

The Route 22/231 Corridor

Concepts for a Rural Traffic Calming Plan

A Rural Road Safety Demonstration Project for Keswick, Virginia

The Southwest Mountains Rural Historic District
Thomas Jefferson's "*Eden of America*"

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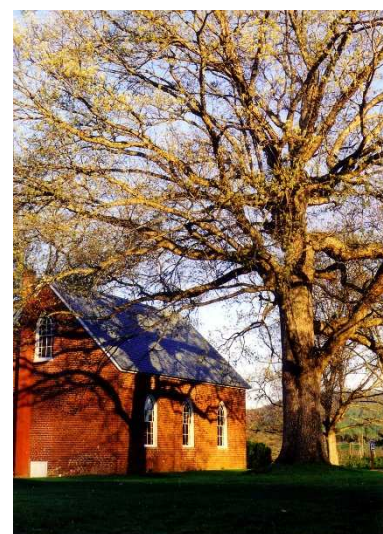
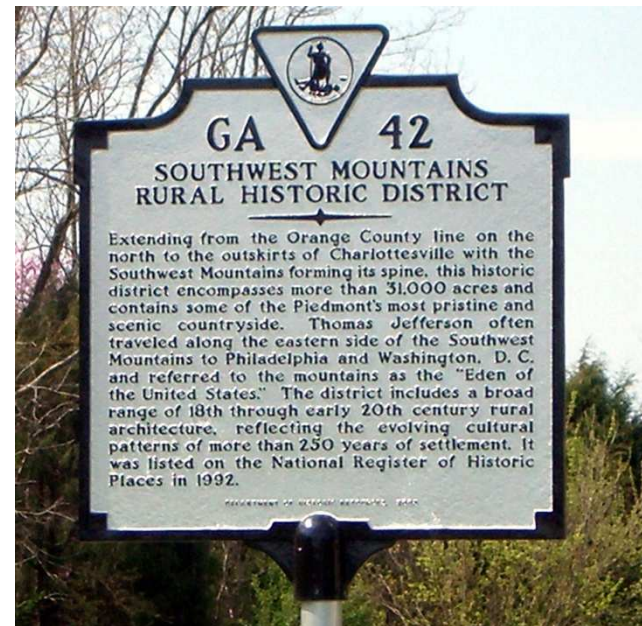
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Route 22/231 Corridor Background

Routes 22 and 231 in Eastern Albemarle County are designated State Byways and National Scenic Highways and are part of the Journey Through Hallowed Ground. These roads serve as major tourist routes and offer scenery representing the best of this region's varied terrain, streams, forests, agricultural uses, historic architecture, and landscape heritage. These roads, which were historic routes of travel, are located within the state and nationally registered Southwest Mountains Rural Historic District. Today, almost 16,000 acres of the roughly 37,000-acre district are protected under private, voluntary conservation easements.

This corridor is a preferred gateway for people traveling to visit Thomas Jefferson's Monticello, located just a few miles southwest of this corridor. The Journey Through Hallowed Ground stretches from Monticello to Gettysburg, Pa. Recognized by Congress as a National Heritage Area, it boasts possessing *more history than any other region in the nation*. Route 231 was ranked at the top of Scenic America's *Ten Most Scenic Roads in America* list.



Existing 2-lane Rural Section on 22/231



VDOT's vision for Route 22/231 — A 4-lane divided highway.

For years Keswick residents have expressed concern about traffic volume, driver behavior, and overall traffic safety issues along this corridor. Concern has also grown about VDOT's plans for the corridor. In 2005, VDOT's long-range plan (VTrans2025) recommended the four-laning of Route 22/231 from Shadwell to Cismont; changes to the northern portion of Route 231, from Cismont to the Louisa County line; and changes to Route 22, from Cismont to the Louisa County line, including expansion of the road corridor with wider shoulders. In 2009, a VDOT study recommended a massive bypass through the eastern edge of the community.

VDOT's proposed improvements are unfounded due to the low traffic volumes projected by 2025. Furthermore, they would require significant infringements on private property, cost a huge amount of taxpayer money, and permanently diminish the experience of traveling through a unique, historic landscape. Rather than addressing traffic safety, these *improvements* would only invite faster and more aggressive driving. The result: A rural Scenic Byway transformed into a highway.

