Appendix I

SR-66 Visual Impact Assessment
Technical Memorandum

STATE ROUTE 66

From State Route 34 (US-11E, Andrew Johnson Highway) in Bulls Gap to Near Speedwell Road/Old Highway 66, Hawkins County, Tennessee

PIN 107579.00, Federal Project #: STP-66(38)

Appendix I: SR-66 Visual Impact Assessment Technical Memorandum

April 2025

TN TDOT Department of Transportation

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1. Introduction

The Tennessee Department of Transportation (TDOT), in cooperation with the Federal Highway Administration (FHWA), proposes to widen and realign State Route (SR) 66, from the intersection with SR-34 (US-11E, Andrew Johnson Highway) in the Town of Bulls Gap to near the intersection with Speedwell Road/Old Highway 66, in Hawkins County.

Because the proposed project involves the use of federal funds, the project is subject to the requirements of the National Environmental Policy Act (NEPA).[1] TDOT and FHWA are preparing an Environmental Assessment (EA) in accordance with the NEPA to identify and evaluate the environmental effects of the proposed project and to identify measures to minimize harm.

2. Alternatives Under Consideration

A No-Build Alternative and one Build Alternative are being evaluated in the EA. Each alternative is described in the subsequent text below.

2.1. No-Build Alternative

The No-Build Alternative has been retained for detailed study and serves as a benchmark for comparison against the Build Alternative. The No-Build Alternative would retain the existing state route and roadway configuration throughout the SR-66 project area except for those modifications to the roadway network that have been programmed and approved for implementation, as identified in TDOT's 25-Year Long Range Transportation Policy Plan,[2] State Transportation Improvement Program (STIP),[3] and the TDOT 10-Year Project Plan[4] and would allow for routine maintenance and safety upgrades.

[1] *https://www.govinfo.gov/content/pkg/COMPS-10352/pdf/COMPS-10352.pdf*

[2] *https://www.tn.gov/tdot/long-range-planning-home/25-year-transportation-policy-plan.html*

[3] *https://www.tn.gov/tdot/program-development-and-administration-home/program-development-and-administration-state-programs.html*

[4] *https://www.tn.gov/tdot/build-with-us.html*

2.2. Build Alternative

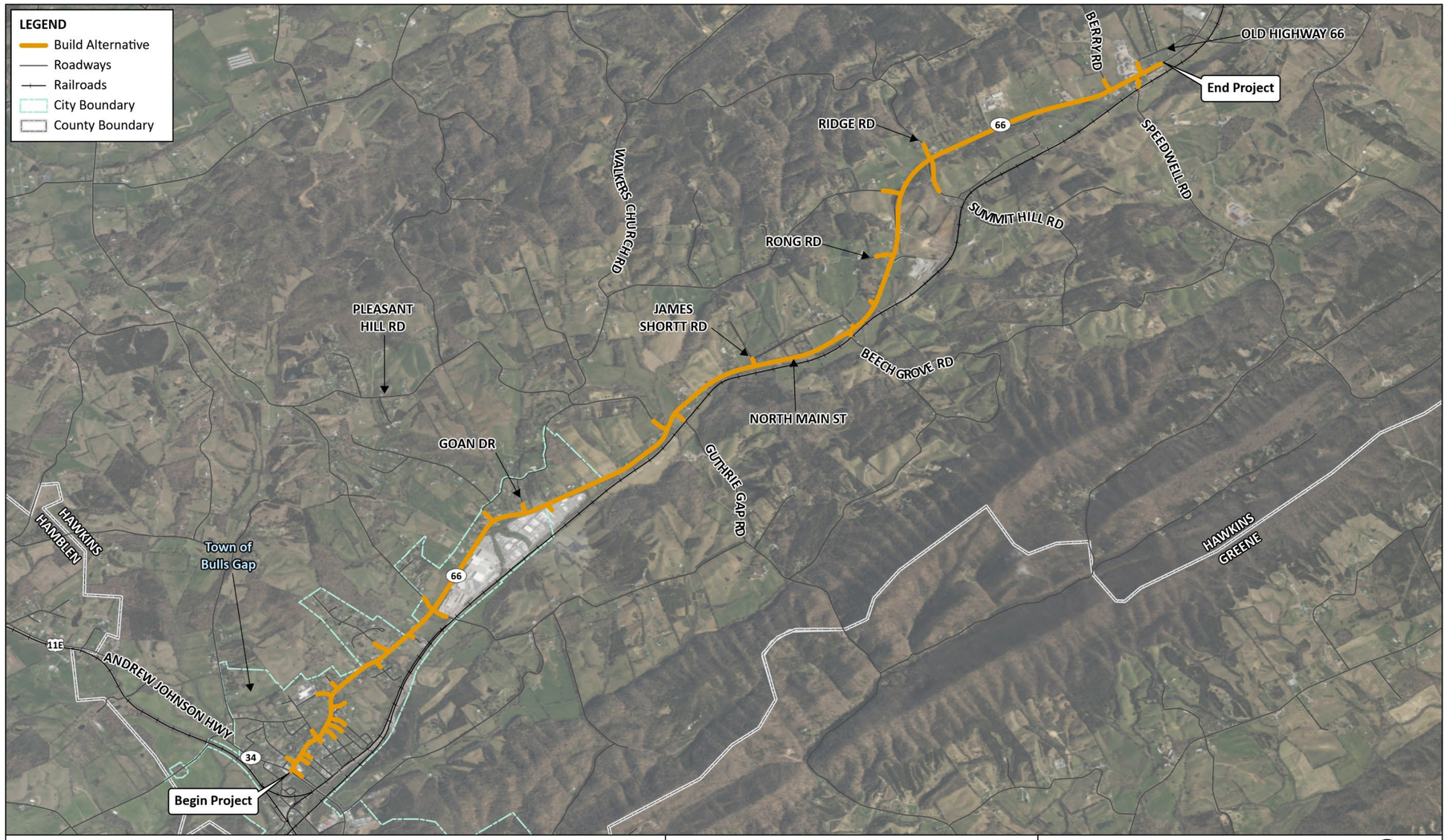
According to the Right-of-Way Plans (dated August 9, 2024),[5] which serve as the basis of the EA, the Build Alternative would generally follow the existing SR-66 roadway alignment, except in locations where minor alignment shifts are needed to correct roadway geometric deficiencies. The Build Alternative would also widen the existing two-lane roadway configuration (which currently consists of one 10-foot-wide lane in each direction) to include the following (see **Figure 1**):

- Two 12-foot travel lanes (one travel lane in each direction) and paved shoulders four- to ten-feet in width.
- An intermittent 12-foot-wide two-way left-turn lane from SR-34 (US-11E, Andrew Johnson Highway) to north of Goan Drive and from north of Berry Road to near Speedwell Road/Old Highway 66.
- Five-foot wide sidewalks from SR-34 (US-11E, Andrew Johnson Highway) to north of Goan Drive.
- Intermittent curb and gutter.
- Guardrail, as required.

Once completed, the Build Alternative would provide a consistent typical section along SR-66 from SR-34 (US-11E, Andrew Johnson Highway) to the county seat of Rogersville, as well as provide a link from Rogersville to Interstate 81 (I-81). The total proposed project length is approximately 5.70 miles.

[5] *Please see **Appendix C** of the EA for a copy of the Right-of-Way Plans (dated August 9, 2024).*

Figure 1: Project Location Map



3. Focus of this Technical Memorandum

This technical memorandum identifies an Area of Visual Effect (AVE) for the proposed project and assesses the existing visual conditions, including the project setting, landscape units, and viewer sensitivity within the AVE. This technical memorandum also includes photographic simulations showing the future visual conditions of the SR-66 project area. Furthermore, this technical memorandum evaluates roadway visibility and impacts to visual quality under the Build Alternative and provides an estimated impacts determination for both the No-Build and Build Alternatives.

4. Visual Impact Assessment Process

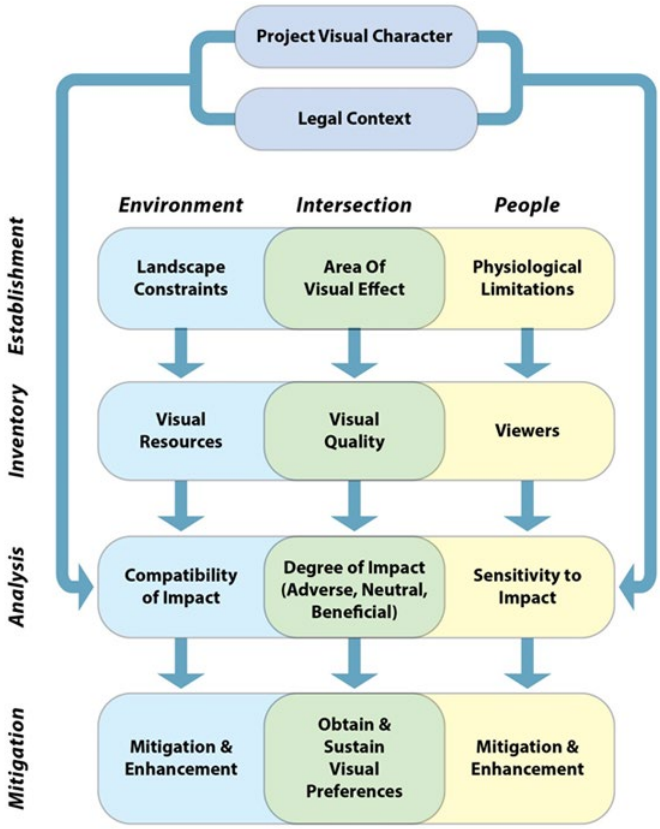
This technical memorandum follows the methodology and terminology outlined in *Guidelines for the Visual Impact Assessment of Highway Projects*,[6] published by FHWA in January 2015. The project's visual character is a broad term that encompasses the environment, the people, and their intersection and is evaluated using the process outlined in **Figure 2**. This process involves four phases, the establishment phase, the inventory phase, the analysis phase, and the mitigation phase.

During the initial phase, the establishment phase, the FHWA Visual Impact Assessment Scoping Questionnaire (see **Attachment 1**) is used to determine the appropriate level of assessment, define the boundary of potential visual effects, and outline the methodology for the visual effects analysis. Then during the inventory phase, the visual quality, or what people like or dislike seeing, is described based on the environment perceived by the viewers, both from the perspective of users of the roadway and adjacent populations that can see the roadway.

