presented to

2026 West Virginia Transportation Planning Conference

presented by

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Cambridge Systematics

TIDS

Transportation Investment Decision Support

June 2, 2026

Introduction

- **Objectives of the TIDS Project**
  - > Transparency on resource allocation and project prioritization
  - > Data-driven decision-making
- **Key questions/issues**
  - > How do projects get added to the STIP?
  - > How do projects advance from a study or a plan?
  - > Which regional corridors might be advanced after Corridor H?
- **What we've done so far**
  - > Review of regional/national precedents
  - > Identification of possible factors
- **Timeline**

TIDS for Project Prioritization

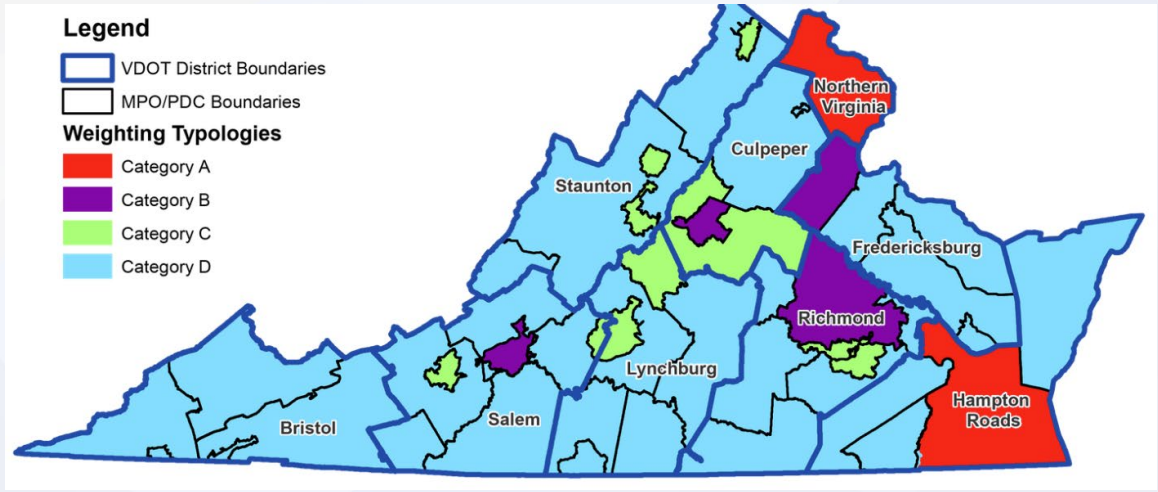
- **What kinds of projects?**
  - Turning lanes, intersection improvements, add-a-lane on short segments
  - Referred to as **“localized mobility”**
- **How does a project move from a study to the STIP?**
  - Goal: Data-driven
  - Goal: Transparency and communication with MPOs
  - Goal: Sensitivity to regional differences
- **How do we accomplish this?**
  - Set of data-driven factors, based on internal WVDOT precedent work
  - Factors serve established LRTP goals
  - Source material for factors drawn from project documentation, TIPs
  - Clear and transparent communication of factors to MPOs and others

TIDS for Project Prioritization

- **Factors to advance established LRTP goals:**
  - System condition, efficiency, and fiscal sustainability
  - Safety and security for all users
  - Economic vitality and freight movement
  - Multimodal mobility, reliability, and accessibility
  - Livable and healthy communities
- **Factors will be weighted by importance**
- **Weighting may vary by region**

Example: Virginia SMART SCALE

- Evaluate each project's benefit on a scale relative to the needs of that region as compared across the commonwealth.



Factor	Safety	Congestion Mitigation	Accessibility	Land Use	Economic Development	Environmental Quality
Category A	15%	45%	25%	*	5%	10%
Category B	20%	25%	25%	*	20%	10%
Category C	30%	20%	15%	*	25%	10%
Category D	40%	10%	10%	*	30%	10%

TIDS for Project Prioritization

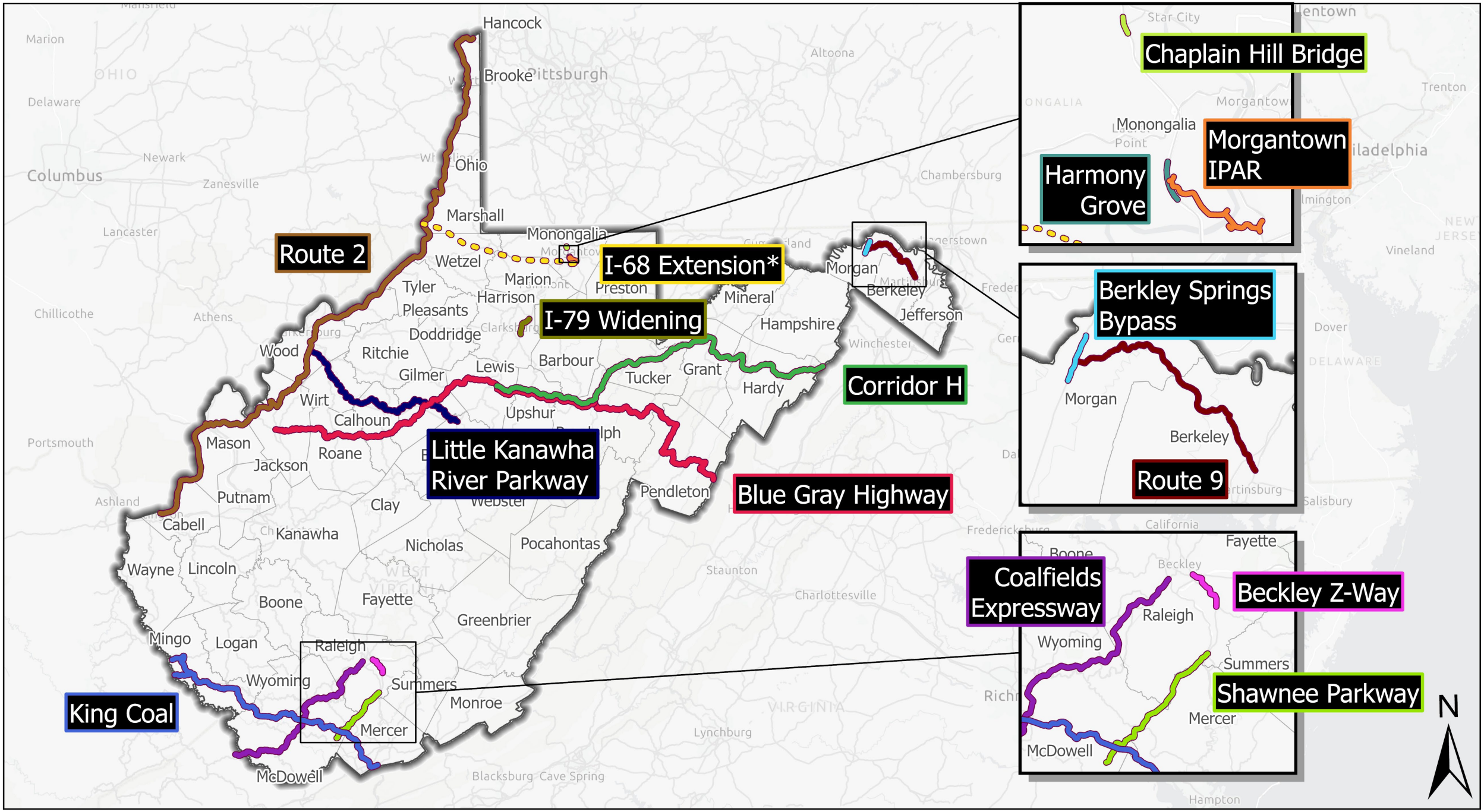
60 factors currently under consideration

LRTP			Factors			
	Subgoal	ID#	Factor	Corridor	Project	Data Source
		1.3.4	Innovative Funding Approach	Corridor can be built as a PPP or using another innovative funding approach (y/n)	Project can be innovatively funded (rightsized, PPP, etc.) (y/n)	Project Documentation
	Ensure that WVDOT has the necessary resources to fulfill its mandate effectively and efficiently	1.4.1	Eligibility	Corridor is eligible for known funding sources	Project is eligible for intended funding sources, bonus for targeted funding (such as HSIP)	Project Documentation (or Review of Other Info)
		1.4.2	Cost Estimate Accuracy	*None (you would need to know what the project is to know this)*	Initial Project Cost Estimate Accuracy	Engineering Judgment/Review of Project Documentation
GOAL 2: SAFETY AND SECURITY FOR ALL USERS	Reduce fatalities and serious injuries on the multimodal transportation system	2.1.1	Crash Reduction	Crashes on Corridor	Estimated Crash Reduction (CMF)	Data collected for HSIP
		2.1.2	FSI Reduction	FSI on Corridor	Estimated FSI Reduction (CME)	Data collected for HSIP
		2.1.3	Ped/Bike Safety	Ped/Bike Infrastructrue Condition	Ped/Bike Infrastructure Improvement (1-5) or some other index or indices	Engineering Judgment/Review of Project Documentation
		2.1.4	ADA Infrastructure	*None*	Project resolves deficient ADA ramps	Project Documentation
		2.1.5	Geometry	Geometric Sufficiency on Current Corridor (1-5)	Improvements to geometry, sightlines, or safety equpment (e.g. guardrail or arrestors) (1-5)	Engineering Judgment/Review of Project Documentation
	Manage a resilient and redundant transportation network	2.2.1	Redundancy	Detour Length	Detour Length Resolved	Project Documentation
		2.2.2	Resiliency	Threat level to current roads from flooding (can get more specific, but likely 1-5)	Project reduces flooding risk (1-5)	State GIS/Research or Project Documentation
	Decrease incident clearance time and recovery	2.3.1	Emergency Vehicle Access	Access to Major Medical Center (y/n)	Emergency Response Time Reduction	State GIS/Research
		2.3.2	Evacuation Route	Segment is on an evacuation route (y/n)	Project improves an evacuation route (y/n)	State GIS/Research
GOAL 3: ECONOMIC VITALITY AND FREIGHT MOVEMENT	Improve intermodal freight connections	3.1.1	Intermodal Access	Access to Intermodal Facilities (rail/road, or river port/road)	Improves Access to Intermodal Facilities (rail/road or river port/road)	State GIS/Research
		3.1.2	Truck Volume	Truck ADT	Truck ADT	Travel Demand Model/NPMRDS
	Expand access to economic activity centers and emerging industries/clusters	3.2.1	Developable Parcels	Developable Parcels along Corridor	Developable Parcels near Project	WV Developable Parcels Database
		3.2.2	Employment	Employment Density Employment Growth Rate	Employment Density Employment Growth Rate	State GIS/Research
		3.2.3	Population	Population Density Population Growth Rate	Population Density Population Growth Rate	State GIS/Research
	Address bottlenecks and first-mile/last-mile access	3.3.1	Truck Travel	TTTR on Corridor	Truck Delay Reduction	Travel Demand Model/NPMRDS
		3.3.2	Truck Bottlenecks	Known bottleneck on corridor (y/n)	Known bottleneck resolved (y/n)	Travel Demand Model/NPMRDS/Other state source
	Manage recurring congestion and improve reliability on the highway system	4.1.1	Volume	ADT ADT Growth	ADT ADT Growth	Travel Demand Model/NPMRDS/Other state source
		4.1.2	V/C Ratio	V/C Ratio or LOS	Change in V/C Ratio or LOS	Project Documentation
		4.1.3	Delay	Person-Hours of Delay	Person-Hours of Delay Reduced	Travel Demand Model/NPMRDS

