$287K

Teen Driver Grants

$1.2M

Drugged Driving Grants

$1M

Distracted Driving Grants

$0

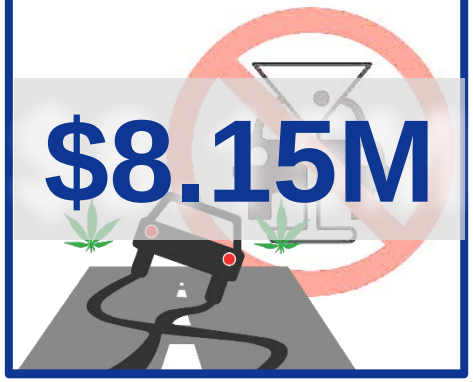
Va does not qualify for NHTSA Distracted Grants $

Virginia Highway Safety Improvement Funds: 3-year Investment Proposal (FY2022-24)

Occupant Protection

$4.0M

Impaired Driving



$8.15M

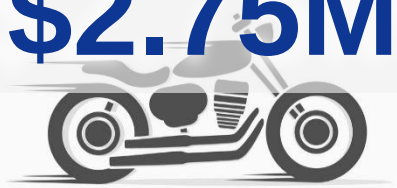
Speed

$4.5M

Pedestrian & Bicycles

$3.5M

Motorcycle



$2.75M

Teen Driver

$800K

Mature Drivers

$1.8M

Distracted Driving

$4.5M

Va does not qualify for NHTSA Distracted Grants $

Occupant Protection

$4.0M

Virginia Highway Safety Improvement Funds: Occupant Protection Proposals

https://youtu.be/LWXyyTmBjxs

Expand the “Local Heroes” Messaging Campaign:

- **Create new video**
- **Add Counties and Cities**
- **Expand media buy**

FY2022: $1M
FY2023: $1.5M
FY2024: $1.5M

Virginia Highway Safety Improvement Funds: Impaired Driving Proposals

Expand the SoberRide Program:

- **Make available in a wider area of the Commonwealth**

FY2022: $1M
FY2023: $1.15M
FY2024: $1.15M

Create new media campaign to focus on drunk and drugged driving:

- **Expand the "Drive Sober or Get Pulled Over" campaign**
- **Create new Drugged Driving messaging**

FY2022: $1.5M
FY2023: $1M
FY2024: $1M

Virginia Highway Safety Improvement Funds: Impaired Driving Proposals (cont.)

Request NHTSA Administered Impaired Diving Program and Law Review

- **States that conduct an IDR experience a greater reduction in overall fatalities than states that do not (NHTSA).**

FY2022: $1M

Widely publicize sobriety check points:

- **Evaluations of statewide campaigns in CT and WV showed a greater reduction in alcohol-related fatalities and overall DUI when checkpoints were publicized**

FY2022: $250K
FY2023: $500K
FY2024: $500K

Virginia Highway Safety Improvement Funds: Distracted Driving Proposals

Create new media campaign to focus on distracted driving:

- **New creative utilizing focus groups.**
- **Coordinate with law enforcement utilizing Click It or Ticket model**

FY2022: $1.5M
FY2023: $1.5M
FY2024: $1.5M

Mature Drivers

$1.8M

Virginia Highway Safety Improvement Funds: Mature Drivers Proposals

CarFit

Helping Mature Drivers Find Their Safest Fit

Virginia GrandDriver®

- Expand GrandDriver Car Fit Program
- Expand GrandDriver Testing Centers
- Expand GrandDriver Paid Media Campaigns

FY2022: $600K
FY2023: $600K
FY2024: $600K

Motorcycle

$2.75M

Virginia Highway Safety Improvement Funds: Motorcycle Proposals

Create new motorcycle messaging campaign and expand media buy impressions and time windows

FY2022: $750K
FY2023: $1M
FY2024: $1M

Virginia Highway Safety Improvement Funds: Teen Driver Proposals

In coordination with the Supreme Court, create a video to be used by judges during their new driver licensing ceremony.

- **Requested by judges**

FY2022: $800K

Virginia Highway Safety Improvement Funds: Speed Proposals

Create new media and law enforcement campaign, similar to “Click or Ticket”, for speed related:

- **Va received IIHS/GHSA grant to perform pilot program in urban location (Richmond).**
- **Implement statewide following review of pilot.**
- **Assess MD pilot (rural location) and implement as indicated.**

Coordinate DMV and VDOT speed data projects to provide law enforcement on interstate and non-interstate roads new tools to assist with the deployment and allocation of scarce resources in an effort to curb speeding.

FY2022: $1.5M FY2023: $1.5M FY2024: $1.5M

Virginia Highway Safety Improvement Funds: Pedestrian/Bicycle Proposals

Expand the "Shattered Lives" program statewide.

- **Currently only offered in the NoVa area.**
- **Expand messaging to other regions of the Commonwealth experiencing Increased pedestrian and bicycle fatalities**

Year 1: $1M
Year 2: $1.25M
Year 3: $1.25M

Virginia Highway Safety Improvement Funds

Behavioral Programs Proposal Summary

Emphasis Area	Type of Action	Highway Safety Improvement Action	$ FY2022	$ FY2023	$ FY2024	Total $ FY2022-24	Total $ by Emphasis Area
Occupant Protection	Education & Outreach	Expand the Current "Local Heroes" messaging campaign	$1,000,000	$1,500,000	$1,500,000	$4,000,000	$4,000,000
Impaired Driving	Safety Programs	Expand the Sober Ride program statewide	$1,000,000	$1,150,000	$1,150,000	$3,300,000	
Impaired Driving	Education & Outreach	Publicize Sobriety Check Points*	$250,000	$500,000	$500,000	$1,250,000	
Impaired Driving	Program Analysis	NHTSA-administered Alcohol-Impaired-Driving Assessment and Law Review*	$100,000	$0	$0	$100,000	
Impaired Driving	Education & Outreach	Create New Media Campaigns to Fight Drunk and Drugged Driving*	$1,500,000	$1,000,000	$1,000,000	$3,500,000	$8,150,000
Speed	Education & Outreach	Statewide Speed Messaging Media and Outreach Campaign with Coordinated Enforcement & Speed Data Pilot*	$1,500,000	$1,500,000	$1,500,000	$4,500,000	$4,500,000
Distracted Driving	Education & Outreach	Distracted Driving Media Campaign*	$1,500,000	$1,500,000	$1,500,000	$4,500,000	$4,500,000
Motorcycles	Education & Outreach	Expand the Motorcycle Safety Media Messaging in Virginia	$750,000	$1,000,000	$1,000,000	$2,750,000	$2,750,000
Ped/Bike	Education & Outreach	Enhance and Amplify Pedestrian and Bicycle Safety Media Campaigns	$1,000,000	$1,250,000	$1,250,000	$3,500,000	$3,500,000
Teen Driving	Safety Programs	Juvenile Licensing Cermony Video*	$800,000	$0	$0	$800,000	$800,000
Mature Drivers	Safety Programs	Expand GrandDriver Car Fit Program	$200,000	$200,000	$200,000	$600,000	
Mature Drivers	Safety Programs	Expand GrandDriver Testing Centers	$200,000	$200,000	$200,000	$600,000	
Mature Drivers	Education & Outreach	Expand Virginia GrandDriver Paid Media	$200,000	$200,000	$200,000	$600,000	$1,800,000
** New Program*		**Totals**	**$10,000,000**	**$10,000,000**	**$10,000,000**	**$30,000,000**	**$30,000,000**

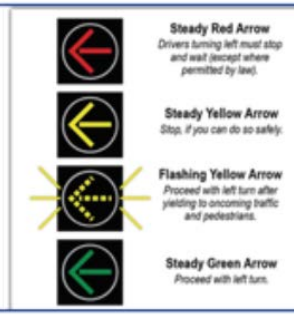
Potential # of lives saved with behavioral investment: 64 per year

Original VDOT Systemic Infrastructure Plan
8 Proven Safety Countermeasures

High-visibility Backplates

Up to 15% crash reduction

Flashing Yellow Arrow



Up to 20% crash reduction

Curve Signs

Up to 40% crash reduction

Pedestrian Crossings

Up to 56% crash reduction

Unsignalized Intersections

Up to 10% crash reduction

Shoulder Wedge

Up to 20% crash reduction

Centerline Rumble Stripes

Up to 60% crash reduction

Edgeline Rumble Strips

Up to 50% crash reduction

Original VDOT Systemic Plan – Progress to Date

High-visibility Backplates

100%

3027 Locations Complete

Flashing Yellow Arrow

100%

1239 Locations Complete

Curves Signs

22%

380 Curves Complete

Pedestrian Crossings

10%

57 Locations Complete

Unsignalized Intersections

13%

191 PE Complete

Shoulder Wedge

1%

172 Miles Complete

Centerline Rumble Stripes

18%

326 Miles Complete

Edgeline Rumble Strips

6%

182 Miles Complete

Systemic Project Benefits

Systemic safety projects improve safety by installing lower-cost, high-return countermeasures at many locations on the road network that have similar risk factors.

All initiatives are proven FHWA countermeasures

In Virginia, expected to be up to 9 times more effective at reducing fatalities and serious injuries per HSIP dollar as compared to spot projects.

New Virginia Highway Safety Program Infrastructure Investment Plan - FY 2022 - 2027

Local Systemic Projects

Flashing Yellow
High-Visibility Backplates
Pedestrian Crossings
Curve Signage
Unsignalized Intersections
Road Diets

$58M Investment

Expanded Flashing Yellow Arrow

$13.5M - Up to 195 locations

New VDOT Pedestrian Crossings

$20M - Up to 200 locations

2-lane Rural Roads

$74M - Up to 100 miles
Up to 50% crash reduction

Spot Projects

$22M Investment

New Highway Safety Infrastructure Investment Plan – Funding & Schedule

November 2021 Plan - Existing Budget + $10M per Year	Source	HSIP Funding Through FY 27 ($M)	Previous / FY 22	FY 23	FY 24	FY 25	FY 26	FY 27	Schedule (Calendar Year)
	Original Systemic Plan								
	High-Visibility Backplates (VDOT)[1]	15.2	15.2						Completed 2021
	Flashing Yellow Arrows (VDOT)[2]	11.8	11.8						Completed 2021. Cost decreased by $5.2M
	Curve Delineation (VDOT)[3]	25.4	17.4	8					Complete 2024. Cost decreased by $4.6M
	Pedestrian Crossings (VDOT)[4]	34.1	16.8	15.5	1.8				Complete 2025
	Unsignalized Intersection (VDOT)[5]	24.1	16.7	6.8	0.7				Complete 2024
	Shoulder Wedge (VDOT)[6]	Maintenance funds							Resurfacing Cycle - 15 yr
	CL Rumbles - Primaries (VDOT)[7]	7.8	6.6	0.4	0.4	0.4			Complete by 2030
	Edge Rumbles - Primaries (VDOT)[8]	33.2	20.9	5				7.3	Complete by 2030
	New Investment Plan								
	Local Systemic Projects (Local)[9]	58.2			10	10	18.6	19.6	TBD depending on local funding applications
	Expanded Flashing Yellow Arrows (VDOT)[10]	13.5			13.5				Complete 2027
	New Pedestrian Crossings (VDOT)[11]	20			5		10	5	Up to 200 Locations funded. Complete 2028
	Two-Lane Rural Roads (VDOT)[12]	73.9	10	10	5	10.6	22.1	16.2	Up to 1,000 Miles funded. Completion TBD
	Spot Projects (VDOT)[13]	22					11	11	Schedule TBD
	Total	**339.2**	**115.35**	**45.7**	**36.4**	**21**	**61.7**	**59.1**	

LEGEND PE & CN PE CN **RED = Update from Original**

New Highway Safety Infrastructure Investment Plan Highlights

- Accelerate rumble strips to complete 5 years early, by 2030
- New initiatives are proven countermeasures with good return on investment
- Local systemic projects – localities can apply for funding in 2023
- Expanded flashing yellow - up to 195 traffic signals needing upgrades
- New Pedestrian Crossings - up to 200 new crossings on PSAP corridors
- 2-Lane Rural Roads – up to 1000 miles of improvements on higher risk roads
- Spot projects – return of funding for high return on investment projects
- Retain flexibility to move funding between initiatives to address surpluses and shortfalls

New Highway Safety Infrastructure Investment Plan Next Steps

- Continue to deliver, and accelerate as possible, first systemic plan items
- Begin scoping and preliminary engineering for new items in Infrastructure Investment Plan
- During 2022, outreach to localities to get them ready to apply for FY2024 funding for systemic projects on locality-owned roads
- Begin assembling after data for performance monitoring as items are completed

Thank you!

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Virginia Department of Transportation

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Virginia Transit Equity and Modernization

Virginia Transit Equity and Modernization Study (HJ 542)

Commonwealth Transportation Board

December 7, 2021

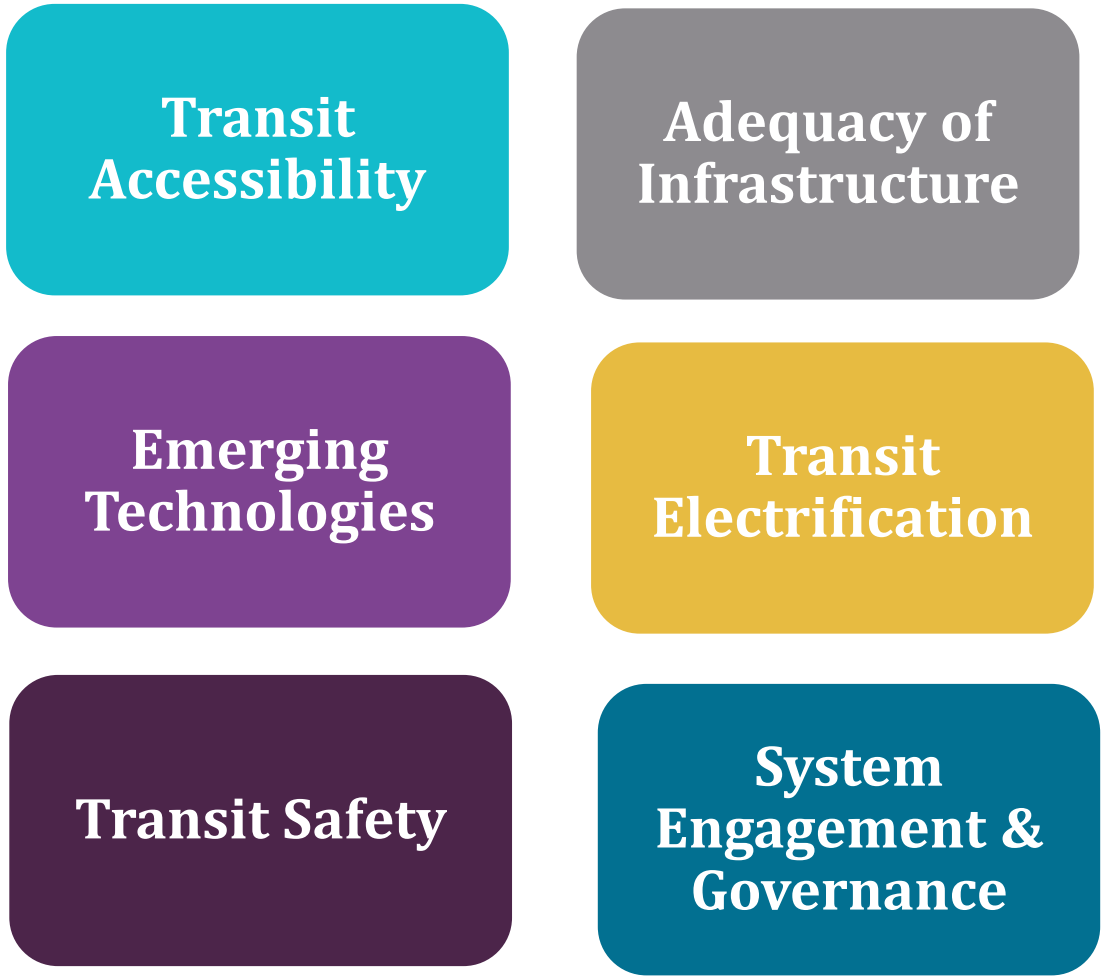
Grant Sparks
Director of Transit Planning, DRPT

DRPT Kimley»Horn

How Did We Get Here?

