New River Valley

Transportation Technical Advisory Committee

Meeting Agenda

March 17, 2015 1:30 p.m.

CALL TO ORDER.....Chair Olsen

PUBLIC COMMENTS.....Open Floor

NEW BUSINESS.....Committee

- Action Item – FY16 Rural Transportation Work Program
- Action Item – HB2 Review of Typology Weighting

TRANSPORTATION REPORTS.....Committee

- MPO Planning Projects Update
- VDOT Current Planning, Construction, and Maintenance Update
- VT Alternative Transportation Program Update
- Ride Solutions Program Update
- Rural Work Program Update
- NRVPDC Name Change Update
- Upcoming Meetings:
  - March 17th, Regional Transit Study Kick-off
  - March 18th, Stormwater Plan Reviewer Course, Wytheville
  - March 23rd, I-81 Corridor Coalition, Hotel Roanoke
  - March 24th, Roanoke Sustainable Transportation Conference
  - March 26th, MPOTAC & Passenger Rail Site Identification
  - April, GIS Users Group Social

ROUNDTABLE ANNOUNCEMENTS/UPDATES.....Committee

ADJOURNMENT.....Chair Olsen

2015 Committee Members

Name	*Representing*
E. Olsen*	Blacksburg Transit
J. Hurt**	City of Radford
E. Gibson	Montgomery County
J. Linkous	Pulaski County
L. Martin	Floyd County
R. McCoy	Giles County
D. Brugh	NRVMPO
H. Spencer	Town of Glen Lyn
Vacant	Town of Rich Creek
B. Kast	Town of Narrows
R. Tawney	Town of Pearisburg
Vacant	Town of Pembroke
A. McClung	Town of Blacksburg
B. Helms	Town of Christiansburg
B. Parker	Town of Dublin
B. Pedigo	Town of Pulaski
Vacant	Town of Floyd
F. Streff	NRCC
R. Saville	Radford University
D. Freed	Virginia Tech
G. Heinline	Pulaski Area Transit
B. Booth	Radford Transit
T. Trimble	VTTI
M. Gray	VDoT
D. Clarke	VDoT

* Indicates current Chairperson
** Indicates current Vice Chairperson

2015 Meeting Schedule:

May 19th
July 21st
September 15th
November 17th

Meeting Location:

New River Valley Business Center
6580 Valley Center Drive
Radford, VA 24141

Primary Staff Contact:

Elijah N. Sharp
Director of Planning & Programs
NRV Planning District Commission
Tel: 540-639-9313
esharp@nrvpdc.org

New River Valley's

Transportation Technical Advisory Committee

January 20, 2015
NRV Business Center, Fairlawn

New River Valley
Planning District Commission

PROJECT SNAPSHOT

New River Valley

Mapping of Vulnerable Roadways and Outreach Campaign

2015

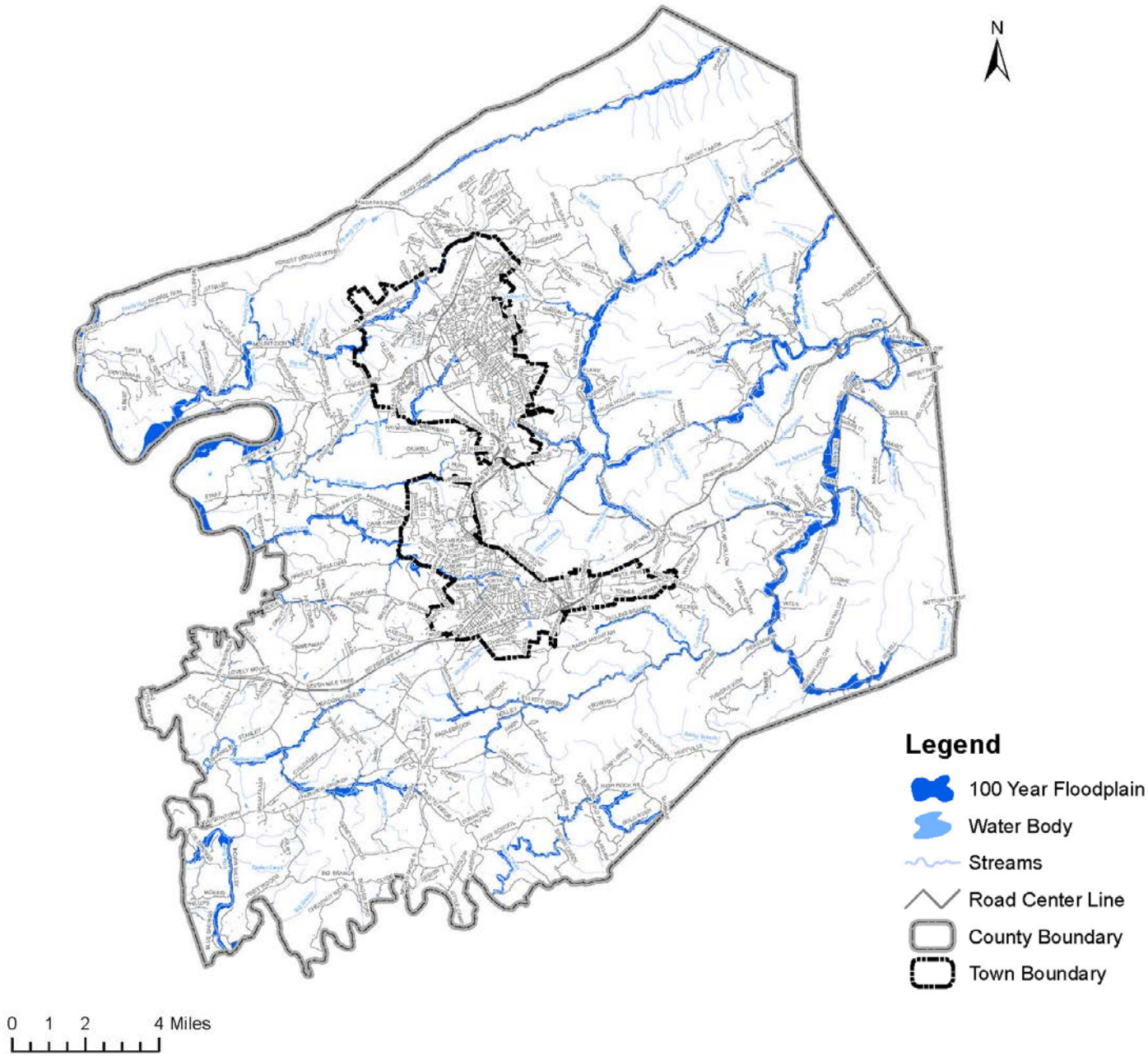
VDEM Flood Mapping

Overview

- Collect & Generate GIS data
  - Roadways
  - Bridges
  - Currently within the floodplain
- Local Meetings
  - Identify frequent flooding locations
  - Determine interest in mitigation
- Final Map/Database
  - Include site visit documentation

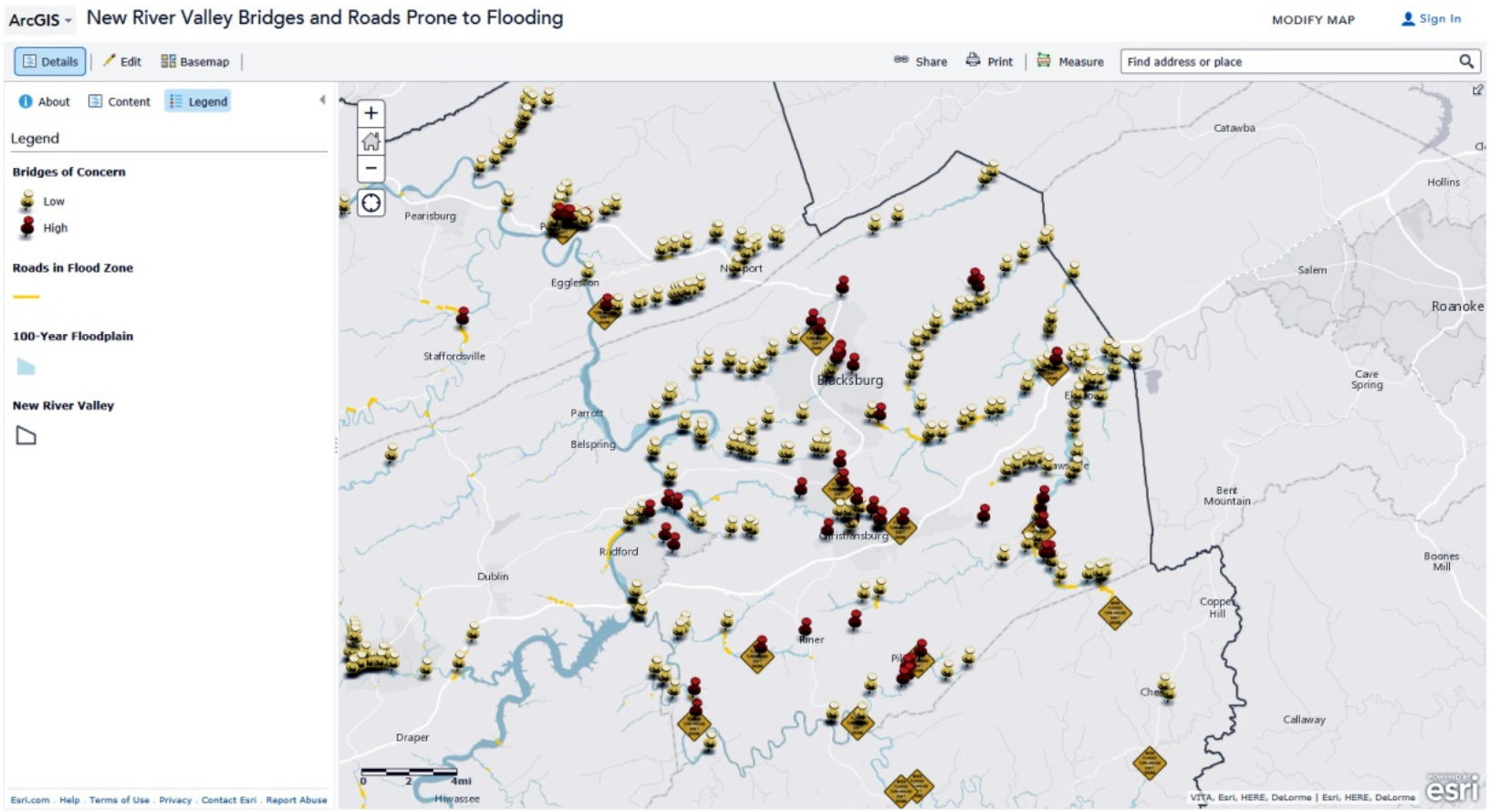
VDEM Flood Mapping

Sharpies & the Trusty 22x34 Map



VDEM Flood Mapping

Mapping Application



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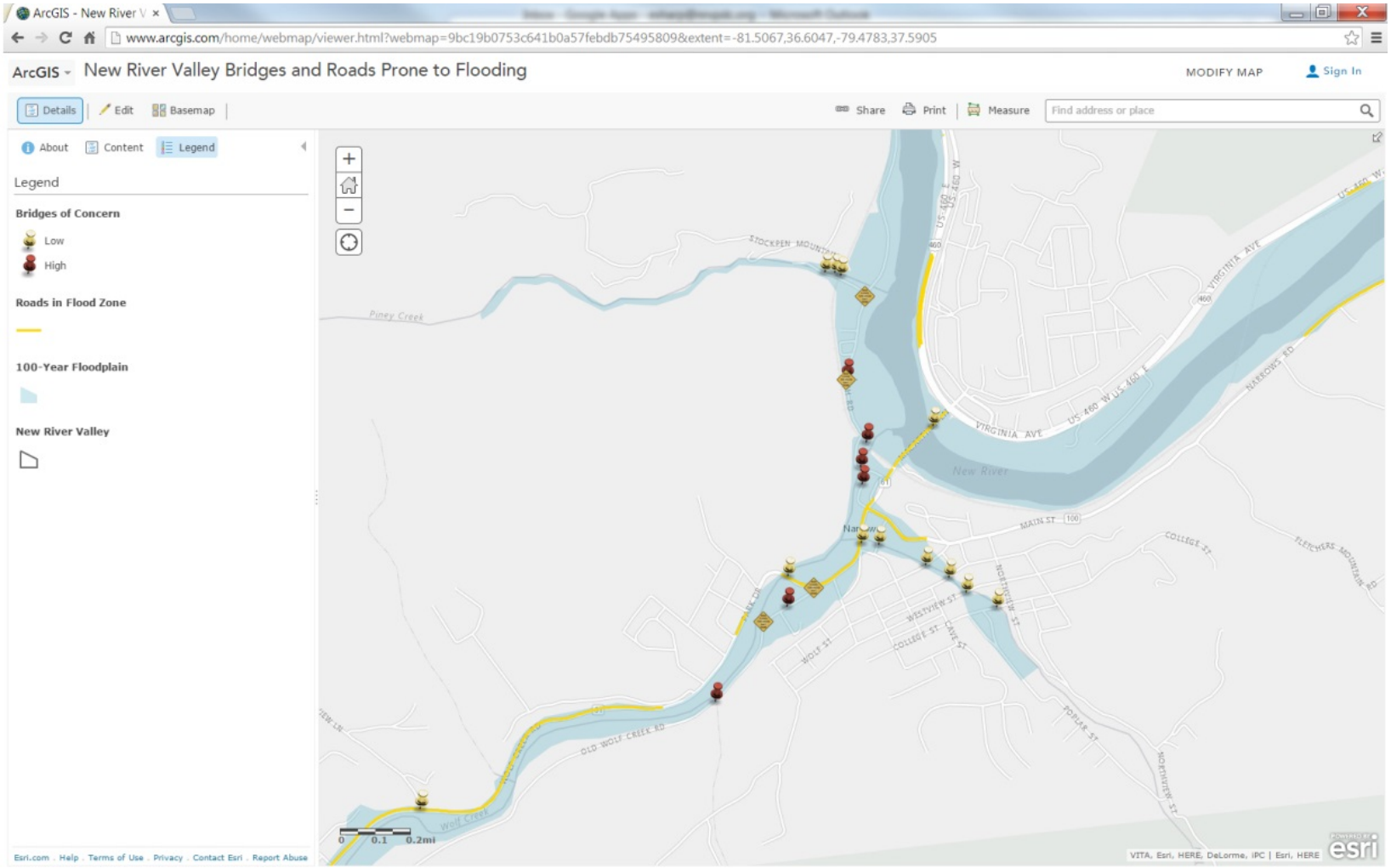
VDEM Flood Mapping