TIDS for Regional Mobility Corridors

- **Importance of regional corridors**
  - > Economic development, opportunity
  - > Benefits over wide geographic area
  - > Freight movement, interstate travel
  - > Large investment for usable segments
- **Corridor H has been top priority**
  - > Progress toward substantial completion
  - > Large proportion of overall STIP spend
  - > Opportunity to choose what comes next

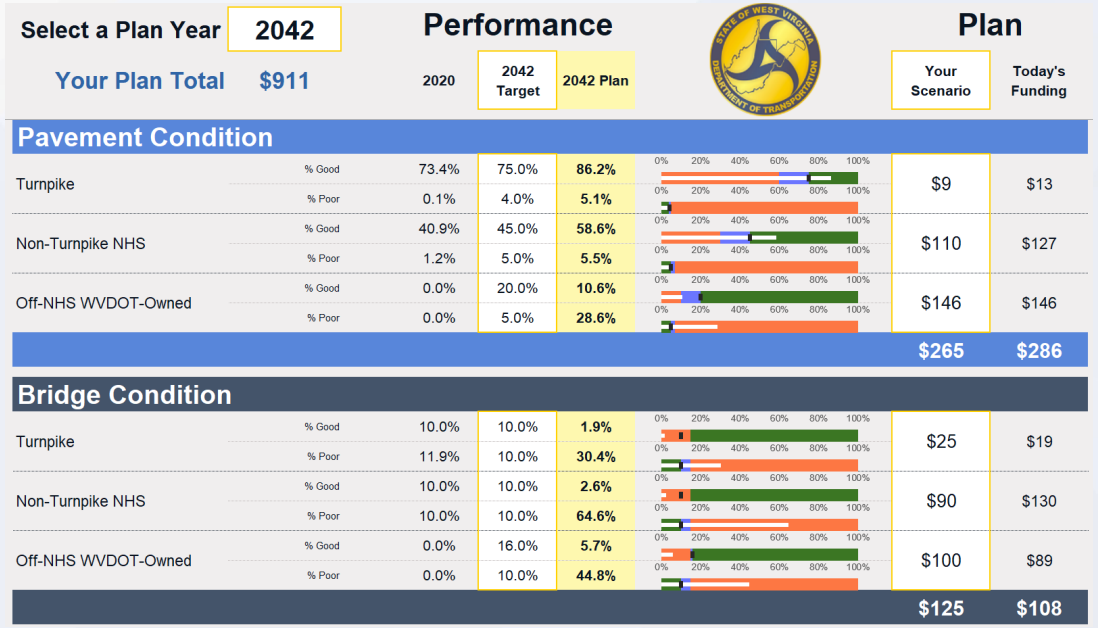
	2023-2026	%
Bridge Rehab	$622	20.1%
Bridge Replacement	$477	15.4%
Pvt Rehabilitation	$314	10.2%
Traffic Op. Impr.	$283	9.1%
Pvt Preservation	$279	9.0%
Corridor H	$204	6.6%
Other Reg. Mobility	$187	6.0%
Highway Safety	$138	4.5%
Pvt Reconstruction	$107	3.5%
Bridge Inspection	$78	2.5%
SPR	$73	2.4%
Roadway Improvement	$60	2.0%
Bridge Preservation	$57	1.9%
Bike and Pedestrian	$55	1.8%
ADA Ramps	$48	1.6%
Mobility Improvement	$38	1.2%
Resiliency	$31	1.0%
MPO Planning	$14	0.5%
Traffic Study	$12	0.4%
Workforce Developmen	$9	0.3%
Suballocated TMA	$4	0.1%
Bridge Construction	$3	0.1%
Bridge Demolition	$0	0.0%
	$3,096	



*The exact trace, or proposed path, for the I-68 Extension is undetermined (indicated by the dotted line).

TIDS for Resource Allocation

- **Assignment of limited funds to STIP programs**
- **Planning for Performance**
  - > Developed in 2021 for LRTP
  - > Uses WVDOT's existing models and new ones we develop
  - > Links performance to program spend and visualizes on a dashboard



Select a Plan Year	2042		Performance				Plan	
Your Plan Total	$911		2020	2042 Target	2042 Plan		Your Scenario	Today's Funding
Pavement Condition								
Turnpike		% Good	73.4%	75.0%	**86.2%**		$9	$13
		% Poor	0.1%	4.0%	**5.1%**			
Non-Turnpike NHS		% Good	40.9%	45.0%	**58.6%**		$110	$127
		% Poor	1.2%	5.0%	**5.5%**			
Off-NHS WVDOT-Owned		% Good	0.0%	20.0%	**10.6%**		$146	$146
		% Poor	0.0%	5.0%	**28.6%**			
							$265	**$286**
Bridge Condition								
Turnpike		% Good	10.0%	10.0%	**1.9%**		$25	$19
		% Poor	11.9%	10.0%	**30.4%**			
Non-Turnpike NHS		% Good	10.0%	10.0%	**2.6%**		$90	$130
		% Poor	10.0%	10.0%	**64.6%**			
Off-NHS WVDOT-Owned		% Good	0.0%	16.0%	**5.7%**		$100	$89
		% Poor	0.0%	10.0%	**44.8%**			
							$125	**$108**

When Will This be Implemented

- **Will be in development throughout 2026**
- **TIDS will not be used for the STIP presented in September**
- **TIDS will be implemented as soon as possible afterward**
  - > STIP amendments
  - > Future STIPs
- **Comments, concerns, or input:**
  - > Gehan Elsayed: gehan.m.elsayed@wv.gov
  - > Joe Zissman: jzissman@camsys.com

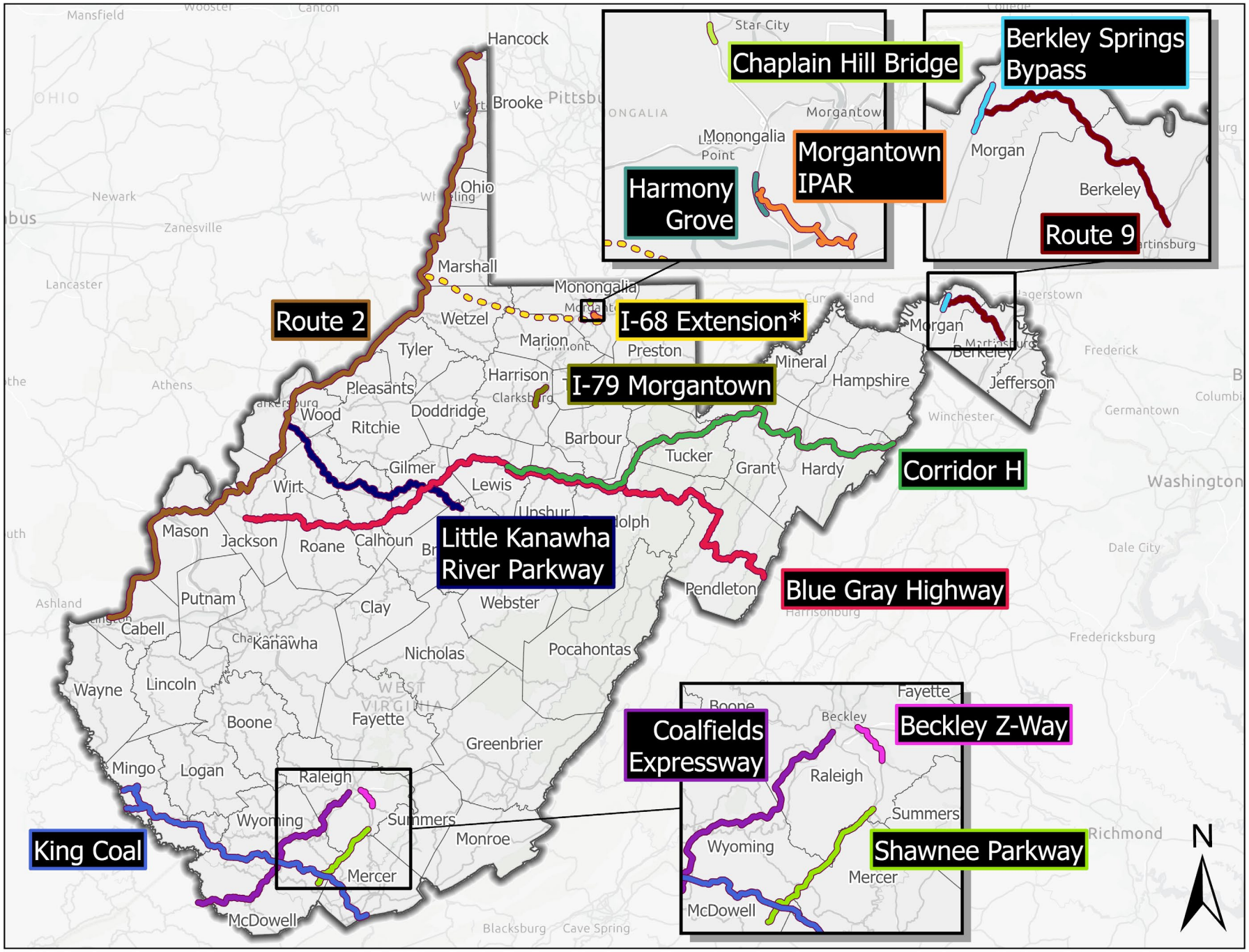
Corridors

Preliminary Corridor List – Create New Road

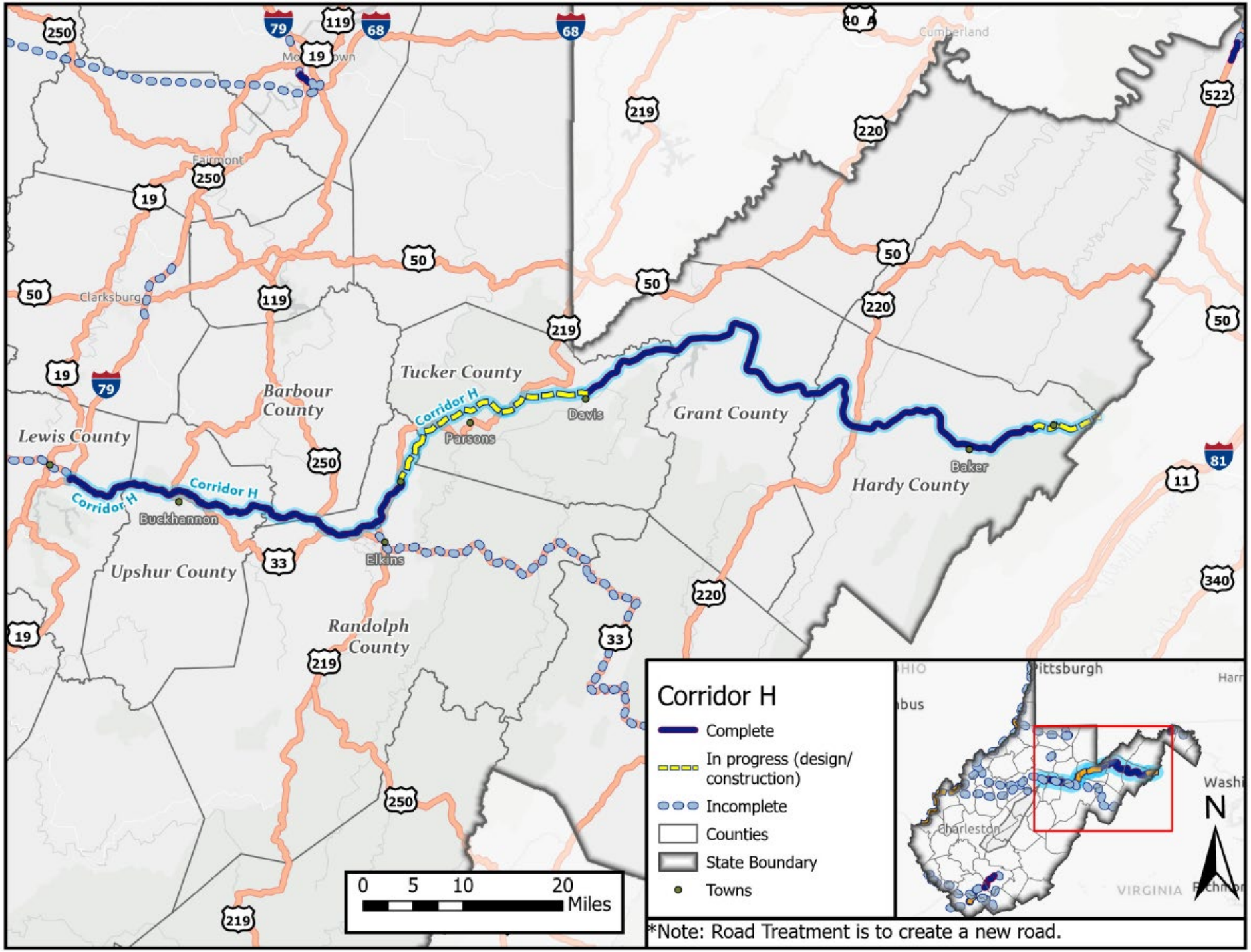
Corridor Name	Road Treatment	Road Length	Progress
Corridor H	Create a new road	134 total miles (103 completed miles)	Partially complete.
I-68 Extension	Create a new road	50 total miles	Incomplete. Road path undetermined.
King Coal Highway	Create a new road	99 total miles	Incomplete. Not yet started.
Morgantown IPAR	Create a new road	3.2 total miles (1.84 completed miles)	Partially complete.
Coalfields Expressway	Create a new road	63 total miles (17 completed miles)	In progress. Partially complete.
Shawnee Parkway	Create a new road	22 total miles	Incomplete. Not yet started.