Route 22/231 Corridor Traffic Safety is a Critical Concern

The Costs of Traffic Accidents

There are numerous costs associated with the frequency of accidents. Certainly there is the cost in lives, but there are also costs for medical care, lost time recovering from an accident, the public cost for the emergency services responding to these accidents, and private costs for damaged vehicles. With these come the increased demands for public investment in making rural roads safer. *Too often, the accepted remedy is to make these roads wider, straighter, and flatter.* And too often, this very expensive solution makes the road anything but safer. *Wider, straighter, and flatter* actually encourages faster speeds; speeds that are unsafe on any road, particularly rural roads.



Charlottesville Newsplex
May 26, 2010
Route 22 Reopens After Semi-Truck Overturms

Local concerns about road safety are not unfounded. VDOT provided detailed traffic accident data for a three-year period -- 2006 through 2008. From this analysis, they identified four "Hot Spots" within the corridor. 113 accidents occurred in these four locations alone. These *hot spot* stretches represent less than 9 miles of the entire 17 mile corridor. (VDOT's study did not provide data for the entire corridor.)

Of these 113 reported accidents within the four *hot spots*:

- 44 (over 1/3rd) resulted in injury, 16 of which resulted in either serious injury or fatality.
- 71 (over 3 out of 5) occurred either in daylight, at sunrise, or at sunset—NOT at night.
- 83 (almost 3 out of 4) occurred in dry conditions.
- 20 (almost 1 out of 5) were speed-related.

According to police, in the entire corridor there were 78 accidents in 2004 and 108 accidents in 2005.

The Daily Progress
August 05, 2007

Trucks, traffic, tension

The highways that connect Gordonsville to U.S. 250 east of Charlottesville are rural, winding stretches of country road flanked by pastures, farms and postcard scenery. But some residents of the 15-mile stretch of Routes 22 and 231 say the idyllic roads are plagued by tractor-trailers and speeding drivers, and that they are becoming increasingly dangerous. Statistics back up the claim: Accidents on the roads and near intersections with them doubled between 2001 and 2005, according to police data obtained by one resident.

WINA News

November 8, 2011

Accident Causes Traffic Problem Early Tuesday On 22

Daily Progress

December 23, 2008

Louisa woman dies in single-car wreck

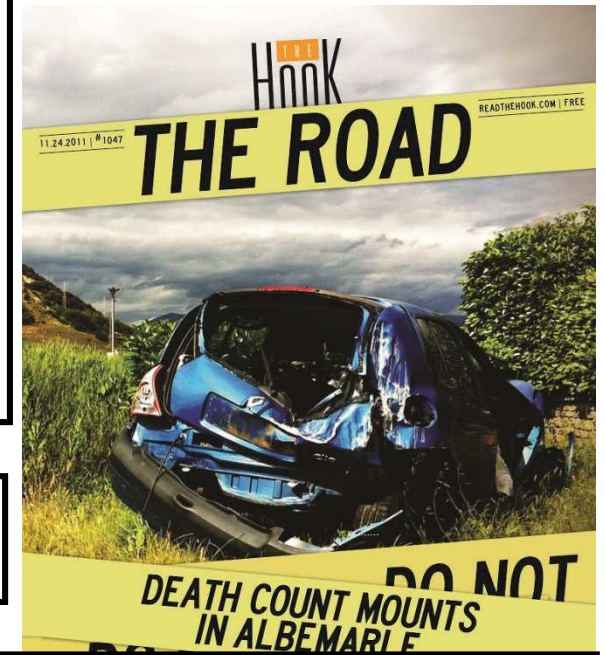
A Louisa County woman was killed Monday afternoon in Keswick when her 1999 Chevrolet Monte Carlo sped off Route 231, crashed through a fence, and struck a tree.

...

Crouch's death is the 11th traffic fatality to occur so far this year in Albemarle County. During 2007, the county had 16 fatal accidents. Four of the county's traffic deaths that occurred last year happened on Route 231, a curvy and heavily traveled two-lane road, said Cpl. Sean C. Hackney of the Albemarle County Police Department. "We don't know yet what caused this accident," Hackney said. "But we are very familiar with this road."

...