Mapping Application



VDEM Flood Mapping

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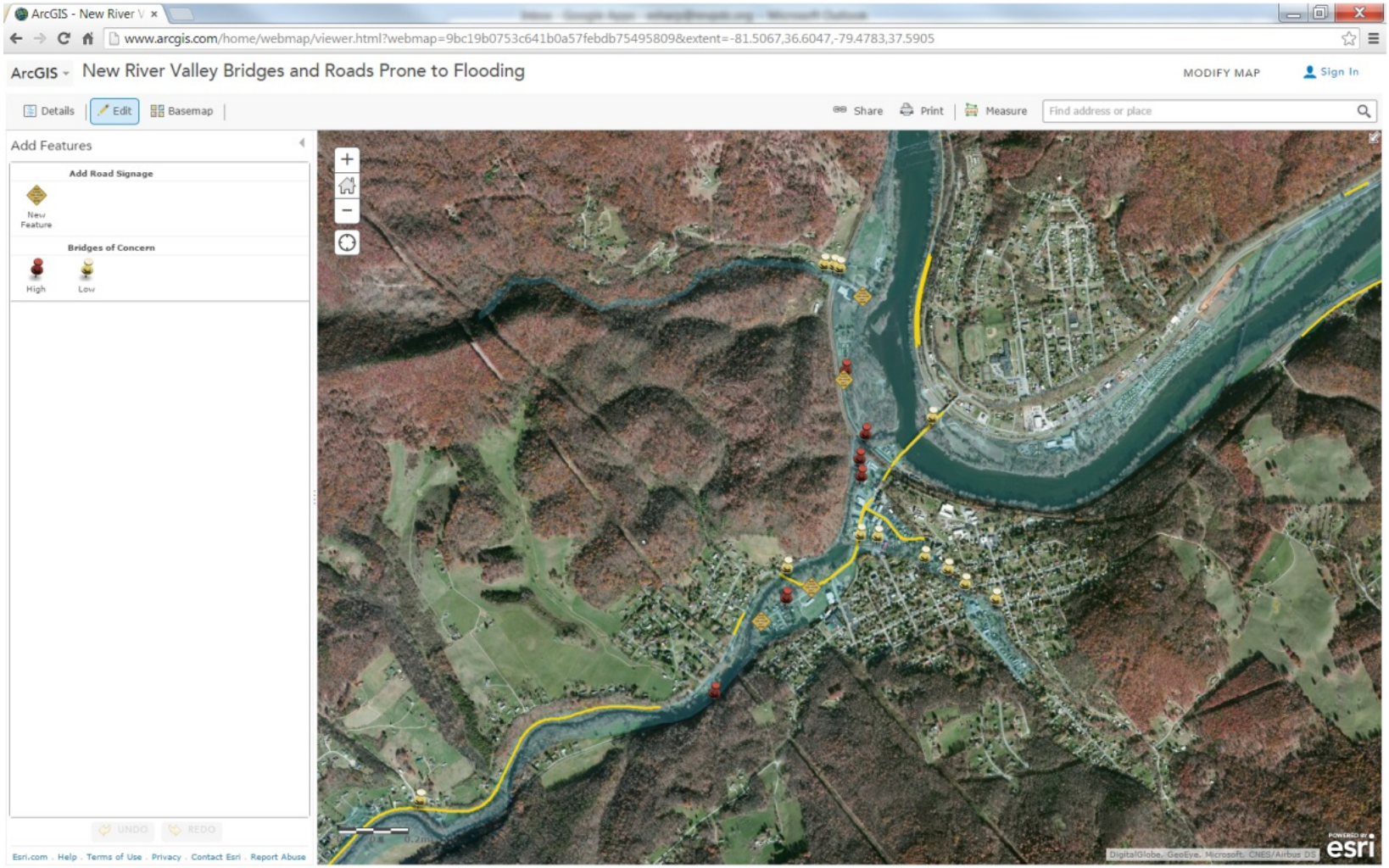

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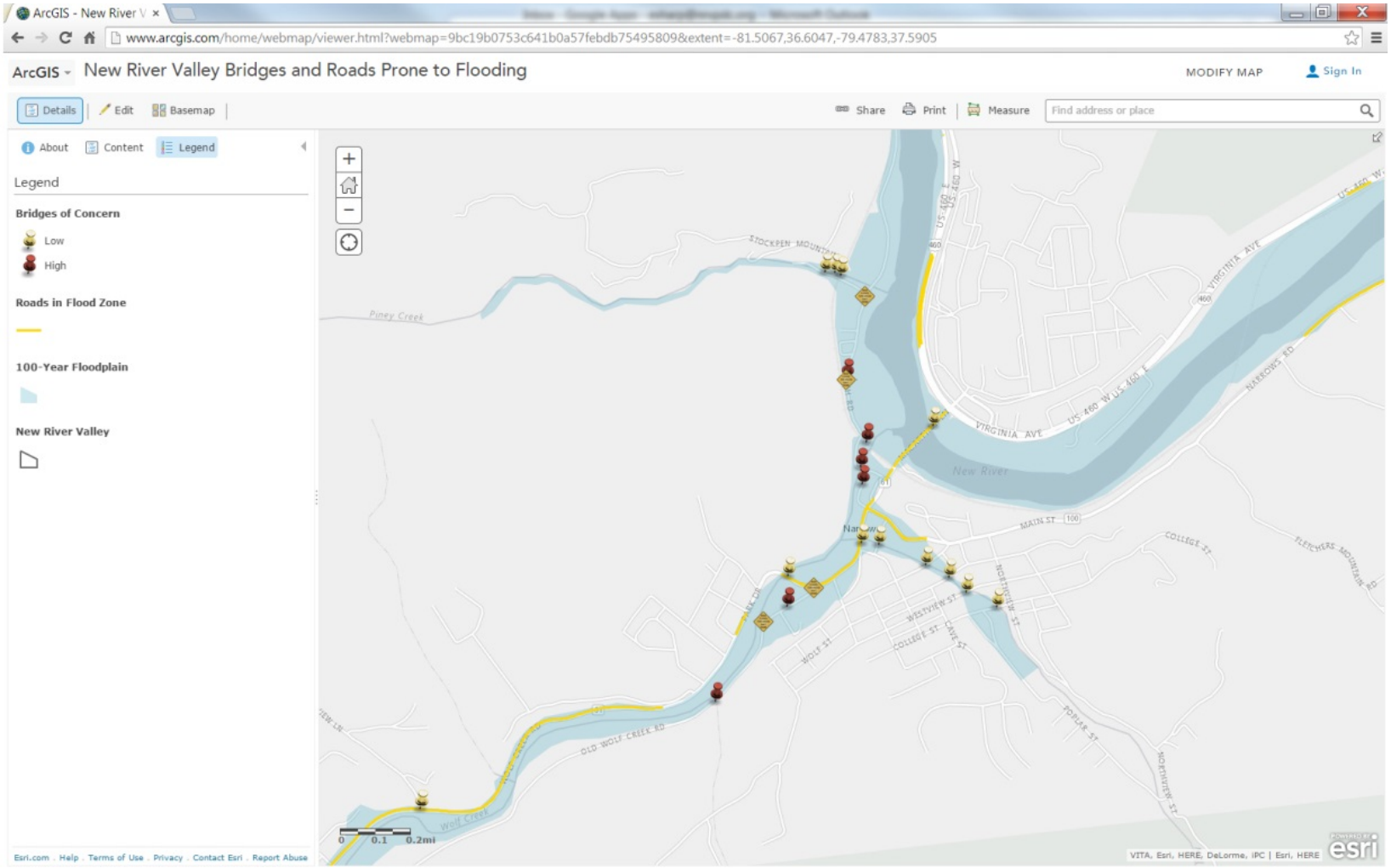

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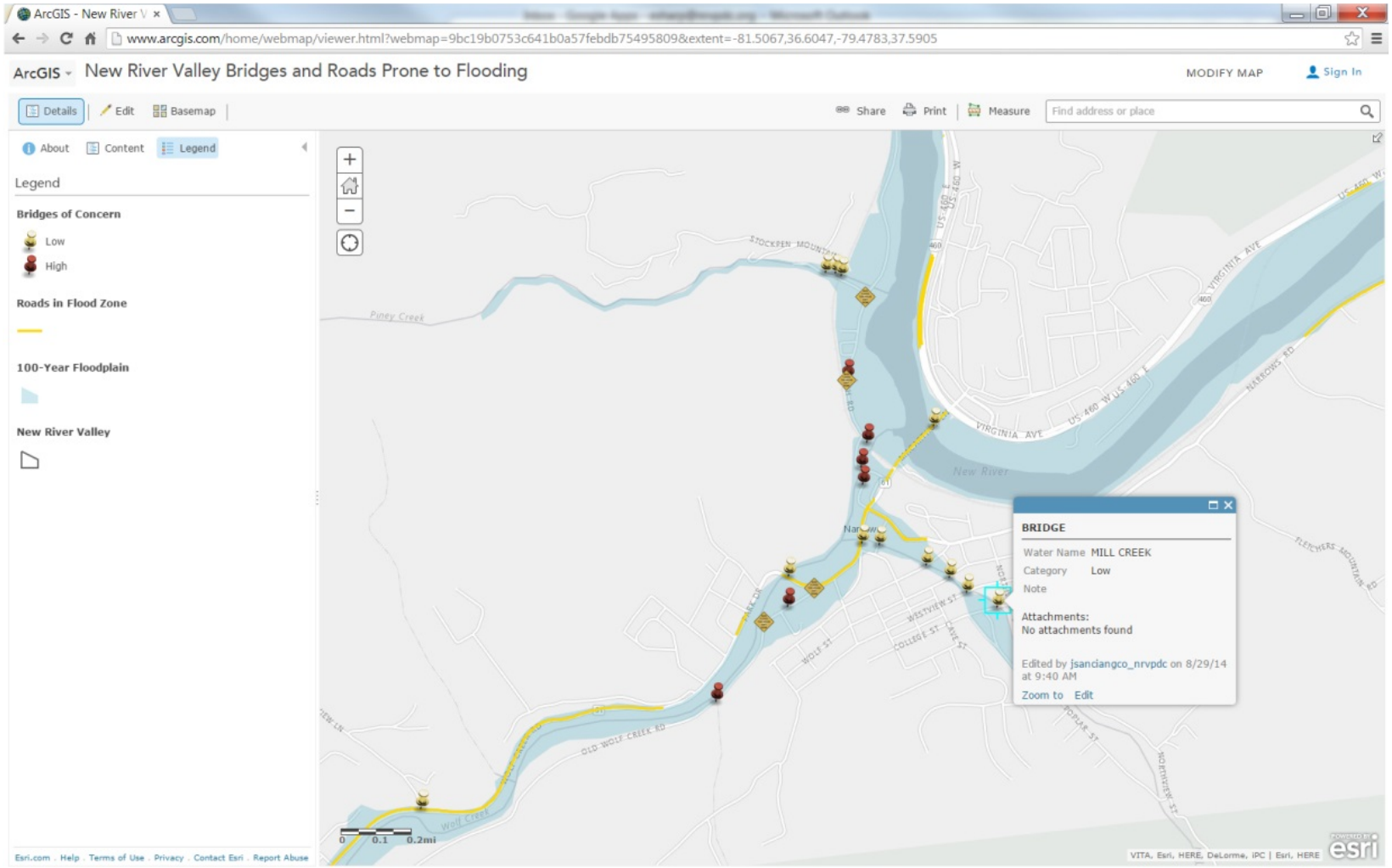
Mapping Application



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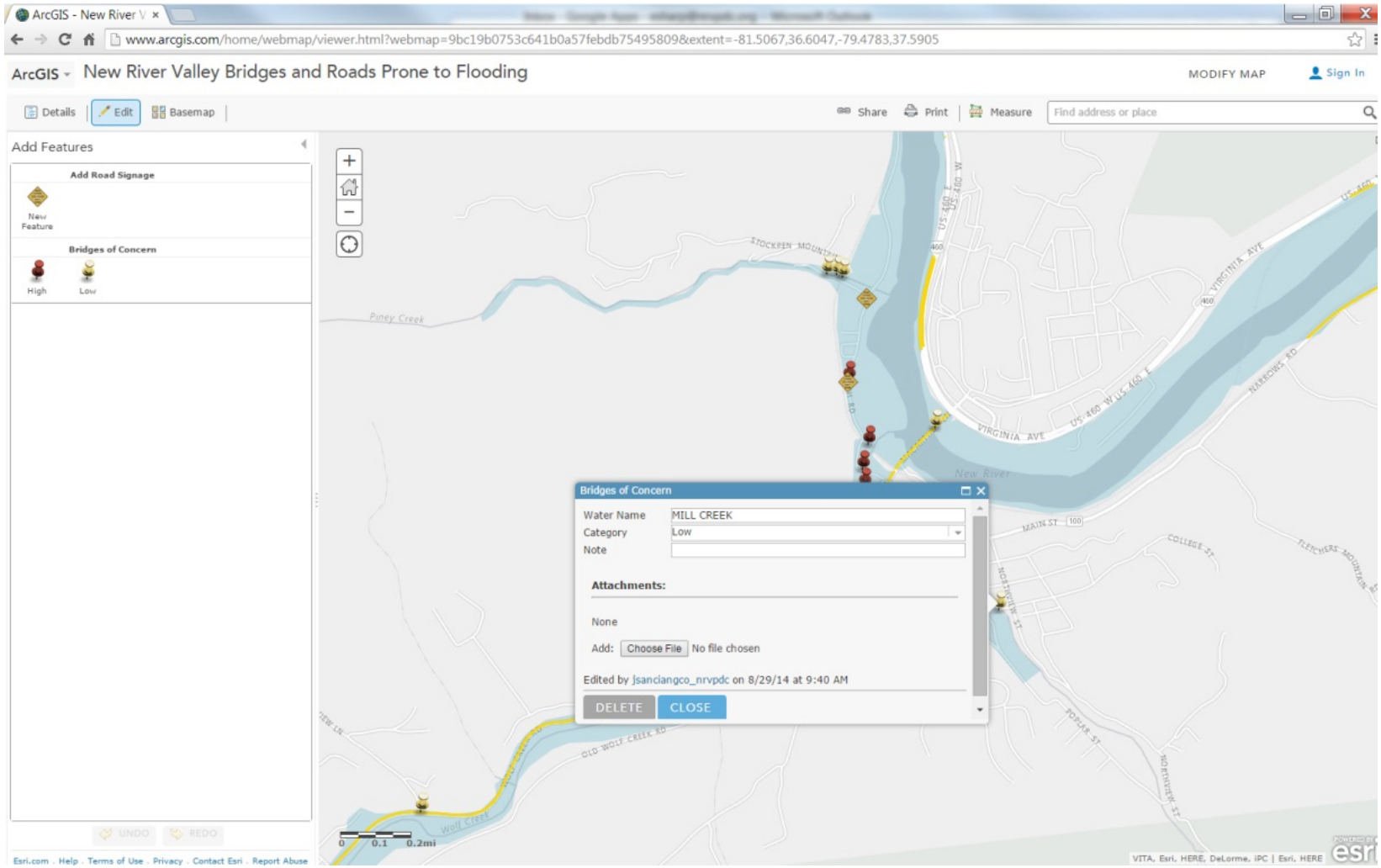