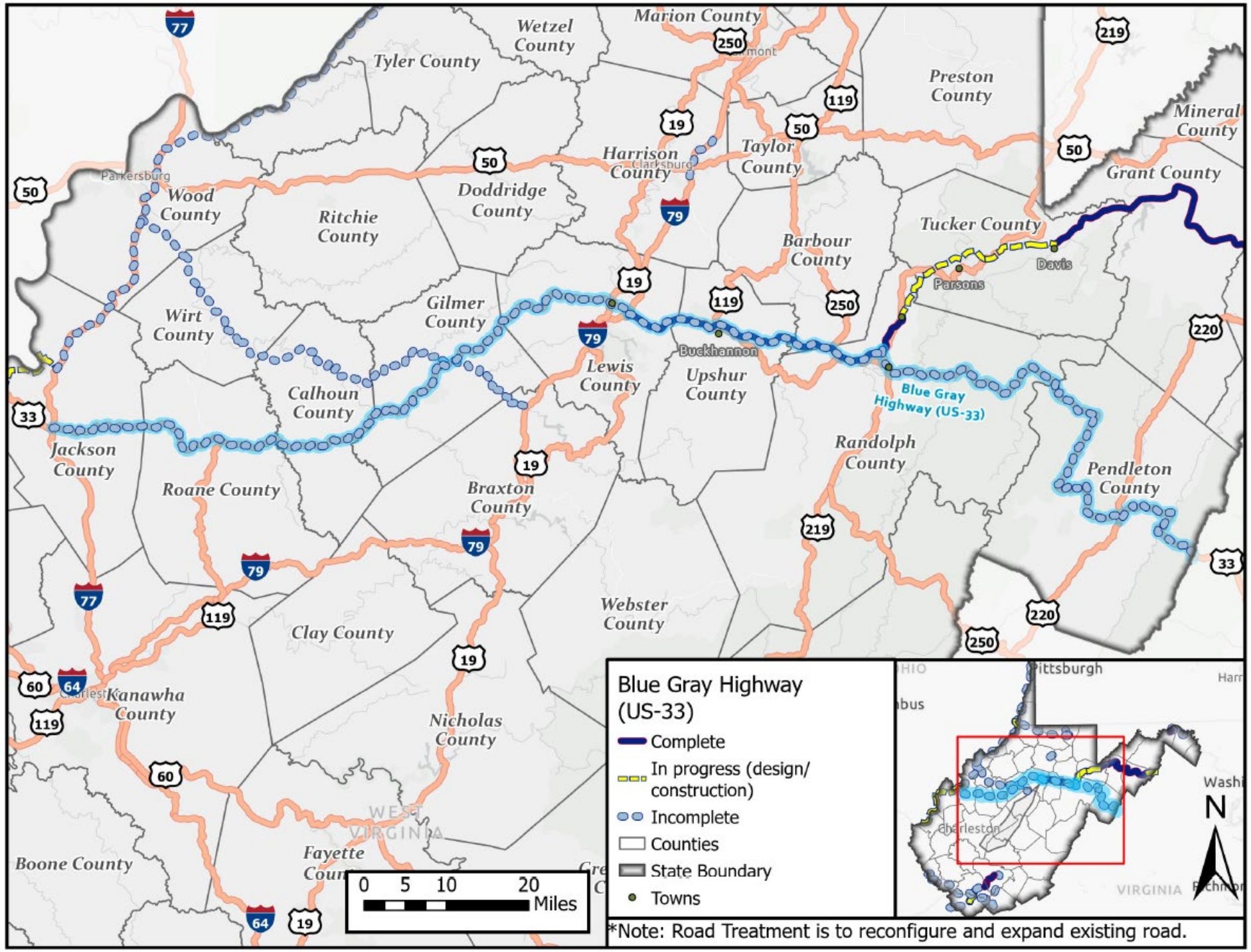
Preliminary Corridor List – Existing Road

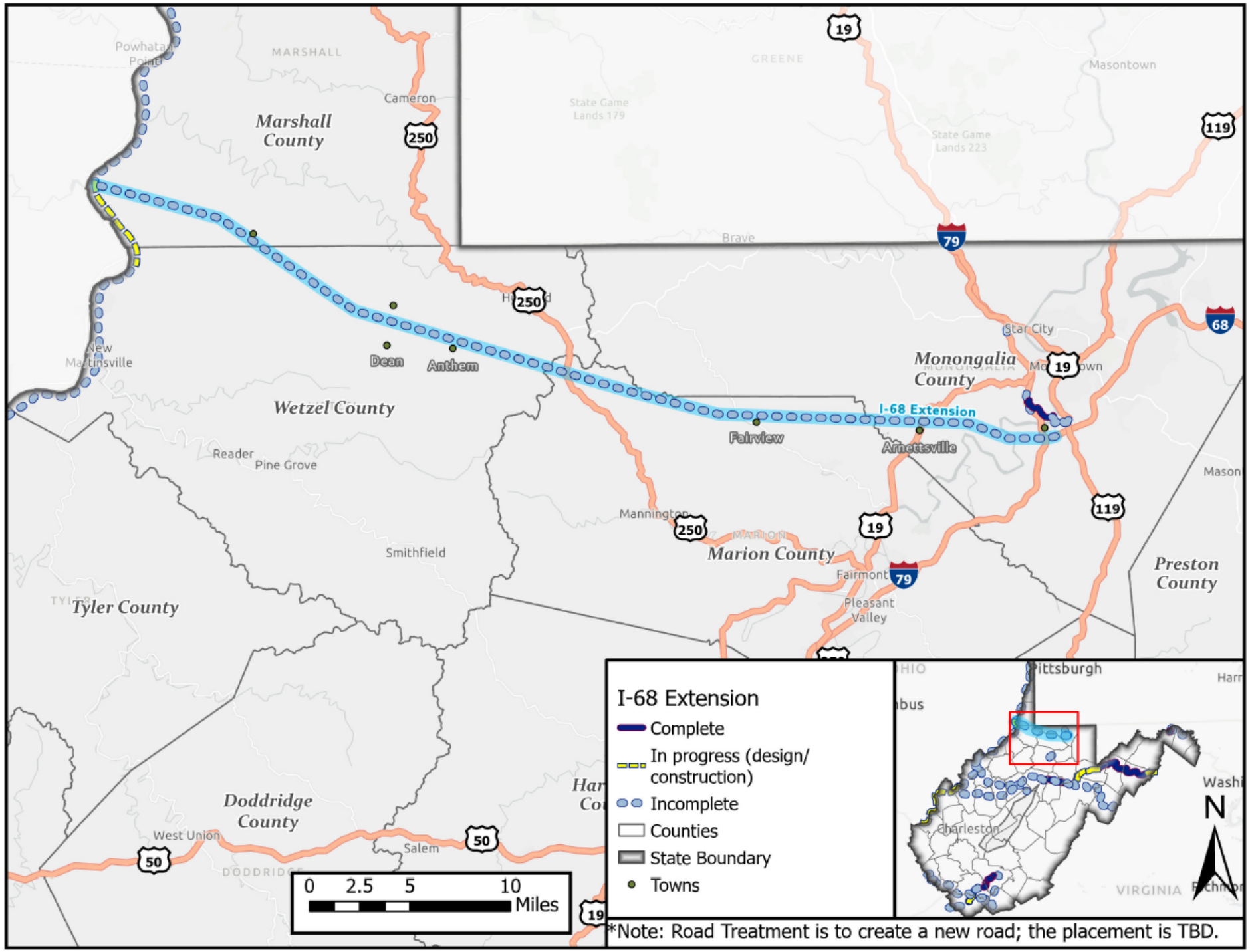
Corridor Name	Road Treatment	Road Length	Progress
Blue Gray Highway (US-33)	Reconfigure and expand existing road	206 total miles	Incomplete. Not yet started.
Berkeley Springs Bypass	Reconfigure and expand existing road	4 total miles (2 completed miles)	Partially complete.
I-79 Bridge over Chaplin Hill	Reconstruct a bridge	N/A	Incomplete. Not yet started.
Harmony Grove	Reconfigure existing road	0.9 total miles	Incomplete. Not yet started.
Route 2	Reconfigure and expand existing road	231 total miles	Incomplete. Partially in progress.
Route 9	Reconfigure and expand existing road	24 total miles	Incomplete. Not yet started.
I-79 Morgantown	Reconfigure and expand existing road	6 total miles	Incomplete. Not yet started.
Little Kanawha River Pkwy (WV-5)	Reconfigure existing road	77 total miles	Incomplete. Not yet started.

