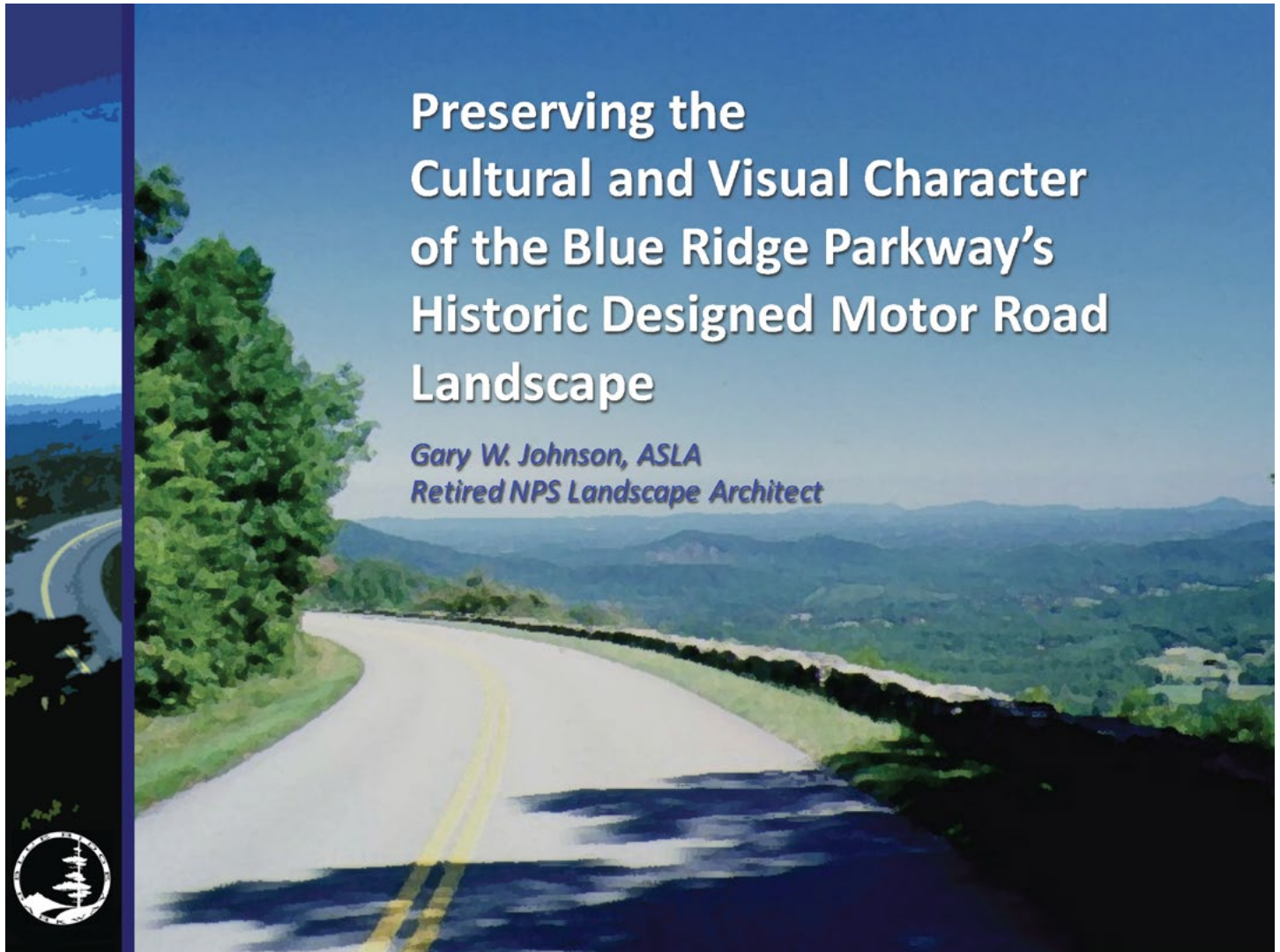


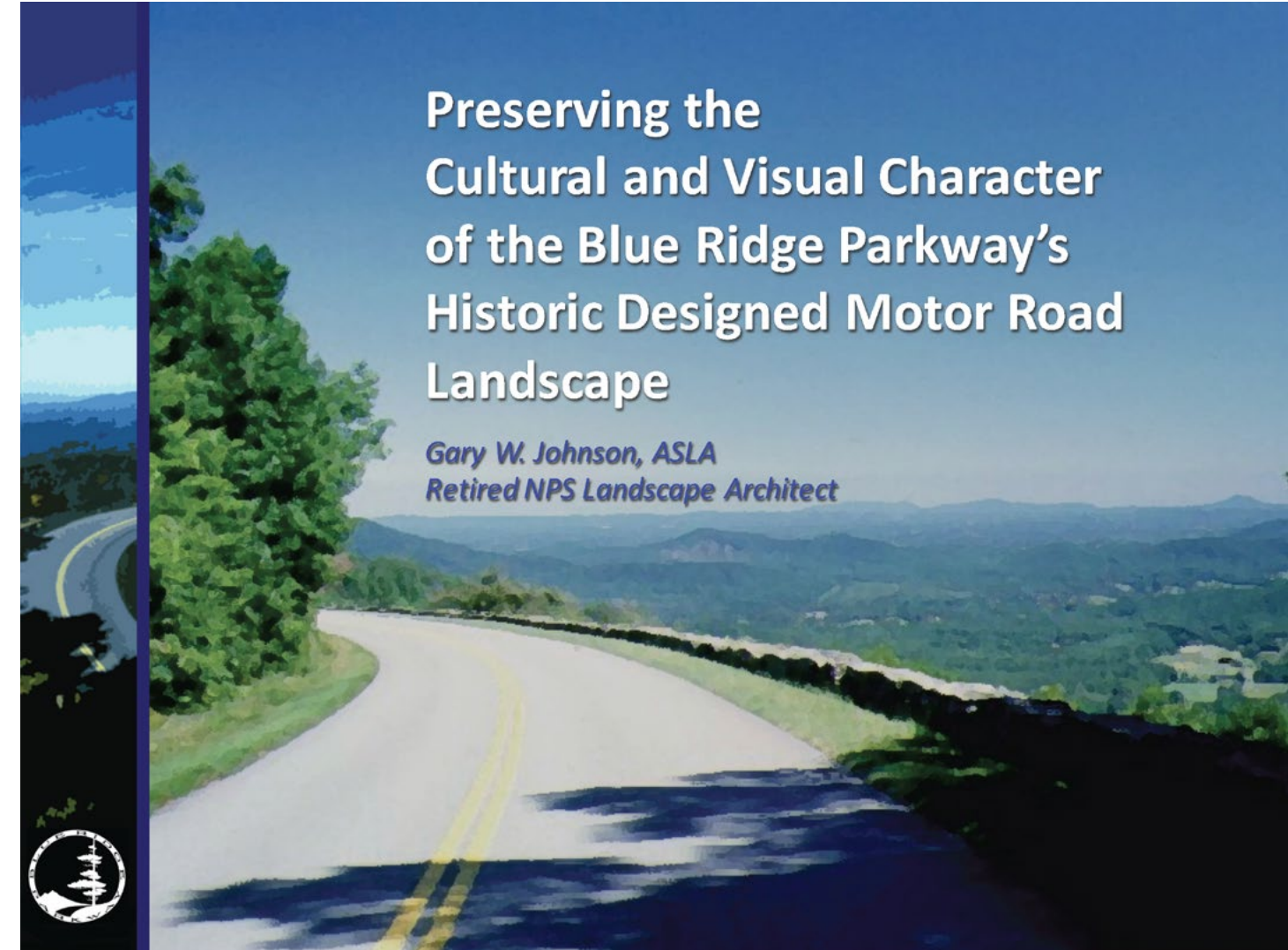
Preserving the Cultural and Visual Character of the Blue Ridge Parkway's Historic Designed Motor Road Landscape

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Preserving the Cultural and Visual Character of the Blue Ridge Parkway's Historic Designed Motor Road Landscape

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Abstract.—This paper presents a methodology for making decisions about highway safety barrier construction along the historic Blue Ridge Parkway. This methodology takes into account:

- The visual and historic character of the Parkway's roadside landscape.
- The ability of a particular roadside location to visually absorb a new or modified safety feature.
- The degree to which the historic landscape would be affected by proposed projects.