Route 231 was a focus of the Albemarle County Police Department's speed enforcement campaign earlier this year. The roadway, police noted at the time, is one of several primary highways that is a common source of citizen complaints and high-speed accidents.



Albemarle County knows that Route 22/231 is an unsafe road.

In 1995 and again in 2004, the Albemarle Board of Supervisors requested that VDOT restrict tractor trailer through-traffic on Route 22/231.

- Both times the request was rejected.

In September 2005, Albemarle listed the following as one of its priorities for available federal Surface Transportation Program funds: *Functional plans, including an analysis of possible safety improvements, for Routes 22 and 231. The County remains concerned with overall public safety as it relates to traffic created by large trucks along these road segments, and encourages VDOT to consider all appropriate measures to ensure that trucks travel safely along these roadways in the future. The County has repeatedly requested VDOT to restrict through trucks on Route 22 and Route 231.*

- No funding was provided for this plan. Restrictions apply only to trucks exceeding 65-feet in length, though enforcement is rare due to limited police coverage and, according to police, there is *nowhere to pull over violators.*

It has worked before...

Case Study: Traffic Calming Plan for Virginia's Rural Route 50 Corridor

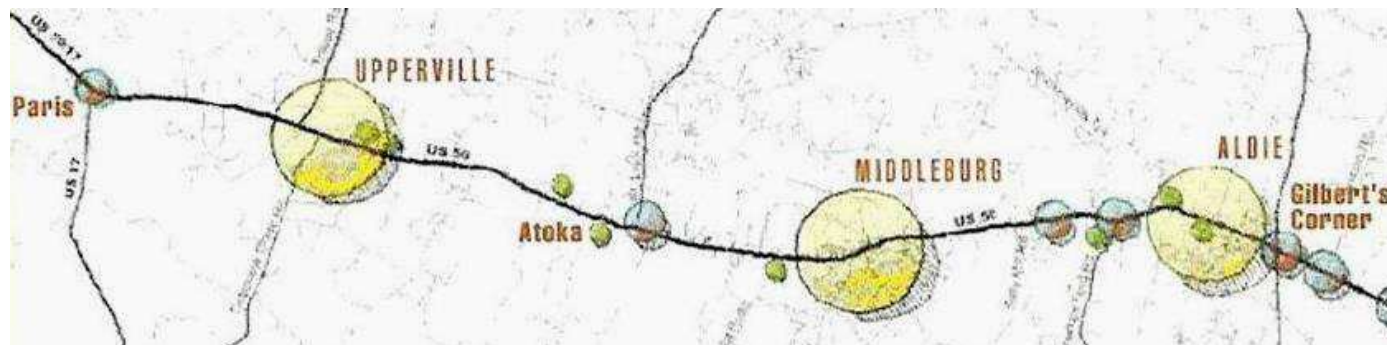
Twenty years ago, VDOT proposed improvements along a 20-mile stretch of Route 50 from Paris, in Fauquier County, to Lenah, in Loudoun County: Bypasses around Aldie and Middleburg; widening Route 50 to a four-lane divided highway. In 1994, due to concern that these improvements would negatively impact local commerce, the environment, and historic resources, local citizens and business owners demanded that VDOT reexamine their plan.

From this, the Route 50 Corridor Coalition was formed, which sought an alternative to the bypasses and wider roads; alternatives that remained within the historic corridor and addressed concerns about speeding, aggressive driving, unsafe conditions for pedestrians and cyclists, harm to historic buildings, and noise due to high speed traffic, especially trucks. The group raised private funds, hired a prominent transportation engineer, and held numerous community workshops.

The result was the Route 50 Traffic Calming Plan, which identified steps to maintain the historic corridor and small towns, while reducing speeding and aggressive driving, enhancing safety, and correspondingly, promoting local business, scenic beauty, and the historic nature of the area.

Key components of the Route 50 Traffic Calming Plan include:

- Entrance features: Enhancements at each town's approach via architecture, signage, landscaping, etc.
- Imprint areas of pavement: Textured pavement provides audible indicators for motorists to decelerate.
- Raised crosswalks: Within each town, add pedestrian crossings made of brick or a textured material.
- Landscaped medians: Medians with curbs, trees, bushes, etc.
- Roundabouts: Provide intersections with counter-clockwise traffic flow, reduce left-turn accidents.