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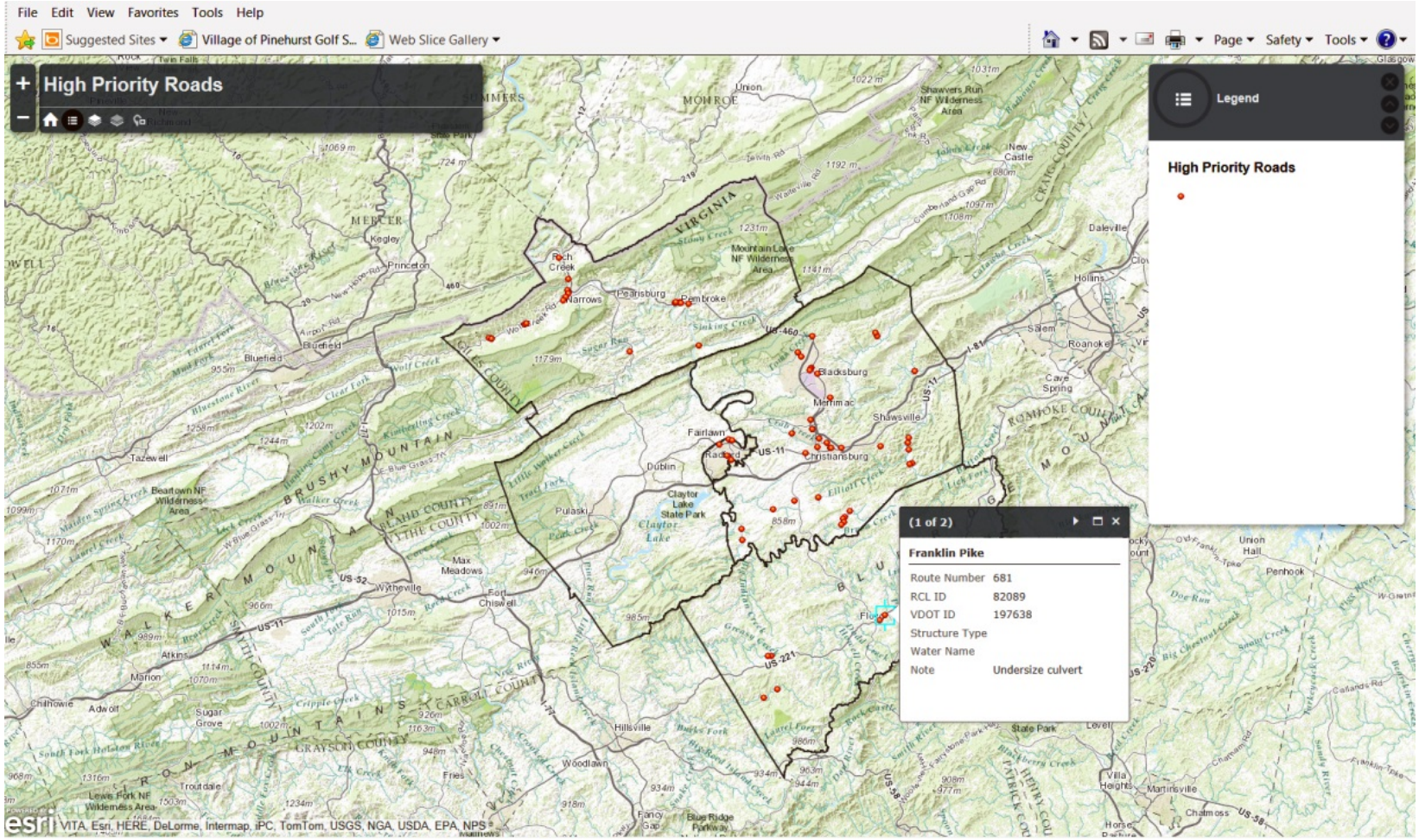

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VDEM Flood Mapping

Enhance the User Experience with a Story Map

Interactive Story Map Link Here

VDEM Flood Mapping

Key Takeaways

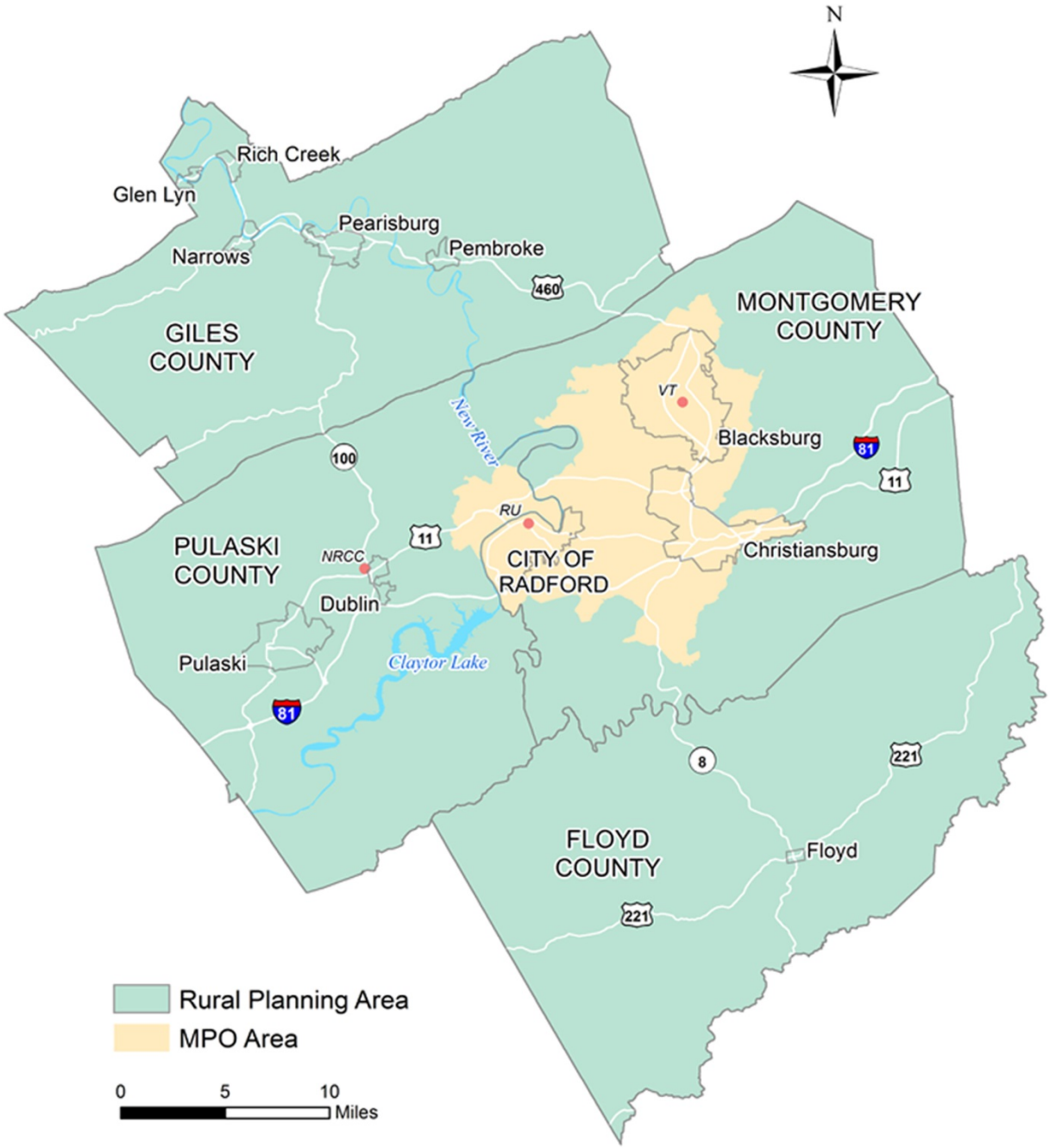
- Frequent flood locations known
- Interactive Map:
  - Track Progress
  - Update before/during/after visit
  - Increases level of precision
- Currently coordinating w/VDOT
- Funding for Signage
- Project Complete = October 2015

New River Valley

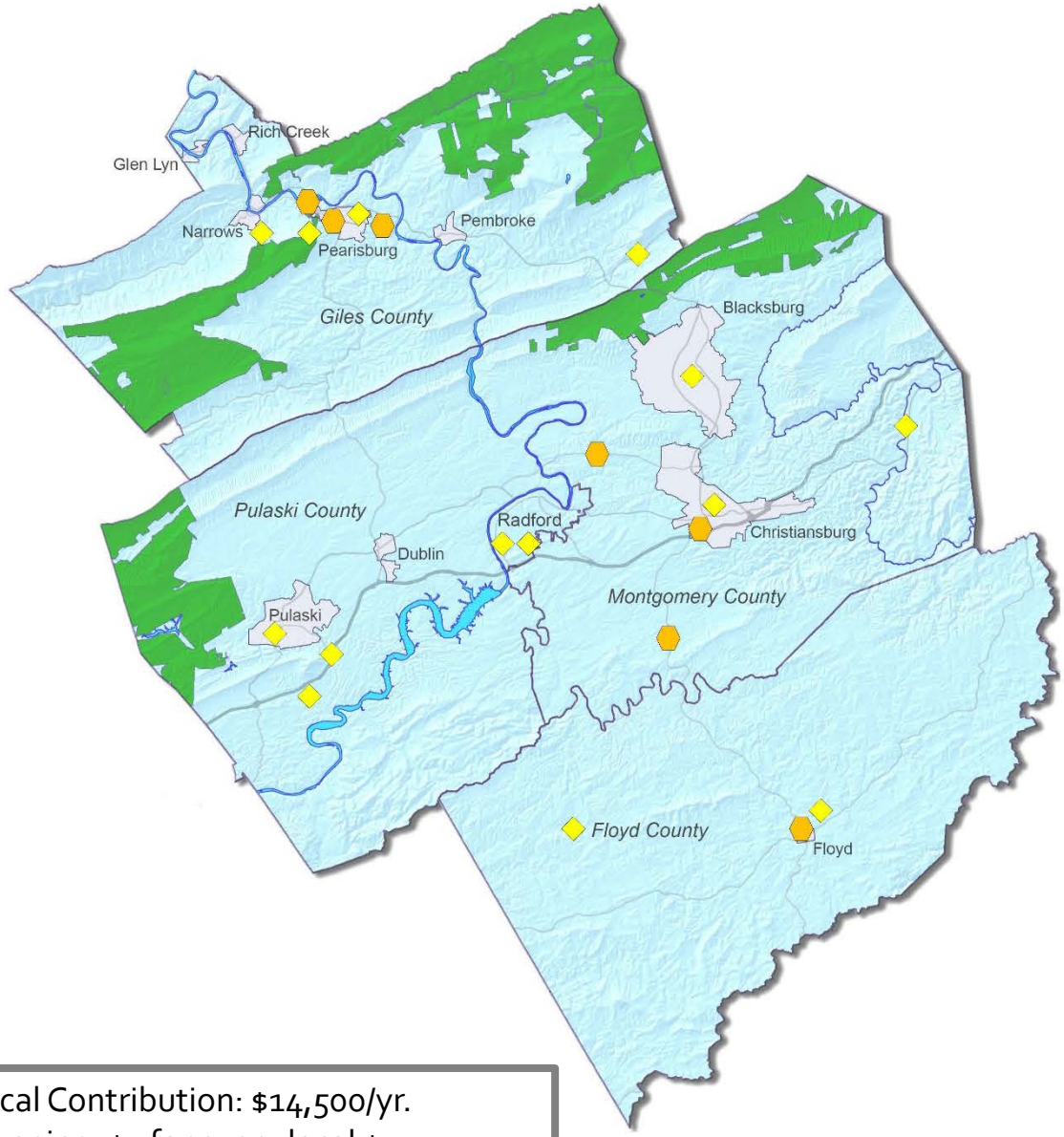
FY16 Rural Transportation Work Program

ACTION ITEM #1

Non-Urbanized Areas



Program Projects – Last 6 yrs



Grants ($1,327,950):

- Christiansburg Highway-Rail Crossing ($437,800)
- Bluff City Boat Access ($78,750)
- Whitt Riverbend Boat Access ($83,400)
- Pearisburg Enhancement ($52,000)
- Belview SRTS ($260,000)
- Auburn SRTS ($240,000)
- Christiansburg SRTS (not awarded)
- Floyd Enhancement ($176,000)
- CTB Representative Meetings (Annual)

Regional Plans ($285,000):

- US Bike Route 76 Study
- NRV Trail Counter Program
- NRV Mapping of Vulnerable Roads & Bridges
- PDC/MPO Transit Technology
- NRV Livability Initiative
- Regional Bikeway, Walkway, Blueway Plan
- Regional Transit Organization Analysis
- Regional Long-Range Transportation Plan
- Regional Hazard Mitigation Plan

Local Technical Assistance/Support ($150,000):

- Route 99 Retail Feasibility Study
- Route 11/460 Corridor Study
- Draper Corridor Study
- AT Community Brochures (Pearisburg, Narrows)
- Transportation Alternatives Options (Newport, Pulaski)
- Blacksburg Bicycle Master Plan
- Comprehensive Plans (Radford, Pearisburg, Floyd)
- Transit Development Plans (BT, RT, PAT)

Local Contribution: $14,500/yr.
Planning: $5 for every local $1
Implementation: $15 for every local $1

FY16 Task and Budget Overview

- Program Administration ($7,500)
- Regional Leadership ($10,000)
- Local Projects ($20,000)
- Project Implementation ($10,000)
- Statewide Projects ($25,000)

New River Valley
Planning District Commission

Regional Leadership

- Transportation Technical Advisory Committee (TAC)
  - Integrated w/BWWW
  - Link to Commission
- Regional Transit Coordinating Council
  - Regional Transit Study (2 of 2)

New River Valley
Planning District Commission

Potential FY16 Projects

- NRV Trail Counter Program
  - Rotate counters every 2 weeks
- NRV Cycling Guide
  - Underway March 2015
- Potential local corridor study?
- Transportation Alternatives?