The process begins with a safety screening to determine if placement of a new or modified safety feature is needed. If so, a second step evaluates the proposed feature to determine the effect it would have on the Parkway's historic roadway landscape (The Jaeger Company 2008).

BLUE RIDGE PARKWAY CONTEXT

- 469 Miles in Length
- 2 States – Virginia and North Carolina
- 29 Counties – VA, 12 NC, 17



BLUE RIDGE PARKWAY CONTEXT

The Blue Ridge Parkway is an historic scenic roadway in the U.S. states of Virginia and North Carolina. It is 469 miles (755 kilometers) long, travels through five mountain ranges, and ranges in elevation from 600 to 6000 feet (183 to 1829 meters) above sea level. The roadway crosses nine major watersheds, five rivers and 29 counties.

The 85,000 acre Parkway right-of-way is home to over 100 species of trees, more than are found in all of Europe. There are 75 distinct plant communities including 24 that are considered globally rare and 7 that are globally imperiled.

A 1995 National Historic Landmark Theme Study by Ethan Carr that documented the Blue Ridge Parkway's importance as a cultural resource (National Park Service 1995) states:

- "...[A]s a surviving example of parkway design of the 1930's, the Blue Ridge Parkway is unparalleled."
- "The Blue Ridge Parkway—protected by the National Park Service and its relatively remote location—remains the most significant example of pre- and post-war automotive design with the greatest degree of integrity in the United States" (National Park Service 1995).

PRESERVING CULTURAL AND VISUAL CHARACTER, THE FUSION OF PROFESSIONS AND PRACTICES



PRESERVING CULTURAL AND VISUAL CHARACTER, THE FUSION OF PROFESSIONS AND PRACTICES

National Park Service (NPS) staff work collaboratively with the US Department of Transportation's Eastern Federal Lands Highway Division (EFLHD) to maintain the parkway. Together, they plan, design and implement safety improvements and projects that repair and/or replace the historic designed landscape/road features. The collaboration is interdisciplinary and involves cultural and visual resource management specialists, landscape architects, and highway safety and design engineers.

This partnership brings together two organizations with overlapping but somewhat different missions. Simply stated, the NPS wants to 'conserve' the Blue Ridge Parkway and the EFLHD wants to 'improve' it. As described in this Visual Case Study, this mission difference used to cause conflicts and frustration among project staff from both agencies. Potential additions and changes to the defining features of the Parkway's historic landscape eventually became a major project planning and compliance issue for the NPS (National Park Service 2009).

EFLHD PROPOSALS TO IMPLEMENT CURRENT DESIGN AND SAFETY GUIDELINES

All masonry guardwalls to meet current 27" height and crash-worthy concrete core material standards.



All blunt ends of structures within the clear zone of the roadway, such as bridge wingwalls, tunnel portals, and guardwalls, must be modified to protect motorists in the event of impact.



Improve performance of bridge decks and rails.



EFLHD PROPOSALS TO IMPLEMENT CURRENT DESIGN AND SAFETY GUIDELINES

In the mid-1990s the EFLHD management team established three major goals for projects on the Blue Ridge Parkway. First, all masonry guardwalls needed to meet 27" height and crash-worthy concrete core material standards. Second, all blunt ends of structures within the clear zone of the roadway, such as bridge wingwalls, tunnel portals and guardwalls, needed to be modified to protect motorists in the event of impact. Third, the performance of bridge decks and non-crashworthy bridge rails needed to be improved.

From safety and performance points of view, these appear to be very reasonable goals. However, from the perspective of conserving the historic designed motor road landscape, the sheer number of potential changes and additions was mind boggling to the NPS. Over 40,000 linear feet of stone masonry guardwalls would need to be rebuilt to include a concrete core wall and be a uniform height of 27 inches (69 cm). New guardrails would need to be installed at 352 bridges, 52 tunnel portals, and numerous roadside locations.

The Parkway motor road was designed and constructed to be an uninterrupted ribbon of asphalt pavement from milepost 0 to 469. Asphalt pavement was placed on all bridges until the late 1960s when some bridges had an exposed concrete deck. Under the EFLHD's proposed changes, an additional 150+ asphalt bridge deck surfaces would be converted to concrete. All of the bridges built before the 1950s had unique architectural style designs including bridge rail configurations that would require modifications.

UNDERSTANDING THE HISTORIC DESIGNED LANDSCAPE

- Major components
- Character defining features
- Landscape character areas
- Driver expectancy

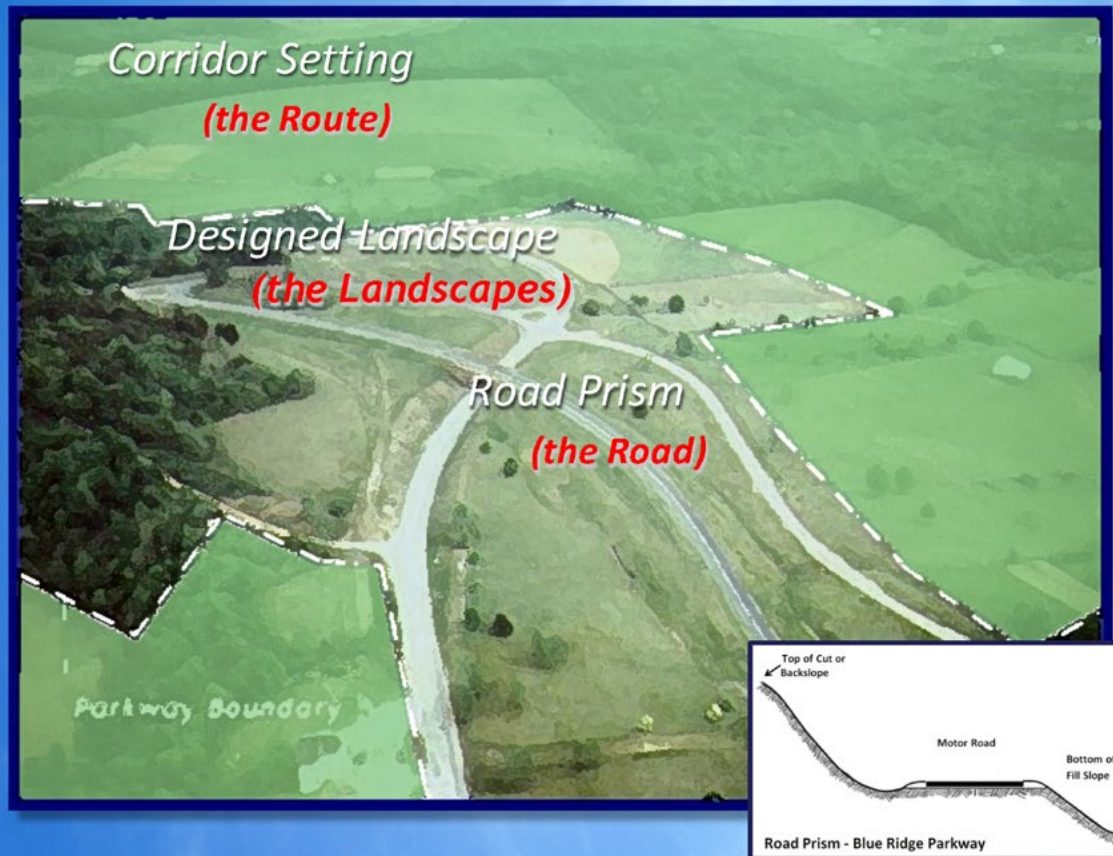


UNDERSTANDING THE HISTORIC DESIGNED LANDSCAPE

For park staff to work collaboratively with other agencies to preserve the Parkway's designed historic landscape, they had to explain the parkway as a cultural and visual resource. Through an inventory and analysis process, park landscape architects defined the parkway in terms of major components, character defining features, landscape character areas and driver expectancy (The Jaeger Company 2003).