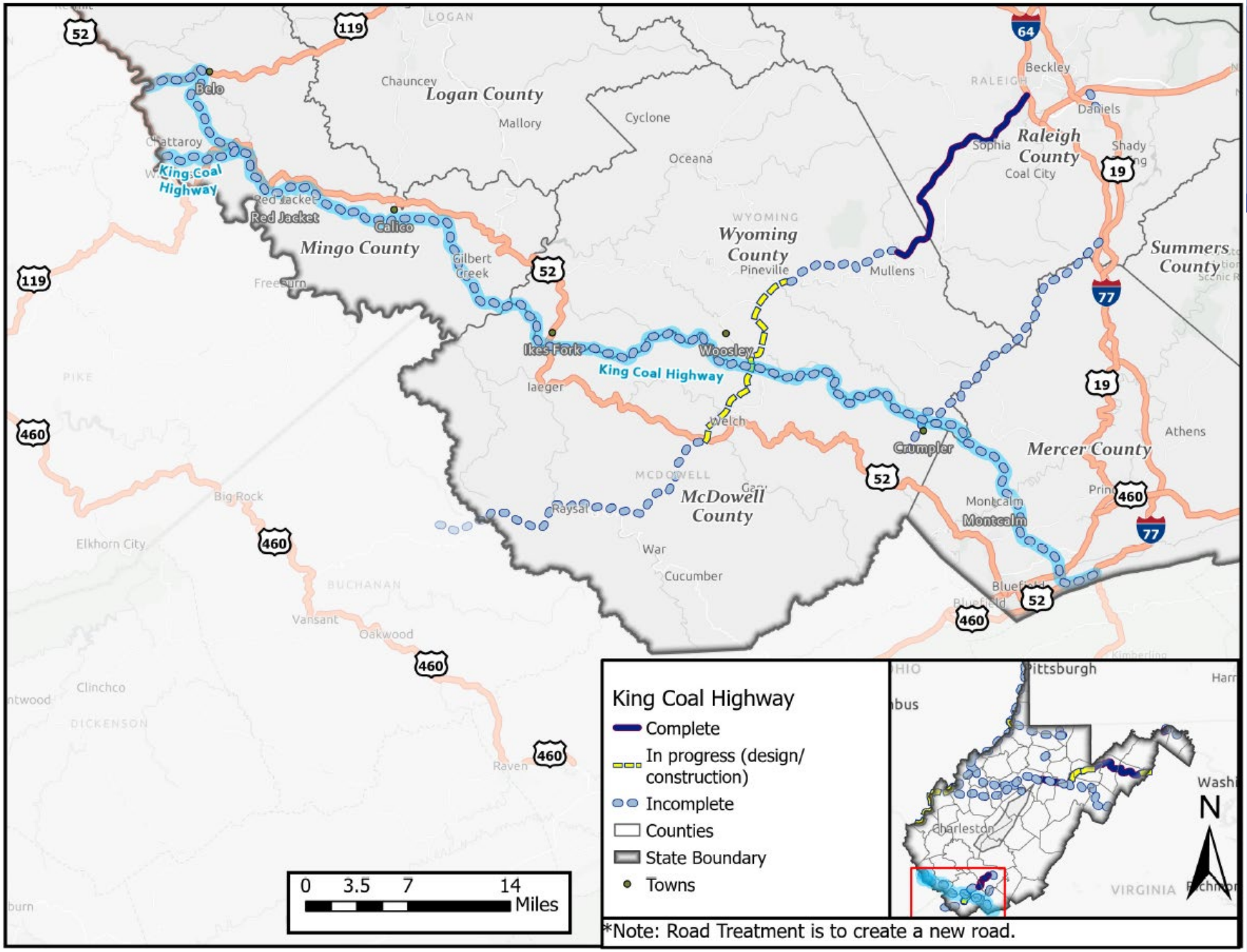


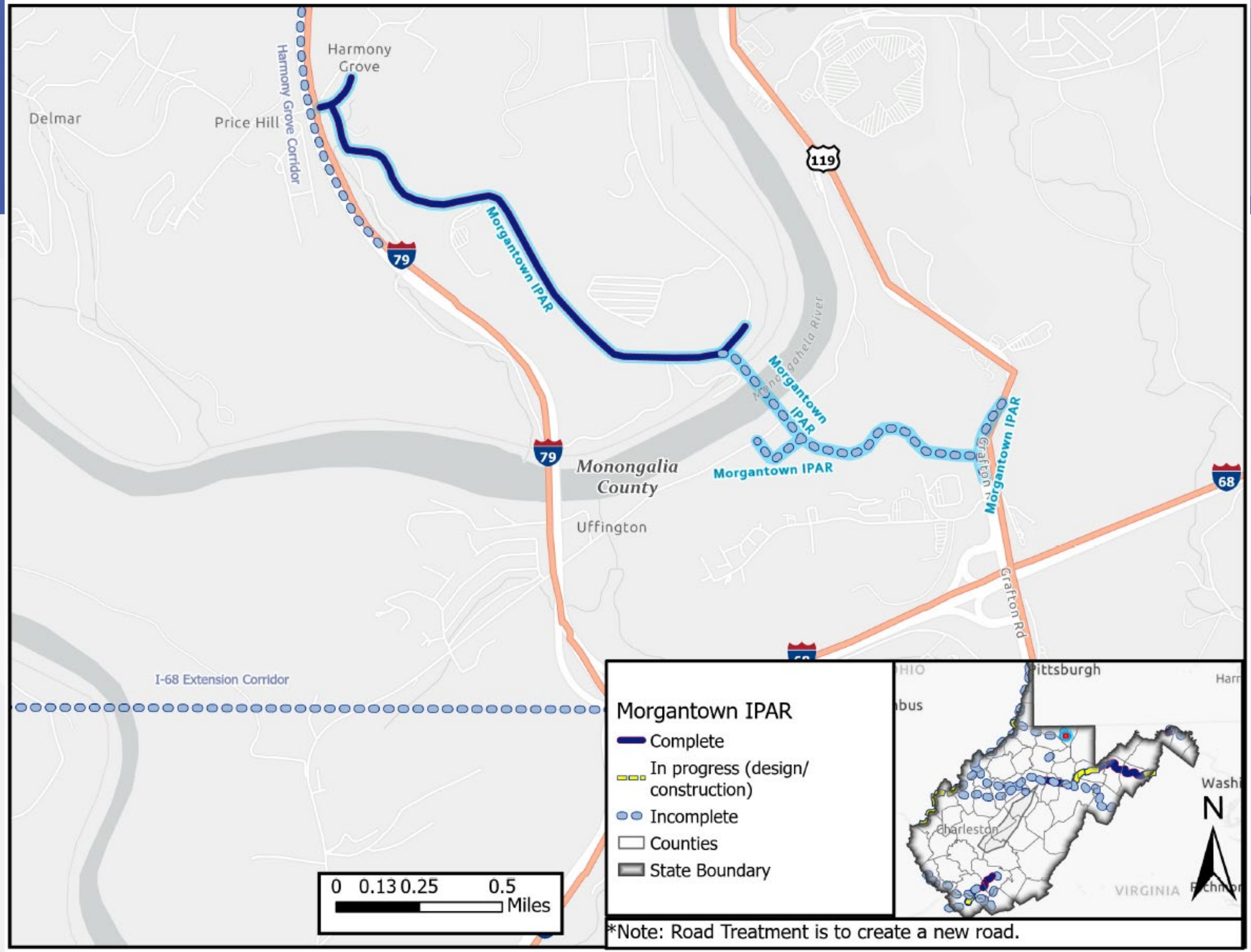
*The exact trace, or proposed path, for the I-68 Extension is undetermined (indicated by the dotted line).

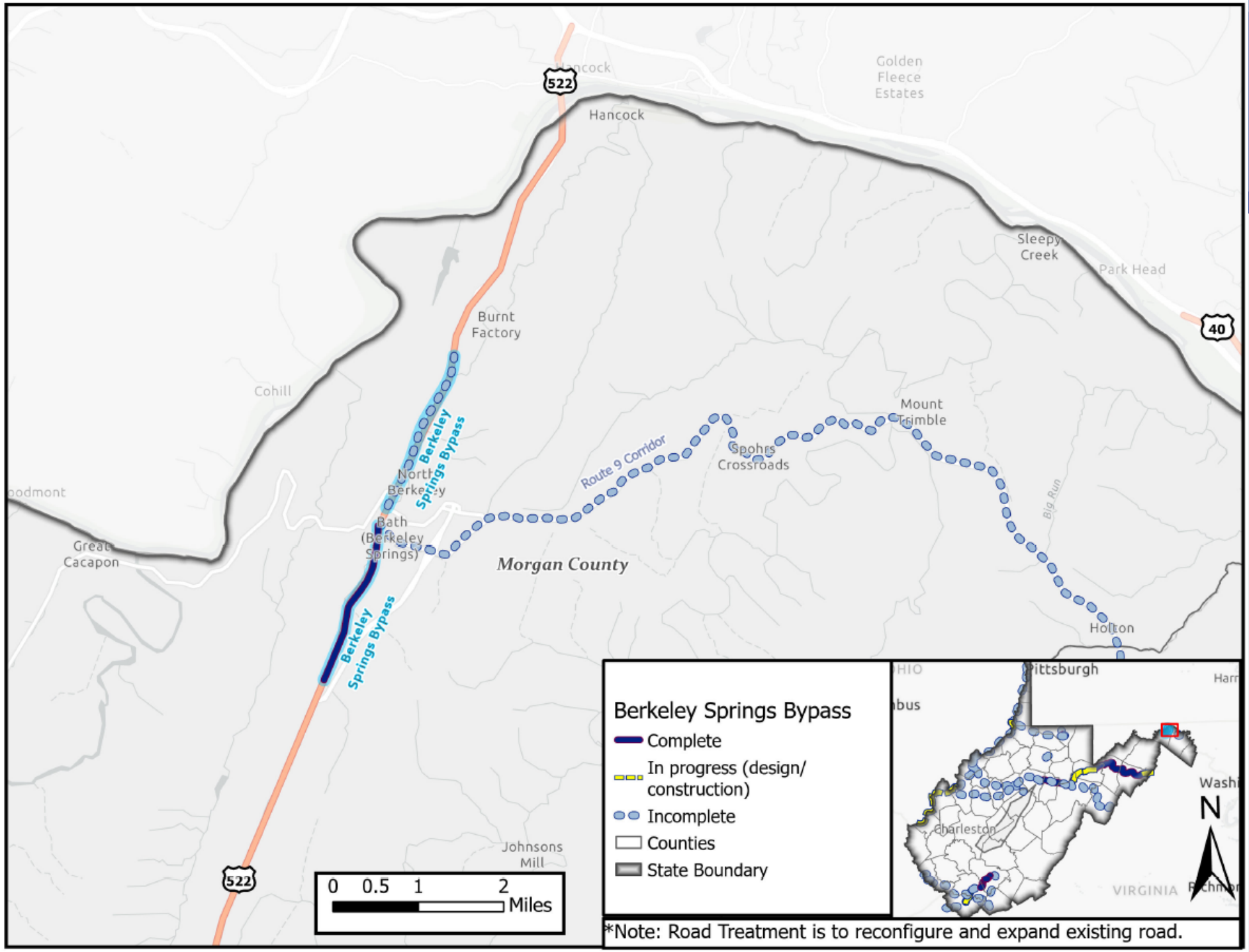

Corridor H
Complete
In progress (design/ construction)
Incomplete
Counties
State Boundary
Towns
*Note: Road Treatment is to create a new road.
0 5 10 20 Miles
N
Lewis County
Barbour County
Tucker County
Upshur County
Randolph County
Grant County
Hardy County
Clarksburg
Fairmont
Buckhannon
Elkins
Parsons
Davis
Baker
Cumberland
Pittsburgh
Charleston
VIRGINIA