In 1996, the Route 50 Traffic Calming Plan, was unanimously approved by the Middleburg Town Council and the Loudoun County and Fauquier County Supervisors.

In 1998, Senator John Warner secured federal funding towards implementing the plan as a demonstration project and as a model for the rest of the country. VDOT provided the required 20% match and established a close working relationship with the community-appointed Task Force; a group formed under the authorization of the Virginia Secretary of Transportation and tasked with implementing the plan.

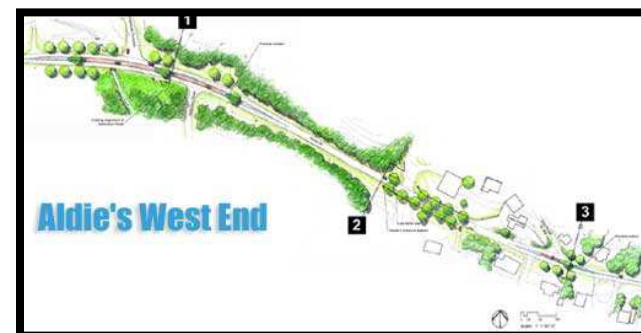
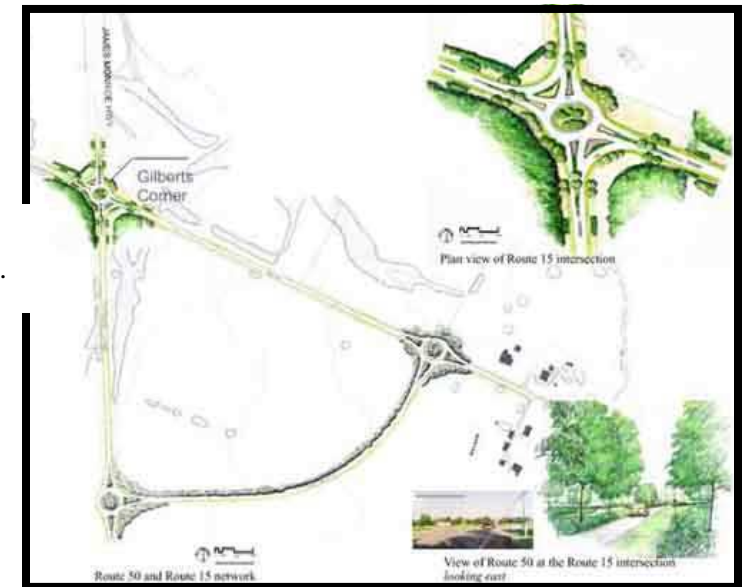
National Accolades for the Route 50 Plan.

- The Route 50 Traffic-Calming Project is widely acknowledged by the Federal Highway Administration and the Virginia Department of Transportation as the country's first road project involving Context-Sensitive Design.
- In 1997, the plan was recognized by the Institute of Transportation Engineers with its President's Award for Excellence.
- In 2007, Scenic Virginia gave the project a Scenic Award for its work to develop "a road plan that respects the scenic, cultural, historic, and natural aspects of a particular road."
- In 2010, was awarded an the American Council of Engineering Companies of Metropolitan Washington awarded Vanasse Hangen Brustlin, Inc. the Engineering Excellence Honor Award for its work at Gilbert's Corner.

The \$8.19 million **Upperville** project, completed in 2008, featured new medians, crosswalks, landscaping, and stone fencing.