UNDERSTANDING THE HISTORIC DESIGNED LANDSCAPE

- Major components



UNDERSTANDING THE HISTORIC DESIGNED LANDSCAPE

Major Components

Three major components define the Blue Ridge Parkway. The broadest is the "corridor setting" or the route of the Parkway. It encompasses the Central and Southern Appalachian Mountains for as far as the eye can see. The second component, the "designed landscape," lies within the established right-of-way boundary which averages 800 feet in width. The final component is the "road prism," which includes the motor road and landscape lying between the top of a cut back slope to the bottom of a fill slope (see inset, lower right in the figure above).

UNDERSTANDING THE HISTORIC DESIGNED LANDSCAPE

- **Character defining features**



Designed landscape *(the Parkway landscapes)*

- *Maintained vistas & overlooks*
- *Grass, shrub & wildflower bays*
- *Specimen plant materials*
- *Constructed water features*
- *Agricultural leases*
- *Rock cut/outcrops*



Road Prism *(the Parkway road)*

- *Motor road, bridges & tunnels*
- *Stabilized shoulders*
- *Drainage structures & masonry waterways*
- *Split rail fences, guard rails & guard walls*



Corridor Setting *(the Parkway route)*

- *The central and southern Appalachian Mountains*
- *Forested mountain and rural farm landscape scenery*
- *Privately and publicly owned lands*
- *Scenic easements*
- *Private and public roads*

UNDERSTANDING THE HISTORIC DESIGNED LANDSCAPE

Character Defining Features

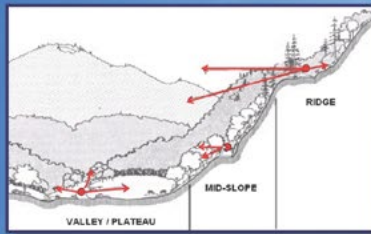
Each of the parkway's major components has different character defining features:

- •The designed landscape includes vistas and overlooks, specimen plant materials, and rock cuts and outcrops;
- •The road prism includes the roadway, bridges and tunnels, shoulders, fencing and guard walls;
- •The corridor setting includes the Appalachian Mountains, rural farm and forest scenery, and a mix of public and private lands.

Understanding this inventory of character defining features and where they occur is fundamental to knowing what may be affected by a proposed safety or design project.

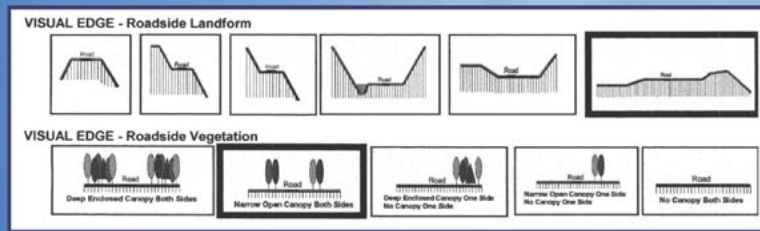
UNDERSTANDING THE HISTORIC DESIGNED LANDSCAPE

- **Cultural landscape character areas**

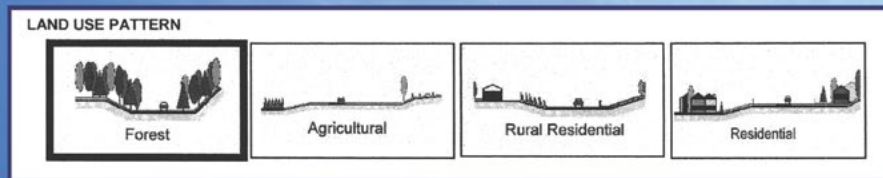


Cultural landscape character areas are defined by the three major components and their landscape factors.

Designed landscape – Motor road position



Road prism – Edge conditions



Corridor setting – Adjacent land use pattern

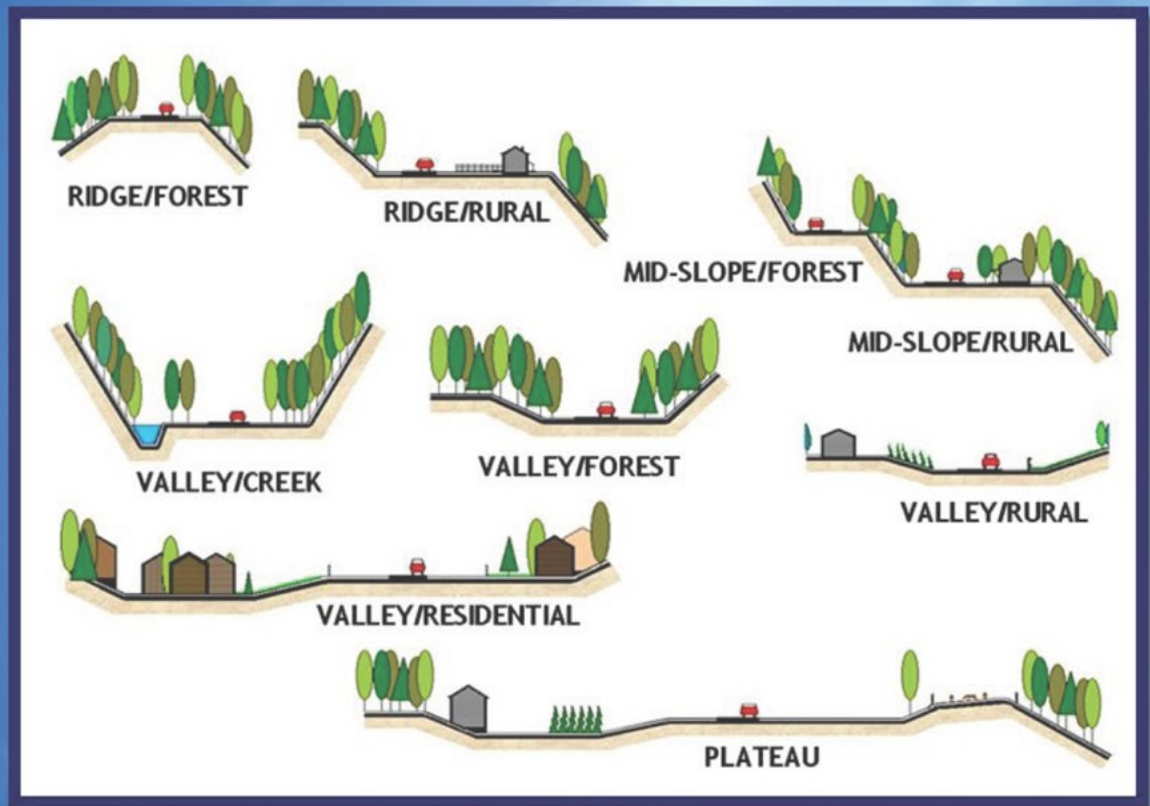
UNDERSTANDING THE HISTORIC DESIGNED LANDSCAPE

Cultural Landscape Character Areas

The three major components (designed landscape, road prism and corridor setting) also influence the visitor experience in different ways. The designed landscape may be part of a ridge, mid- slope or valley area on different parts of the parkway. The road prism defines the driving experience by its topographic and vegetative edge conditions. The corridor setting encompasses the land use adjacent to the parkway and influences the visitor's experience of scenery. The interplay of the component's landscape factors and character defining features ensures that the Blue Ridge Parkway is not a uniform driving experience from one end to the other.