The analysis phase identifies the degree of impact, which is based on the compatibility of the visual change and the viewer's sensitivity to impact. Finally, during the mitigation phase, potential mitigation measures are recommended to reduce adverse visual effects.

[6] *https://www.environment.fhwa.dot.gov/env_topics/other_topics/VIA_Guidelines_for_Highway_Projects.aspx*

Figure 2: Visual Impact Assessment Process[7]



5. Background

NEPA was established, in part, to *"assure for all Americans safe, healthful, productive, and aesthetically and culturally pleasing surroundings."*[8] Under NEPA, some classes of action require federal agencies to undertake an assessment of the environmental effects of their proposed actions prior to making decisions. Visual impacts are included among those environmental effects.

Various federal, state, and local laws and programs deal with areas throughout the country that have been recognized for their scenic values, including:

- Federal-aid Highway Act of 1970[9]
- National Scenic Byways Program[10]
- National Scenic Areas[11]

[7] https://www.environment.fhwa.dot.gov/env_topics/other_topics/VIA_Guidelines_for_Highway_Projects.aspx

[8] https://www.fsa.usda.gov/Internet/FSA_File/nepa_statute.pdf

[9] https://www.govinfo.gov/content/pkg/STATUTE-84/pdf/STATUTE-84-Pg1713.pdf

[10] https://fhwaapps.fhwa.dot.gov/bywaysp

[11] https://uscode.house.gov/view.xhtml?path=/prelim@title16/chapter2/subchapter2&edition=prelim

- Wild and Scenic Rivers Act[12]
- National Trails System Act[13]
- National Monuments[14]
- National Historic Preservation Act[15]
- Section 4(f) of the U.S. Department of Transportation (DOT) Act of 1966[16]
- Section 6(f) of the Land and Water Conservation Fund (LWCF) Act of 1965[17]
- Local zoning ordinances and historic overlay districts[18]

6. Methodology

This section outlines the methodology that was used to complete the visual impact assessment for the proposed project described in this technical memorandum. This methodology consisted of the identification of an AVE for the proposed project and a desktop review of the existing conditions within the AVE, including the identification of landscape units and visually sensitive resources within the AVE. This desktop review was also supplemented by a field review of the existing conditions within the AVE, conducted in October 2024. Viewpoints were then selected to develop photographic simulations of the existing and future conditions under the Build Alternative. Additionally, Geographic Information Systems (GIS) were used to model the existing and proposed viewsheds within the AVE. This section also includes a description of how visual impacts were evaluated. The results of the visual impact assessment can be found in **Section 8.**

6.1. Area of Visual Effect

The *Guidelines for the Visual Impact Assessment of Highway Projects* (FHWA, 2015) specify that visual impacts should be assessed within a given project's AVE, which is defined as the area of project visibility. Based on topography, field review, and data availability, the AVE was defined as the area within a half-mile of the Build Alternative.

6.2. Identification of Landscape Units

The *Guidelines for the Visual Impact Assessment of Highway Projects* (FHWA, 2015) emphasize the definition of landscape units, which are geographic areas within which impacts to visual character, viewer response, and visual quality are assessed. Each landscape unit has a distinct visual character, which is influenced by the predominant land use as well as the natural environment (including topography and vegetation) and the cultural environment (including the density, scale, and style of

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[12] *https://www.govinfo.gov/content/pkg/COMPS-1758/pdf/COMPS-1758.pdf*

[13] *https://www.nps.gov/subjects/nationaltrailssystem/upload/National-Trails-System-Act-Amended-2019.pdf*

[14] *https://www.nps.gov/subjects/archeology/national-monument-facts-and-figures.htm*

[15] *https://www.achp.gov/sites/default/files/2018-06/nhpa.pdf*

[16] *https://www.govinfo.gov/content/pkg/STATUTE-80/pdf/STATUTE-80-Pg931.pdf*

[17] *https://www.govinfo.gov/content/pkg/STATUTE-78/pdf/STATUTE-78-Pg897.pdf*

[18] *See the SR-66 Land Use, Farmland, and Transportation Infrastructure Technical Memorandum included in* ***Appendix D*** *of the EA.*

predominant architecture). Landscape units within the AVE were identified based on review of planning and land use documents and maps, aerial photography, and site visits. Landscape units identified for the proposed project are outlined in **Section 7.2**. For more information on the review of land use information, see the SR-66 Land Use, Farmland, and Transportation Infrastructure Technical Memorandum included in **Appendix D** of the EA.

6.3. Identification of Visually Sensitive Resources

The *Guidelines for the Visual Impact Assessment of Highway Projects* (FHWA, 2015) include protective measures for the following visually sensitive resources:

- **Scenic byways:** Roads designated through the National Scenic Byways Program as exemplifying at least one of six "intrinsic qualities": scenic, historic, recreational, cultural, archaeological, or natural.
- **National scenic areas:** Designated National Scenic Areas are established under individual acts of Congress to protect and enhance the scenic, natural, cultural, and recreational qualities of these designated areas.
- **Wild and scenic rivers:** Rivers protected under the Wild and Scenic Rivers Act of 1968 which with their immediate environments possess outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar values.
- **National scenic trails:** National scenic trails are designated by the National Trails System Act as providing for maximum outdoor recreation potential and for the conservation and enjoyment of the nationally significant scenic, historic, natural, or cultural qualities of the areas through which such trails may pass.
- **National monuments:** National monuments are established by Presidential Proclamation under authority granted the President by the Antiquities Act of 1906 (16 U.S. Code § 431).[19]
- **Historic properties:** Properties included in, or eligible for listing in, the National Register of Historic Places (NRHP) under the National Historic Preservation Act.
- **Section 4(f)/Section 6(f) properties:** Properties protected under Section 4(f) of the U.S. DOT Act of 1966 or properties that are protected under Section 6(f) of the LWCF Act of 1965.

[19] *https://www.law.cornell.edu/uscode/text/16/chapter-1/subchapter-LXI*

6.4. Field Review

Existing conditions and visibility for locations throughout the AVE were documented and photographed during a site visit in October 2024. Photographs (included in **Figure 5**) were taken to document representative views of existing conditions and views of the proposed project from diverse visual settings within the AVE.

6.5. Viewpoint Selection

Viewpoints were selected to provide representative views of the existing visual environment and analyze potential viewshed changes that would result from construction of the Build Alternative. As shown in **Figure 3**, five viewpoints were selected, which were located along the entirety of the Build Alternative, encompass each of the identified landscape units, and depict a range of the proposed typical sections of the Build Alternative as discussed in **Chapter 2** of the EA.

6.6. Photographic Simulations

Photographic simulations, also referred to as visualizations, from each of the five viewpoints were developed using photographs of existing conditions and SketchUp, a 3D modeling software. These visualizations illustrate anticipated visual changes associated with the Build Alternative.

