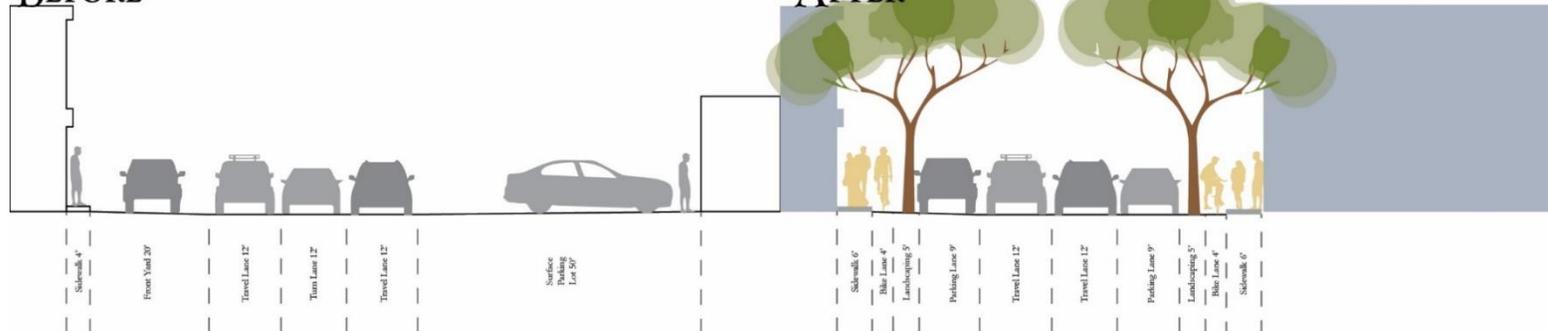


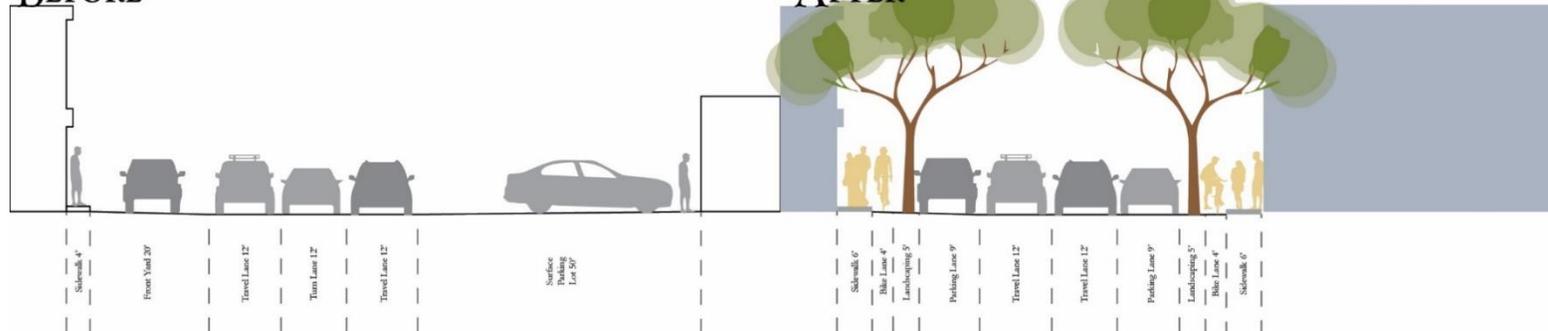
CHAPTER 11:

TRANSPORTATION

BEFORE



AFTER



Rendering of a road being converted into a street to accommodate transportation users of all types located in the Village of Maurertown as an example of a Town, Village, or Hamlet.

Vision:

Residents will have quality transportation systems that are safe, efficient, and modern systems built for the 22nd century.

Relationship Of The Vision To The Comprehensive Plan:

To be a great place to live and work we will have a multimodal transportation system that supports our rural character for decades to come. To achieve this, we will be responsible stewards in our transportation investments by collaborating with private and public partners.

Chapter Organization:

Chapter 11 is organized into five goals that aim to improve transportation infrastructure and services throughout Shenandoah County. It begins with maps showing the existing infrastructure then provides information on the Virginia Six Year Improvement Plan. The Chapter provides assumptions and metrics to help identify the improvement needs in the community including safety areas identified by VDOT and highly traveled areas. The Chapter outlines priority improvements for the first ten years then breaks into the five goals with associated maps.

Summary Of The Chapter:

Chapter 11 was written to address the critical need for a comprehensive and connected transportation network. The intent of this chapter is to develop strategies that enhance road safety, reduce congestion, and improve accessibility for all residents. This includes creating an interconnected system of pedestrian and bike networks, supporting tourism and economic development through improved transportation, and promoting shared transportation options. The county aims to maintain its rural charm while ensuring that transportation infrastructure meets modern standards. By documenting and implementing these strategies, the plan seeks to enhance the quality of life, support local businesses, and foster community engagement. As you read this chapter, consider how transportation impacts your daily life—from the safety of your commute to the convenience of public transit—as we all contribute to the county's transportation future.

By the year 2045 the following Goals and Objectives shall be completed through the Strategies and Actions herein detailed:

Goal 11.1

There will be safe roads for all users with less congestion.

Goal 11.2

There will be an interconnected system of safe pedestrian and bike networks throughout the County.

Goal 11.3

Street systems will be complete, safe, and connected for all.

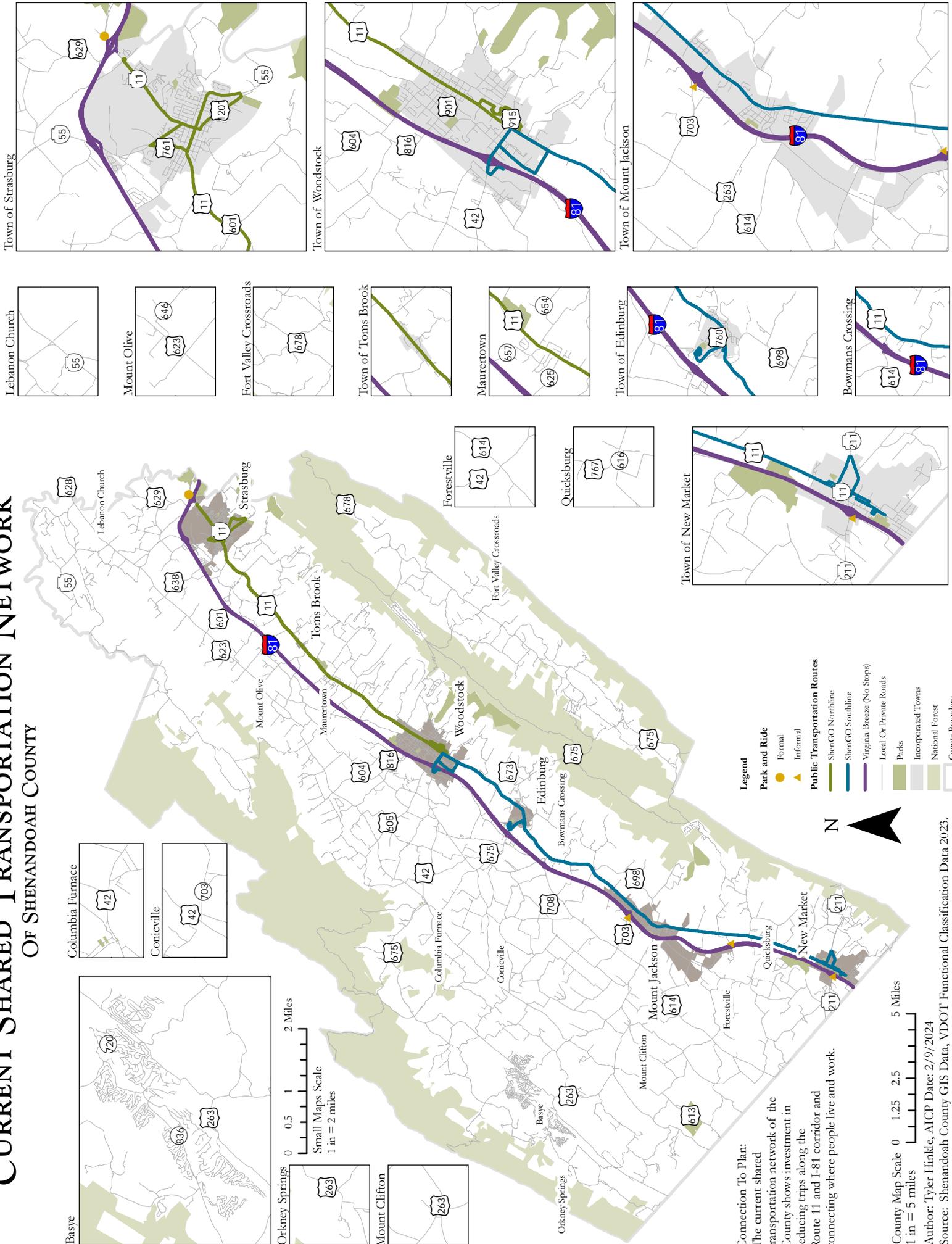
Goal 11.4

Our transportation system will support tourism and economic development.

Goal 11.5

Shared transportation will be a viable option for traveling around and through the County.

CURRENT SHARED TRANSPORTATION NETWORK OF SHENANDOAH COUNTY



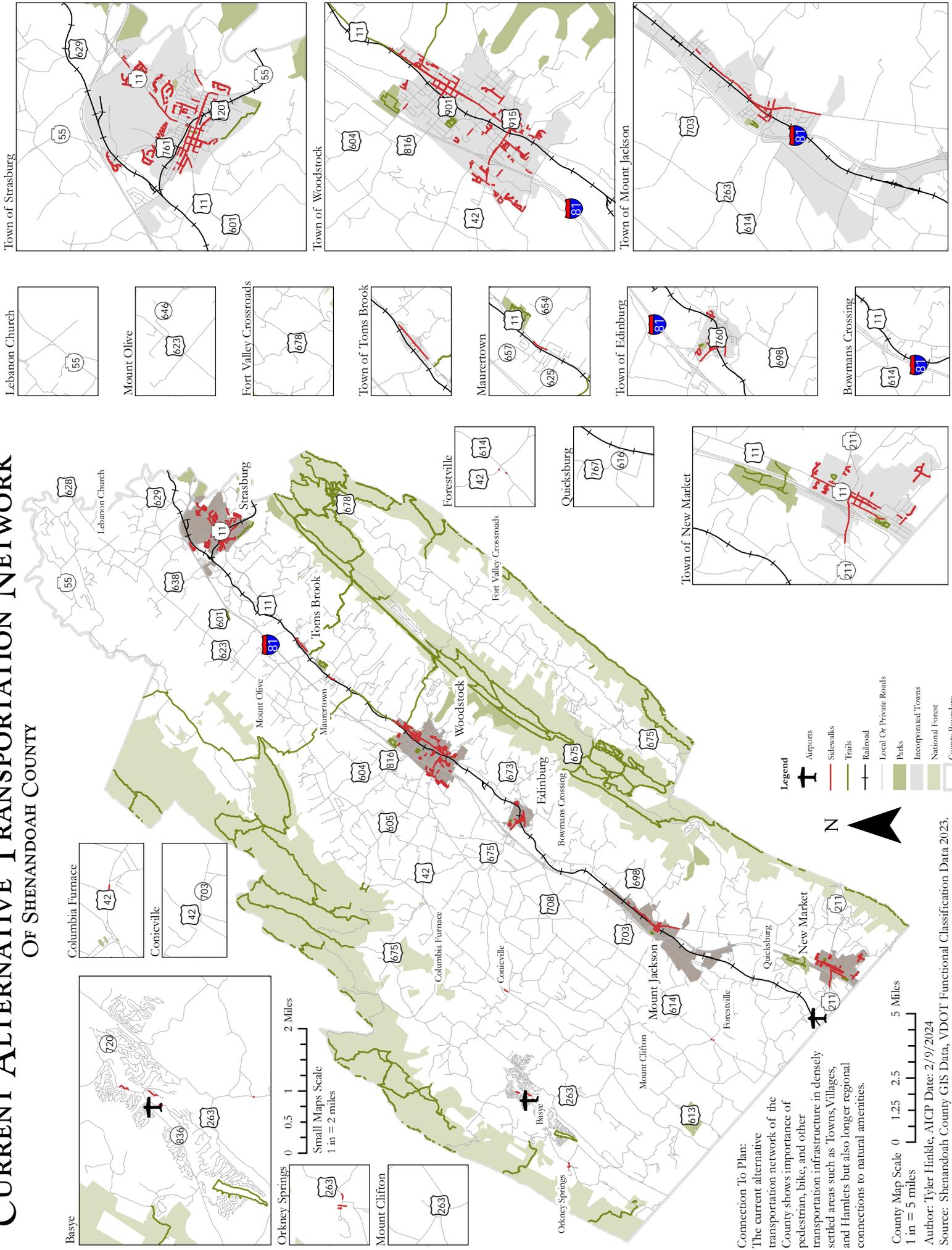
Connection To Plan:
 The current shared transportation network of the County shows investment in reducing trips along the Route 11 and I-81 corridor and connecting where people live and work.

County Map Scale 0 1.25 2.5 5 Miles
 1 in = 5 miles

Author: Tyler Hinkle, AICP Date: 2/9/2024

Source: Shenandoah County GIS Data, VDOT Functional Classification Data 2023.

CURRENT ALTERNATIVE TRANSPORTATION NETWORK OF SHENANDOAH COUNTY



Connection To Plan:
 The current alternative transportation network of the County shows importance of pedestrian, bike, and other transportation infrastructure in densely settled areas such as Towns, Villages, and Hamlets but also longer regional connections to natural amenities.