UNDERSTANDING THE HISTORIC DESIGNED LANDSCAPE

Cultural landscape character areas



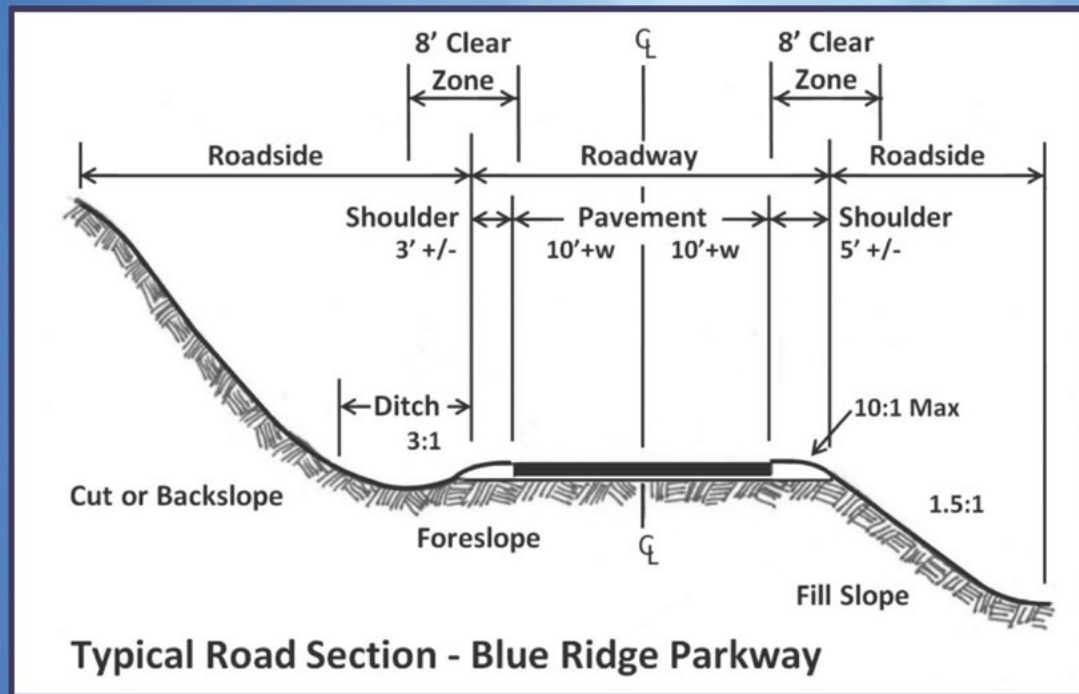
UNDERSTANDING THE HISTORIC DESIGNED LANDSCAPE

Cultural Landscape Character Areas

Nine cultural landscape character areas were defined for the Blue Ridge Parkway by mixing motor road landscape position, edge conditions and adjacent land use in various combinations. Visitors driving the Parkway for any distance would experience one or more of these:

- Ridge/forest;
- Ridge/rural;
- Mid-slope/forest;
- Mid-slope/rural;
- Valley/creek;
- Valley/forest;
- Valley/rural;
- Valley/residential; and
- Plateau.

DRIVER EXPECTANCY ON THE BLUE RIDGE PARKWAY



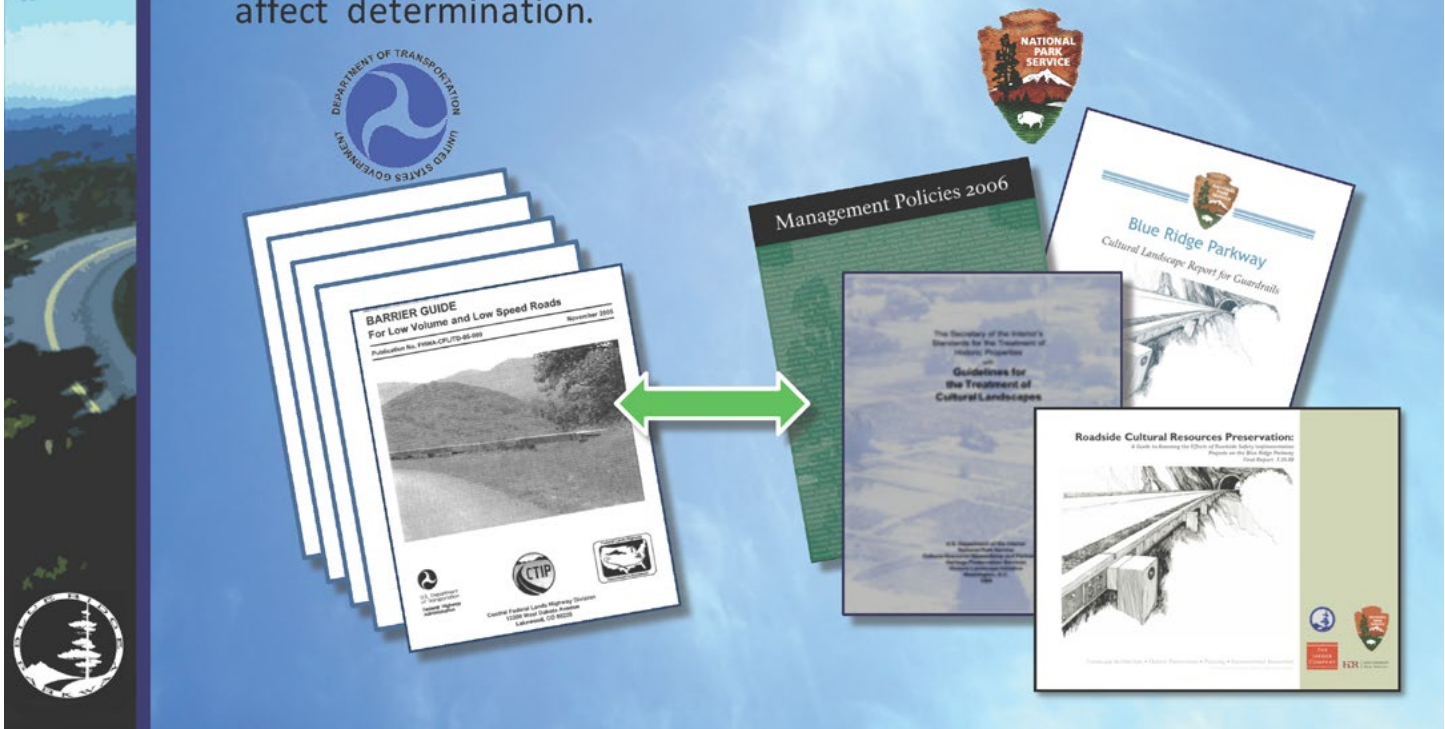
DRIVER EXPECTATIONS

Even though 460 miles of the Parkway were built one section at a time over 31 years with some changes in design standards, there still is a “sameness” to the nature of the road prism from one section to another. The following factors provide a consistent experience:

- Posted speed limit of 45 mph or less;
- Travel lane widths of at least 10 feet;
- Horizontal alignment of spiral curves with minimum radii of 716 feet or 8°;
- Vertical alignment with 10% maximum grades;
- Narrow road shoulders that average 3 to 5 feet (0.6 to 1.5 meters), 3:1 foreslopes, and 1.5:1 fill slopes;
- Fixed objects (bridge wing walls, guardwalls, tunnel portals) within the 8 foot (2.4 meter) clear zone;
- Steep unprotected open roadside embankments for vistas;
- Overlook parking areas;
- Undulating roadside vegetation edges.

PROPOSALS TO IMPLEMENT CURRENT DESIGN AND SAFETY GUIDELINES

There was NOT an agreed upon methodology for determining when current design or safety guidelines would be implemented or the means to make a qualitative adverse affect determination.