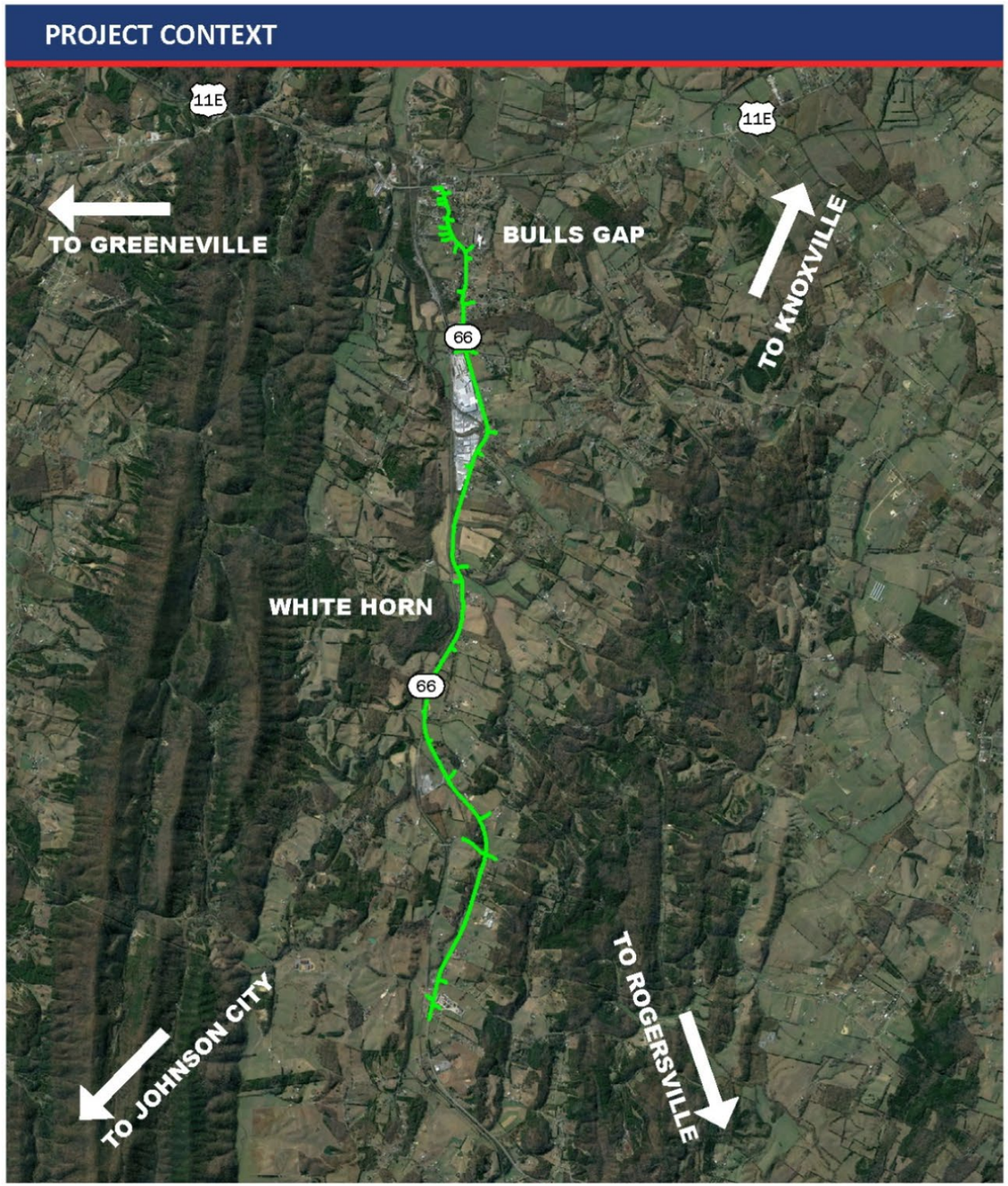
6.7. Viewshed Analysis

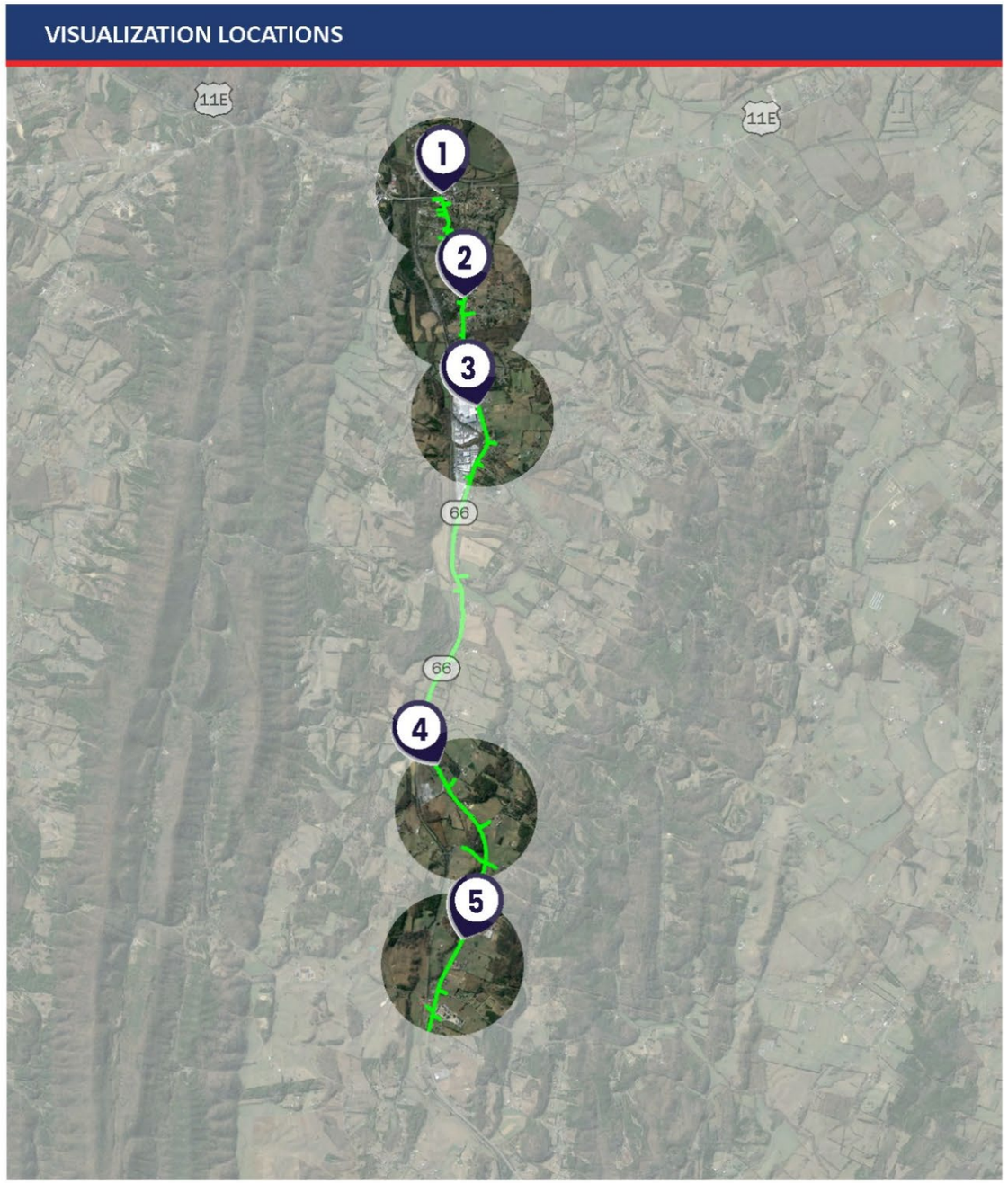
GIS was used to model the existing and proposed viewsheds within the AVE. The viewshed analysis provides an approximate illustration of the areas where a viewer cannot see any roadway in any direction and the areas where a viewer can see a roadway in at least one direction under existing conditions and under the Build Alternative.

The viewsheds were developed by creating a network of points in GIS along the existing roadways and the roadways proposed as part of the Build Alternative. Points were placed at all intersections and near any existing structures. There was at least one point at the beginning, middle, and end of each roadway segment, and points were placed no further than one-half mile apart. An assumed viewer height of six feet was used, which overestimates the typical viewing height for pedestrians and is representative of the eye-level height of drivers and passengers from taller vehicles (e.g., pick-up trucks, SUVs). The observed features (i.e., the roadway) were assumed to be at ground level in peak daylight, clear weather, and winter seasonal conditions, meaning the lowest possible foliage and highest visibility.

With an AVE of this size, it is not possible within GIS to have an observation point at every location along the existing and proposed roadway network. The viewshed analysis included over 290 observation points across approximately 4,410 acres. Actual visibility results may vary from the model depending on observation location, time of day, weather conditions, and seasonality.

Figure 3: Viewpoints for Visualizations





6.8. Visual Impact Evaluation

To evaluate visual impacts, the visual environment and viewer sensitivity must be considered, as described in the following sections.

6.8.1. Visual Environments

Visual resources and the environments they dominate can be divided into three categories:

- **Natural environment** includes land, water, vegetation, animal life, and atmospheric conditions.
- **Cultural environment** includes buildings, structures, infrastructure, and other artifacts and art.
- **Project environment** includes highway geometrics, grading, constructed elements, vegetative cover, and other ancillary visual elements found in the corridor of a modern highway.

The natural and cultural environments could include sensitive visual resources, such as scenic roadways, designated wild and scenic rivers, historic resources or districts, and local landmarks.

6.8.2. Viewers

Viewers are those whose views of and from the SR-66 project area would be affected by the proposed project. There are two distinct groups of viewers:

- **Neighbors** are those who live/work adjacent to existing SR-66 (as well as improvements to SR-66 under the Build Alternative (see **Section 2.2** for a description)) and have views of the road.
- **Travelers** are those who are utilizing existing SR-66 (as well as improvements to SR-66 under the Build Alternative (see **Section 2.2** for a description)) and have views from the road.

Viewer sensitivity is based on viewer exposure (i.e., proximity, extent, and duration) and viewer awareness of the project (i.e., attention, focus, and protection). Viewer sensitivity is considered high if:

- Viewer exposure is considered high;
- Awareness of the changes in visual character is considered prominent; and/or
- The viewer would be otherwise perceptive of changes in the visual environment.

Viewpoints with high viewer sensitivity include those within a relatively short distance to the project, many potential viewers, long duration views, locations from which the project is a prominent feature or focal point in the view, and/or visually sensitive areas.

As noted above, the importance of views relates, in part, to the proximity of the viewer to the resource. In general, the closer a resource is to the viewer, the more dominant it is and the greater its importance to the viewer. FHWA defines the following distance zones:

- **Foreground:** 0.25-0.5 miles from the viewer
- **Middleground:** Extends from the foreground zone to three to five miles from the viewer
- **Background:** Extends from the middleground zone to the limit of visibility

6.8.3. Impacts to Visual Quality

What viewers like and dislike about the visual character of the project area is defined as its visual quality. FHWA considers visual quality a result of the interactive experience between viewers and their environment. Viewers of the Build Alternative have been engaged during the project development process to provide input on the proposed improvements, as described in the SR-66 Public Engagement Summary, included in **Appendix L** of the EA.

Impacts to visual quality are measured by:

- **Compatibility** of the Build Alternative with the existing environment.
- **Sensitivity** of the viewers to changes in visual character.

Together, these determine the degree of impact to visual quality. Impacts can be:

- **Beneficial** by enhancing visual resources or by creating better views of those resources and improving experience of viewers.
- **Adverse** by degrading visual resources or obstructing or altering desired views.
- **Neutral.**

Impacts are evaluated for each landscape unit in the project area. Refer to **Section 6.2** for more details about landscape units.

7. Affected Environment

7.1. Project Setting

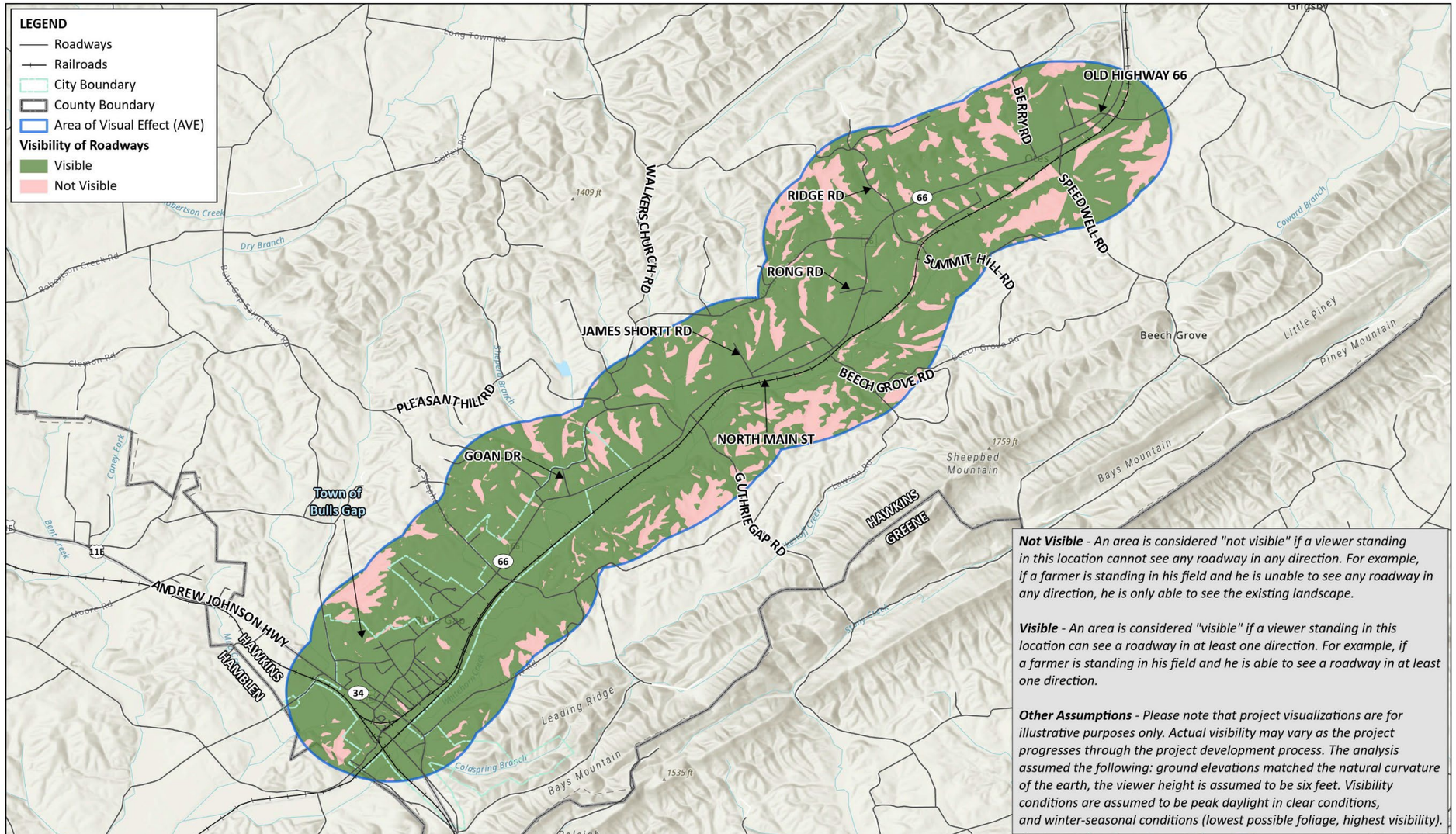
The SR-66 project area is located within a primarily rural and residential area in eastern Tennessee (see **Figure 1**). The SR-66 project area is located in the southern portion Hawkins County, near the border of Hamblen County (southwest) and Greene County (southeast).