New River Valley
Planning District Commission

Grant Writing

- 1-on-1 CTB Meetings
  - District + At-Large (October)
- Explore Options w/Localities
  - Newport + Pulaski
  - Strengthen local applications
- Identify funding for local projects
- Provide letters of support

New River Valley
Planning District Commission

Statewide Projects FY2014

- GIS Existing/Future Landuse
- Prioritized list for SYIP/HB2
- Rural Trans. Planning Workshop
- Governor's Trans. Conference
- Local Programs Workshop
- Trans. Alternatives Workshop

New River Valley
Planning District Commission

House Bill 2

Review of Typology Weighting

Virginia Department of Transportation

ACTION ITEM #2

Funding the Right Transportation Projects

Weighting Factor Areas – Example

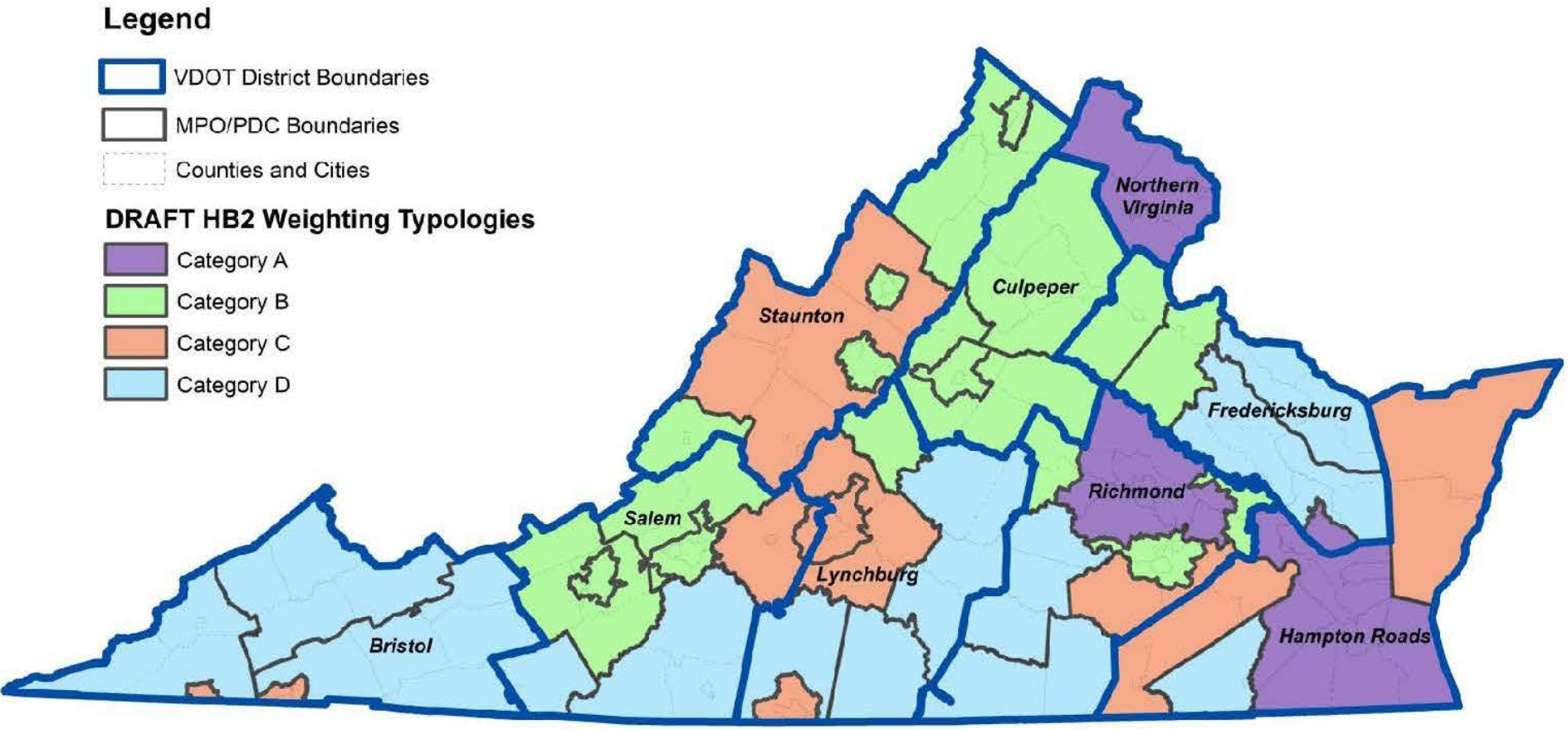
Factor	Congestion Mitigation	Economic Development	Accessibility	Safety	Environmental Quality	Land Use
Category A	35%**	10%	25%	10%	10%	10%*
Category B	15%	20%	25%	15%	10%	15%*
Category C	10%	20%	30%	30%	10%	
Category D	10%	30%	20%	30%	10%	

Note* – For metropolitan planning areas with a population over 200,000 (TPB, HRTPO, RRTPO, FAMPO, RVTPO), the prioritization process shall also include a factor based on the quantifiable and achievable goals in VTrans (referred to as the Transportation-Land Use Coordination factor).

Note – For Northern Virginia and Hampton Roads construction districts, congestion mitigation is weighted highest among the factors in the prioritization process.**

Funding the Right
Transportation Projects

Attachment 4. PDC – MPO Draft Typology



Funding the Right
Transportation Projects

Congestion Factor

- **Recommend two measures**
  - **50% of score – decrease in the person hours of delay in the corridor**
  - **50% of score – increase in peak-period person throughput in the corridor**

Funding the Right
Transportation Projects

Person Hours of Delay

- *What* – Decrease in the number of person hours of delay in the corridor based on level of service E
- *When* – Analyze change between build and no-build in 2025
- *Where* – Corridor-level analysis
- *How* – Highway capacity manual and regional models will be used to determine expected changes
- *Impact* – Capacity expansion, operational improvements, transit service, intersection improvements, and other improvements

HB2
Funding the Right
Transportation Projects

Peak Period Person Throughput in Corridor

- *What* – Increase in the number of people expected to move through the corridor during the peak period
- *When* – Analyze change between build and no-build in 2025
- *Where* – Corridor-level analysis – facility and related parallel facilities
- *How* – Regional models and statewide planning system would be used to determine expected change
- *Impact* – Capacity expansion, operational improvements, transit service, intersection improvements, and other improvements

Funding the Right Transportation Projects

Economic Development Factor

- Recommend two measures
  - 70% based on support for new economic activity within project area
  - 30% based on freight efficiency and intermodal access
- First measures focus on new growth
- Second measures supports maintaining and enhancing existing economic growth

Funding the Right Transportation Projects

Support for New Economic Activity

- *What* – Degree to which project supports local economic development strategies and projects
- *When* – Changes compared to existing conditions
- *Where* – Corridor level analysis
- *How* – Project sponsor would provide information regarding steps taken toward specific economic development actions
  - Documentation would be required to verify information provided by sponsor

HB2
Funding the Right
Transportation Projects

Support for New Economic Activity

- **Project receives points based on whether it**
  - **Supports Department of Housing and Community Development Enterprise Zones**
  - **PDC has passed resolution demonstrating that project supports adopted Comprehensive Economic Development Strategy**
  - **Whether development plans have been submitted for review**
  - **Whether development plans have been approved**
  - **Whether utilities have been extended/are in place/are programmed for development**
- **Project points would be scaled using a criteria to be determined – square footage, value, etc.**

Funding the Right Transportation Projects

Freight Efficiency and Intermodal Access

- *What* – Degree to which project improves freight efficiency and intermodal access
- *When* – Changes compared to existing conditions
- *Where* – Facility-level analysis
- *How* – Variable – sponsor provided information and GIS verification

HB2
Funding the Right
Transportation Projects

Freight Efficiency and Intermodal Access

- **Project receives points based on**
  - **Degree to which it enhances access to existing/planned distribution/intermodal/manufacturing facilities**
  - **Degree to which it improves a primary truck freight route designated in the "National Network"**
  - **Degree to which it enhances access or reduces congestion at or adjacent to a Virginia port or air carrier airport**
- **Project points are scaled based on tonnage and value of freight impacted**

Funding the Right
Transportation Projects

Accessibility Factor

- **Recommend three measures**
  - **60% of score – Increase in the cumulative access to jobs accessible within 45 minutes in a region**
  - **20% of score – Increase in the cumulative access to essential destinations accessible within 30 minutes in a region**
  - **20% of score – Increase in the access to travel options in a corridor**

HB2
Funding the Right
Transportation Projects

Increase Access to Jobs

- *What* – Increase in the cumulative access to jobs that can be reached within 45 minutes in a region
- *When* – Analyze change between build and no-build in 2025
- *Where* – Regional level of analysis – aggregated from "zone" level information
- *How* – GIS tool developed by consultant with information from regional models and statewide planning system would analyze impact of projects
- *Impact* – Increase travel speeds and/or reduce distance between home and work

HB2
Funding the Right
Transportation Projects

Increase in Access to Essential Destinations

- ***What*** **– Increase in the cumulative access to essential destinations that can be reached within 30 minutes in a region**
  - **Education, health care and recreational facilities**
- ***When*** **– Analyze change between build and no-build in 2025**
- ***Where*** **– Regional level analysis**
- ***How*** **– GIS tool with information from regional models and statewide planning system**
- ***Impact*** **– Increase travel speeds and/or reduce distance between home and essential destinations**

HB2
Funding the Right
Transportation Projects

Increase Access to Travel Options

- *What* – Degree to which project includes components to improve travel options
- *When* – Change compared to existing conditions
- *Where* – Corridor level analysis
- *How* – Project sponsors would include information to support award of points
  - GIS tools, regional models, the statewide planning system, and other tools may be used to verify sponsor information

HB2
Funding the Right
Transportation Projects

Increase Access to Travel Options

- Project receives points based on whether it
  - Provides connections between modes of transportation
  - Accommodates other modes of transportation
  - Provides real-time traveler information regarding use of alternative routes or other modes of transportation
  - Enhances transportation demand management options
- Project points will be scaled based on the projected number of users

Funding the Right
Transportation Projects

Safety Factor

- **Recommend two measures**
  - **50% of score – Reduction in the number of fatalities and severe injuries**
  - **50% of score – Reduction in the rate of fatalities and severe injuries per 100 million vehicle miles traveled**

HB2
Funding the Right
Transportation Projects

Reduction in Number of Fatalities and Severe Injuries

- *What* – Measure the expected change of fatalities and severe injuries due to project
- *When* – Analyze change from existing conditions
- *Where* – Expected change would be analyzed along a specific facility
- *How* – FHWA and state crash modification factors will be used to determine the expected change due to project
- *Impact* – A number of treatments such as medians, turn lanes, sidewalks, roundabouts, and other improvements

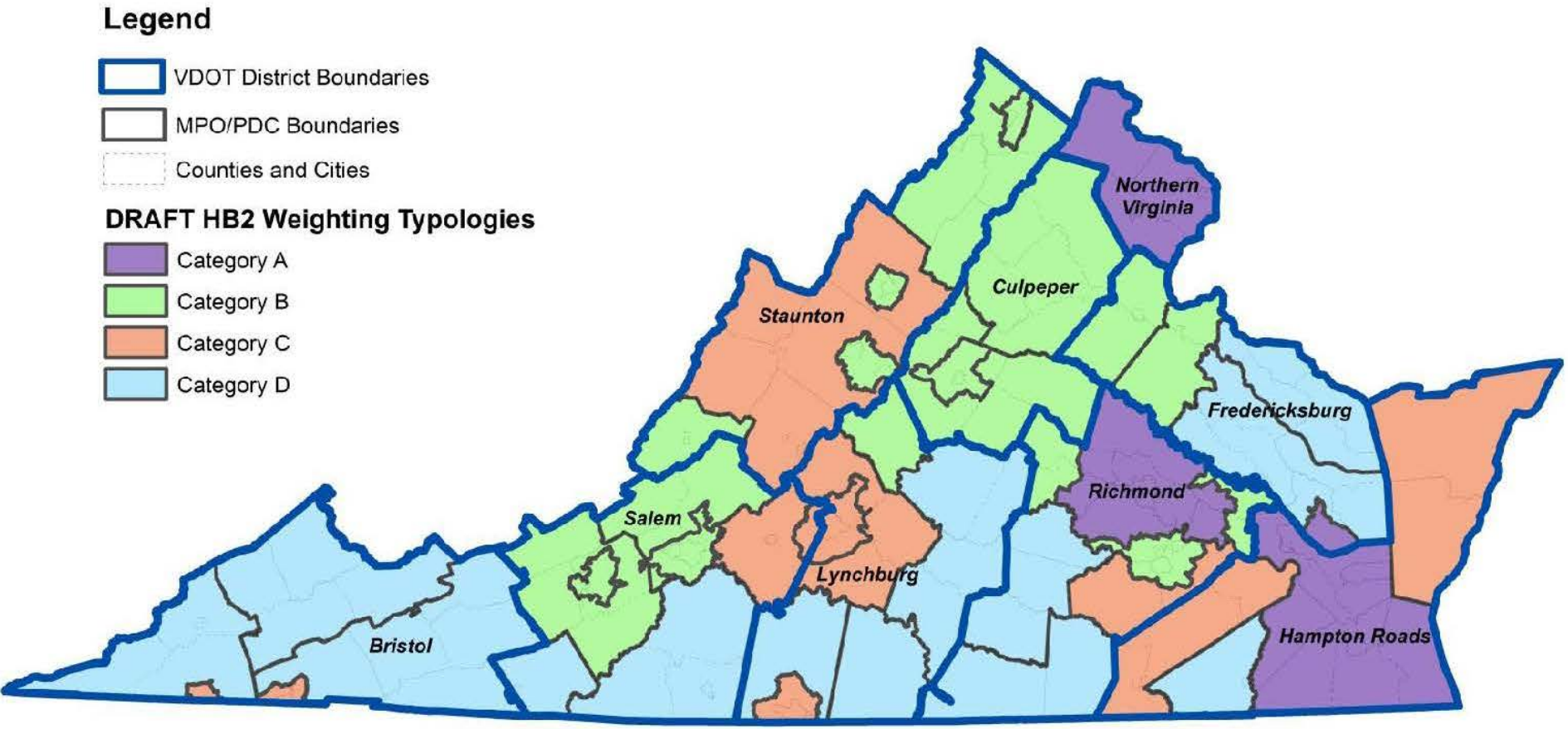
Funding the Right Transportation Projects

Reduction in the rate of fatalities and severe injuries per 100M VMT

- *What* – Measure the expected change in the rate of fatalities and severe injuries per 100 million vehicle miles traveled due to project
- *When* – Analyze change from existing conditions
- *Where* – Facility level analysis
- *How* – FHWA and state crash modification factors will be used to determine the expected change due to project
- *Impact* – Can be influenced with a number of treatments such as medians, turn lanes, sidewalks, roundabouts

Funding the Right
Transportation Projects

Attachment 4. PDC – MPO Draft Typology



Funding the Right
Transportation Projects

February 18, 2015

House Bill 2 implementation is about funding the right projects that generate the greatest benefits for Virginia. We appreciate the input we've received so far from all of you, including your participation in our January 8th work session. As we mentioned at the work session, we are seeking your input on the approach to setting weights for the six factor areas.

To support factor weighting, staff has developed an approach to subdivide construction districts based on MPO and PDC regional boundaries. In order to provide flexibility for reaching consensus on factor weighting for each of these regions, an approach organizing weighting schemes into a minimum of four statewide typologies is currently proposed.

The typology definition, the regions within each typology, and the factor weighting to be applied is developed based on a review of regional land use, travel demand, and population growth indicators, prior MPO and PDC input, and other statewide data consistent with each factor area. The attachment provides a summary of the research process to date, including draft typology definitions, the draft assignment of MPOs and PDCs within each typology, and the draft factor weighting approach within each typology.

We request MPO and PDC staff to review the process and provide comment on the typology definitions, the number of typologies, the MPOs and PDCs within each typology, and the draft factor weighting within each typology (currently presented in a high/medium/low approach) as well, draft factor weighting for each of the HB2 criteria.

We look forward to receiving your valuable input as we move forward with developing the HB2 process and implementation. The approach and methodology we take is critical to ensuring the best transportation projects are selected so that taxpayers and infrastructure users are getting the best value for their money.

After review of the draft typology approach and District Stakeholder Session PowerPoint (attached within the email), send feedback to Transportation1@governor.virginia.gov

We look forward to seeing you at the upcoming Stakeholder Sessions.

HB2 Factor Weighting – MPO & PDC Review

Background

The HB2 legislation (§ 33.1-23.5:5. Statewide prioritization process for project selection) includes the following language related to factor weighting:

B.1. The prioritization process shall be based on an objective and quantifiable analysis that considers, at a minimum, the following factors relative to the cost of the project or strategy: congestion mitigation, economic development, accessibility, safety, and environmental quality.