HJ 542 (2021)

- Requires DRPT to explore a variety of topics that will create recommendations to advance transit equity and modernization efforts
- Emphasis on engagement opportunities for underrepresented communities



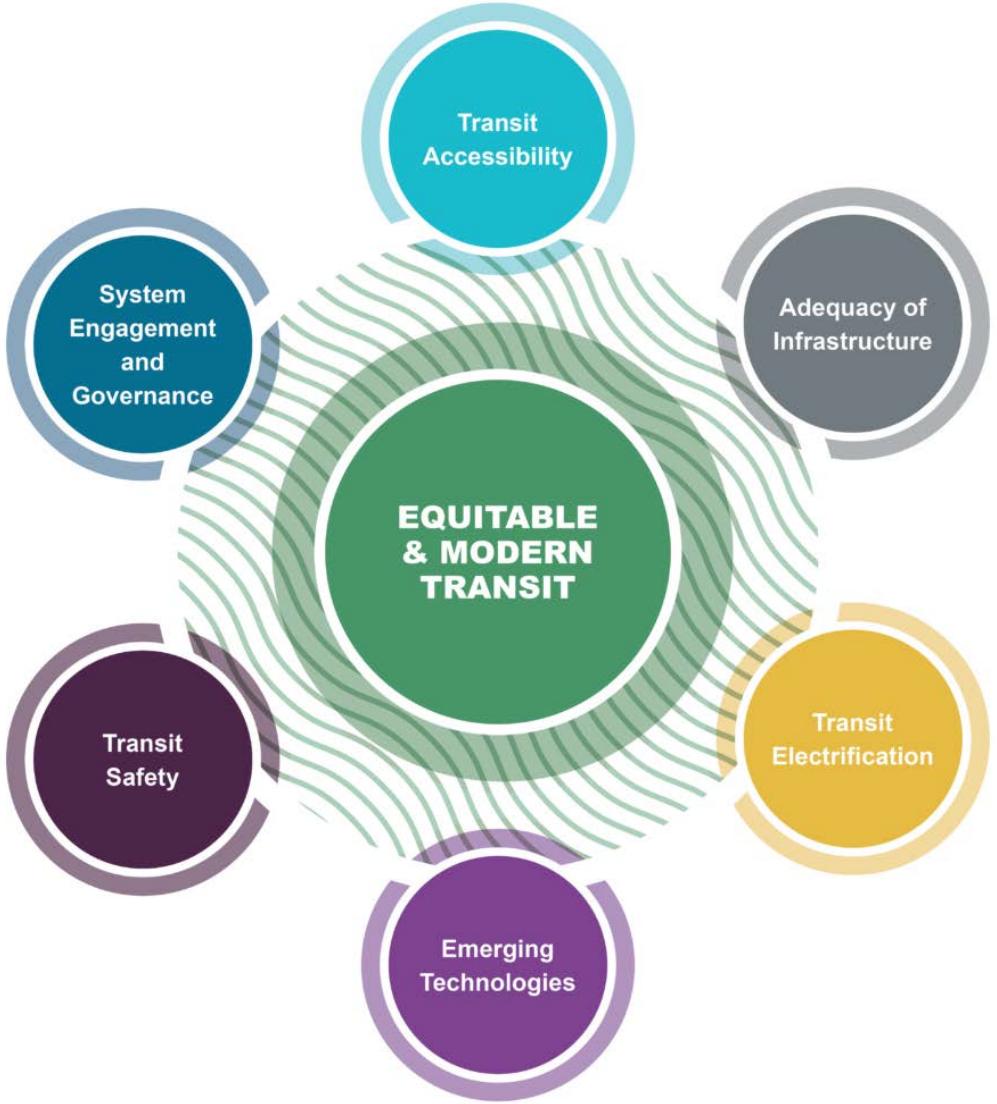
Study Goals

What will this study accomplish?

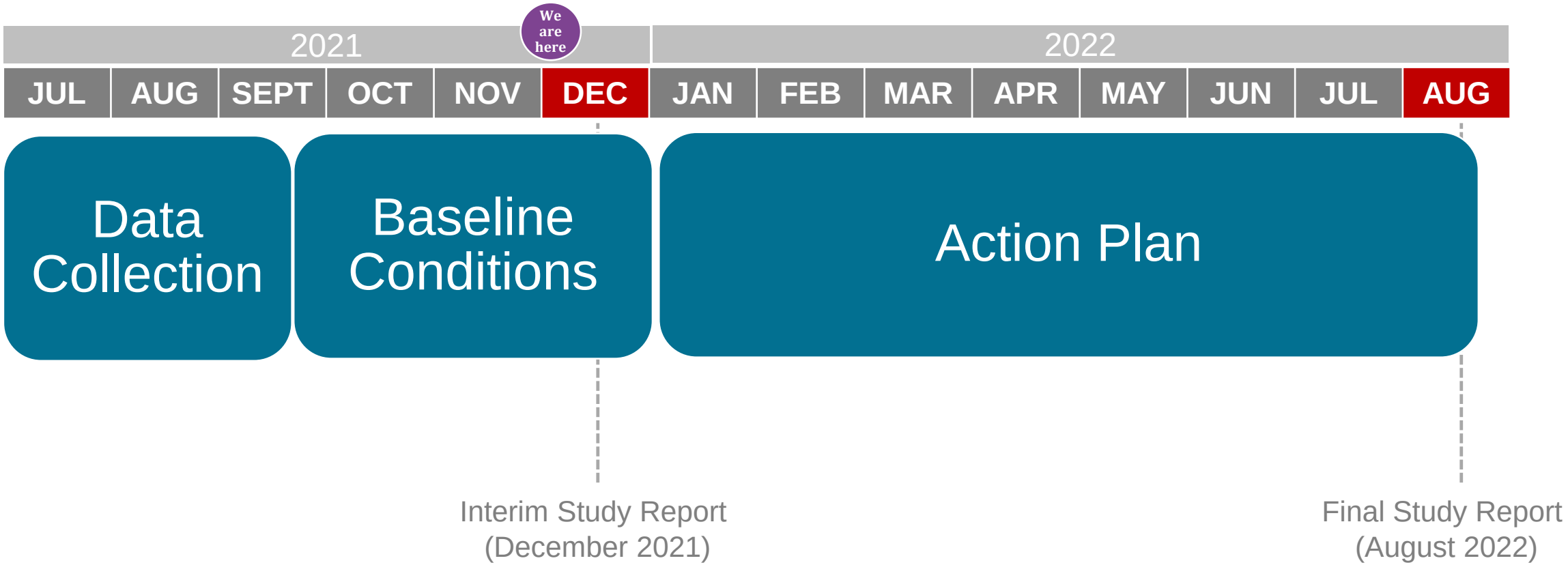
- ✓ Identify transit agency, rider, and stakeholder needs
- ✓ Develop an action plan to address those needs
- ✓ Define underrepresented and underserved communities

The study will address:

- Opportunities/Gap Assessment of transit service and accessibility
- Needs and barriers to improve transit infrastructure
- Opportunities to reduce carbon footprint through bus electrification
- Strategies to inform priorities of implementing emerging technologies
- Opportunities to enhance passenger and transit employee safety
- Framework for identifying and engaging disadvantaged populations and underserved communities



Study Process & Timeline



Key Study Activities

	Completed	In Progress	Upcoming
Study Phase	✓ Data Collection	o Baseline Conditions	o Action Plan
Study Activities	✓ Review Plans, Policies, and Data ✓ Transit Agency Survey ✓ Rider Focus Groups ✓ Transit Agency Outreach Kits	o Transit Equity Committee (TEC) o Technical Working Groups (TWGs) o Stakeholder Meetings o Agency Briefings	o Interim Study Report o Virtual Transit Forum o Final Study Report

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Baseline Conditions: Initial Themes

- Many bus stops are poorly placed and not well-connected to sidewalks
- Basic transit infrastructure (shelters, benches, lighting, etc.) is lacking
- There is a significant interest from Virginia's transit agencies to electrify fleets and adopt newer transit technologies, but additional resources are required (funding, skilled workforce, training, technical assistance, etc.)
- Many transit agencies are interested in piloting zero-fare service to overcome barriers to transit access
- Most transit agencies do not have rider advisory boards or committees
- Equity and modernization can be incorporated more in state guidance, requirements and funding programs for public transit

Study Action Plan

- The Study Action Plan will include recommendations and strategies that address barriers by topic area and will describe specific actions, next steps, coordination required, timeline for implementation and responsible agencies.
- DRPT anticipates that the Study Action Plan will advise changes to transit funding programs and policies, and the development of future plans.
- Potential policy changes may include modification to:
  - *MERIT Capital Prioritization*
  - *MERIT Operating Assistance Formula*
  - *Innovation and Technology Enhancements*

Spread the word to sign up for our email list at:

www.vatransitequity.com

Questions?

Grant Sparks | Grant.Sparks@drpt.virginia.gov

U.S. Route 58 Corridor Transportation Revenue Bonds, Series 2022

December 7, 2021

Laura Farmer

Chief Financial Officer

Authorization and History of Transportation Revenue Bonds
U.S. Route 58 Corridor Development Program

- The U.S Route 58 Corridor Development Fund was established by the General Assembly in 1989 by Virginia Code Section 33.2-2300
  - Authorized $600 million in revenue bonds
  - Dedicated first $40 million of recordation taxes for program funding
- The General Assembly increased authorization in the 1999 session by $104.3 million to $704.3 million
  - Identified projects to receive funding
  - Required the Secretary of Transportation and Governor to propose funding to support debt service on the additional authorization
- The General Assembly increased authorization in the 2013 session by $595.7 million to $1.3 billion
  - Dedicated funding to Crooked Oak, Vesta and Lover's Leap sections
  - Provided $20 million to the fund from Transportation Trust Fund beginning in FY 2020
  - Required any additional debt be supported by the Route 58 Program's existing revenue stream

Authorization and History of Transportation Revenue Bonds
U.S. Route 58 Corridor Development Program

- Chapter 1230 of the 2020 Acts of Assembly
  - Provides $40 million from the Commonwealth Transportation Fund rather than directly from recordation tax collections
  - Added the completion of Corridor Q of the Appalachian Development Highway System to the prioritized list of projects
- All authorizations prior to the 2013 Acts of Assembly have been issued
  - Last new money series was issued in 2001
  - $58.3 million is currently outstanding

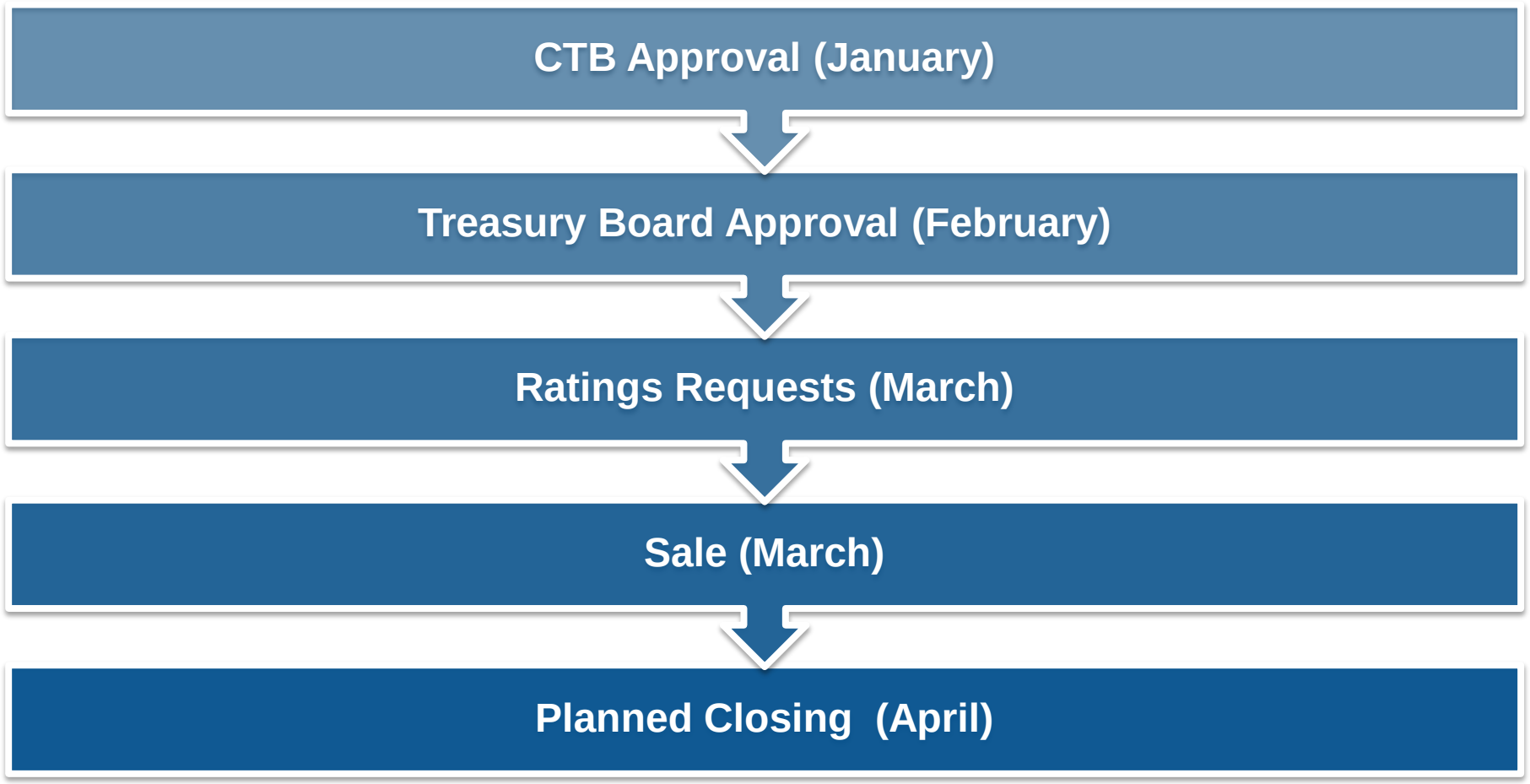
Transportation Revenue Bonds, Series 2022A
U.S. Route 58 Corridor Development Program

- **Bond proceeds are fully allocated in the SYIP to projects in accordance with prioritization set forth in Code of Virginia**
- **The current sale and future sales are timed to support project spending**

Summary Terms of U.S. Route 58 Offering*	
Issuer	Commonwealth Transportation Board
Series	2022
Anticipated Ratings	AA+/Aa1/AA+
Sale Date	March 22, 2022
Security	The Series 2022 bonds are payable from and secured by revenues (i) first, from the U.S. Route 58 Corridor Development Fund, (ii) to the extent required, other revenues legally available from the TTF, and (iii) to the extent required, other legally available funds, and from moneys in certain funds established und ther the U.S. Route 58 Trust Agreement
Target Proceeds (in millions)	$133.0
Structure	Fixed rate serial bonds maturing annually
Final Maturity (years)	25

*Preliminary; subject to change

Next Steps


CTB Approval (January)
Treasury Board Approval (February)
Ratings Requests (March)
Sale (March)
Planned Closing (April)

