



# COMMONWEALTH of VIRGINIA

## *Commonwealth Transportation Board*

Shannon Valentine  
Chairperson

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## COMMONWEALTH TRANSPORTATION BOARD WORKSHOP AGENDA

VDOT Central Office Auditorium  
1221 East Broad Street  
Richmond, Virginia 23219  
September 14, 2021  
10:00 a.m.

\*Meeting will be conducted using Electronic Communication means

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

1. Sustainability for Virginia  
*Rob Cary, Virginia Department of Transportation*  
*Declan McManus, Principal KPMG and VDOT Lead*  
*Josh Hesterman, Director, KPMG and ESG Campaign Lead*
2. Maintenance and Operations Comprehensive Review  
*Kevin Gregg, Virginia Department of Transportation*  
*Stephen Brich, Virginia Department of Transportation*
3. Policy for the Development of VTrans Long-term Risk & Opportunity Register  
*Jitender Ramchandani, Office Intermodal Planning and Investment*
4. Project Pipeline  
*Chad Tucker, Office Intermodal Planning and Investment*
5. WMATA Annual Reporting Requirements  
*Jennifer DeBruhl, Virginia Department of Rail and Public Transportation*

\* This meeting will be conducted using electronic communications in accord with Section 2.2-3708.2(D) of the Code of Virginia, with the primary location being at the address listed on the agenda. Public access will not be provided at remote locations; however, members of the public may attend the meeting at the location on the agenda or may witness the meeting live stream by clicking the "View video" button at the following

link: [http://www.ctb.virginia.gov/public\\_meetings/live\\_stream/default.asp](http://www.ctb.virginia.gov/public_meetings/live_stream/default.asp).

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Agenda  
Meeting of the Commonwealth Transportation Board  
Workshop Session  
September 14, 2021  
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6. Rail Industrial Access: Recycling Management  
*Jeremy Latimer, Virginia Department of Rail and Public Transportation*
7. Rail Industrial Access: North Branch Resources  
*Jeremy Latimer, Virginia Department of Rail and Public Transportation*
8. Recreational Access Program, Albemarle County, Biscuit Run Park  
*Russell Dudley, Virginia Department of Transportation*
9. Interstate Operations and Enhancement Program  
*Ben Mannell, Virginia Department of Transportation*
10. Transportation Revenues and Opportunities  
*Nick Donohue, Deputy Secretary of Transportation*
11. Director's Items  
*Jennifer Mitchell, Virginia Department of Rail and Public Transportation*
12. Commissioner's Items  
*Stephen Brich, Virginia Department of Transportation*
13. Secretary's Items  
*Shannon Valentine, Secretary of Transportation*

###





# Designing Transportation Sustainability for Virginia



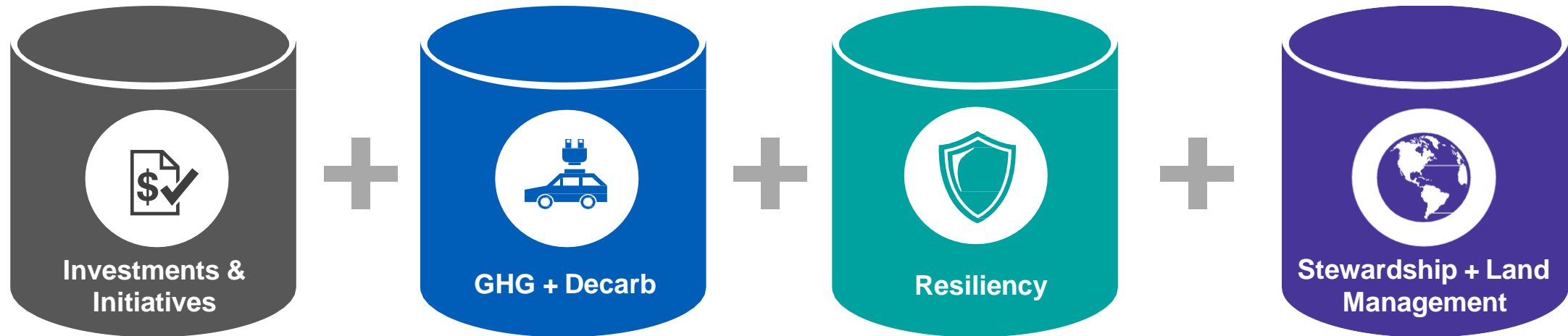
September 14, 2021



To achieve our common sustainability goals, we have developed the following mission for Transportation

**“To deliver an effective multi-modal transportation network that addresses the mobility needs of all Virginians in an environmentally responsible manner that supports the goals of the Commonwealth Clean Energy Policy.”**

## Standing up an Office of Transportation Sustainability with four focus areas will allow us to continually emphasize the mission and make progress



Investments & initiatives that are Sustainability-related, along with ability to measure their impacts

Identify opportunities & associated initiatives to 'bend the curve' of Transportation-related emissions

Integrate climate change impacts into infrastructure design, enabling a proactive stance in asset planning

Maximize the beneficial outcomes and outputs of our existing assets

## Several principles will underpin the design of the Office of Transportation Sustainability

### Key Principles



#### Institutionalized

Provides a strong foundation preventing material movement or change on the core tenets of Transportation Sustainability



#### Action-oriented

Allows for quick scoping, development, and delivery of initiatives related to Transportation Sustainability



#### Accountable

Provides both formal and informal means of ensuring delivery of Transportation Sustainability initiatives



#### Visible

Provides visibility & reach regarding the most critical areas of Transportation Sustainability



#### Connected

Fosters productive and meaningful interactions in and across agencies



#### Empowered

Creates tangible, distributed ownership around key aspects of Transportation Sustainability

# Secretariats' role in delivering the Commonwealth Clean Energy Policy



## Commonwealth Clean Energy Policy



## Initial scope for the Office of Transportation Sustainability

- 1 | Investments & Initiatives**  
Investments & initiatives that are Sustainability-related, along with ability to measure their impacts
- 2 | GHG & Decarbonization**  
Identify opportunities & associated initiatives to ‘bend the curve’ of Transportation-related emissions
- 3 | Resiliency**  
Integrate climate change impacts into infrastructure design, enabling a proactive stance in asset planning
- 4 | Stewardship & Land Management**  
Maximize the beneficial outcomes and outputs of our existing assets



## Virginia is already investing in carbon-reducing initiatives focused on Transportation sustainability across the Commonwealth

### Omnibus Transportation Bill

*Establishment of the Commonwealth Transportation Fund directed toward specific environmental sustainability initiatives; restructured fuel tax and other revenues to support carbon-reducing alternatives.*

### CTB Environmental Committee

*Body developing policy recommendations regarding GHG emissions analysis and assessing/optimizing Land Management strategies.*

### Transit Investments

*Increase of state funding for transit & operations by 50% per year; initial investments in bus electrification; establishment of the Transit Ridership Incentive Program (TRIP) to increase connectivity & reduced- and free-fare programs.*

### I-81 Improvement Plan Funds

*Infrastructure improvements funded by raising diesel, road tax and regional motor fuel taxes for highway and multi-modal investments.*

### Multimodal Mobility in NOVA

*More than \$2b in multimodal investment in transit, rail, trails, park & rides, and technology.*

### MBUF Pilot

*Pilot program to understand drivers, concerns, adoption curve, and path forward for a mileage-based usage fee ('MBUF') program in the Commonwealth*

### WMATA Collaboration

*Ongoing partnership with DC & Maryland to contribute \$500m each year for state of good repair capital projects.*

### Transforming Rail

*Railway expansion and improvement for commuter, passenger, and freight rail operations*

### Integrated Express Lanes

*A more than 90-mile network of Express Lanes eliminates more than 112 million passenger miles and preventing 6,000+ metrics tons of greenhouse gas emissions*

## Investments & Initiatives | Focused on a balanced slate of environmental and Transportation-focused outcomes to promote positive impacts and return

### Progress to Date



### Plan Forward

- Identify key sustainability elements to deliver on Virginia's current & future needs
- Continue to utilize and refine key criteria & measures by which to prioritize potential investments
- Establish a formal impact review process (or modify existing processes to accommodate this review)

### Ideal Future State

*Provide guidance on the types of investments and initiatives that will deliver a multi-modal transportation network for all Virginians in an environmentally-responsible manner.*

## GHG + Decarbonization | Progress to Date

### EV Readiness

*Studies to determine the overall readiness of the Commonwealth for a shift to greater fleet mix of electric vehicles (Phase I complete; Phase II is currently being scoped)*

### Shift to Electric Transit

*Move to electric transit including zero-emissions buses in several areas of Virginia such as Alexandria, Blacksburg, and Hampton Roads.*

### Rail Industrial Access

*Increased focus on providing adequate rail industrial access to lower need for individual trucking & cargo logistics.*

### GHG Emissions Baseline

*Continued collaboration with DEQ on GHG emissions inventory for transportation, identifying sources and opportunities for mitigation.*

### I-95 Pilot Program

*Pilot underway to study a portion of the I-95 corridor to determine how best to evaluate GHG and climate change impacts during NEPA studies.*

### Offshore Wind

*Focus on large offshore wind assets to provide a cleaner grid that takes advantage of Virginia's natural energy production potential.*

### Green Operator Program

*A voluntary, public-private program to help drayage trucks in Virginia lower their contributions to air pollution.*

### Clean Cargo Handling

*Initiative to convert many cargo handling vehicles and equipment over to cleaner powertrains (e.g., electric or hybrid)*

### Sustainable Aviation Fuels

*Ability to utilize sustainable sources from feedstocks such as cooking oil and animal fats to lower overall emissions profile of aviation activities.*

## GHG + Decarbonization | A goal of reducing the carbon footprint of Virginia's transportation assets

### Progress to Date



#### GHG & Emissions Inventory

Continued collaboration with DEQ on GHG emissions inventory for transportation, identifying sources and opportunities for mitigation.



#### I-95 Pilot Program

Pilot underway to study a portion of the I-95 corridor to determine how best to evaluate GHG and climate change impacts during NEPA studies.

### Plan Forward

- Define strategic decarbonization goals and Virginia's most material issues in this space
- Establish inventory and align on GHG projections
- Identify gaps & opportunities to 'bend the curve'
- Develop decarbonization roadmap & implementation plan with selected opportunities

### Ideal Future State

***Decarbonization activities and potential paths will be more transparent and better integrated into decision-making processes across agencies.***

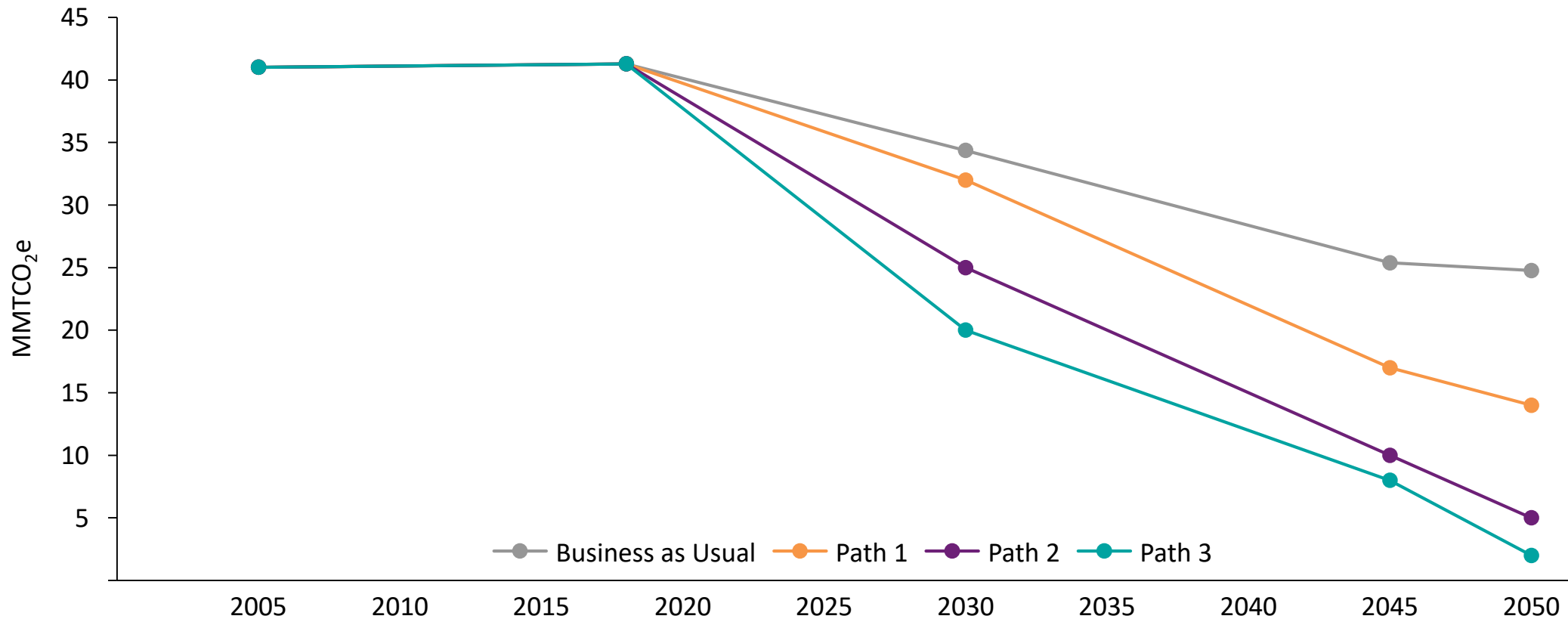
***This will result in achieving the 2045 Net Zero Carbon Energy Economy goals set forth for Virginia.***



Scenario analysis provides an avenue to select from a wide variety of these potential paths, and help balance the various objectives that may – at times – be in conflict

Example | Multi-scenario analysis on decarbonization timeframes

ILLUSTRATIVE



## Resiliency | Progress to Date

### VIMS Study

*Study with Virginia's Institute of Marine Science (VIMS) to study potential impacts of sea level rise and other key climatic factors on infrastructure.*

### Precipitation Analysis

*Update of models related to rainfall intensity, duration, and frequency to better reflect recent trends in observed events.*

### Recycling Program

*Work to identify and expand opportunities for recycling or reuse of materials, whether related to construction or day-to-day maintenance efforts.*

### Construction Design Updates

*Update of construction designs to incorporate new and more environmentally-friendly methods to deliver the same overall outcome.*

### Coastal Resilience Master Plan

*Plan to increase ability to prepare for and adapt to localized flooding events, increase financing flexibility, and enhance agency coordination.*

### Climate Change Megatrends

*Ongoing research by VTrans into how shifts in climate will impact planning and development efforts for the Commonwealth over time.*

### Materials Research

*Research into specific materials (porous pavements, surface treatments, etc.) and the types of tradeoffs that they offer in terms of environmental benefits & performance*

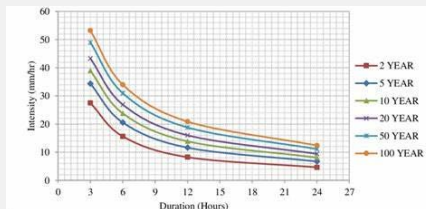
**Resiliency | Resiliency** – the capacity to respond and recover from disruption – will be supported by research such as VIMS, which provides insights into how to optimize infrastructure spend

## Progress to Date



### VIMS Recurrent Flooding Project

Project to capture management strategies for assets that have or will see substantial climate impacts; in addition, identify how to mitigate future use conflicts for Rare, Threatened or Endangered (RTE) species and their habitats.



### IDF Precipitation Study

Study to develop precipitation curves around Intensity, Duration, and Frequency (IDF) to better understand and predict behaviors and useful responses.

## Plan Forward

- Assess maturity of Virginia’s capabilities related to Resiliency
- Evaluate existing and need for future assessments to ensure data on relevant hazards is available
- Establish a risk-based, adaptive design approach to incorporate resilience into new construction projects
- Develop and finalize resiliency strategy, incorporating aspects of ROI and efficiency into performance

## Ideal Future State

***Virginia will be prepared to ‘bounce back’ from adverse events and leverage industry-leading data, information, and studies on resilience to catalyze its own innovation.***

## Stewardship + Land Management | Progress to Date

### Pollinator Habitats

*Development and maintenance of natural habitats along state-maintained roads and properties to encourage pollinator presence.*

### Monarch Conservation

*Formal conservation agreement with U.S. Fish & Wildlife Service to conserve this at-risk species; only 8 states are currently included.*

### Land Holdings Analysis

*Evaluation of existing land held by VDOT including land use, land cover, and other characteristics to determine possible enhanced use in the future.*

### Animal Passages/Crossings

*Continued development of dedicated animal passages and crossings to limit unintentional human-animal interactions with negative outcomes.*

### I-295 Reforestation

*Reforestation along the I-295 corridor in 5 key areas of right-of-way that reduces pollutants to surface water during runoff events.*

### ‘Lovers Not Litter’

*Program to encourage citizen commitments to reduce the amount of litter – and associated cleanup costs – on Virginia’s roadways.*

### LED Highway Lighting

*Increased focus on conversion to efficient LED lighting for key highway corridors.*

### Forced-air Composting

*New method of ensuring more sanitary roadside cleanup of animals.*

### Wetlands Preservation

*A suite of several programs designed to mitigate damage to Virginia’s wetlands and preserve critical wildlife and their habitats (e.g., oyster reefs)*



## Stewardship + Land Management | Land use & management promotes healthy environments while also maximizing beneficial outcomes for the Commonwealth

### Progress to Date



#### Land Holdings Analysis

Evaluation of existing land held by VDOT including land use, land cover, and other relevant characteristics



#### VDOT Pollinator Habitat Program

Creates natural areas of native plants along state-maintained roads and properties



#### I-295 Reforestation Project

Tree planting efforts in 5 areas of VDOT ROW to reduce pollutant runoff

### Plan Forward

- Diagnose Land Management current state
- Outline key levers or criteria to evaluate Land Management decision-making process
- Perform initial 'asset scan' to provide overview of potential land use options
- Determine how to integrate principles of Land Management into ongoing processes

### Ideal Future State

***Land Management will be an objective, actively-managed process that both improves the environment and could provide additional opportunities to expand other programs across Virginia.***

## Immediate Next Steps

- ❑ Outline organizational structure and develop operating model for establishing Office
- ❑ Continue building inventory of Transportation strategies & initiatives
- ❑ Develop estimates of costs, benefits & related impacts for each strategy
- ❑ Execute stakeholder outreach to understand existing + planned sustainability efforts:
  - *Continue individual outreach efforts*
  - *Grow employee awareness, engagement, and support for Sustainability*
  - *Launch public outreach and gather direct citizen input*



# MAINTENANCE AND OPERATIONS COMPREHENSIVE REVIEW BRIEFING

Stephen C. Brich, P.E. Commissioner of Highways  
Kevin Gregg, Chief of Maintenance and Operations

September 14, 2021



# Maintenance and Operations Comprehensive Review Update

- Pavements
- Structures
- Routine Maintenance
- Special Structures

# Pavements

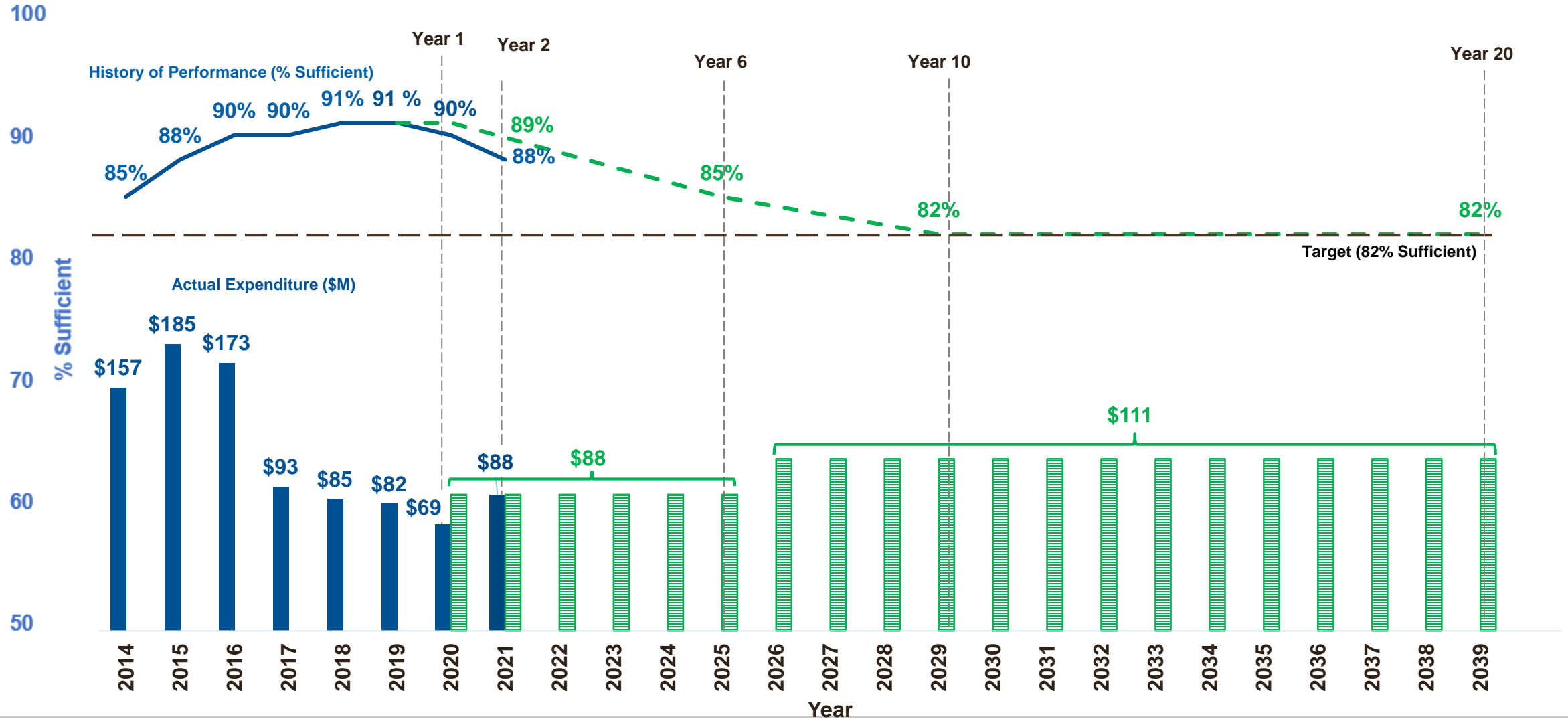
# Pavements - Performance Measures

Performance Measure	Current Policy (CTB Approved December 2019) % Sufficiency
Interstate	82% No Section CCI less than 35
Primary	82% for $\geq$ AADT 3,500 75% for $<$ AADT 3,500
Secondary	82% for $\geq$ AADT 3,500 60% for $<$ AADT 3,500