B.3. The Commonwealth Transportation Board shall weight the factors used in subdivision 1 for each of the state's highway construction districts (9). The Commonwealth Transportation Board may assign different weights to the factors, within each highway construction district, based on the unique needs and qualities of each highway construction district.

B.4. The Commonwealth Transportation Board shall solicit input from localities, metropolitan planning organizations, transit authorities, transportation authorities, and other stakeholders in its development of the prioritization process pursuant to this section. Further, the Board shall explicitly consider input provided by an applicable metropolitan planning organization or the Northern Virginia Transportation Authority when developing the weighting of factors pursuant to subdivision 3 for a metropolitan planning area with a population over 200,000 individuals.

6. That, for Northern Virginia and Hampton Roads highway construction districts, the Commonwealth Transportation Board, pursuant to subdivision B.3 of § 33.1-23.5:5 as created by this act, shall ensure that congestion mitigation, consistent with § 33.1-13.03:1 of the Code of Virginia, is weighted highest among the factors in the prioritization process. For metropolitan planning areas with a population over 200,000, the prioritization process shall also include a factor based on the quantifiable and achievable goals pursuant to subsection B of § 33.1-23.03 of the Code of Virginia.

The language within subdivision B.3 related to weighting factors by construction districts and within districts recognizes the diversity within each of the nine construction districts as it relates to transportation needs and investment priorities. The development of the weighting scheme must also consider two special cases (noted in subdivision 6):

1. In the Northern Virginia and Hampton Roads construction districts, congestion mitigation should be weighted the highest of the six factors (greater than 16.7% if within an MPO boundary) or the five factors (greater than 20.0% if outside an MPO boundary).
2. Metropolitan planning areas (as defined by the U.S. Census Bureau) with a population over 200,000 will include a factor based on the goals, objectives, and priorities of the Statewide Transportation Plan (VTrans) (referred to as the land use coordination factor).

Approach for Subdividing Construction Districts

Planning District Commission (PDC) and Metropolitan Planning Organization (MPO) boundaries are compared with construction district boundaries to inform subdividing construction districts for factor weighting. **Attachment 1** presents a summary map of the 36

combined MPO and PDC areas. **Attachment 2** presents the listing of the 21 PDCs and 15 MPOs depicted in Attachment 1 (National Capital Region Transportation Planning Board (TPB) and Northern Virginia Regional Commission (NVRC) share a boundary, except for Town of Warrenton).

Draft Typology Approach for Sub-Construction District Areas

As a starting point for developing potential factor weights, an individual weighting approach for each of the 36 MPO and PDC areas was deemed too complex. The alternative approach is to organize weighting through an analysis of transportation and land use/demographic characteristics of each of the combined 36 areas as depicted in **Attachment 1**. In response to this analysis, MPOs and PDCs can provide input on if the weights are consistent with their regional priorities.

Three initial key indicators were reviewed to support development of a typology scheme:

- Population Weighted Density – Regional average population density by census tract
- Projected Population Growth – Total regional growth 2010 to 2040 based on Weldon Cooper Center forecasts.
- Average Daily VMT per Lane Mile – Measure of transportation system supply and demand.

The results of the analysis across the 36 MPO and PDC areas for each of the three key indicators were grouped by quartile (see Attachment 3 maps). Similar areas were grouped, based on the quartile for each indicator, the average quartile, and professional judgment. The overall intent is for MPOs and PDCs with similar key indicator results to be subject to a similar factor weighting. The findings of the analysis resulted in four typologies described below (also refer to **Attachment 4** table):

1. **Category A** – Hampton Roads TPO, Transportation Planning Board (TPB), Northern Virginia Regional Commission (NVRC) and Richmond Regional TPO (RRTPO) are included within this typology. These areas are typically in the top quartile for all three indicators and represent the core economic regions of Virginia.
2. **Category B** – The regions in this category show a combination of high anticipated growth and above average travel demand. Current population density in these regions is diverse, with some (particularly MPOs) with above average density, while others show low density.
3. **Category C** – The regions in this category show median population growth, and diverse outcomes on travel demand and existing density. Some of these regions are on edge of the Category A and Category B MPOs.
4. **Category D** – The regions in this category show below average population growth, travel demand and existing density.

Draft Weighting Approach for Sub-Construction District Areas

For each HB2 factor area, indicators summarized at the MPO and PDC scale by factor helped inform factor weights by typology. The following factor indicators were considered:

- Congestion Mitigation – Average peak hour vehicle delay per household
- Economic Development – GDP per capita, Average annual wages
- Accessibility – Average commute length, daily transit revenue hours per capita
- Safety – Annual fatalities + severe injuries per VMT
- Environmental Quality – Annual criteria pollutant emissions and emissions per capita
- Transportation & Land Use Coordination – Jobs/household balance (U.S. Census)

The average quartile for each factor indicator and typology, and the strength of the relationship (how many regions show the same pattern) were reviewed. Based on the conclusions of this review, the most critical factor areas by typology are established. Table 1 presents the rank order of need/priority based on the factor indicator analysis (top 3 factors only).

Table 1. Typology – Factor Indicator Ranking

Factor	Congestion Mitigation	Economic Development	Accessibility	Safety	Environmental Quality	Land Use
Category A	1*		2	3		
Category B	2		1			3
Category C		3	1	2		
Category D		1	3	2		

Based on the findings presented in Table 1, a preliminary draft weighting scheme is presented in Table 2. Final percentages will be determined, in part, based on feedback from the MPOs and PDCs. Where MPO boundaries cover a partial county, the assumption is that any project partially or wholly within the MPO boundary will use the assigned MPO weighting approach.

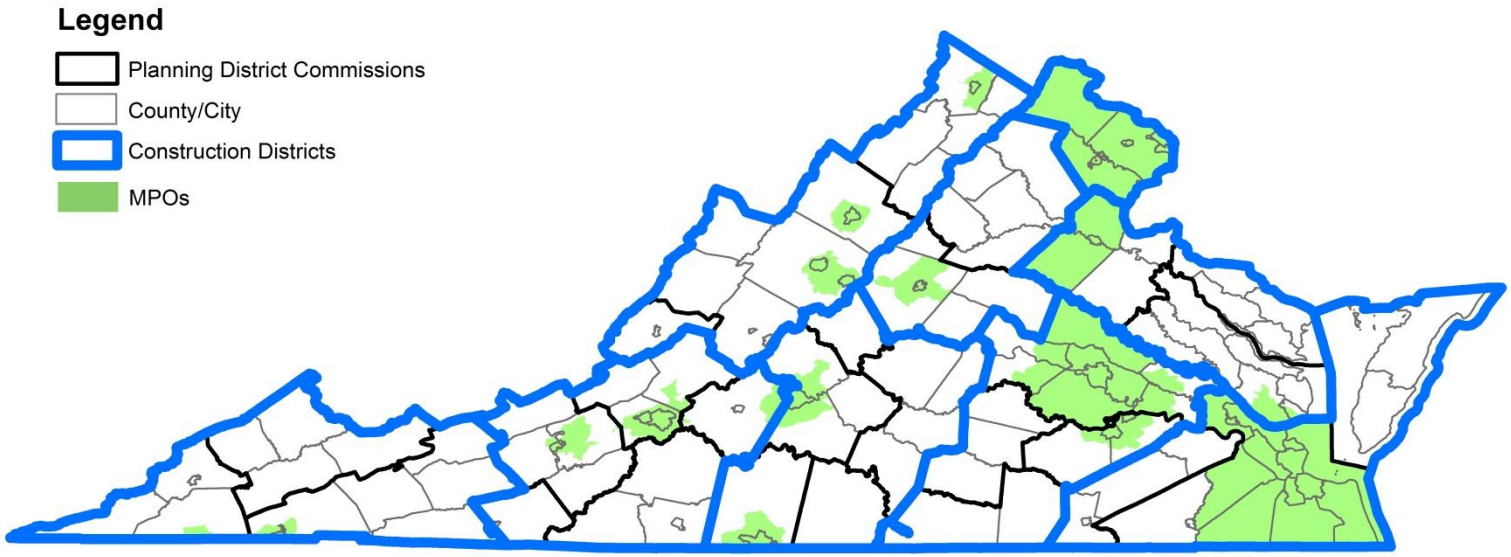
Table 2. Preliminary Draft Weighting

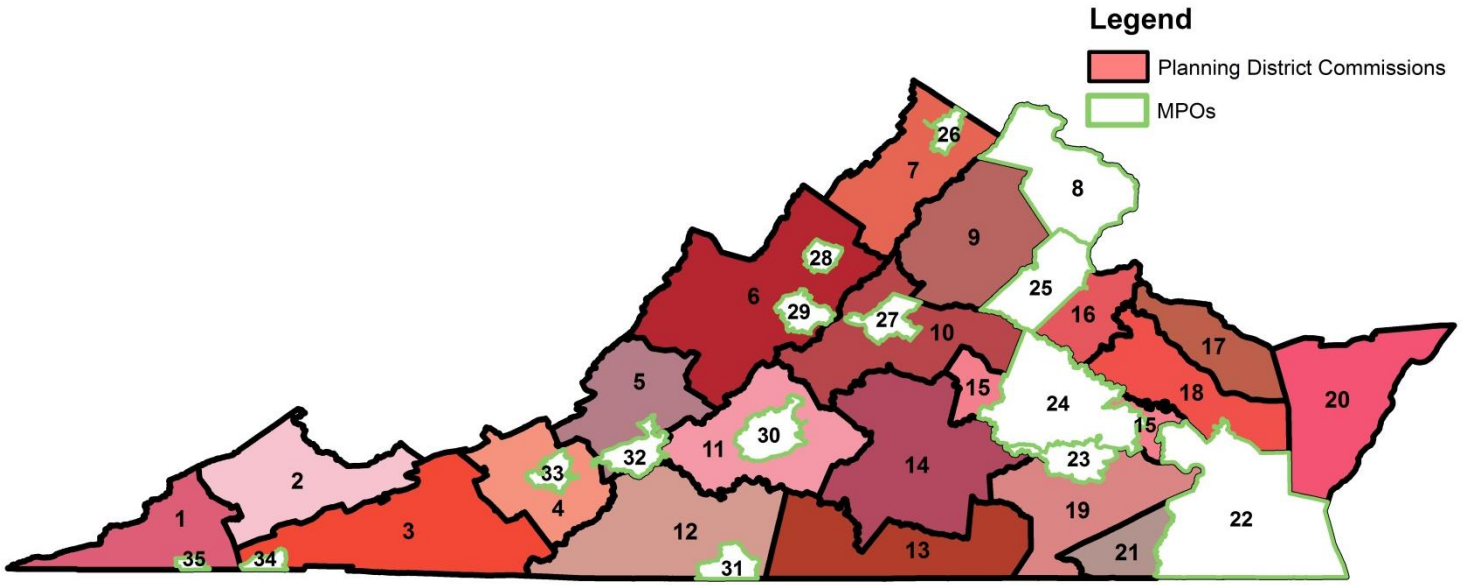
Factor	Congestion Mitigation	Economic Development	Accessibility	Safety	Environmental Quality	Land Use
Category A	35%**	10%	25%	10%	10%	10%*
Category B	15%	20%	25%	15%	10%	15%*
Category C	10%	20%	30%	30%	10%	
Category D	10%	30%	20%	30%	10%	

Note* - For metropolitan planning areas with a population over 200,000, the prioritization process shall also include a factor based on the quantifiable and achievable goals in VTrans. TPB, HRTPO, RRTPO, FAMPO and RVTPO all meet this definition. Other potential MPOs in the Category B typology (refer to Attachment 4) will not include this factor in the weighting scheme (referred to as the land use factor in Table 1 and Table 2).

Note** - For Northern Virginia and Hampton Roads construction districts, congestion mitigation is weighted highest among the factors in the prioritization process.