PROPOSALS TO IMPLEMENT CURRENT DESIGN AND SAFETY GUIDELINES

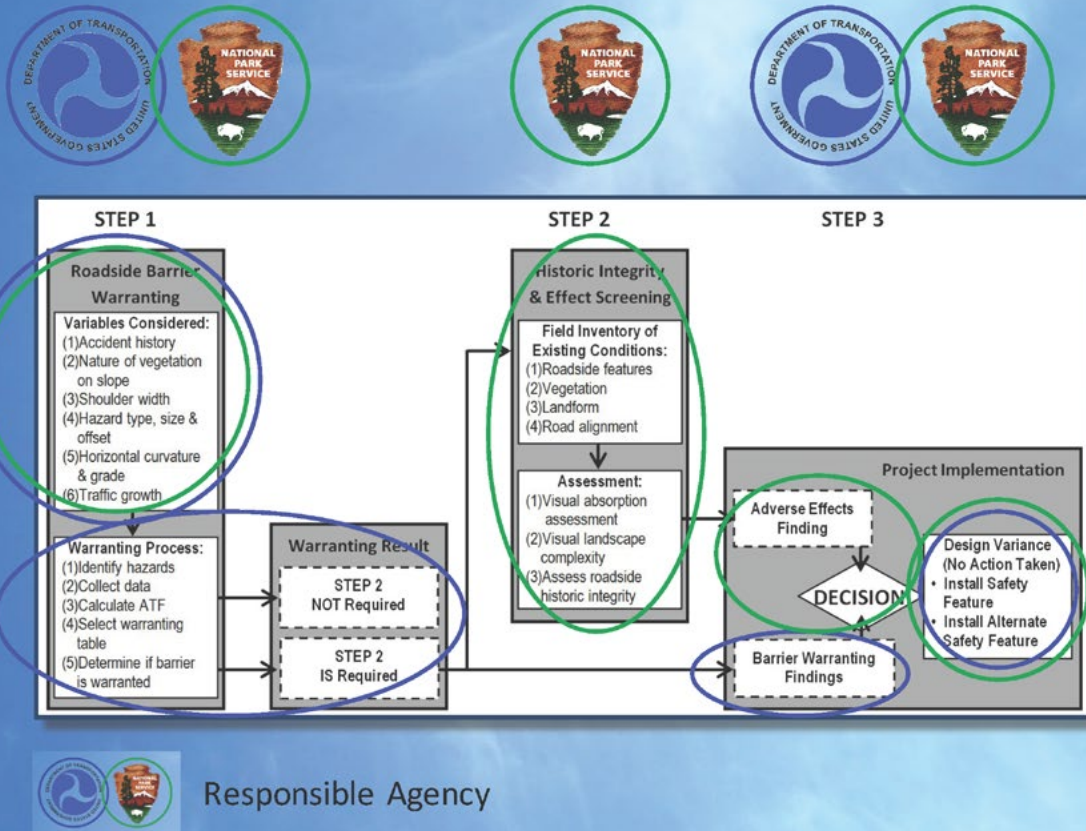
One of the problems in harmonizing goals between the NPS and EFLHD was that there was no agreed upon methodology for determining when current design or safety guidelines would be implemented and when exceptions would be made. NPS staff did not know how to effectively communicate their concerns about preserving the historic significance and visual integrity of the Parkway's landscape to EFLHD. NPS staff could not describe the undesired effects of installing roadside barriers or other safety requirements in a way that was meaningful to EFLHD.

NPS also needed a way to generate information for the National Historic Preservation Act Section 106 documentation whenever a project was proposed. To fill the methodology void, NPS Blue Ridge Parkway planning staff developed a methodology to assess roadside safety and evaluate screening of adverse effects (The Jaeger Company 2008).

They then contracted with The Jaeger Company, a landscape architectural and planning firm, to perform a peer review of the methodology. The peer review would determine the feasibility of merging visual resource assessment methods with historic integrity evaluation and determine if the resulting decision criteria would be effective and legally defensible (The Jaeger Company 2008).

The methodology was refined with EFLHD staff input during field meetings and reviews of the methodology document (National Park Service 2009).

ROADSIDE BARRIER WARRANTING AND ASSESSMENT OF ADVERSE EFFECTS SCREENING METHODOLOGY



SECTION I - ROADSIDE SAFETY AND EFFECT SCREENING PROCESS

The new methodology included steps for discussing and evaluating proposed new roadside barrier safety features along the Blue Ridge Parkway. The three step warranting, screening and decision making process will be described below and in upcoming slides (National Park Service 2009, Federal Highway Administration 2005).

Step 1: Roadside Barrier Warranting

During project scoping, EFLHD staff make a determination about whether or not a new safety feature is needed. EFLHD has the lead in this step while consulting with the NPS/BLRI staff. If a roadside barrier is warranted and proposed, then Step 2 is implemented.

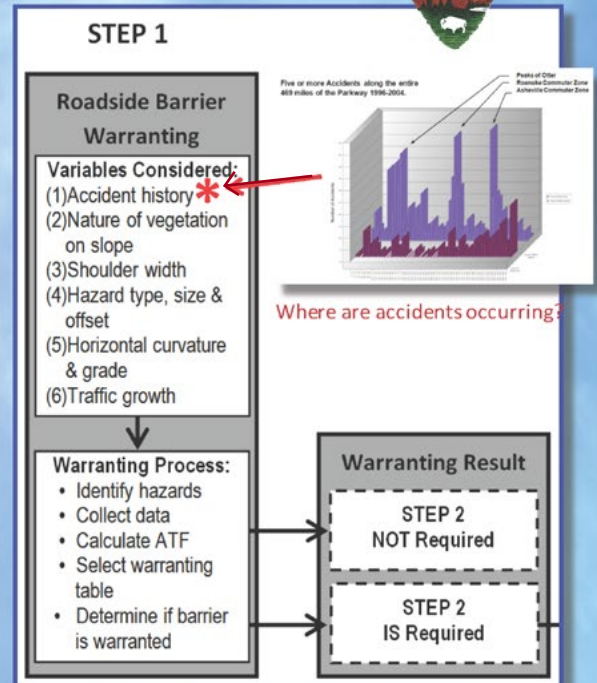
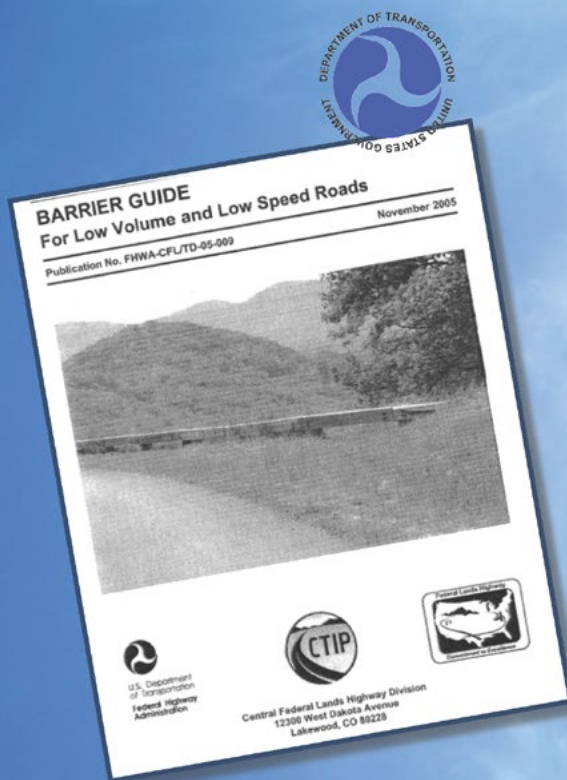
Step 2: Historic Integrity and Affects Screening

NPS staff evaluate the existing roadside conditions to determine the effects that the roadside safety feature would have on the Parkway's historic resources. Evaluation results are discussed with EFLHD staff.