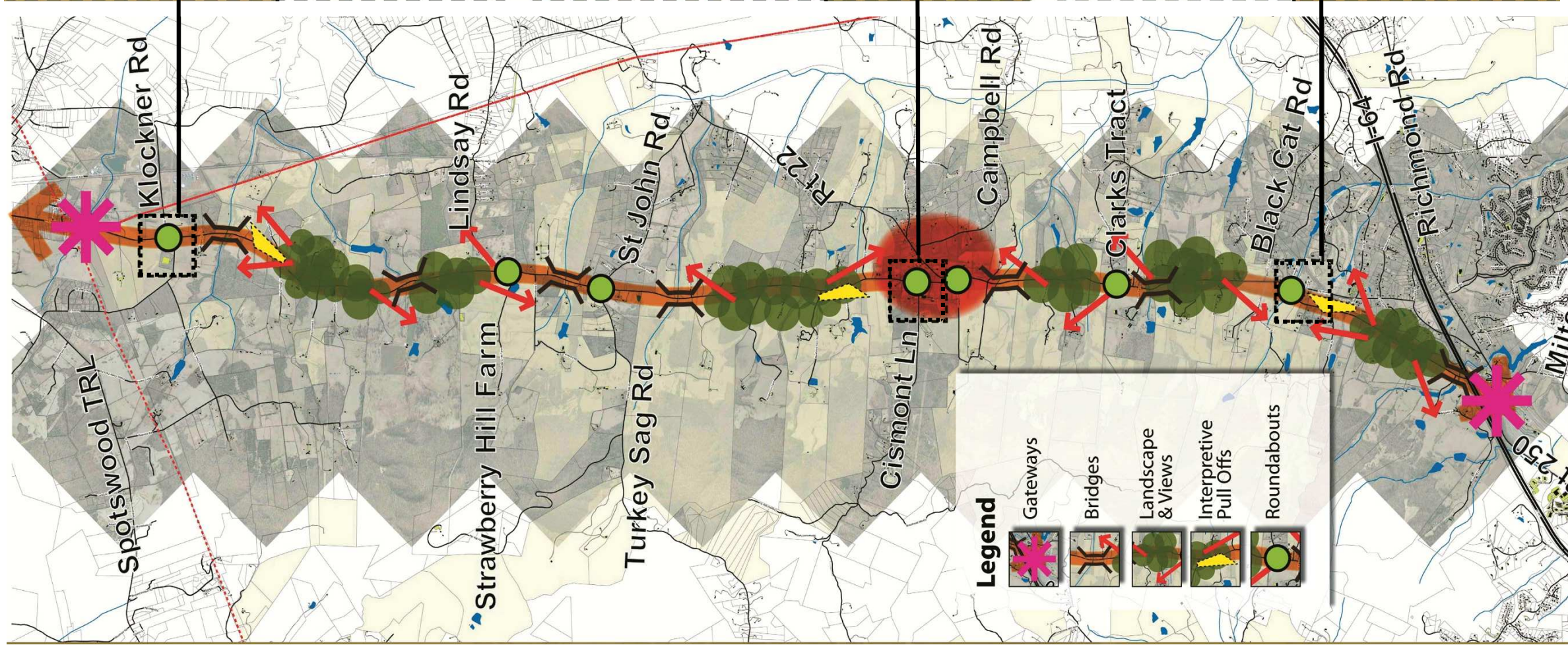
The \$15.8 million **Gilbert's Corner** project, completed in 2009, included four roundabouts.



The \$7.2 million **Aldie** project, to be complete by December 2012, includes landscaping, sidewalks, and raised crosswalks and intersections in the village area.

A Rural Traffic Calming Plan for the Route 22/231 Corridor

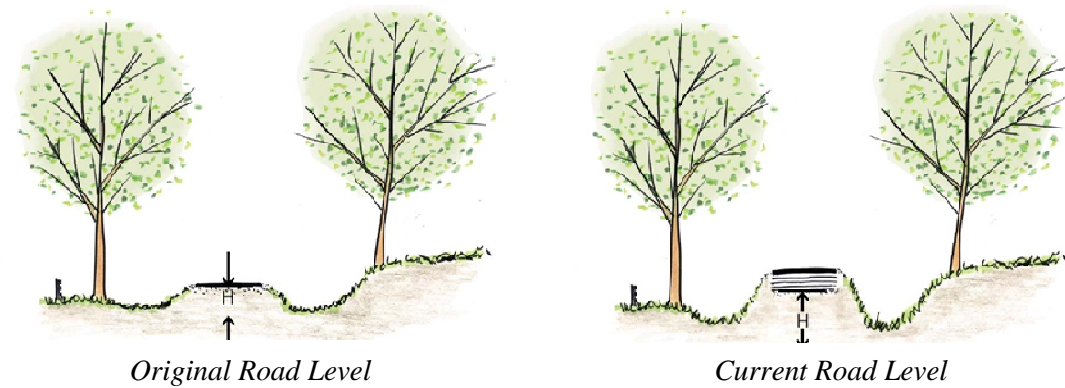
The range of recommendations provided here creates an implementation strategy that fits into a broader vision for the entire area. That vision will influence Albemarle County and VDOT's long-range plans and policy decisions related to proposed improvements to and/or infrastructure investments within this corridor. There are many ways to implement this vision. However, it is recommended that it be accomplished through a series of projects from least intrusive to most intrusive, understanding that residents have indicated a preference to prioritize simple changes over dramatic ones.