Attachment 1. Construction Districts – PDCs - MPOs



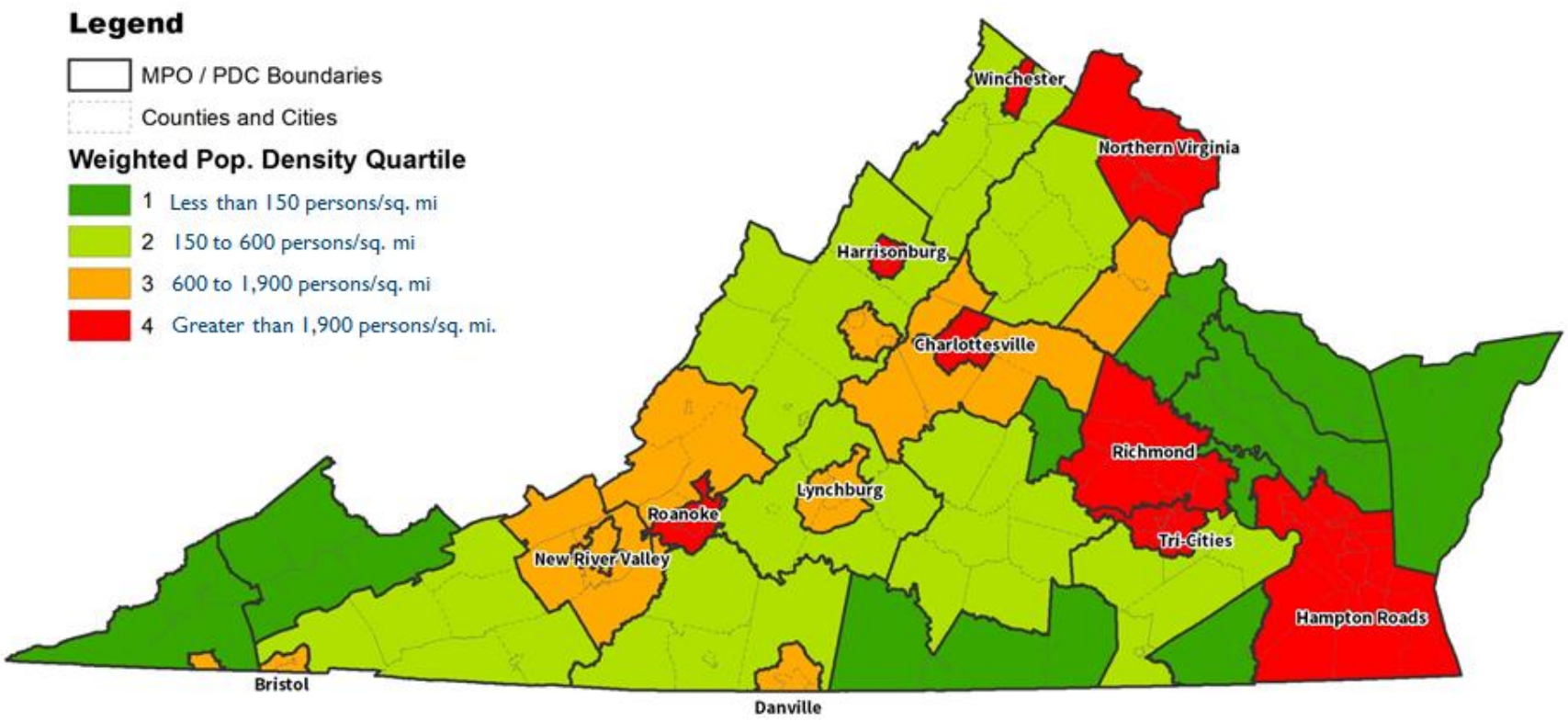


Attachment 2. PDCs – MPOs Listing

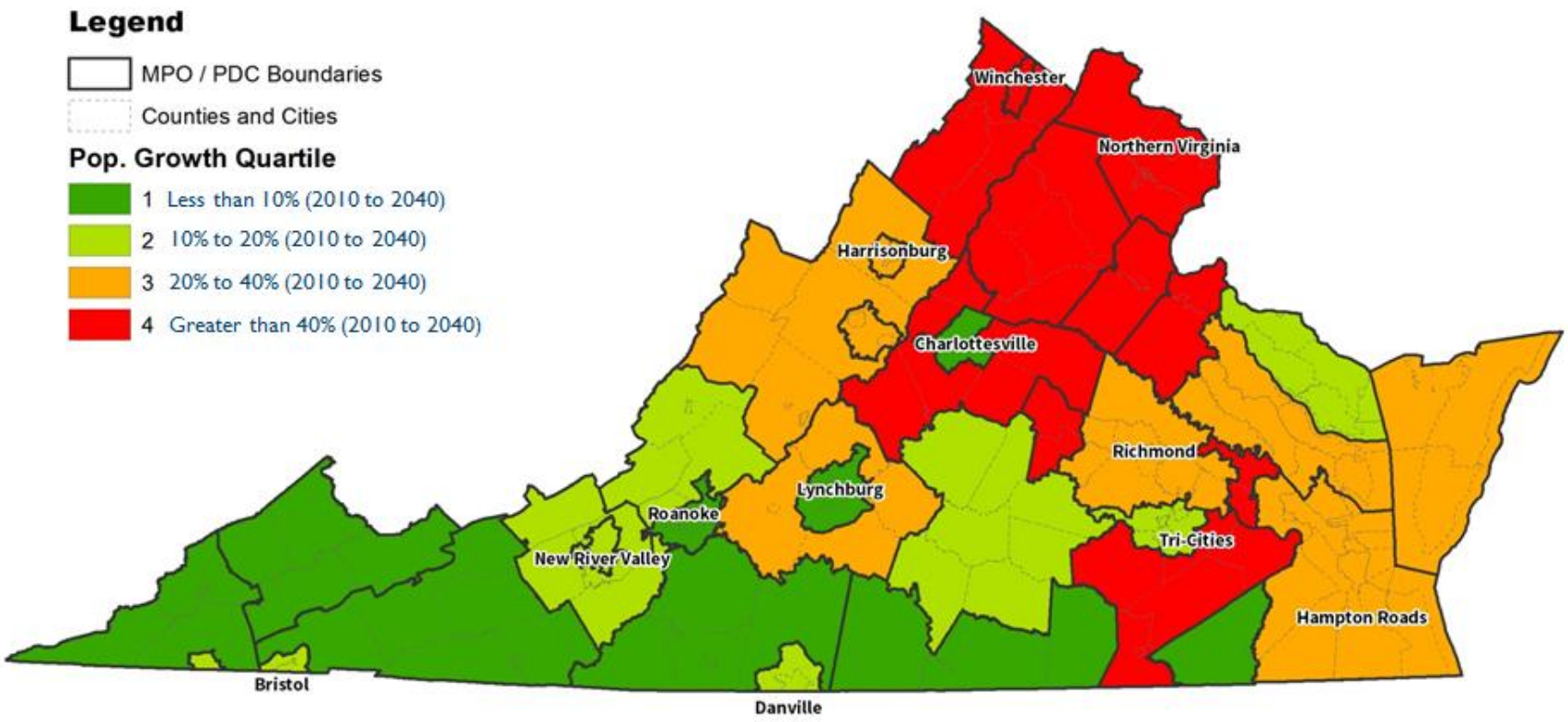
ID	Type	PDC/MPO	Construction District
1	PDC	Lenowisco PDC	Bristol
2	PDC	Cumberland Plateau PDC	Bristol
3	PDC	Mount Rogers PDC	Bristol, Salem
4	PDC	New River Valley PDC	Salem
5	PDC	Roanoke Valley-Alleghany PDC	Salem, Staunton
6	PDC	Central Shenandoah PDC	Staunton
7	PDC	Northern Shenandoah Valley RC	Staunton
8	MPO	Transportation Planning Board (TPB)	Northern Virginia, Culpeper*
8	PDC	Northern Virginia Regional Commission	Northern Virginia
9	PDC	Rappahannock-Rapidan RC	Culpeper
10	PDC	Thomas Jefferson PDC	Culpeper, Lynchburg
11	PDC	Region 2000 LGC	Salem, Lynchburg
12	PDC	West Piedmont PDC	Salem, Lynchburg
13	PDC	Southside PDC	Lynchburg, Richmond
14	PDC	Commonwealth RC	Lynchburg, Richmond
15	PDC	Richmond Regional PDC	Richmond
16	PDC	George Washington RC	Fredericksburg
17	PDC	Northern Neck PDC	Fredericksburg
18	PDC	Middle Peninsula PDC	Fredericksburg
19	PDC	Crater PDC	Richmond, Hampton Roads
20	PDC	Accomack-Northampton PDC	Hampton Roads
21	PDC	Hampton Roads PDC	Hampton Roads
22	MPO	Hampton Roads TPO (HRTPO)	Hampton Roads, Fredericksburg
23	MPO	Tri-Cities MPO	Richmond
24	MPO	Richmond Regional TPO (RRTPO)	Richmond
25	MPO	Fredericksburg Area MPO (FAMPO)	Fredericksburg
26	MPO	WinFred MPO	Staunton
27	MPO	Charlottesville-Albemarle MPO	Culpeper
28	MPO	Harrisonburg-Rockingham MPO	Staunton
29	MPO	Staunton-Augusta-Waynesboro MPO	Staunton
30	MPO	Central Virginia MPO	Salem, Lynchburg
31	MPO	Danville MPO	Lynchburg
32	MPO	Roanoke Valley TPO (RVTPO)	Salem
33	MPO	New River Valley MPO	Salem
34	MPO	Bristol MPO	Bristol
35	MPO	Kingsport MPO	Bristol

* Note: The 2010 Census extended the Washington DC-VA-MD Urbanized Area into a portion of Fauquier County, including the Town of Warrenton. Federal planning regulations require that this portion be included in the metropolitan planning area. Fauquier County became an official member of TPB in July, 2014.

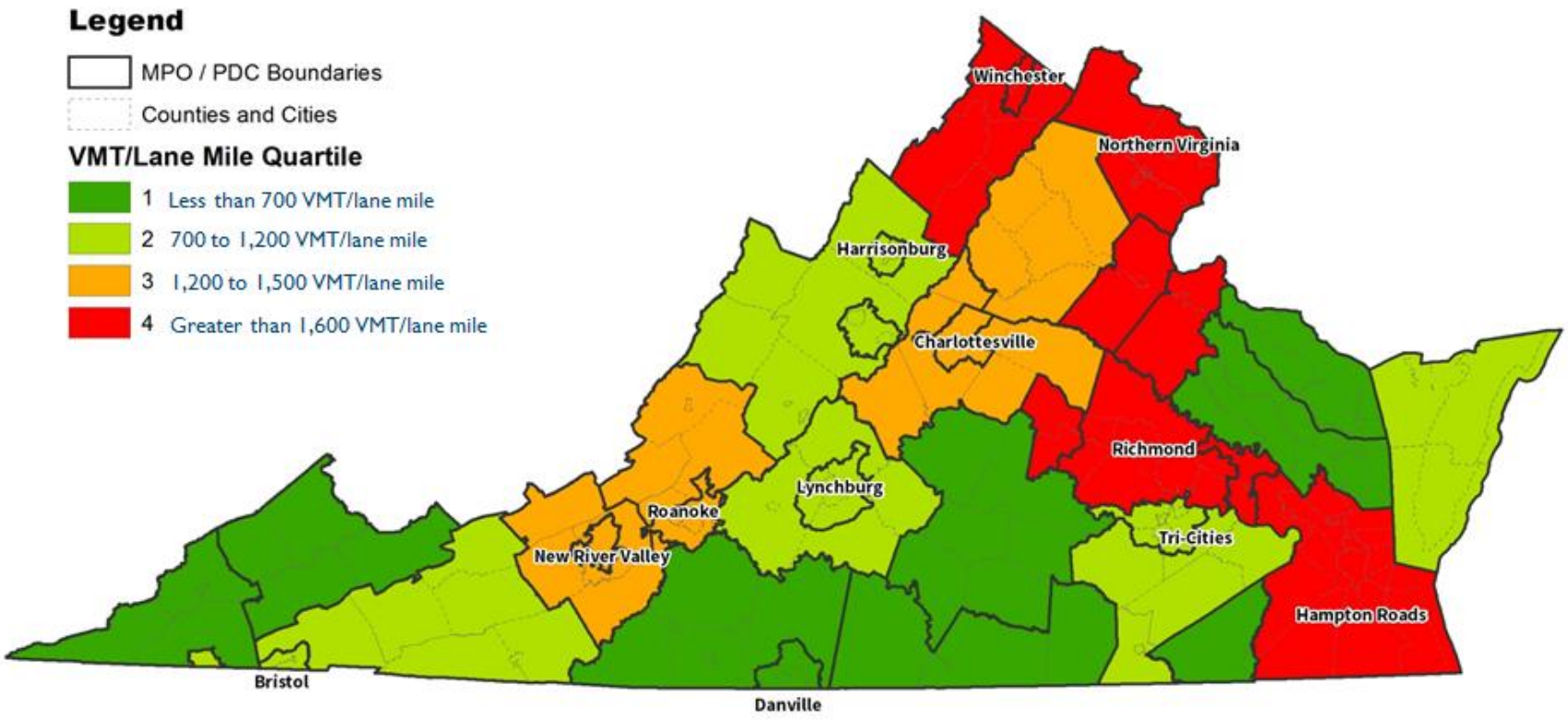
Attachment 3. Weighted Population Density Indicator (Quartiles)



Attachment 3. Population Growth Indicator (Quartiles)



Attachment 3. VMT per Lane Mile Indicator (Quartiles)

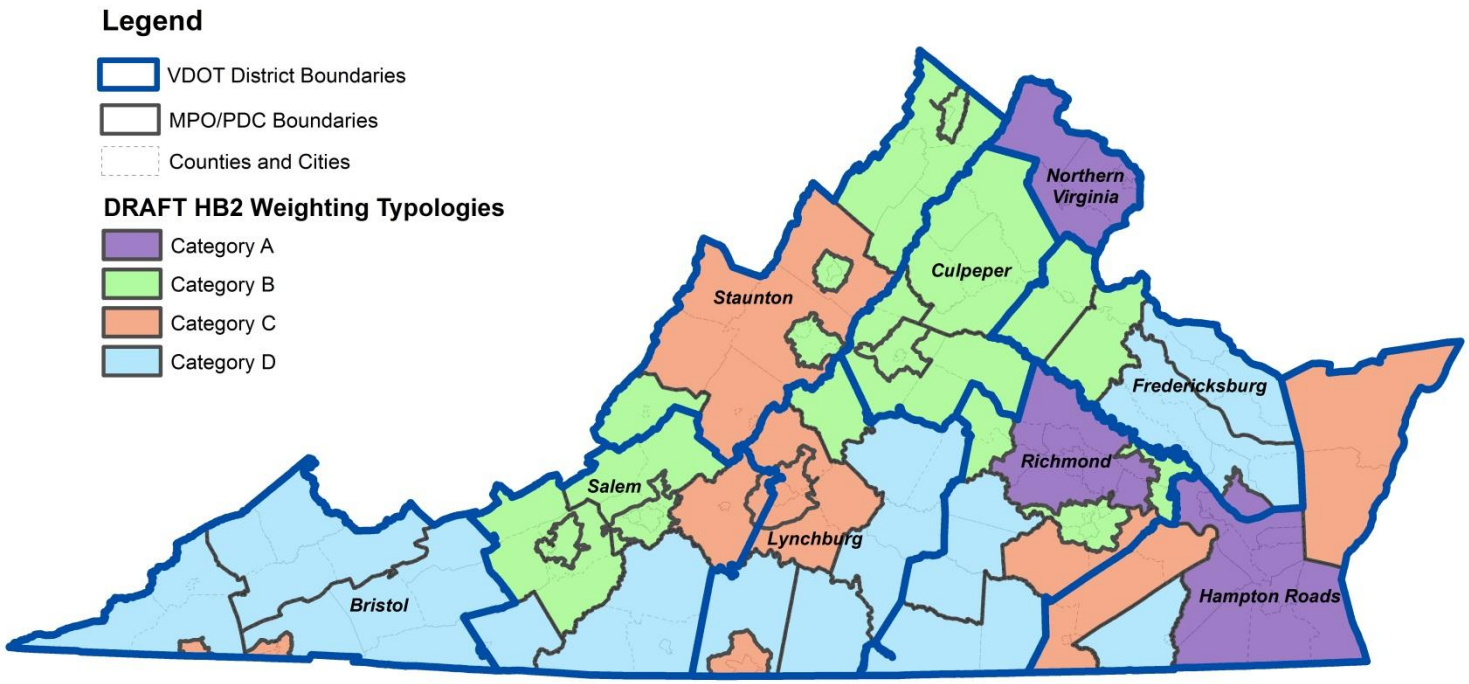


Attachment 4. PDC – MPO Draft Typology

Name	Population Density	Population Growth	VMT/ Lane Mile	Typology
Transportation Planning Board (TPB)	4	4	4	**Category A**
Northern Virginia Regional Commission	4	4	4	**Category A**
Hampton Roads TPO (HRTPO)	3	3	4	**Category A**
Richmond Regional TPO (RRTPO)	3	3	4	**Category A**
WinFred MPO	4	4	4	**Category B**
Fredericksburg Area MPO (FAMPO)	3	4	4	**Category B**
Northern Shenandoah Valley RC*	3	4	4	**Category B**
George Washington RC*	2	4	4	**Category B**
Richmond Regional PDC*	2	4	4	**Category B**
Charlottesville-Albemarle MPO	4	2	3	**Category B**
Harrisonburg-Rockingham MPO	4	3	2	**Category B**
New River Valley MPO	4	2	3	**Category B**
Rappahannock-Rapidan RC	2	4	3	**Category B**
Thomas Jefferson PDC*	2	4	3	**Category B**
New River Valley PDC*	3	2	3	**Category B**
Roanoke Valley TPO (RVTPO)	4	1	3	**Category B**
Roanoke Valley-Alleghany PDC*	3	2	3	**Category B**
Bristol MPO	4	2	2	**Category B**
Staunton-Augusta-Waynesboro MPO	3	3	2	**Category B**
Tri-Cities MPO	4	2	2	**Category B**
Central Virginia MPO	4	1	2	**Category C**
Crater PDC*	1	4	2	**Category C**
Region 2000 LGC*	2	3	2	**Category C**
Accomack-Northampton PDC	1	3	2	**Category C**
Central Shenandoah PDC*	1	3	2	**Category C**
Danville MPO	3	2	1	**Category C**
Kingsport MPO	3	1	2	**Category C**
Middle Peninsula PDC	1	3	1	**Category D**
Mount Rogers PDC*	2	1	2	**Category D**
Commonwealth RC	1	2	1	**Category D**
Lenowisco PDC	2	1	1	**Category D**
Northern Neck PDC	1	2	1	**Category D**
West Piedmont PDC*	2	1	1	**Category D**
Cumberland Plateau PDC	1	1	1	**Category D**
Hampton Roads PDC*	1	1	1	**Category D**
Southside PDC	1	1	1	**Category D**

* Note: PDC defined as the remainder of the region outside the MPO boundary. In many cases, these regions include partial counties (eg. Goochland County is partially within RRTPO and the Richmond Regional PDC). If a project is within the MPO boundary in a partial county, the project should use the weighting associated with the MPO.