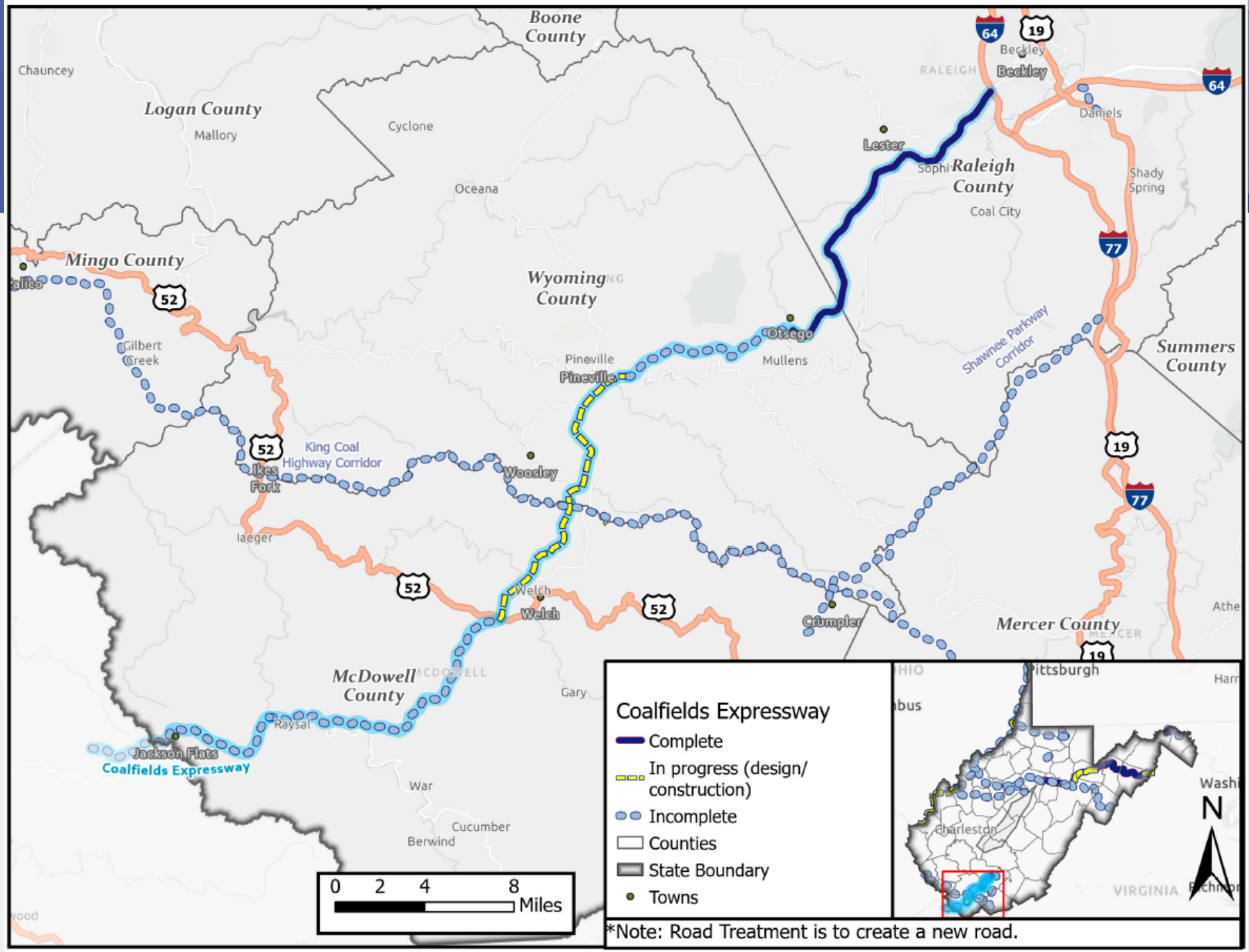

Blue Gray Highway (US-33)
Complete
In progress (design/ construction)
Incomplete
Counties
State Boundary
Towns
0 5 10 20 Miles
N
*Note: Road Treatment is to reconfigure and expand existing road.
Blue Gray Highway (US-33)
Wetzel County
Marion County
Tyler County
Preston County
Mineral County
Grant County
Harrison County
Taylor County
Doddridge County
Wood County
Ritchie County
Barbour County
Tucker County
Gilmer County
Wirt County
Lewis County
Upshur County
Randolph County
Pendleton County
Calhoun County
Jackson County
Roane County
Braxton County
Webster County
Clay County
Kanawha County
Nicholas County
Fayette County
Boone County
Parkersburg
Clarksburg
Davis
Parsons
Buckhannon
Charleston
Pittsburgh
VIRGINIA

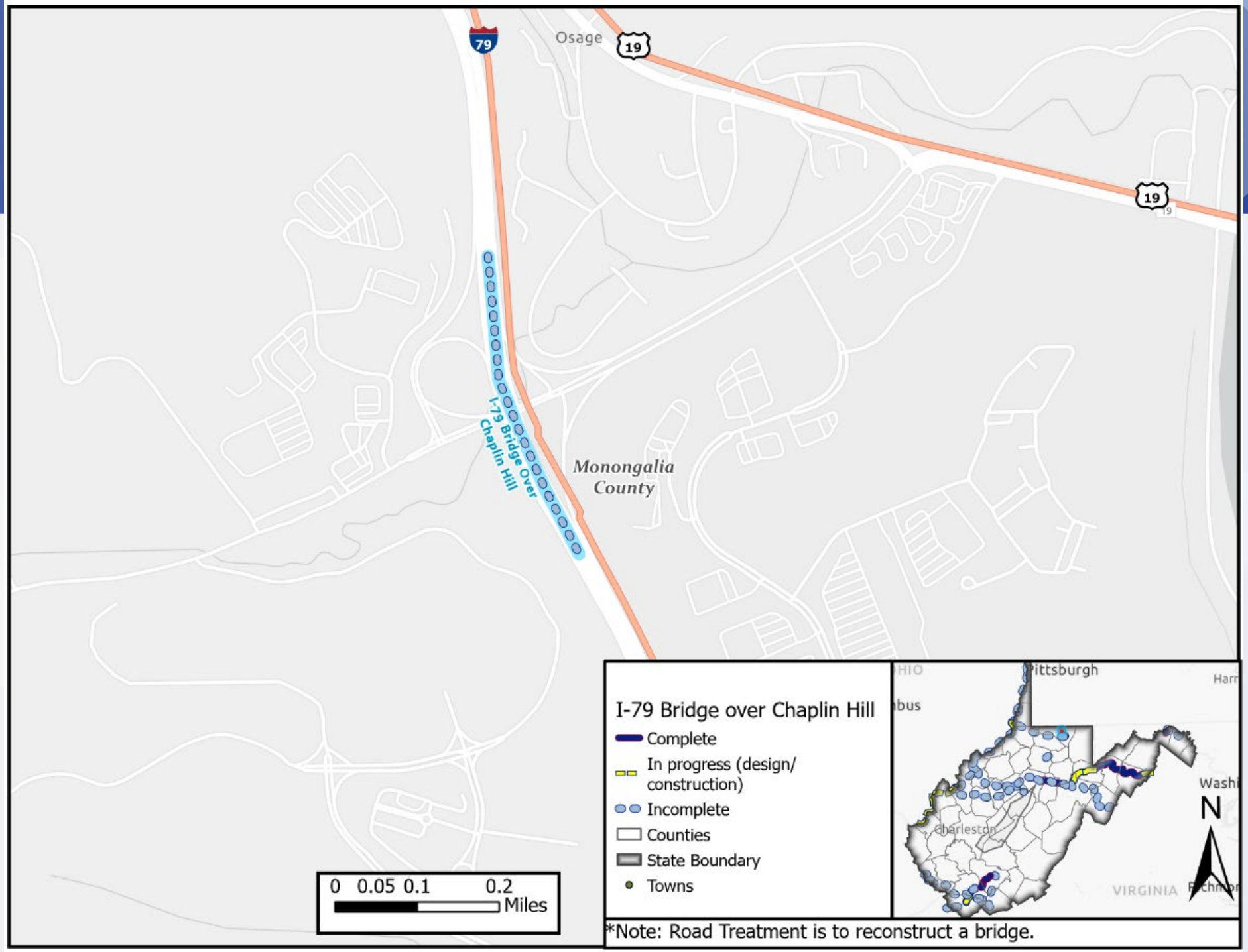

Marshall County
Wetzel County
Tyler County
Doddridge County
Monongalia County
Marion County
Preston County
I-68 Extension
Dean
Anthem
Fairview
Arnettsville
Cameron
Powhatan Point
New Martinsville
Reader
Pine Grove
Smithfield
West Union
Salem
Star City
Fairmont
Pleasant Valley
Masontown
Brave
State Game Lands 179
State Game Lands 223
0 2.5 5 10 Miles
I-68 Extension
Complete
In progress (design/ construction)
Incomplete
Counties
State Boundary
Towns
Pittsburgh
Charleston
N
*Note: Road Treatment is to create a new road; the placement is TBD.

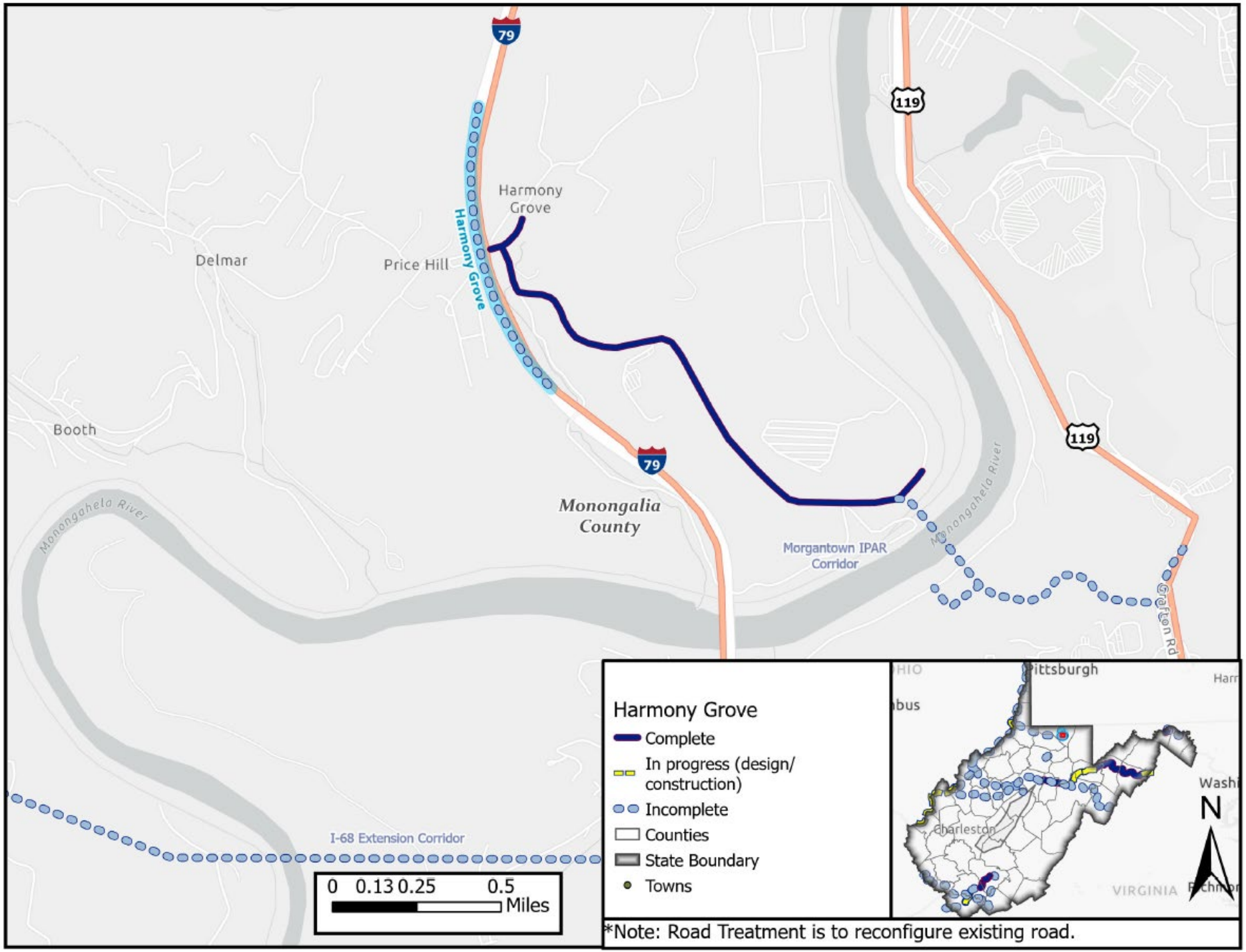

King Coal Highway
Complete
In progress (design/ construction)
Incomplete
Counties
State Boundary
Towns
*Note: Road Treatment is to create a new road.
0 3.5 7 14
Miles
N
Logan County
Mingo County
Wyoming County
Raleigh County
Mercer County
McDowell County
Summers County
Belo
Red Jacket
Calico
Ike's Fork
Woosley
Crumpler
Montcalm
Beckley
Pineville
Mullens
Welch
Elkhorn City
Clinchco
Vansant
Oakwood
Cucumber
War
Raysal
Big Rock
Coal City
Sophia
Daniels
Athens
Pittsburgh
Charleston