County Map Scale 0 1.25 2.5 5 Miles
 1 in = 5 miles

Author: Tyler Hinkle, AICP Date: 2/9/2024
 Source: Shenandoah County GIS Data, VDOT Functional Classification Data 2023.

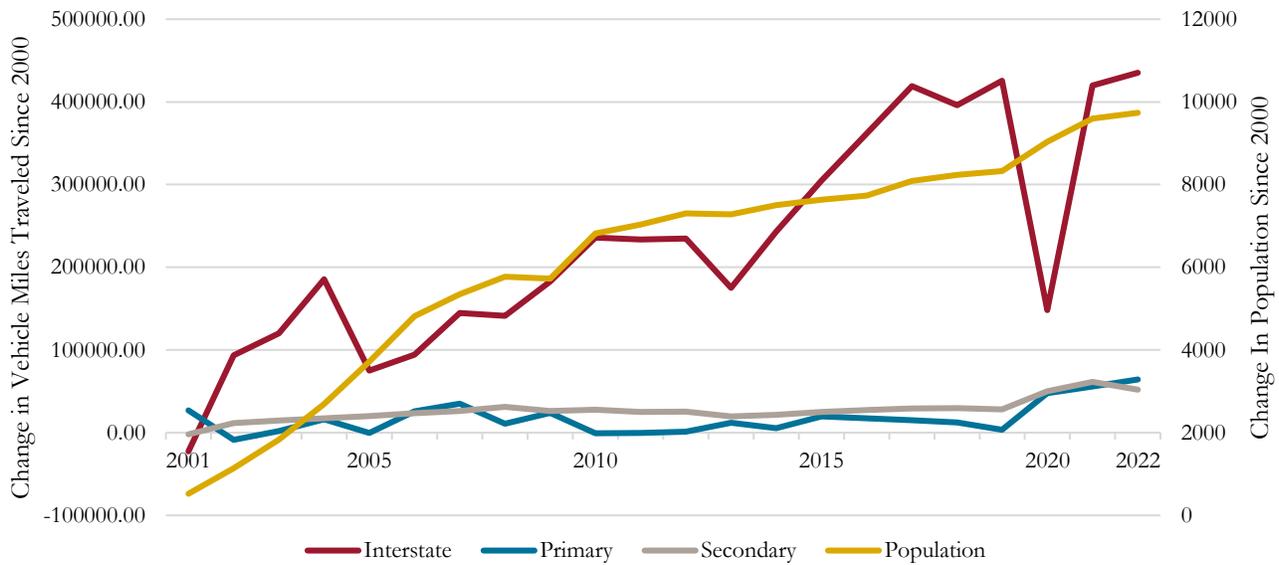
CURRENT SIX YEAR IMPROVEMENT PLAN FY 2024 – FY 2029 PROJECTS

UPC	Description	Road System	Estimate (In Thousands of Dollars)	FY24	FY25-29
115129	#Smart20 I-81 Exit 291 Northbound Ramp Widening	Interstate	\$782	\$211	\$195
116244	#I81 CIP Sb Exit 296 Extend Acceleration Lane (Id #51)	Interstate	\$449	\$0	\$0
116268	#I81 CIP Sb Mm 296 To 299, 3-Lane Widening (Id #50)	Interstate	\$121,082	\$53,547	\$36,952
116270	#I81 CIP Nb Exit 291 Extend Acceleration Lane (Id #46)	Interstate	\$1,078	\$0	\$0
116975	#Sgr21vp Edinburg Resurfacing Plant Mix Schedule (Pm-8m-21)	Interstate	\$2,530	\$0	\$0
104182	#Sgr19vb - Bridge (Fed 16958) Rt 11 Over North Fork of the Shenandoah River	Primary	\$7,627	\$0	\$0
116842	Route 211 Lee Highway Sidewalk	Primary	\$350	\$321	\$0
110983	Rt.55 - Upgrade Flashing Lights and Add Gates	Rail	\$409	\$0	\$0
T26942	Fy28 Shenandoah County Rural Rustic Roads Projects	Secondary	\$625	\$0	\$659
121194	Fy27 Shenandoah County Rural Rustic Roads Projects	Secondary	\$722	\$0	\$700
122212	Countywide - Transportation Services	Secondary	\$1,157	\$117	\$583
115778	South Middle Road - Rural Rustic	Secondary	\$416	\$214	\$202
115779	Switch Back Road - Rural Rustic	Secondary	\$291	\$0	\$291
115776	Ridge Road - Rural Rustic	Secondary	\$392	\$0	\$0
100765	Bridge Replacement Route 620 Over Smith Creek Va Str 6351 Fed Id 17119	Secondary	\$1,766	\$0	\$0
115716	#Smart20 Oranda Road Park And Ride Expansion	Secondary	\$2,808	\$651	\$1,285
115777	Timberlake Road - Rural Rustic	Secondary	\$485	\$485	\$0
98954	#Sgr17vb - Br & Approach Replace - Rt 698 Over Mill Creek	Secondary	\$2,260	\$0	\$0
121162	#Sgr23vb Rte. 707 Bridge Over N. Fork Shenandoah River (17254)	Secondary	\$8,496	\$511	\$6,528
T28039	FY 29 Shenandoah County Rural Rustic Roads Projects	Secondary	\$1,150	\$0	\$980
117035	FY 26 Shenandoah County Rural Rustic Roads Projects	Secondary	\$825	\$0	\$941
116854	Rte. 11 Main Street Bike Ped Connections	Primary	\$1,639	\$135	\$0

ASSUMPTIONS

In our projections for Shenandoah County up to 2045, we anticipate that the relationship between population growth and vehicle trips will remain consistent. This means as the population grows, the number of vehicle trips will also increase proportionally, a trend clearly illustrated in the "As Population Increases, Traffic Continues To Increase" line chart. Based on data from the UVa Weldon Cooper Center, we predict a population of 51,603 by 2045. Since 1975, Vehicle Miles Traveled (VMT) in the county have increased significantly, by 253.08%. This rise is most pronounced on Interstate 81, where there has been a 377.25% increase, far outstripping the 82.39% increase on primary roads. This disparity is further illustrated in the two pie charts, "Vehicle Miles Traveled" and "Total Miles Of Road," and the "Interstate Traffic Vastly Outweighs Local Traffic" line area chart, highlighting the predominance of Interstate traffic.

TRAFFIC CONTINUES TO INCREASE WITH THE POPULATION

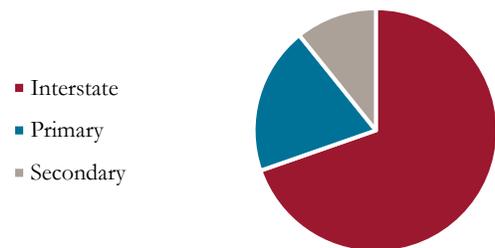


Source: VDOT Historic Traffic Counts 2001-2022, Census Bureau

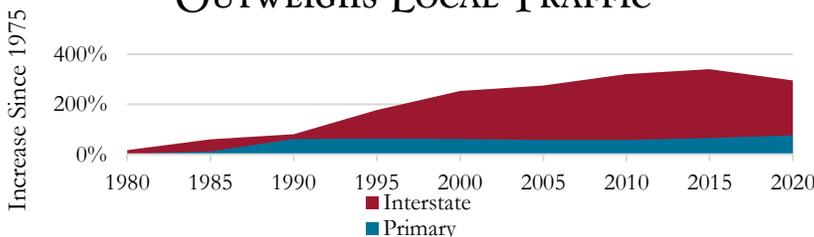
The impact of Interstate 81 is substantial, accounting for 70% of all traffic, compared to 20% from primary roads and 10% from secondary roads. While we can't influence national issues such as Interstate 81 traffic, we can propose local improvements to reduce VMT locally and support alternative transportation. This includes the ongoing debate around the proposed Corridor H, which has faced consistent local opposition since 1990, reaffirmed by the Board of Supervisors' 2022 resolution against its construction in Virginia. Enhancing the Page Valley railroad or providing other automobile transport options are preferred alternatives for managing the challenges of Interstate 81.

We also assume that car accidents will continue to occur in the same locations they have historically and may increase in frequency as the population and associated vehicle trips increase. However, we anticipate a reduction in local vehicle trips as we focus growth on towns, villages, and hamlets, aiming to counteract the higher traffic typically generated by more suburban or isolated

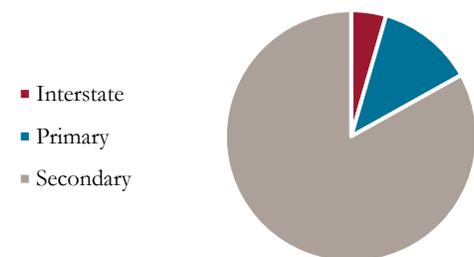
VEHICLE MILES TRAVELED



INTERSTATE TRAFFIC VASTLY OUTWEIGHS LOCAL TRAFFIC



TOTAL MILES OF ROAD



Source: VDOT Historic Traffic Counts 1975-2020

development patterns. The "Traffic Is Tied To Where Development Occurs" combination chart underscores this point, showing that currently, 90% of vehicle trips originate from County areas, with 2.3% from Service Areas, and 7.7% from Towns, Villages, and Hamlets.

We anticipate that the trend of Shenandoah County attracting primarily commuters and retirees will continue. This assumption is based on the current demographic makeup of the county, where these two groups form the majority of the population. Commuters often require efficient routes for daily travel, while retirees may prioritize accessible transportation options.

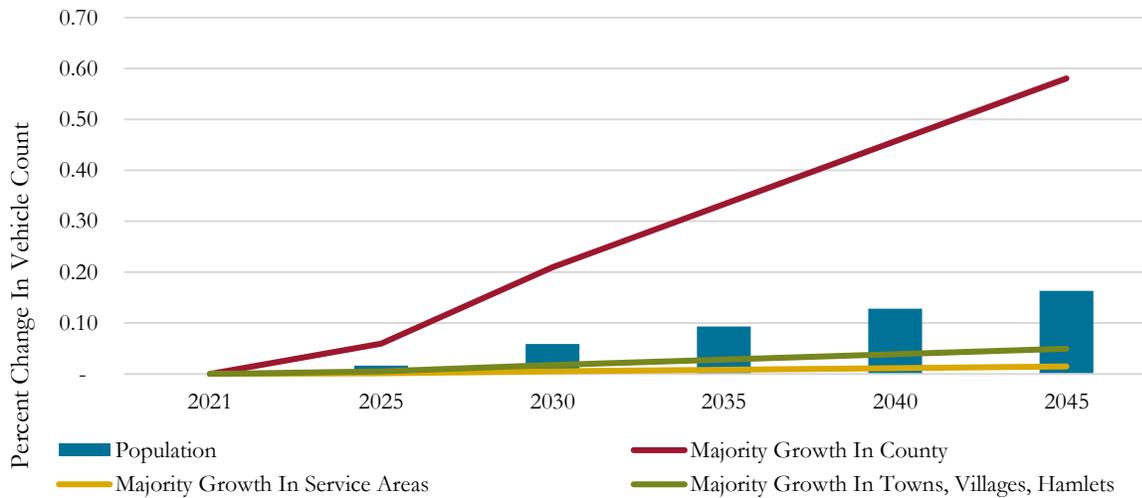
We foresee an increased use of local roads and transport infrastructure for tourism and recreational activities. The proposed regional trail is also a key element in this shift, encouraging more residents and visitors to opt for cycling and walking. Improvements include enhancing rural roads to better serve the needs of tourists, local residents, and the agricultural community.

As the population ages and the costs of private transportation rise, we expect a shift towards shared transportation options. This trend aligns with the popularity of the ShenGO public transportation route. This move towards non-motorized transportation is reflected in the "Driving Alone Has Decreased In Popularity" chart, signals a changing transportation attitude.

The proposed zoning changes aim to cultivate traditional community structures, which inherently support reduced reliance on automobiles. This approach encourages the development of walkable, bike-friendly communities with integrated public transit options, reducing the overall need for extensive automobile transportation infrastructure. However, the anticipated increase in activity within these denser communities will require thoughtful traffic management, including calming measures and potentially reduced speed limits.

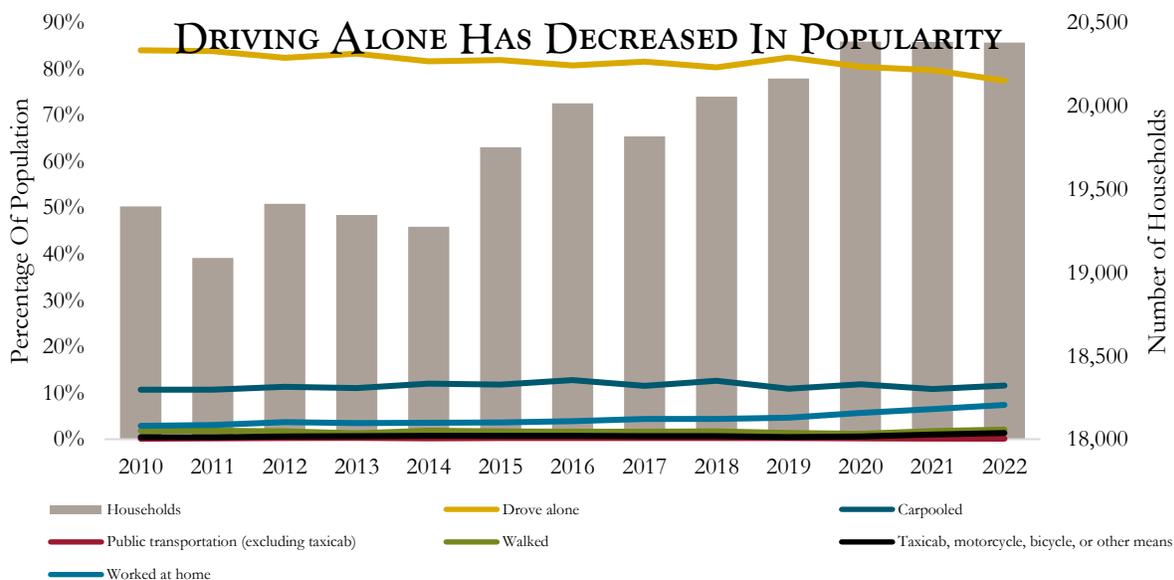
In conclusion, our approach is not just about managing the growth of traffic but transforming the nature of how we move. By focusing on enhancing a variety of transportation options, from public transit to biking and walking paths, we aim to address the diverse needs of our changing population. This strategy is about creating a more connected, accessible, and livable community.