Route 28 District Contract Amendment

Laura Farmer, Chief Financial Officer

December 7, 2021

Route 28 Transportation Improvement District and Contract

- The Route 28 Transportation Improvement District ("Route 28 District") was created pursuant to the Multicounty Transportation Improvement District Act (Virginia Code Section 15.2-4600 et seq.)
  - The Route 28 District is comprised of portions of Fairfax and Loudoun Counties
- The 1988 Session of the General Assembly enacted bond legislation authorizing the issuance of Transportation Contract Revenue Bonds in an amount not to exceed $160.7 million to finance the costs of acquisition and construction of roadways and related improvements on State Route 28 in Fairfax and Loudoun Counties
- On September 1, 1988, the Commonwealth Transportation Board ("CTB"), Fairfax County Economic Development Authority (the "Authority") and the State Route 28 Highway Transportation Improvement District Commission (the "Route 28 District Commission") entered into a contract ("Route 28 District Contract")
  - Agreement to undertake certain modifications and improvements to State Route 28 (the "Route 28 District Project")
  - Set forth the method of financing the Route 28 District Project between CTB and the Authority
  - Established procedures related to a levy of a special improvements tax by the Route 28 District ("Route 28 District Revenues")
- The Route 28 District Contract has had amendments and has been amended and restated throughout the years as needed to continue the work of the Route 28 District Project *(most recently in 2012)*

Route 28 Transportation Improvement District Revenue and Financings

- Route 28 District Revenues are held by U.S. Bank, as the fiscal agent, in accordance with the Fiscal Agent Agreement
- Route 28 District Revenues are disbursed to pay debt service on the bonds issued by the Authority and CTB to finance the Route 28 District Project
- Excess Route 28 District Revenues ultimately fall into a surplus fund called the Route 28 District Project Completion Fund
  - Can be used to cover any debt service shortfalls
  - Can be used to complete improvements related to the Route 28 District Project and/or to prepay bonds
  - Remaining surplus is to be paid back to the Counties for general governmental purposes
- CTB and the Authority have public bond issues and have taken advantage of refinancing for savings
  - CTB has issued $160.7 million and $57.3 million is currently outstanding
  - The Commission through the Authority has issued $175.1 million and $150 million is currently outstanding

The Second Amended and Restated Route 28 District Contract

- The Authority and Commission are in the process of refunding existing debt for savings and the structure of the bonds requires a reserve fund as a credit enhancement in addition to the pledge of Route 28 District Revenues

- For the original issues, the Authority obtained a surety to fund the reserve fund and the same surety was able to be used for the refundings

- The terms of the surety bond does not provide it to cover refundings of refundings so the Authority has to fund the reserve fund in another manner

The Second Amended and Restated Route 28 District Contract

- **The Authority is requesting to amend the Route 28 District Contract to allow a portion of the surplus revenues in the Route 28 District Project Completion Fund to be used to fund the debt service reserve fund for the refunding bonds**

- **Allowing the Route 28 District Project Completion Fund to be used for this purpose is expected to improve the savings from the refunding of the Authority Route 28 District Bonds, with no material impact on the CTB Bonds**

- **The requested amendment would not increase CTB's liability or exposure**
  - **Funds in the Route 28 District Project Completion Fund have historically not been needed to cover debt service on any of the bonds**
  - **If funds were to be drawn from the reserve fund, the Counties have undertaken a moral obligation to replenish the reserve fund**

Next Steps

The proposed Contract Amendment will be provided to the CTB for consideration in January 2022

COMMONWEALTH of VIRGINIA
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VTrans Strategic Actions

Commonwealth Transportation Board Workshop

Nick Donohue, Deputy Secretary of Transportation
Jitender Ramchandani, Office of Intermodal Planning and Investment

December 7, 2021

VTRANS STRATEGIC ACTIONS: CONTEXT AND OVERVIEW

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)

Presentations:
- September 2021
- October 2021

Presentation today

Request for Action: December 2021 CTB Meeting

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.
  - A total of 16 actions are being proposed for CTB's consideration for the current update.

	ACTIONS OR RECOMMENDATIONS IN THE PREVIOUS VTRANS UPDATES				PROPOSED
Year of Update	2004	2009	2013	2018	2021
Total Actions	50	19	37	12	16
Reporting Mechanism	No	No	No	Yes	Yes

VTRANS STRATEGIC ACTIONS

- Actions that address Risks & Opportunities related to Flooding Vulnerability

1. Develop a roadmap that identifies funding needs and prioritizes investment in data collection (e.g., right-of-way mapping, precipitation, roadway elevation, etc.) to more accurately assess flooding risks for state- and locally-maintained roadways.

2. Utilize the VTrans flooding risk analysis or another more detailed location-specific risk assessment to develop policies to ensure flooding risks are reflected in transportation asset life cycle or transportation project planning activities.

3. Collaborate with state agencies with the intent to systematically identify solutions to flooding risks to facilitate consistent and systematic prioritization and allocation of state resources.

VTRANS STRATEGIC ACTIONS *(cont.)*

- 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.

VTRANS STRATEGIC ACTIONS *(cont.)*

- 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.

VTRANS STRATEGIC ACTIONS *(cont.)*

- 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.

VTRANS STRATEGIC ACTIONS *(cont.)*

- 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.

VTRANS STRATEGIC ACTIONS *(cont.)*

- 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.

NEXT STEPS

- Request Board Action:
  - Policy for Development and Monitoring of VTrans Long-term Risk & Opportunity Register
  - VTrans Strategic Actions

- OIPI will provide annual updates to the Board on:
  - VTrans Macrotrends and efforts related to the identified risks and opportunities
  - Status of VTrans Strategic Actions

VIRGINIA INSTITUTE OF MARINE SCIENCE RECURRENT FLOODING STUDY

November 2021 Update to Commonwealth Transportation Board

Center for Coastal Resources Management

VDOT/VIMS Partnership

"This Memorandum of Understanding (MOU) provides for coordination among the Virginia Institute of Marine Science (VIMS), the Chief Resilience Officer of the Commonwealth of Virginia (CRO) and the Virginia Department of Transportation (VDOT) in developing a proactive strategy for understanding and addressing sea level rise, land subsidence and recurrent flooding impacts on existing and planned road infrastructure as well as how that infrastructure will impact natural ecosystems in Virginia's coastal zone as the climate changes."

Study Goals

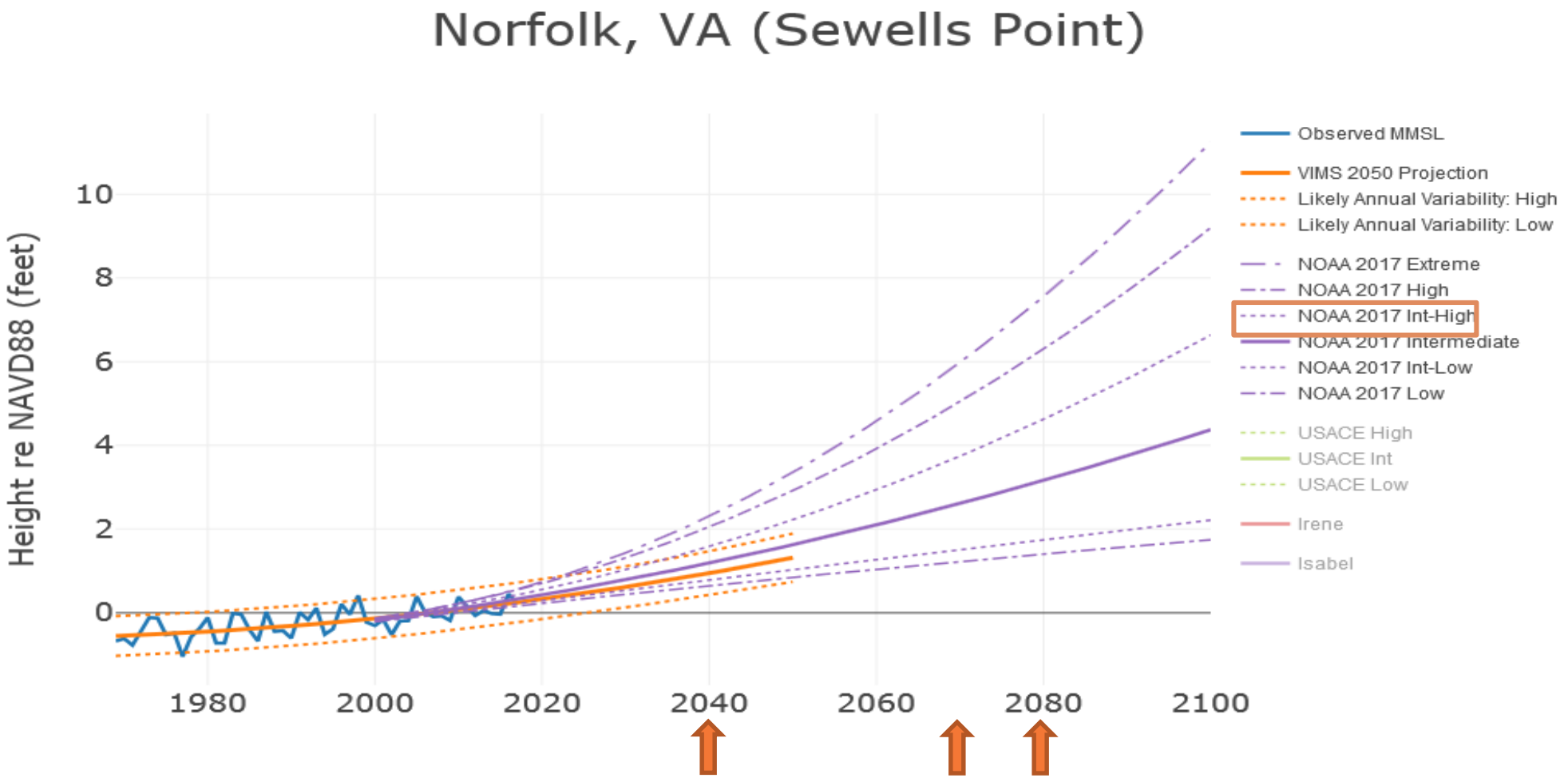
1) Assess climate vulnerability and adaptation of transportation infrastructure
2) Assess ecosystem use conflicts of transportation infrastructure under rising sea levels
3) Assess current policy and regulatory requirements potentially affecting VDOT

Project Details

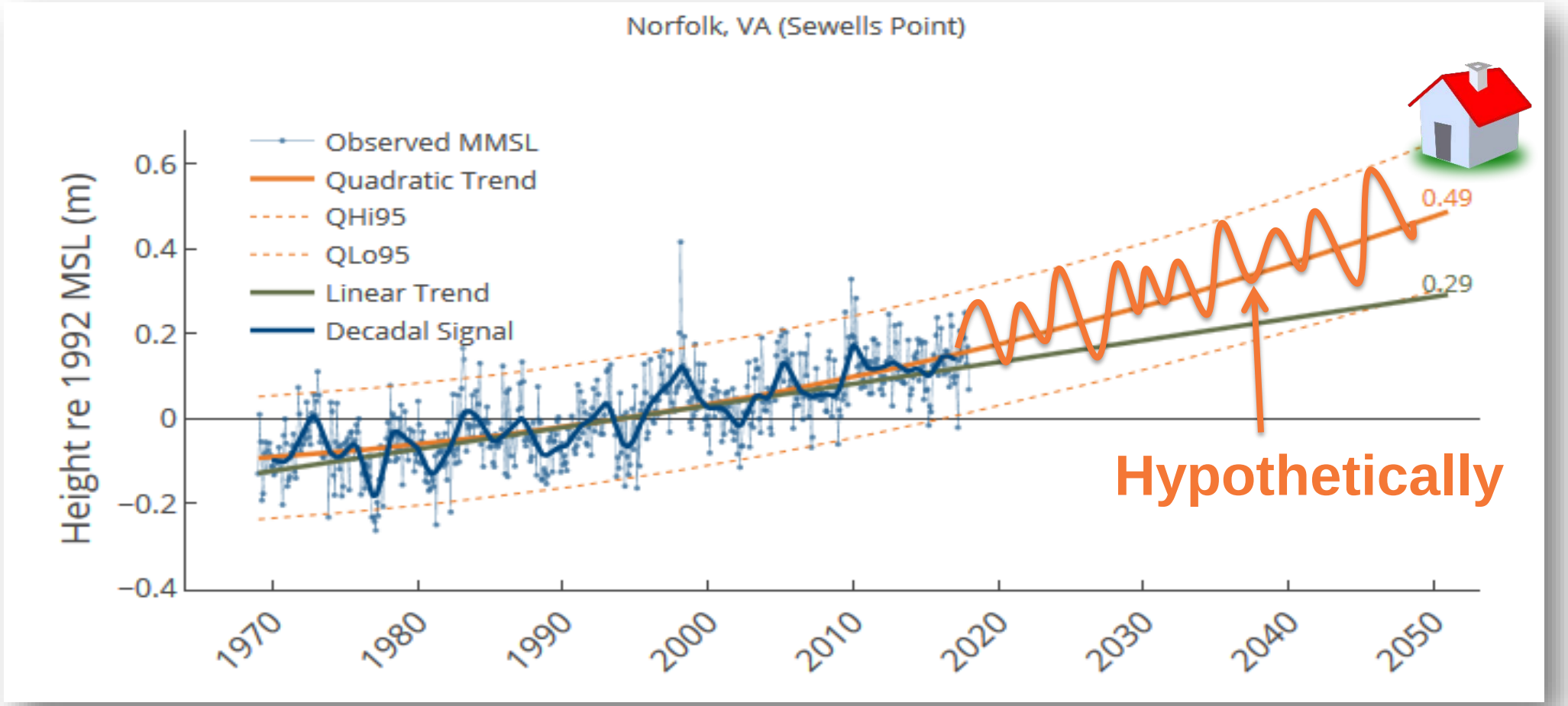
- MOU between VDOT and Secretary of Natural Resources: signed June 2019
- Official start date: August 2019
- Anticipated completion date: August 2024
- Timeframe covered: 2020 – 2080
- Study Area: Virginia's Coastal Zone (Tidewater Virginia)
  - 46 localities: 29 counties and 17 cities
- Sea Level Rise Curve: NOAA 2017 Intermediate High

BACKGROUND

ROAD NETWORK ANALYSIS:
What sea level rise projection should we be using?



ROAD NETWORK ANALYSIS:
What sea level rise projection should we be using?