# Interstate Network – 20 Year Outlook

## (Predicted & Actual Performance)

- Actual Expenditure
- Target: 82%
- Actual Performance

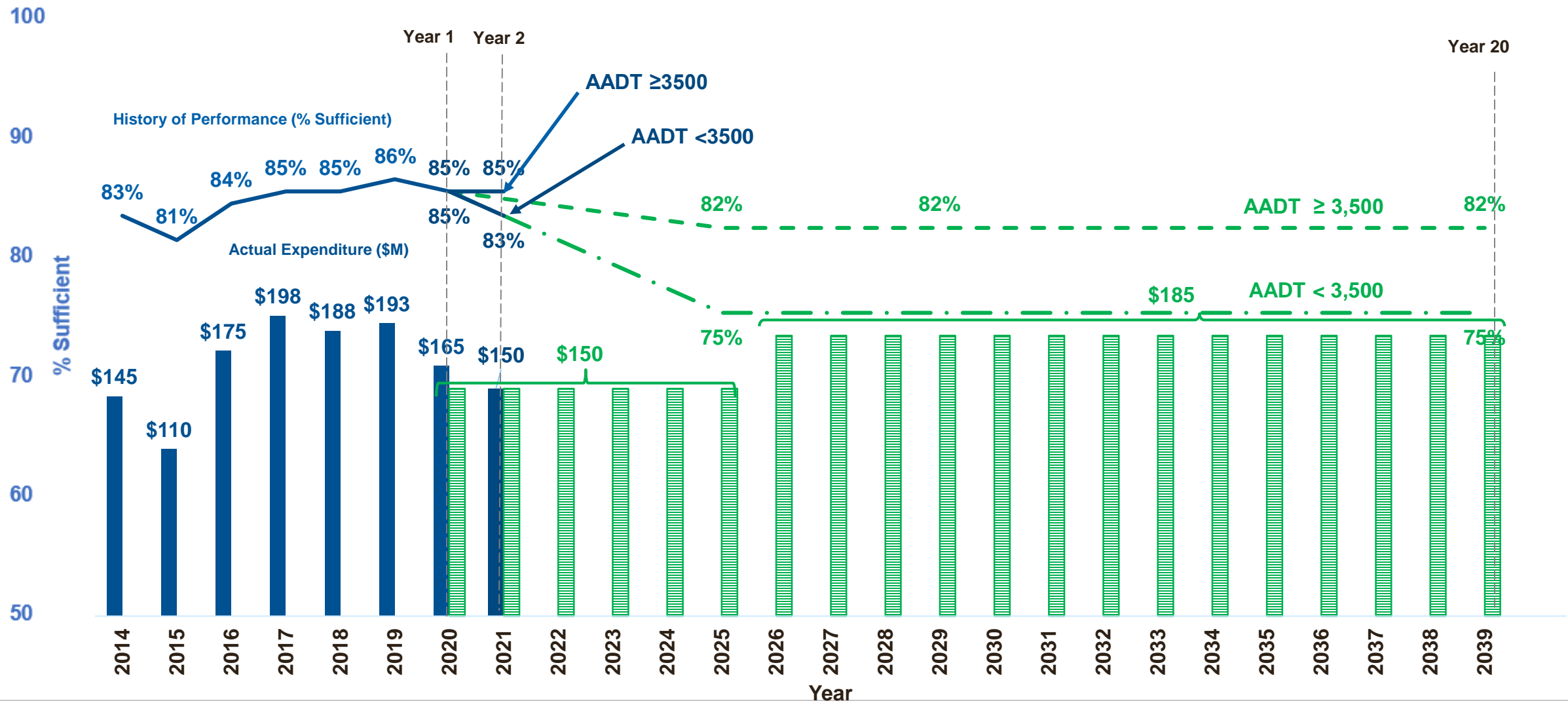




# Primary Network – 20 Year Outlook

## (Predicted & Actual Performance)

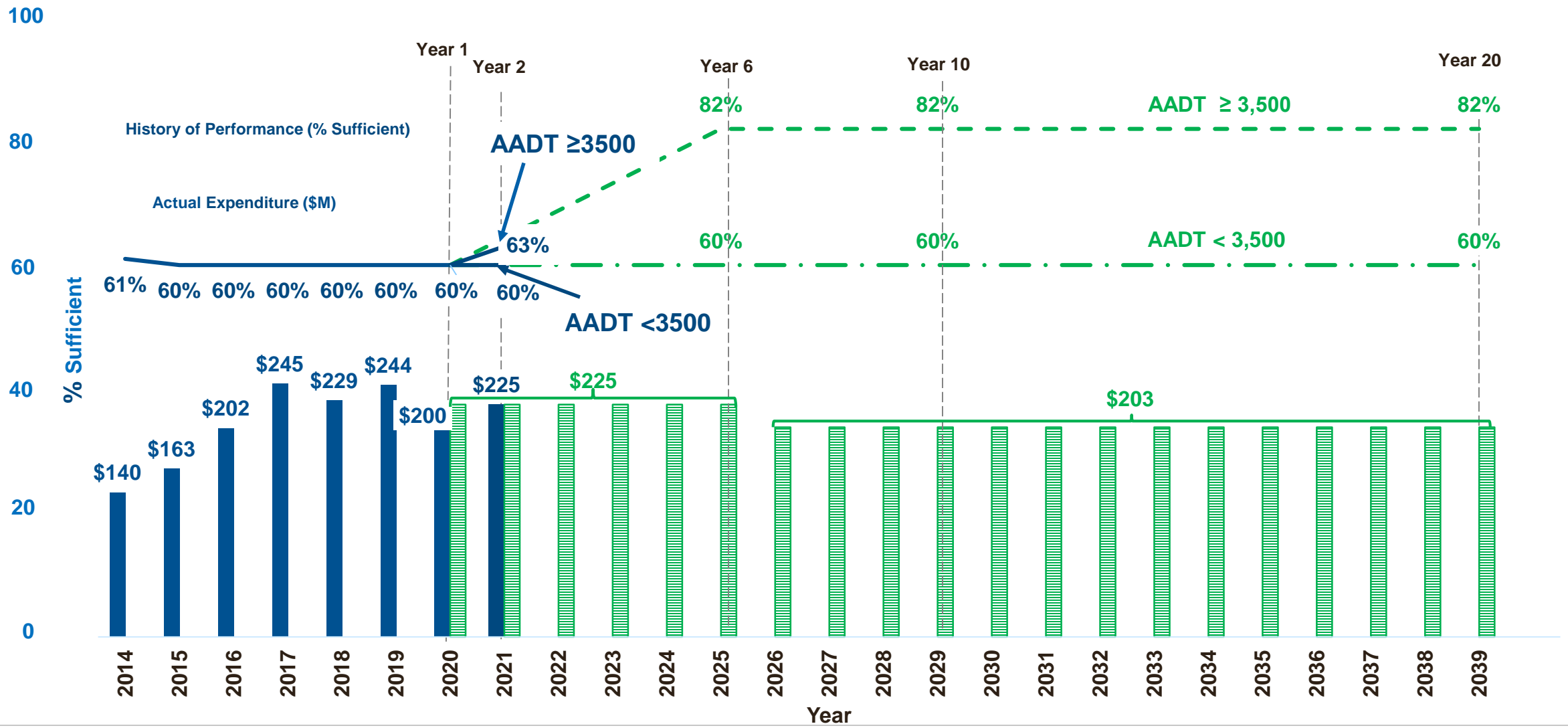
- Actual Expenditure
  - Target
  - Actual Performance
- AADT ≥ 3,500: 82%  
 AADT < 3,500: 75%



# Secondary Network – 20 Year Outlook

(Predicted & Actual Performance)

- Actual Expenditure
- Target AADT ≥ 3,500: 82%
- Target AADT < 3,500: 60%
- Actual Performance



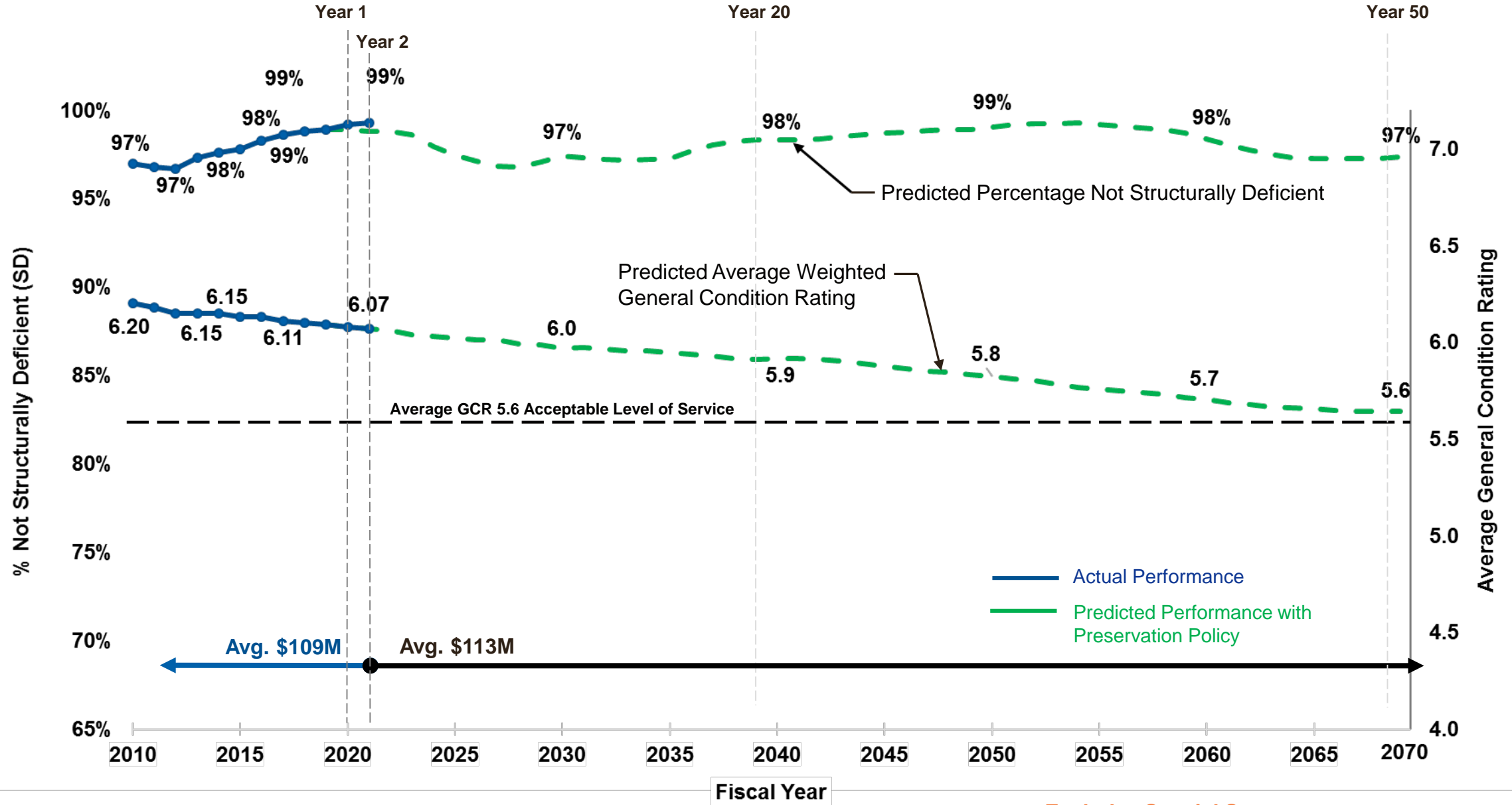
# Structures

# Structures - Performance Measures

Performance Measure Description	Current Policy Preservation Average GCR/(% Not-SD) (CTB Approved December 2019)			
All Systems	$\geq 5.6$			
Interstate			N/A	
Primary			97% No Postings	
All Systems			93%	
	90%			

# Interstate Network – 50 Year Outlook

2,420 Structures (12%)  
31M SF Deck Area (30%)

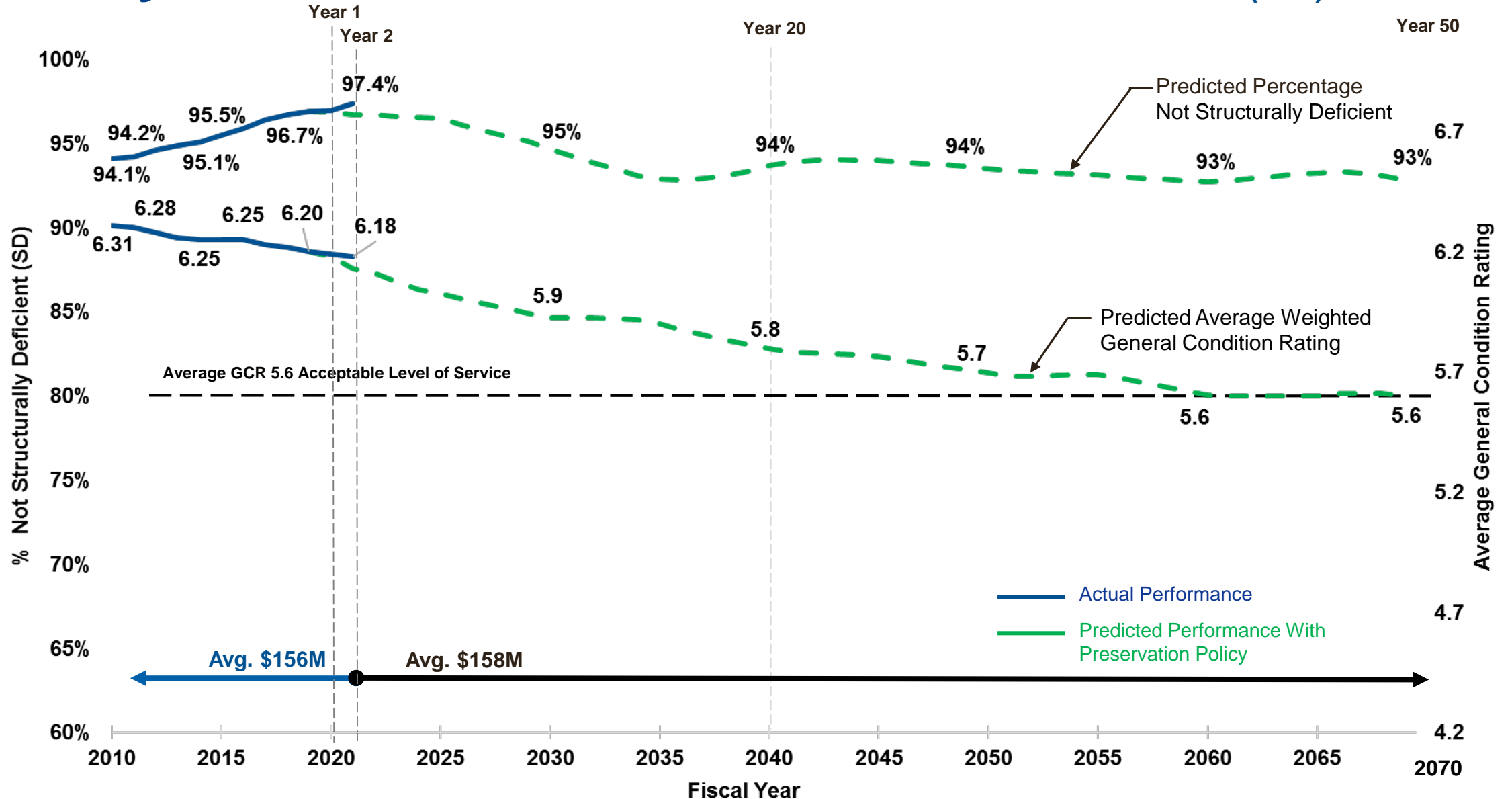


• Excludes Special Structures



# Primary Network – 50 Year Outlook

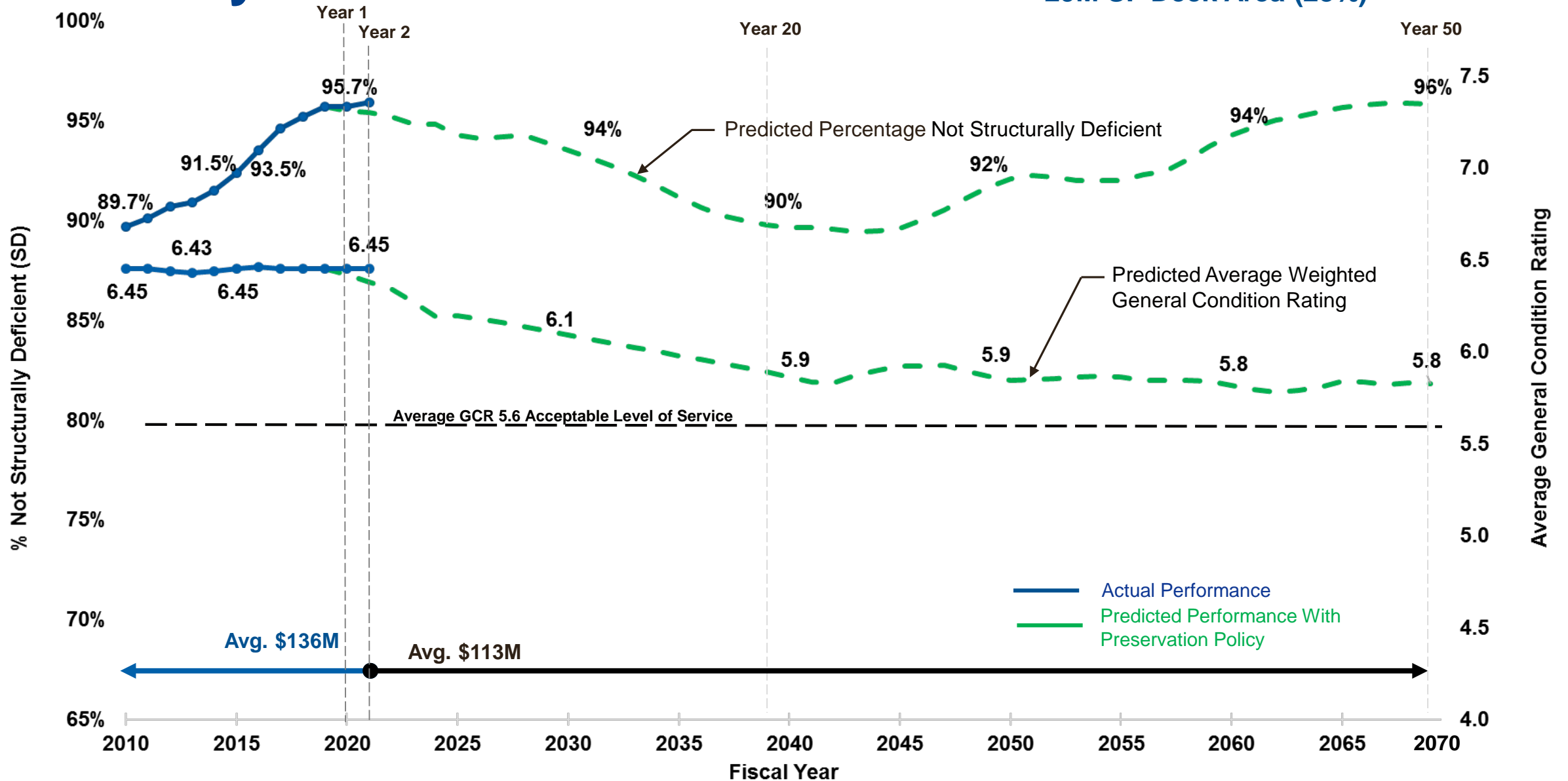
5,758 Structures (27%)  
44M SF Deck Area (42%)



• Excludes Special Structures

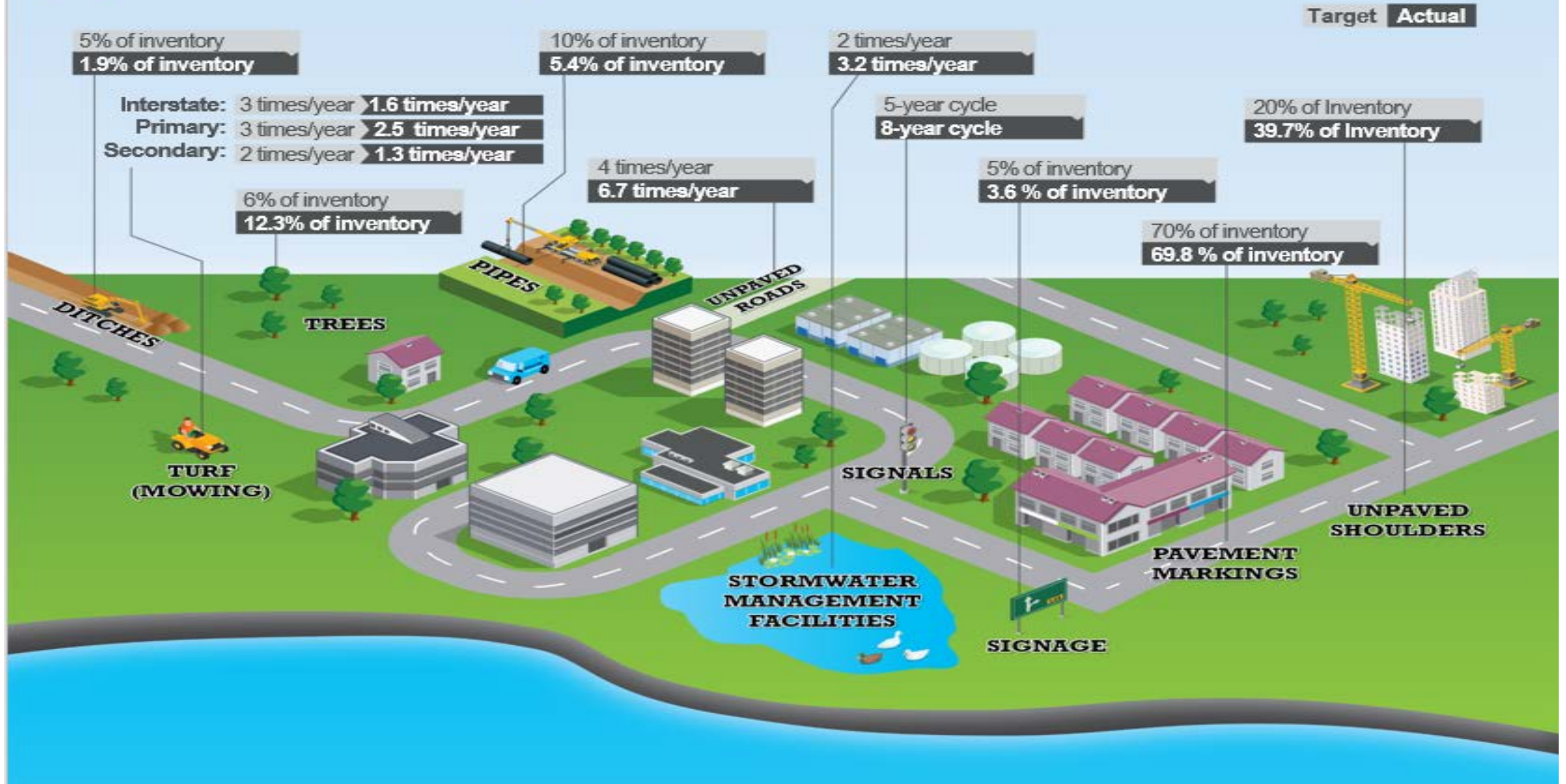
# Secondary Network – 50 Year Outlook

12,956 Structures (61%)  
29M SF Deck Area (28%)