TRAFFIC IS TIED TO WHERE DEVELOPMENT OCCURS



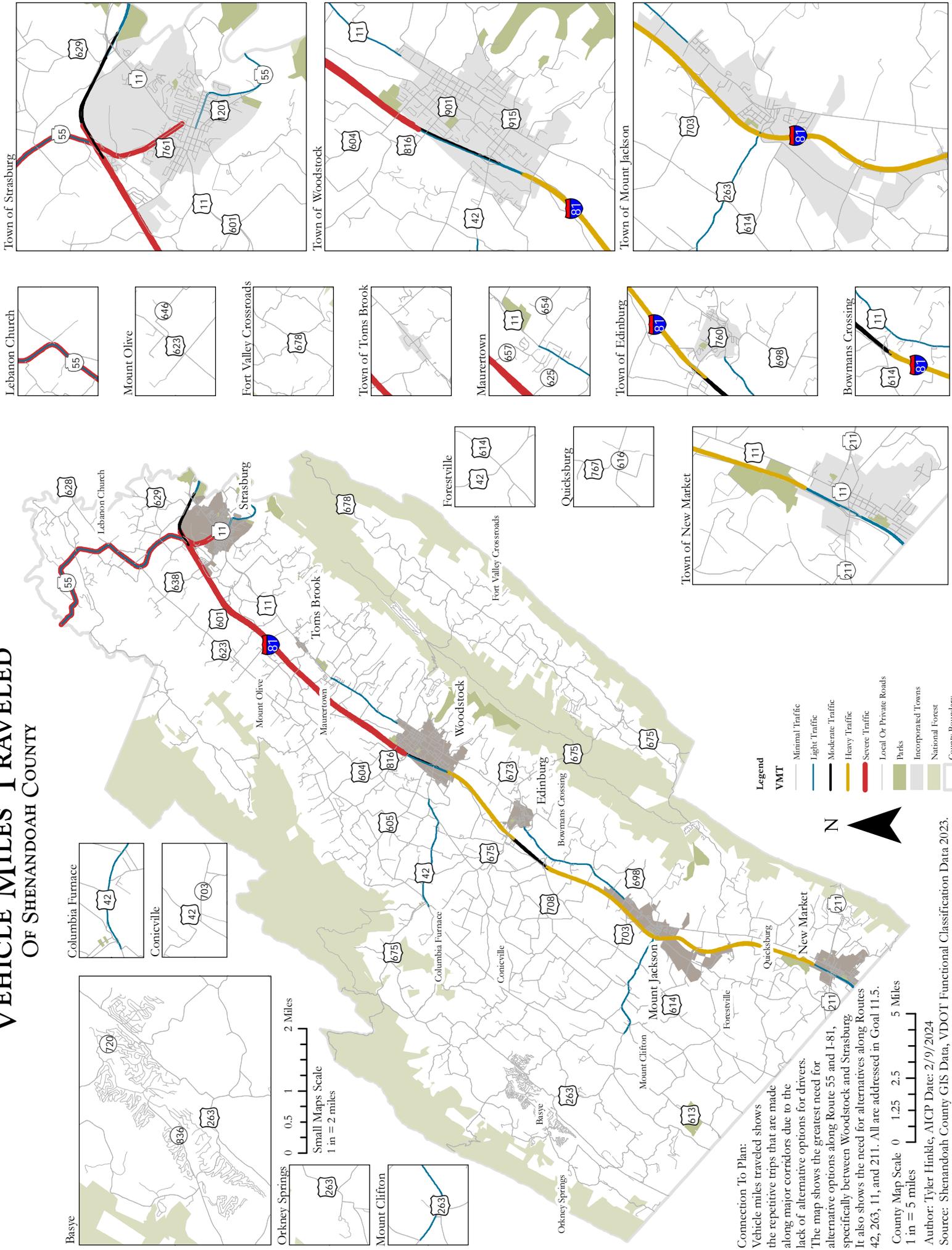
Source: VDOT Traffic Counts were used to develop averages for different areas of the County then tied to population projections by the UVa Weldon Cooper Center to project potential future traffic based on new housing in each area assuming the relationship

DRIVING ALONE HAS DECREASED IN POPULARITY



Source: American Community Survey Mode Of Transportation To Work 2010-2022

VEHICLE MILES TRAVELED OF SHENANDOAH COUNTY



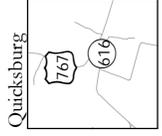
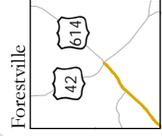
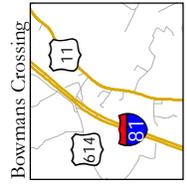
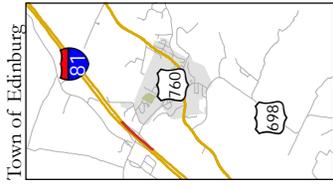
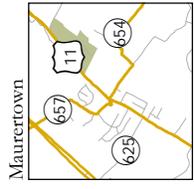
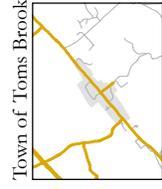
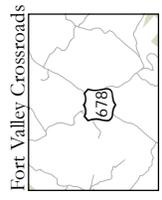
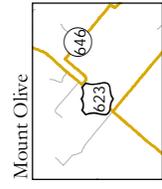
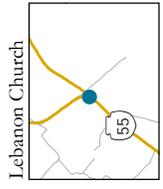
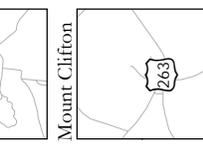
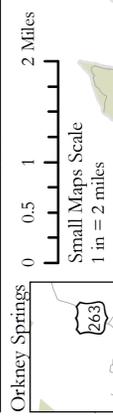
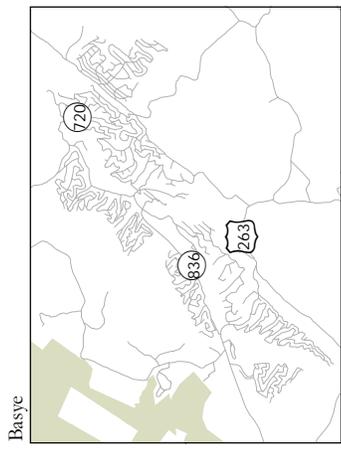
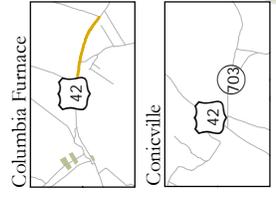
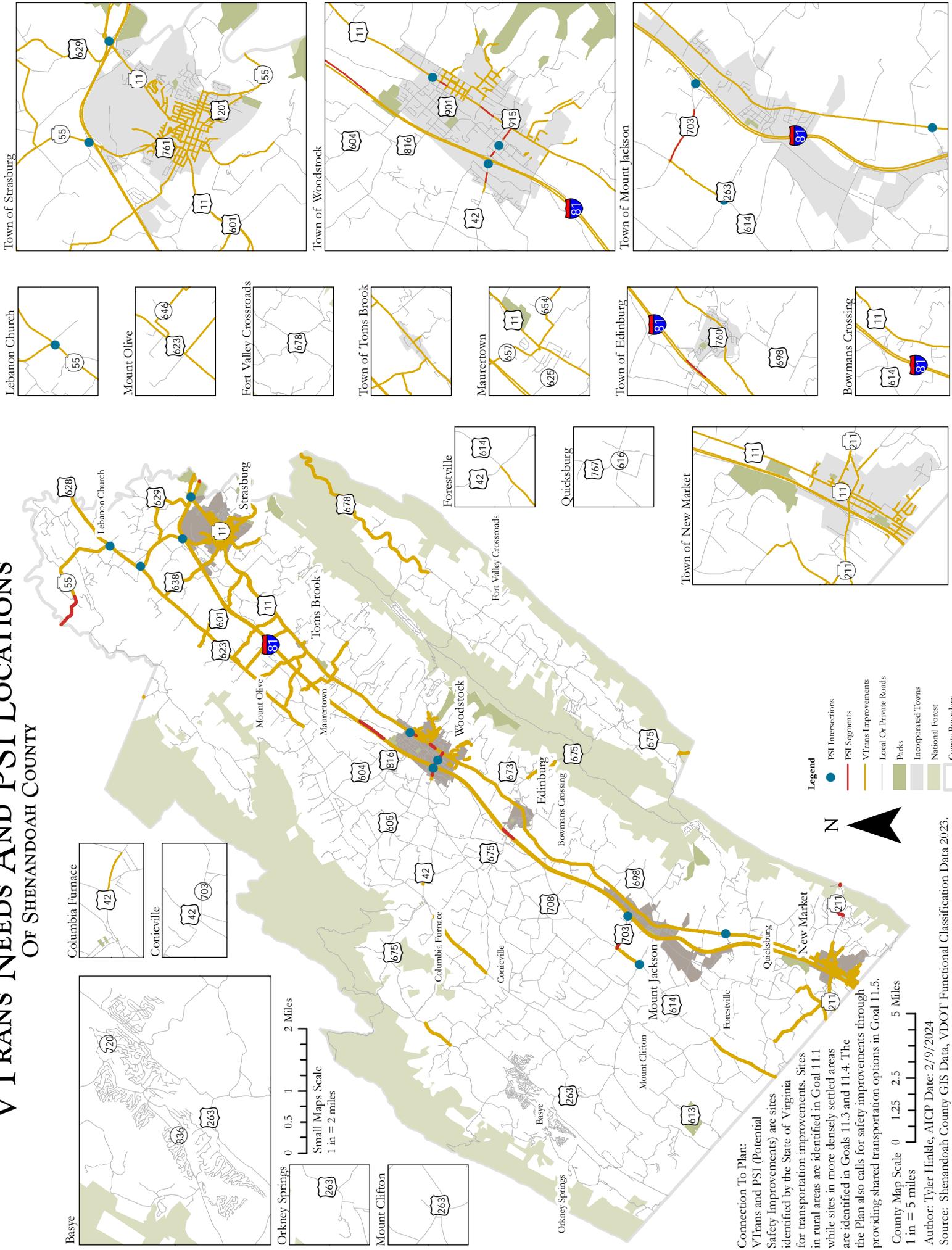
Connection To Plan:
 Vehicle miles traveled shows the repetitive trips that are made along major corridors due to the lack of alternative options for drivers. The map shows the greatest need for alternative options along Route 55 and I-81, specifically between Woodstock and Strasburg. It also shows the need for alternatives along Routes 42, 263, 11, and 211. All are addressed in Goal 11.5.

County Map Scale 0 1.25 2.5 5 Miles
 1 in = 5 miles

Small Maps Scale
 1 in = 2 miles

Author: Tyler Hinkle, AICP Date: 2/9/2024
 Source: Shenandoah County GIS Data, VDOT Functional Classification Data 2023.