Existing land uses within the SR-66 project area primarily consist of agricultural and residential uses. The SR-66 project area also includes commercial, industrial, and public/semi-public uses, as well as utilities, transportation right-of-way, and vacant land. There are currently no parks, trails, or recreational areas within the limits of the Build Alternative; however, the following recreational resources were noted within the greater vicinity of the Build Alterative:

- Bulls Gap Walking Trail
- Unnamed Potential Trail (36.257047, -83.045784)
- Unnamed Park on Whitehorn Creek (36.255856, -83.079299)
- Bulls Gap Community Center

The visibility of existing roadways within the AVE was modeled using GIS and is illustrated in **Figure 4**. A viewer can see an existing roadway in at least one direction throughout most of the SR-66 project area, with small areas of no roadway visibility dispersed throughout the AVE.

Figure 4: Existing Roadway Visibility Within the Area of Visual Effect[20]



Not Visible *- An area is considered "not visible" if a viewer standing in this location cannot see any roadway in any direction. For example, if a farmer is standing in his field and he is unable to see any roadway in any direction, he is only able to see the existing landscape.*

Visible *- An area is considered "visible" if a viewer standing in this location can see a roadway in at least one direction. For example, if a farmer is standing in his field and he is able to see a roadway in at least one direction.*

Other Assumptions *- Please note that project visualizations are for illustrative purposes only. Actual visibility may vary as the project progresses through the project development process. The analysis assumed the following: ground elevations matched the natural curvature of the earth, the viewer height is assumed to be six feet. Visibility conditions are assumed to be peak daylight in clear conditions, and winter-seasonal conditions (lowest possible foliage, highest visibility).*

EXISTING ROADWAY VISIBILITY WITHIN THE AREA OF VISUAL EFFECT	
PROJECT	**STATE ROUTE 66** From State Route 34 (US-11E, Andrew Johnson Highway) in Bulls Gap to Near Speedwell Road/Old Highway 66, Hawkins County, Tennessee, PIN 107579.00

[20] *This figure also represents the roadway visibility within the Area of Visual Effect under the No-Build Alternative if the proposed project is not constructed.*

7.2. Landscape Units

The existing visual landscape within the AVE is predominantly rural and residential with some industrial development. Landscape units within the AVE are described in **Table 1**. The locations of these landscape units are shown in **Figure 5** along with photographs of existing conditions.

Table 1: Landscape Units Within the Area of Visual Effect

Landscape Unit	Location	Visual Character	Viewers
Residential	The western portion of the Area of Visual Effects (AVE), comprising the majority of the Town of Bulls Gap, north of the railroad and industrial areas described in the next row of this table and west of Goan Drive.	• Natural environment: residential lawns, scattered trees, some open grassy areas • Cultural environment: low-density residences, some commercial stores, a church, a school, paved roads, street signs, overhead power lines, freight rail tracks	• Neighbors • Travelers
Industrial	The south side of SR-66, from Shepherd Road/White Horn Road to east of Goan Drive.	• Natural environment: grass strips, some wooded vegetation, small streams • Cultural environment: industrial buildings, equipment, and trucks, large parking lot, paved roads, chain link fencing, overhead power lines, freight rail tracks	• Neighbors • Travelers
Rural	The western portion of the AVE south of the railroad, and the eastern portion of the AVE from east of Goan Drive.	• Natural environment: farm fields, wooded areas, open grassy areas, some residential lawns small streams • Cultural environment: scattered residences, some churches, some small industrial buildings, a baseball field, paved roads, overhead power lines, freight rail tracks	• Neighbors • Travelers

7.3. Visually Sensitive Resources

As noted in **Section 6.3**, the *Guidelines for the Visual Impact Assessment of Highway Projects* (FHWA, 2015) include protective measures for visually sensitive resources. **Table 2** below includes a summary of visually sensitive resources that were identified within the AVE.

Table 2: Visually Sensitive Resources Within the Area of Visual Effect

Visually Sensitive Resource	Presence within the Area of Visual Effect
Scenic byways	None of the roadways in the Area of Visual Effect (AVE) have a scenic byway designation.
National scenic areas	There are no national scenic areas in the AVE.
Wild and scenic rivers	There are no wild and scenic rivers in the AVE.
National scenic trails	There are no national scenic trails in the AVE.
National monuments	There are no national monuments in the AVE.
Historic properties	There are two historic properties (Shadowland Farm and Berry Farm) that were determined to be eligible for listing in the National Register of Historic Places (NRHP) within the AVE. Refer to the SR-66 Cultural and Section 4(f)/Section 6(f) Resources Technical Memorandum, included in **Appendix G** of the EA, for more details.
Section 4(f)/Section 6(f) properties	There are two historic properties that are protected under Section 4(f) of the U.S. DOT Act of 1966 and no properties protected under Section 6(f) of the LWCF Act of 1965 within the AVE. Refer to the SR-66 Cultural and Section 4(f)/Section 6(f) Resources Technical Memorandum, included in **Appendix G** of the EA, for more details.

7.4. Viewer Sensitivity

Within each landscape unit, viewers include both neighbors and travelers. Factors that impact viewer sensitivity are discussed in **Section 6.8.2.**

Within the limits of the Build Alternative, viewer sensitivity was considered moderate when exposure would be high for those with the project in the foreground, but awareness may be low given the existing visibility of roadways in the area (roadway visibility is typical throughout most of the AVE as illustrated in **Figure 4**), routine nature of the scene, lack of focal point, and lack of visually sensitive areas. Viewer sensitivity was considered low if the project would not be in the foreground, if durations of views would be limited, and/or if awareness would be low given concentration on driving, the routine nature of the scene, and the lack of specific visual elements or focal points.

Determinations of viewer sensitivity for both neighbors and travelers are summarized in **Table 3.**

8. Impact Analysis

8.1. Visual Impact by Landscape Unit and Viewpoint

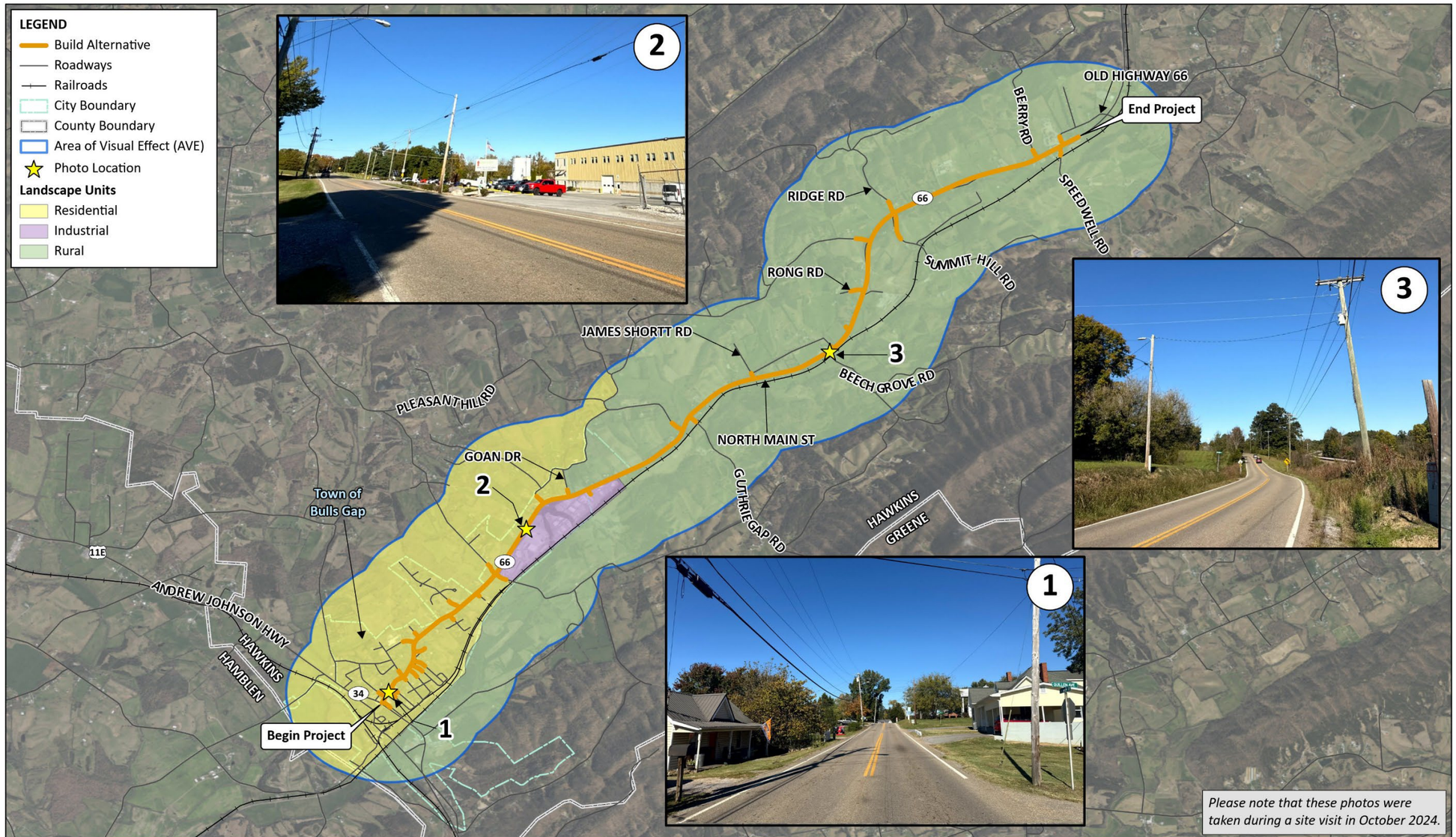
Impacts were assessed based on anticipated changes in visual quality from the five viewpoints selected for visualizations (see **Figure 6** through **Figure 10**). As part of this assessment, anticipated changes in roadway visibility between existing conditions[21] and the Build Alternative were also considered. As illustrated in **Figure 11**, there would be some areas throughout the AVE where roadways were previously not visible but would be visible in at least one direction under the Build Alternative; however, these areas are minimal, as most individuals within the AVE could see roadway infrastructure under the existing condition.