# Routine Maintenance

# Routine Maintenance – Target and Actual Accomplishment (July 1, 2020 – June 30, 2021)



# Special Structures

1. Health Index
2. 50-Year Long Term Plan

# Special Structures – Health Index

- **Development**
  - Tunnels
  - Movable Bridges
  
- **Outreach efforts**
  - No examples of HI for these types of structures
  - Reviewed USACE risk assessment protocol for lessons learned
  - AASHTO Tunnel & Movable Bridge Subcommittees
  - Other DOTs

# Special Structures – Health Index

- **Measures the Overall Health from 0 to 100**
  - **Assesses individual structures and systems within a structure**
- **Data Collection and Inspection**
  - **Each element on each structure evaluated**
  - **Assigned “condition states”, which can vary from Good to Severe**
  - **Inspected every 2 years**
- **Health Index Calculated by Weighting Elements by Safety & Risk**



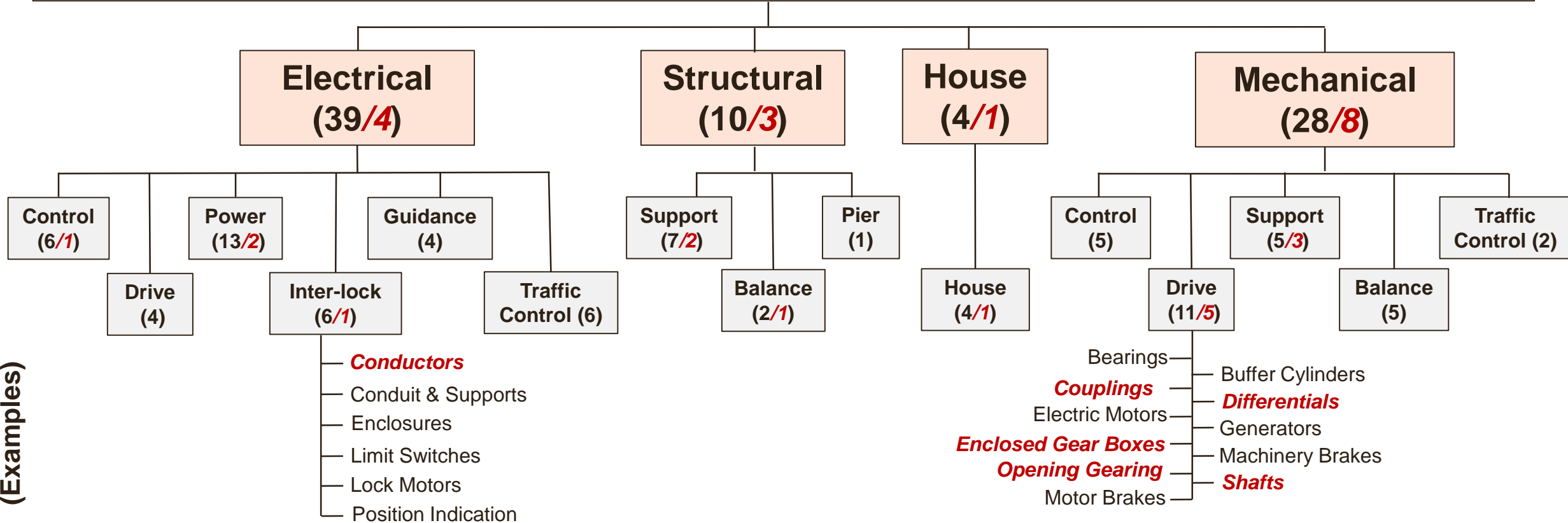
# Special Structures - Movable Bridges Health Index

**Movable Bridge Example**  
**(4 Systems, 15 Subsystems, 81 Elements & *16 Critical Elements*)**

System Bridge

Sub-System

Elements  
(Examples)



# Special Structures - Movable Bridges Health Index

Health Index for Movable Bridges (CURRENT)					
Bridge	Electrical	House	Mechanical	Structural	Overall HI/Bridge
Benjamin Harrison	Orange	Yellow	Orange	Yellow	Orange
Berkley EBL	Orange	Yellow	Yellow	Yellow	Yellow
Berkley WBL	Orange	Yellow	Orange	Orange	Orange
Chincoteague	Green	Green	Yellow	Yellow	Green
Coleman	Yellow	Green	Yellow	Orange	Yellow
Eltham	Yellow	Green	Green	Green	Yellow
Gwynn's Island	Orange	Yellow	Orange	Red	Orange
High Rise	Orange	Green	Yellow	Yellow	Yellow
James River	Orange	Yellow	Yellow	Yellow	Yellow

Current: Percentage & Number of Systems in Each Condition Category	
Good	19% (7)
Fair	47% (17)
Poor	31% (11)
Severe	3% (1)

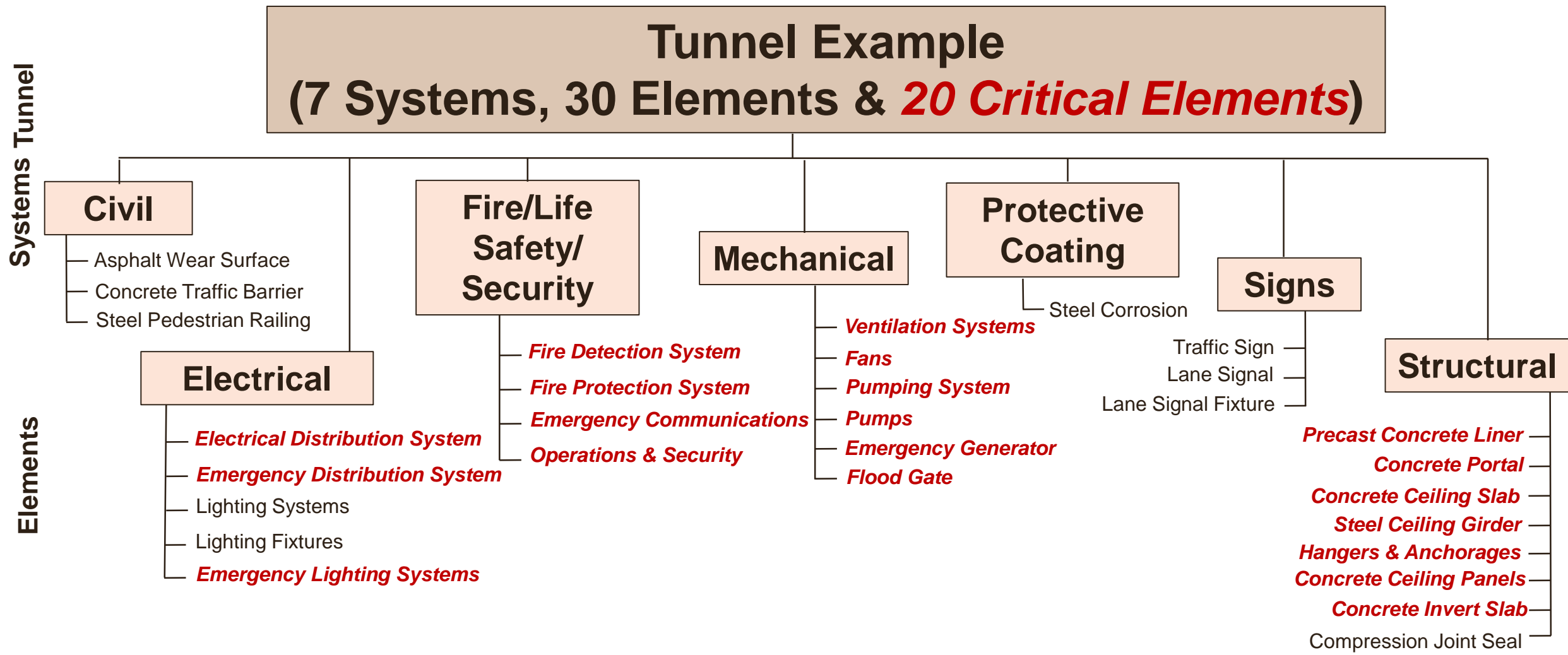
Health Index for Movable Bridges (10 YEAR PREDICTION)					
Bridge	Electrical	House	Mechanical	Structural	Overall HI/Bridge
Benjamin Harrison	Green	Yellow	Yellow	Yellow	Green
Berkley EBL	Green	Yellow	Green	Yellow	Green
Berkley WBL	Green	Yellow	Green	Yellow	Green
Chincoteague	Green	Green	Yellow	Yellow	Yellow
Coleman	Green	Green	Green	Orange	Green
Eltham	Yellow	Green	Yellow	Yellow	Yellow
Gwynn's Island	Green	Green	Green	Green	Green
High Rise	Yellow	Yellow	Yellow	Yellow	Yellow
James River	Green	Yellow	Green	Yellow	Green

Predicted in 10 Years: Percentage & Number of Systems in Each Condition Category	
Good	47% (17)
Fair	50% (18)
Poor	3% (1)
Severe	0% (0)

# Movable Bridges Health Index: Benjamin Harrison Bridge

- **Currently 9 critical elements in need of repair or replacement**
  - **Electrical system (5 critical elements)**
  - **Mechanical system (4 critical elements)**
- **All 9 will be improved with the 10 year plan**
- **Will stabilize condition but will not end necessary work**
- **In 10 years, electrical, mechanical, & house systems will still be in fair condition (yellow). Remaining work includes:**
  - **Mechanical: Span guides; Pinions/sheave Gears; Open Gearing**
  - **Electrical: Gate motors control system**
  - **House: Structure; Weatherproofing**
- **Elements will be replaced or improved on a planned schedule**
  - **Generator & Drives (30 years)**
  - **Span lock (20 years)**

# Special Structures - Tunnels Health Index



# Special Structures - Tunnels Health Index

Health Index for Tunnels (CURRENT)						
Tunnel	Civil*	Electrical	Fire/Life Safety/Security	Mechanical	Structural*	Overall HI per Tunnel
Big Walker	Green	Yellow	Yellow	Yellow	Green	Yellow
East River	Green	Orange	Orange	Orange	Green	Yellow
Hampton Roads Eastbound	Green	Green	Yellow	Yellow	Yellow	Yellow
Hampton Roads Westbound	Green	Green	Yellow	Yellow	Yellow	Yellow
Monitor Merrimac	Green	Yellow	Yellow	Yellow	Green	Yellow
Rosslyn	Green	Yellow	Yellow	Orange	Yellow	Yellow

Current: Percentage & Number of Systems in Each Condition Category	
Good	33% (10)
Fair	53% (16)
Poor	13% (4)
Severe	0% (0)

Health Index for Tunnels (10 YEAR PREDICTION)						
Tunnel	Civil	Electrical	Fire/Life Safety/Security	Mechanical	Structural	Overall HI per Tunnel
Big Walker	Green	Green	Green	Green	Green	Green
East River	Green	Green	Green	Green	Green	Green
Hampton Roads Eastbound	Green	Green	Green	Green	Yellow	Green
Hampton Roads Westbound	Yellow	Green	Green	Green	Green	Green
Monitor Merrimac	Green	Green	Yellow	Yellow	Green	Yellow
Rosslyn	Green	Green	Green	Yellow	Green	Yellow

Predicted in 10 Years: Percentage & Number of Systems in Each Condition Category	
Good	73% (22)
Fair	27% (8)
Poor	0% (0)
Severe	0% (0)

# Tunnel Health Index: Monitor Merrimac Memorial Tunnel

- **Currently 3 critical elements in need of repair or replacement**
  - Mechanical system (1 element)
  - Fire/life safety system (1 element)
  - Electrical system (1 element)
- **All 3 will be improved with the 10 year plan**
- **In 10 years, mechanical, fire/life safety systems will still be in fair condition (yellow). Remaining work includes:**
  - Mechanical: Drainage & Pumping
  - Fire/Life Safety System: Detection; Emergency Communications
- **Elements will be replaced or improved on a planned schedule**
  - Pumps (20 year cycle)
  - Fire Main Piping (10 year cycle)

# Special Structures - Health Index - Conclusion

## 1. Completed Tunnels and Movable Bridges

## 2. Develop Complex Structures HI

- (Spring 2022) With an Update for the Board in Fall 2022

## 3. Implement HI

- Use it to monitor, optimize, and adjust the program on an annual basis
- Will provide updates to the board regularly

## 4. Share Knowledge with Others

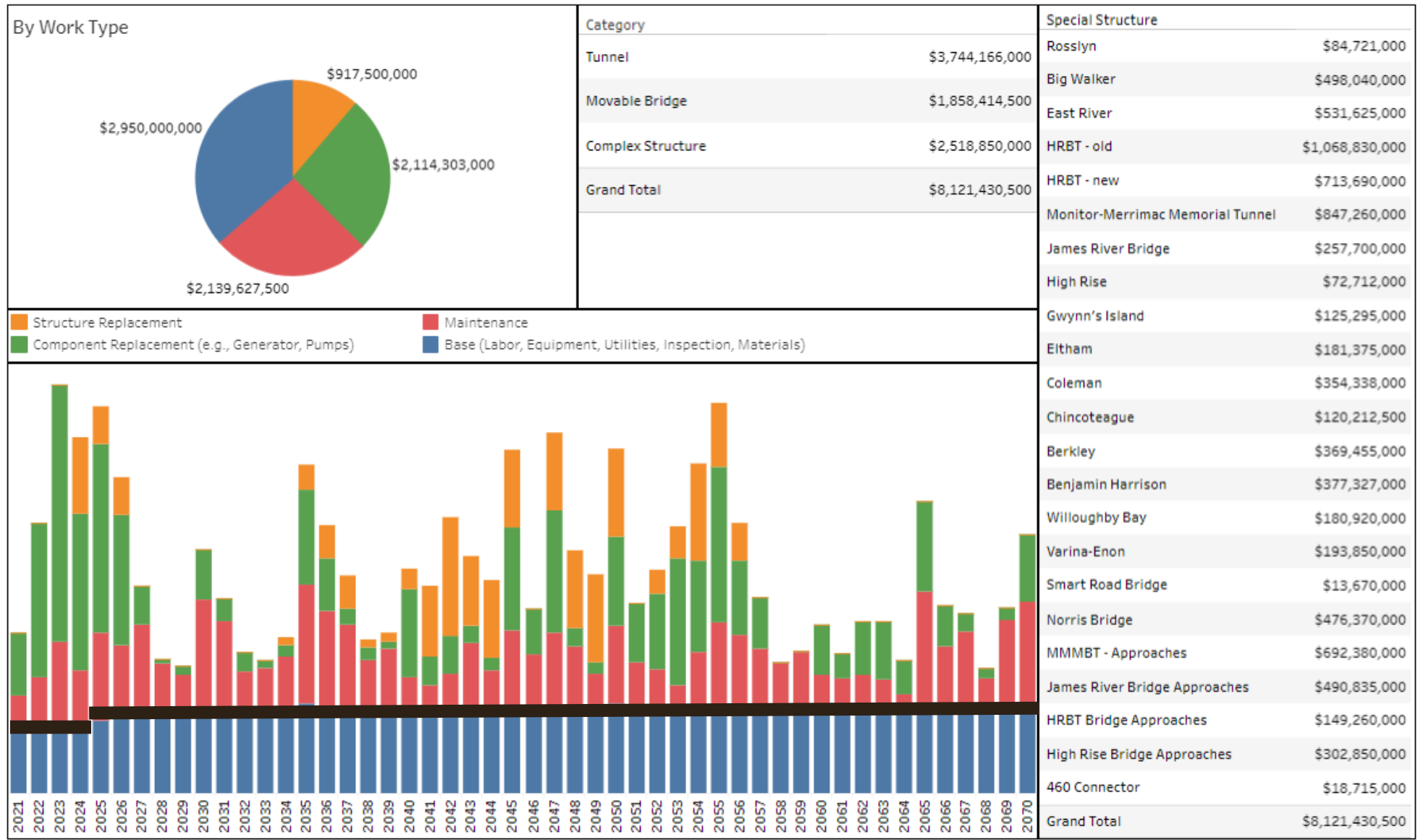
- NCHRP
- FHWA
- AASHTO



# Special Structures – 2019 50-Year Long Term Plan

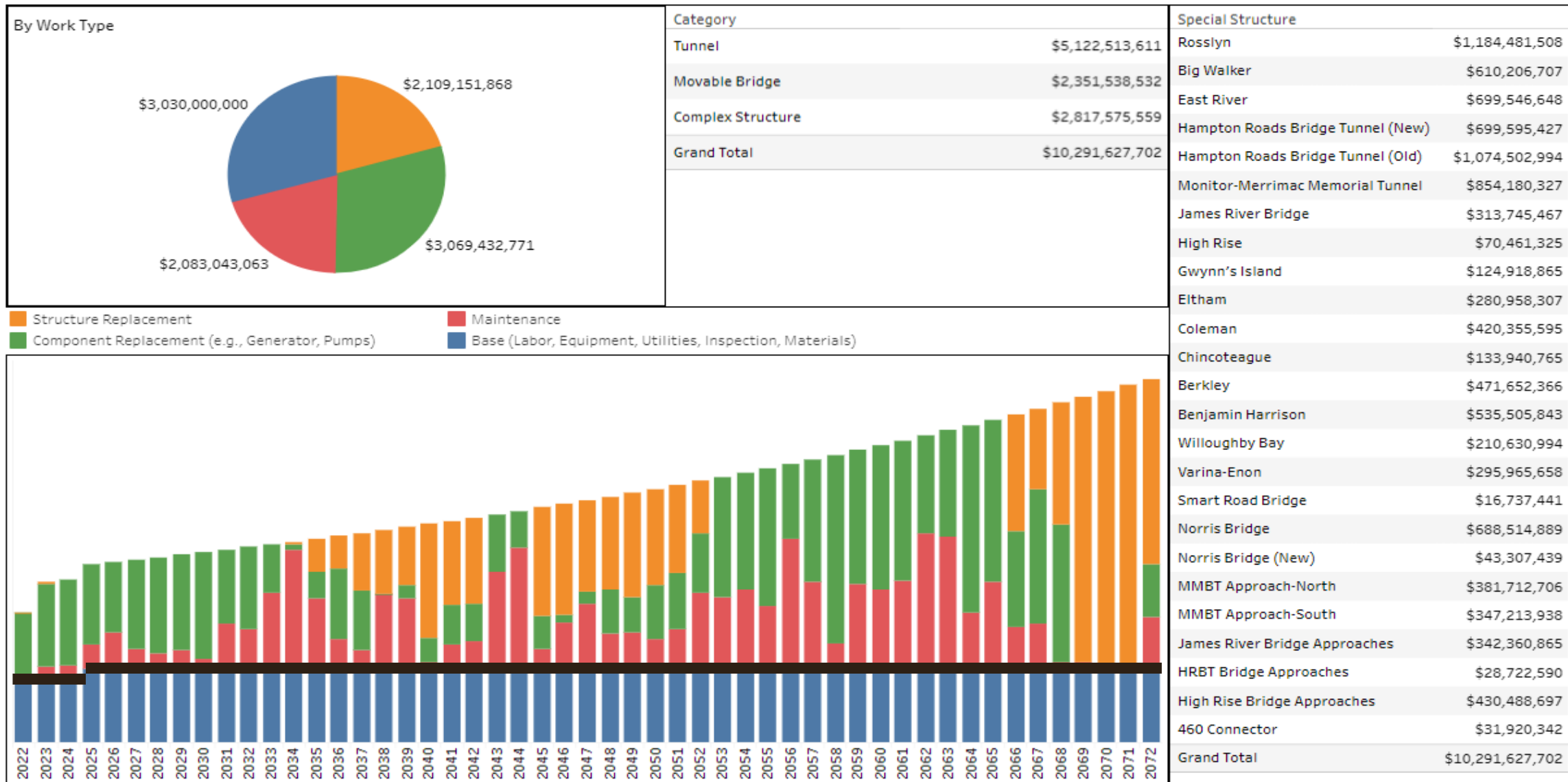
## Unconstrained Needs

\*All amounts in 2019 dollars



# Special Structures – 2021 50-Year Long Term Plan

## Fiscally Constrained Needs



# Next Steps

# Next Steps

- **Special Structure Program - Code of Virginia – 33.2-374**  
– October 2021 CTB
  - **50-Year Long Term Plan approval**
  
- **Complex Structure Health Index – Spring/Fall 2022**

# QUESTIONS?



COMMONWEALTH of VIRGINIA  
*Office of the*  
SECRETARY of TRANSPORTATION

## VTrans Long-term Risk & Opportunity Register

### Commonwealth Transportation Board Workshop

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

September 14, 2021



## TODAY'S PRESENTATION: PURPOSE

- Present Draft Policy:  
Development and Monitoring of Trans Long-term Risk & Opportunity Register
- Review one Megatrend