Step 3: Project Implementation

The findings from Steps 1 and 2 are evaluated to determine if new barriers will be included in the project. Both NPS and EFLHD staff involved in scoping for Federal Lands Highway Projects participate in this step. The final determination on actions to be taken, including any mitigation measures, is a joint collaboration between the NPS and EFLHD; but ultimately, the final decision is the responsibility of the NPS.

STEP 1: ROADSIDE BARRIER WARRANTING



* Occurrence of accidents is a key criteria!

STEP 1: ROADSIDE BARRIER WARRANTING

The Blue Ridge Parkway is classified as a low speed (posted speed limits of 45 mph/72 kph or lower) and low volume (Average Annual Daily Traffic or AADT below 2,000) roadway. Therefore, roadside safety barriers are evaluated using the FLH Barrier Guide for Low Volume and Low Speed Roads (FHWA 2005). The process described in that manual uses the "Adjusted Traffic Factor" (ATF) formula that accounts for traffic growth, horizontal curvature and grade.

$ATF = AADT \times TG \times HC \times DG$ where

AADT = Annual Average Daily Traffic

TG = Traffic Growth

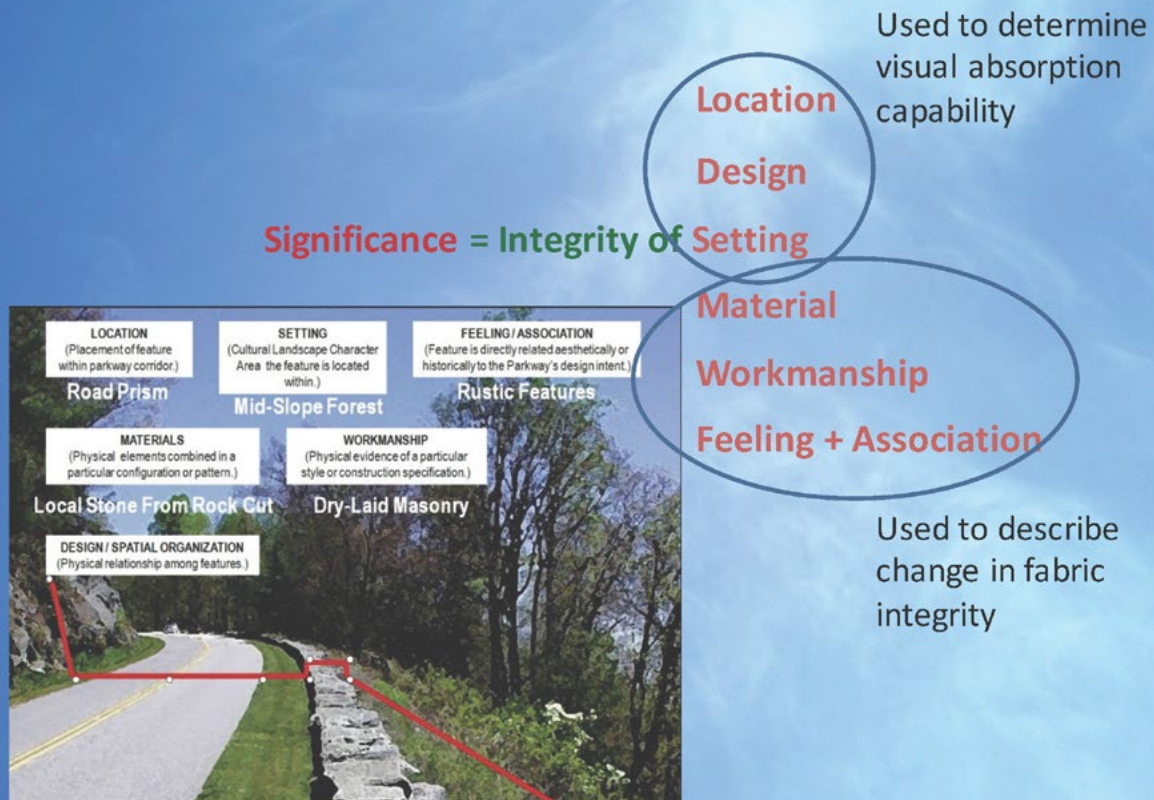
HC = Horizontal Curve

DG = Down Grade

Additional variables (see figure above) may also play a role in decisions about roadside barriers. Of these, NPS believes that Accident History is especially important and that accident free locations may not warrant new barriers unless there are other factors at play.

STEP 2: HISTORIC INTEGRITY AND EFFECTS SCREENING

National register significance criteria



STEP 2: HISTORIC INTEGRITY AND EFFECTS SCREENING

Thresholds of Change

Two threshold questions were selected to determine the degree to which a proposed change would affect the cultural landscape character of the area:

1. How much would the proposed new safety feature change the historic fabric and composition of the cultural landscape character area? (National Park Service 1998)
2. How much would the proposed new safety feature be visually compatible, and/or contrast with, the cultural landscape area's character-defining features?

National Register Significance Criteria

National Register criteria for evaluating changes to the historic fabric and composition of a landscape's character include location, design, setting, materials, workmanship, feeling and association. For new safety features, the specific criteria used for evaluating potential changes to the historic fabric include materials, workmanship, and feeling and association (National Park Service 1998).

Design (spatial organization) and setting evaluations are used to determine a landscape character area's ability to visually absorb a new feature.

STEP 2: HISTORIC INTEGRITY AND EFFECTS SCREENING

Historic character defining features and fabric Integrity and proposed change examples



STEP 2: HISTORIC INTEGRITY AND EFFECTS SCREENING

Proposed Change Examples

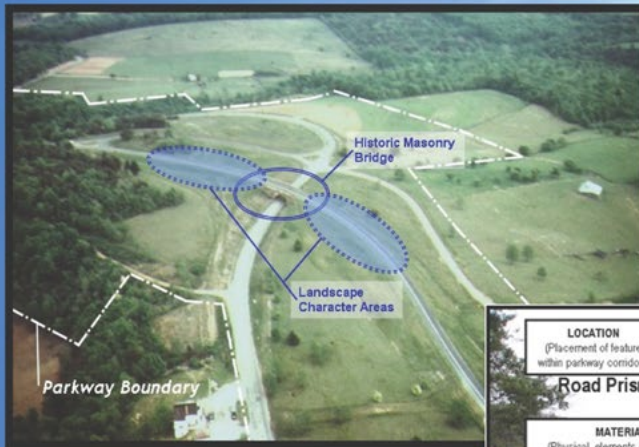
The figure above provides two examples of evaluating character defining features for adverse effects. The top two pictures show an existing historic concrete wingwall (Picture 1) and a proposed extension (Picture 2). This safety modification would be made without a change in materials or workmanship. While the wall would be longer, there is little apparent change in feeling or aesthetics. This proposed change would therefore not have an adverse effect on this character defining feature.

The bottom pictures show an existing historic guardwall (Picture 3) and a proposed guardwall design for the same location (Picture 4). The historic wall is dry-laid stone masonry averaging about 20 inches (51 cm) in height. The rock has horizontal veining. The proposed wall would have a concrete core faced with stone salvaged from the historic wall. It would be a minimum of 27 inches (69 cm) high.