VTRANS NEEDS AND PSI LOCATIONS OF SHENANDOAH COUNTY



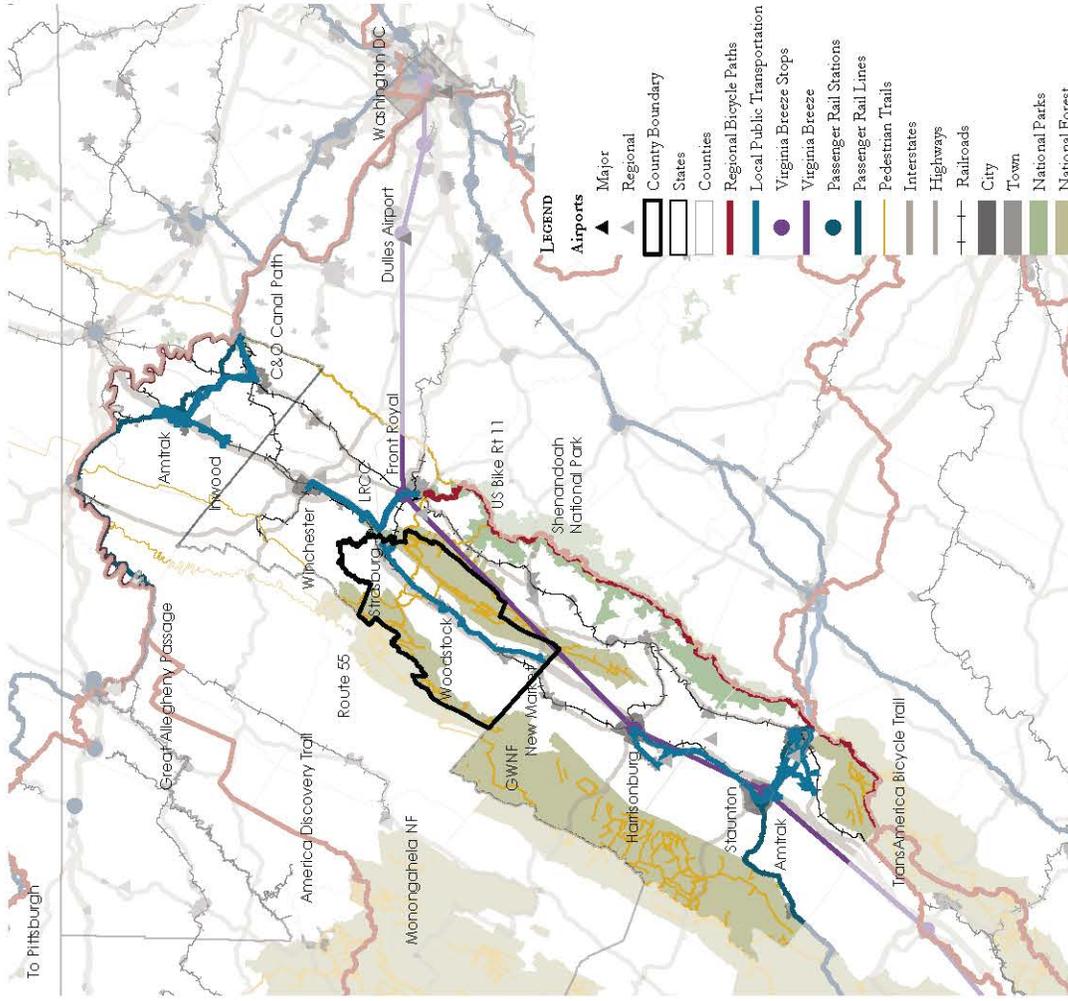
Connection To Plan:
 VTrans and PSI (Potential Safety Improvements) are sites identified by the State of Virginia for transportation improvements. Sites in rural areas are identified in Goal 11.1 while sites in more densely settled areas are identified in Goals 11.3 and 11.4. The Plan also calls for safety improvements through providing shared transportation options in Goal 11.5.

County Map Scale 0 1.25 2.5 5 Miles
 1 in = 5 miles

Author: Tyler Hinkle, AICP Date: 2/9/2024
 Source: Shenandoah County GIS Data, VDOT Functional Classification Data 2023.

EXISTING REGIONAL TRANSPORTATION CORRIDORS

OF SHENANDOAH COUNTY



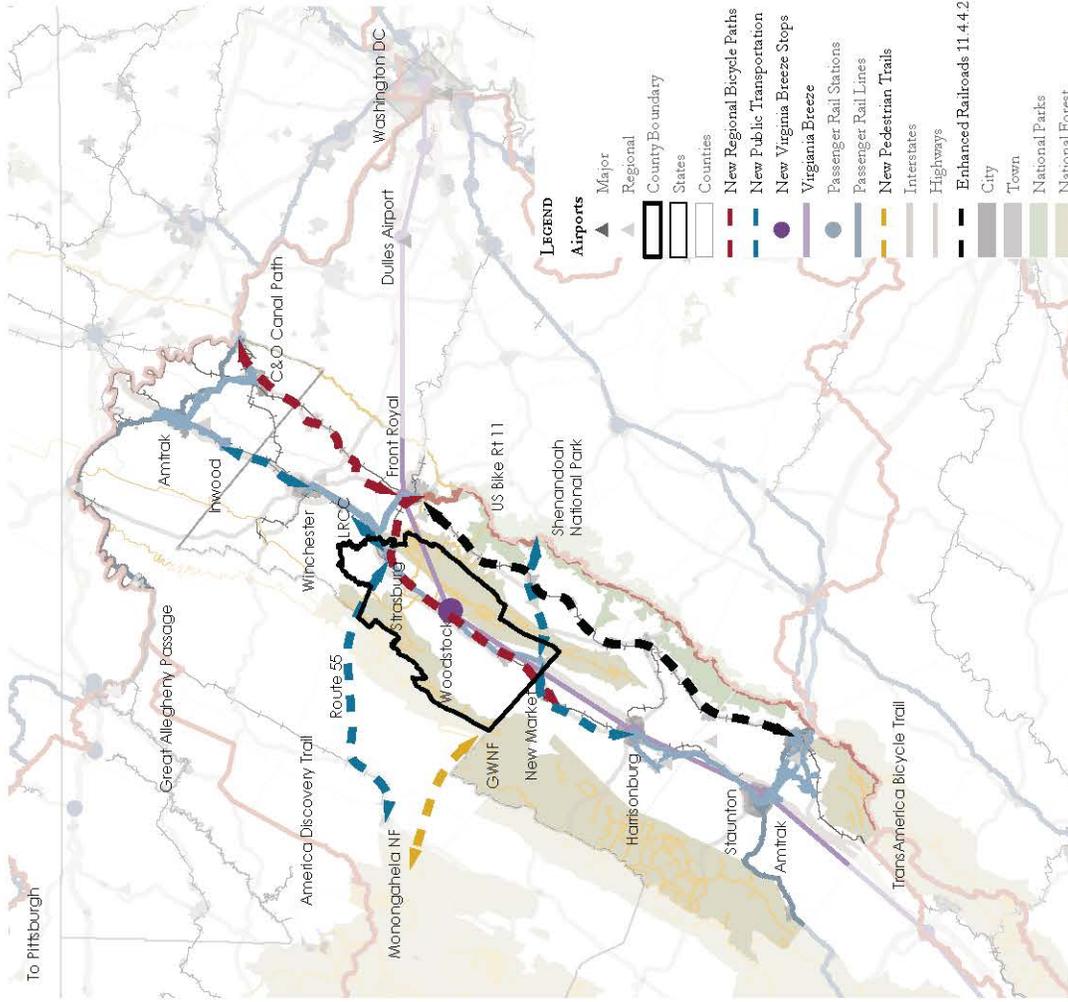
0 20 50 100 Miles

Prepared By
Shenandoah County
Office Of Community
Development

Author: Tyler Hinkle, AICP Date: 1/16/204 Source: Shenandoah County GIS Data, FHWA, VDOT, US Ekte Routes, Esri, USDOI, NPS.

IDENTIFIED REGIONAL CONNECTIONS

OF SHENANDOAH COUNTY



0 20 50 100 Miles

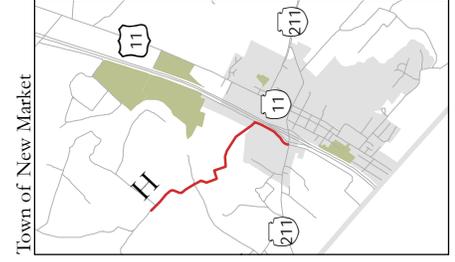
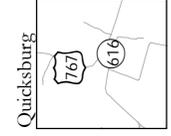
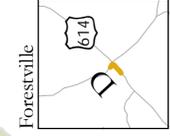
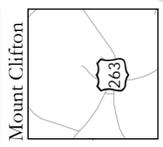
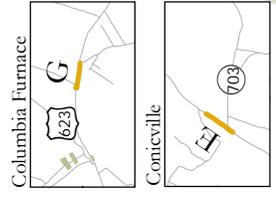
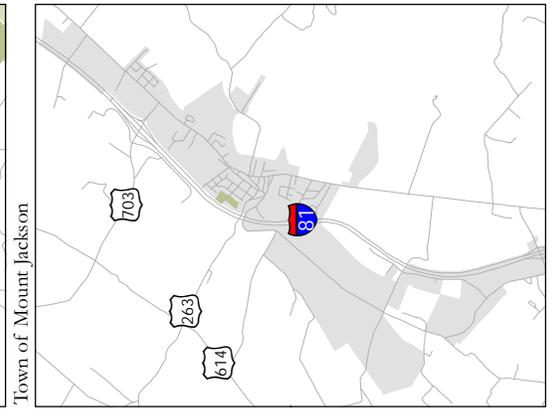
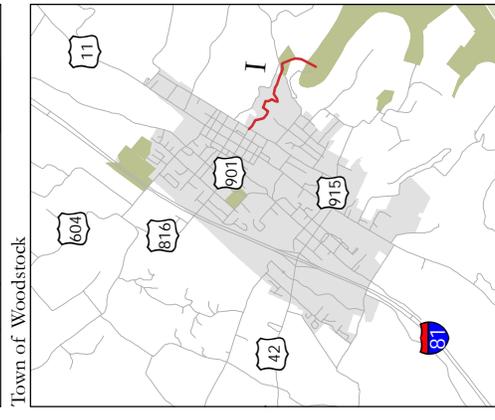
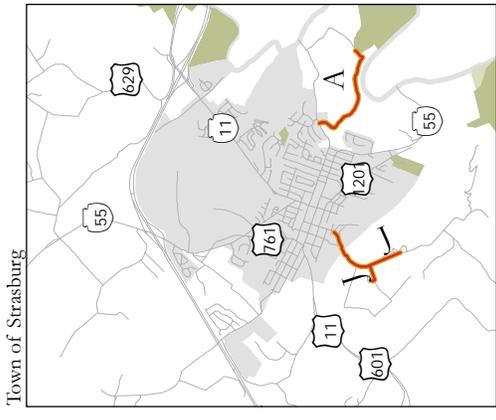
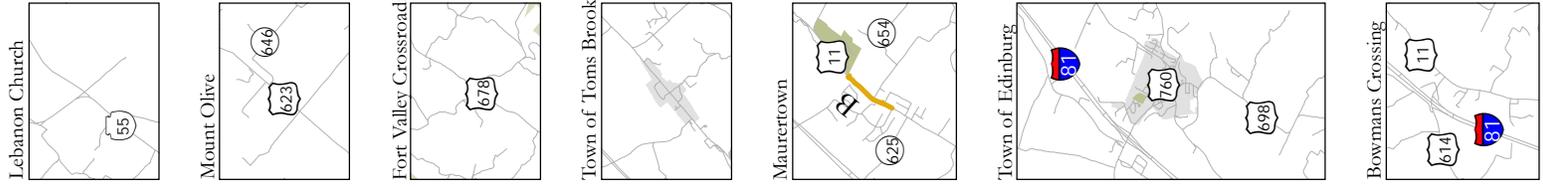
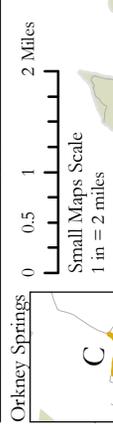
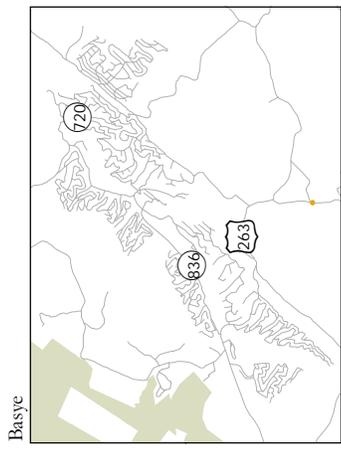
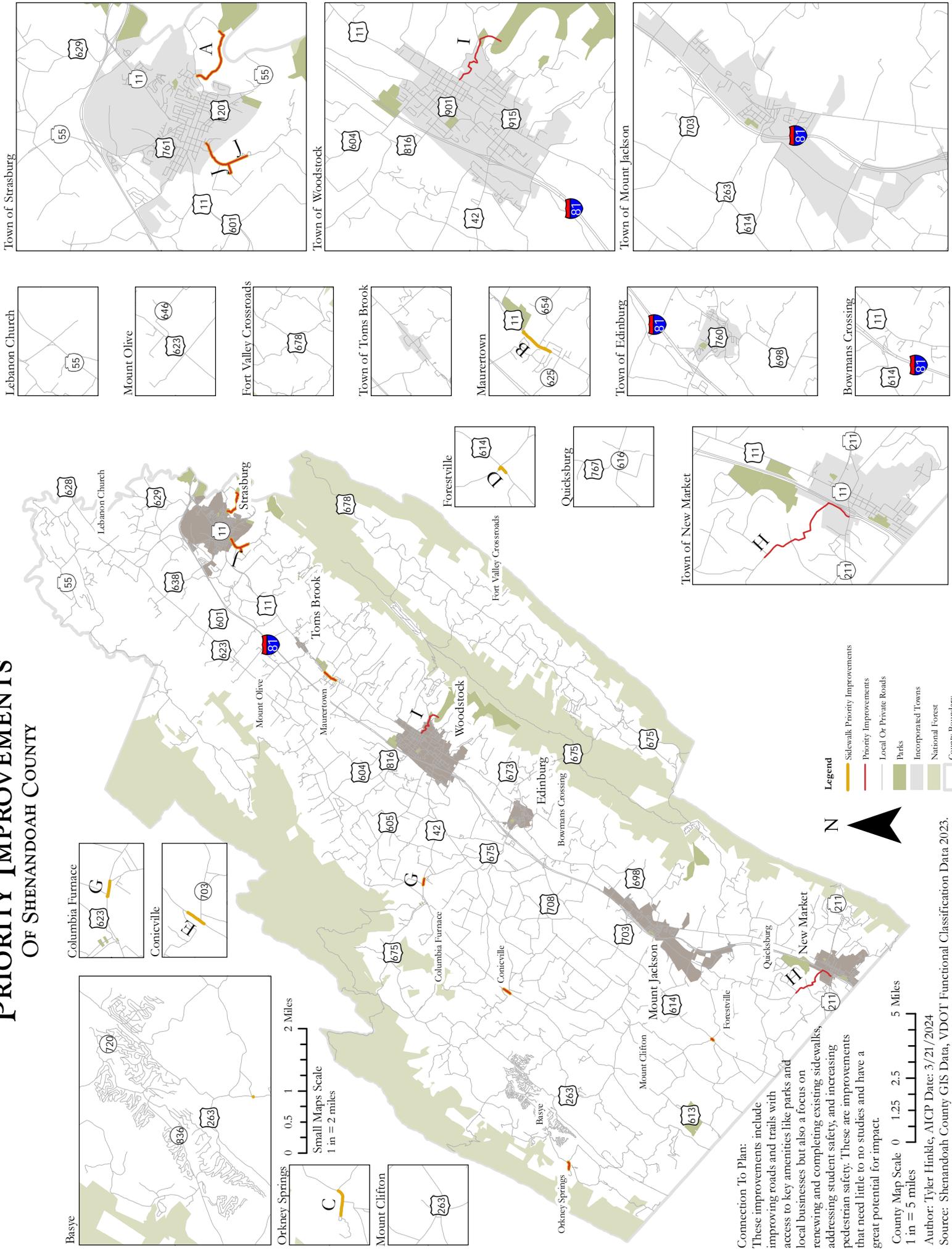
Prepared By
Shenandoah County
Office Of Community
Development

Author: Tyler Hinkle, AICP Date: 1/16/204 Source: Shenandoah County GIS Data, FHWA, VDOT, US Ekte Routes, Esri, USDOI, NPS.