As described in **Section 6.8.3**, impacts to visual quality are measured by the sensitivity of the viewers to changes to visual character and the compatibility with the existing environment. As explained in the *Guidelines for the Visual Impact Assessment of Highway Projects* (FHWA, 2015), visual quality depends on what the eye sees and what the mind wants to see. If people see what their mind wants to see, they are pleased and they consider visual quality as good. If people do not see what they are expecting or desire to see, they are displeased and consider visual quality as poor.

The visual impact analysis is summarized in **Table 3**.

[21] *Please note that the existing conditions also represent the conditions under the No-Build Alternative.*

Figure 5: Landscape Units Identified under the Existing Condition of the SR-66 Project Area



EXISTING CONDITIONS OF LANDSCAPE UNITS	
PROJECT	**STATE ROUTE 66** From State Route 34 (US-11E, Andrew Johnson Highway) in Bulls Gap to Near Speedwell Road/Old Highway 66, Hawkins County, Tennessee, PIN 107579.00

TN TDOT Department of Transportation

Table 3: Summary of Visual Impacts

Landscape Unit	Viewpoint	Overall Viewer Sensitivity[22]		Overall Project Compatibility[23]		Change in Visual Quality for Neighbors and Travelers[24]
		Neighbors	Travelers	No-Build	Build	
Residential	1	Moderate	Low	Compatible	Compatible	Neutral
	2	Moderate	Low	Compatible	Compatible	Neutral
Industrial	3	Moderate	Low	Compatible	Compatible	Neutral
Rural	4	Moderate	Low	Compatible	Compatible	Neutral
	5	Moderate	Low	Compatible	Compatible	Neutral

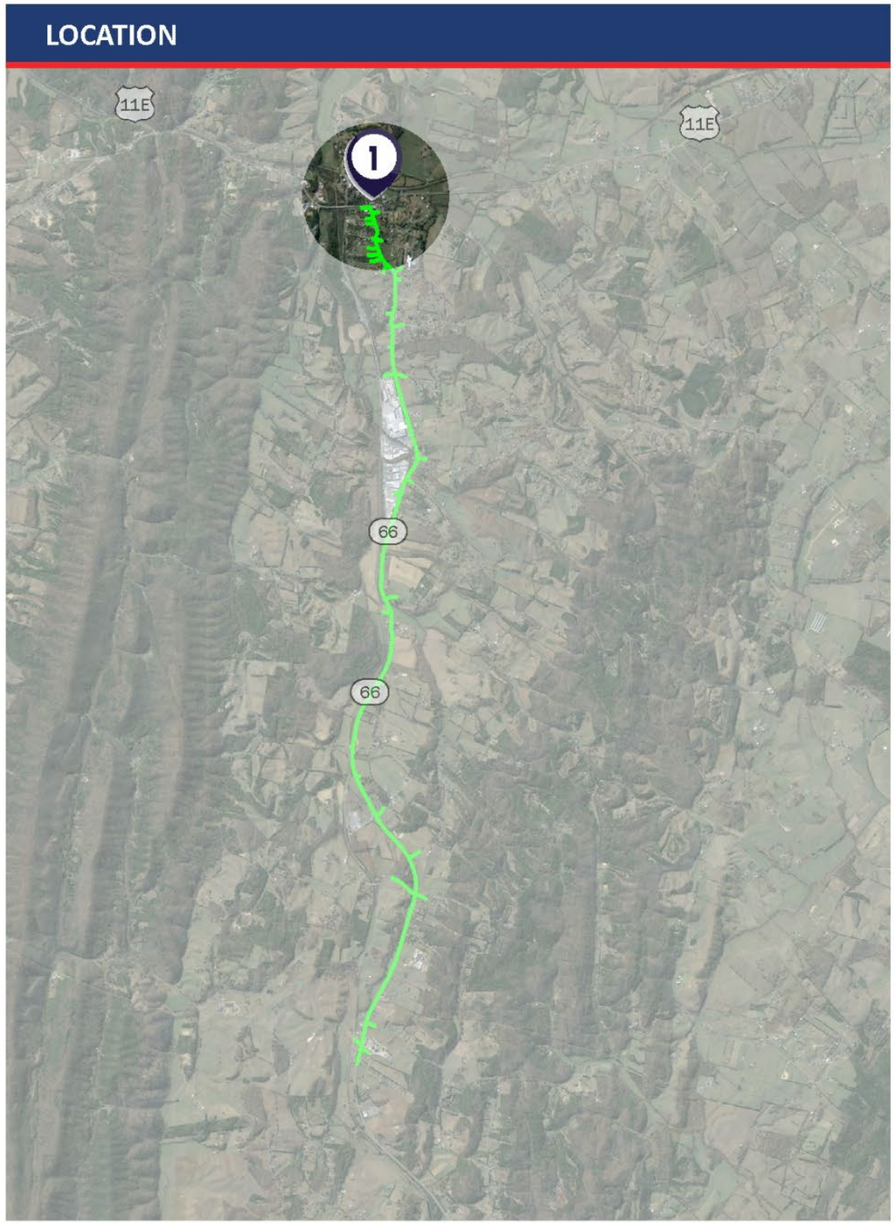
The overall viewer sensitivity and project compatibility ratings within the visual environment were determined to be “low” to “moderate” and “compatible”, respectively. Therefore, the Build Alternative is anticipated to have a neutral effect on the neighbors’ and travelers’ experience of overall visual quality within the AVE.

*[22] Viewer sensitivity is based on viewer exposure (i.e., proximity, extent, and duration) and viewer awareness of the project (i.e., attention, focus, protection). See complete description in **Section 6.8.2**. Viewer sensitivity was considered moderate when exposure would be high for those with the project in the foreground, but awareness may be low given the existing visibility of roadways in the area, routine nature of the scene, lack of focal point, and lack of visually sensitive areas. Viewer sensitivity was considered low if the project would not be in the foreground, if durations of views would be limited, and/or if awareness would be low given concentration on driving, the routine nature of the scene, and the lack of specific visual elements or focal points.*

[23] Compatibility considers project scale, project form, and project materials. An alternative is considered compatible if the environment can absorb the proposed project and has similar visual character.

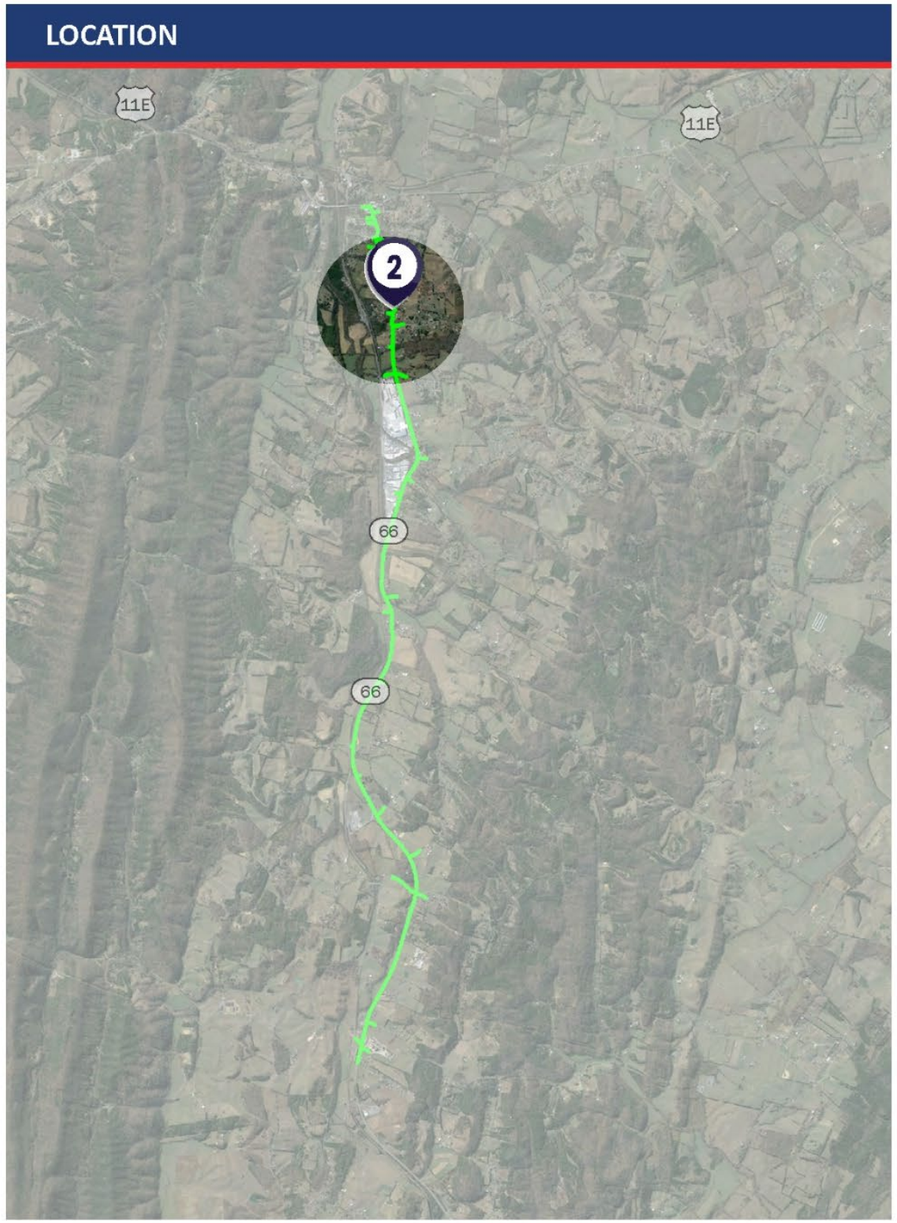
*[24] Visual quality serves as the baseline for determining the degree of visual impacts—that is, if visual impacts are adverse, beneficial, or neutral. See complete description in **Section 6.8.3.** Change in visual quality was considered neutral if the impacts would neither enhance nor degrade visual resources.*