Attachment 4. PDC – MPO Draft Typology



Funding the Right
Transportation Projects

House Bill 2 Implementation Stakeholder District Forums

February and March 2015

Funding the Right
Transportation Projects

Agenda

- Welcome and Session Purpose
- Overview of Feedback from January Outreach Session
- Draft Measures – Discussion and Feedback
- Weighting Factor Areas – Discussion and Feedback
- Next Steps

Funding the Right
Transportation Projects

Session Purpose

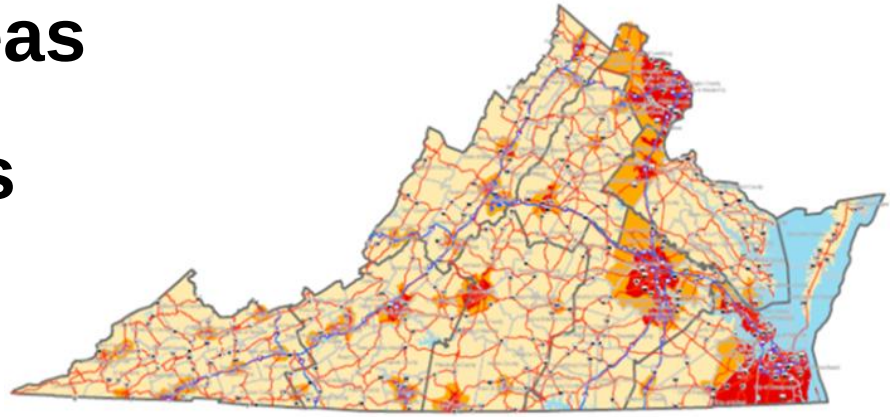
- **To engage local and regional government agency staff on the House Bill 2 (HB2) requirements and issues**
- **To gather input on draft prioritization measures**
- **To discuss progress to date and where we are going next**

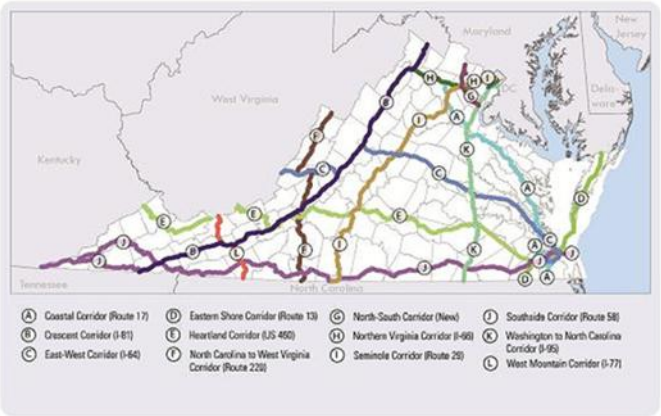
Your input is important!

HB2
Funding the Right
Transportation Projects

January Outreach Session

- **Project Solicitation**
- **Weighting of Factor Areas**
- **Draft Measure Concepts**
- **Process Issues**





Feedback from January Outreach Session

Solicitation

- Concerns over amount of effort and analysis needed to submit project for consideration
- Concerns over eligibility to submit a project – specifically the inability of local governments to submit for the CoSS
- Role of State in project solicitation

Weighting

- Would like more input on weighting frameworks
- Fairness between Rural and Urban

Feedback from January Outreach Session *(cont.)*

Measure Concepts

- Concerns over amount of effort and analysis needed to submit project for consideration
- Equal application across modes
- How to handle new facilities
- Double counting

Process

- Cost-benefit – input was split on whether state portion or total project costs should be used
- Sliding scale to address changes in project cost after selection through HB2

Funding the Right Transportation Projects

HB2 Guiding Principles

- Analyze what matters to people and has a meaningful impact
- Ensure fair and accurate benefit-cost analysis
- Transparent and understandable
- Must work for both urban and rural areas
- Must work for all modes of transportation
- Minimize overlap in measures

HB2
Funding the Right
Transportation Projects

Factor Areas

Safety

Congestion mitigation

Accessibility

Environmental quality

Economic development

Land use and transportation coordination (areas with over 200,000 people)

Funding the Right
Transportation Projects

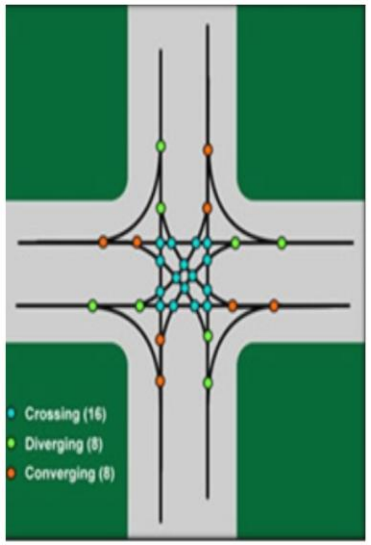
Safety Factor

- **Recommend two measures**
  - **50% of score – Reduction in the number of fatalities and severe injuries**
  - **50% of score – Reduction in the rate of fatalities and severe injuries per 100 million vehicle miles traveled**

Reduction in Number of Fatalities and Severe Injuries

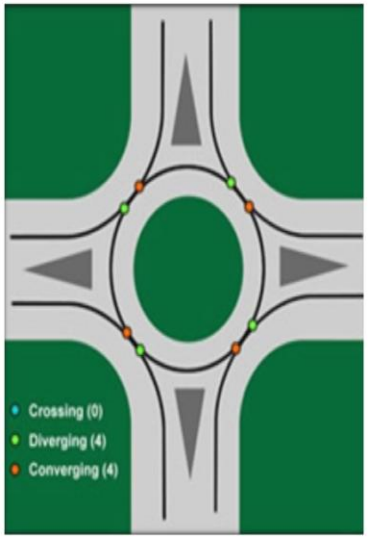
- ***What*** **– Measure the expected change of fatalities and severe injuries due to project**
- ***When*** **– Analyze change from existing conditions**
- ***Where*** **– Expected change would be analyzed along a specific facility**
- ***How*** **– FHWA and state crash modification factors will be used to determine the expected change due to project**
- ***Impact*** **– A number of treatments such as medians, turn lanes, sidewalks, roundabouts, and other improvements**

Example 1
Urban Two Way Stop to Roundabout Control (0.2 mi)



Before

Expected reduction in fatalities and severe injuries of **78%** **based on FHWA** and state **crash modification factors**



After

Credit: FHWA

Example 2

Urban Corridor Adaptive Traffic Signal Control at Eight Intersections (2.5 mi)

Credit: Charlottesville Stock Photography.

Expected reduction in fatalities and severe injuries of 8% based on FHWA and state crash modification factors

Reduction in the rate of fatalities and severe injuries per 100M VMT

- ***What*** **– Measure the expected change in the rate of fatalities and severe injuries per 100 million vehicle miles traveled due to project**
- ***When*** **– Analyze change from existing conditions**
- ***Where*** **– Facility level analysis**
- ***How*** **– FHWA and state crash modification factors will be used to determine the expected change due to project**
- ***Impact*** **– Can be influenced with a number of treatments such as medians, turn lanes, sidewalks, roundabouts**

Funding the Right
Transportation Projects

BREAKOUT GROUP DISCUSSION

- **Safety**
  - Do the proposed measures work for projects in your region?
  - How much should a measure be weighted in a factor areas?
  - Are there measures that you believe should be re-considered?

Funding the Right
Transportation Projects

Congestion Factor

- **Recommend two measures**
  - **50% of score – decrease in the person hours of delay in the corridor**
  - **50% of score – increase in peak-period person throughput in the corridor**

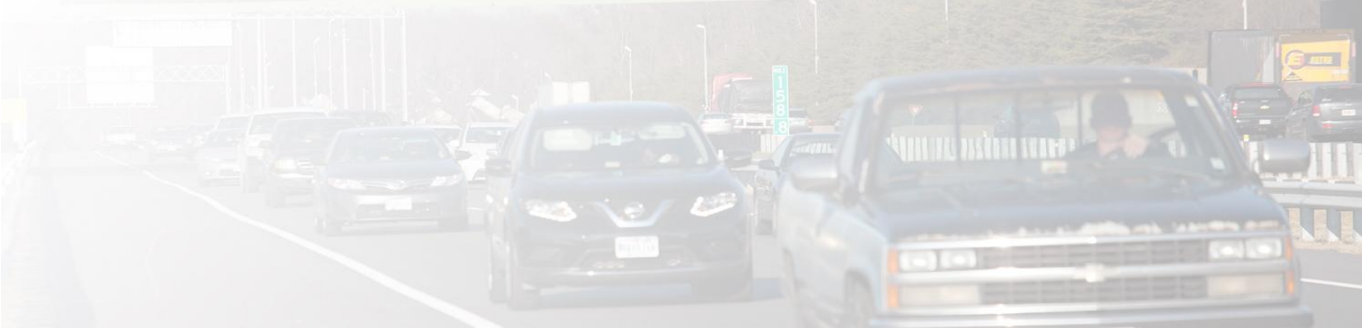
Person Hours of Delay

- ***What*** **– Decrease in the number of person hours of delay in the corridor based on level of service E**
- ***When*** **– Analyze change between build and no-build in 2025**
- ***Where*** **– Corridor-level analysis**
- ***How*** **– Highway capacity manual and regional models will be used to determine expected changes**
- ***Impact*** **– Capacity expansion, operational improvements, transit service, intersection improvements, and other improvements**

Peak Period Person Throughput in Corridor

- ***What*** **– Increase in the number of people expected to move through the corridor during the peak period**
- ***When*** **– Analyze change between build and no-build in 2025**
- ***Where*** **– Corridor-level analysis – facility and related parallel facilities**
- ***How*** **– Regional models and statewide planning system would be used to determine expected change**
- ***Impact*** **– Capacity expansion, operational improvements, transit service, intersection improvements, and other improvements**

Funding the Right Transportation Projects



BREAKOUT GROUP DISCUSSION

- **Congestion mitigation**
  - Do the proposed measures work for projects in your region?
  - How much should a measure be weighted in a factor areas?
  - Are there measures that you believe should be re-considered?

Funding the Right Transportation Projects

Accessibility Factor

- **Recommend three measures**
  - **60% of score – Increase in the cumulative access to jobs accessible within 45 minutes in a region**
  - **20% of score – Increase in the cumulative access to essential destinations accessible within 30 minutes in a region**
  - **20% of score – Increase in the access to travel options in a corridor**

Funding the Right
Transportation Projects

Increase Access to Jobs

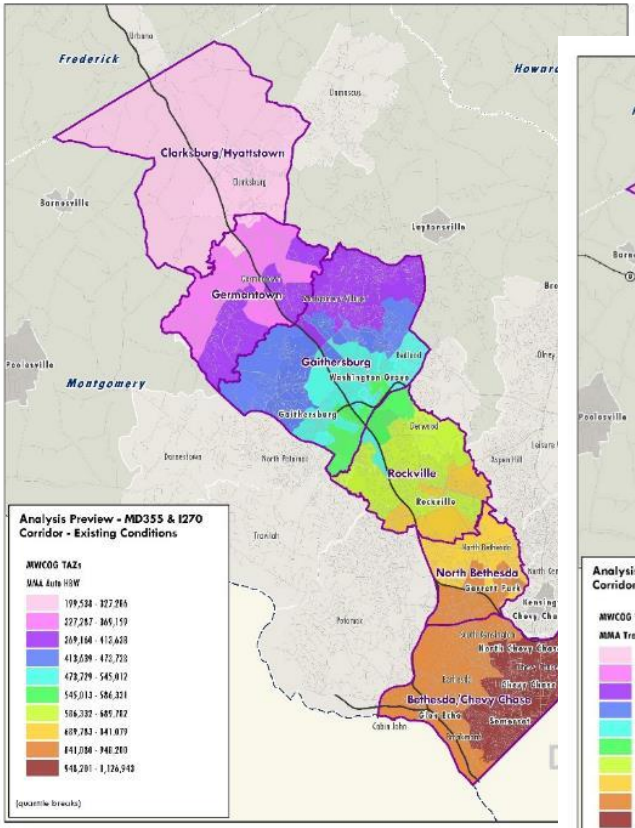
- ***What*** **– Increase in the cumulative access to jobs that can be reached within 45 minutes in a region**
- ***When*** **– Analyze change between build and no-build in 2025**
- ***Where*** **– Regional level of analysis – aggregated from "zone" level information**
- ***How*** **– GIS tool developed by consultant with information from regional models and statewide planning system would analyze impact of projects**
- ***Impact*** **– Increase travel speeds and/or reduce distance between home and work**

Increase in Access to Essential Destinations

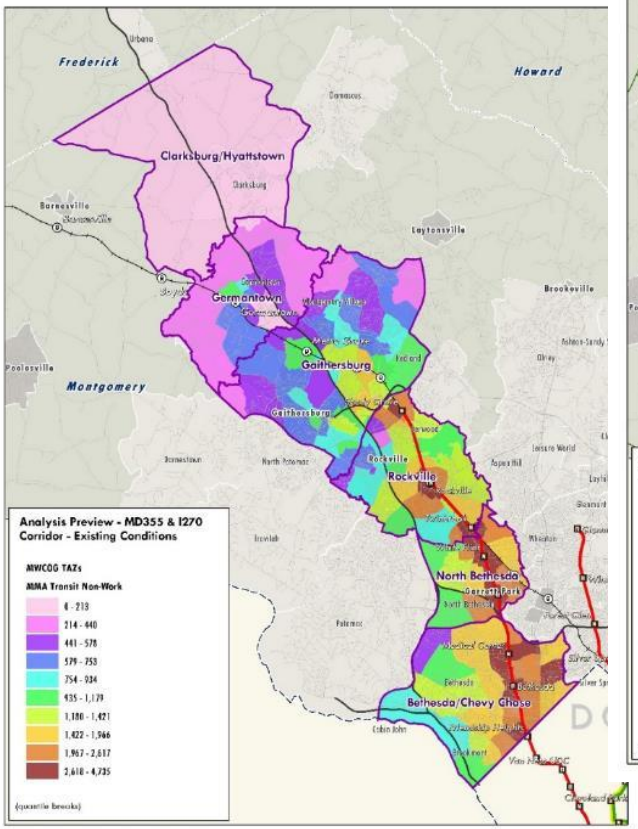
- ***What*** **– Increase in the cumulative access to essential destinations that can be reached within 30 minutes in a region**
  - **Education, health care and recreational facilities**
- ***When*** **– Analyze change between build and no-build in 2025**
- ***Where*** **– Regional level analysis**
- ***How*** **– GIS tool with information from regional models and statewide planning system**
- ***Impact*** **– Increase travel speeds and/or reduce distance between home and essential destinations**