2025-2035 PRIORITY IMPROVEMENTS:

Task	Estimated Length	Estimated Width	Associated Strategies	Estimated Cost
A. Widen Pouts Hill Road (Route 634) and add a sidewalk along it from the intersection with Route 635 to the entrance of Keister Park.	5,800 Feet	Additional 2 Feet of Pavement for Road 6 Feet Sidewalk	11.1.7	\$5M
B. Extend and replace the sidewalk in the Village of Maurertown from Fehr Lane to the County Park and add a crosswalk across Route 11 and a midblock crosswalk in front of the US Post Office on Route 11.	2,900 Feet Sidewalk 50 Feet Crosswalk (x2)	6 Feet	11.2.3 11.3.5	\$4.7M
C. Extend and replace the sidewalk in the Village of Orkney Springs along 263 from Shrine Mont Circle to Happy Valley Road.	1,600 Feet Sidewalk	6 Feet	11.2.3	\$2.3M
D. Extend and replace the sidewalk in the Village of Forestville along Route 42 from the bridge over Holman's Creek to St Marks Church.	605 Feet Sidewalk	6 Feet	11.2.3	\$804,000
E. Extend and replace the sidewalk in the Village of Conicville along Route 42 from Jerome Road to 300 feet south of the intersection with Conicville Road.	1,705 Feet Sidewalk	6 Feet	11.2.3	\$2.2M
F. Extend and replace the sidewalk in the Hamlet of Saumsville along Jadwyn Road from the intersection with Saumsville Road to 505 feet south.	505 Feet Sidewalk	6 Feet	11.2.3	\$732,000
G. Extend and replace the sidewalk in the Village of Columbia Furnace from Racetrack Road to Stoneburner Road and add a crosswalk in front of the County Store.	1,305 Feet Sidewalk 50 Feet Crosswalk	6 Feet	11.2.3 11.3.5	\$1.9M
H. Consider a connecting trail from the potential Shenandoah Valley Rail Trail to New Market including access to the North Fork of the Shenandoah River and Battlefield State Park.	10,400 Feet	10 Feet	11.2.5.2	\$7.3M
I. Support the connection of Woodstock to Seven Bends State Park with a shared use path.	6,700 Feet Path 300 Feet Bridge	10 Feet	11.2.4	\$5M
J. Install a pedestrian bridge along Holiday Street adjacent to Strasburg over the North Fork of the Shenandoah River with a shared use path to connect all three schools to the bridge.	5,100 Feet Path 600 Feet Bridge	6 Feet	11.1.11.1 11.2.8.4	\$5M

PRIORITY IMPROVEMENTS OF SHENANDOAH COUNTY

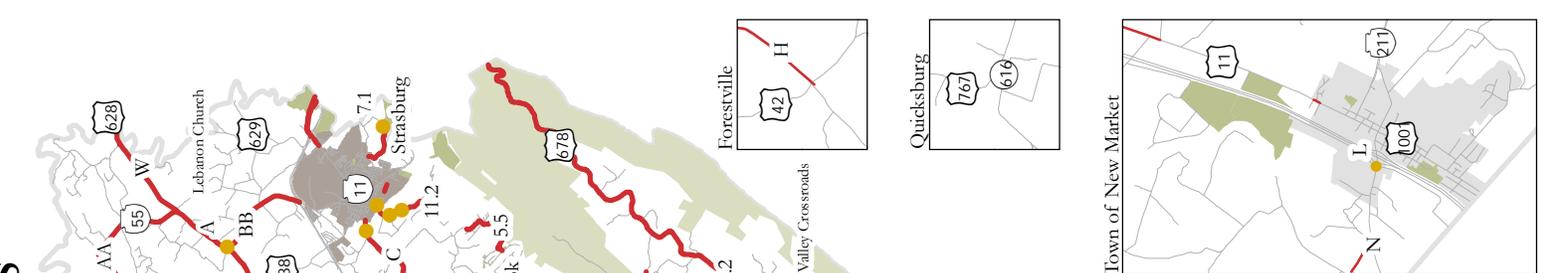
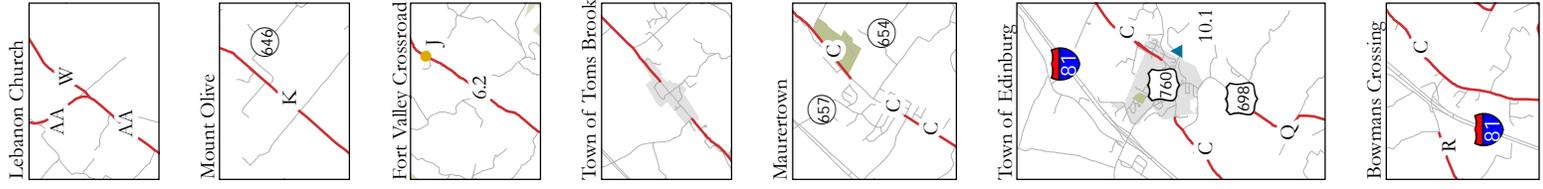
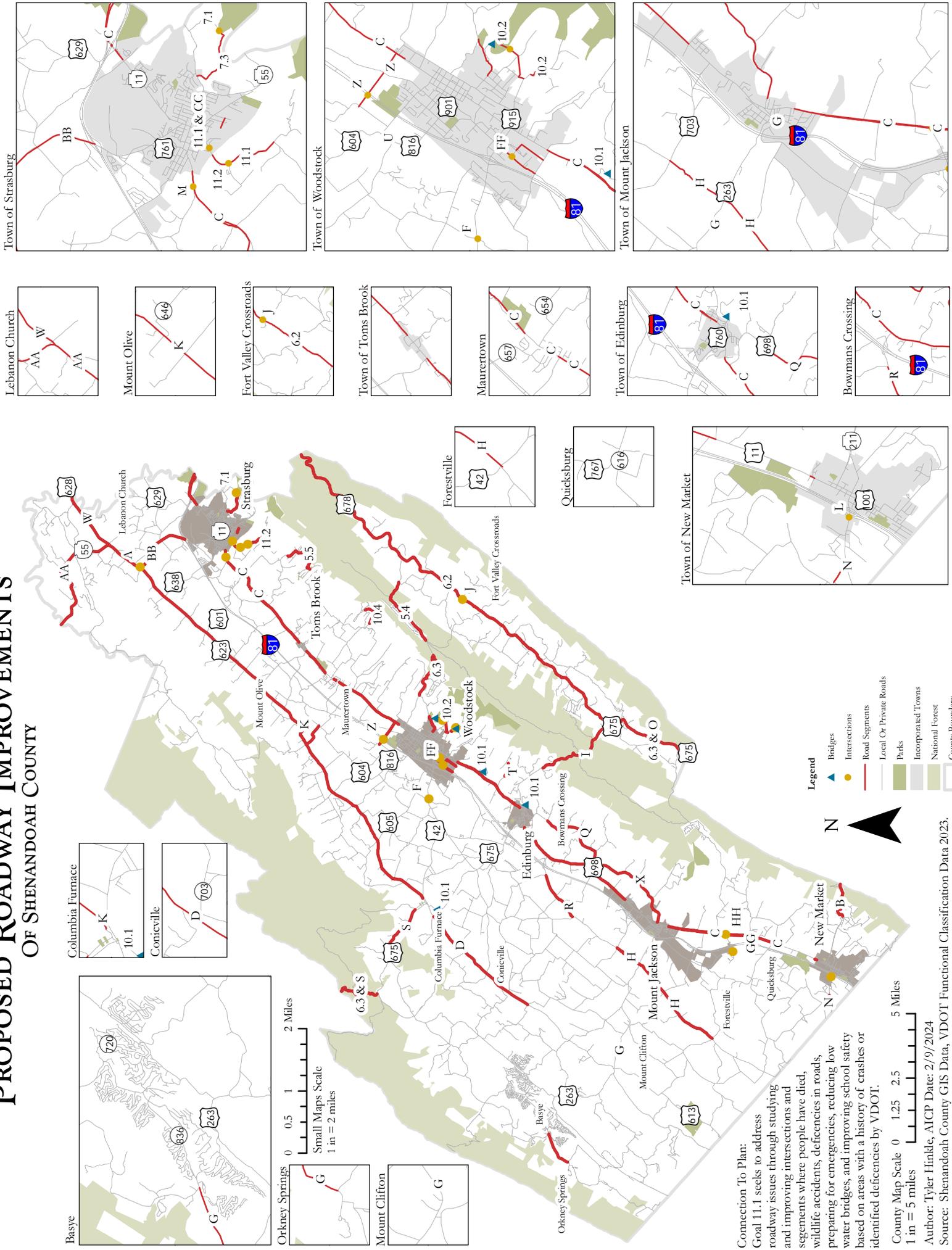


- Legend**
- Sidewalk Priority Improvements
 - Priority Improvements
 - Local Or Private Roads
 - Parks
 - Incorporated Towns
 - National Forest
 - County Boundary

Connection To Plan:
 These improvements include improving roads and trails with access to key amenities like parks and local businesses but also a focus on renewing and completing existing sidewalks, addressing student safety, and increasing pedestrian safety. These are improvements that need little to no studies and have a great potential for impact.



PROPOSED ROADWAY IMPROVEMENTS OF SHENANDOAH COUNTY



Connection To Plan:
 Goal 11.1 seeks to address roadway issues through studying and improving intersections and segments where people have died, wildlife accidents, deficiencies in roads, preparing for emergencies, reducing low water bridges, and improving school safety based on areas with a history of crashes or identified deficiencies by VDOT.

County Map Scale 0 1.25 2.5 5 Miles
 1 in = 5 miles

Author: Tyler Hinkle, AICP Date: 2/9/2024
 Source: Shenandoah County GIS Data, VDOT Functional Classification Data 2023.

GOAL 11.1 THERE WILL BE SAFE AND EFFICIENT ROADS FOR ALL USERS WITH LESS CONGESTION.

OBJECTIVE 11.1.1: ZERO DEATHS, ROADS IMPROVED, SAFE SCHOOL ACCESS, AND ADDRESS LOW WATER BRIDGES

There will be zero pedestrian, vehicular, or other transportation related human deaths and deficiencies on roads, school access, and low water bridges will be improved and reduced.

OBJECTIVE 11.1.2: PRIORITIZE SMART STRATEGIC IMPROVEMENTS OVER ROAD WIDENING

In the event of emergencies there will be a clear alternative route for Rt 11 and I-81. Rt 55 will be strategically improved instead of implementing Corridor H in the County.