Related Efforts

- **VDOT**
  - House Bill 1217 – recurrent flooding affecting Planning District 8
  - Atlas 14 Update – update historical rainfall information
  - Intensity, Duration, and Frequency (IDF) Predictive Curve Development
  - OIPI / VTRANS
- **Other**
  - Virginia Coastal Resiliency Master Plan
  - PDC / Locality Efforts

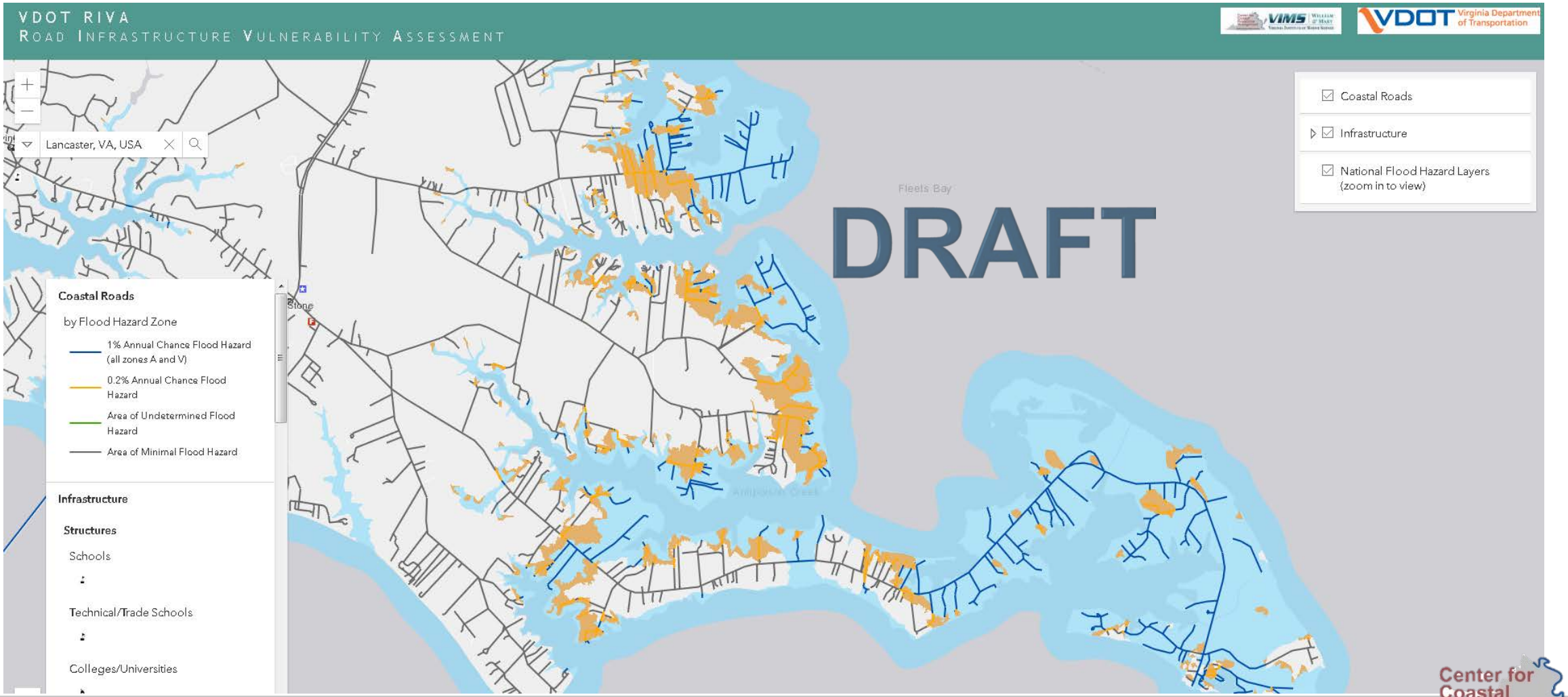
CURRENT WORK

Task 1. Determine 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
- Perform Road Network Analysis (RNA) to evaluate vulnerability of major VDOT infrastructure
- Determine most useful method of making data available – both for VDOT and those outside of VDOT

CURRENT WORK

FLOODPLAIN ANALYSIS:
Transportation in FEMA Flood Hazard Zones



VDOT

Center for Coastal Resources Management
Virginia Institute of Marine Science

FLOODPLAIN ANALYSIS:
Flood Zone Summary Tables

CURRENT WORK

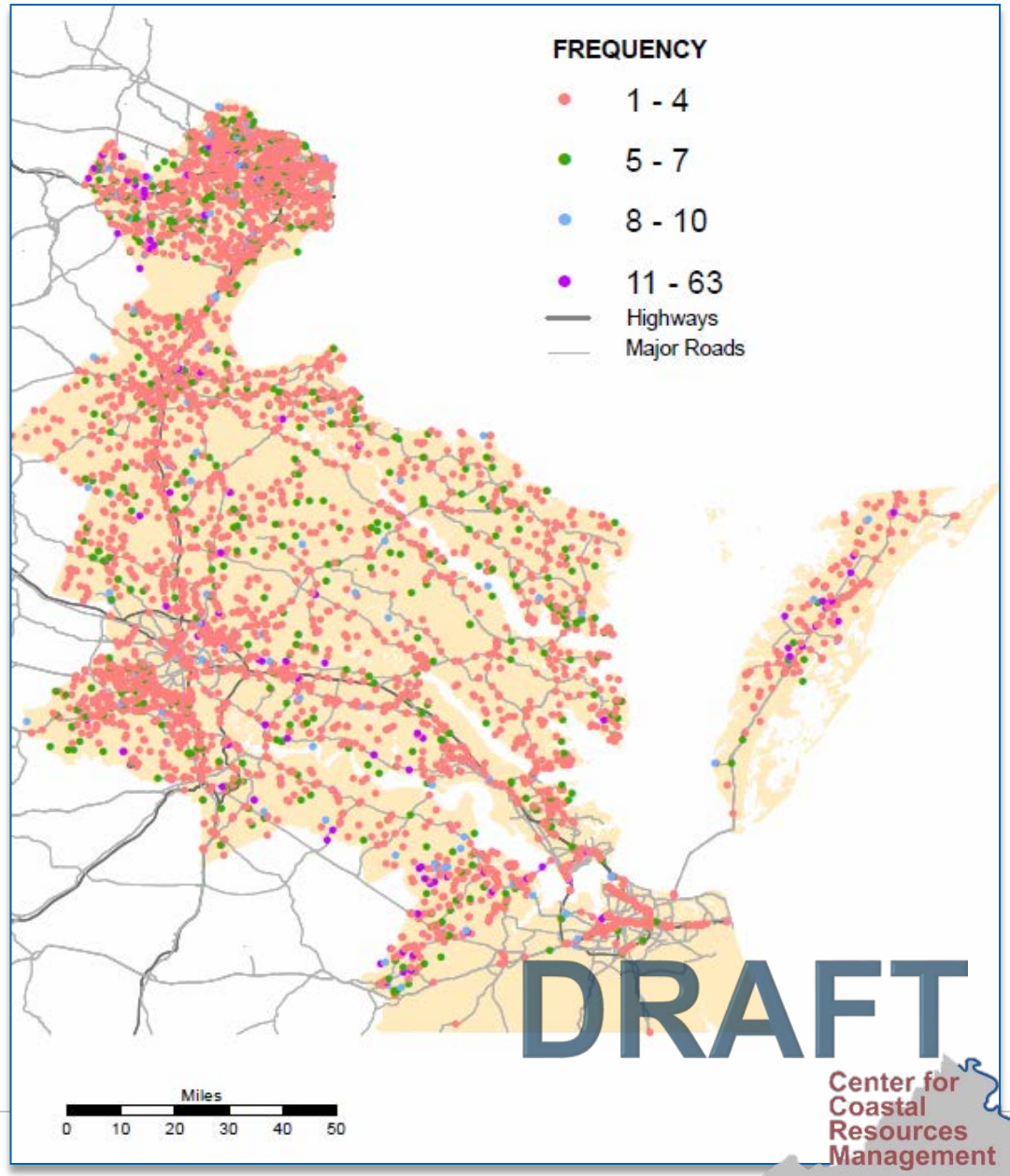
		Total Road Length (miles)	1% Annual Chance Flood Hazard (all A and V zones) (miles)	0.2% Annual Chance Flood Hazard (miles)	Area of Minimal Flood Hazard (miles)	Area of Undetermined Flood Hazard (zone D) (miles)
Summary	All Coastal Roads	58446	3048	1485	53863	50
	Road Type	**Total Road Length** *(miles)*	**1% Annual Chance Flood Hazard (all A and V zones)** *(miles)*	**0.2% Annual Chance Flood Hazard** *(miles)*	**Area of Minimal Flood Hazard** *(miles)*	
Accomack County	Local Main Arteries	153	21	14	118	
	Local Secondaries	1266	349	96	821	
	Ramp	<1			<1	
	US and VA Primary Highways	92	5	<1	88	
		1512	**375**	**109**	**1027**	
	Road Type	**Total Road Length** *(miles)*	**1% Annual Chance Flood Hazard (all A and V zones)** *(miles)*	**0.2% Annual Chance Flood Hazard** *(miles)*	**Area of Minimal Flood Hazard** *(miles)*	
Alexandria City	Alleys	2	<1	<1	2	
	HOV Lanes	4	<1	<1	4	
	Limited Access Highway	14	3	1	9	
	Local Main Arteries	53	4	3	47	
	Local Secondaries	382	13	18	352	
	Other	<1	<1	<1		
	Parking Lot Roads	29	1	1	26	
	Ramp	19	4	3	12	
	US and VA Primary Highways	44	2	1	41	
		547	**27**	**27**	**493**	

CURRENT WORK

511 DATA ANALYSIS:
Recurrent Road Flooding 2008-2019

DATA SOURCES:

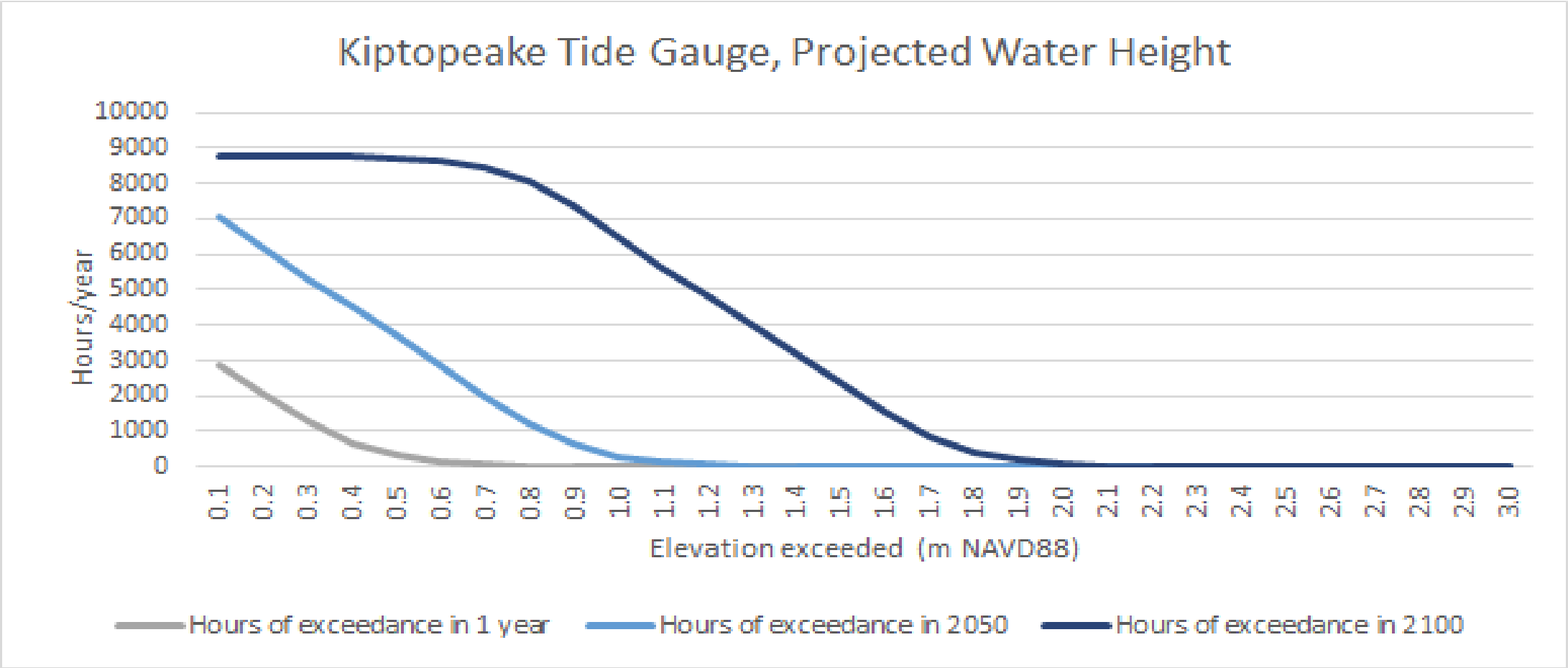
- VDOT 511
  - Available for the entire state
  - Does not include city-owned roads
- WAZE
  - Available for select areas and years



CURRENT WORK

ROAD NETWORK ANALYSIS:

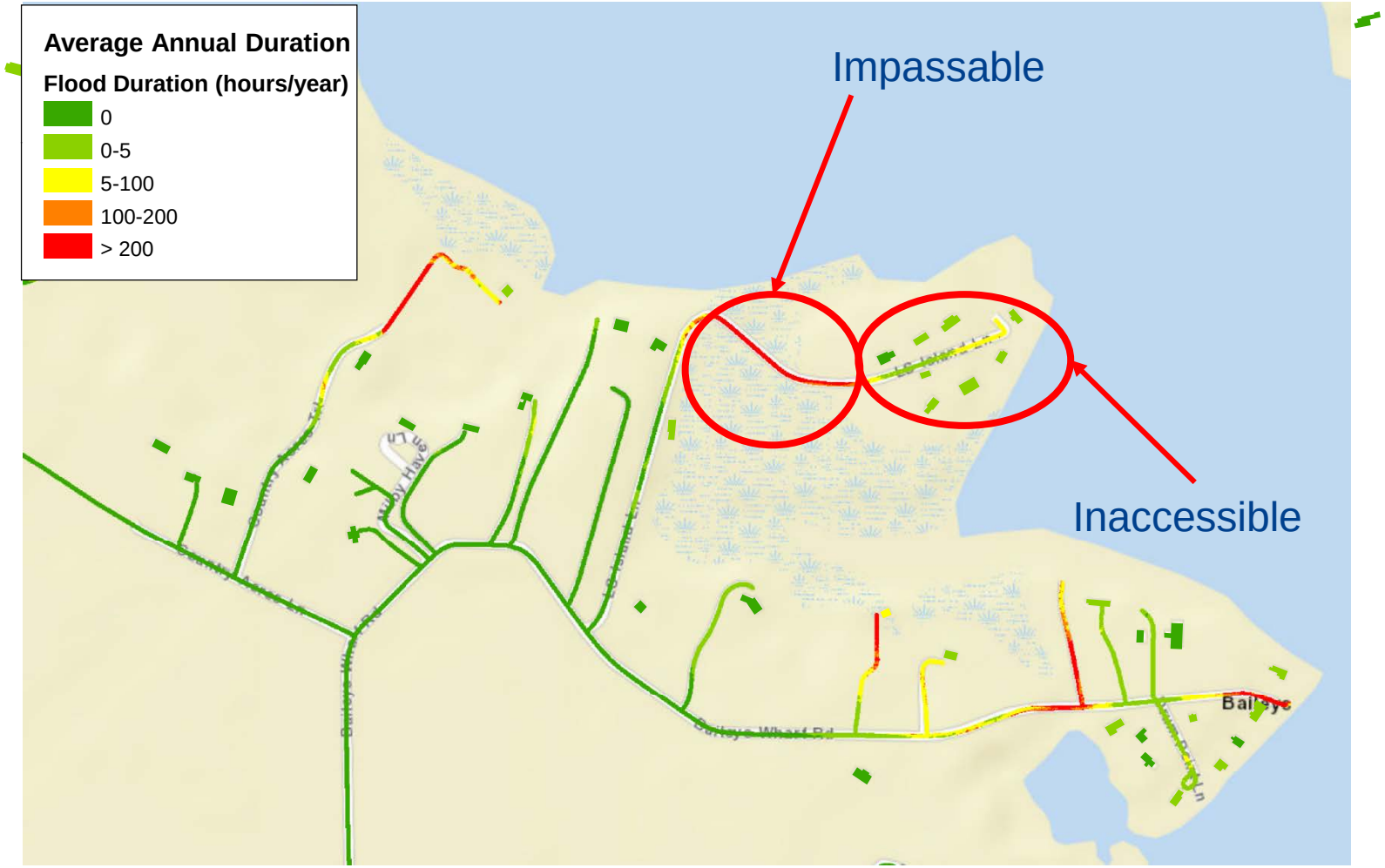
Tide gauge water level analysis



Example of water exceedances for different flood levels for flood frequency analysis