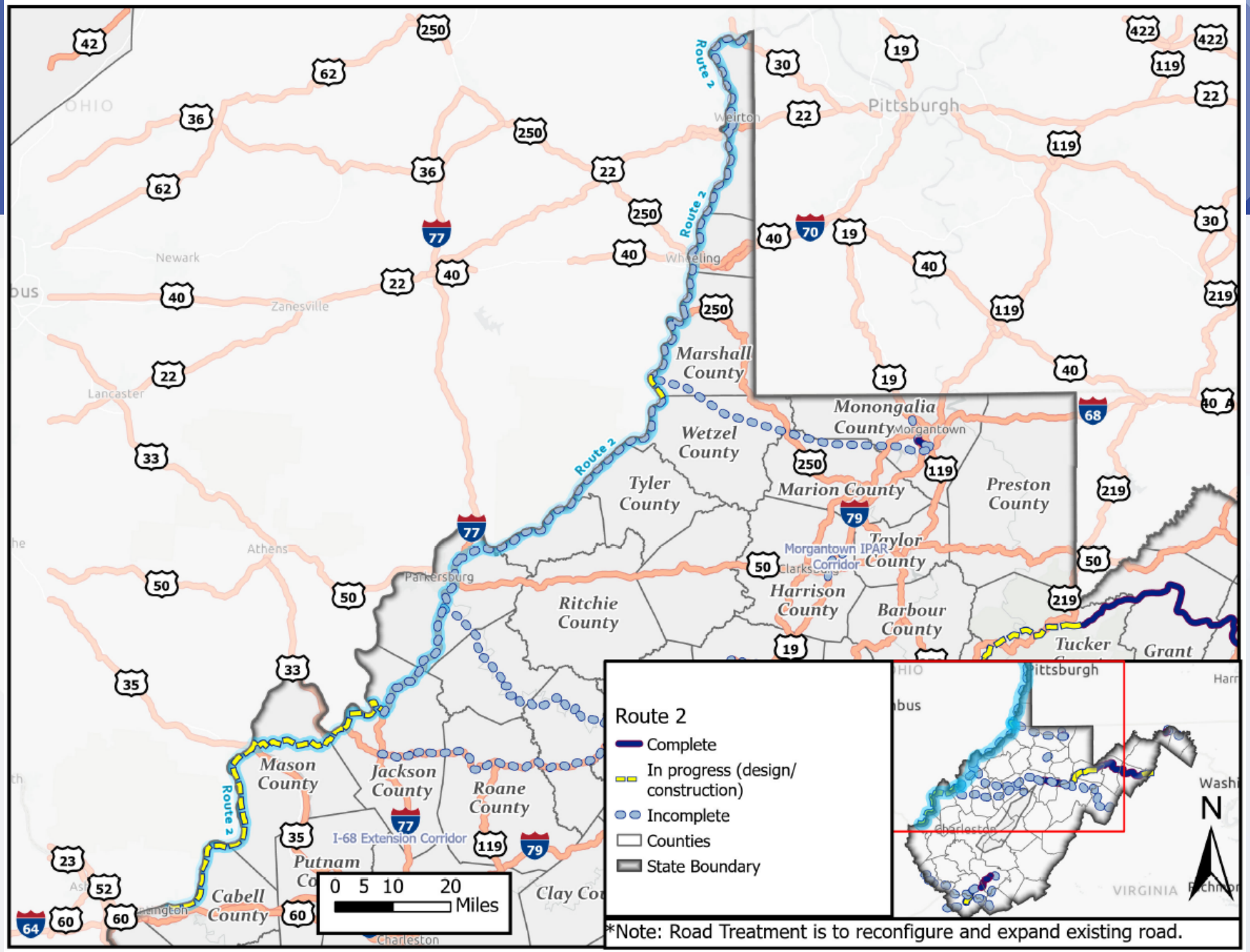

Harmony Grove
Delmar
Price Hill
Harmony Grove Corridor
Morgantown IPAR
79
119
Monongahela River
Morgantown IPAR
Morgantown IPAR
Morgantown IPAR
Grafton
Grafton Rd
68
Monongalia County
Uffington
I-68 Extension Corridor
Morgantown IPAR
Complete
In progress (design/ construction)
Incomplete
Counties
State Boundary
0 0.13 0.25 0.5
Miles
Pittsburgh
Charleston
VIRGINIA
N
*Note: Road Treatment is to create a new road.


522
Hancock
Golden Fleece Estates
Sleepy Creek
Park Head
40
Burnt Factory
Cohill
Mount Trimble
Route 9 Corridor
Spohrs Crossroads
Big Run
Berkeley Springs Bypass
North Berkeley
Bath (Berkeley Springs)
Great Cacapon
Morgan County
Holton
Johnsons Mill
0 0.5 1 2 Miles
Berkeley Springs Bypass
Complete
In progress (design/ construction)
Incomplete
Counties
State Boundary
Pittsburgh
Charleston
VIRGINIA
N
*Note: Road Treatment is to reconfigure and expand existing road.

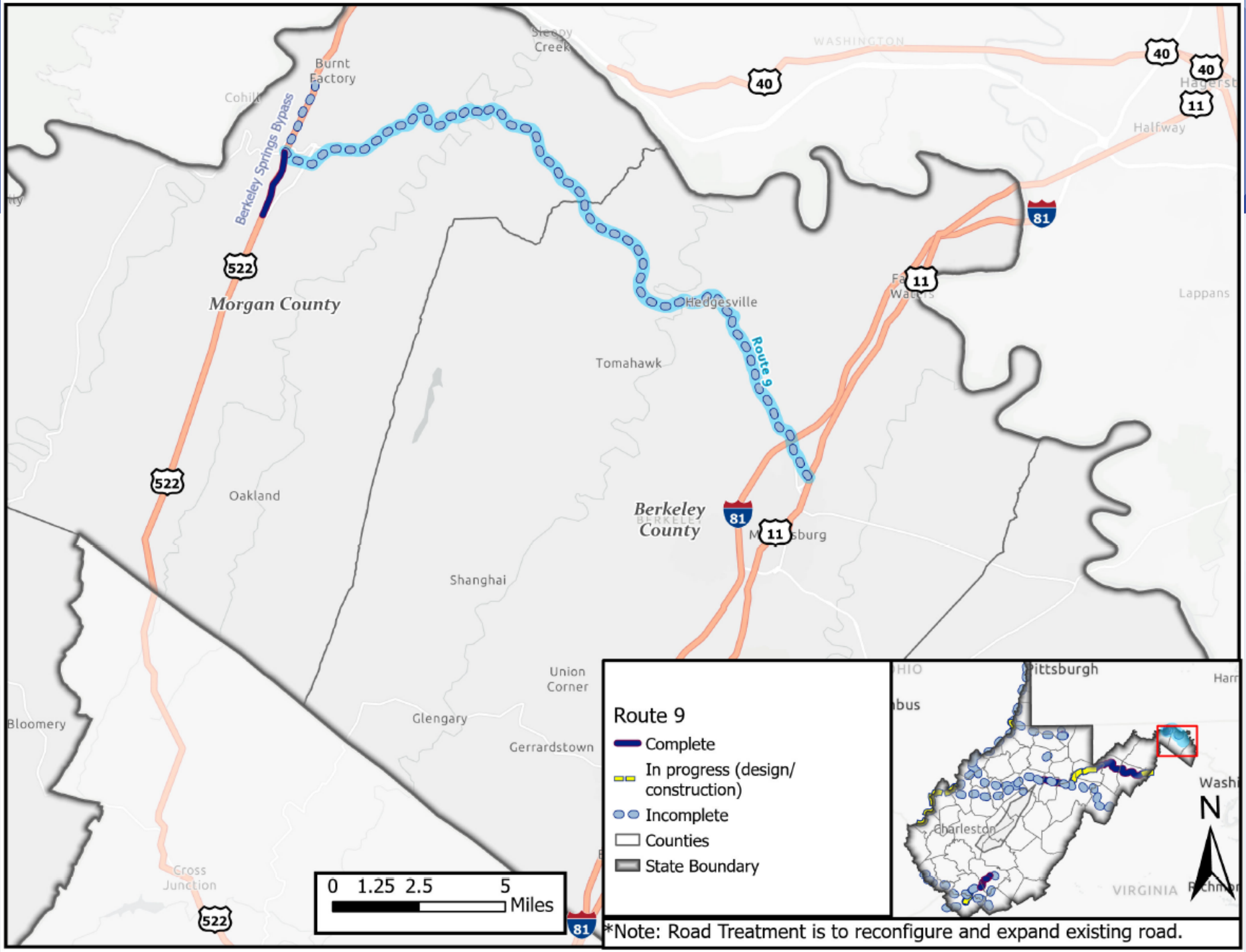

Boone County
Logan County
Mingo County
Wyoming County
Raleigh County
Summers County
McDowell County
Mercer County
Chauncey
Mallory
Cyclone
Oceana
Beckley
Lester
Daniels
Shady Spring
Coal City
Otsego
Mullens
Pineville
Shawnee Parkway Corridor
Gilbert Creek
King Coal Highway Corridor
Ikes Fork
Iaeger
Woosley
Welch
Crumpler
Gary
Raysal
Jackson Flats
Coalfields Expressway
War
Cucumber
Berwind
64
19
77
52
0 2 4 8 Miles
Coalfields Expressway
Complete
In progress (design/ construction)
Incomplete
Counties
State Boundary
Towns
*Note: Road Treatment is to create a new road.
Pittsburgh
Charleston
VIRGINIA
N