Strategy	Potential Actions	Lead Stakeholder	Timeframe / Priority
1. Utilize VDOT data for decision making and support enhancements to the data.	1. Ensure VDOT data is utilized when reviewing SUP's, ZMA's or others. 2. Support VDOT efforts to further document and project issues and needs on roadways.	Community Development, VDOT	2025-2030 S&R
2. While trails for bikes and pedestrians are being built out, official "Recommended Bike Roads" will be designated with signage notifying drivers.	1. Collaborate with local cycling groups to identify and map out bike roads. 2. Install signage along these routes to alert drivers to the presence of bicyclists. 3. Raise awareness and increase education on how to pass bikes and pedestrians	Community Development, Tourism and Economic Development	2025-2030 S&R
3. Areas around villages and hamlets should have a posted speed no greater than 35 mph and 25 mph within them.	1. Request VDOT to decrease speeds in and around the villages and hamlets. 2. Implement traffic calming to reduce the design speed of the spaces. 3. Install speed monitoring devices and signage to inform drivers of the reduced speeds.	Community Development, VDOT	2025-2030 S&R
4. Animal related crashes will be reduced.	1. Conduct a study on hotspots for wildlife-vehicle collisions and migration. 2. Educate the public and raise awareness for wildlife crossings. 3. Develop an implementation plan for the construction of wildlife crossings.	GIS Department, VDOT	2030-2035 U&E
5. Key gravel roads will be prioritized for paving, while other key gravel roads are protected with a heritage road program.	1. Have 100 feet of any gravel roads paved that converge with paved roads. 2. Change zoning on Rural Rustic Program roads to limit VTPD to 2,500. 3. Consider a Heritage Road Program where residents can opt out of paving. 4. Continue to assess roads and bridges for potential addition to the State System.	Community Development, VDOT	2030-2035 U&E
6. Enhance safety on roadways with road maintenance issues, improving shoulders, reflectors, guardrails, and pull-off areas.	1. Identify/ install pull offs along primary roads & recommended bike roads. 2. Reflectors should be evaluated for above roads including Fort Valley Rd. 3. Evaluate guard rails along key mountain crossings. 4. Work to have roads cleared of any loose gravel and potholes filled.	Community Development, Tourism and Economic Development	2030-2035 U&E
7. Study and improve Pouts Hill Road and install an accessible entrance to Keister Park.	1. Apply for the VDOT Recreational Access Fund Grant to install an entrance. 2. Study Pouts Hill Road for safety and pedestrian and bike improvements. 3. Secure funding and install identified improvements to Pouts Hill Road.	Community Development, Parks and Recreation	2030-2035 U&E
8. Instead of widening Route 11 through all downtowns to four lanes as the NSVRC Report suggests, connect key roads/ streets.	1. Evaluate connecting key roads/streets to divert emergencies and traffic from downtowns. 2. Consult with the public to determine which connections are viable. 3. Apply for funding and implement the connections.	Community Development, All Towns	2035-2040 I&E
9. Strategically improve Rt 55 instead of Corridor H due to its political, economic, and environmental impacts.	1. Establish plan to address Rt 55 as alternative to Corridor H, add to CIP. 2. Consider a public transportation line along Rt 55 and into Hardy County. 3. Consider locations for park and ride facilities along Rt 55 and Hardy Co. 4. Where appropriate, consider turning lanes or shoulder improvements.	Community Development, NSVRC	2035-2040 I&E *Priority*
10. Upgrade and enhance low water bridges.	1. Identify all low water bridges requiring improvements including publicly owned and identified Stoney Creek Rd. (Rt. 675) (UPC 97282), and Chapman Landing Rd. (Rt. 672). 2. Support new bridges at Hollingsworth and Lupton Entrances to Seven Bends State Park. 3. Evaluate interested private bridges to be brought into the public domain. 4. Work with private communities to develop alternative routes out.	Community Development, VDOT	2035-2040 I&E
11. Improve access and circulation at all schools.	1. Support Strasburg's pedestrian bridge on Holiday Street in Strasburg. 2. Support Town applications for SmartScale or other transportation grants.	Community Development, All Towns	2035-2040 I&E

STUDIES TO BE CONDUCTED

	Study To Be Conducted	Rational	Fatal Crashes	Crashes Since 2018
A	Intersections of Back Road, Route 623, and Hockman Road, Route 623, with Rt 55.	Addressing areas where people died.	1 (2021)	18
B	Along Rt 211 from Route 834 to the Page County Line to improve safety.	Addressing areas where people died.	2 (2017, 2022)	62
C	Along Route 11 between Towns, Villages, and Hamlets.	Addressing areas where people died.	9 since 2018	265
D	Along Route 42 from Route 711 to Route 779 to and safety inside and around the village of Conicville and hamlet of Swover Creek.	Addressing areas where people died.	2 (2015, 2019)	44
E	Along Mill and Cemetery Roads.	Addressing areas where people died.	2 (2021, 2023)	6
F	Intersection of Sheetz Mill Road, Saint Luke Road, and Route 42.	Addressing areas where people died.	1 (2022)	10
G	Along the entirety of Rt 263 including Alum Springs to Happy Valley.	Addressing areas where people died.	1 (2020)	4
H	Along South Middle Road between Route 263 and Mount Jackson Road.	Addressing areas where people died.	1 (2018)	33
I	Along Edinburg Gap Road between Fort Valley Road and Mash Lane.	Addressing areas where people died.	1 (2022)	27
J	Intersection of Fort Valley Road and Seven Fountains Road.	Addressing areas where people died.	1 (2020)	2
K	Along Back Road between Villages and Hamlets.	Addressing areas where people died.	4 since 2018	77
L	The intersection of Route 305 with Route 211 .	NSVRC Report: the intersection is close to the interstate entrance/exits.		8
M	Improve the intersection of Green Acres Road, Route 639, and Route 11.	The intersection was noted as having poor geometric alignment of approach leads to difficulty for right turns to southbound US 11.		16
N	Route 953 from Route 211 to the Route 728 .	The NSVRC Report noted road deficiencies.		8
O	Route 675 from Route 678 to Page County may be evaluated to be improved.	NSVRC Report noted lanes 11' wide.		15
P	Route 614 from Route 42 to Route 263 .	The NSVRC Report noted road deficiencies.	1 (2017)	33
Q	Route 698 from Route 822 to Route 707 .	NSVRC Report noted lanes 11' wide.		4
R	Route 614 from Route 707 to Route 693 .	NSVRC Report noted lanes 11' wide.		6
S	Wolf Gap Road from Columbia Furnace to the West Virginia Line.	NSVRC Report noted lanes 11' wide.		30
T	Route 673 from 0.53 miles east of Route 11 to dead end .	NSVRC Report noted lanes 11' wide.		1
U	Route 676 from Route 816 to Route 604 .	The NSVRC Report noted road deficiencies.		23
V	Route 600 from Route 623 to Route 652 .	The NSVRC Report noted road deficiencies.		1
W	Route 628 from Frederick County Line to Route 55 .	NSVRC Report noted lanes 11' wide.		25
X	Route 698 from Route 707 to Mount Jackson .	There are a high number of deer related crashes on this segment. The NSVRC Report noted that the existing lanes are 10 feet in width.		7
Y	Identify existing roads that could be used to divert traffic in the event of an emergency on Rt 11 and/or I-81 including the cost of signage.	Alternatives to Route 11 and Interstate 81.	NA	NA
Z	Consider the potential benefits and consequences of developing the second interstate exit for Woodstock and how it could address ongoing safety and traffic issues.	The NSVRC Report noted that the existing roadway network cannot accommodate long term growth and that a local study recommended that a new I-81 interchange be constructed north of the town.	NA	NA
AA	Along Route 55 from Route 623 to Frederick County evaluated to be improved.	Addressing safety issues along Route 55 rather than Corridor H.		37
BB	Along Route 55 from Interstate 81 to Route 623.	Addressing safety issues along Route 55 rather than Corridor H.	2 (2018, 2021)	26
CC	Conduct a feasibility study a new bridge near the Sandy Hook bend of the river.	Safe school access.		0
DD	Route 648 from Strasburg to Route 788.	Safe school access.		1
EE	Intersection of Route 42 and Susan Avenue.	Safe school access.		9
FF	Intersection of South Ox Road and Falcon Drive.	Current intersection configuration can't accommodate long term growth.		2
GG	Intersection of Caverns Road and Stonewall Lane.	Congested during drop off /pick up.		2
HH	Intersection of Caverns Road and Route 11.	Identified as a PSI intersection.		11
II	Entrance ramp on Interstate Exit 269 southbound.	Numerous crashes and public request for FHWA to examine.		31

GOAL 11.2 THERE WILL BE AN INTERCONNECTED SYSTEM OF SAFE PEDESTRIAN AND BIKE NETWORKS THROUGHOUT THE COUNTY.

OBJECTIVE 11.2.1: CONNECTED & SAFE MULTIMODAL NETWORKS TO PRIORITY DESTINATIONS AND SCHOOLS

Sidewalks, shared paths, bike lanes, and shared street networks within and between Towns, Villages, and Hamlets will be safe and interconnected to major destinations and schools.

OBJECTIVE 11.2.2: TRAILS ALONG EASEMENT LINES AND PUBLIC SPACE AMENITIES

There can be trails along access easement lines and public space amenities including signs, crosswalks, bike parking, and benches in key strategic locations.

Strategy	Potential Actions	Lead Stakeholder	Timeframe / Priority
1. Update zoning and subdivision requirements to require sidewalks, shared use paths, bike lanes, and shared streets to be installed or for right of way to be dedicated at key times.	<ol style="list-style-type: none"> Review the County and all Town zoning and subdivision ordinances to determine at which stage in the development process right of way and/or construction be required. Consult with developers and the community on what are reasonable standards to hold. Update codes and provide model codes for Towns to be able to use. 	Community Development, All Towns	2025-2030 S&R
2. Conduct a Bike-Pedestrian Master Plan / Needs Assessment with engineering and construction costs included.	<ol style="list-style-type: none"> Contract out the Plan/Assessment, including project costs. Determine design speeds and use to decide the best treatment method. Create shared streets for roads with designed speed of 20 mph or less. Develop painted bike lanes for roads with a designed speed of 25 mph. For 30-35 mph design speeds, develop curb-separated bike lanes. For 40 mph or more design speeds, develop shared use paths. 	Community Development, All Towns	2025-2030 S&R
3. Sidewalk networks within Towns, Villages, and Hamlets will be interconnected where possible.	<ol style="list-style-type: none"> Map out areas in the community lacking sidewalk infrastructure. Prioritize connecting downtowns, medical & community centers, parks, and schools. 	Community Development, All Towns	2030-2035 U&E
4. Support the connection of Woodstock to Seven Bends State Park and Strasburg to Fishers Hill Battlefield with separated multiuse trails.	<ol style="list-style-type: none"> Perform a feasibility study for potential routes for the multiuse trails. Initiate a dialogue with landowners along the proposed routes. Design a plan including rest stops, signage, and emergency access points. 	Community Development	2030-2035 U&E
5. Consider support for a regional trail along the Norfolk Southern Rail Line . This does not preclude a rail w/ trail if found viable by Virginia, or other uses.	<ol style="list-style-type: none"> Pending decision by stakeholders, update the plan if necessary. Advocate for funds to assist in the development of the trail. Consider a connecting trail to New Market including access to the river. Consider trails to the Edinburg Mill, CCC Museum, and others. Consider a connecting trail to Basye. Consider a connection to Fisher’s Hill Battlefield as part of its trails. 	Community Development, All Towns	2030-2035 U&E
6. Consider trails along easements for transmission / electric lines, pipelines, broadband and internet, water and sewer, and other easements.	<ol style="list-style-type: none"> Engage in discussions to gain permission for public trail access along easements. Map out potential trail routes and assess for safety and environmental considerations. Create and install signage and amenities for public use along trails. 	Community Development, All Towns	2035-2040 I&E
7. Ensure a welcoming and safe experience for pedestrians and cyclists.	<ol style="list-style-type: none"> Audit areas needing signage to alert drivers of peds/bikes. Update regulations for bike racks and benches in new developments. Revise the parking ordinance to allow for a parking payout program. Implementing flashing crosswalks for improved pedestrian safety. Install secure and weather-protected bike racks/lockers and benches. 	Community Development, Planning Commission	2035-2040 I&E
8. Develop and maintain walking and biking paths to schools.	<ol style="list-style-type: none"> Consider a trail along the Norfolk Southern Rail Line. Identify the routes to schools and develop shared use paths. Collaborate with schools to incorporate these routes into their plans. Support a pedestrian bridge on Holiday Street in Strasburg. Implement traffic-calming measures around school zones. 	Community Development, SCPS, All Towns	2035-2040 I&E

GOAL 11.3 STREET SYSTEMS WILL BE COMPLETE, SAFE, AND CONNECTED FOR ALL.

OBJECTIVE 11.3.1: STREET MASTER PLANS

Update the County's and Towns' policies and requirements to ensure that new streets built are designed to accommodate all users including street master plans.

OBJECTIVE 11.3.2: SAFE STREETS FOR ALL

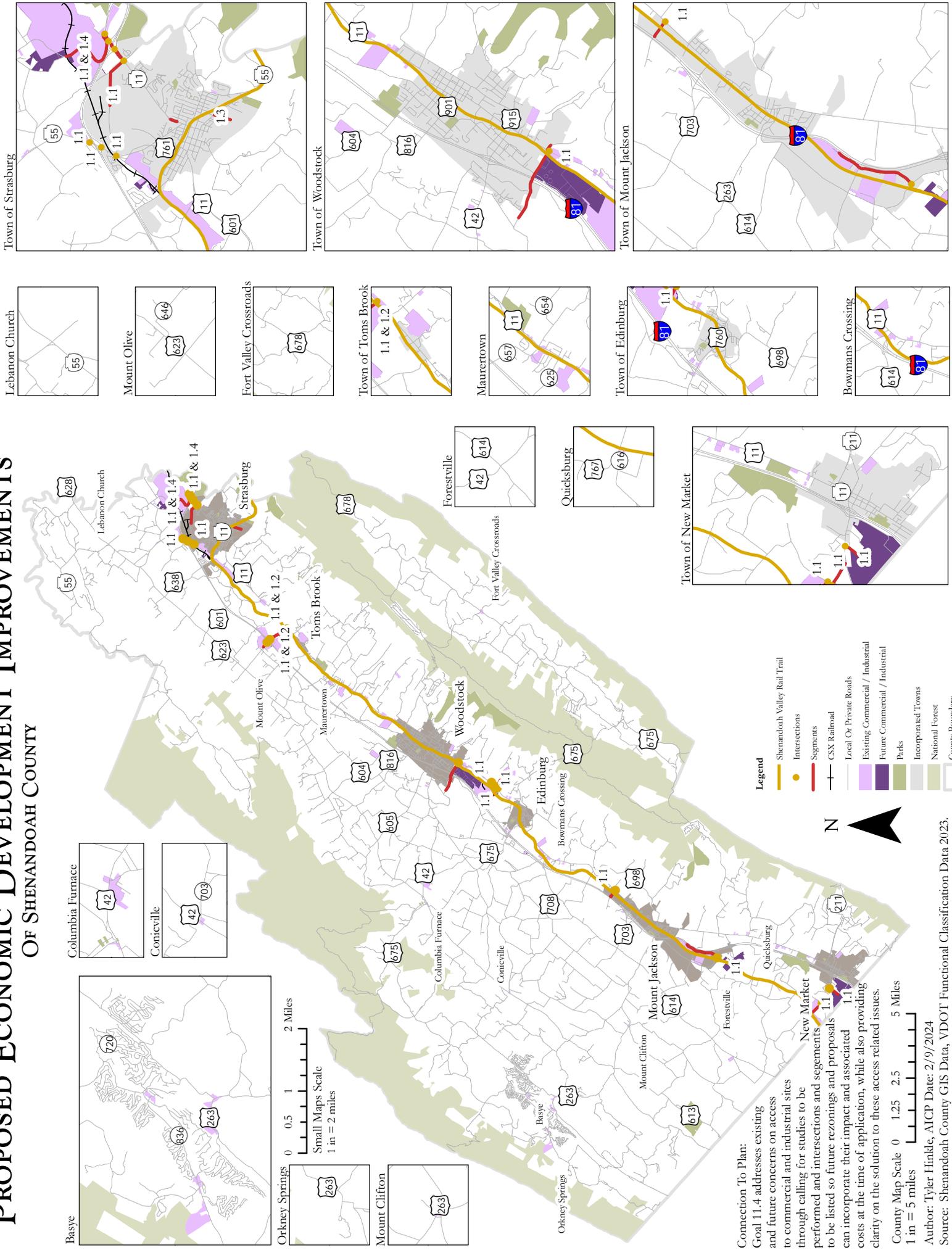
Ensure our streets are safe for all users with road diets and traffic calming, multimodal infrastructure, lighting, crosswalks, seating, and parking to improve the experience on the street.