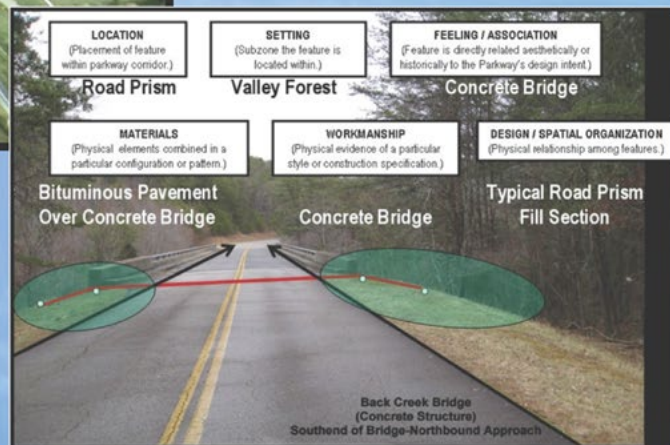
The proposed wall uses materials differently in that the rock would be split horizontally and then placed vertically on the concrete core wall. Workmanship differs in that the walls are no longer made of dry-laid stacked rock but have recessed mortared joints. The size and appearance of the stone faces differ greatly. The proposed wall has little of the historic appearance of the original wall. This proposed change would therefore have a major adverse effect on this character defining feature.

STEP 2: HISTORIC INTEGRITY AND EFFECTS SCREENING

Visual absorption and awareness of roadside



Setting and Design (Spatial Organization) are used to describe the visual character and complexity of the a cultural landscape character area.



STEP 2: HISTORIC INTEGRITY AND EFFECTS SCREENING

Visual Absorption and Awareness of Roadside

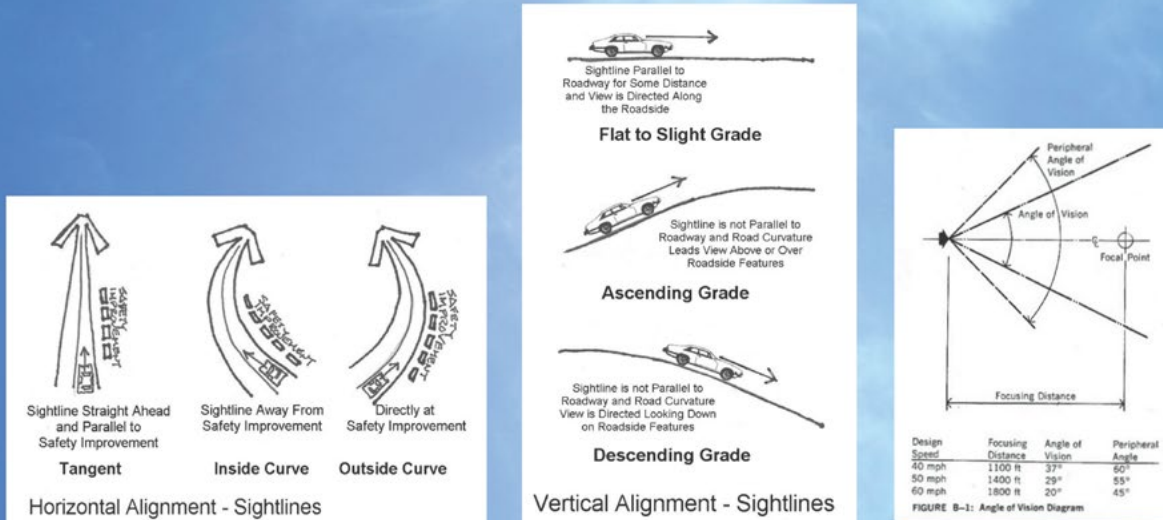
Before the cultural landscape character area's visual absorption can be determined, its historic integrity needs to be understood using the setting and design (spatial organization) criteria.

Setting is the physical environment of the cultural landscape, the surroundings and the way in which the focal feature in question is positioned or sited.

Design (Spatial Organization) includes the physical location of a roadside feature in relationship to landform (cut and fill slopes) on the approach side (the side from which it is approached by people on the roadway), presence of vegetation, and curvature of the roadway (both horizontally and vertically).

STEP 2: HISTORIC INTEGRITY AND EFFECTS SCREENING

Visual absorption and awareness of roadside



STEP 2: HISTORIC INTEGRITY AND EFFECTS SCREENING

Visual Absorption and Awareness of Roadside

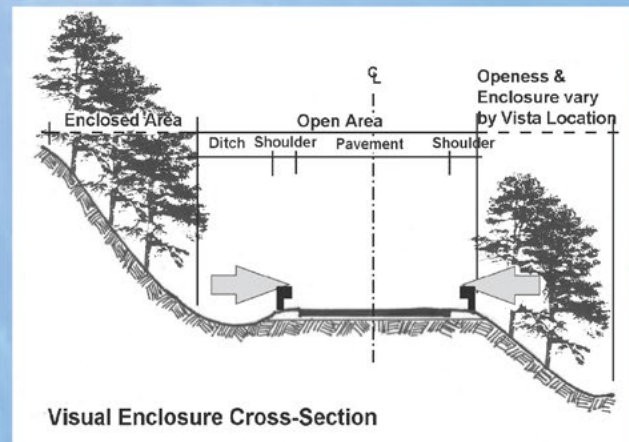
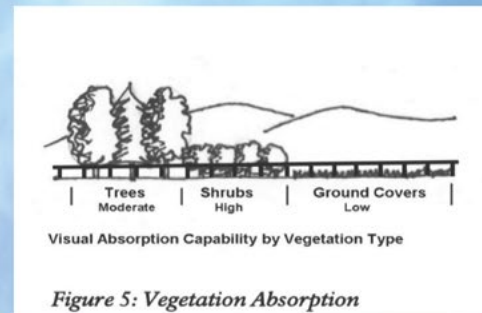
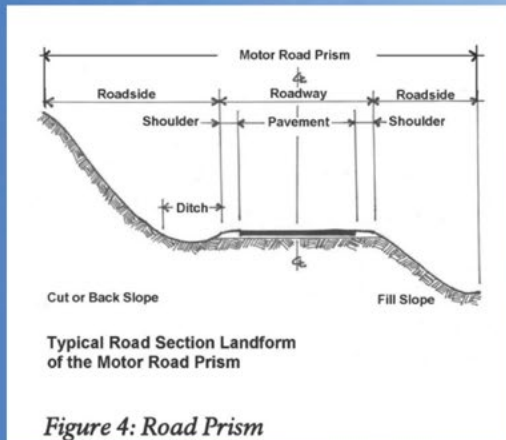
The ability of various landscape character areas to visually absorb changes is a function of how they are viewed (U.S. Forest Service 1995), which is determined by the roadway's vertical and horizontal alignment and the viewer's cone of vision.

The relationship between roadside features and the curvature of the roadway influence whether something placed along the road will visually dominate the view or attract attention. Tangent and inside curve horizontal alignments tend to de-emphasize the roadside directly adjacent to the travel lane and instead focus the viewer's attention beyond and away from roadside details.

Vertical alignment of a roadway also affects how roadsides are viewed. Views with little vertical curvature tend to emphasize roadside features because the viewer's sightline is parallel to the road surface near the vehicle and for some distance down the road. Vertical curvature where the alignment is ascending or descending tends to direct views farther down the road. Likewise, views are more focused on roadside features that are on an ascending or descending slope.

STEP 2: HISTORIC INTEGRITY AND EFFECTS SCREENING

Visual absorption and awareness of roadside



STEP 2: HISTORIC INTEGRITY AND EFFECTS SCREENING

Visual Absorption and Awareness of Roadside

Another component of a landscape character area's visual absorption is visual complexity. Visual complexity is defined by physical and visual attributes of the landforms and surface patterns of vegetation, colors and textures (U.S. Forest Service 1995).

Landform is the roadside cut or back slopes and fill slopes within the roadway prism. With a cut or back slope landform, the contrast of the safety feature is minimized because of the backdrop. However, a safety feature in the fill slope of a roadside is highlighted against the horizon because there is an absence of backdrop.

Typically the Parkway roadside has a combination of trees, shrubs and ground covers. The degree to which a safety feature is visually absorbed also depends on the type of vegetation on the roadside slope. The top right figure above shows the absorption capability of trees, shrubs and ground cover when a section of guardrail passes in front of each type of vegetation.