# COMPONENTS OF VTRANS

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

2  
VTrans Mid-term Needs: Identification and Prioritization

3  
VTrans Long-term Risk & Opportunity Register

4  
Strategic Actions (Recommendations)

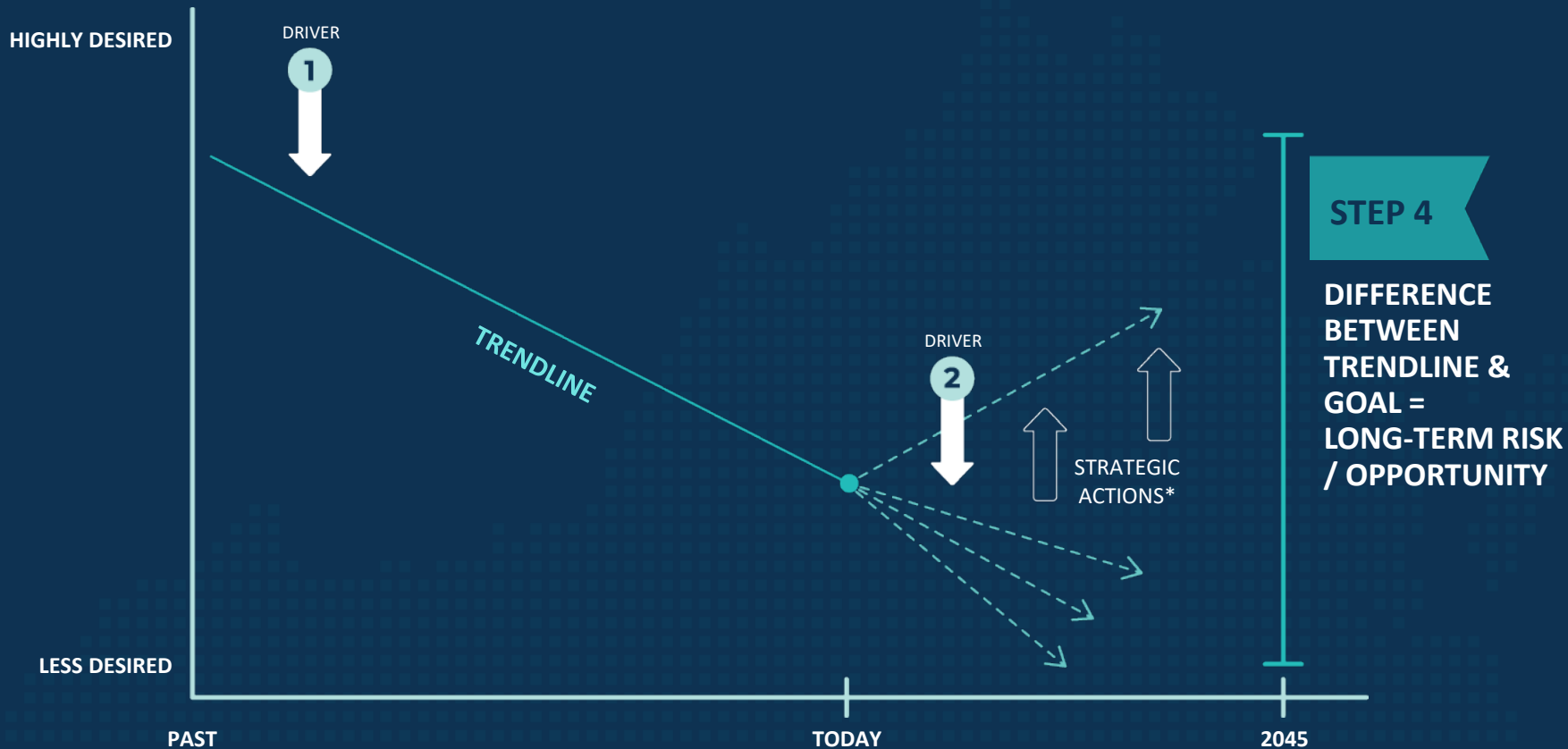


JAN 2020

JAN 2020  
MARCH 2021

BY THE END OF 2021

# CONTEXT & OVERVIEW: APPROACH



STEP 1 IDENTIFY MEGA- & MACROTRENDS

STEP 2 IDENTIFY SURROGATES FOR CTB GOALS

STEP 3 ESTIMATE IMPACTS OF MACROTRENDS ON SURROGATES

STEP 4 DEVELOP VTRANS LONG-TERM RISK  
& OPPORTUNITY REGISTER

STEP 5 TRACK MACROTRENDS FOR ANNUAL REPORTING

# IDENTIFY MEGA- & MACROTRENDS: CLIMATE CHANGE MACROTRENDS

CLIMATE CHANGE MACROTRENDS	SUMMARY OF KNOWN IMPACTS <sup>3</sup>
<ul style="list-style-type: none"> <li>Air Quality<sup>1</sup></li> </ul>	<ul style="list-style-type: none"> <li>Impact on health and quality of life<sup>1</sup></li> </ul>
<ul style="list-style-type: none"> <li>Extreme sea levels<sup>2</sup></li> </ul>	<ul style="list-style-type: none"> <li>Traffic (vehicles and rail/transit service) disruptions</li> <li>Damage to transportation infrastructure</li> <li>Impact on structure and pavement life cycles</li> </ul>
<ul style="list-style-type: none"> <li>Tropical cyclones: precipitation<sup>2</sup></li> <li>Tropical cyclones: proportion of intense cyclones<sup>2</sup></li> </ul>	<ul style="list-style-type: none"> <li>Traffic (vehicles and rail/transit service) disruptions</li> <li>Damage to transportation infrastructure</li> <li>Impact on structure and pavement life cycles</li> </ul>
<ul style="list-style-type: none"> <li>Heavy precipitation events<sup>2</sup></li> </ul>	<ul style="list-style-type: none"> <li>Traffic (vehicles and rail/transit service) disruptions</li> <li>Damage to transportation infrastructure due to landslides and washouts</li> <li>Impact on structure and pavement life cycles</li> </ul>
<ul style="list-style-type: none"> <li>Warm/hot extremes<sup>2</sup></li> </ul>	<ul style="list-style-type: none"> <li>Reduced visibility due to wildfires caused by extreme temperatures</li> <li>Limits to construction activities (due to heat waves)</li> <li>Damage to transportation infrastructure</li> <li>Impact on structure and pavement life cycles</li> <li>Impact on rail infrastructure life cycle</li> <li>Impact on vehicle longevity (vehicles last for shorter periods)</li> </ul>
<ul style="list-style-type: none"> <li>Cold extremes<sup>2</sup></li> </ul>	<ul style="list-style-type: none"> <li>Impact on structure and pavement life cycles</li> <li>Impact on vehicle longevity (vehicles last for shorter periods)</li> </ul>
<ul style="list-style-type: none"> <li>Agricultural, ecological droughts<sup>2</sup></li> </ul>	<ul style="list-style-type: none"> <li>Impacts on health and quality of life</li> </ul>
<ul style="list-style-type: none"> <li>Compound events<sup>2</sup></li> </ul>	<ul style="list-style-type: none"> <li>Combination of the items above</li> </ul>
<ul style="list-style-type: none"> <li>Marine heatwaves<sup>2</sup></li> </ul>	<ul style="list-style-type: none"> <li>Impacts of vessels and sea lanes</li> </ul>

<sup>1</sup>Centers for Disease Control and Prevention; <sup>2</sup>United Nation's Intergovernmental Panel on Climate Change, Sixth Assessment; <sup>3</sup>United States Environmental Protection Agency

# IDENTIFY MEGA- & MACROTRENDS

MEGATREND

**IMPACT OF CLIMATE  
CHANGE /  
GREENHOUSE GAS  
EMISSIONS**

MACROTREND



Increase in  
Flooding Risk

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

# IDENTIFY MEGA- & MACROTRENDS

MEGATREND

**IMPACT OF CLIMATE  
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EMISSIONS**

MACROTREND



Increase in  
Flooding Risk

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

**TECHNOLOGICAL  
ADVANCEMENTS**



Adoption of  
Highly  
Autonomous  
Vehicles

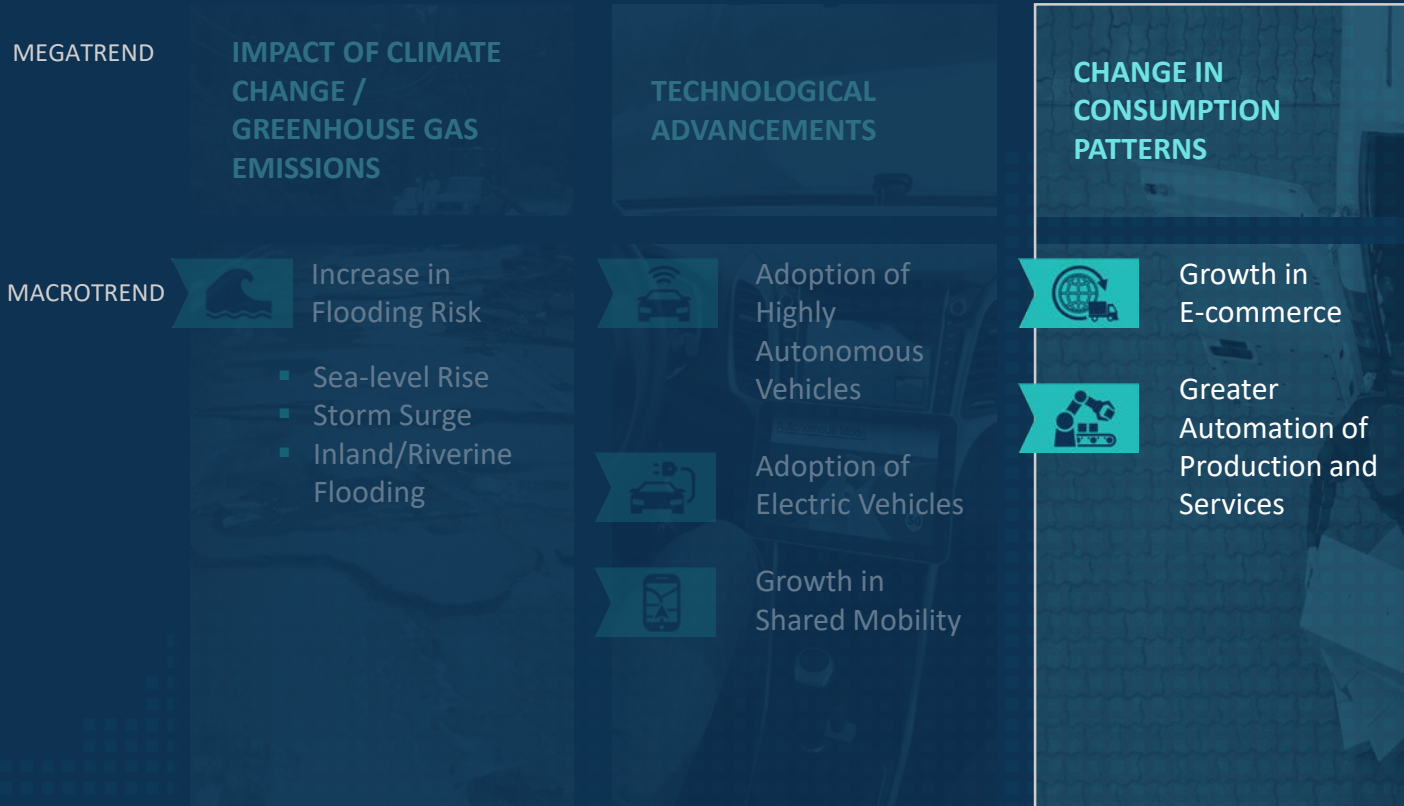


Adoption of  
Electric Vehicles



Growth in  
Shared Mobility

# IDENTIFY MEGA- & MACROTRENDS





# IDENTIFY MEGA- & MACROTRENDS

MEGATREND

**IMPACT OF CLIMATE  
CHANGE /  
GREENHOUSE GAS  
EMISSIONS**

**TECHNOLOGICAL  
ADVANCEMENTS**

**CHANGE IN  
CONSUMPTION  
PATTERNS**

**SOCIO-DEMOGRAPHIC /  
EMPLOYMENT  
CHANGES**

MACROTREND



Increase in  
Flooding Risk

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



Adoption of  
Highly  
Autonomous  
Vehicles



Adoption of  
Electric Vehicles



Growth in  
Shared Mobility



Growth in E-  
commerce



Greater  
Automation of  
Production and  
Services



Increase in  
Workplace  
Flexibility



Growth of  
Professional  
Service Industry



Growth of the  
65+ Cohort



Population and  
Employment  
Shift

## MEGATREND 1:

## IMPACT OF CLIMATE CHANGE / GREENHOUSE GAS EMISSIONS



### MACROTREND 1:

Increase in Flooding Risk due to

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

# IDENTIFY MEGA- & MACROTRENDS: RELATED WORK

Since the initiation of the VTrans work in 2018, there have been several related state-led efforts.

## VIMS Study

Coastal Virginia Transportation  
Infrastructure Inundation Study and  
Virginia Dept of Transportation (VDOT)  
At-Risk Infrastructure Report  
from VIMS & VDOT

## Enhancement to Precipitation Estimates

from the Office of the Governor,  
Secretary of Natural Resources, Special  
Assistant to the Governor for Coastal  
Adaptation and Protection, Department  
of Environmental Quality,  
Commonwealth Center for Recurrent  
Flooding Resiliency (CCRFR), & VDOT

## Virginia Coastal Resilience Master Plan

from Office of the Governor, Secretary of  
Natural Resources, Special Assistant to  
the Governor for Coastal Adaptation and  
Protection, & DCR

## Other State Efforts

- ▶ Joint Subcommittee on Coastal Flooding, Report
- ▶ Commonwealth Center for Recurrent Flooding Resiliency
- ▶ Joint Commission on Technology and Science – Coastal Areas: Study on Economic Consequences of Weather-Related Events

# IDENTIFY SURROGATES FOR CTB GOALS


	GOALS	SURROGATES FOR CTB GOALS
	Economic Competitiveness and Prosperity	Vehicle Miles Traveled (VMT)
	Accessible and Connected Places	Switch to Shared Mobility
	Safety for All Users	Number of Crashes Involving Fatalities and Serious Injuries
	Proactive System Management	Roadways At Risk from Flooding
	Healthy Communities & Sustainable Transportation Communities	Tailpipe Emissions

# ESTIMATE IMPACTS OF TRENDS ON SURROGATES FOR GOALS

For each hazard, three scenarios or estimates of impacts have been developed to account for uncertainties.

## SCENARIOS BY IMPACT

HAZARD	LOW	MEDIUM	HIGH
<b>SEA LEVEL RISE</b>	<ul style="list-style-type: none"><li>Intermediate sea level rise scenario (Year 2040)</li></ul>	<ul style="list-style-type: none"><li>Intermediate-high sea level rise scenario (Year 2040)</li></ul>	<ul style="list-style-type: none"><li>Extreme sea level rise scenario (Year 2040)</li></ul>
<b>STORM SURGE</b>	<ul style="list-style-type: none"><li>Category 2 hurricane storm surge</li></ul>	<ul style="list-style-type: none"><li>Category 3 hurricane storm surge</li></ul>	<ul style="list-style-type: none"><li>Category 4 hurricane storm surge</li></ul>
<b>INLAND/RIVERINE FLOODING</b>	<ul style="list-style-type: none"><li>100-year flood zone AND</li><li>Historical weather-related damages or closures</li></ul>	<ul style="list-style-type: none"><li>500-year flood zone AND</li><li>Historical weather-related damages or closures</li></ul>	<ul style="list-style-type: none"><li>500-year flood zone with a buffer AND</li><li>Historical weather-related damages or closures</li></ul>

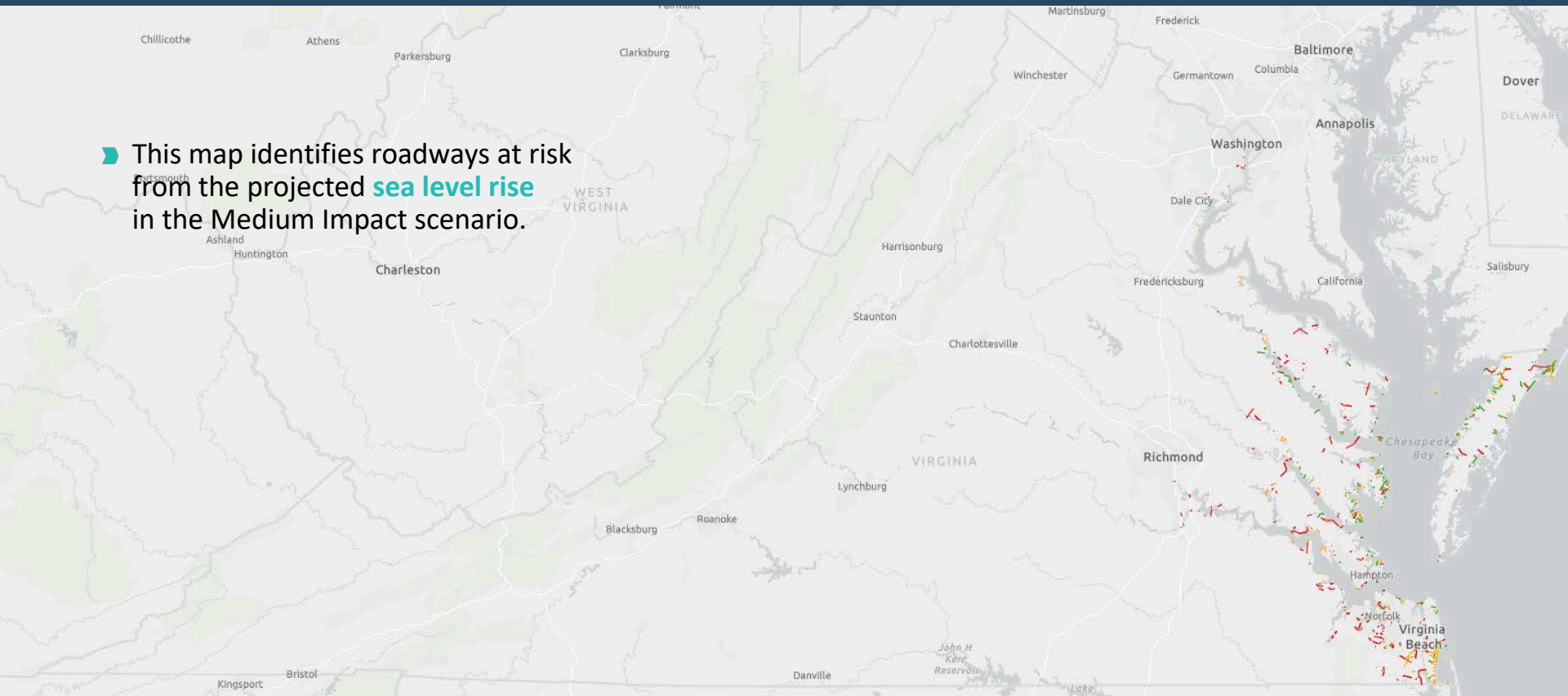


INCREASING IMPACT



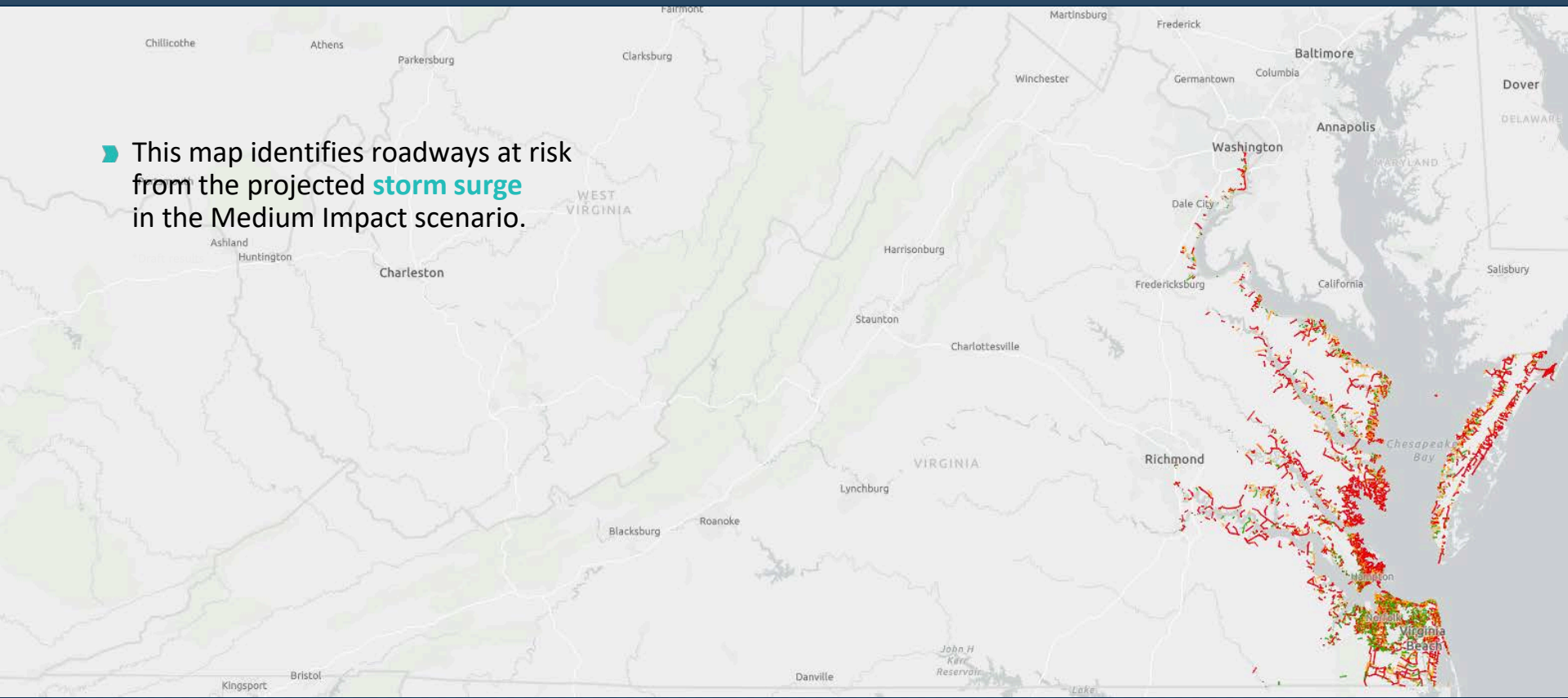
# ESTIMATE IMPACTS OF TRENDS ON SURROGATES FOR GOALS

► This map identifies roadways at risk from the projected **sea level rise** in the Medium Impact scenario.



# ESTIMATE IMPACTS OF TRENDS ON SURROGATES FOR GOALS

► This map identifies roadways at risk from the projected **storm surge** in the Medium Impact scenario.