Strategy	Potential Actions	Lead Stakeholder	Timeframe / Priority
1. Review existing County and Town standards on subdivision and zoning requirements and how they impact street layouts and connectivity.	<ol style="list-style-type: none"> 1. Review the County and all Town zoning and subdivision ordinances to determine what blocks, streets, and the relationship buildings have to each in current code. 2. Consult with developers and the community on what are reasonable standards to hold. 3. Update required codes and provide model codes for Towns to be able to use. 	Community Development, Planning Commission, All Towns	2025-2030 S&R
2. Work with Towns, Villages, and Hamlets to adopt street masters plans by identifying gaps in street networks and other connections the community desires.	<ol style="list-style-type: none"> 1. Develop alternative future maps of what street networks could look like in each place. 2. Consult with community members on gaps in their street networks and most desired. 3. Develop a map connecting areas with vehicular or bike/pedestrian streets/alleys. 4. Ensure proposed growth areas follow similar patterns and blend with existing layout. 5. Host a public workshop to solicit feedback and ideas from the public then adopt. 	All Towns, Community Development, VDOT	2025-2030 S&R
3. Conduct studies and improve safety along streets so they function more as streets and less as roads.	<ol style="list-style-type: none"> 1. Reduce speed limits per Strategy 11.1.2. 2. Per Strategy 11.3.2, adopt street master plans with each Town, Village, and Hamlet. 3. Support Woodstock's efforts to redesign Route 42 to reduce traffic and enhance the pedestrian and bike experience. 	Community Development, All Towns	2025-2030 S&R
4. Assess and improve appropriate downcast street lighting while protecting dark skies.	<ol style="list-style-type: none"> 1. Conduct a comprehensive assessment of current street lighting in all residential areas within Towns, Villages, and Hamlets to identify zones with inadequate lighting. 2. Develop a phased implementation plan to install downcast street lighting where needed, prioritizing areas with higher pedestrian and cyclist traffic. 3. Consider zoning standards to outdoor lighting protecting dark skies. 	Community Development, All Towns	2030-2035 U&E
5. Improve and install crosswalks where appropriate with improvements such as high-visibility markings, adding pedestrian signals, and extending crossing times.	<ol style="list-style-type: none"> 1. Identify crosswalk need locations in every Town, Village, and Hamlet, including Mt Hermon from the community center to the church. 2. Upgrade crosswalk visibility and safety features. 3. Integrate pedestrian signals at busy intersections. 4. Extend crossing times at pedestrian-heavy zones. 	Community Development, All Towns, VDOT	2030-2035 U&E
6. Improve and install space for public seating for leisure, play, and shared transportation stops.	<ol style="list-style-type: none"> 1. Update regulations to mandate bike racks and benches in new developments. 2. Create a fund for the implementation of bike racks and benches. 3. Install secure bike parking and benches. 	Community Development, Planning Commission, All Towns	2030-2035 U&E
7. On-street parking will be available in Towns, Villages, and Hamlets.	<ol style="list-style-type: none"> 1. Enhance on-street parking in towns and villages. 2. Develop parking management strategies. 3. Improve parking safety and accessibility. 	Community Development, All Towns	2040-2045 R&R

STUDIES TO BE CONDUCTED

	Study To Be Conducted	Rational	Fatal Crashes	Crashes Since 2018
A	Study and perform a road diet along Route 211 from the intersection with Plains Mill Road, Route 953, to the intersection with Route 11.	Increasing safety for all users along the roadway.		66
B	Study and perform a road diet along Route 11 in each Town and Village to improve safety.	“		15
C	Study and perform road diets within villages and hamlets.	“		4
D	Intersection of King Street and Holiday Street, in Strasburg.	The NSVRC Report called for these segments to be widened to four lanes, street parking to be removed, and signals added but alternative improvements such as street master planning, traffic calming, roundabouts, traffic light timing, and road diets to increase the types of users on the street should be studied and implemented instead.		7
E	Intersection of Route 11 and Route 55, in Strasburg.	“		5
F	Intersection of Route 11 and Shopping Center Road, in Strasburg.	“		8
G	Intersection of Route 11 and Radio Station Road, in Strasburg.	“		10
H	Intersection of King Street and Massanutten Street, in Strasburg.	“		3
I	Intersection of North Massanutten Street and East Washington Street, in Strasburg.	“		5
J	Intersection of Route 11 and Lora Drive, in Woodstock.	“		3
K	Intersection of Route 11 and Route 42, in Woodstock.	“		71
L	Foodlion intersection and along Route 292 from Route 11 to Interstate 81 in Mount Jackson.	“		11
M	Intersection of Route 11, Route 211, and East Old Cross Road, Route 1002 in New Market.	“		10
N	Along Massanutten Street in Strasburg.	“		32
O	Along South Holiday Street, Route 648, in Strasburg.	“		4
P	Along North Eberly Street in Strasburg.	“		0
Q	Along Washington Street, Route 635, in Strasburg.	“		13
R	Along Orchard Street in Strasburg.	“		2
S	Along Route 761 or Capon Street in Strasburg.	“		14
T	Along Route 670 or East Reservoir Road in Woodstock.	“		8
U	Along Water Street in Woodstock.	“		19
V	Along Hoover Road, Route 605, in Woodstock.	“		22
W	Along Water Street, Route 760, in Edinburg.	“		1
X	Along Old Cross Road, Route 1002, in New Market.	“		16
Y	Along Queen Street, Route 1201, in Strasburg.	“		8
Z	Along Ash Street in Strasburg.	“		7
AA	Intersection of Crim Drive and East Washington Street as well as all of Crim Drive, in Strasburg.	“		0
BB	Intersection of South Ox Road and Falcon Drive, in Woodstock.	“		2
CC	Along Lee Street in Woodstock.	“		3
DD	Along Lupton Road, Route 667, and French Woods Road, Route 668, in Woodstock.	“		5
EE	Along Cemetery Road, Route 758, in Woodstock.	“		2
FF	Along South Ox Road and Massanutten Heights, in Woodstock.	“		19
GG	Along Palmyra Road, Route 1419, in Edinburg.	“		0
HH	Along High Street, Route 1402, in Edinburg.	“		0

PROPOSED ECONOMIC DEVELOPMENT IMPROVEMENTS OF SHENANDOAH COUNTY



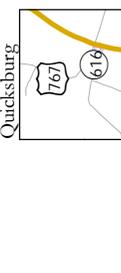
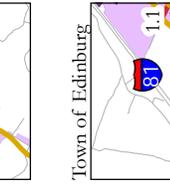
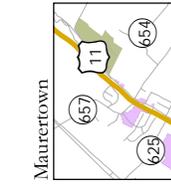
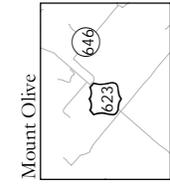
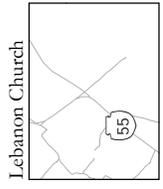
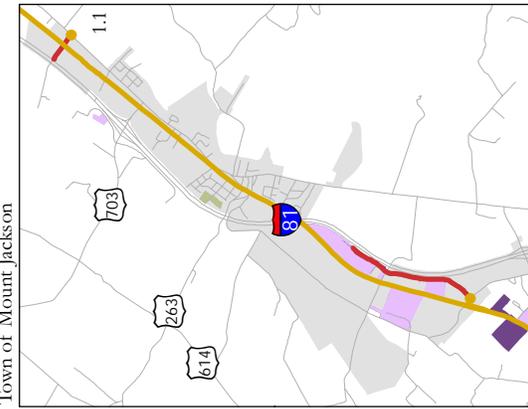
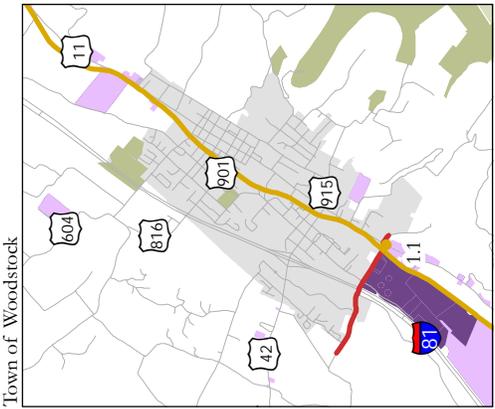
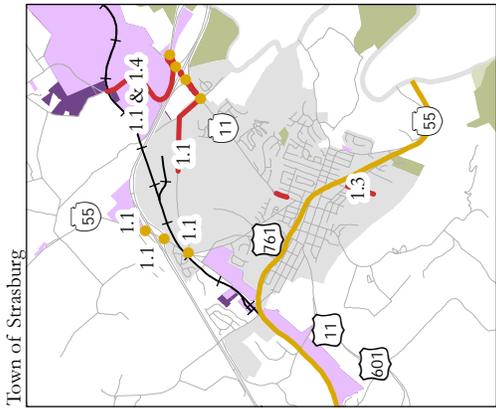
Connection To Plan:
 Goal 11.4 addresses existing and future concerns on access to commercial and industrial sites through calling for studies to be performed and intersections and segments to be listed so future rezoning and proposals can incorporate their impact and associated costs at the time of application, while also providing clarity on the solution to these access related issues.

County Map Scale 0 1.25 2.5 5 Miles
 1 in = 5 miles

Small Maps Scale
 1 in = 2 miles

Author: Tyler Hinkle, AICP Date: 2/9/2024
 Source: Shenandoah County GIS Data, VDOT Functional Classification Data 2023.

- Lebanon Church
- Mount Olive
- Fort Valley Crossroads
- Town of Toms Brook
- Maurertown
- Town of Edinburg
- Bowmans Crossing
- Lebanon Church
- Strasburg
- Mount Olive
- Maurertown
- Woodstock
- Edinburg
- Bowmans Crossing
- Forestville
- Quicksburg
- Town of New Market



GOAL 11.4 OUR TRANSPORTATION SYSTEM WILL SUPPORT TOURISM AND ECONOMIC DEVELOPMENT.

OBJECTIVE 11.4.1: REMOVE BARRIERS TO GROWTH FOR AGRICULTURE, INDUSTRIES, BUSINESSES, AND DOWNTOWN

Collaborate with VDOT and private landowners to reduce access barriers to agriculture, industry, and business sites per the FLUM and businesses and new residences in downtowns.