CURRENT WORK

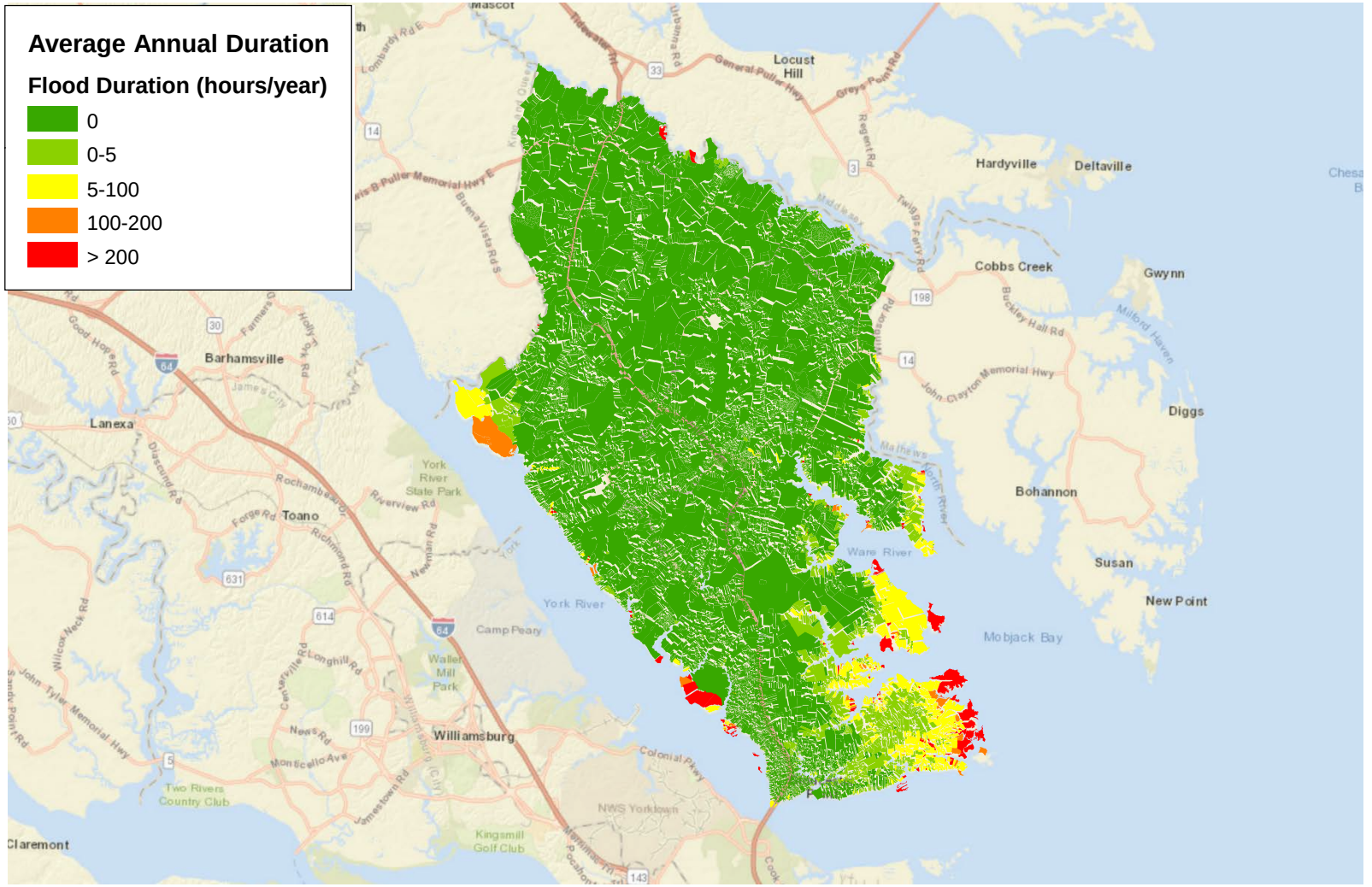
ROAD NETWORK ANALYSIS:
What roads are likely to flood in the future?



Average Annual Flooding: 2050

CURRENT WORK

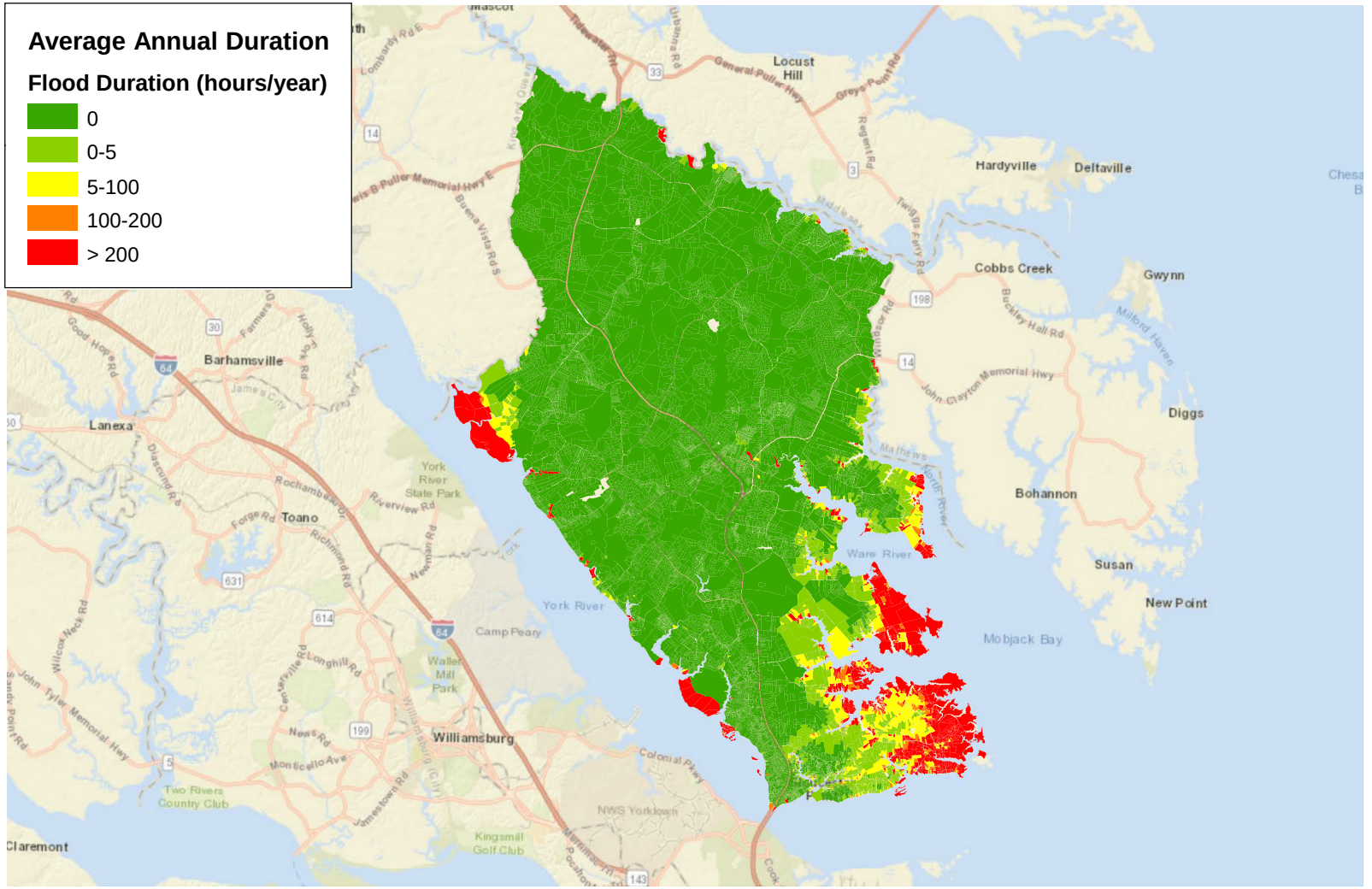
ROAD NETWORK ANALYSIS:



Average Annual Flooding: 2000-2017

CURRENT WORK

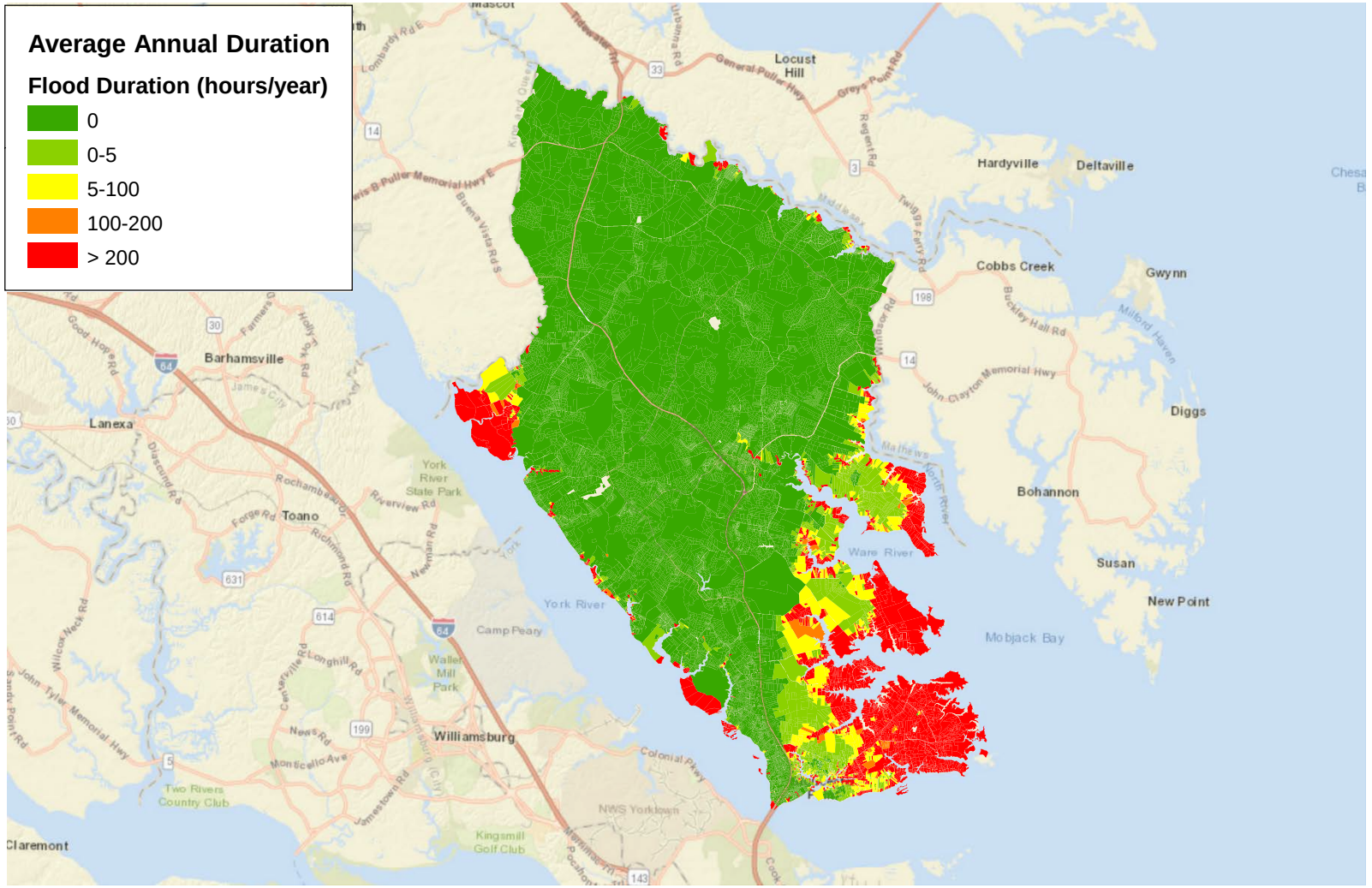
ROAD NETWORK ANALYSIS:



Average Annual Flooding: 2050

CURRENT WORK

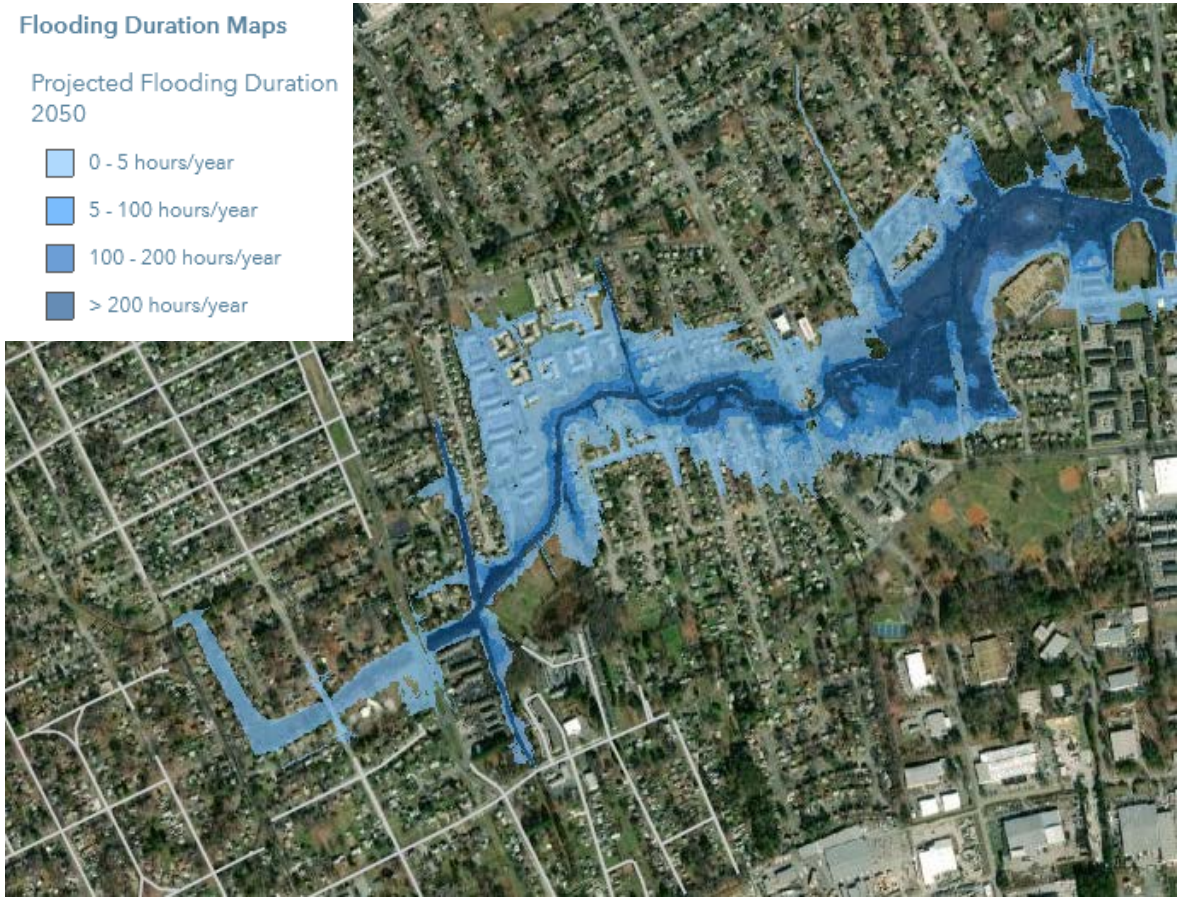
ROAD NETWORK ANALYSIS:

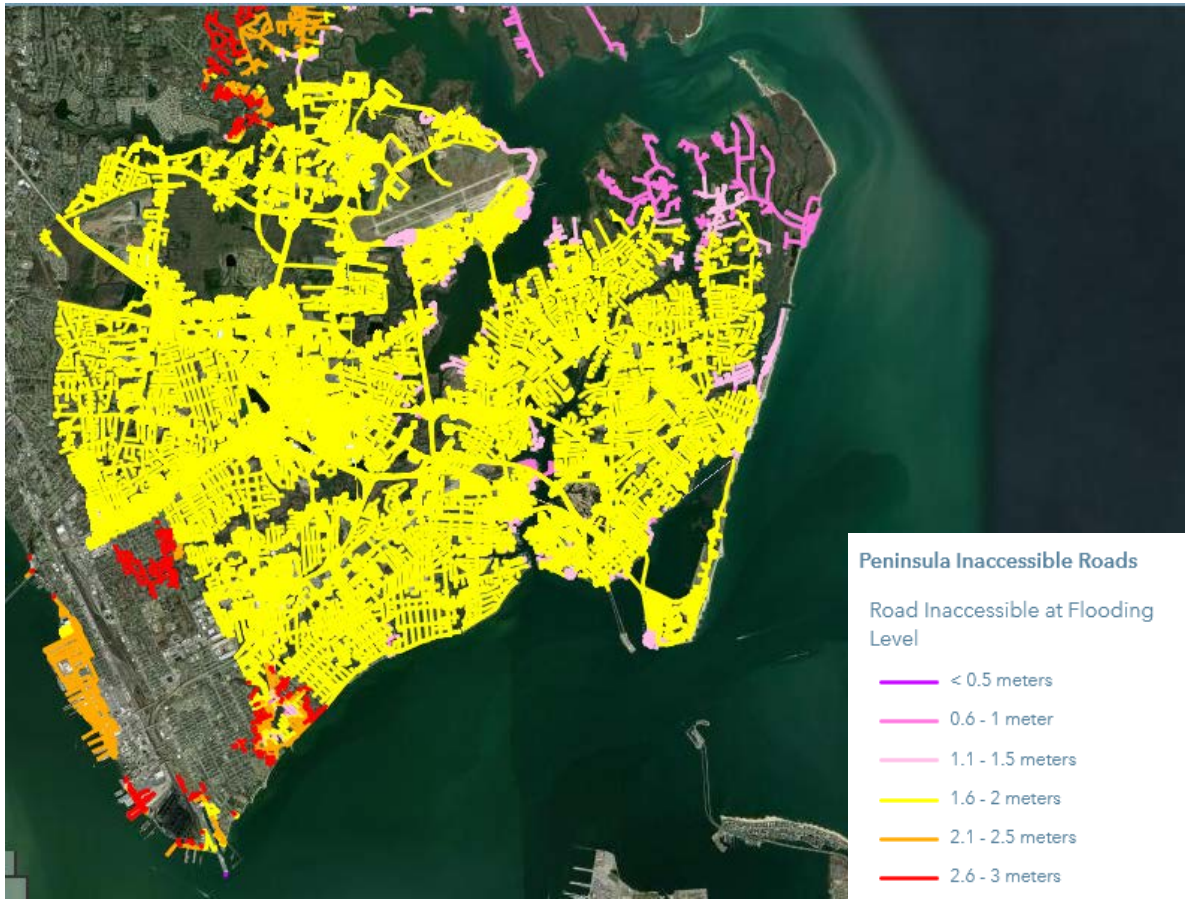


Average Annual Flooding: 2100

CURRENT WORK

ROAD NETWORK ANALYSIS: Inaccessible roads

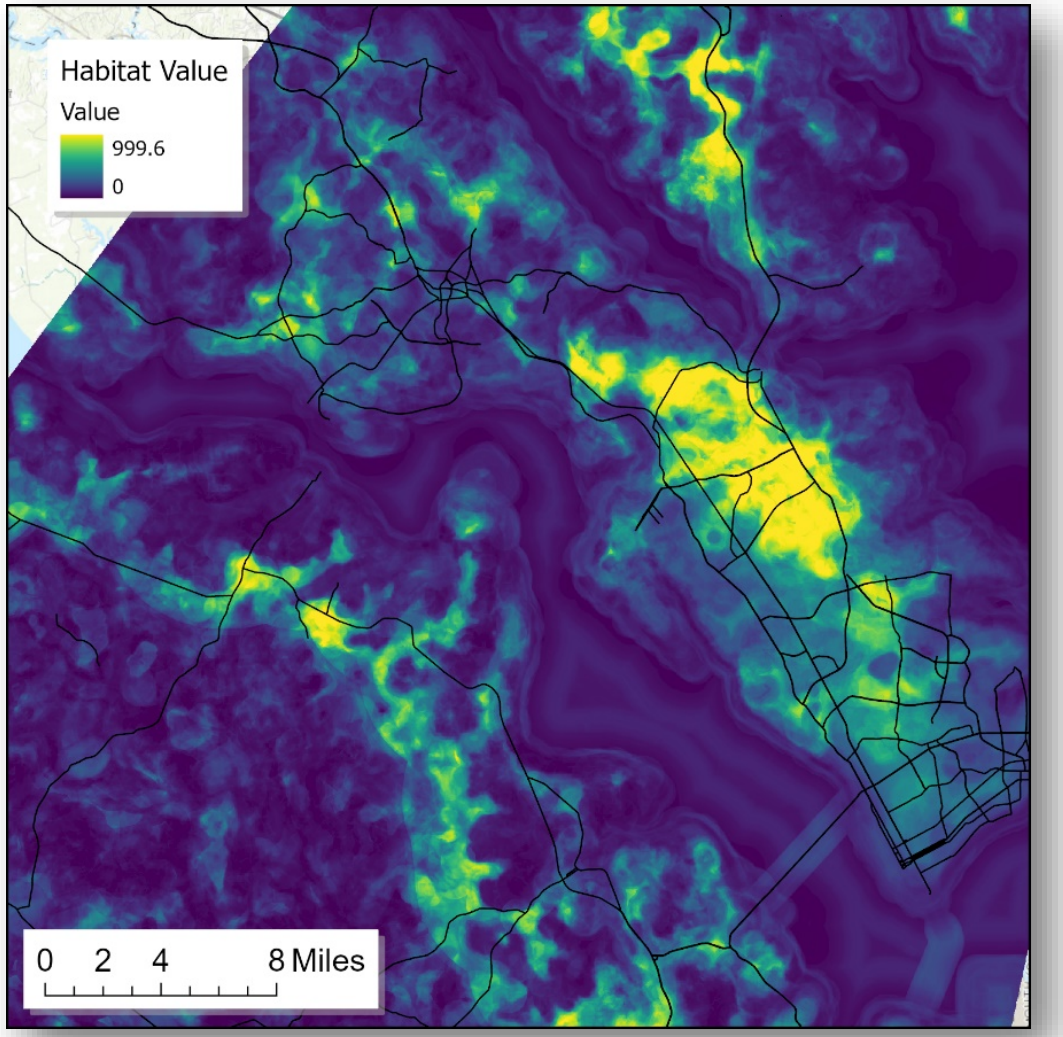




CURRENT WORK

Task 2. Study Ecosystem Impacts of Transportation Infrastructure

- Modeling current habitat distribution for rare, threatened or endangered (RTE) and migratory bird species
- Forecasting habitat distribution shifts for target species
- Assess the potential conflicts for existing and planned local land use changes and transportation infrastructure



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Virginia Institute of Marine Science

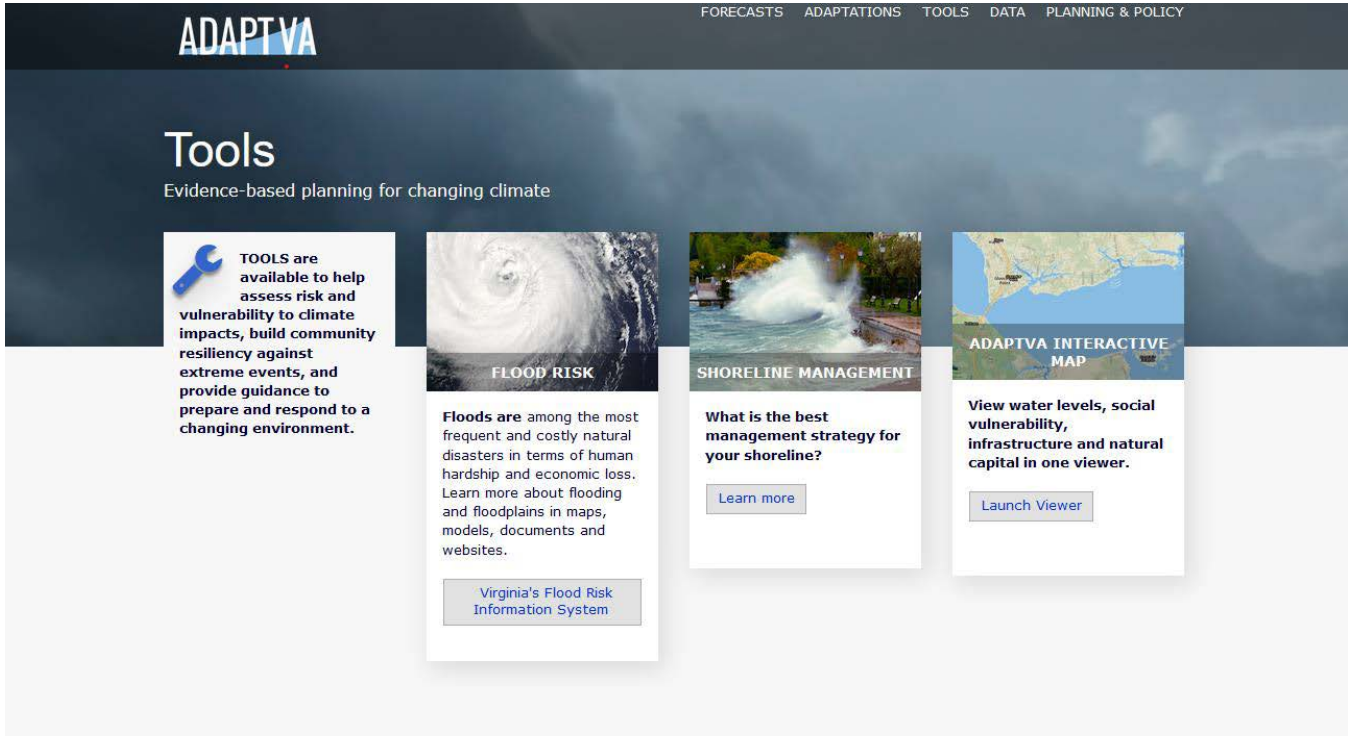
CURRENT WORK

Task 3. Policy and Regulatory Requirements

- Determine how resiliency related policy and regulatory requirements have been handled by other states
  - Example: Chapter 51 of 2021 Acts of Assembly requirement to include resiliency in design standards; no formal definition
- Analyzing legal framework informing duties to maintain and authority to abandon

Additional Tasks Being Considered

- Utilize participatory mapping
  - Utilize local expertise
- Determine VDOT method of approval
  - Who reviews and accepts data?
  - What is the timing?
- Development of an interactive map for VDOT
  - Regional (PDC) level packaged for use by local governments

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Virginia Department of Transportation


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HIGHWAY TRAFFIC NOISE GUIDANCE MANUAL

Version 9 Update

Angel Deem
Environmental Division Director

December 7, 2021

Noise Guidance Manual Updates

In-Kind Noise Barrier Replacement

- Simplifies the evaluation of relocated noise barriers that are physically impacted by the project

Activity Category C - Barrier Evaluations for Recreational Areas

- Expands upon the ability to incorporate “usage” into barrier reasonableness calculations for trails, parks, cemeteries, etc.

Date of Public Knowledge

- 2018 Programmatic Agreement with FHWA incorporated into Manual

Noise Guidance Manual Updates

Traffic Noise Model (TNM)

- Requires use of TNM version 2.5, or the latest FHWA-approved noise model

VDOT Rest Areas

- Considered short-term transportation-related land uses that are not considered noise sensitive

Noise Barriers on Structure

- Due to engineering and maintenance constraints, requires the minimization of the height of barriers on structure to the maximum extent feasible without adversely affecting adjacent noise-impacted receptors

COMMONWEALTH of VIRGINIA

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Transportation Revenues and Opportunities Part 3

Nick Donohue
Deputy Secretary of Transportation
December 2021

FY21 Commonwealth Transportation Fund Surplus

- **Requesting Board action this month to approve revised FY 2022 CTF and VDOT budgets and add projects to the SYIP to be funded by the FY21 CTF surplus**
- **$21.2M to VPRA, VPA, DOAV, VCSFA and DMV**
- **$344.6M available for allocation by the Board**

FY21 Commonwealth Transportation Fund Surplus

Recommend allocation of $344.6M as follows—

- **$10M for planned Omnibus funding for Virginia Highway Safety Improvement Program**
- **$39.8M for planned Omnibus funding for transit programs distributed via transit**
- **$295M for priority projects from Round 4 of SMART SCALE and other priority projects**

Virginia Highway Safety Improvement Program Allocation

- **$10M for planned Omnibus funding pursuant to budget language to prioritize Omnibus spending**
- **Funds will be used for previously identified systemic countermeasures**
- **Specific uses outlined in safety presentation provided to Board at this meeting**

Transit Program Allocation

- **$39.8M for planned Omnibus transit funding pursuant to budget language to prioritize Omnibus spending**
- **$1.6M for Transit Ridership Incentive Program to fund two identified Tier II projects not funded in initial funding round**
- **$38.2M for transit capital purposes as fund minor enhancements and major enhancements evaluated in the previous MERIT round**

Priority Projects Allocations

- **$3.1M for US 23 at Hilton Rd in Scott County**
- **$2.6M for College Ave Access Mgt in Town of Bluefield**
- **$13.4M for Widen US 11 Eastern Section in Bristol**
- **$6.8M for Route 29 and Less Mill Road R-CUT in Fauquier**
- **$10.9M for Route 522/Route 20 Roundabout in Orange Co**
- **$9.5M for Route 1 – Route 3 off-ramp in Fredericksburg**
- **$8.5M for Onville Rd Improvements in Stafford County**
- **$2.6M for Route 17B/TC Walker intersection in Gloucester**
- **$12.9M for Route 10/32 diverging diamond in Suffolk**

Priority Projects Allocations

- $9.8M for Route 17 (Bridge Rd) widening in Suffolk
- $8.5M for Route 258 at Route 10 Bypass in Isle of Wight
- $27.2M for I-64/Denbigh Blvd Interchange FHWA requ'ment
- $14.8M for High St/Oak St/Griffin Blvd in Farmville
- $2.8M for Route 221 Intersection in the City of Lynchburg
- $1.5M for Waterlick congestion and safety in Campbell
- $6M for Braddock Rd Multimodal in Fairfax
- $15.1M for Sycolin Rd in Loudoun County
- $25.3M for North Woodbridge Mobility in Prince William

Priority Projects Allocations

- $16.0M for Braddock Rd at Old Lee Rd in Fairfax County
- $3.9M for Route 1 Multimodal Corridor Improvements in Arlington County
- $42.7M for Fall Line Trail in Metro Richmond area
- $19.2M for Route 460/Alt Route 220 in Roanoke County
- $8.5M for Prices Fork/Peppers Ferry in Montgomery
- $2.7M for Route 42 East in Town of Woodstock
- $7.2M for Broad St Streetscape in Waynesboro
- $6.9M for I-81 Exit 317 NB Ramp in Frederick County
- $6.4M for Route 11/Old Charles Roundabout in Frederick

Next Steps

- **Action at this meeting on allocation of $344.6M in FY21 CTF Surplus to identified priority projects**

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Transportation Revenues and Opportunities Part 4

Nick Donohue
Deputy Secretary of Transportation
December 2021

Financial Outlook – Current Status

- **Infrastructure Investment and Jobs Act has been signed into law**
  - **Provides significant increase in federal transportation program as well as supplemental advance appropriations**
- **December revenue forecast is anticipated to reflect increases above current transportation forecast**
  - **Through October FY22 collections are 17.9% above FY21**
  - **(2.4%) growth rate required to meet current FY22 estimate**

Updated Six-Year Financial Plan and FY22 Budgets

- VDOT and DRPT are developing updates to the Six-Year Financial Plan and the FY22 Commonwealth Transportation Fund, VDOT and DRPT budgets
  - Updates will incorporate new federal funds
  - Updates will also incorporate December revenue forecast
  - Updates will use CTF formulas established in 2020
- Updates will be considered by Board at January meeting
- Will allow Board to consider additional funds through the Six-Year Improvement Program development process

What is included in the Infrastructure Investment and Jobs Act?

- Reauthorization of existing surface transportation programs – highway, transit, rail and safety
  - Highway Trust Fund contract authority
  - Limited General Fund authorizations – which require future appropriation
- Supplemental advance appropriations for surface transportation
  - General Fund appropriations
- A variety of other infrastructure funding including broadband, energy grid, ports, airports, etc

What is included in the Infrastructure Investment and Jobs Act?