The roadsides with the most visual absorption capacity are those with a cut/back slope covered with a mix of trees, shrubs and ground covers. Safety features such as wooden guardrails with natural materials would contrast very little with the surrounding landscape in this type of setting. Fill slopes with little vegetation have the least visual complexity and therefore the least ability to absorb new roadside safety features of any design.

STEP 2: HISTORIC INTEGRITY AND EFFECTS SCREENING

Field inventory of existing conditions

FIELD INVENTORY FORM
 NAME: Nash Smith
 DATE: 2/14/08
 PARKWAY SECTION: 101
 MILE POST: 10.2
 SHEET: 1 OF 2

INSTRUCTIONS:
 Location Point of Assessment and draw existing roadside features (using key of symbols below) within the ROAD SHOULDER / ROADSIDE FEATURES section below. Views should be outlined with a heavy line.

LEGEND:

- ROADSIDE FEATURES:**
 - BRIDGE
 - TUNNEL
 - GUARDRAIL
 - GUARDRAIL
- VEGETATION:**
 - DENSE VEGETATION ABOVE 2' (20% - 100% Open)
 - SPARSE VEGETATION ABOVE 2' (20% - 50% Open)
 - ALL VEGETATION LOWER THAN 2'
- LANDFORMS:**
 - CUT SLOPE
 - FILL SLOPE
- VERTICAL ROAD ALIGNMENT:**
 - PEAK OR CREST (Ascending or Descending)
 - LESS THAN 2% (Flat)
- HORIZONTAL ROAD ALIGNMENT:**
 - INSIDE CURVE
 - OUTSIDE CURVE
 - STRAIGHT
- POINT OF ASSESSMENT:**
 - NAME WITH AN 'X' ON ROADWAY
- PHOTO LOCATIONS:**
 - NAME WITH AN 'X' AND PHOTO NUMBER ALONG CENTRELINE OF ROADWAY

PHOTOS SHALL BE TAKEN AT 100' INTERVALS BEGINNING 500' BEFORE THE BEGINNING OF PROJECT AREA AND EXTENDING 500' BEYOND THE PROJECT AREA AND ALSO AT EACH POINT OF ASSESSMENT.

STEP 2: HISTORIC INTEGRITY AND EFFECTS SCREENING

Step 2 of the historic integrity and effects screening evaluation process includes completing the field inventory of existing conditions. The assessor photographs view locations and documents existing roadside features, vegetation and landform edges, and vertical and horizontal road alignments.

STEP 2: HISTORIC INTEGRITY AND EFFECTS SCREENING

Analysis – visual edge complexity and driver attention

VISUAL ABSORPTION ASSESSMENT WORKSHEET			
Horizontal Alignment		Landform	
1	2	1	2
Directly at safety feature	Straight ahead and parallel to safety feature	Cut / fill - roadside feature is backlit, cut slope directs attention to new roadside feature	Fill / fill - roadside feature is backlit
subtotal		subtotal	
2		3	
Vertical Alignment		Landform	
1	1	3	3
3% or greater - sightline is not parallel to roadway and road alignment leads view to expansive view of roadside features	Less than 3% - Sightline is not parallel to roadway and road alignment leads view to expansive view of roadside features	Fill / cut - roadside feature is absorbed against cut slope, fill slope directs view from roadside feature	Cut / fill - roadside feature is absorbed against cut slope, fill slope directs view from roadside feature
subtotal		subtotal	
3		3	
Vegetation		Landform	
1	2	1	1
All vegetation lower than 2 feet	Sparse vegetation above 2 feet (10-50% opaque)	Fill / cut - roadside feature is backlit, cut slope directs attention to new roadside feature	Fill / fill - roadside feature is backlit
subtotal		subtotal	
1		3	
RATING		TOTAL	
4 - 6: LOW LEVEL OF ABSORPTION 7 - 9: MODERATE LEVEL OF ABSORPTION 10 - 12: HIGH LEVEL OF ABSORPTION		9	

STEP 2: HISTORIC INTEGRITY AND EFFECTS SCREENING

Analysis – Visual Edge Complexity and Driver Attention

Information gathered during the field inventory is used to assess the ability of landscape in the project area to visually absorb a new safety feature.

Horizontal and vertical alignment, vegetation, and landform conditions are rated in the example shown above. This site location has an overall rating of 9 which indicates a moderate level of absorption capability.

STEP 2: HISTORIC INTEGRITY AND EFFECTS SCREENING

Effects Matrix – guardwall rehabilitation project

Consideration	Barrier would be a major adverse effect if:	Barrier would be a moderate adverse effect if:	Barrier would be a minor adverse effect if:
Level of integrity of landscape features & spatial organization	High to moderate historic integrity of resources	Moderate to low historic integrity of resources	Low historic integrity of resources
Alteration of historic fabric—materials, workmanship or feeling/aesthetics	Major to moderate alteration of historic fabric	Moderate to minor alteration of historic fabric	Minor to no alteration of historic fabric
Visual absorption capability of landscape setting	Landscape has low absorption capability	Landscape has low to moderate absorption capability	Landscape has moderate to high absorption capability
Impact mitigation	Barrier would not be installed— <i>safety variance utilized and low impact mitigation treatment may be installed</i>	Barrier may be installed— <i>if so measures identified in MOA or PA to minimize or mitigate adverse impacts would be implemented</i>	Barrier would be installed— <i>addition is deemed visually compatible with landscape</i>

STEP 2: HISTORIC INTEGRITY AND EFFECTS SCREENING

Effects Findings – Visual Absorption Capability

The matrix above summarizes the effects findings for a sample project. It combines the historic resource assessment and the assessment of the project area's ability to absorb a new feature.

This matrix does not provide a clear and concise outcome but instead helps frame the discussion about the proposed project.

Design variance for the guardwall rehabilitation project

[illegible]

STEP 3: FINDINGS EVALUATION & DECISION:

In this decision making step, the Step 1 warranting data for the roadway, traffic, potential hazard, crash history, and other issues are weighed against the potential adverse effects identified in Step 2. Once this step is completed, the following should be considered if a new safety feature is recommended:

- Creative options should be used to uphold the design philosophy of the Parkway.
- The new safety feature need not be disguised as an original part of the structure in terms of materials, style of construction, color, texture, etc. but should be visually compatible.
- Materials should be evaluated for their ability to fit into the surrounding landscape and designed so that the feature is visually absorbed by landforms or vegetation.
- When historic accident data does not suggest a contributing site problem but a new safety feature is needed, a design variance can be considered.
- A “mock up” section of the new safety feature should be constructed, tested and approved before full construction whenever a new type of safety feature is to be installed, an unusual site condition exists, or the roadside’s visual absorption capability needs to be evaluated.
- Designers should participate during construction.
- Design alternatives should be considered on a case by case basis. One size does not fit all in this case, so there should be no standard solutions for all features and settings.
- Safety mitigation requires abstract thinking and taking the value of the scenic landscape into consideration.

CONCLUSION

The conversation about implementing modern design and safety guidelines on a historic road involves very different professional perspectives, expertise and vocabularies. Every Blue Ridge Parkway project review considers engineering criteria for a safety or design change, the historic integrity of the Parkway's roadway landscape and features, and the visual quality of the visitor's experience. Before the methodology described in this Visual Case Study was developed, there was no agreed-on process or standardized vocabulary to organize the conversations about these projects. The two-step process for combining roadside safety assessments and determining the possible effects of proposed changes filled this gap. This methodology can be used effectively to assess a particular roadside location's ability to visually absorb a new safety or design feature. It also provides a way to evaluate adverse effects to more precisely determine the degree to which a historic landscape would be influenced by proposed changes. As applied, the procedures lead to more informed decision making.

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