Example: Accessibility by Mode for Rockville Pike in Maryland

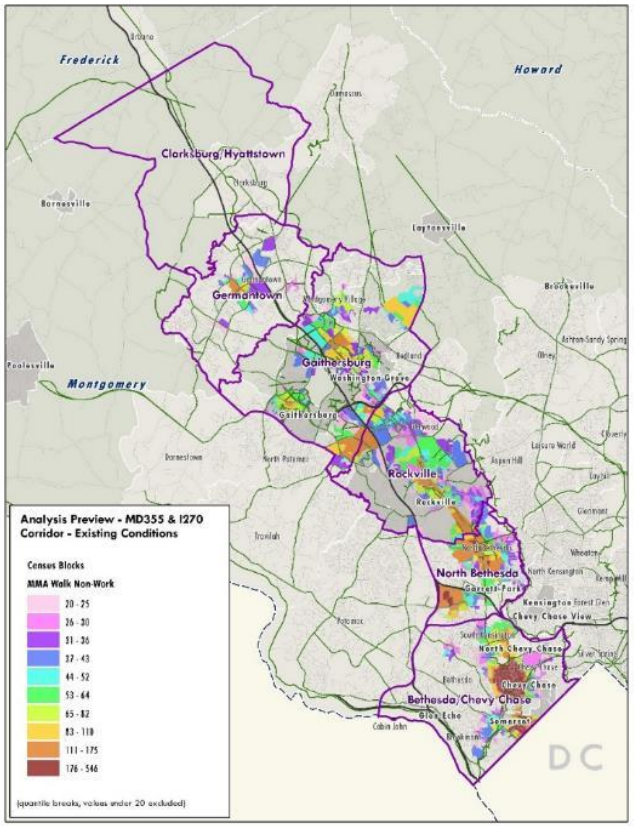
Cumulative Access to Employment Opportunities *by mode*



Auto Accessibility



Transit Accessibility



Walk Accessibility

Funding the Right Transportation Projects

Increase Access to Travel Options

- *What* – Degree to which project includes components to improve travel options
- *When* – Change compared to existing conditions
- *Where* – Corridor level analysis
- *How* – Project sponsors would include information to support award of points
  - GIS tools, regional models, the statewide planning system, and other tools may be used to verify sponsor information

Funding the Right Transportation Projects

Increase Access to Travel Options

- **Project receives points based on whether it**
  - **Provides connections between modes of transportation**
  - **Accommodates other modes of transportation**
  - **Provides real-time traveler information regarding use of alternative routes or other modes of transportation**
  - **Enhances transportation demand management options**
- **Project points will be scaled based on the projected number of users**

Funding the Right
Transportation Projects

BREAKOUT GROUP DISCUSSION

– Accessibility

- Do the proposed measures work for projects in your region?
- How much should a measure be weighted in a factor areas?
- Are there measures that you believe should be re-considered?

Funding the Right Transportation Projects

Environmental Factor

- **Focus on social and natural factors**
- **Three recommended measures**
  - **50% of score – Degree to which a project is likely to improve air quality and reduce greenhouse gas emissions**
  - **40% of score – Change in number of jobs accessible within 45 minutes for disadvantaged populations**
  - **10% of score – Change in the number of essential destinations accessible within 30 minutes for disadvantaged populations**

Air Quality and Greenhouse Gas Emissions

- ***What*** **– Degree to which a project includes components that reduces emissions of PM, NOX, CO and CO2**
- ***When*** **– Change compared to existing conditions**
- ***Where*** **– Corridor level analysis**
- ***How*** **– Project sponsors would include information to support award of points**
  - **Regional models, the statewide planning system, and other tools may be used to verify sponsor information**

Air Quality and Greenhouse Gas Emissions

- Project receives points based on whether it
  - Increases rail transit and/or passenger rail use
  - Encourages more pedestrian and/or bicycle activity
  - Encourages ridesharing and bus transit
  - Reduces delay at bottlenecks with above average truck traffic
  - Encourages shift of goods movement to rail from truck
- Project points will be scaled based on the number of users

Non-Auto Access to Jobs for Disadvantaged Populations

- ***What*** **– Increase in the cumulative access to jobs that can be reached by disadvantaged populations within 45 minutes in a region**
- ***When*** **– Analyze change between build and no-build in 2025**
- ***Where*** **– Regional level analysis – aggregated from "zone" level information**
- ***How*** **– GIS tool with information from regional models and statewide planning system**
- ***Impact*** **– Increase travel speeds and/or reduce distance between home and work**

Non-Auto Access to Essential Destinations for Disadvantaged Populations

- ***What*** **– Increase in the cumulative access to essential destinations that can be reached by disadvantaged populations within 30 minutes in a region**
- ***When*** **– Analyze change between build and no-build in 2025**
- ***Where*** **– Regional level analysis**
- ***How*** **– GIS tool with information from regional models and statewide planning system**
- ***Impact*** **– Increase travel speeds and/or reduce distance between home and essential destinations**

Funding the Right
Transportation Projects

BREAKOUT GROUP DISCUSSION

- **Environmental Quality**
  - Do the proposed measures work for projects in your region?
  - How much should a measure be weighted in a factor areas?
  - Are there measures that you believe should be re-considered?

Economic Development Factor

- **Recommend two measures**
  - **70% based on support for new economic activity within project area**
  - **30% based on freight efficiency and intermodal access**
- **First measures focus on new growth**
- **Second measures supports maintaining and enhancing existing economic growth**

Support for New Economic Activity

- *What* – Degree to which project supports local economic development strategies and projects
- *When* – Changes compared to existing conditions
- *Where* – Corridor level analysis
- *How* – Project sponsor would provide information regarding steps taken toward specific economic development actions
  - Documentation would be required to verify information provided by sponsor

Funding the Right Transportation Projects

Support for New Economic Activity

- **Project receives points based on whether it**
  - **Supports Department of Housing and Community Development Enterprise Zones**
  - **PDC has passed resolution demonstrating that project supports adopted Comprehensive Economic Development Strategy**
  - **Whether development plans have been submitted for review**
  - **Whether development plans have been approved**
  - **Whether utilities have been extended/are in place/are programmed for development**
- **Project points would be scaled using a criteria to be determined – square footage, value, etc.**

Freight Efficiency and Intermodal Access

- ***What*** **– Degree to which project improves freight efficiency and intermodal access**
- ***When*** **– Changes compared to existing conditions**
- ***Where*** **– Facility-level analysis**
- ***How*** **– Variable – sponsor provided information and GIS verification**

Freight Efficiency and Intermodal Access

- **Project receives points based on**
  - **Degree to which it enhances access to existing/planned distribution/intermodal/manufacturing facilities**
  - **Degree to which it improves a primary truck freight route designated in the "National Network"**
  - **Degree to which it enhances access or reduces congestion at or adjacent to a Virginia port or air carrier airport**
- **Project points are scaled based on tonnage and value of freight impacted**

Funding the Right Transportation Projects

BREAKOUT GROUP DISCUSSION

- **Economic Development**
  - Do the proposed measures work for projects in your region?
  - How much should a measure be weighted in a factor areas?
  - Are there measures that you believe should be re-considered?

Land Use Coordination Factor

- Required in areas over 200,000
  - NoVA, Hampton Roads, Richmond, Fredericksburg, Roanoke-Salem
- Links to HB3202 (2007) transportation-land use regional performance measures in Code
  - Job-to-housing balance
  - Job and housing access to transit and pedestrian facilities
  - Transit and HOV usage
  - Per capita vehicle miles traveled

Land Use Coordination Factor

- **Recommend two measures**
  - **50% of score – Degree to which project will support transportation efficient land use patterns and local policies**
  - **50% of score – Degree to which the regionally adopted long-range transportation plan reduces or minimizes growth in per capita vehicle miles traveled**

Transportation Efficient Land Use Plans and Policies

- *What* – Degree to which project supports local plans and policies on transportation efficient land use
- *When* – Compared to existing conditions
- *Where* – Regional or corridor level of analysis
- *How* – Project sponsor would provide information regarding project's impact on local plans and policies
  - Documentation would be required to verify information provided by sponsor

Transportation Efficient Land Use Plans and Policies

- Project receives points based on whether it
  - Promotes walkable, mixed-use development
  - Promotes in-fill development
  - Supports development that will improve job-to-housing balance
  - Promotes urban development areas
  - Supports VDOT access management policies, where applicable
- Points would not be scaled

Decreased per capita VMT in Regional Plans

- ***What*** **– Degree to which the adopted constrained long-range plan is projected to reduce or minimize growth in per capita vehicle miles traveled**
- ***When*** **– Year of analysis would vary from region to region based on most recently adopted plan**
- ***Where*** **– Regional level analysis**
  - **VMT attributable to pass-through trips would be excluded**
- ***How*** **– Regional model would analyze projects and land use patterns to determine projected change in per capita vehicle miles traveled**

Funding the Right
Transportation Projects

BREAKOUT GROUP DISCUSSION

– Regional Transportation and Land Use

(areas over 200k)

- Do the proposed measures work for projects in your region?
- How much should a measure be weighted in a factor areas?
- Are there measures that you believe should be re-considered?

Weighting Factor Areas – Example

Factor	Congestion Mitigation	Economic Development	Accessibility	Safety	Environmental Quality	Land Use
Category A	High**	Low	Medium	Medium	Low	Low*
Category B	Medium	Low	High	Medium	Low	Medium*
Category C	Low	Medium	High	High	Low	
Category D	Low	High	Medium	High	Low	

Low ≤ 15% < Medium < 25% ≤ High

Note* – For metropolitan planning areas with a population over 200,000 (TPB, HRTPO, RRTPO, FAMPO, RVTPO), the prioritization process shall also include a factor based on the quantifiable and achievable goals in VTrans (referred to as the Transportation-Land Use Coordination factor).

Note – For Northern Virginia and Hampton Roads construction districts, congestion mitigation is weighted highest among the factors in the prioritization process.**

Weighting Factor Areas – Example

Factor	Congestion Mitigation	Economic Development	Accessibility	Safety	Environmental Quality	Land Use
Category A	35%**	10%	25%	10%	10%	10%*
Category B	15%	20%	25%	15%	10%	15%*
Category C	10%	20%	30%	30%	10%	
Category D	10%	30%	20%	30%	10%	

Note* – For metropolitan planning areas with a population over 200,000 (TPB, HRTPO, RRTPO, FAMPO, RVTPO), the prioritization process shall also include a factor based on the quantifiable and achievable goals in VTrans (referred to as the Transportation-Land Use Coordination factor).

Note – For Northern Virginia and Hampton Roads construction districts, congestion mitigation is weighted highest among the factors in the prioritization process.**

Funding the Right
Transportation Projects

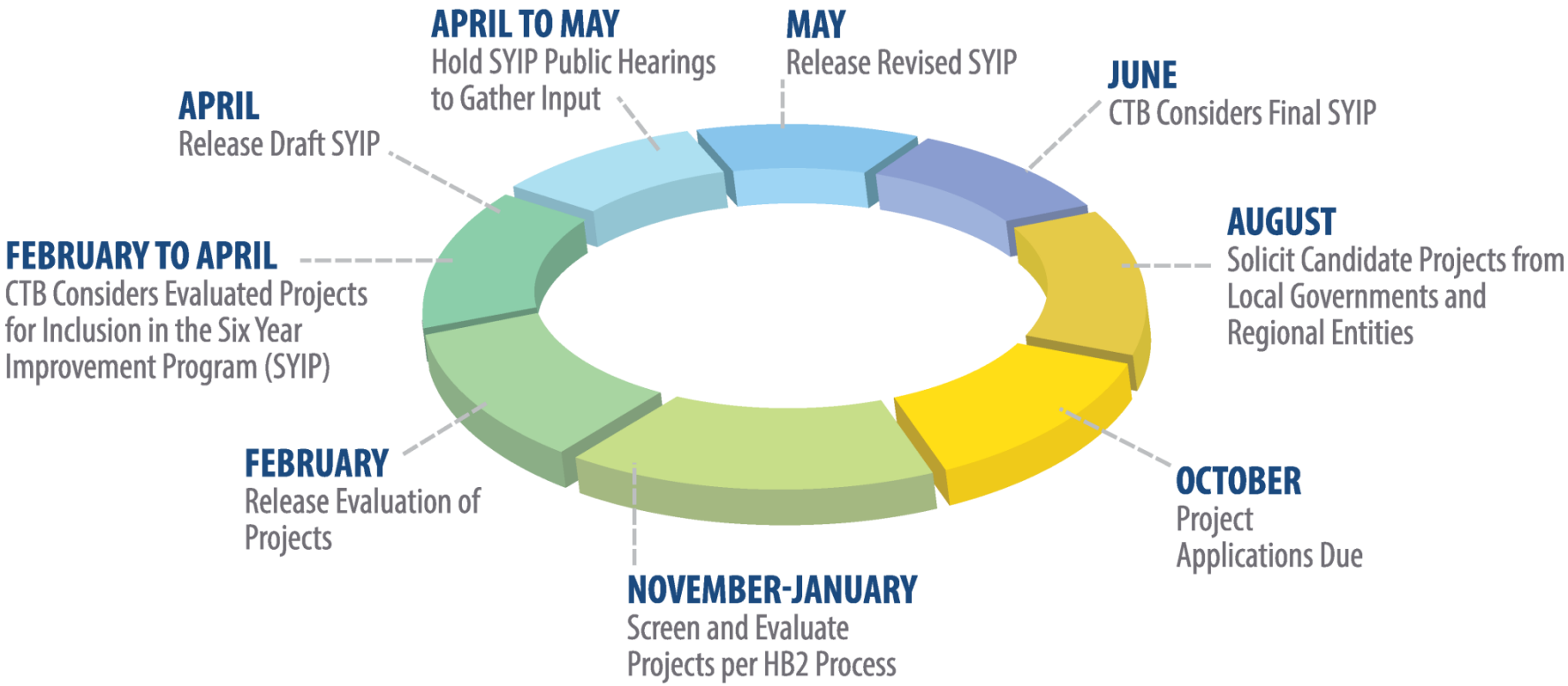
BREAKOUT GROUP DISCUSSION

- **Drafting Weighting Frameworks**
  - Of the proposed weighting frameworks, does one work for your region?
  - Why? Why not?

Funding the Right
Transportation Projects

Annual HB2 Cycle

Anticipated HB2 Yearly Cycle



Funding the Right
Transportation Projects

Next Steps

- **Schedule moving forward**
  - **Meetings in each district over next 3 weeks**
  - **March — Draft process presented to Board**
  - **March/April — Public Comment**
  - **May — Revised process provided to Board**
  - **June — Final process considered by Board**

To submit comments on HB2 process or measures, please send an e-mail to – Transportation1@governor.virginia.gov

Or submit comments online at VirginiaHB2.org