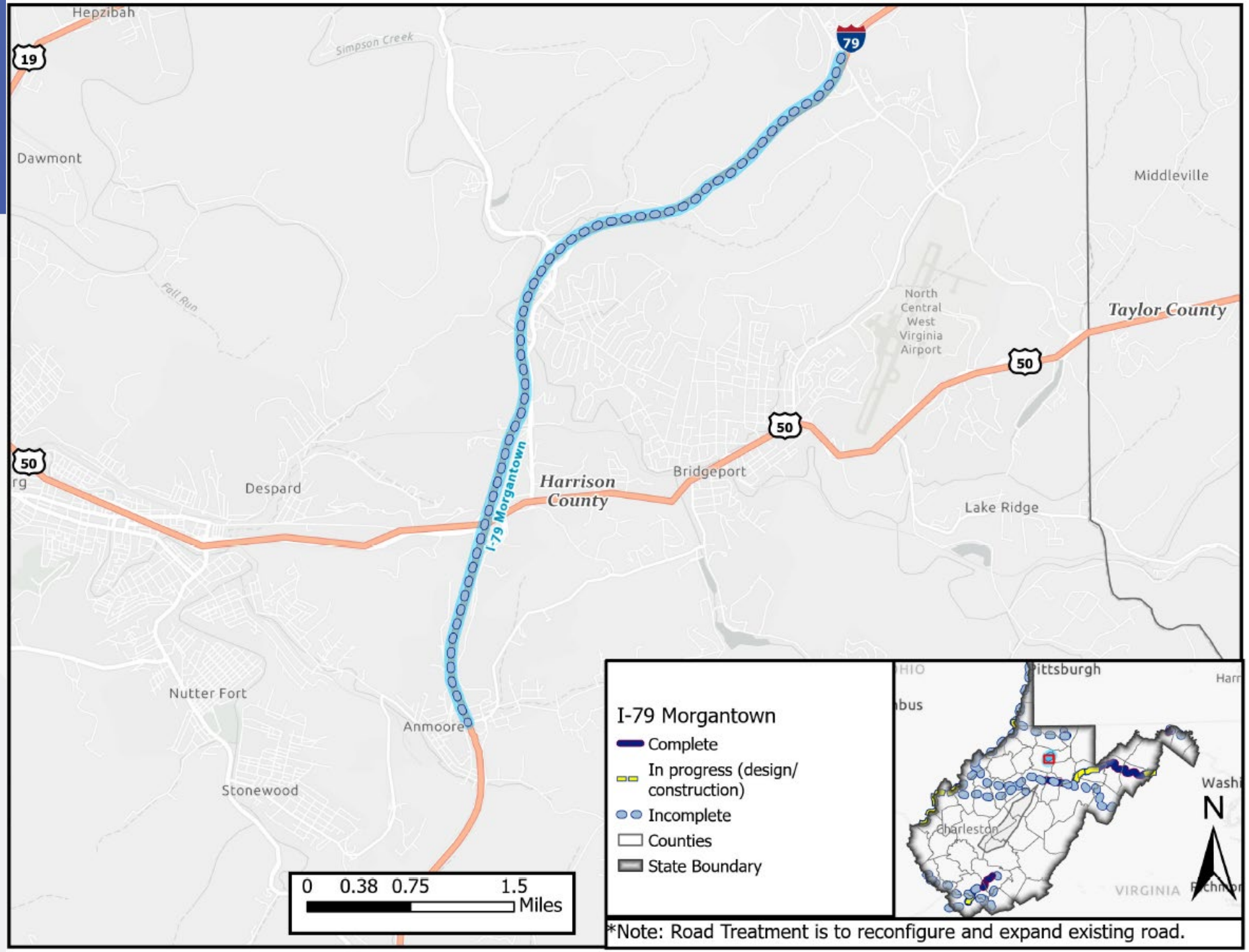

79
Osage
19
19
I-79 Bridge Over Chaplin Hill
Monongalia County
0 0.05 0.1 0.2
Miles
I-79 Bridge over Chaplin Hill
Complete
In progress (design/ construction)
Incomplete
Counties
State Boundary
Towns
Pittsburgh
Charleston
VIRGINIA
N
*Note: Road Treatment is to reconstruct a bridge.

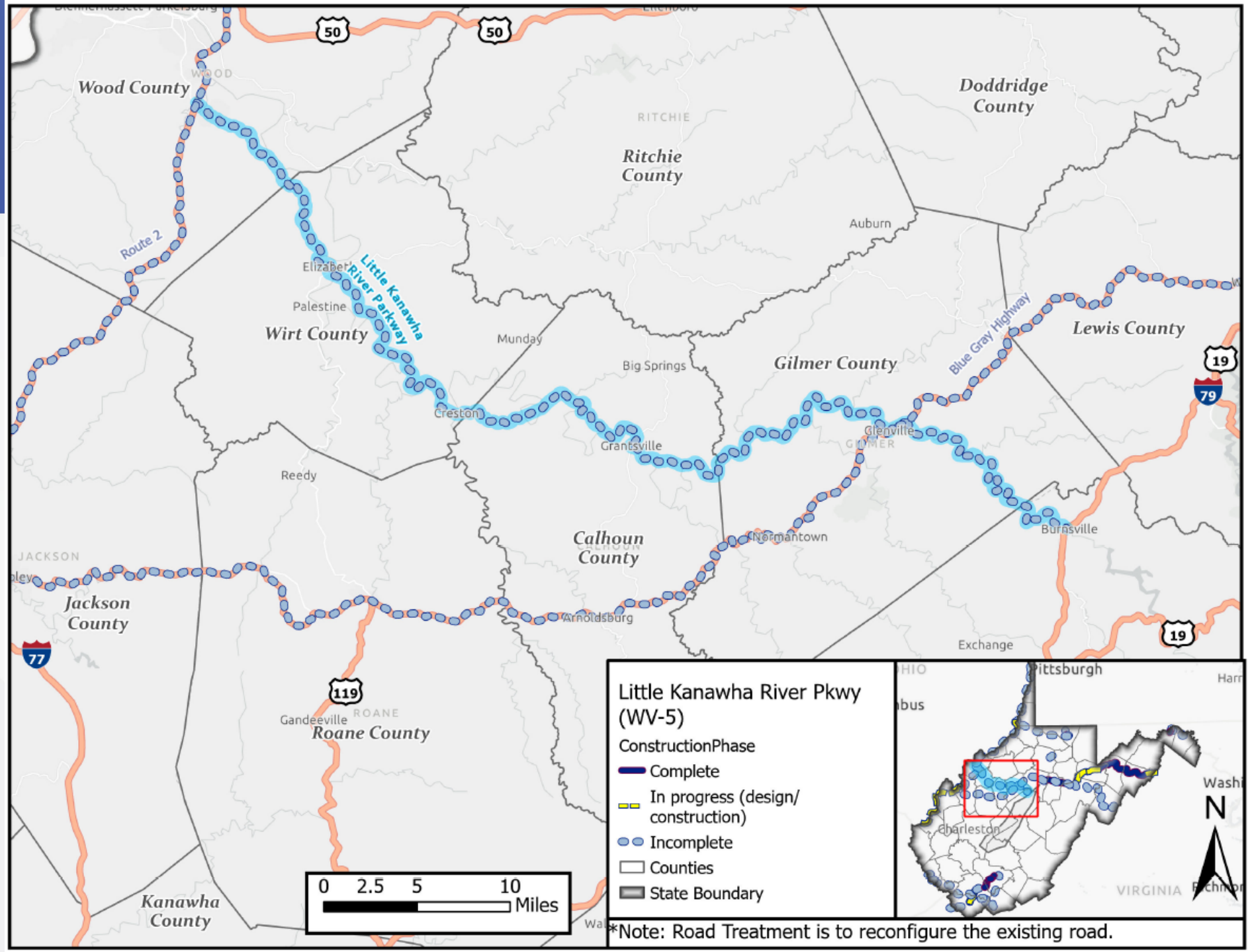

79
119
Harmony Grove
Delmar
Price Hill
Harmony Grove
Booth
Monongalia County
Monongahela River
Morgantown IPAR Corridor
Grafton Rd
I-68 Extension Corridor
0 0.13 0.25 0.5 Miles
Harmony Grove
Complete
In progress (design/ construction)
Incomplete
Counties
State Boundary
Towns
Pittsburgh
Charleston
VIRGINIA
N
*Note: Road Treatment is to reconfigure existing road.

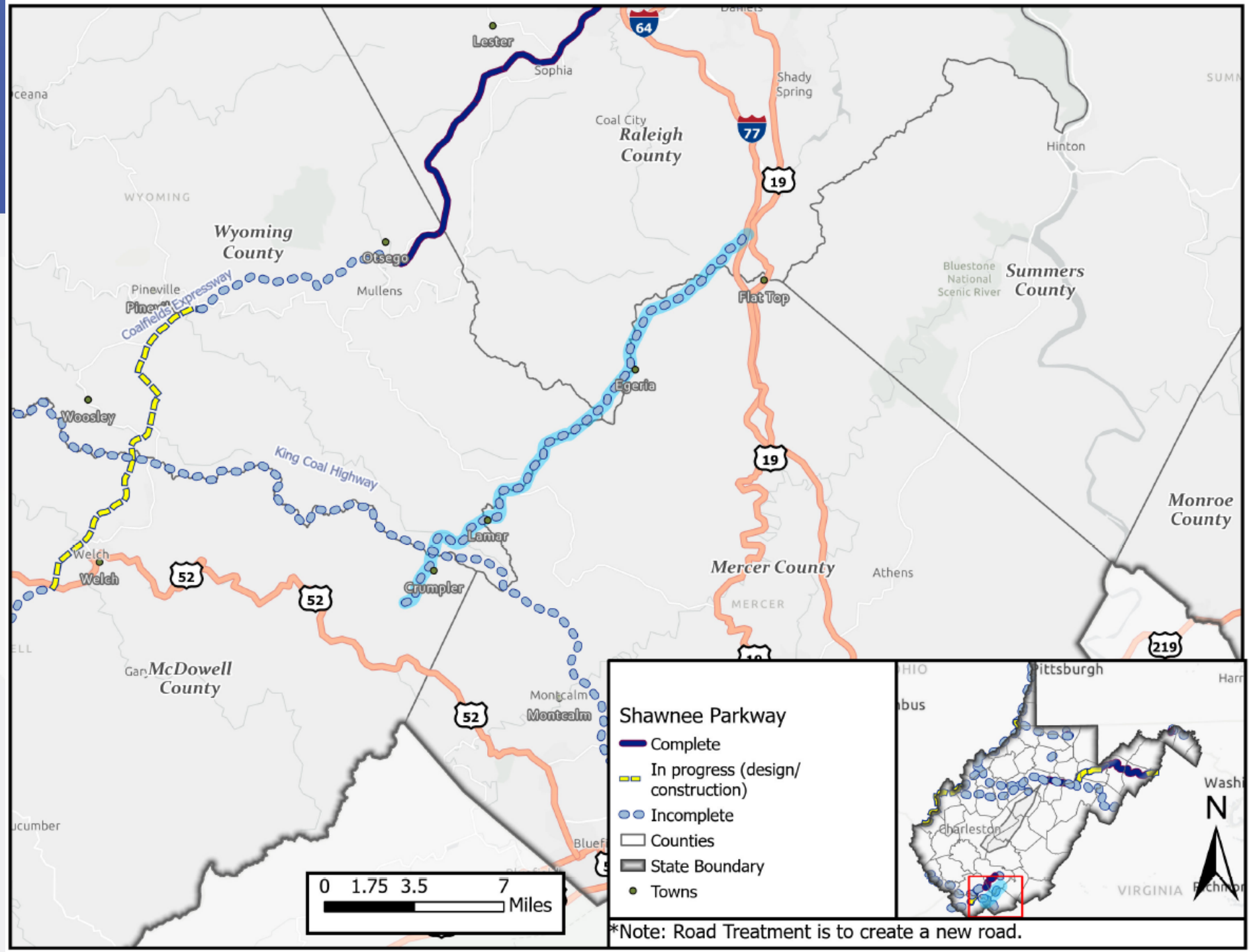


*Note: Road Treatment is to reconfigure and expand existing road.


Burnt Factory
Cohill
Sleepy Creek
WASHINGTON
Halfway
Hagerstown
Berkeley Springs Bypass
Morgan County
Hedgesville
Tomahawk
Route 9
Lappans
Oakland
Berkeley County
Shanghai
Union Corner
Glengary
Gerrardstown
Bloomery
Cross Junction
0 1.25 2.5 5 Miles
Route 9
Complete
In progress (design/ construction)
Incomplete
Counties
State Boundary
Pittsburgh
Charleston
VIRGINIA
N
*Note: Road Treatment is to reconfigure and expand existing road.


Hepzibah
Simpson Creek
19
79
Dawmont
Middleville
Fall Run
North Central West Virginia Airport
Taylor County
50
50
50
Despard
Harrison County
Bridgeport
I-79 Morgantown
Lake Ridge
Nutter Fort
Anmoore
Stonewood
0 0.38 0.75 1.5 Miles
I-79 Morgantown
Complete
In progress (design/ construction)
Incomplete
Counties
State Boundary
Pittsburgh
Charleston
VIRGINIA
N
*Note: Road Treatment is to reconfigure and expand existing road.