Figure 6: Visualization from Viewpoint 1 (Intersection of SR-34 (US-11E, Andrew Johnson Highway) and SR-66)



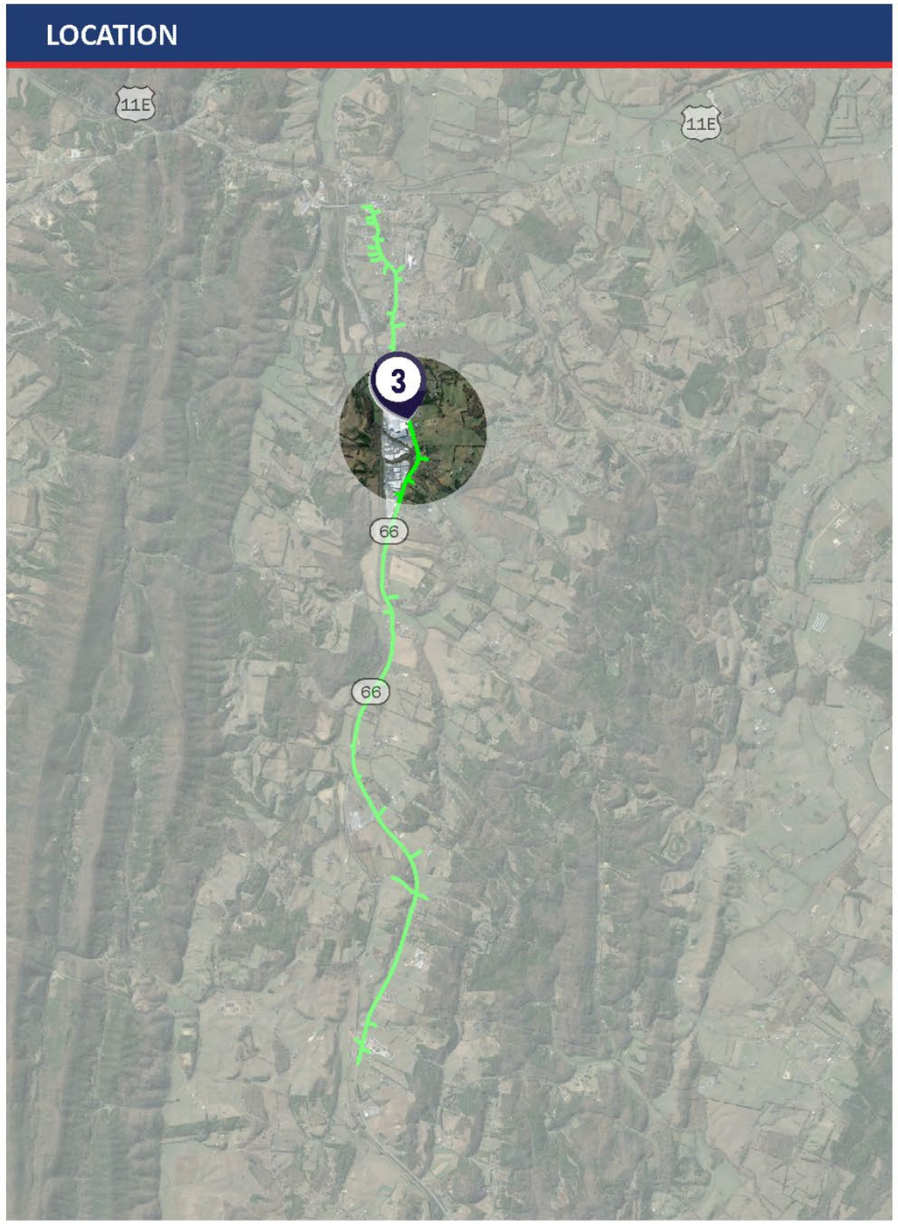
**Please note that project visualizations are for illustrative purposes only. Actual design/construction may vary as the project progresses through the project development process.*

Figure 7: Visualization from Viewpoint 2 (View at SR-66 and Easy St Intersection)



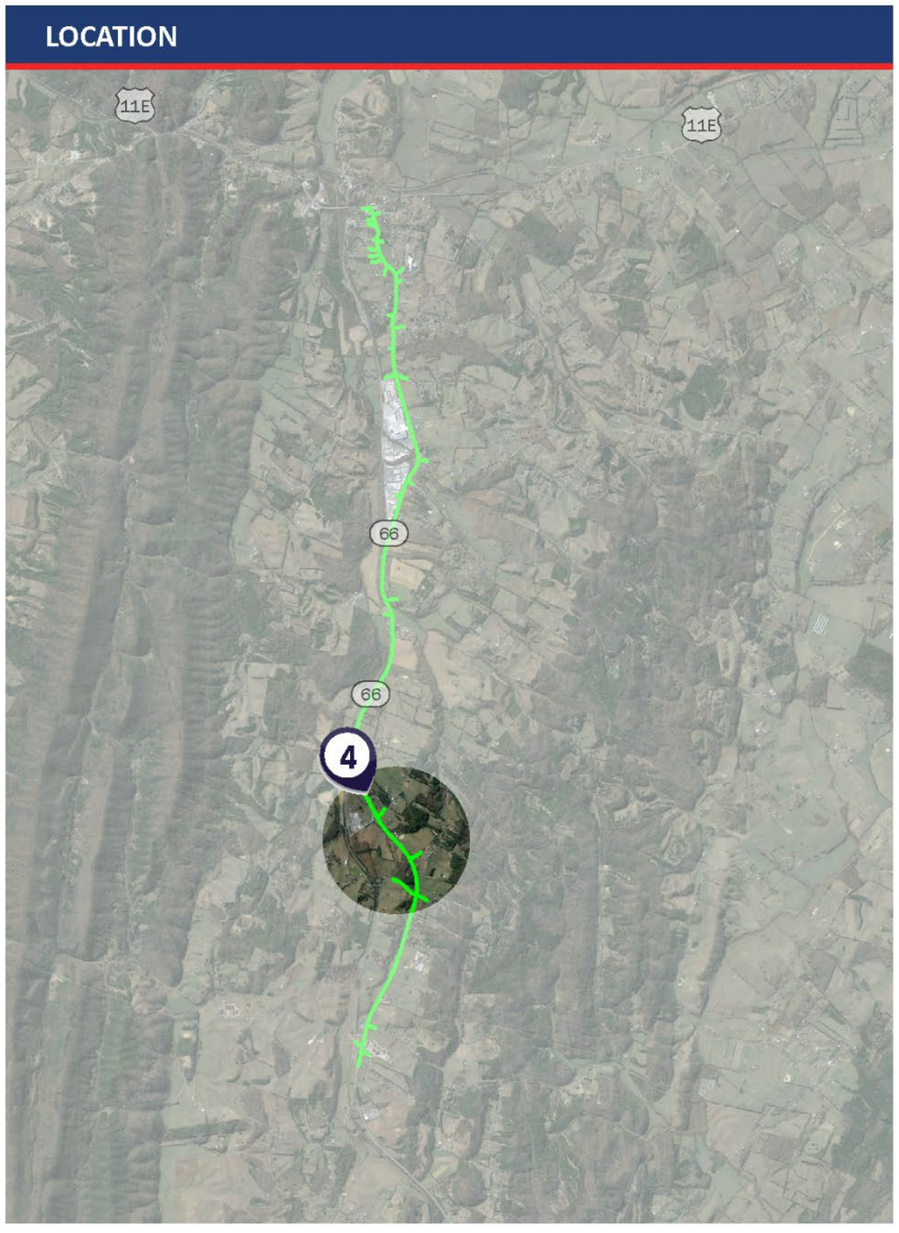
**Please note that project visualizations are for illustrative purposes only. Actual design/construction may vary as the project progresses through the project development process.*

Figure 8: Visualization from Viewpoint 3 (View Looking Northeast from SR-66)