Route 22/231 Corridor TACTILE CHANGES

LOWER ROAD SURFACE

When VDOT resurfaces a road, its general practice is to add new asphalt over the existing surface, versus milling down the existing paving prior to resurfacing. Over time, repeated repaving has raised the road surface above its original grade, creating ditches and sharp drops along the edge of the road. Residents commented that these sharp drops from the edge of the pavement lead to accidents when vehicles veer even slightly off the road. Lowering the road height closer to its original grade and using the existing shoulders would minimize the need for VDOT to acquire ROW to construct and raise new shoulders to the level of the road.



Repeated resurfacing elevates the profile of the road. Typically the edges don't hold very well and crumble easily.



Actions Necessary:

- Requires VDOT approval and construction; where necessary, during future repaving, VDOT could mill down the surface of the road to eliminate the steep edges and bring the road surface more in line with existing shoulders. This can be done incrementally, over time, matching VDOT's regular maintenance schedule for the road..

CHANGE PAVEMENT TEXTURE



Smooth road surfaces encourage faster driving

Of the 113 traffic accidents reported in the four *hot spot* segments of the corridor, 20 accidents—almost 1 out of every 5—were speed-related.

Route 22/231 is currently paved with a very smooth asphalt material. Rural roads are generally paved with a rougher surface than highways and urban roads. Smoother surfaces reduce a driver's awareness of their traveling speed, contributing to faster speeds. A rougher surface would increase a driver's awareness of how fast they are going.

When VDOT resurfaces the road, they should use a more coarse material than the one currently used. This can be done incrementally, over time, coinciding with VDOT's regular maintenance schedule for the road.

Actions Necessary:

- Requires VDOT approval and construction; implemented over time with scheduled resurfacing.

Route 22/231 Corridor OPTICAL CHANGES

REDESIGN BRIDGES

Redesign the corridor's bridges to call attention to the multiple stream crossings.



Typical bridge per VDOT's modern design standards.



Typical "bridge" in the 22/231 Corridor.

Adding distinct bridges would indicate the streams below, causing motorists to focus on the near and middle distances as opposed to long distances. Such visual cues slow drivers to safer speeds.

Added traffic calming benefit is also achieved by the increased sense of enclosure and added beauty that the bridges would generate. Cumulatively, the various traffic calming features cue motorists to drive more sensibly and be more attentive.



Example of a redesigned bridge. New edge treatments, bridge architecture, a slight hump on the roadway, and change of pavement texture/color create true appearance of a stream crossing. A sign might indicate the name of the stream, adding to the sense of place and influencing driver behavior.

Actions Necessary:

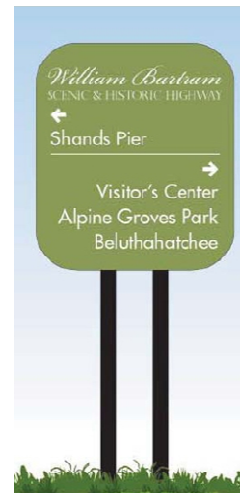
- Requires VDOT approval and construction; working with private landowners to acquire Right of Way.
- Complete necessary design work for each bridge.

IMPROVE SIGNAGE

At some locations along the corridor, roadsides are cluttered with an excessive number of signs, which could be reduced, unified, and improved from an aesthetic perspective.



Current Signage near Cismont



Signs can be designed to be more attractive, sensitive to the rural character of the area, and help carry a theme, which make drivers more aware of the surroundings. The sign posts and the back of the signs should be dark. Signs for stores and businesses should be developed as an integral part of the overall corridor. Graphics and support structures should be harmonious in style and material with adjacent land uses.

Actions Necessary:

- Requires VDOT approval and construction.
- Complete a wayfinding/signage study to establish a common vocabulary for the corridor.
- Work with community to establish design standards for local business signage.