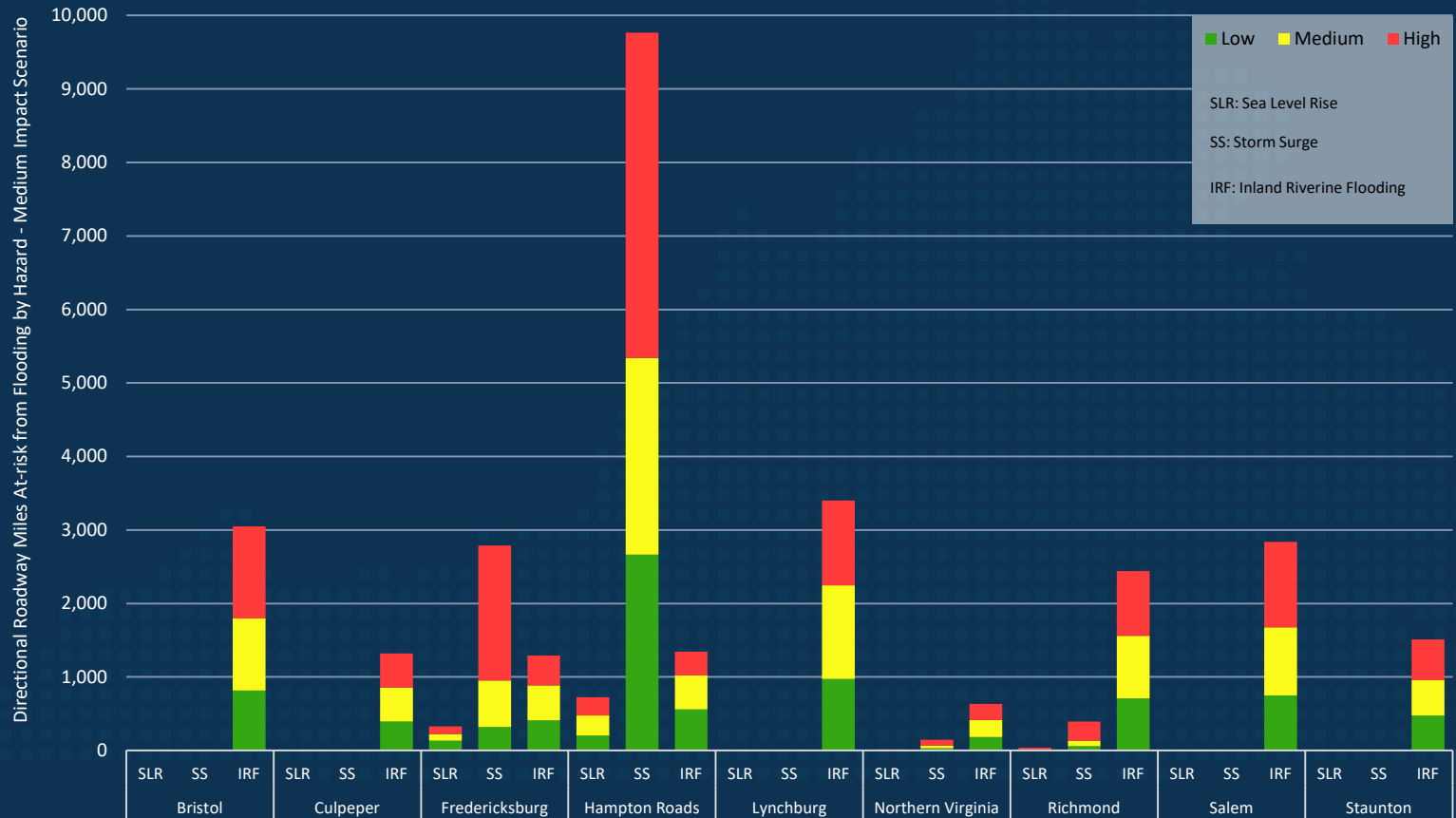
High

Med

Low

# ESTIMATE IMPACTS OF TRENDS ON SURROGATES FOR GOALS

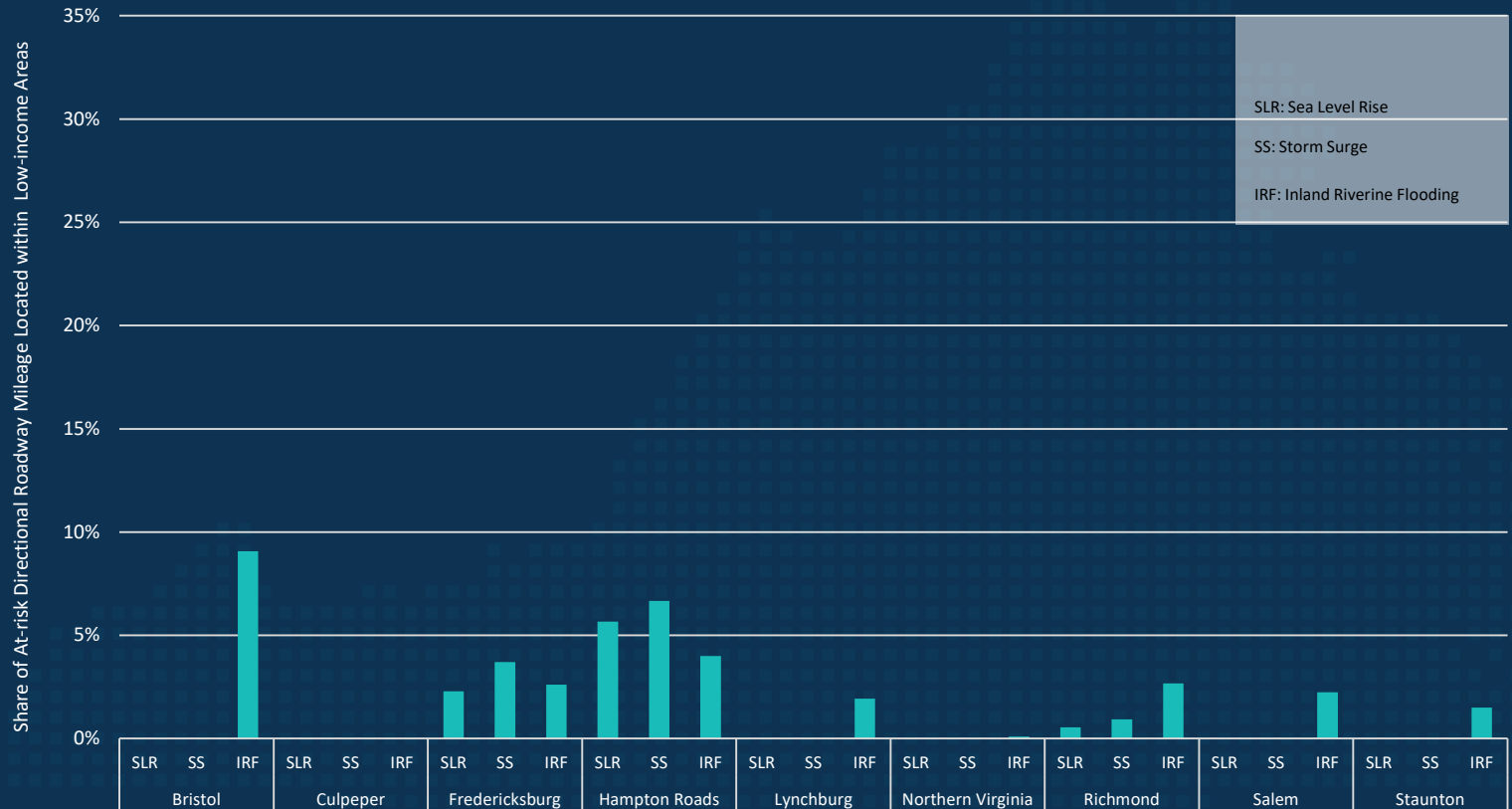
## Number of Directional Roadway Miles At-risk from Flooding by Hazard





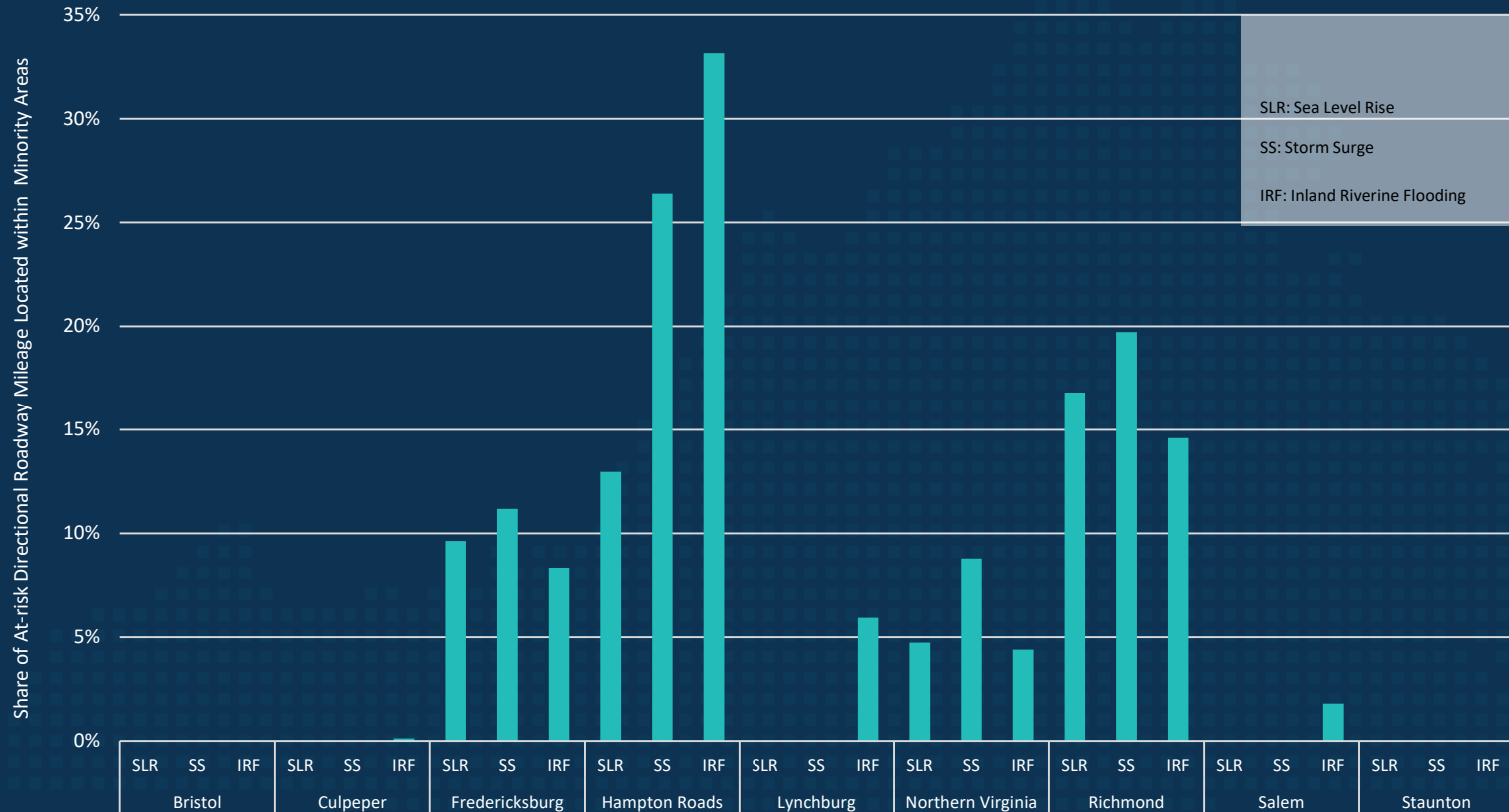
# ESTIMATE IMPACTS OF TRENDS ON SURROGATES FOR GOALS

## Share of At-Risk Roadway Mileage Located in Areas with High Concentration of Low-income Populations



# ESTIMATE IMPACTS OF TRENDS ON SURROGATES FOR GOALS

## Share of At-Risk Roadway Mileage Located in Areas with High Concentration of **Minority Populations**



# DEVELOP VTRANS LONG-TERM RISK & OPPORTUNITY REGISTER

#	Nature	Description of Risk/Opportunity	CTB Goal Addressed					Proximity	Priority
			Goal A	Goal B	Goal C	Goal D	Goal E		
1	Risk	A large number of state's roadways are at risk from flooding				x		Mid-term	
2	Opportunity	Proactively eliminate or mitigate identified flooding risks				x		Mid-term	
3	Risk	Several unknown and unquantified flooding risks might be present				x		Long-term	
4	Risk	Impacts of increased flooding risk are disproportionately higher for certain areas and populations		x		x		Long-term	
5	Opportunity	Increase state's preparedness to address <u>other macrotrends</u> associated with climate patterns megatrend				x		Mid-term	

OIPI will provide annual updates to the Board.

## MACROTREND

## VTRANS TREND TRACKERS



- Number of directional miles at risk from sea level rise
- Number of directional miles at risk from storm surge
- Number of directional miles at risk from inland/riverine flooding



- Market Penetration of Highly Autonomous Vehicles\*
- Attitude and Preferences for Adoption of Highly Autonomous Vehicles\*



- Market Penetration of Electric Vehicles\*
- Attitude and Preferences for Adoption of Electric Vehicles\*








- Access to Shared Mobility Services\*
- Utilization of Shared Mobility Services by Type\*



- Number of Warehouse and Distribution Centers
- Square Footage of Warehouse and Distribution Centers
- Share of E-commerce Sales (Business-to-business, business-to-customers)

# TRACK MACROTRENDS

OIPI will provide annual updates to the Board.

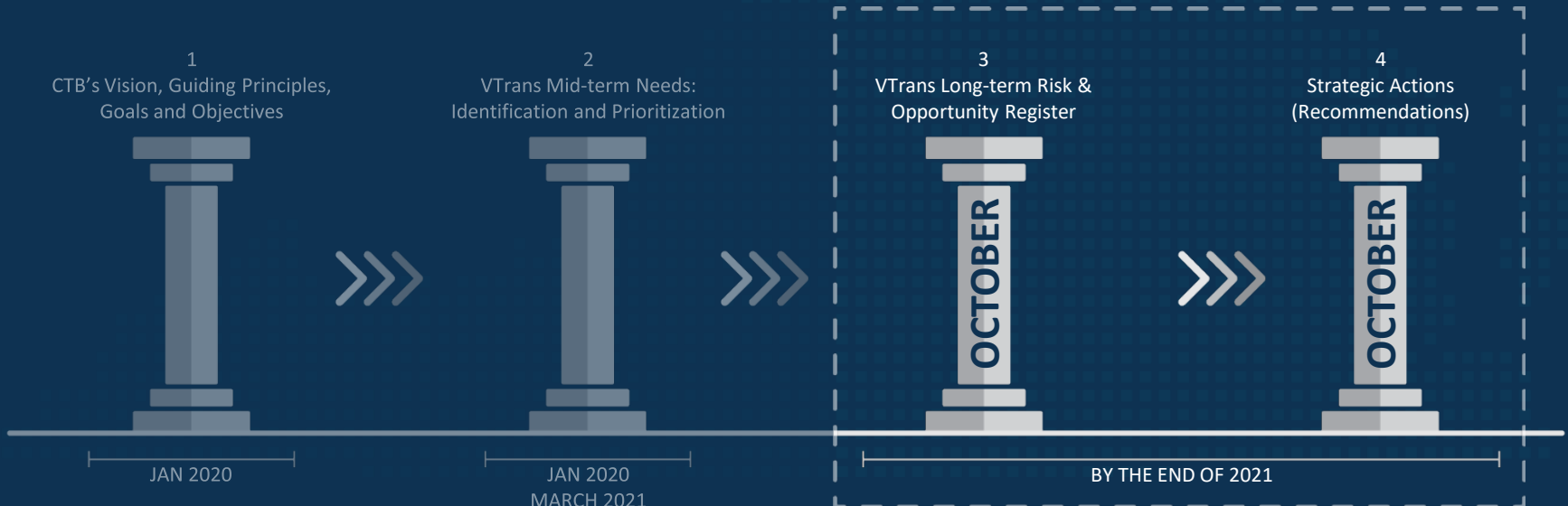
MACROTREND	VTRANS TREND TRACKERS
	<ul style="list-style-type: none"><li>▪ Value output of 3D Printing</li><li>▪ Number of short-range and long-range drone deliveries</li><li>▪ Number of last-mile robotic deliveries</li></ul>
	<ul style="list-style-type: none"><li>▪ Number of Workers with Workplace Flexibility*</li><li>▪ Utilization of Workplace Flexibility*</li></ul>
	<ul style="list-style-type: none"><li>▪ Share of Professional Service Industry</li></ul>
	<ul style="list-style-type: none"><li>▪ Number of Virginias Age 65 or higher</li><li>▪ Share of Age 65+ Cohort</li></ul>
	<ul style="list-style-type: none"><li>▪ VTrans Land Use Vitality Index</li><li>▪ Population</li><li>▪ Employment</li><li>▪ Income</li></ul>

\*Based on the VTrans State of Transportation Biennial Survey

## NEXT STEPS

### In the coming months, OIPI will:

- Gather feedback from CTB members on risks and opportunities.
- Continue outreach and engagement activities.
- Present the following at the October CTB Workshop:
  - VTrans Macrotrends #2 through #10
  - Draft list of VTrans Strategic Actions





# PROJECT PIPELINE

## Board Update

September 14<sup>th</sup>, 2021



# Project Pipeline - Overview

## Program Goals:

- Focus planning/project development on CTB VTrans priorities
- Streamline project planning and improve project readiness
- Improve and develop tools make use of powerful data and improve collaboration
- Solve more problems with limited transportation dollars

Project Pipeline builds on the success of VDOT's STARS program

- *STARS recommendations* submitted in SMART SCALE have had an 80% funding success rate

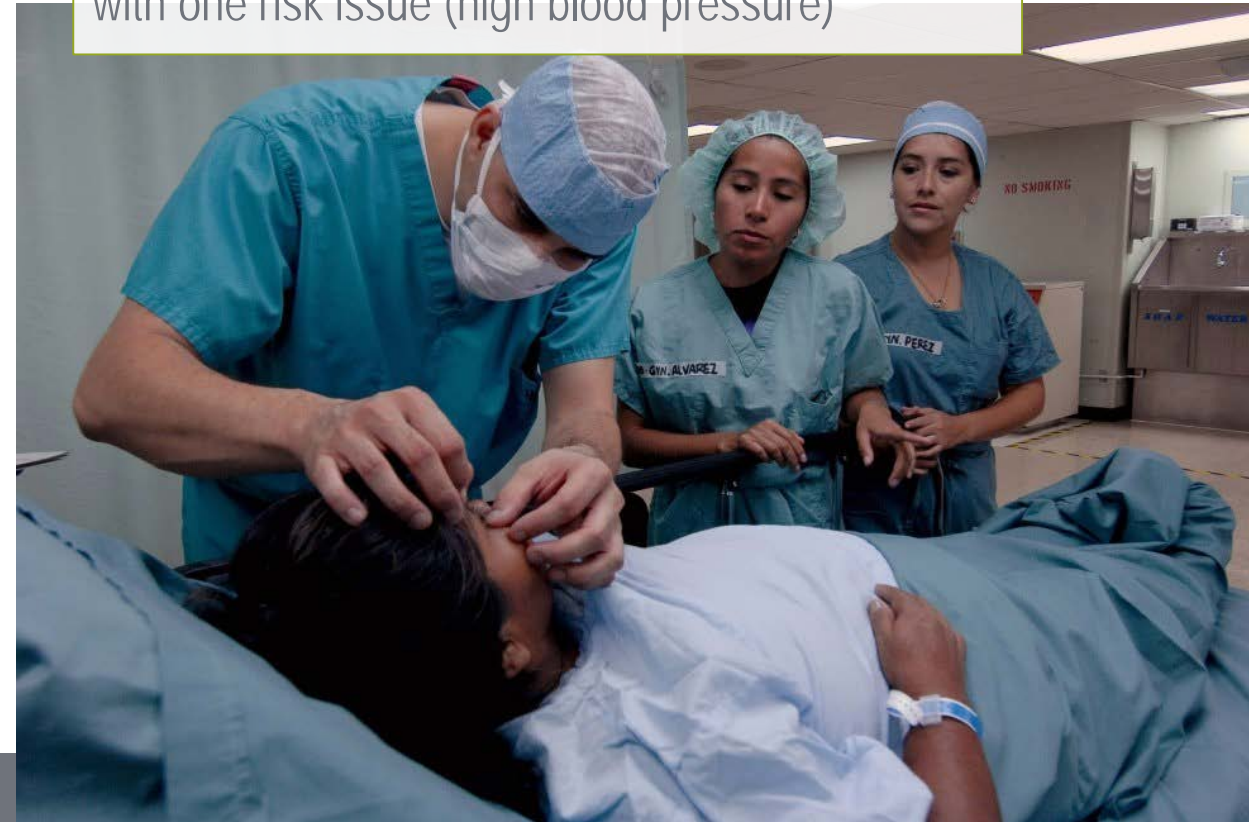


# Project Pipeline – Focus on Board Priorities





VTrans **PRIORITY LOCATIONS** are identified based on overlap and intensity of *multiple need categories* that are affecting transportation system health and performance.

Doctor's will focus on a patient with overlapping risk factors (obese, high blood pressure, diabetes, high cholesterol, etc) before a patient with one risk issue (high blood pressure)



# Project Pipeline – Limited Resources

...a triage approach to addressing transportation challenges

Category 1	Category 2	Category 3	Category 4	Category 5
<i>Resuscitation</i>	<i>Emergency</i>	<i>Urgent</i>	<i>Semi-urgent</i>	<i>Non-urgent</i>
				
<b>Examples:</b> Heart attack, major car accident	<b>Examples:</b> Severe blood loss, overdose	<b>Examples:</b> Head injury (conscious), breathing difficulties, infection	<b>Examples:</b> Sprained ankle with possible fracture, eye inflammation	<b>Examples:</b> Cut not requiring stitches, common cold
<b>Deadline:</b> Immediate (seconds)	<b>Deadline:</b> Within 10 minutes	<b>Deadline:</b> Within 30 minutes	<b>Deadline:</b> Within 1 hour	<b>Deadline:</b> Within 2 hours

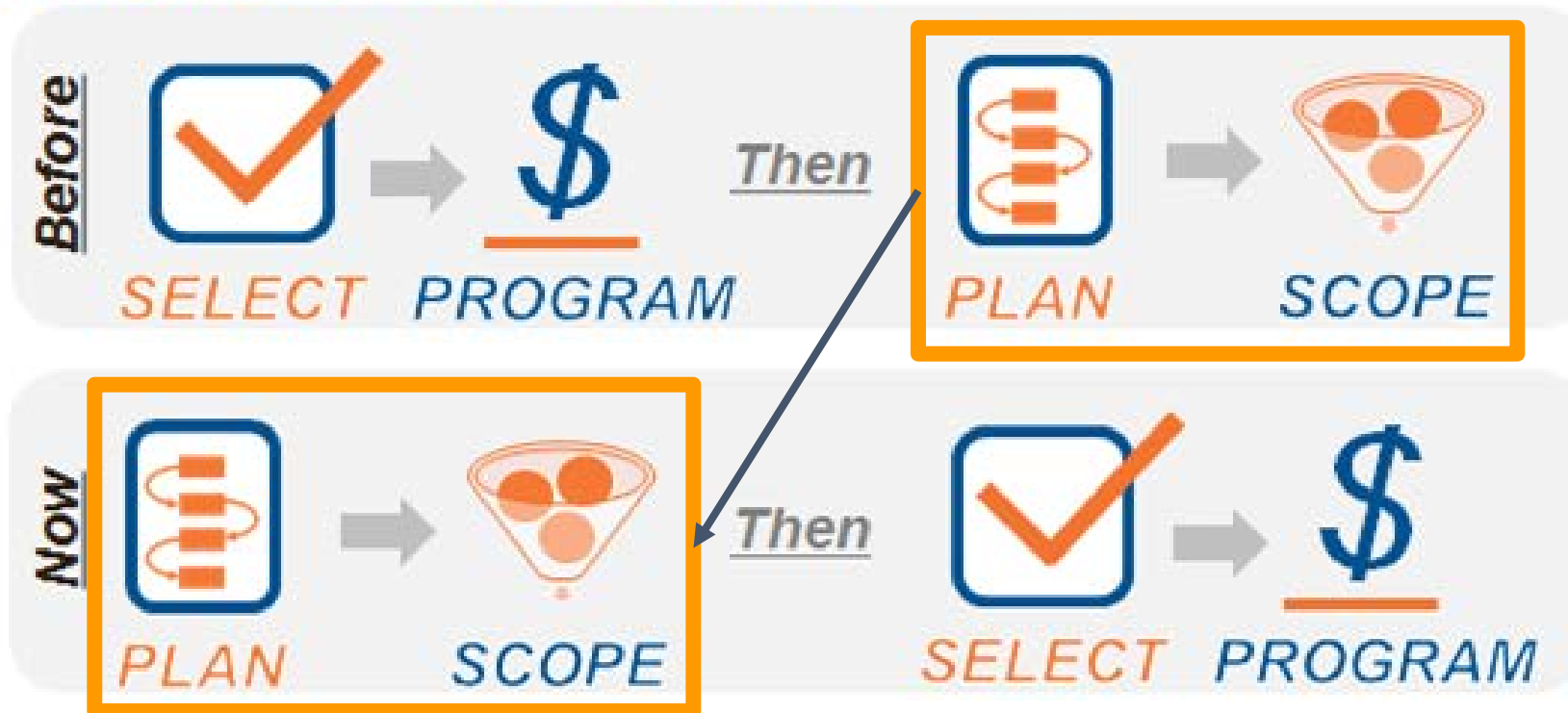
# Project Pipeline – Selecting Study Locations

- Used the following guidelines:
  - Five locations per District
  - VTrans priority 1 needs
  - Remove locations to be addressed by funded projects – Six Year Plan, NVTAs, CIPs, etc.
  - Remove locations with previous and current STARS/AMPS/Corridor Studies
  - Look for high benefit Round 4 SMART SCALE that were not funded
- Potential study locations reviewed with District Board member and 5 locations finalized



# Project Pipeline - Improving Planning and Readiness

## Paradigm Shift – Project Selection



# Project Pipeline - Performance Based Planning

Does this decision tree make sense?