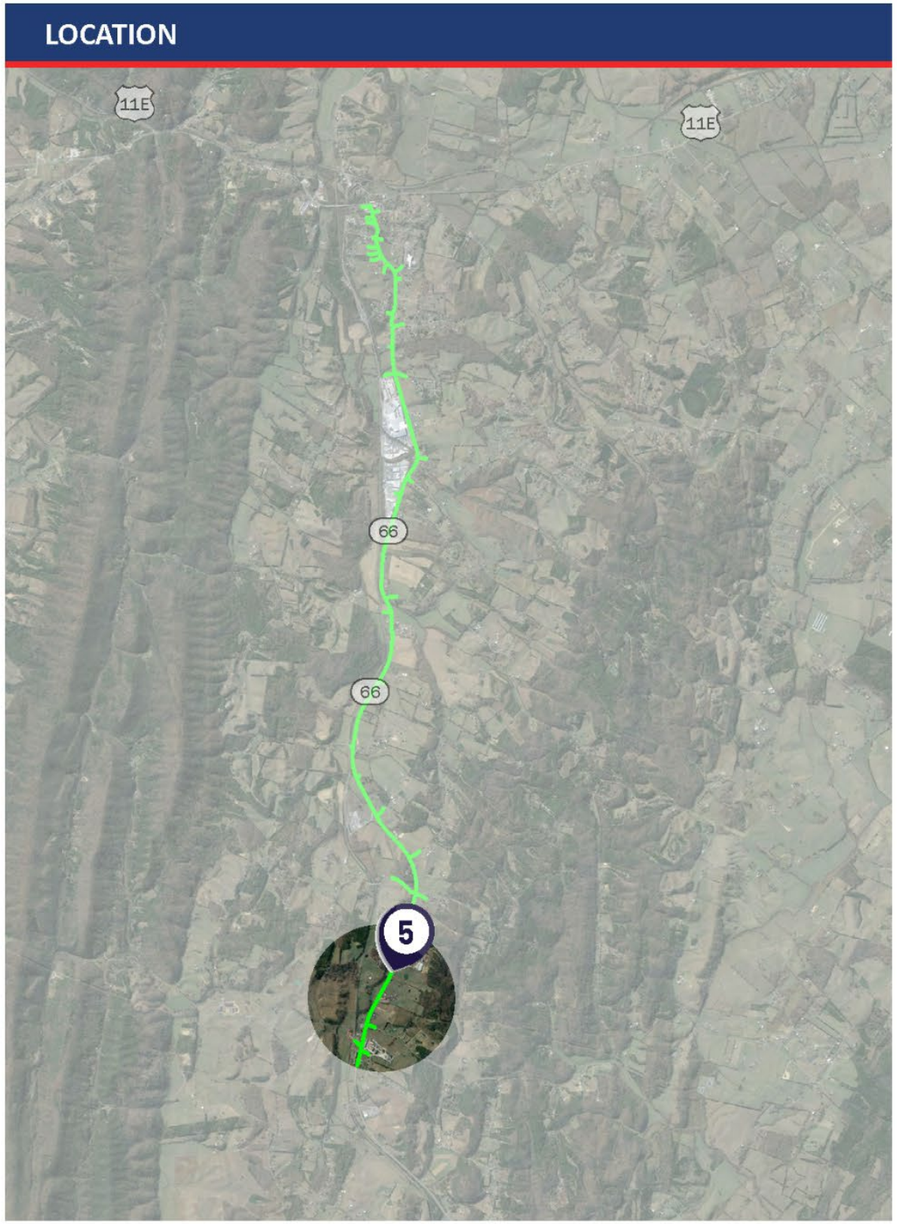
**Please note that project visualizations are for illustrative purposes only. Actual design/construction may vary as the project progresses through the project development process.*

Figure 9: Visualization from Viewpoint 4 (View Looking Northeast along SR-66)



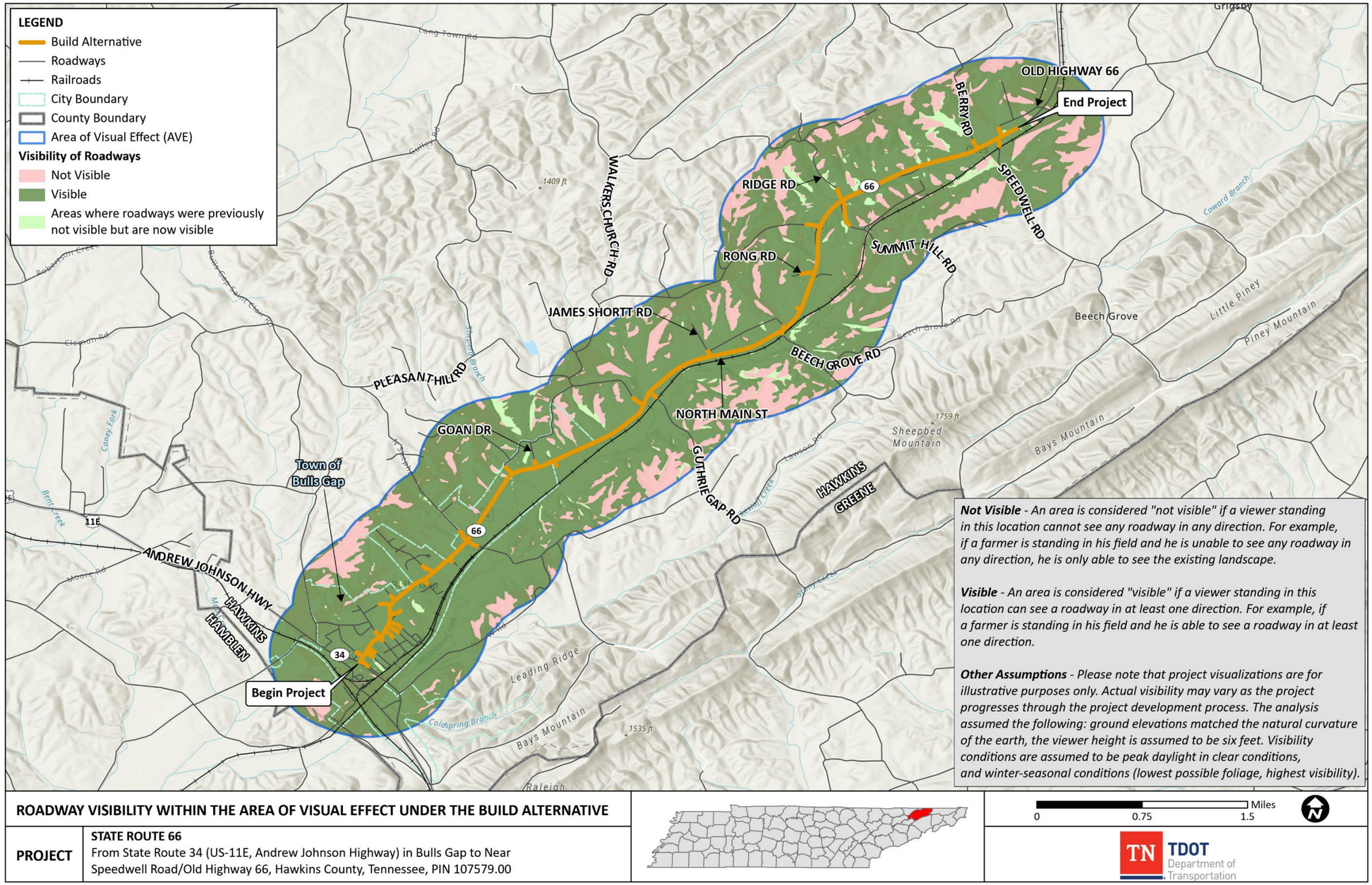
**Please note that project visualizations are for illustrative purposes only. Actual design/construction may vary as the project progresses through the project development process.*

Figure 10: Visualization from Viewpoint 5 (View Looking East on SR-66)



**Please note that project visualizations are for illustrative purposes only. Actual design/construction may vary as the project progresses through the project development process.*

Figure 11: Roadway Visibility Within the Area of Visual Effect Under the Build Alternative



Not Visible *- An area is considered "not visible" if a viewer standing in this location cannot see any roadway in any direction. For example, if a farmer is standing in his field and he is unable to see any roadway in any direction, he is only able to see the existing landscape.*

Visible *- An area is considered "visible" if a viewer standing in this location can see a roadway in at least one direction. For example, if a farmer is standing in his field and he is able to see a roadway in at least one direction.*

Other Assumptions *- Please note that project visualizations are for illustrative purposes only. Actual visibility may vary as the project progresses through the project development process. The analysis assumed the following: ground elevations matched the natural curvature of the earth, the viewer height is assumed to be six feet. Visibility conditions are assumed to be peak daylight in clear conditions, and winter-seasonal conditions (lowest possible foliage, highest visibility).*

ROADWAY VISIBILITY WITHIN THE AREA OF VISUAL EFFECT UNDER THE BUILD ALTERNATIVE	
PROJECT	**STATE ROUTE 66** From State Route 34 (US-11E, Andrew Johnson Highway) in Bulls Gap to Near Speedwell Road/Old Highway 66, Hawkins County, Tennessee, PIN 107579.00

TN TDOT Department of Transportation

8.2. Summary of Visual Impacts

8.2.1. No-Build Alternative

The No-Build Alternative would have no effect on the visual quality within the AVE for either neighbors or travelers.

8.2.2. Build Alternative

The overall viewer sensitivity and project compatibility ratings within the visual environment were determined to be “low” to “moderate” and “compatible”, respectively. Therefore, the Build Alternative is anticipated to have a neutral effect on the neighbors’ and travelers’ experience of overall visual quality within the AVE.

Under the Build Alternative, there would be some areas throughout the AVE where roadways were previously not visible but would be visible in at least one direction under the Build Alternative; however, these areas are minimal, as most individuals within the AVE could already see existing roadway infrastructure under the existing condition.

The Build Alternative would not impact any scenic byways, national scenic areas, wild and scenic rivers, national scenic trails, national monuments, or Section 6(f) properties. There are two historic properties that are protected under Section 4(f) of the U.S. DOT Act of 1966 that would be impacted by the Build Alternative. Refer to the SR-66 Cultural and Section 4(f)/Section 6(f) Resources Technical Memorandum, included in **Appendix G** of the EA, for more details.

8.2.3. Minimization/Mitigation Measures to Address Impacts

The Build Alternative would not result in adverse impacts to visual quality; therefore, no mitigation is proposed.

Table 4: Potential Visual Impacts

	No-Build Alternative	Build Alternative	
Impact Category	**Effect Determination**	**Effect Determination**	**Minimization/Mitigation Measures to Address Impacts**
Visual Impacts	No Effect	The Build Alternative would not impact any scenic byways, national scenic areas, wild and scenic rivers, national scenic trails, national monuments, or Section 6(f) properties. There are two historic properties that are protected under Section 4(f) of the U.S. Department of Transportation Act of 1966[25] that would be impacted by the Build Alternative. Refer to the SR-66 Cultural and Section 4(f)/Section 6(f) Resources Technical Memorandum, included in **Appendix G** of the EA, for more details. The overall viewer sensitivity and project compatibility ratings within the visual environment were determined to be "low" to "moderate" and "compatible", respectively. Therefore, the Build Alternative is anticipated to have a neutral effect on the neighbors' and travelers' experience of overall visual quality within the Area of Visual Effect. Under the Build Alternative, there would be some areas throughout the Area of Visual Effect where roadways were previously not visible but would be visible in at least one direction under the Build Alternative; however, these areas are minimal, as most individuals within the Area of Visual Effect could already see existing roadway infrastructure under the existing condition.	Not Applicable

[25] *https://www.govinfo.gov/content/pkg/STATUTE-80/pdf/STATUTE-80-Pg931.pdf*

Attachment 1

Visual Impact Assessment Scoping Questionnaire

Visual Impact Assessment Scoping Questionnaire

Project Name: State Route 66

Location: Hawkins County, TN

Special Conditions/Notes: None

Site Visit Date: Thursday, 10/17/2024

Time: 12:30 p.m. to 6:00 p.m.