LANDSCAPE AND VIEWS

Take advantage of natural landscape and open views. A landscape study is recommended to plan alternating stretches of tree enclosures and open viewsheds. Segments where the road is purposely enclosed by trees to create a narrowing effect can encourage people to drive more slowly, and when the views open up dramatically, their impact is all the more stunning. These alternating views help drivers focus on the near and middle distances as opposed to long distances, creating additional interest to the driving experience, and helping drivers to slow down and be more attentive.



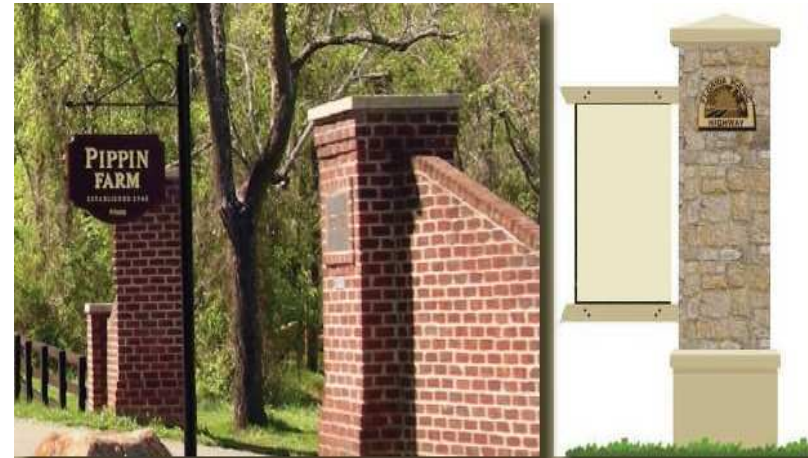
Actions Necessary:

- Work with VDOT on landscaping opportunities within VDOT property/Right of Way.
- Private sector: Work with community to develop design ideas. Work with individual landowners to voluntarily establish new landscaping, etc.

Route 22/231 Corridor OPTICAL CHANGES

DRIVEWAY VISIBILITY

Many driveways along the road are marked by entrance features, but many are not. Noticeable driveways increase driver awareness that vehicles are likely to enter or leave the road at these points. Adding entrance features to properties creates additional *friction* along the road, which increases driver awareness of the driveway locations.



Driveways with limited visibility

Driveways with identified entrances

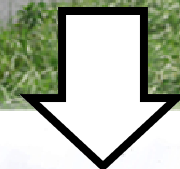


INSTALL GATEWAYS

Erecting unique entrance features where traffic enters and leaves the corridor would call attention to its special scenic and historic nature, as well as encourage calmer, more attentive driving.



Current "streetscape" at Keswick P.O.



Improved "streetscape" at Keswick P.O.



Current 'gateway' to the corridor does not express its significance



Scenic corridor gateway sign

Actions Necessary:

- *Private sector: Work with community to develop design ideas. Work with individual landowners to voluntarily construct entrance features.*

Actions Necessary:

- *Requires VDOT approval and construction.*
- *Work with community to establish design standards for local business signage.*

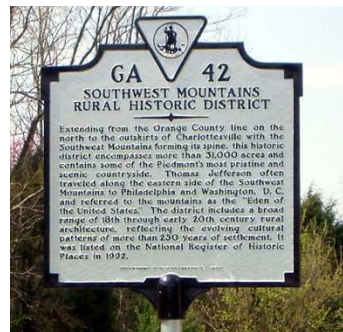
Route 22/231 Corridor OPERATIONAL CHANGES

PULL OFFS

Add pull offs by the side of the road. There are currently few places along the road where vehicles can pull over. Working with willing landowners to add occasional pull-offs would serve multiple purposes. Tractors could let faster traffic pass, police could pull over speeders, and drivers could stop and read historic and/or interpretive markers that might be placed at these locations.