Wood County
Ritchie County
Doddridge County
Wirt County
Gilmer County
Lewis County
Calhoun County
Jackson County
Roane County
Kanawha County
Little Kanawha River Parkway
Route 2
Blue Gray Highway
Auburn
Palestine
Munday
Big Springs
Creston
Grantsville
Glenville
Reedy
Normantown
Burnsville
Arnoldsburg
Exchange
Gandeeville
50
19
79
77
119
0 2.5 5 10 Miles
Little Kanawha River Pkwy (WV-5)
ConstructionPhase
Complete
In progress (design/ construction)
Incomplete
Counties
State Boundary
Pittsburgh
Charleston
VIRGINIA
N
*Note: Road Treatment is to reconfigure the existing road.


Lester
Sophia
Shady Spring
Coal City
Raleigh County
Hinton
WYOMING
Wyoming County
Otsego
Mullens
Pineville
Coalfields Expressway
Flat Top
Bluestone National Scenic River
Summers County
Egeria
Woosley
King Coal Highway
Lamar
Welch
Crumpler
Mercer County
Athens
MERCER
Monroe County
McDowell County
Montcalm
Shawnee Parkway
Complete
In progress (design/ construction)
Incomplete
Counties
State Boundary
Towns
0 1.75 3.5 7
Miles
Pittsburgh
Charleston
VIRGINIA
N
*Note: Road Treatment is to create a new road.

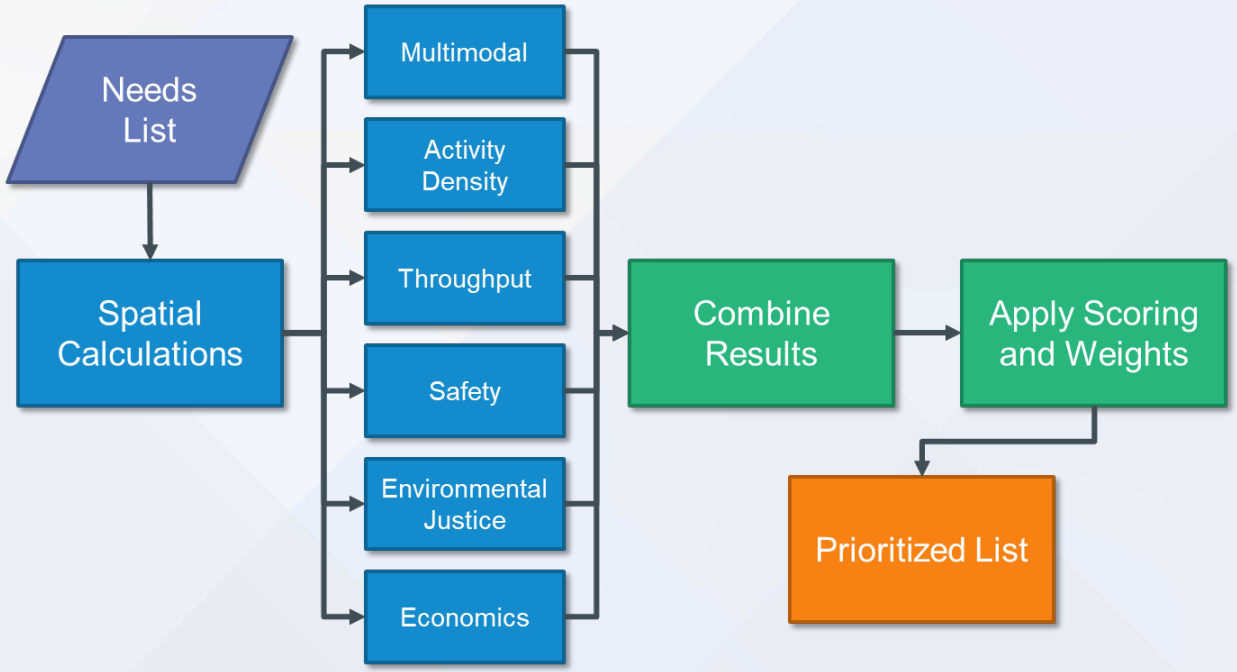
Examples

Example: Roanoke

- **What was the purpose?**
  - > Prioritize needs for the LRTP based on plan goals
- **What was the approach?**
  - > Six scoring categories
  - > Scored and weighted
- **What might apply here?**
  - > Multi-criteria approach
  - > Criteria weighted differently in different places

Example: Roanoke

1. Needs List Clean, organize, and place needs in correct geospatial location. Assign to categories: Automobile Safety, Pedestrian Safety, Bicycle Safety, Transit Safety, Congestion, System Management (Non-Transit), System Management (Transit).
2. Spatial Calculations Calculating whether the need applies to a series of six criteria: Multimodal, Activity Density, Throughput, Safety, Environmental Justice, Economics.
3. Combine Results All the criteria results are then combined in Excel.
4. Apply Scoring and Weights Weighting varies depending on the needs category
5. Prioritized List Displays the total points received for each individual need by its associated needs type. Scores can receive a maximum of 100 points.



Example: Roanoke

Roanoke Valley Transportation Plan Goals	Criteria	Measure
1. Provide a safe and secure transportation system	Multimodal	• Multimodal Districts and Centers
2. Enable reliable mobility	Activity Density	• Household and Job Estimate & Forecasts
3. Ensure convenient and affordable access to destinations	Throughput	• Priority Corridors (Traffic Congestion Management Process) • VMT Growth
4. Foster environmental sustainability	Safety	• VDOT Safety Needs • Top crash clusters and priority corridors
5. Maintain and operate an efficient and resilient transportation system	Environmental Justice	• Equity Emphasis Areas
6. Support economic vitality	Economics	• Development Priority Locations • Urban Development Areas
7. Promote equitable transportation investments		

Example: Roanoke

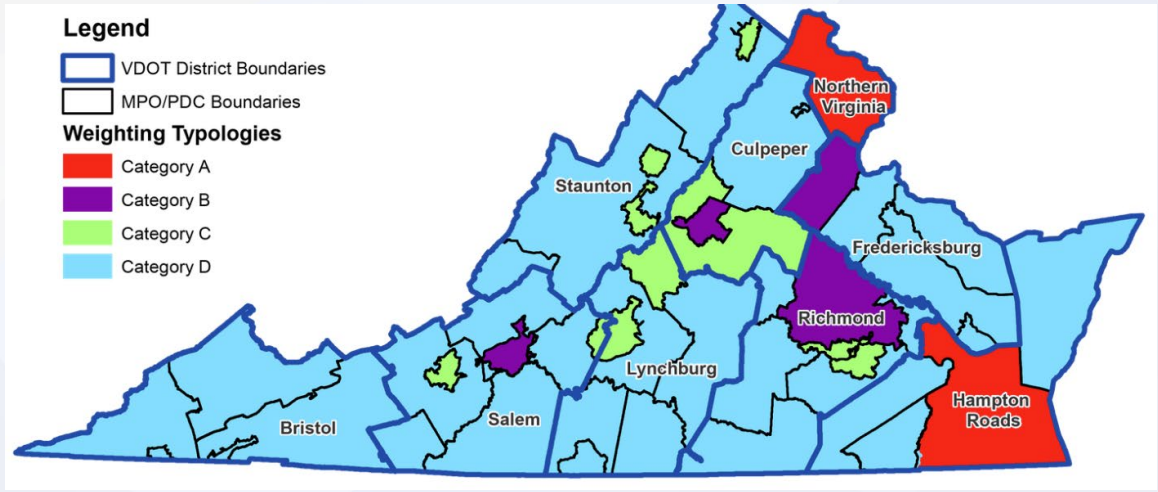
Alignment with Plan Goals	3, 6		3, 6		2, 3, 5, 6		1, 5, 7		4, 7	3, 6, 7	
	Multimodal		Activity Density		Throughput		Safety		Environmental Justice	Economics	
Need Type	Centers	District	2019	2045	Priority Corridor	VMT Change	VTrans Needs (PSI)	PSAP	Equity Emphasis Areas	Development Priority Locations	Urban Development Areas
Automobile Safety			5	5		20	50		10	5	5
Pedestrian Safety	5	5		10				50	20	5	5
Bicycle Safety	5	5		10				50	20	5	5
Transit Safety	5	5		10				50	20	5	5
Congestion			15	15		15			25	15	15
System Management (Non-Transit)			12.5	12.5	12.5	12.5			25	12.5	12.5
System Management (Transit)	10	10		20		20			20	10	10

Example: Virginia

- **What was the purpose?**
  - > Make project selection transparent
- **What was the approach?**
  - > Four weighting typologies for different regions
  - > Six criteria to weight
- **What might apply here?**
  - > Goal of improving transparency
  - > Multi-criteria approach
  - > Criteria weighted differently in different places

Example: Virginia

- Evaluate each project's benefit on a scale relative to the needs of that region as compared across the commonwealth.



Factor	Safety	Congestion Mitigation	Accessibility	Land Use	Economic Development	Environmental Quality
Category A	15%	45%	25%	*	5%	10%
Category B	20%	25%	25%	*	20%	10%
Category C	30%	20$	15%	*	25%	10%
Category D	40%	10%	10%	*	30%	10%

Example: Virginia

- Six factor areas with corresponding measures

FACTOR AREAS	MEASURE ID	MEASURE NAME	MEASURE WEIGHT
Safety	S.1	Equivalent property damage only (EPDO) of Fatal and Injury Crashes*	70 percent
	S.2	EPDO Rate of Fatal and Injury Crashes	30 percent
Congestion mitigation	C.1	Person Throughput	50 percent
	C.2	Person Hours of Delay	50 percent
Accessibility	A.1	Access to jobs	60 percent
	A.2	Access to jobs for disadvantaged persons	20 percent
	A.3	Access to multimodal choices	20 percent
Environmental quality	E.1	Air quality and environmental effect	100 percent
	E.2	Impact to natural and cultural resources	0 percent - Subtract up to 5 points
Economic development	ED.1	Project support for economic development	60 percent
	ED.2	Intermodal access and efficiency	20 percent
	ED.3	Travel time reliability	20 percent
Land use	L.1	Transportation-efficient land use	50 percent
	L.2	Increase in transportation-efficient land use	50 percent

Example: Ohio

- **What was the purpose?**
  - > Assess how major highways support economic growth
- **What was the approach?**
  - > Four distinct ranking lists with varied weights
    - » Freight-focused
    - » Auto-focused
    - » Corridor economic-focused
    - » Balanced
- **What might apply here?**
  - > Discussion of connections for/to key industries

Example: Ohio

Goal: To analyze where future growth and development could influence transportation system demand and performance, with particular focus on areas of potential stress and congestion.

Demographics
Population trends & forecasts
Household Characters

Economics
Industry sector trends & employment
Freight-dependent industries

Workforce
Labor force participation by industry
Commuting patterns & accessibility

Development
Land use & development trends
Site Development pressures

Investigated factors impacting demand for passenger and freight transportation within Ohio

Transportation
Existing & future demand
Congestion risks & trade corridors

Analyzed existing and future demand and performance implications

Example: Ohio

Focus Corridor Assessments

Canton/Youngstown-West Virginia/Pennsylvania

- **Existing and future conditions and performance along each corridor**
  - > Historical trend, current, and projected future corridor travel demand, land use, and development patterns
- **Identify corridor needs**
  - » Current corridor operating conditions, including roadway characteristics and operations, the interaction among multiple transportation modes, and locations of congestion, safety, and access concerns
- **Overlaps and gaps between the areas of concern and existing ODOT projects to identify actionable recommendations for transportation system projects to support statewide economic growth**