Conducted by: Mae Eaton and Eva Hardalova

Environmental Compatibility

1. *Will the project result in a noticeable change in the physical characteristics of the existing environment?* (Consider all project components and construction impacts – both permanent and temporary, including landform changes, structures, noise barriers, vegetation removal, railing, signage, and contractor activities.)

   ☐ High concern (3)
   ☒ Low concern (1)
   ☐ Moderate concern (2)
   ☐ Negligible project features (0)

   The Build Alternative would be primarily located along the existing SR-66 alignment, except for some areas of minor horizontal and vertical alignment changes. While the roadway would be widened or re-aligned in some locations, no new travel lanes would be added and there would not be a substantial change to the physical characteristics of the existing environment. Therefore, the Build Alternative would present low concern to the physical characteristics of the existing environment.

2. *Will the project complement or contrast with the visual character desired by the community?* (Evaluate the scale and extent of the project features compared to the surrounding scale of the community. Is the project likely to give an urban appearance to an existing rural or suburban community? Do you anticipate that the change will be viewed by the public as positive or negative? Research planning documents or talk with local planners and community representatives to understand the type of visual environment local residents envision for their community.)

   ☐ Low compatibility (3)
   ☒ High compatibility (1)
   ☐ Moderate compatibility (2)

   As noted above, the Build Alternative would be primarily located along the existing SR-66 alignment, except for some areas of minor horizontal and vertical alignment changes, and substantial changes to the visual character of the community are not anticipated. Conversations with local planners indicate that there is some additional planned development in the area, and that additional connectivity and development opportunities in the Town of Bulls Gap would benefit the community. Therefore, the Build Alternative would have high compatibility with the visual character of the community.

3. *What level of local concern is there for the types of project features (e.g., bridge structures, large excavations, sound barriers, or median planting removal) and construction impacts that are proposed?* (Certain project improvements can be of special interest to local citizens, causing a heightened level of public concern, and requiring a more focused visual analysis.)

   ☐ High concern (3)
   ☐ Low concern (1)
   ☒ Moderate concern (2)
   ☐ Negligible project features (0)

   During the Public Meeting held for the proposed project on November 12, 2024 at Bulls Gap School, there were a few comments noted regarding local concern for the types of project features and construction impacts that are proposed under the Build Alternative. Therefore, it is understood that there is moderate concern for the proposed project amongst the public. Refer to the SR-66 Public Engagement Summary, included in **Appendix L** of the EA, for more details.

4. *Is it anticipated that to mitigate visual impacts, it may be necessary to develop extensive or novel mitigation strategies to avoid, minimize, or compensate for adverse impacts or will using conventional mitigation strategies, such as landscape or architectural treatment adequately mitigate adverse visual impacts?*

   ☐ Extensive non-conventional mitigation likely (3)
   ☐ Only conventional mitigation likely (1)
   ☒ Some non-conventional mitigation likely (2)
   ☐ No mitigation likely (0)

   There are two National Register of Historic Places eligible properties within the limits of the Build Alternative (Shadowland Farm and Berry Farm). Environmental commitments will be included on the green sheet of the EA to ensure that Shadowland Farm and Berry Farm are labeled as historic and have their respective boundaries marked, will not be used as construction staging areas, and that any blasting that may occur within the vicinity of these resources should take into consideration the historic properties and take all possible measure to avoid impacts. Refer to the SR-66 Cultural and Section 4(f)/Section 6(f) Resources Technical Memorandum, included in **Appendix G** of the EA, for more details.

5. *Will this project, when seen collectively with other projects, result in an aggregate adverse change (cumulative impacts) in overall visual quality or character?* (Identify any projects [both state and local] in the area that have been constructed in recent years and those currently planned for future construction. The window of time and the extent of area applicable to possible cumulative impacts should be based on a reasonable anticipation of the viewing public's perception.)

   ☐ Cumulative impacts likely: 0-5 years (3)
   ☐ Cumulative impacts unlikely (1)
   ☐ Cumulative impacts likely: 6-10 years (2)

No points were given on this question or included in the determination of level of visual impact assessment. The Council on Environmental Quality (CEQ) has issued an interim final rule rescinding its National Environmental Policy Act (NEPA) regulations implementing the National Environmental Policy Act (NEPA) (40 CFR Parts 1500-1508), effective April 11, 2025.[26] As such, an indirect and cumulative effects analysis was not undertaken for this project.

Viewer Sensitivity

1. *What is the potential that the project proposal may be controversial within the community, or opposed by any organized group?* (This can be researched initially by talking with the state DOT and local agency management and staff familiar with the affected community's sentiments as evidenced by past projects and/or current information.)

   ☐ High potential (3) ☐ Low potential (1)
   ☒ Moderate potential (2) ☐ No potential (0)

   As noted above, during the Public Meeting held for the proposed project on November 12, 2024 at Bulls Gap School, there were a few comments noted regarding local concern for the types of project features and construction impacts that are proposed under the Build Alternative. Therefore, there is moderate potential for controversy within the community as a result of the proposed project. Refer to the SR-66 Public Engagement Summary, included in **Appendix L** of the EA, for more details.

2. *How sensitive are potential viewer-groups likely to be regarding visible changes proposed by the project?* (Consider among other factors the number of viewers within the group, probable viewer expectations, activities, viewing duration, and orientation. The expected viewer sensitivity level may be scoped by applying professional judgment, and by soliciting information from other DOT staff, local agencies and community representatives familiar with the affected community's sentiments and demonstrated concerns.)

   ☐ High sensitivity (3) ☒ Low sensitivity (1)
   ☐ Moderate sensitivity (2)

   As noted above, the Build Alternative would be primarily located along the existing SR-66 alignment, except for some areas of minor horizontal and vertical alignment changes. While the roadway would be widened or re-aligned in some locations, no new travel lanes would be added and there would not be a substantial change to the physical characteristics of the existing environment. Therefore, it is anticipated that potential viewer-groups would experience low sensitivity to the changes that would result from the Build Alternative.

3. *To what degree does the project's aesthetic approach appear to be consistent with applicable laws, ordinances, regulations, policies or standards?*

   ☐ Low compatibility (3) ☒ High compatibility (1)
   ☐ Moderate compatibility (2)

[26] https://www.federalregister.gov/documents/2025/02/25/2025-03014/removal-of-national-environmental-policy-act-implementing-regulations

A review of legislation, plans, and policies relevant to the SR-66 project area identified a need for infrastructure and support for economic development. Therefore, the Build Alternative would have high compatibility with the applicable laws, ordinances, regulations, policies and standards. Refer to the SR-66 Land Use, Farmland, and Transportation Infrastructure Technical Memorandum, included in **Appendix D** of the EA for more details.

4. *Are permits going to be required by outside regulatory agencies (i.e., Federal, State, or local)?* (Permit requirements can have an unintended consequence on the visual environment. Anticipated permits, as well as specific permit requirements – which are defined by the permitter, may be determined by talking with the project environmental planner and project engineer. Note: coordinate with the state DOT representative responsible for obtaining the permit prior to communicating directly with any permitting agency. Permits that may benefit from additional analysis include permits that may result in visible built features, such as infiltration basins or devices under a storm water permit or a retaining wall for wetland avoidance or permits for work in sensitive areas such as coastal development permits or on Federal lands, such as impacts to Wild and Scenic Rivers.)

   ☒ Yes (3) ☐ No (1)
   ☐ Maybe (2)

   It is anticipated that permits would be required by outside regulatory agencies for the proposed project. Refer to **Chapter 3** of the EA for more details.

5. *Will the project sponsor or public benefit from a more detailed visual analysis in order to help reach consensus on a course of action to address potential visual impacts?* (Consider the proposed project features, possible visual impacts, and probable mitigation recommendations.)

   ☐ Yes (3) ☒ No (1)
   ☐ Maybe (2)

   While there is moderate concern for the proposed project amongst the public, as noted above, the Build Alternative would be primarily located along the existing SR-66 alignment, except for some areas of minor horizontal and vertical alignment changes. Substantial changes to the visual character or character are not anticipated, and the Build Alternative would be compatible with the existing environment. Therefore, a more detailed visual analysis is not recommended at this time.

Determining the Level of Visual Impact Assessment

Total the scores of the answers to all ten questions on the Visual Impact Assessment Scoping Questionnaire. Use the total score from the questionnaire as an indicator of the appropriate level of VIA to perform for the project. Confirm that the level suggested by the checklist is consistent with the project teams' professional judgments. If there remains doubt about whether a VIA needs to be completed, it may be prudent to conduct an Abbreviated VIA. If there remains doubt about the level of the VIA, begin with the simpler VIA process. If visual impacts emerge as a more substantial concern than anticipated, the level of VIA documentation can always be increased.

The level of the VIA can initially be based on the following ranges of total scores:

☐ **Score 25-30**
An *Expanded VIA* is probably necessary. It is recommended that it should be proceeded by a formal visual scoping study prior to beginning the VIA to alert the project team to potential highly adverse impacts and to develop new project alternatives to avoid those impacts. These technical studies will likely receive state-wide, even national, public review. Extensive use of visual simulations and a comprehensive public involvement program would be typical.

☐ **Score 20-24**
A *Standard VIA* is recommended. This technical study will likely receive extensive local, perhaps state-wide, public review. It would typically include several visual simulations. It would also include a thorough examination of public planning and policy documents supplemented with direct public engagement processes to determine visual preferences.

☐ **Score 15-19**
An *Abbreviated VIA* would briefly describe project features, impacts and mitigation requirements. Visual simulations would be optional. An Abbreviated VIA would receive little direct public interest beyond a summary of its findings in the project's environmental documents. Visual preferences would be based on observation and review of planning and policy documents by local jurisdictions.

☒ **Score 10-14**
A *VIA Memorandum* addressing minor visual issues that indicates the nature of the limited impacts and any necessary mitigation strategies that should be implemented would likely be sufficient along with an explanation of why no formal analysis is required.[27]

☐ **Score 6-9**
No noticeable physical changes to the environment are proposed and no further analysis is required. Print out a copy of this completed questionnaire for your project file to document that there is no effect. A *VIA Memorandum* may be used to document that there is no effect and to explain the approach used for the determination.

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[27] Please note that the VIA prepared in this technical memorandum was completed prior to the April 11, 2025 rescission of the CEQ NEPA regulations discussed above. At the time, the proposed project received a higher point total, indicating that an Abbreviated VIA was warranted, rather than a VIA Memorandum.

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