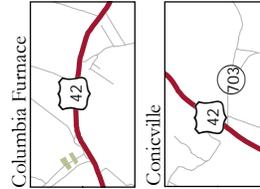
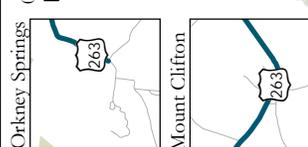
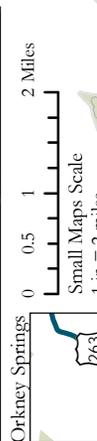
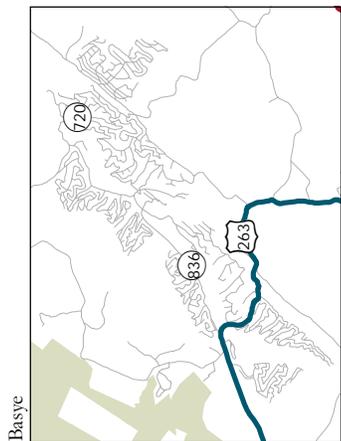
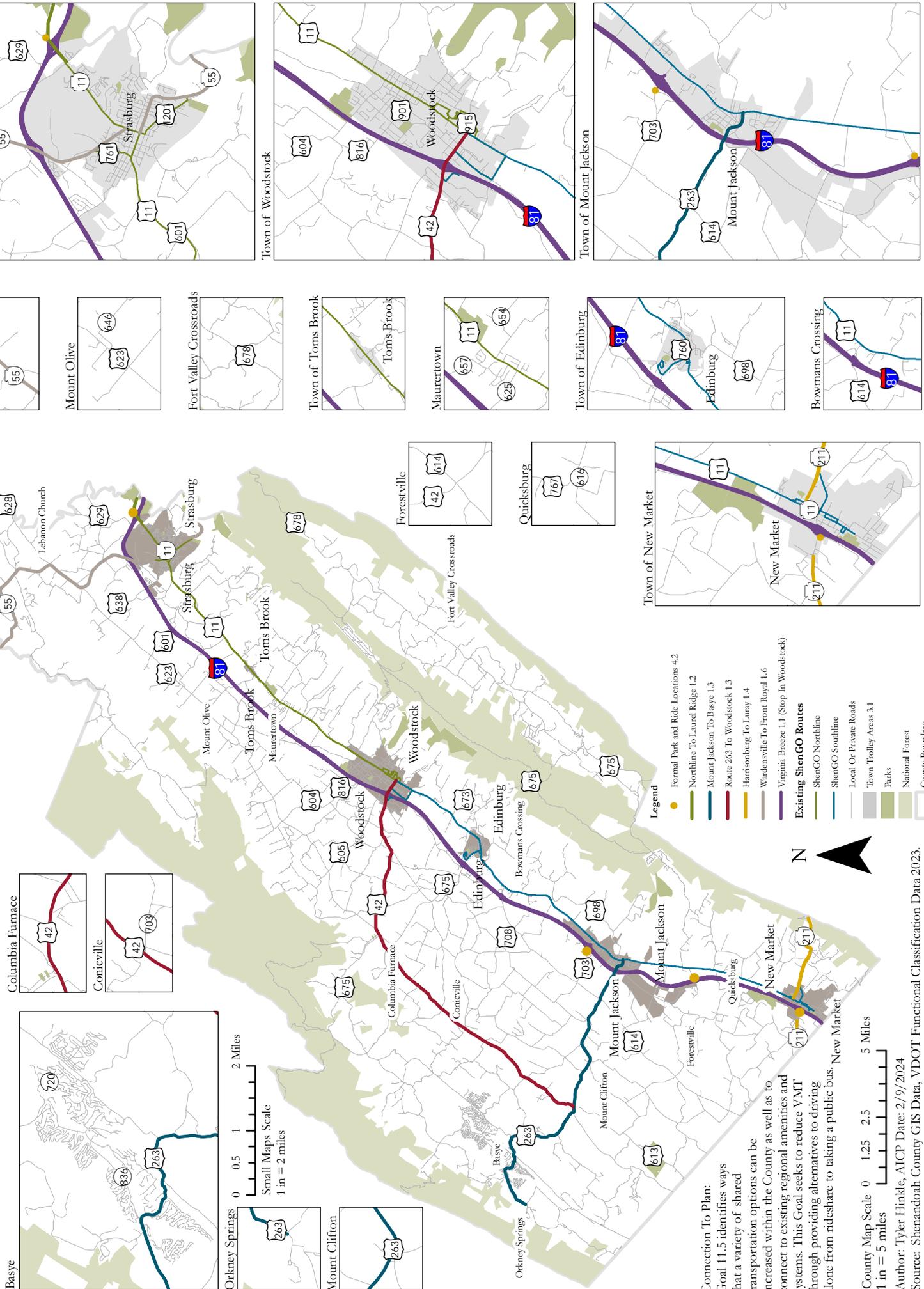
OBJECTIVE 11.4.2: CONNECT AIRPORTS, RAIL, SAFE FREIGHT TRANSPORT, AND ENERGY FOR TRANSPORTATION

Support new connections to nearby airports and rail stations, ensure freight is transported safely and there is adequate energy sources for transportation throughout the County .

Strategy	Potential Actions	Lead Stakeholder	Timeframe / Priority
1. Enhance access to business parks and industrial zones.	<ol style="list-style-type: none"> 1. Conduct a traffic flow analysis for every existing and proposed business and industrial zones to identify access issues and project future needs. 2. Improve Mount Olive Road into the Toms Brook Business Park and the two I-81 intersections nearby. 3. Improve Aileen Avenue, Route 1207, in Strasburg, current lanes are 11'. 4. Improve Oranda Road with two turn lanes and signalize the two I-81 intersections on Rt 11 nearby . 	Tourism and Economic Development, Community Development, All Towns	2025-2030 S&R
2. Consider removing parking requirements, allowing for exemptions, or setting parking maximums.	<ol style="list-style-type: none"> 1. Revise existing parking requirements to allow for flexible use of space. 2. Explore the possibility of parking exemptions for certain types of businesses or developments that contribute to the downtown's vitality. 3. Consider implementing parking maximums to discourage excess vehicle use and promote walkability in downtown districts. 4. Consider limiting downtown/dense areas to small freight transportation. 	Community Development, Planning Commission, All Towns	2025-2030 S&R
3. Determine uses that the community wishes downtown and make them by-right.	<ol style="list-style-type: none"> 1. Consider removing SUP requirements or VDOT review requirements on businesses, residential projects, and other uses in downtowns. 2. Consider removing VDOT review in the renovation of an existing structure/entrance. 3. Petition the State Legislature to adopt new standards that encourage walkable multimodal spaces in downtown areas to remove barriers. 	Community Development, Planning Commission, All Towns	2025-2030 S&R
4. Explore an Airport Overlay Zoning Ordinances to limit the disruption to the approach zones to the Basye and New Market Airports.	<ol style="list-style-type: none"> 1. Engage with airport management and nearby residents. 2. Consider guidelines within the approach zones to prevent structures that pose hazards. 3. Explore an Airport Overlay Zoning Ordinances tailored to each airport. 	Community Development, Planning Commission	2030-2035 U&E
5. Work to extend public transportation service south to Amtrak in Staunton, and north to Amtrak in Martinsburg.	<ol style="list-style-type: none"> 1. Implement Strategies in 11.5 to connect to Laurel Ridge Community College and Harrisonburg. 2. Gauge demand and efficient transit routes to the Amtrak stations. 3. Consider additional options to optimize connections. 	Tourism and Economic Development, Community Development	2035-2040 I&E
6. Consider acquiring any abandoned, slated to be abandoned, or airports for sale.	<ol style="list-style-type: none"> 1. Conduct a survey of existing airport facilities to determine status/value. 2. Develop a cost-benefit analysis for the acquisition/maintenance. 3. Create a strategic plan for the potential use of acquired airports. 	Tourism and Economic Development, EDA	2045-2072 P&A
7. Support Towns in growing to 5,000 people to manage their streets and setting standards amenable to downtowns.	<ol style="list-style-type: none"> 1. Support projects in existing Town boundaries to increase pop to 5,000. 2. Support zoning/ subdivision amendments that allow density in Towns. 3. Support Town infrastructure needs to handle more residents and density. 	Board of Supervisors	2045-2072 P&A
8. Support the enhancement of freight services in the region.*	<ol style="list-style-type: none"> 1. Designate corridors for safe truck freight areas and not recommended. 2. Support enhancing freight rail capabilities. 3. Consider grants to upgrade rail lines/facilities for efficiency and safety. 4. Support the enhancement of the Virginia Inland Port. 	Community Development All Towns	2045-2072 P&A
9. Ensure reliable energy supply and promote alternative energy fueling stations.	<ol style="list-style-type: none"> 1. Consider a reserve energy supply for emergency vehicles. 2. Encourage the establishment of fueling/charging stations. 3. Consider amending zoning to encourage electric chargers. 	Community Development, F&R	2045-2072 P&A

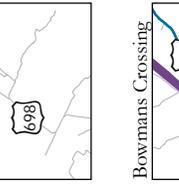
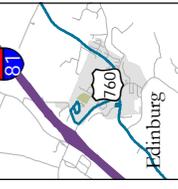
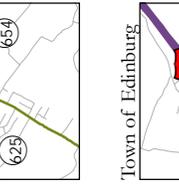
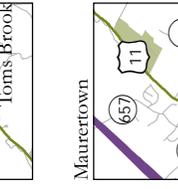
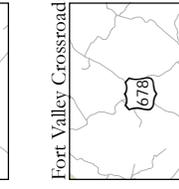
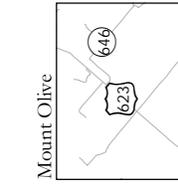
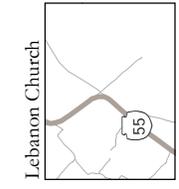
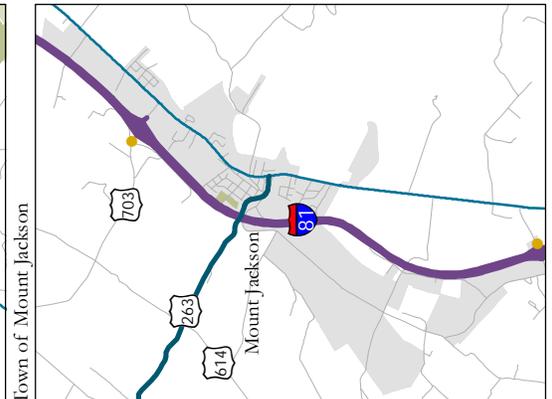
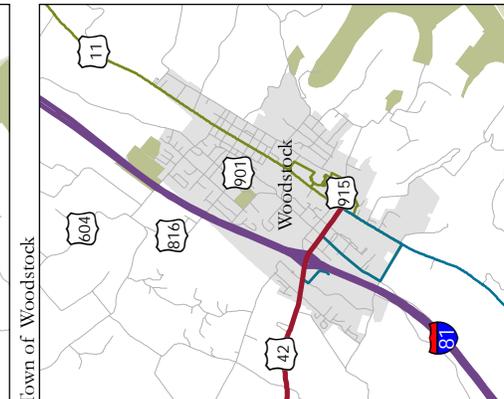
* Rail uses/connections to other parts of the state and beyond will not be in conflict with a future trail along the Norfolk Southern Rail Line.

PROPOSED SHARED TRANSPORTATION IMPROVEMENTS OF SHENANDOAH COUNTY



- Legend**
- Formal Park and Ride Locations 4.2
 - Norhtline To Laurel Ridge 1.2
 - Mount Jackson To Bays 1.3
 - Route 263 To Woodstock 1.3
 - Harrisonburg To Luray 1.4
 - Wardensville To Front Royal 1.6
 - Virginia Breeze 1.1 (Stop In Woodstock)
 - Existing ShenGO Routes**
 - ShenGO Northline
 - ShenGO Southline
 - Local Or Private Roads
 - Town Trolley Areas 3.1
 - Parks
 - National Forest
 - County Boundary

Connection To Plan:
 Goal 11.5 identifies ways that a variety of shared transportation options can be increased within the County as well as to connect to existing regional amenities and systems. This Goal seeks to reduce VMT through providing alternatives to driving alone from rideshare to taking a public bus.



GOAL 11.5 SHARED TRANSPORTATION WILL BE A VIABLE OPTION FOR TRAVELING AROUND AND THROUGH THE COUNTY.

OBJECTIVE 11.5.1: EXPAND PUBLIC AND SHARED TRANSPORTATION

Expand access to public transit and other forms of shared transit including the potential for connections to passenger rail service.

OBJECTIVE 11.5.2: ENCOURAGE TRANSIT-ORIENTED DEVELOPMENT

Encourage mixed-use development near transportation hubs in Towns, Villages, and Hamlets.

Strategy	Potential Actions	Lead Stakeholder	Timeframe / Priority
1. Petition for a Virginia Breeze stop to be added at Woodstock at an existing ShenGO stop.	<ol style="list-style-type: none"> Engage with Virginia Breeze bus services to explore the feasibility of adding a new stop at Woodstock. Coordinate with local ShenGO stops to assess the best location for integration with Virginia Breeze services. Develop a proposal including potential ridership numbers and community benefits to present to Virginia Breeze for consideration. 	Community Development, NSVRC	2025-2030 S&R
2. Extend and enhance ShenGO Service.	<ol style="list-style-type: none"> Consider extended hours, rapid morning/evenings, and Sundays. Consider extending service to Laurel Ridge Community College. Consider extending ShenGO service along Route 42 and to Basye. Consider extending ShenGO service along 211 to connect Harrisonburg, Broadway, Timberville, Luray, and Shenandoah National Park. Consider extending ShenGO service along Route 55 and into Hardy County, WV. 	Community Development, NSVRC	2030-2035 U&E
3. Support the establishment of Town trolleys to provide services throughout each individual Town.	<ol style="list-style-type: none"> Conduct a feasibility study considering routes, stops, and frequency and how it could allow for the main ShenGO service to speed up its service by hitting central stops. Engage with the town council and community members to gain support and insights. Source funding and develop an implementation plan for the new trolley service. 	Community Development, All Towns, NSVRC	2030-2035 U&E
4. Study the benefits and consequences of shared transportation services other than ShenGO.	<ol style="list-style-type: none"> Conduct a feasibility study to determine the most suitable transportation services. Improve existing informal and formal park and ride facilities while installing new facilities where needed including along Route 55 into West Virginia. Consider private shared shuttles and minibuses throughout the County and region. Consider the establishment of sharing programs like Zipcar, Bird, or E-Bikes. Consider ride sharing services to increase the mobility of tourists and locals. 	Community Development, All Towns, NSVRC	2030-2035 U&E
5. Incentivize public transportation use.	<ol style="list-style-type: none"> Develop a unified transportation app that offers rewards and incentives. Work with transportation providers to offer reduced fares during off-peak hours. Formulate partnerships with private transport companies to offer discounts. 	ShenGO, NSVRC	2035-2040 I&E
6. Foster mixed-use development near public transit.	<ol style="list-style-type: none"> Assess sites near public transit hubs for mixed-use development opportunities. Update zoning regulations to facilitate mixed-use development in designated areas. 	Community Development, Planning Commission, All Towns	2035-2040 I&E
7. Support the enhancement and expansion of passenger rail service in the region.*	<ol style="list-style-type: none"> Consider a resolution advocating the restoration of pre-1970 passenger rail levels on the national level. Petition the State to adequately fund the DRPT to similar levels as VDOT. Petition the State to consider a unified payment, management, and operation service. 	Board of Supervisors, All Towns	2045-2072 P&A

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