New Engine



New Car



# Project Pipeline - Performance Based Planning

Or is this more logical...

Understand the problem



Develop/Test Solutions



# Project Pipeline - Improve Data Tools and Collaboration

Centralize data collection and leverage DASHBOARDS to streamline problem diagnosis

## Main Template

VDOT Crash Tool

LOTTR

HTS Travel Patterns


Crash

Speeds TMC - Hourly Avg

MWCOG Forecast

Travel Time Index

Speeds TMC - 15min Avg

 Dashboards are password protected and only accessible to staff with VDOT network access and consultant team members who have signed data use agreements

Planning Time Index

Speeds XD - Hourly Avg

Pavement

Streetlight



# TTI Dashboard



# PROJECT PIPELINE

File Export Share

Project\_ID  
NV01  
NV02  
NV03  
NV04  
NV05  
NV01  
NV02  
NV03  
NV04  
NV05  
R01  
R02

### NV01 Project Pipeline #1 - Route 236 from Prosperity Avenue to Wakefield Chapel Road

by TOD Weekday

Average of TTI

Time

110+06689  
110+06690  
110+13630  
110+17035  
110+50155  
110+50156  
110-04604

Location  
Search

- ANNANDALE RD/...
- BACKLICK RD
- BRADDOCK RD
- BRADDOCK RD/E...
- HERITAGE DR/HU...
- I-495/CAPITAL BE...
- I-495/WOODBUR...
- PROSPERITY AVE
- US-50/ARLINGTO...
- VA-123/CHAIN B...
- VA-236/LITTLE RI...
- VA-236/MAIN ST

### TTI by TOD Weekend

Average of TTI

Time

### INRIX TMCs and Project Pipeline 2-mile Buffers Areas

Daily average number of hours with TTI value greater than thresholds

8.97 TTI >= 1.3	5.05 TTI >= 1.5	1.13 TTI >= 2.0
--------------------	--------------------	--------------------

Year: 2019 Day: All Period Group: All

Data is related to each Study Location

Interactive with ability to filter to better understand issues



# Crash Dashboard



Project Name: NV01 Project Pipeline #1 - Route 236 from Prosperity Avenue to Wakefield Chapel Road

Project ID: NV01

Day of Week: All

Crash Severity: All

Collision Type: All

Multi\_Vehicle: All

Roadway Depart...: All

More Filters

Crash Severity	Count	% Count
<b>Property Damage Only</b>	<b>2594</b>	<b>66%</b>
Rear End		33%
Angle		15%
Sideswipe - Same Direction		9%
Fixed Object - Off Road		6%
Head On		1%
Other		1%
Sideswipe - Opposite Direction		1%
Deer		0%
Fixed Object In Road		0%
Non-Collision		0%
Backed Into		0%
Other Animal		0%
<b>Visible Injury</b>	<b>802</b>	<b>20%</b>
Rear End		11%
Angle		4%
Fixed Object - Off Road		2%
Sideswipe - Same Direction		1%
Pedestrian		1%
Head On		1%
Other		0%
Non-Collision		0%
Fixed Object In Road		0%
Deer		0%
Other Animal		0%
<b>Nonvisible Injury</b>	<b>414</b>	<b>11%</b>
Rear End		6%
Angle		3%
Fixed Object - Off Road		0%
Pedestrian		0%
<b>Total</b>	<b>3935</b>	<b>100%</b>

### Crash by Collision Type

Buffer Distance in miles: 0.00 to 1.99

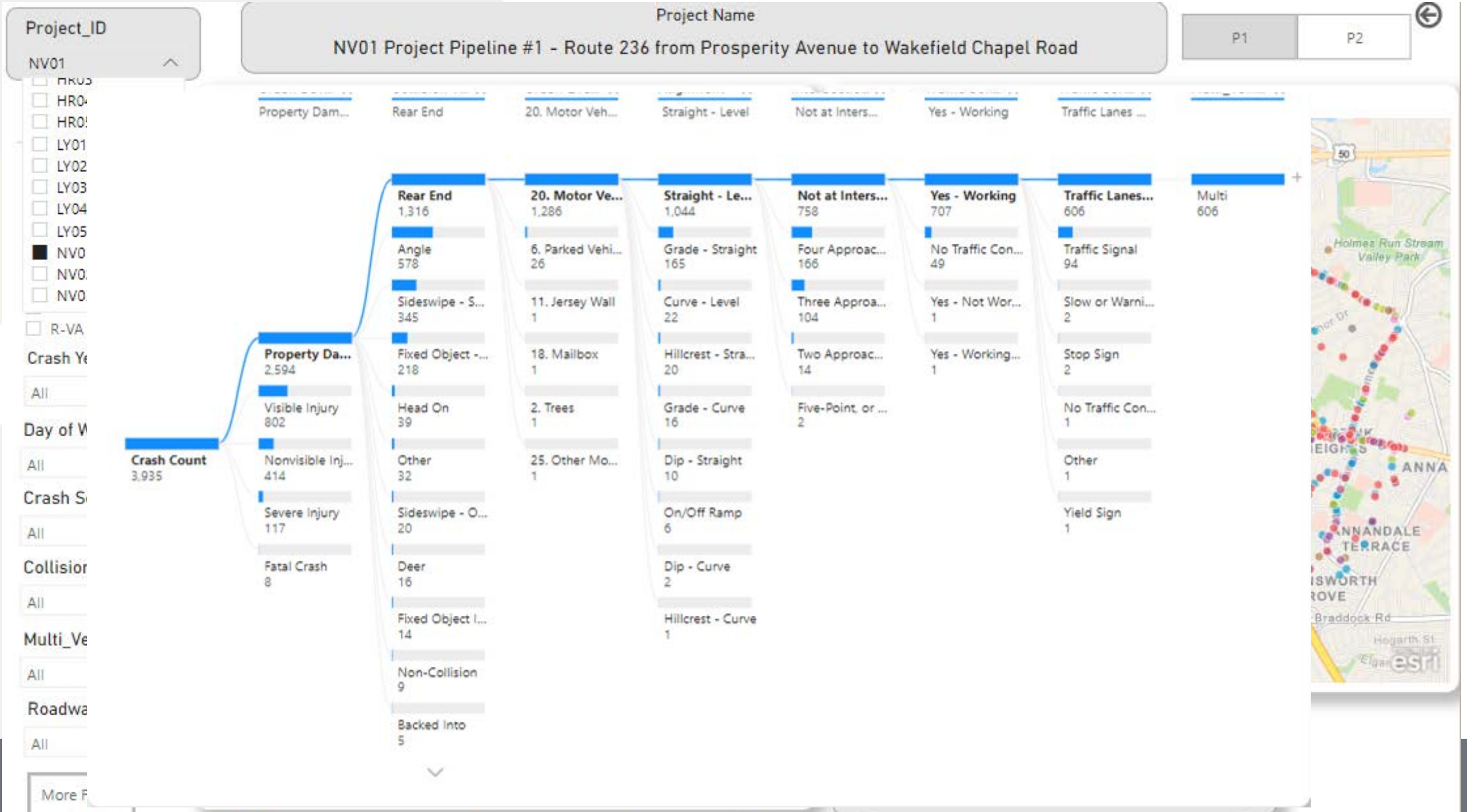
Interactive map with ability to change buffer

Provides ability to more quickly understand the problems

# Crash Dashboard



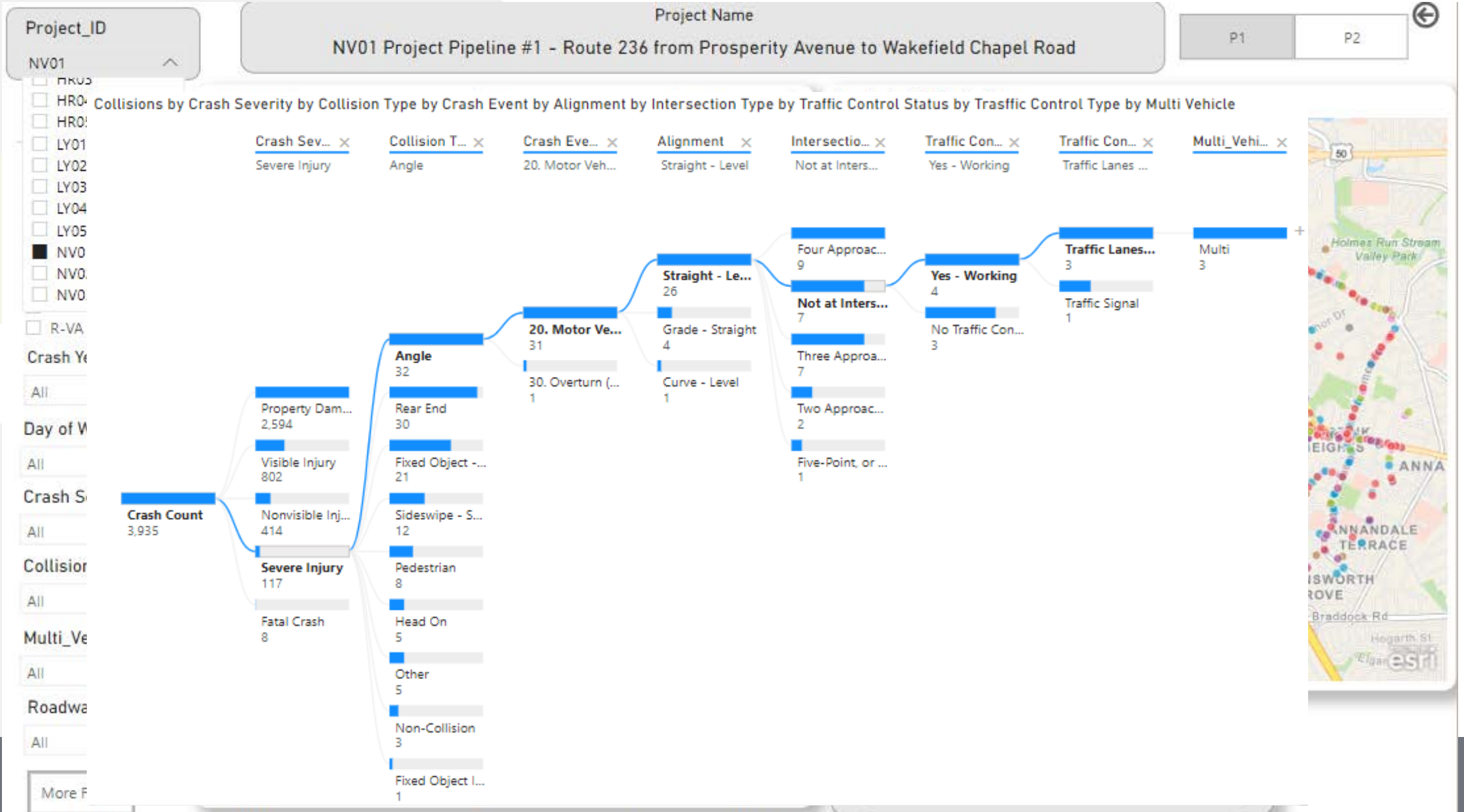
# PROJECT PIPELINE



# Crash Dashboard



# PROJECT PIPELINE







# Regional Data Sources



Project\_ID: NV01

### Trips From Project Location

#### NV01 Project Pipeline #1 - Route 236 from Prosperity Avenue to Wakefiel...

Mode	%GT Weights	Weights
Auto (driver)	65%	57,801
Auto (passenger)	25%	22,707
Walk	3%	2,418
School Bus	3%	2,259
Bus	2%	1,881
Rail	2%	1,402
Uber/Lyft/Rideshare	1%	477
Bike	0%	138
<b>Total</b>	<b>100%</b>	<b>89,083</b>

Origin Purpose	%GT Weights	Weights
Home	60%	53,258
Other	9%	8,396
Drop Off/Pick U	9%	7,819
School	8%	7,182
Work	6%	5,785
Shop	6%	5,546
Gas/EV Charging	1%	619
Station	0%	370
Work-related	0%	108
Daycare	0%	108
<b>Total</b>	<b>100%</b>	<b>89,083</b>

Dest Purpose	%GT Weights	Weights
Home	23%	20,131
Work	9%	16,520
Other	8%	15,894
School	14%	12,518
Shop	13%	11,643
Drop Off/Pick U	11%	10,240
Work-related	2%	1,671
Gas/EV Charging	0%	359
Station	0%	107
Daycare	0%	107
<b>Total</b>	<b>100%</b>	<b>89,083</b>

Understand mode splits and trip purposes

Access Mode	%GT Weights	Weights
Walking	83%	4,026
Park and ride	17%	916
<b>Total</b>	<b>100%</b>	<b>5,542</b>

Rail Boarding Station	%GT Weights	Weights
Dunn Loring	42%	489
Pentagon	42%	486
West Falls Church	16%	184
<b>Total</b>	<b>100%</b>	<b>1,159</b>

Rail Exit Station	%GT Weights	Weights
L'Enfant Plaza	21%	244
Crystal City	21%	243
Foggy Bottom - GWU	21%	243
Federal Triangle	16%	184
McPherson Square	12%	138
Metro Center	9%	107
<b>Total</b>	<b>100%</b>	<b>1,159</b>

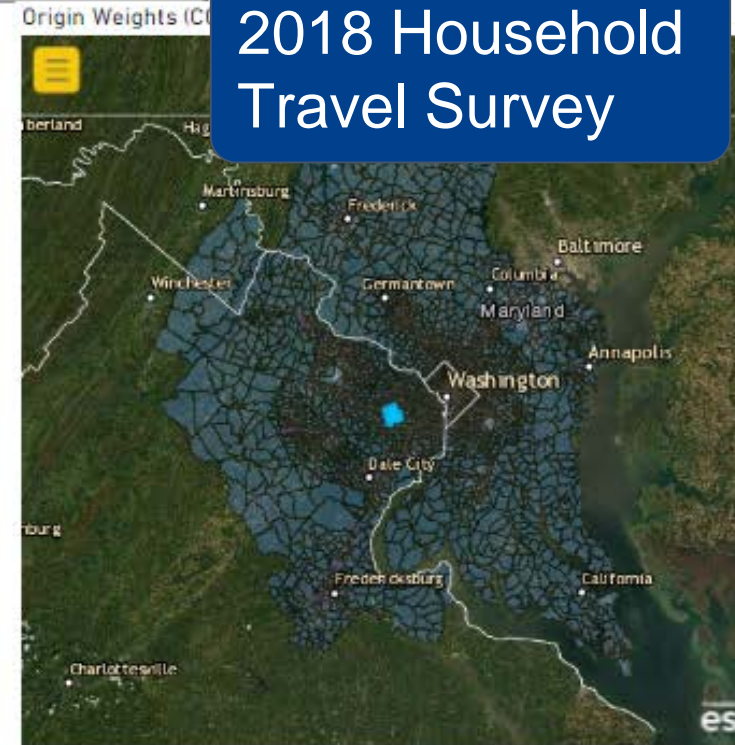
Transit Egress Mode	%GT Weights	Weights
Walking	100%	5,542
<b>Total</b>	<b>100%</b>	<b>5,542</b>

Destination Jurisdiction	%GT Weights	Weights
Fairfax	77%	68,894
Fairfax City	7%	6,057
Arlington	8%	7,132
<b>Total</b>	<b>92%</b>	<b>82,083</b>

%GT Weights by Departure Time



2018 Household Travel Survey



Destination Weights (COG TAZ level)





# Regional Data Sources



# PROJECT PIPELINE

## NV01 Project Pipeline #1 - Route 236 from Prosperity Avenue to Wakefield Chapel Road

MWCOG Travel Demand Model

Understand current and projected travel demand and behaviors

Project\_ID

NV01

- CU01
- CU04
- CU05
- FR01
- FR03
- FR04
- FR05
- NV01
- NV02
- NV03

Total Employment	
2019	50,839
2045	56,552
% EMP Growth <b>11.2%</b>	

2019 Trip Productions by Mode		
Mode	Trips	% Share
Drive Alone	16,941	74.3%
Shared Ride	2,349	10.3%
Drive Transit	2,069	9.1%
Walk Transit	1,429	6.3%
<b>Total</b>	<b>22,788</b>	<b>100.0%</b>

2045 Trip Productions by Mode		
Mode	Trips	% Share
Drive Alone	17,061	72.1%
Shared Ride	2,429	10.3%
Drive Transit	2,316	9.8%
Walk Transit	1,842	7.8%
<b>Total</b>	<b>23,648</b>	<b>100.0%</b>

2019 Trip Attractions by Mode		
Mode	Trips	% Share
Drive Alone	5,289	85.9%
Shared Ride	670	10.9%
Walk Transit	192	3.1%
Drive Transit	3	0.0%
<b>Total</b>	<b>6,154</b>	<b>100.0%</b>

2045 Trip Attractions by Mode		
Mode	Trips	% Share
Drive Alone	5,171	82.6%
Shared Ride	848	13.5%
Walk Transit	238	3.8%
Drive Transit	6	0.1%
<b>Total</b>	<b>6,263</b>	<b>100.0%</b>

Total Employment	
2019	50,839
2045	56,552
% EMP Growth <b>11.2%</b>	

PM Peak Total Volumes	
2019	1,774,218
2045	1,995,016
% PM Vol Growth <b>12.6%</b>	

AM Peak Vehicle Miles (VMT)	
2019	347,230
2045	395,164
% AM VMT Growth <b>13.8%</b>	

AM Peak Vehicle Hours (VHT)	
2019	13,396
2045	15,616
% AM VHT Growth <b>16.6%</b>	

AM Peak Vehicle Hours of Delay (VHD)	
2019	6,073
2045	7,262
% AM VHD Growth <b>19.6%</b>	

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% AM VHD Growth <b>19.6%</b>	

MWCOG Network and Project Pipeline

Source Data: MWCOG CGV2\_3\_78\_2020\_Travel\_Forecast\_Model

Lane Miles	
2019	175

AM VC Ratios	
2019	0.00
2045	2.29

PM VC Ratios	
2019	0.00

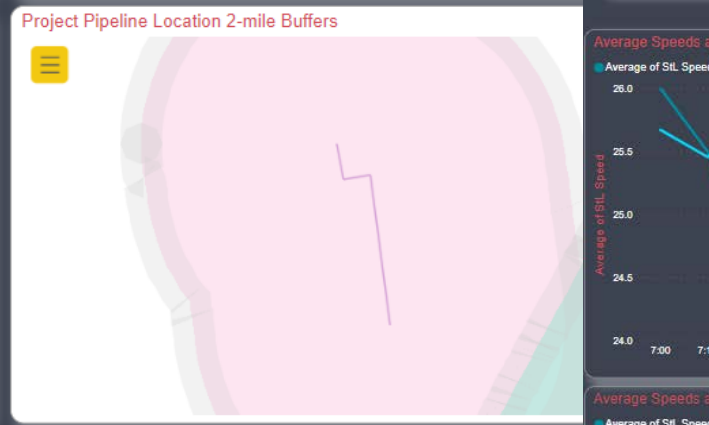
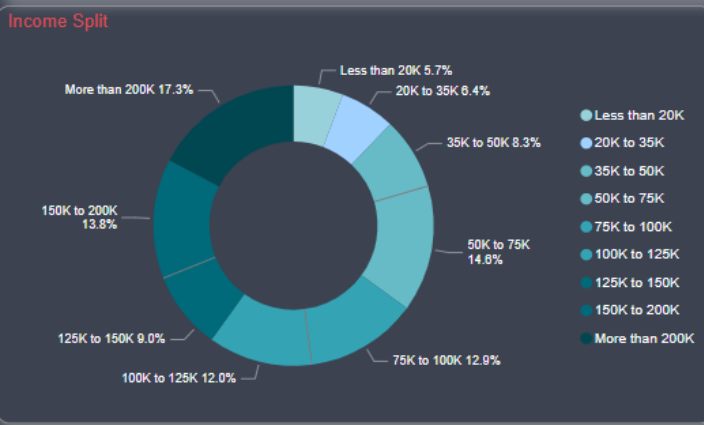
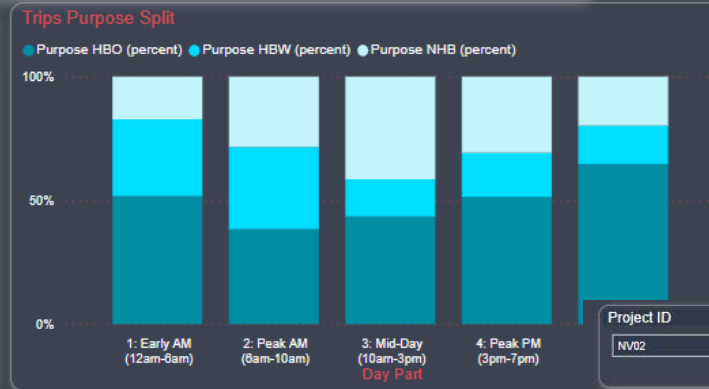
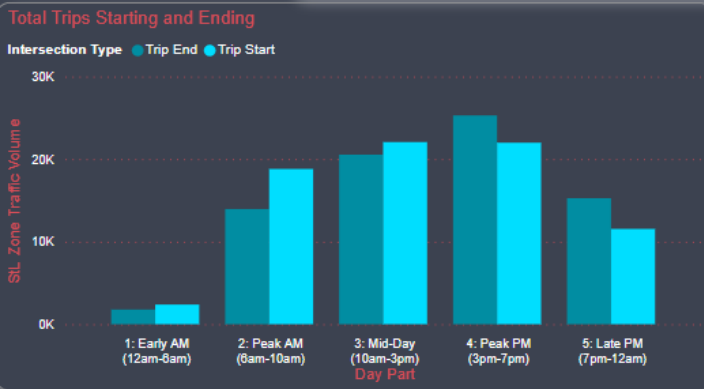
# Streetlight Data



Project ID: NV01

**Zone Activity Analysis based on 2-mile Buffers of Candidate LRS Lines**

NV01 Project Pipeline #1 - Route 236 from Prosperity Avenue to Wakefield Chapel Road

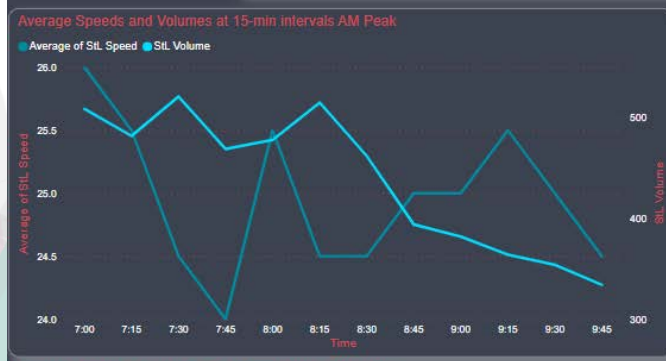


Understand time of day dynamics

Project ID: NV02

**Segment Analysis based on Candidate Location LRS Lines**

NV02 Project Pipeline #2 - Route 29 from Machen Road to Centerwood Drive



Total Volumes - AM Peak (7-9am)	Average Speed - AM Peak (7-9am)
<b>6,858</b>	<b>25.16</b>
Total Volumes - PM Peak (4-6pm)	Average Speed - PM Peak (4-6pm)
<b>7,526</b>	<b>17.19</b>

# Timeline



## Completed:

- Finalize study locations and issue Phase 1 task orders
- Hold initial coordination meetings local partners

## Phase 1 - Underway - August/October

- Analysis to understand problems (VTrans needs) and the causes
- Develop range of potential alternatives to improve performance

## Phase 2 - October/December

- Stakeholder engagement and feedback
- Develop multimodal investment strategy

## Phase 3 - January/March

- Investment strategy cost estimation and refinement



# Project Pipeline

QUESTIONS?