Sample pull off detail

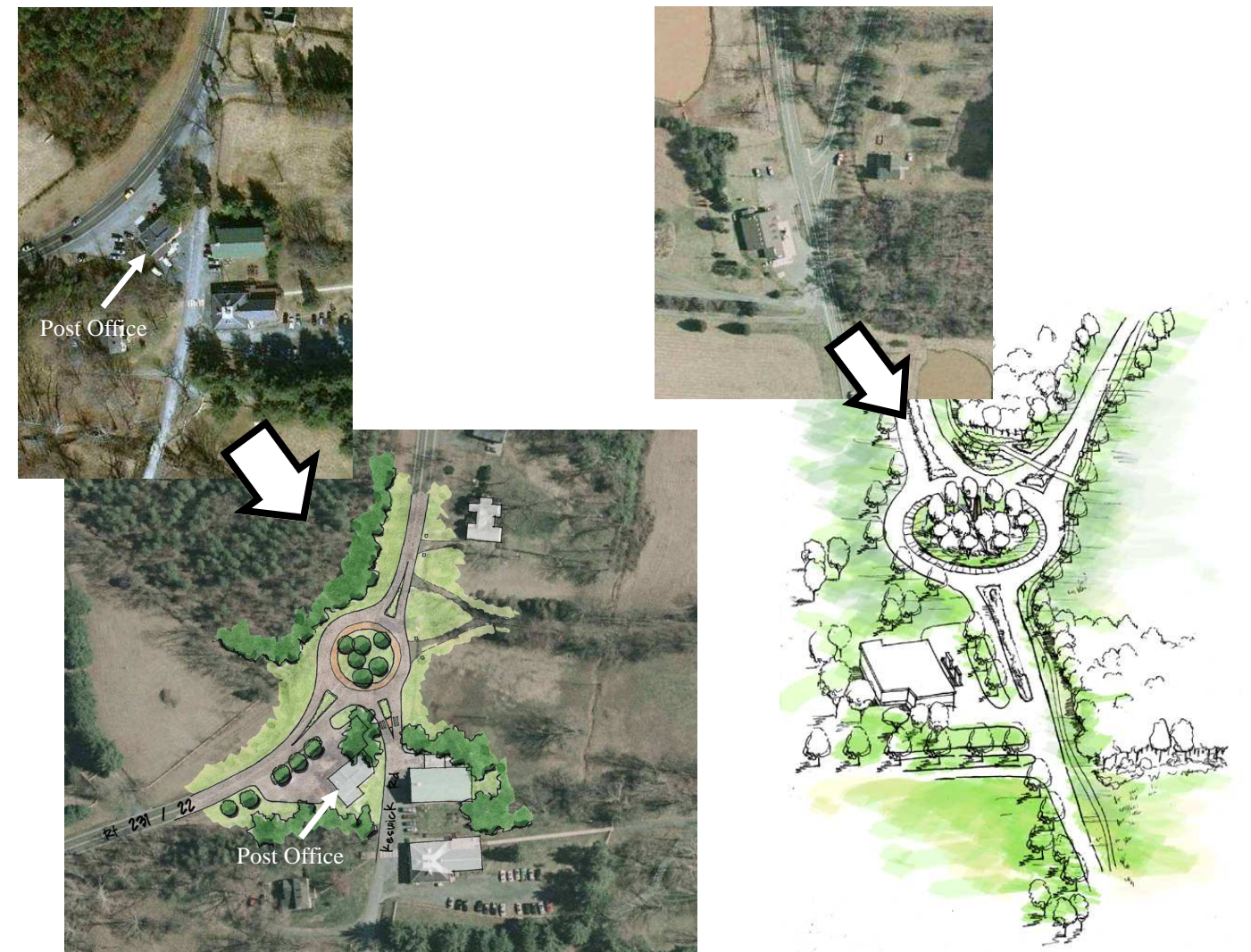


Actions Necessary:

- Requires VDOT approval and construction; working with private landowners to acquire Right of Way.

ROUNDAOBOUTS

Construct a series of modern roundabouts along the corridor. Modern roundabouts are circular intersections that, on entry and exit, bring vehicle speeds down to a safe 15 - 20 mph. Motorists entering the roundabout yield to vehicles already in the roundabout. Because traffic moves continuously through a roundabout, it is more efficient at moving traffic than a typical signalized intersection. Furthermore, roundabouts take up less space (no turn lanes are needed) and are safer than signalized intersections (i.e., fewer collisions and far fewer injuries and fatalities). The roundabouts suggested particularly at Keswick and Cismont would also function as landmarks or gateways to the area.



Keswick Post Office

Cismont

Actions Necessary:

- Requires VDOT approval and construction; working with private landowners to acquire Right of Way.