	'21 Actual	'22	'23	'24	'25	'26	TOTAL
USDOT – Discretionary	$1.0	$3.8	$3.8	$3.8	$3.8	$3.8	$19.0
FHWA – Formula and Discretionary	$49.1	$67.7	$69.0	$70.3	$71.5	$72.9	$351.3
FTA – Formula and Discretionary	$12.8	$17.6	$17.9	$18.2	$18.5	$18.9	$91.2
FRA – Discretionary	$2.4	$13.2	$13.2	$13.2	$13.2	$13.2	$66.0

Figures in billions

Topline – What does this mean for surface transportation in Virginia?

- **Virginia will receive $1.6 billion in additional formula funding over next 5-years**
- **Virginia transit agencies will receive ~$640M in additional formula funding over the next 5-years**
- **Numerous discretionary grant opportunities**
  - **Intercity passenger rail expansion**
  - **Priority projects**
  - **“Reconnecting communities”**
  - **Bridge replacements**
  - **“Low/no” emission bus purchases**

What does this mean for Virginia?

FHWA Formula Programs

- **Additional federal funding will support increases in the following areas:**
  - **~$536 million for bridge rehabilitation and replacement (GF)**
  - **~$451 million will flow through construction formulas (HTF)**
  - **~$403 million for resiliency and carbon reduction (HTF)**
  - **~$106 million for electric vehicle charging stations (GF)**
  - **~$127 million for bike/ped and nonmotorized safety (HTF)**
- **SYFP will assume programs funded through HTF will be re-authorized and funds will be apportioned in future years**

What does this mean for Virginia?

FHWA Formula Programs – Bridge Supplemental

- Additional bridge funding has allowed VDOT to review and revise the investment strategy from its 2019 comprehensive review of pavements and bridges
- VDOT began work to review investment strategy earlier this year
- Revised recommended investment strategy assumes additional bridge funding is not reauthorized at the end of the 5-year period

What does this mean for Virginia?

FHWA Formula Programs – Bridge Supplemental

- **Recommend distributing funds between VDOT- and locally-owned bridges based on cost to repair**
  - **75% available for VDOT-owned interstate bridges**
  - **25% available for locally-owned structurally deficient bridges**
- **Results in improved overall condition and reduces number of structurally deficient bridges**
- **Over-time extends the useful life of bridges and reduces necessary treatment costs – allowing funds to flow to primary and secondary bridges**

What does this mean for Virginia?

FHWA Formula Programs – Bridge Supplemental

- Recommend funding for locally-owned bridges be used to supplement existing SGR funds to address high-cost and other structurally deficient bridges
- Current SGR funding distribution can make it difficult to fully fund repairs of higher cost locally-owned bridges
- For example from FY22-FY27, there is ~$24 million available for repair of locally-owned bridges for the entire Richmond District
- Rehab of the Mayo Bridge in the City of Richmond is estimated to cost $40 to 75 million depending on selected treatment

What does this mean for Virginia?

FHWA Formula Programs – Construction Formula

Code requires that flexible federal funds be distributed through the construction formula (33.2-358)

$451M over the 5-years represents ~10% annual increase in construction funding

Figures in millions and represent additional federal funds not total program funding

Construction Program	5-Year TOTAL
State of Good Repair	$135.2
District Grant Program	$90.1
High Priority Projects Program	$90.1
Interstate Operations and Enhancement	$90.1
Highway Safety Improvement Program	$45.1

What does this mean for Virginia?

FHWA Formula Programs – Construction Formula

- For District Grant, High Priority Projects and Interstate Programs, recommend funds be used to accelerate the start of previously selected projects
- Like amounts in outer years will be made available for award in future grant cycles with goal of construction starting no later than ‘year 5’ for any project
- For SGR, VDOT will increase paving and bridge rehab projects selected in the upcoming cycles
- For Safety, VDOT and DMV will identify additional systemic improvements and behavioral strategies

What does this mean for Virginia?

FHWA Formula Programs – Carbon Reduction

	FY22	FY23	FY24	FY25	FY26	Total
Carbon Reduction	$34.1	$34.8	$35.5	$36.2	$36.9	$177.4

- New program focused on reducing carbon emissions from on-road highway sources
- Must develop a carbon reduction strategy within 2-years
  - Reduce traffic through facilitating non-SOV trips
  - Facilitate use of vehicles or modes with lower emissions
  - Facilitate construction activities with lower emissions
- Board controls ~60% of funds while large MPOs control ~40% of funds

Figures in millions

What does this mean for Virginia?

FHWA Formula Programs – PROTECT Program

	FY22	FY23	FY24	FY25	FY26	Total
PROTECT Program	$43.7	$44.3	$45.3	$46.1	$47.1	$226.2

- **New program focused on improving the resiliency of highway, transit and port infrastructure**
- **Funds may be used for projects that address—**
  - **Natural disasters and weather events**
  - **Sea-level rise, flooding and other changing conditions**
  - **Evacuation routes**
  - **At-risk coastal infrastructure**

Figures in millions

What does this mean for Virginia?

FHWA Formula Programs – EV Charging

	FY22	FY23	FY24	FY25	FY26	Total
EV Charging Infra	$21.3	$21.3	$21.3	$21.3	$21.3	$106.4

- **5-years of supplemental advance appropriations**
- **Funds may be used to (i) acquire and install electric vehicle charging infrastructure and (ii) operations and maintenance of such facilities**
- **States must submit plans to USDOT outlining proposed uses of funds**

Figures in millions

What does this mean for Virginia?

FHWA Formula Programs – Transportation Alternatives

New Funding	FY22	FY23	FY24	FY25	FY26	Total
TAP - CTB	$6.9	$7.1	$7.2	$7.4	$7.6	$36.3
TAP – Large MPO	$5.8	$5.9	$6.0	$6.2	$6.3	$30.2

- **Transportation Alternatives Program funding is increased by 55%**
  - **$23.1M in FY21 to $35.7M in FY22**
  - **Greater share is directed to large MPOs**
  - **Additional Board-controlled funding over SYIP life is $44.0M**

What does this mean for Virginia?

FHWA Formula Programs – Transportation Alternatives

- **Recommend Board consideration of use of increase in funds to support trails initiative directed by General Assembly**
  - **Appropriations Act provided $10M**
  - **Required OIPI to convene a workgroup to examine regional trail needs and develop a master planning process**
- **Over SYIP this would provide $65M to fund regional trails as recommended by workgroup**

What does this mean for Virginia?

FHWA Programs – Vulnerable Road Users

	FY22	FY23	FY24	FY25	FY26	Total
Vulnerable Road User	$14.7	$15.0	$15.3	$15.7	$16.0	$76.7

- **Bill requires that states where more than 15% of traffic fatalities are pedestrians and bicyclists set-aside 15% of Highway Safety Improvement Program dollars**
- **15.8% of highway fatalities in Virginia have been pedestrians and bicyclists from 2016 to 2020**
- **Board will be required to develop a Vulnerable Road User Safety Assessment**

What does this mean for Virginia?

FTA Formula Programs

- **Increases HTF formula funds by ~26%**
  - **From $231M in FY21 to $290M in FY22**
- **Provides $950M/year for State of Good Repair Program**
  - **WMATA/DC region receives 6.3% of program funding which is equal to ~$60M/year**
- **Reauthorizes WMATA "PRIIA" funding at $150M/year for 8 years**

What does this mean for Virginia?

FTA Formula Programs

5-year Total Additional Funding

- $492.4M for Northern Virginia transit systems
- $59.9M for Hampton Roads transit systems
- $24.3M for Richmond area transit systems
- $5.2M for Roanoke transit system
- $24.2M for small urban transit systems
- $33.5M for rural transit systems

What does this mean for Virginia?
Discretionary Grants

- **Multimodal Grants**
  - **$1.5-$2.5B/year for projects of local and regional significance**
  - **$1.5-$1.6B/year for nationally significant freight and highway projects**
  - **$1B/year for national infrastructure grants**
- **Passenger Rail Grants**
  - **$7.2B/year with up to 2/3s for the Northeast Corridor**

What does this mean for Virginia?

Discretionary Grants

- **Capital Investments Grants (FTA)**
  - **~$3.6B/year for rail/BRT transit expansion projects**
- **Bridge Investment Grants**
  - **$2.5B/year for replacement, rehab, resiliency projects**
- **Low and No Emission Transit Vehicles**
  - **$1B/year for grants to replace transit vehicles with vehicles that reduce GHG and PM emissions**
- **Number of other grant programs**

GARVEE Bond Program

- **Federal bill will provide an additional $320M in FY22 and December forecast is anticipated to further increase available FY22 revenues**
- **Staff recommend Board reconsider timing of current GARVEE bond sales and allocation of proceeds**
- **Current plan include sales of ~$120M annually, on average, along with corresponding debt service payments**

GARVEE Bond Program

Current Plan	FY22	FY23	FY24	FY25	FY26	FY27	TOTAL
Bond Proceeds	$76.3	$100	$125	$134	$137	$149	
Debt Service*	-	($8)	($19)	($32)	($45)	($57)	
Net Funding	$76.3	$92.0	$106	$102	$92.0	$92.0	$560.3

Alt Plan	FY22	FY23	FY24	FY25	FY26	FY27	TOTAL
Bond Proceeds	-	-	-	-	-	$737	
Debt Service*	-	-	-	-	-	-	
Federal Funds	-	$8	$19	$32	$45	$57	
Net Funding	-	$8	$19	$32	$45	$794	$898

Alt Plan can increase available funding over 6-years by $337M

* Debt service are approximate amounts

December Revenue Forecast

- Revenues will be incorporated into Commonwealth Transportation Fund budget and Six-Year Financial Plan as outlined at the October meeting
- Tier 1 - $258.6M
  - Moving Revenue Sharing Program to years 3 and 4
  - Restoring FY23 Omnibus Allocations
- Tier 2 – Any remaining funds will be distributed through the Commonwealth Transportation Fund formulas

Next Steps

- **Action at the January meeting to update FY22 CTF Budget to incorporate funds from federal infrastructure bill and December forecast *on a programmatic not project-specific basis***
- **VDOT and DRPT, as appropriate, to report back to the Board on actions and efforts taken to accelerate previously selected projects**

VIRGINIA'S BRIDGE PROGRAM UNDER THE INFRASTRUCTURE INVESTMENT AND JOBS ACT

Kendal R. Walus, PE December 2021

Infrastructure Investment and Jobs Act (IIJA)

- **Signed into Law on November 15, 2021**
  - Federal rulemaking (formal requirements) expected in Spring 2022
  - Coordinating with FHWA now to initiate work as soon as possible
- **~$107M/Year for 5 Years for Virginia's Bridges (~$535M Total)**
  - VDOT has been working on plan development since May
  - Law allows preservation activities for existing Fair condition bridges
  - Set-aside required for bridges on non-federal aid routes (off-system)
- **Year 1 Funds Must Be Obligated by September 30, 2022**
  - Short time frame requires immediate action
  - Will present first year projects for Board approval in January

IIJA Bridge Funding: Virginia's Proposed Plan

- **Focus to restore condition and extend service life**
- **Emphasizes bridges on Interstates and High Volume Primaries**
- **Must still meet the bill's "off-system" funding requirements**
- **Goal: 75% to Preserving Fair Bridges & 25% to Poor Bridges**
  - **Aligns with findings of the *2019 Comprehensive Review***
  - **Preservation focus for VDOT bridges**
  - **Funding for localities to address poor bridges**
  - **Invests funds where needed most – fair and poor bridges**
  - **Provides the best long term return on investment (life cycle value)**

5 Year Bridge Plan: Distribution of Funds by Year

	Funding By District Per Year (Millions)							
	District	Year of Plan						
		1	2	3	4	5	Total	% of Total
Funding for VDOT Bridges	1-Bristol	$9	$7	$9	$7	$8	$40	10%
	2-Salem	$0*	$0	$21	$16	$0	$37	9%
	3-Lynchburg	$7	$1	$2	$4	$5	$19	5%
	4-Richmond	$42	$6	$0	$18	$4	$70	17%
	5-Hampton Roads	$8	$23	$14	$10	$16	$71	18%
	6-Fredericksburg	$1*	$14	$6	$0	$0	$21	5%
	7-Culpeper	$1*	$0	$0	$0	$24	$25	6%
	8-Staunton	$26	$10	$13	$8	$2	$59	15%
	9-Northern Virginia	$13	$14	$8	$10	$15	$60	15%
	VDOT Total	**$107**	**$75**	**$74**	**$73**	**$74**	**$403**	75%
Locality Bridge Funding	Statewide	$0**	$33	$33	$33	$33	$132	25%
Total IIJA Bridge Funding		**$107**	**$108**	**$107**	**$106**	**$107**	**$535**	**100%**

*** Fredericksburg, Culpeper, and Salem Districts - 1st year focused on preliminary engineering**

**** Localities – 1st year focused on preliminary engineering**

Types of Work: Deck Overlays

Decks: Improves Bridge Condition Rating and Extends Service Life

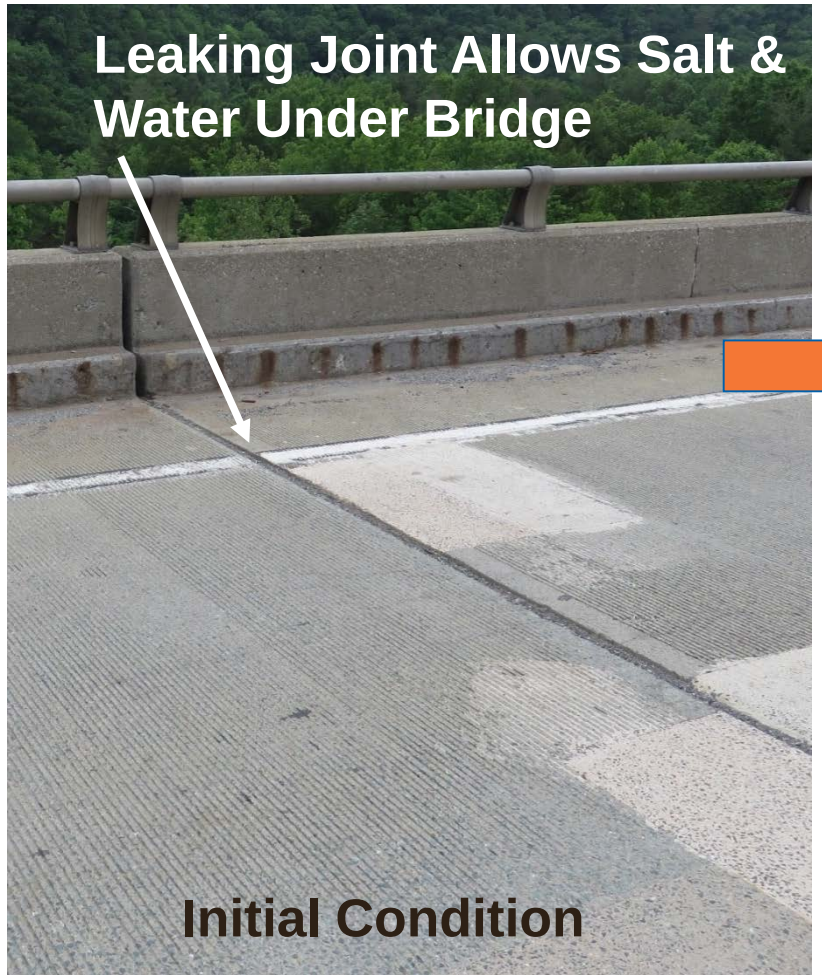
- Rigid Overlays (35 Years Additional Service Life)
- Epoxy Overlays (15 Years Additional Service Life)
- Deck Replacement (50 Years Additional Service Life)