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# WMATA Annual Reporting Requirements

Commonwealth Transportation Board  
September 14, 2021

Jennifer DeBruhl, Chief of Public Transportation



# WMATA Reporting Requirements

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- By July 1, WMATA must annually certify compliance with applicable law and CTB policy for the following items:
  - Board Governance
  - Operating Assistance
  - Strategic Plan
  - Capital Improvement Plan
- WMATA provided the required documentation/certifications to DRPT on June 24 (governance) and July 1 (all others)
- OAG has reviewed for compliance with statutory requirements
- DRPT has reviewed for compliance with CTB policy requirements

# WMATA Board Governance

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## Legislative Requirement

- Board shall withhold 20% of state WMATA allocation for non-compliance (estimated \$35.4M in FY22)

## CTB Guidelines

- Alternates shall not participate in Executive Session of Full Board or Executive Session of Committees unless they are serving in absence of a primary member
- Alternates may not serve as Chair of a Committee
- In Committee meetings, alternates may be invited to make presentations or participate in discussion

## DRPT Recommendation

- WMATA has met the requirements of the statute and Board policy
- No enforcement action is recommended

# Cap on Growth in Operating Assistance: 3%

---

## Legislative Requirement

- Board shall withhold 35% of state WMATA allocation (estimated \$62M in FY22)
- Operating costs related to the following are excluded from this calculation:
  - Any service, equipment, or facility that is required by any applicable law, rule, or regulation
  - Any capital project approved by the WMATA Board before or after effective date
  - Any payment/obligation resulting from a legal dispute or proceeding
  - Any service increases approved by the WMATA Board

## CTB Guidelines

- Updated January 2021 to add service increase and clarify legal exclusion

## DRPT Recommendation

- WMATA has met the requirements of the statute and Board policy
- No enforcement action is recommended

# WMATA Strategic Plan

---

## Legislative Requirement

- Board shall withhold 20% of state WMATA allocation for non-compliance (estimated \$35.4M in FY22)
- WMATA must adopt or update within the preceding 36 months a strategic plan and hold a public hearing on the strategic plan in Northern Virginia
- First strategic plan must address the key recommendations in the report submitted pursuant to Item 436 R of Chapter 836 of the Acts of Assembly of 2017

## CTB Guidelines

- CTB policy requires an update every 36 months
- Next update due by June 30, 2023
  - Delayed from March 2022 by 2021 State Budget Amendment

# WMATA Strategic Plan

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## DRPT Recommendation and Comments

- WMATA adopted their initial strategic plan in March 2019 and has initiated the development of a new plan with their Board
  - 2021 State Budget Amendment approved in 2021 directed DRPT to delay strategic plan requirements for WMATA and urban transit agencies in Virginia
  - DRPT delayed WMATA strategic plan update from March 2022 to June 30, 2023
- No enforcement action is recommended
- The next strategic plan will need to focus on service optimization and recovery from the ridership impacts of COVID

# WMATA Capital Improvement Program

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## Legislative Requirement

- Board shall withhold 20% of state WMATA allocation for non-compliance (estimated \$35.4M in FY22)
- WMATA must adopt annually by July 1, a capital improvement program that covers a 6-year period and hold a public hearing in Northern Virginia
- Annually, thereafter WMATA must update the 6-year program

## CTB Guidelines

- Every year by July 1, WMATA must adopt a detailed capital improvement program covering the current fiscal year and the next five fiscal years and hold at least one public hearing on said capital improvement program in a locality embraced by the NVTC



# WMATA Capital Improvement Program

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## DRPT Recommendation and Comments

- WMATA has met the requirements for compliance with the statute and Board policy
- No enforcement action is recommended
- Due to the COVID-19 emergency, WMATA held a Virginia-focused public hearing on March 10, 2021, facilitated by the Commonwealth appointee and WMATA Board Chair, Paul Smedberg
- For the FY22 budget cycle, WMATA revised and implemented a new capital planning and programming process. Features included:
  - Project level detail in the CIP
  - Enhanced capital program reporting
  - Early policy guidance from GM, ten year capital strategy
- The development of the FY2022-27 CIP reflecting these negotiated terms

# Next Steps

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- October 2021 – DRPT will present the annual certification resolution to the Board for action on compliance recommendations
- December 2021 – NVTC will submit their Annual Report on the Performance and Condition of WMATA to the Governor and General Assembly

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# WMATA Annual Reporting Requirements

Commonwealth Transportation Board

September 14, 2021

Jennifer DeBruhl, Chief of Public Transportation



Virginia Department of Rail and Public Transportation

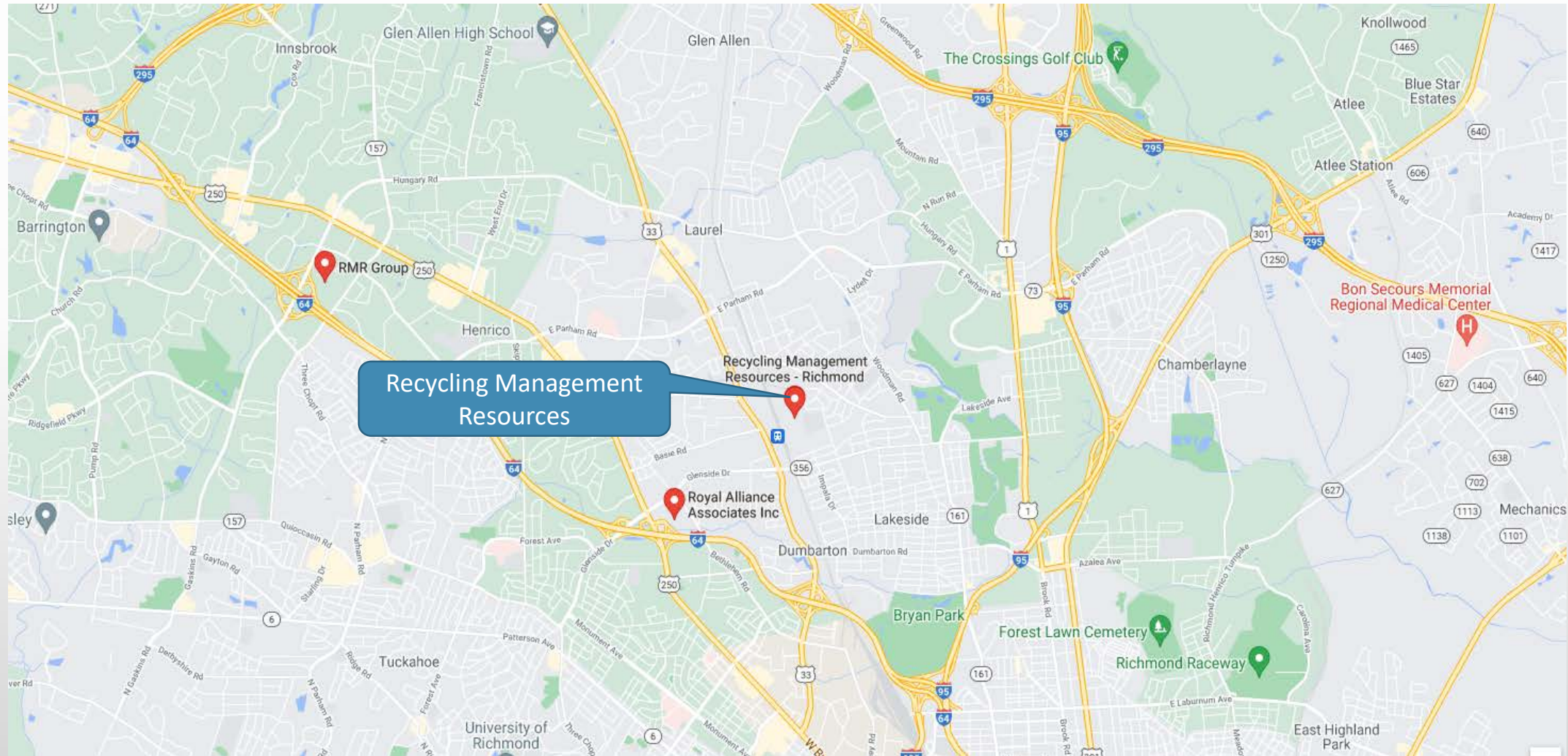


# Rail Industrial Access Program Application

Recycling Management Resources Richmond, LLC  
Henrico, VA

September 14, 2021

# Project Location: Henrico County, VA





# Recycling Management Resources Richmond Site View



# Applicant Background

- Recycling Management Resources (RMR) is a paper recycler
  - 8 plants in VA, NC, AL, NJ, GA, KY, and DE
  - Handles over 400,000 tons of paper products annually at this facility
  - Recycles all grades of paper materials and some plastics
- Currently relies solely on trucks for Richmond plant
- Inbound: paper bales, rolls, and loose paper for recycling comes in from Mid-Atlantic, Southeast, and Midwest US
- Outbound: paper bales go to paper mills in the United States, and are trucked in containers to Port of Norfolk to ship to international markets

# Additional Project Information

- Family-owned business expanding its footprint in the Richmond recycling market
- Business has worked with Henrico County Economic Development to support and expand this location
- Availability of rail transportation will open new markets for inbound and outbound volume across the U.S. and into the South American markets
  - Rail transportation is cost effective for long haul shipments and container shipments via rail to the Port of Norfolk



# Application Evaluation

Evaluation Criteria	Data	Score
Annual Carloads	520	20
Added Employment	6	8
Company Capital Investment vs State Contribution	\$370,000	2
Jurisdictional Unemployment Rate	4.6	8
Local Economic Development Support	Yes	10
Location on a Shortline Railroad	No	0
Local (Applicant) Match	30%	6
<b>Total Application Score</b>		<b>54</b>

- Applications must exceed 50 points for a recommendation to CTB
- North Branch Resources Score: 54 points
- Minimum threshold carloads: 10 per year

# Application Summary

- Application for \$259,000
  - \$370,000 total estimated rail cost to rehabilitate 2,321 foot spur
  - Applicant required to provide minimum 30% match
  - Total Applicant match: \$125,000
- Rail shipments will be 33% of inbound and outbound shipments
- Served by CSX
- Standard Program Requirements
  - All capital expenditures above grant amount will be paid by applicant
  - Cost overruns are the responsibility of the applicant

Thank you.

Jeremy Latimer

[Jeremy.Latimer@drpt.Virginia.gov](mailto:Jeremy.Latimer@drpt.Virginia.gov)

[www.drpt.Virginia.gov](http://www.drpt.Virginia.gov)

804-786-4440



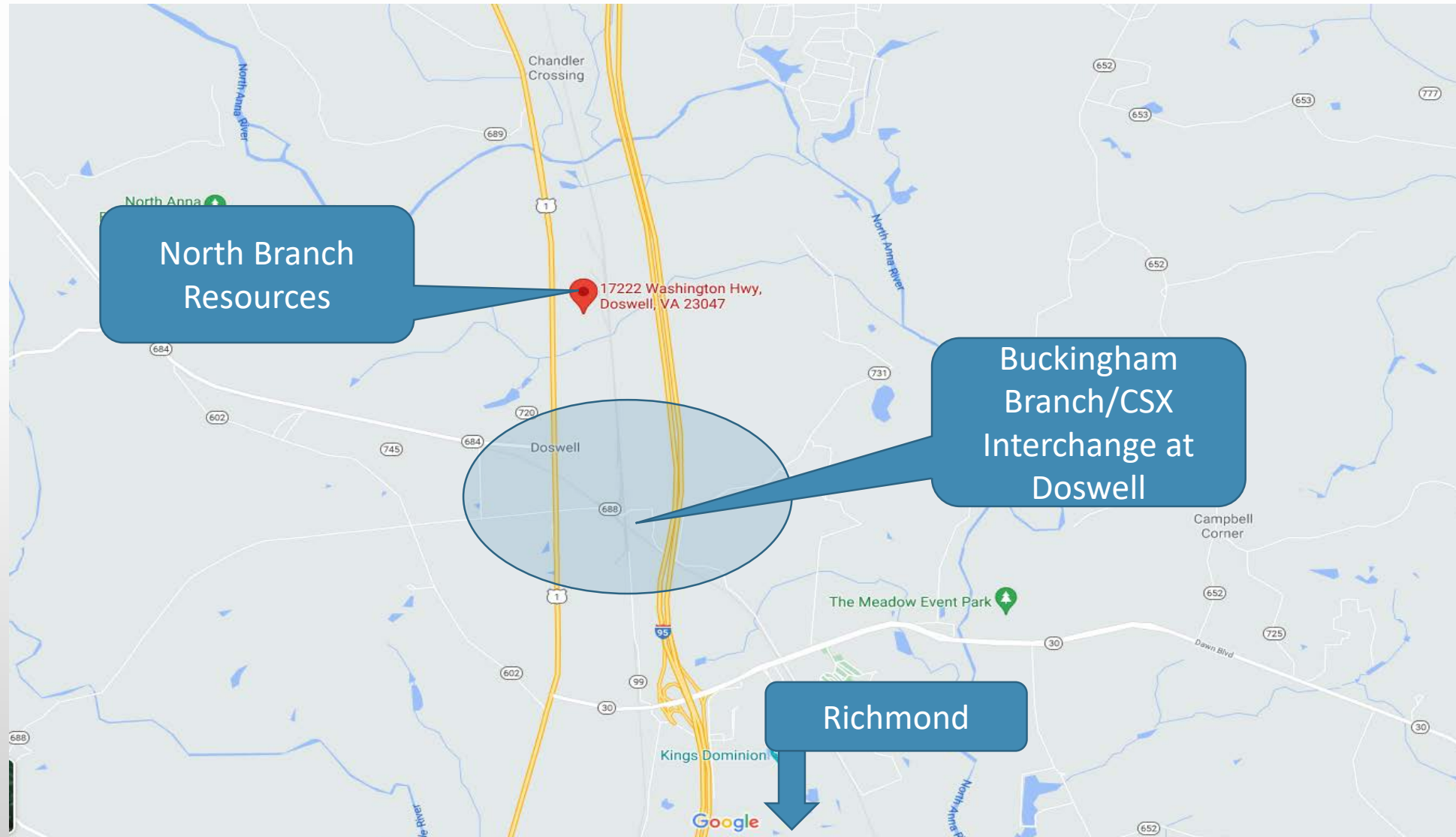
Virginia Department of Rail and Public Transportation

# Rail Industrial Access Program Application

North Branch Resources  
Hanover, VA

September 14, 2021

# Project Location: Doswell, Hanover County, VA



# North Branch Resources Site View





# North Branch Resources Site View



# Applicant Background

- North Branch Resources provides soil stabilization (calciment mixture) to many local projects:
  - 3 recent VDOT projects
  - New road lanes in Fredericksburg
  - Amazon facility
  - Eastern Engineered Wood Products project (also RIA Grant Recipient)
- North Branch Resources purchased the Doswell property in 2020
  - Rail is necessity for importing calciment
  - No Virginia calciment supplier
    - Product can only be obtained via rail
    - Trucking product is too expensive
- Shipping in calciment to the Doswell location will give local contractors an opportunity to obtain calciment



# North Branch Resources' Project

- \$1.8M investment in expansion
  - \$355,000 for expanded rail
  - Growing from 120 existing carloads to 300 carloads per year
- Currently 3 employees, expansion will add 4 additional employees
- Location on 21 acres allows for rail expansion and transload silos to allow for the specific mixture of calciment per each job
- Located on a shortline railroad and offers access to NS/CSX

# Additional Project Information

- Increased production for the region enables longer construction windows into wet and cold months
  - Reduced construction costs
  - Reduced long-term maintenance costs for roadway projects
- Business has coordinated with VEDP to support its new location
  - Rail Industrial Access program is an important incentive for this business expansion to supply calciment

# Application Evaluation

Evaluation Criteria	Data	Score
Annual Carloads	180	8
Added Employment	4	8
Company Capital Investment vs State Contribution	\$1,800,000	4
Jurisdictional Unemployment Rate	3.1	8
VEDP Support	Yes	10
Location on a Shortline Railroad	Yes	10
Local (Applicant) Match	Greater than 35%	8
<b>Total Application Score</b>		<b>56</b>

- Applications must exceed 50 points for a recommendation to CTB
- North Branch Resources Score: **56 points**
- Minimum threshold carloads: 10 per year

# Application Summary

- Application for \$230,000
  - \$355,000 estimated rail cost (\$1.8M total capital investment)
  - Applicant required to provide minimum 30% match
  - Total Applicant match: \$125,000
- Rail shipments will be 100% of incoming calciment ingredient
- Local trucks will deliver finished product to job sites
- Standard Program Requirements
  - All capital expenditures above grant amount will be paid by applicant
  - Cost overruns are the responsibility of the applicant

Thank you.

Jeremy Latimer

[Jeremy.Latimer@drpt.Virginia.gov](mailto:Jeremy.Latimer@drpt.Virginia.gov)

[www.drpt.Virginia.gov](http://www.drpt.Virginia.gov)

804-786-4440



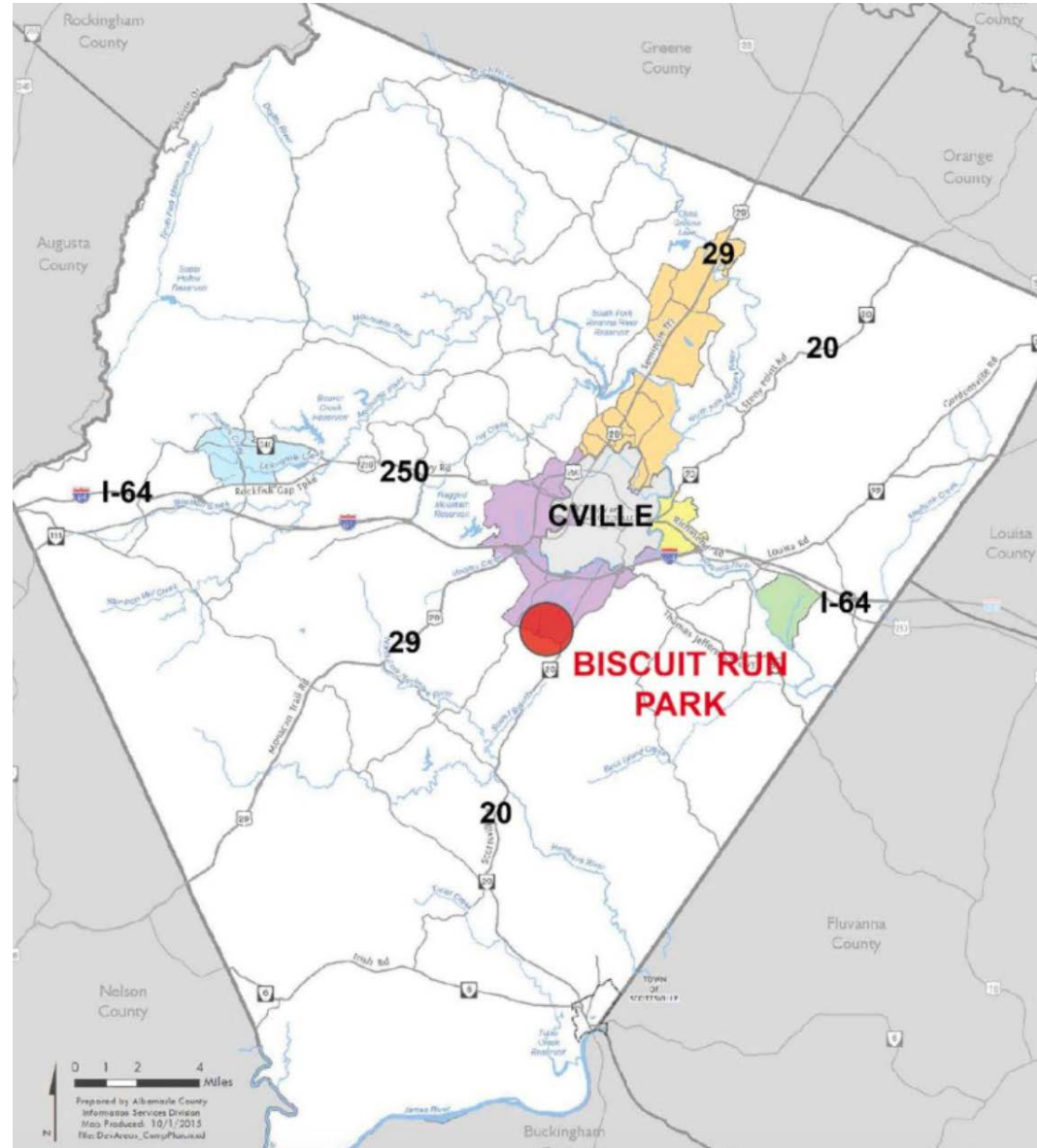
# Recreational Access Program

## Albemarle County Biscuit Run Park

 Russell Dudley, Local Assistance Division

September 14, 2021

# Project Location: Albemarle, Virginia





# Recreational Access Projects

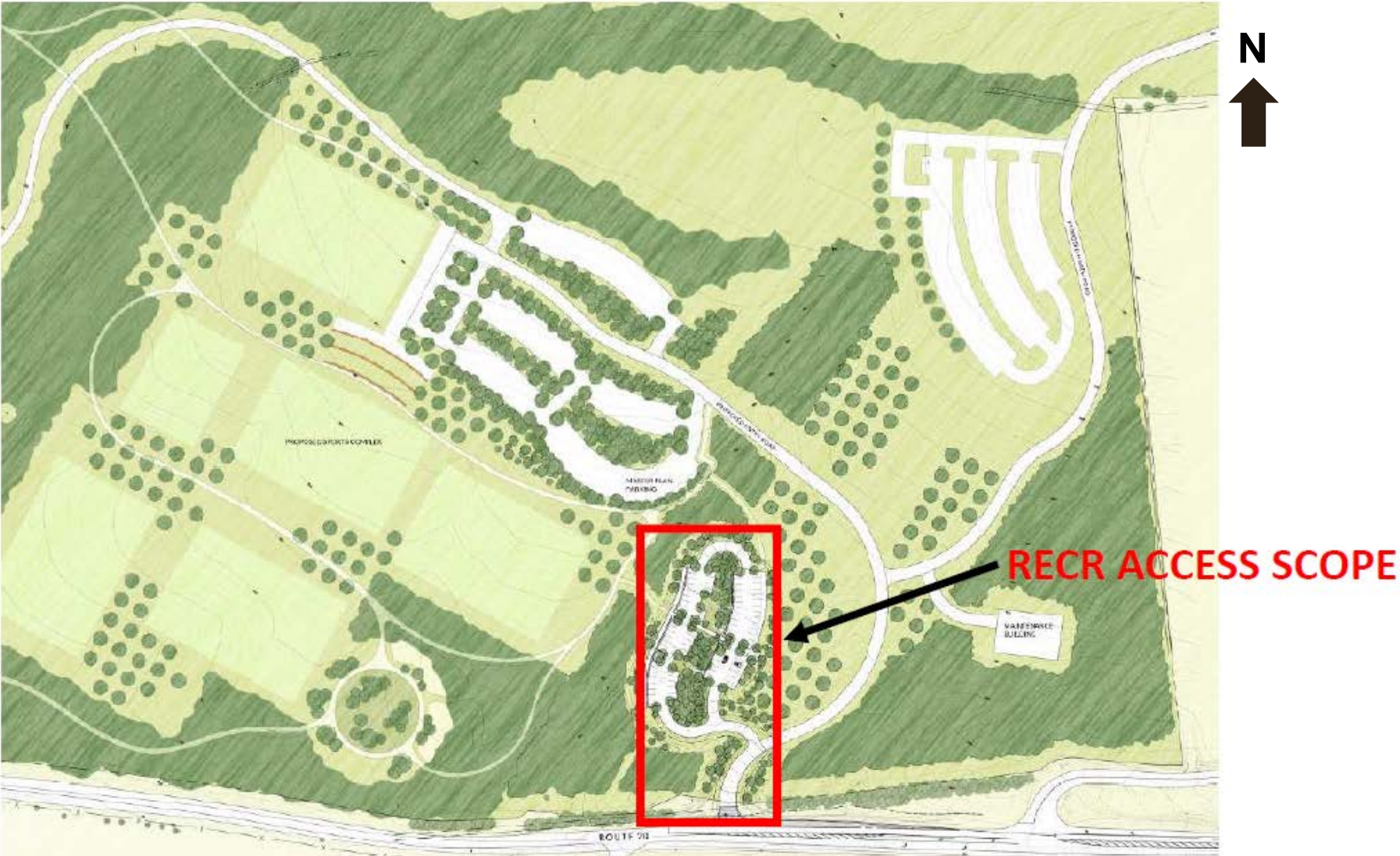
- The Recreational Access Program provides allocations to localities to assist in providing adequate access to public recreational and historic sites.
- The governing body must pass a Resolution to officially request Recreational Access funding.
- The Department of Conservation and Recreation (DCR) or the Department of Historic Resources (DHR) must provide a project recommendation letter.
- The maximum allocation for Recreational Access Projects is below:

	State Facility	Local Facility
<b>Roadway</b>	<b>\$400,000 (unmatched)</b>	<b>\$250,000 (unmatched), \$100,000 (matched)</b>
<b>Bikeway</b>	<b>\$75,000 (unmatched)</b>	<b>\$60,000 (unmatched), \$15,000 (matched)</b>

# Recreational Access Request Overview

- **Biscuit Run Park totals 1200 Acres**
- **New roadway proposed from Route 20 (Scottsville Rd) to the proposed 75 space parking lot**
  - **State Project # RECR-002-017**
  - **This Recreational Access request is for the construction of a 0.25 mile long, 30-foot wide access road**
  - **Access road will serve as the main park entrance and carry an estimated 383 vehicles per day**
  - **This project has a total construction estimate of \$2.13 million**
  - **Project Allocation: \$350,000**
    - **(\$250,000 unmatched, \$100,000 matched)**

# Recreational Access Project, RECR-002-017



## Next Steps

- **At its October meeting, the CTB will be presented with a Resolution to establish a new Recreational Access Project, RECR-002-017**
- **VDOT and Albemarle County will enter into a Standard State-Aid Agreement, which will allow the County to administer this project**
- **Albemarle County will proceed with the design and construction of the roadway**







COMMONWEALTH of VIRGINIA  
*Office of the*  
SECRETARY of TRANSPORTATION

# Interstate Operations and Enhancement Program and I-95 and I-64/664 Corridor Improvement Plans

Ben Mannell, AICP  
September 2021



# Interstate Operations and Enhancement Program

- **Omnibus legislation in 2020 codified program and its requirements (33.2-372)**
- **Program receives 20% of funds available for construction formula distribution**
- **Goal of program is to improve the safety, reliability and travel flow along interstate highway corridors**



# Focus on Operations and Transportation Demand Management

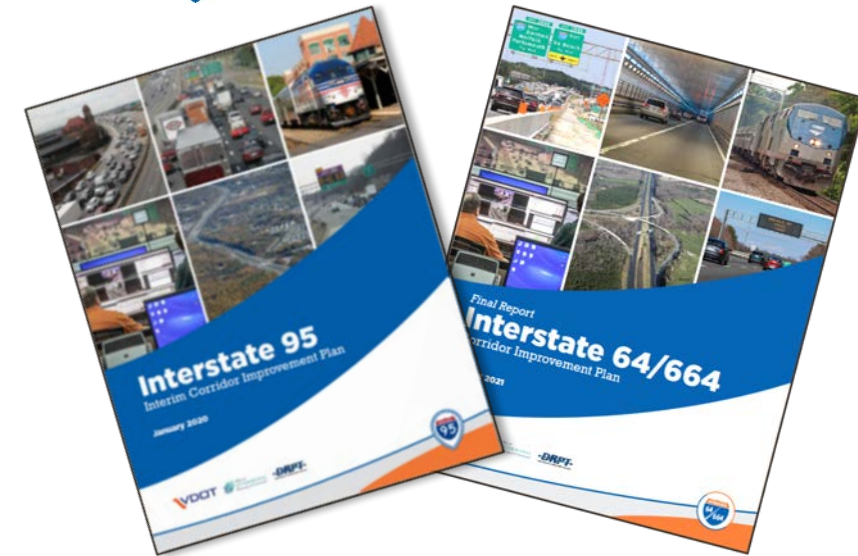
- **Code requires the Board give priority to operations and TDM strategies that improve safety and reliability of travel**
- **Planning processes to evaluate potential solutions for needs identified on Interstate corridors—**
  - **First, developed corridor-wide operations and incident management plans**
  - **Second, development of solutions focused on transportation demand management**
  - **Finally, highway capital recommendations**

# Policy for Interstate Operations and Enhancement Program

- **In June the Board adopted a policy outlining the allocation process for funds in the Program**
- **Outlined “off-the-top” funding for operational improvements and limits on on-going costs**
- **Outlined process to identify recommended projects**
- **Established prioritization process**

# I-95 and I-64/664 Corridor Improvement Plans: Status Update

- **Both Plans follow adopted IOEP Policy:**
  - Performance issues identified and validated through public engagement
  - Operations improvements identified, prioritized based on ROI analysis and programmed
  - Targeted transportation demand management and highway capital solutions identified and presented to the public
  - SMART SCALE-like evaluation of TDM and capital improvements have been completed



# Available Program Funding

	<b>Previous</b>	<b>FY22</b>	<b>FY23</b>	<b>FY24</b>	<b>FY25</b>	<b>FY26</b>	<b>FY27</b>	<b>TOTAL</b>
Interstate 95	\$47.1	\$13.2	\$25.8	\$25.8	\$27.0	\$28.4	\$26.9	\$194.2
Interstate 64	\$32.1	\$9.9	\$18.5	\$18.5	\$19.4	\$20.3	\$19.3	\$137.9
Interstate Improvements	\$53.6	\$20.3	\$30.7	\$30.7	\$32.1	\$33.7	\$32.0	\$233.0
<b>Total (Millions)</b>	<b>\$132.7</b>	<b>\$43.4</b>	<b>\$75.0</b>	<b>\$74.9</b>	<b>\$78.5</b>	<b>\$82.4</b>	<b>\$78.1</b>	<b>\$565.1</b>
<b>Operational</b>	<b>\$40.3</b>	<b>\$22.0</b>	<b>\$19.1</b>	<b>\$18.6</b>	<b>\$13.8</b>	<b>\$6.5</b>	<b>\$6.5</b>	<b>\$126.9</b>
<b>Remaining Funds</b>	<b>\$92.4</b>	<b>\$21.4</b>	<b>\$55.9</b>	<b>\$56.3</b>	<b>\$64.7</b>	<b>\$75.9</b>	<b>\$71.6</b>	<b>\$438.2</b>

- **Operations improvements are funded from their respective dedicated funding off the top, SSP and towing program O&M covered through FY2027**
- **Remaining funds can be used for multimodal and highway capital improvements**

# Cost of Proposed Operating Improvements

	<b>Previous</b>	<b>FY22</b>	<b>FY23</b>	<b>FY24</b>	<b>FY25</b>	<b>FY26</b>	<b>FY27</b>	<b>TOTAL</b>
Interstate 95	\$26.3	\$13.2	\$18.9	\$17.4	\$12.6	\$5.3	\$5.2	\$98.9
Interstate 64	\$14.0	\$0.0	\$0.2	\$0.2	\$0.2	\$0.2	\$0.2	\$14.8
Interstate Improvements	\$0.0	\$7.7	\$1.0	\$1.1	\$1.1	\$1.1	\$1.1	\$13.1
<b>Total (Millions)</b>	<b>\$40.3</b>	<b>\$21.0</b>	<b>\$20.1</b>	<b>\$18.6</b>	<b>\$13.8</b>	<b>\$6.5</b>	<b>\$6.5</b>	<b>\$126.9</b>

- **Interstate 95 operations improvements programmed in January 2020**
- **Interstate 64 operations improvement programmed in January 2021**
- **Other interstate operations improvements (Interstates 77, 85, 295 and 66) recommended for funding**
- **O&M costs for safety service patrols and towing programs are covered through FY2027 on all interstates**

# Funding for Capital Improvements

	<b>Previous</b>	<b>FY22</b>	<b>FY23</b>	<b>FY24</b>	<b>FY25</b>	<b>FY26</b>	<b>FY27</b>	<b>TOTAL</b>
Interstate 95	\$20.8	\$0.0	\$6.9	\$8.4	\$14.4	\$23.1	\$21.7	\$95.3
Interstate 64	\$18.1	\$9.9	\$18.3	\$18.3	\$19.2	\$20.2	\$19.1	\$123.1
Interstate Improvements	\$53.6	\$12.5	\$29.7	\$29.6	\$31.0	\$32.6	\$30.8	\$219.8
Total (Millions)	\$92.4	\$22.5	\$54.9	\$56.3	\$64.7	\$75.9	\$71.6	\$438.2

**Reflects funding available after operations improvements implementation and O&M costs for new safety service patrol and towing programs have been taken “off the top” of their dedicated funding categories**



# Prioritization Scoring

Using the CIPs and other interstate studies, study team followed IOEP Policy approved by the CTB:

- **40% Congestion**  
Person hours of delay reduction
- **40% Safety**  
EPDO reduction
- **20% Accessibility**  
Access to jobs  
Access to jobs for minority and low income populations

Congestion Mitigation	Safety	Accessibility	
Reduction in Peak Period Delay	Reduction in Fatal and Injury Crashes	Increase in Access to Jobs	Increase in Access to Jobs for Disadvantaged Populations
100%	100%	75%	25%
40%	40%	20%	



# Allocation of Funds

**Step 1 - Fund Operational Improvements**

```
graph TD; A[Step 1 - Fund Operational Improvements] --> B[Step 2 - Fund TDM and Roadway Capital Improvements Using I-95 and I-64 Funds]; B --> C[Step 3 - Fund TDM and Roadway Capital Improvements Using Discretionary Interstate Funds];
```

**Step 2 - Fund TDM and Roadway Capital Improvements  
Using I-95 and I-64 Funds**

**Step 3 - Fund TDM and Roadway Capital Improvements  
Using Discretionary Interstate Funds**

# Recommended Funding Allocation

	Highway Operational	TDM / Transit	Highway Capital
Interstate 95	\$98.9	\$72.7	\$22.6
Interstate 64	\$14.8	\$32.6	\$90.5
Discretionary Interstate Funds	\$13.1	--	\$207.7
<b>TOTAL</b>	<b>\$126.9</b>	<b>\$105.3</b>	<b>\$320.8</b>

# Improvement Highlights

## Multimodal Improvements in Funding Scenario

- **Bus Service**

- **Fredericksburg to Pentagon/Washington DC**
- **Stafford County to Washington DC**
- **Central Prince William County to Downtown Alexandria**

- **Park & Ride Lot Enhancements and Expansions**

- **Exit 158 Horner Road Lot (Route 294 Prince William Parkway)**
- **Exit 152 (Route 234 Dumfries Road)**

- **New Park & Ride Lots**

- **Exit 133 (Route 17)**
- **Exit 58 (Route 620 Walthall)**

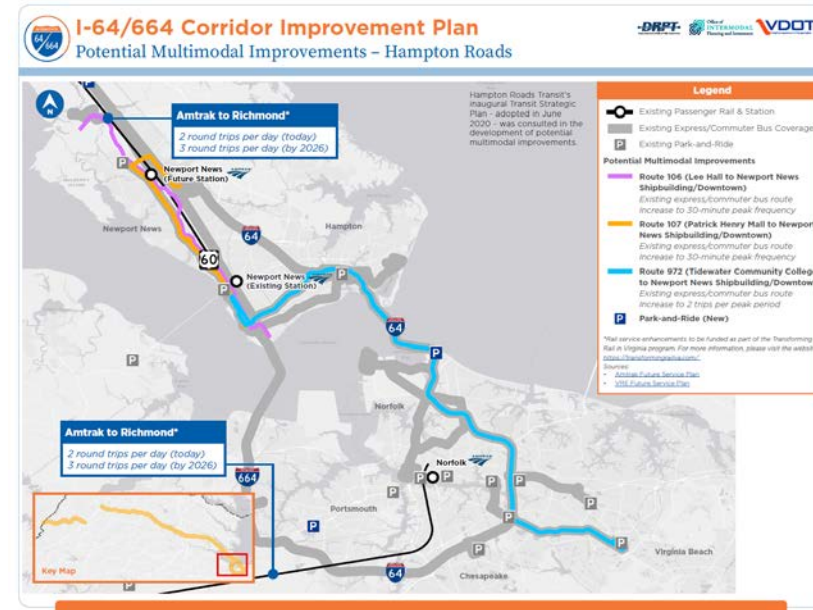


# Improvement Highlights

## Multimodal Improvements in Funding Scenario



- **Bus Service in Richmond:**
  - Broad Street – Short Pump express bus service
  - Increase frequency on Route 7
- **Bus Service in Hampton Roads:**
  - Newport News Route 106 and 107 enhancements
  - Tidewater Community College to Newport News Shipbuilding via HRBT (Route 972)
- **Park-and-Ride lots (5)**
  - Culpeper, Richmond and Hampton Roads





# Improvement Highlights

Southbound I-95 at Exit 160 Interchange Improvements- Included in Funding Scenario

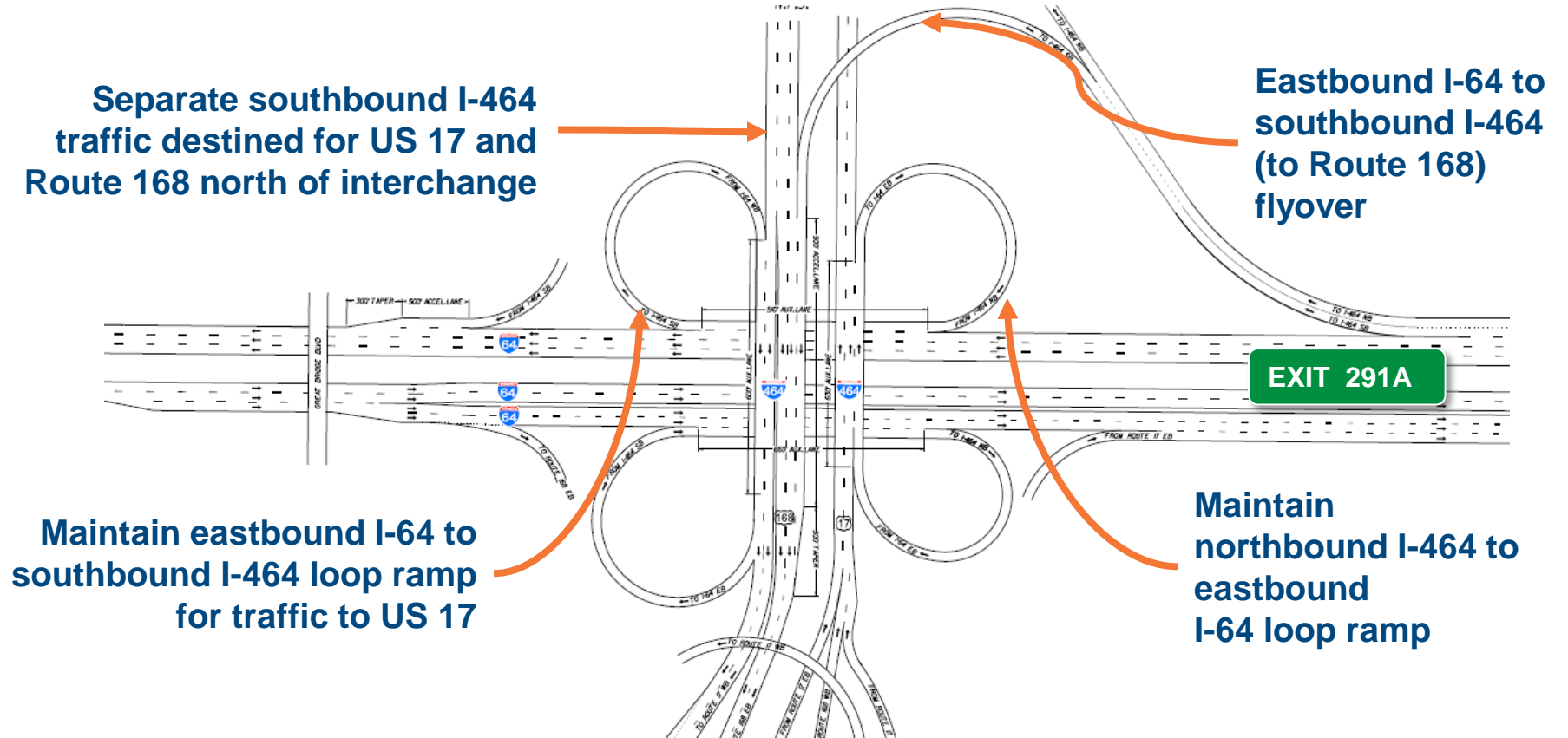
Eliminates loop ramp at the top bottleneck location on I-95



# Improvement Highlights

## I-64/464 Exit 291 Interchange Improvements- Included in Funding Scenario

- Addresses one of the remaining bottlenecks following the implementation of the HREL



# Preliminary Cost Estimate Refinement

## Refinements since July CTB:

- Inflation to year of expenditure
- Review of constructability and risk issues
- Identification of potential delivery options
- All “dedicated” projects identified in July can be funded; \$12.1M remains unallocated
- Potentially the first two “tentative” projects can be funded at \$11M



# Next Steps

- **This month:**
  - CTB adoption of I-95 and I-64 Corridor Improvement Plans; IOEP program of projects; amendment of Six Year Program
- **October 2021:**
  - Amend MPO TIPs and STIP to receive federal authorization
- **Fall-Winter 2021:**
  - Begin implementation of IOEP program of projects



# COMMONWEALTH of VIRGINIA

## *Commonwealth Transportation Board*

Shannon Valentine  
Chairperson

1401 East Broad Street  
Richmond, Virginia 23219

(804) 786-2701  
Fax: (804) 786-2940

## COMMONWEALTH TRANSPORTATION BOARD WORKSHOP AGENDA

VDOT Central Office Auditorium  
1221 East Broad Street  
Richmond, Virginia 23219  
September 14, 2021  
10:00 a.m.

\*Meeting will be conducted using Electronic Communication means

**Attendees will be required to wear a mask unless proof of vaccination is provided.**

10. Transportation Revenues and Opportunities  
*Nick Donohue, Deputy Secretary of Transportation*

*This presentation is currently unavailable.*

## #

\* This meeting will be conducted using electronic communications in accord with Section 2.2-3708.2(D) of the Code of Virginia, with the primary location being at the address listed on the agenda. Public access will not be provided at remote locations; however, members of the public may attend the meeting at the location on the agenda or may witness the meeting live stream by clicking the "View video" button at the following link: [http://www.ctb.virginia.gov/public\\_meetings/live\\_stream/default.asp](http://www.ctb.virginia.gov/public_meetings/live_stream/default.asp). In the event there is an interruption in the broadcast of the meeting, please call (804) 729-6495.

Should you wish to offer comment regarding how meetings using electronic communications technology compare to traditional meetings when the CTB is physically present, you may complete the FOIA Council's Electronic Meetings Public Comment form appearing at the end of this agenda and submit it to the FOIA Council as described on the Form.



**10. If there were any presentations (PowerPoint, etc.), were you able to hear and see them?**

Poorly  
1      2      3      4      5  
Clearly

COMMENT \_\_\_\_\_

**11. Were the members as attentive and did they participate as much as you would have expected?**

Less  
1      2      3      4      5  
More

COMMENT \_\_\_\_\_

**12. Were there differences you noticed in how the members interacted?**

**With the other members present:**

Very Different  
1      2      3      4      5  
No Difference

**With members participating from other locations:**

Very Different  
1      2      3      4      5  
No Difference

**With the public:**

Very Different  
1      2      3      4      5  
No Difference

COMMENT \_\_\_\_\_

**13. Did you feel the technology was a help or a hindrance?**

Hindered  
1      2      3      4      5  
Helped

COMMENT \_\_\_\_\_

**14. How would you rate the overall quality of this meeting?**

Poor  
1      2      3      4      5  
Excellent

COMMENT \_\_\_\_\_

**THANK YOU. Please send your completed form by mail, facsimile or electronic mail to the FOIA Council using the following contact information:**

Virginia Freedom of Information Advisory Council  
General Assembly Building, Second Floor  
201 North 9th Street, Richmond, Virginia 23219  
[foiacouncil@dls.virginia.gov](mailto:foiacouncil@dls.virginia.gov)/Fax: 804-371-8705/Tele: 866-448-4100