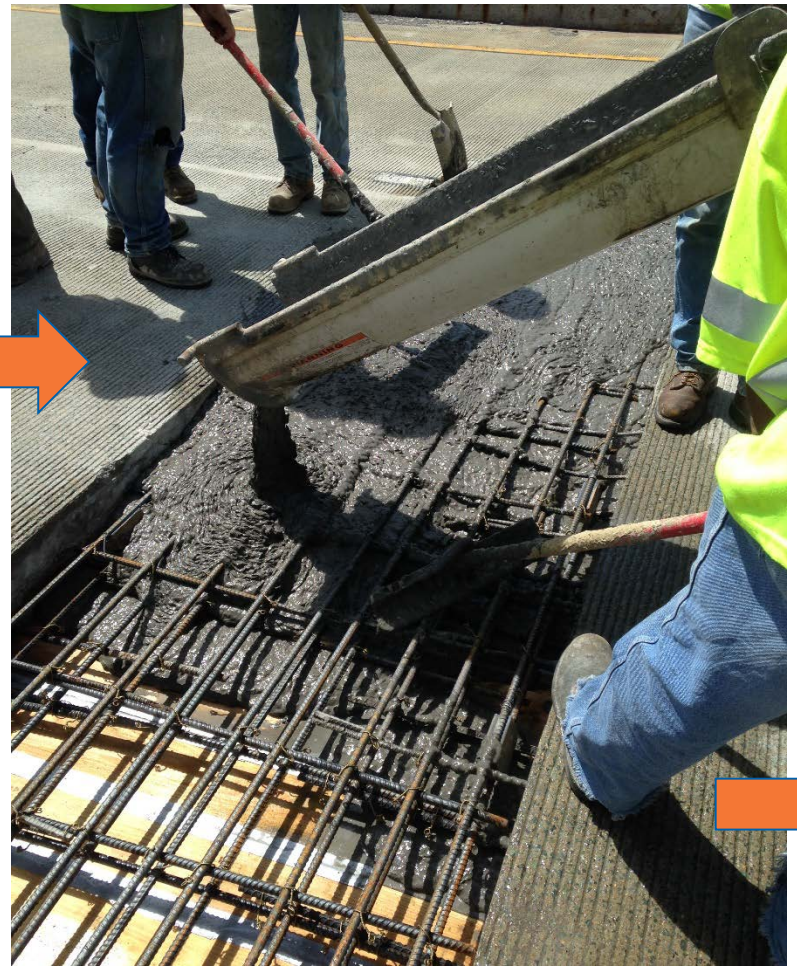
Types of Work: Bridge Resurfacing and Deck Rehabilitation

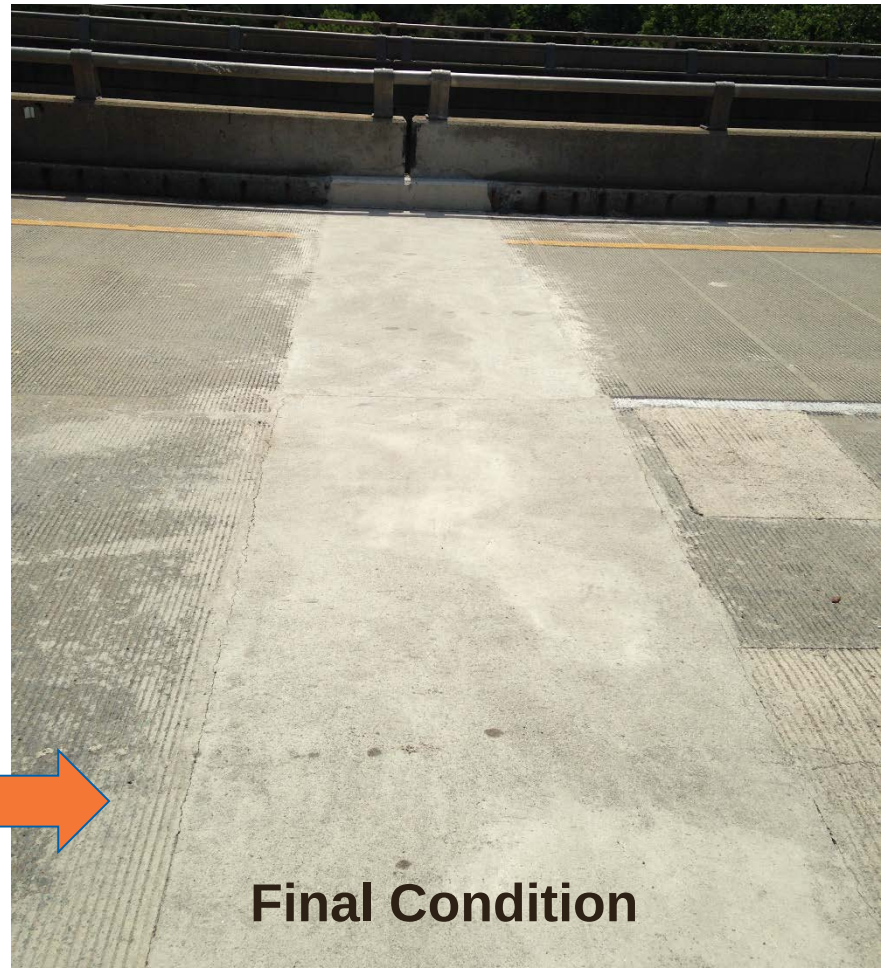
Hydrodemolition of Damaged Deck

Placement of New Deck Surface

Types of Work: Elimination of Leaking Deck Joints







Protects Girders and Bridge Supports from Chlorides and Water

35 to 50 years additional service life for protected elements

Types of Work: Pier and Column Rehabilitation

Improves Condition Rating and Extends Service Life

- **35 years additional service life when joints are properly addressed**
  - Removes chloride-contaminated concrete and replaces with high performance concrete

Types of Work: Repairing Corroded Beam Ends

- 50 Years of additional service life when joints are properly addressed
- Rehab is approximately 10% of replacement cost
- Must be performed before too much corrosion has occurred

Types of Work: Rehabilitating Culverts

Or

Culverts

May receive flow liner or full liner depending on condition (20 years additional service life)

Types of Work: Painting

Much More Than an Aesthetic Treatment: Extends Service Life

- Serves as the primary protective element against corrosion
- Corrosion of steel girders is the leading cause of bridge replacement
- Paint can extend service lives of steel elements by 15 to 20 years

Virginia's IIJA Bridge Plan: Year 1

VDOT Planned Activities

- Deck Overlays
- Resurfacing and Deck Rehabilitation
- Elimination of Leaking Deck Joints
- Pier and Column Rehabilitation
- Repairing Corroded Beam Ends
- Rehabilitating Culverts
- Painting
- Preliminary Engineering

Locality Planned Activities

- Preliminary engineering and planning for Years 2 – 5
- Coordinate with districts & jurisdictions to finalize estimates

Virginia's IIJA Bridge Plan: Years 2 - 5

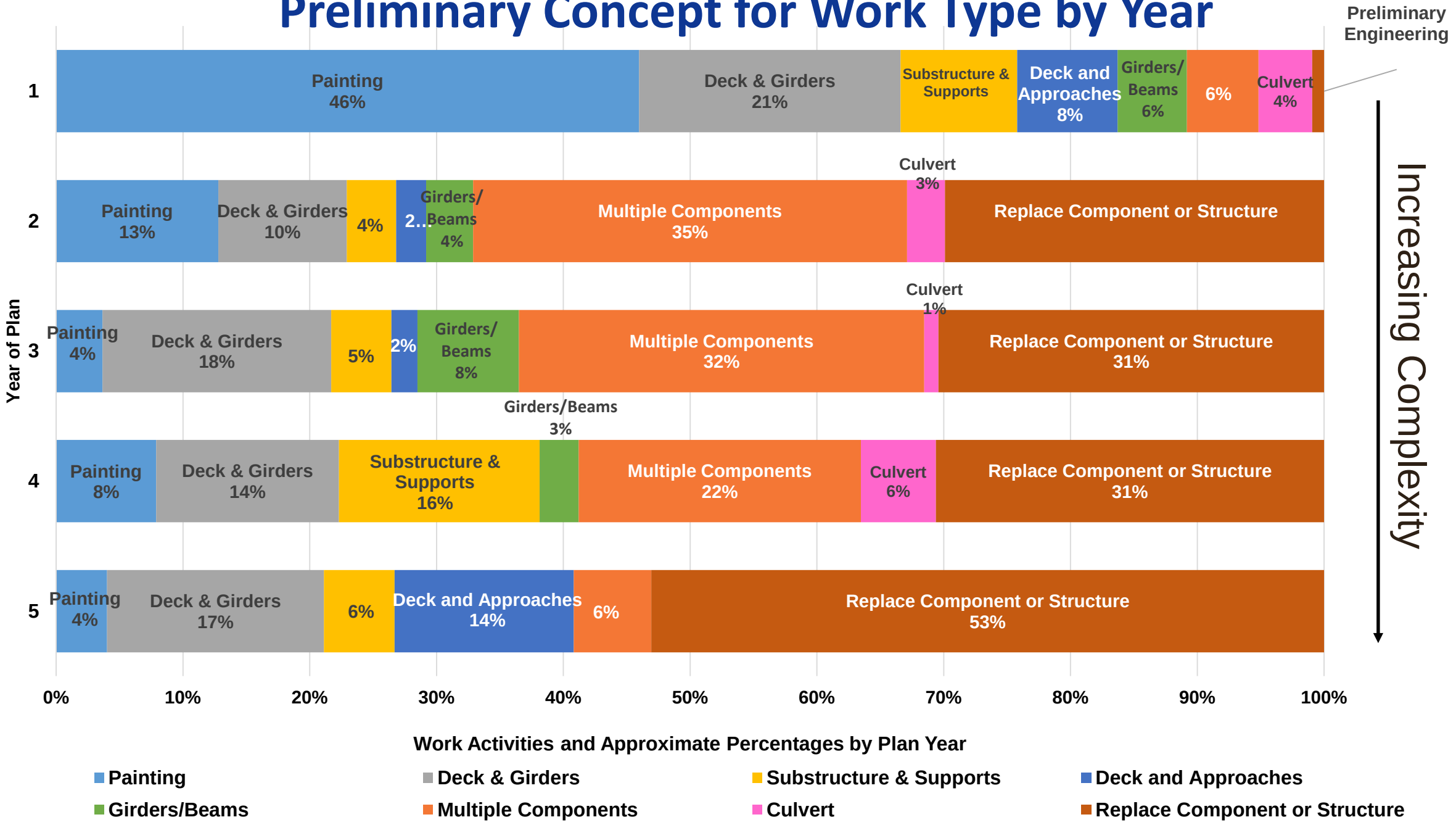
VDOT Planned Activities

- ~$403M for bridges in fair condition (75% of total program)
- Continue emphasis on preservation of bridges in fair condition
- Bridge and major component replacements

Locality Planned Activities

- ~$132M for bridges in poor condition (25% of total program)
- Supplements State of Good Repair funds to address poor bridges
- Will reduce the number of locality-owned poor condition bridges

Preliminary Concept for Work Type by Year



Summary

Planning for Approximately $535M in IIJA Bridge Funding

- ~75% for VDOT-Owned Bridges
  - Emphasis on preservation on interstates and high volume primaries
  - Off-system requirement for Non-Federal Aid Routes
- ~25% for Locality-Owned Bridges
  - Focus on poor bridges
  - Will be finalized when estimates are complete
- Service lives of over 500 bridges will be improved
- Equates to approximately 20% of the interstate inventory

COMMONWEALTH of VIRGINIA
Office of the
SECRETARY of TRANSPORTATION

JLARC Report on Transportation Infrastructure and Funding

Nick Donohue
Deputy Secretary of Transportation
December 2021

Background on JLARC Review

- **In 2020 the Joint Legislative Audit and Review Commission directed staff to review—**
  - **Infrastructure condition**
  - **Funding sources**
  - **Challenges facing transportation system**
  - **Trends affecting transportation**
  - **State's preparedness to adapt to changes in transportation needs**

Background on JLARC Review

JLARC undertook a multi-pronged approach to the review, including—

- **Interviews and surveys**
  - **State, regional, and local transportation organizations; CTB members; subject-matter experts**
- **Data analysis**
  - **Distribution of funds; historical and projected transportation revenues; conditions of road and transit infrastructure**
- **Document review**
  - **Tax structure in Virginia and other states; Virginia laws and transportation plans, policies and procedures**

Key Findings of JLARC Review

- **Recent legislative changes increased revenues to address near- and long-term funding concerns**
- **State infrastructure condition has been improving, but bridges are aging and locally maintained roads need further improvement**
- **Transportation needs are identified through a data driven process that engages key stakeholders, but a few regional corridors in rural areas may be not be adequately included**

Key Findings of JLARC Review

- **SMART SCALE, Virginia's main program for funding system improvements, is appropriately based on objective benefit and cost data**
- **Longer wait period for revenue sharing program, due to COVID response, will no longer be necessary if revenue forecast improves as expected**
- **Virginia transit assets are generally in serviceable condition, but systems face potential capital and operating funding shortfalls**

Transportation Revenue

- **Fuel tax changes likely to offset any revenue lost from declining fuel consumption over next decade**
- **Highway use fee and mileage-based user fee supplement revenues in the near term and, over the long term, could potentially offset declining fuel tax revenues**
  - **Highway use fee generated $43M in FY21 but could generate up to $700M by 2040**
- **General Assembly may want to consider—**
  - **Adding privacy provisions related to the mileage-based user fee**
  - **Establish a 'regional' highway use fee for the regional fuel taxes**
  - **Applying the highway use fee to (i) electric vehicles over 10,000 lbs and (ii) fuel efficient vehicles between 10,000 and 26,000 lbs**

Road Condition and Maintenance Funding

- Virginia ranks 13th among states for pavement condition and 17th for bridge condition
- VDOT maintenance funding appears sufficient to improve condition and meet performance targets
- Local road and bridges are not in as good condition as the VDOT system
- General Assembly may want to consider—
  - Modify the State of Good Repair program to implement the investment strategy identified by VDOT in the comprehensive review
  - Change how maintenance program funds are distributed to cities and towns by eliminating current city street maintenance payment formula and directing CTB to develop a new one based on different drivers of maintenance costs like use, age, etc

Planning for Improvements

- State effectively evaluates long-term trends and prepares as needed to adapt for the future
- Virginia's process to identify needs is well designed but could be extended in rural areas
  - There may be some congestion and reliability needs not capture on certain corridors in rural areas
- State has been studying many needs and is revising study selection process to target highest priorities
- State monitors system performance to support planning and investment decisions

Improvement Funding

- **SMART SCALE is an objective and apolitical process, and funding outcomes generally appear fair**
  - **Funding outcomes generally appear equitable across regions and project types, despite local concerns**
  - **Board should change policy to require locals to prioritize applications**
  - **Board may want to consider a pilot to also consider a monetized cost-benefit analysis for larger projects**
- **Revenue Sharing changes in response to pandemic appear to have been reasonable and necessary but some changes could be reversed**
  - **General Assembly should consider accelerating funds to FY23-FY24 if revenue forecast increases in December**

Transit Condition and Funding

- State transit agency assets generally reported to be in better condition than U.S. transit assets
- State capital assistance may not be enough to meet needs
  - Federal infrastructure bill may address these needs
  - CTB should direct $39.8M from FY21 CTF surplus to transit capital
- Transit agencies have sufficient operating funds in the near-term but their long-term sustainability is uncertain
  - Lost fare revenues could lead to service reductions when federal relief funds are used if ridership has not recovered
  - DRPT should monitor ridership recovery and consider options for changing MERIT operating funding formula

Moving Forward

- **Secretary has directed VDOT to undertake a holistic review of State of Good Repair and maintenance program to evaluate mechanisms to allow for the bridge investment strategy to be implemented**
- **Secretary has directed VDOT to review local maintenance program**
  - **First, work with localities that maintain their own roads to evaluate roadway conditions and establish a baseline condition assessment of all roads**
  - **Second, evaluate formula used to distribute city street payments and determine if modifications are appropriate**

Moving Forward

- **Secretary has directed DRPT to conduct the 3-year review of the MERIT operating assistance program, as required by the Code to evaluate whether any modifications are necessary due to pandemic related changes and to promote access to low-income areas**
- **Secretary has directed DRPT to review the MERIT capital assistance program to determine whether any modifications are necessary to help fund minor enhancements**