



Appendix E

Abbreviated Visual Impact Assessment





ABBREVIATED VISUAL IMPACT ASSESSMENT

INTERSTATE 526 (I-526)

FROM PAUL CANTRELL BOULEVARD TO VIRGINIA AVENUE
NORTH CHARLESTON AND CHARLESTON, SOUTH CAROLINA

Prepared for:



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1.0 INTRODUCTION

The Federal Highway Administration (FHWA) published the Guidelines for the Visual Impact Assessment of Highway Projects in January 2015 as an update to the original 1980s Visual Impact Assessment (VIA) document. The new guidelines are more efficient and comprehensive and provide a roadmap for conducting the assessment. This memorandum incorporates these new guidelines into the visual analysis.

The VIA is written as an independent report and the results of the VIA are then incorporated by reference and briefly summarized in the project's Draft Environmental Impact Statement (DEIS). There are four steps in the new VIA process:

- Establishment: Defines study area, viewsheds, and landscape constraints
- Inventory: Identifies the affected environment visual quality
- Analysis: Evaluates potential impacts of the project to the visual resources and identifies the adverse, beneficial, or neutral effects of the project
- Mitigation: Identifies and establishes mitigation measures for adverse effects

2.0 PROJECT DESCRIPTION

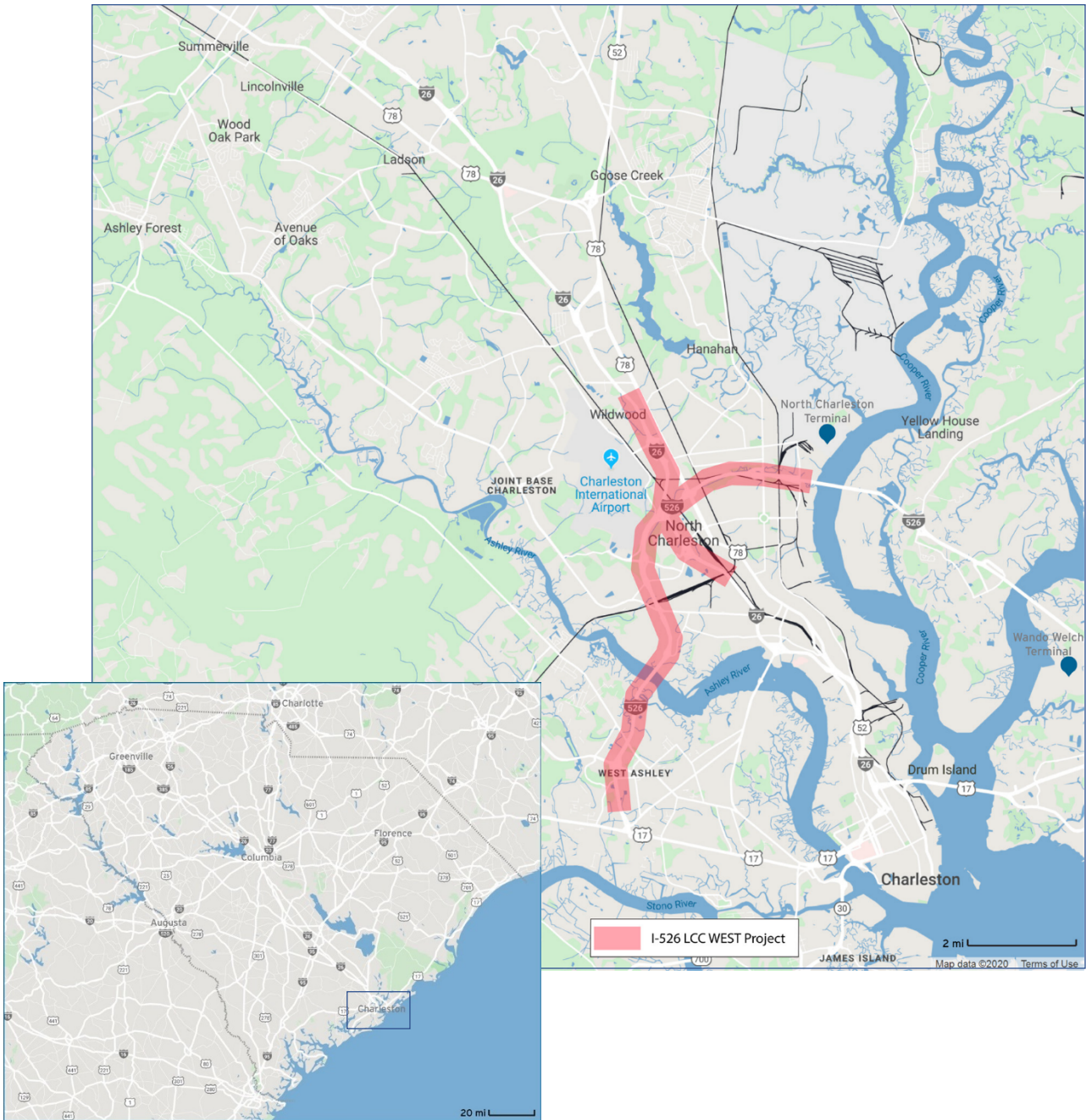
The Reasonable Alternatives discussed in the DEIS consist of increasing capacity and improving operations to the I-26/I-526 interchange in North Charleston, and along the I-526 mainline from Paul Cantrell Boulevard to Virginia Avenue. It also includes bridge and interchange modifications and reconstruction along I-526. See Figure 1 for the project location. For more information on the DEIS Reasonable Alternatives, See Chapter 3 of the DEIS document.

3.0 VISUAL IMPACT ASSESSMENT SCOPING

A scoping questionnaire helps practitioners identify which level of documentation is appropriate for the project. The project team has completed the VIA scoping questionnaire based on the best available information and professional judgement to determine which level of documentation is best suited for the DEIS. Based on the scoring system on the questionnaire, an abbreviated VIA is recommended for the DEIS. This questionnaire and the rationale for how the questions were responded to are included as an attachment to this document.

The abbreviated VIA is recommended because there is a low level of permanent changes to the existing environment, and the project is moderately compatible with the visual character desired by the community. There are moderate concerns or controversies regarding the visual character of the project and the project design will follow the landscape standards set forth by SCDOT.

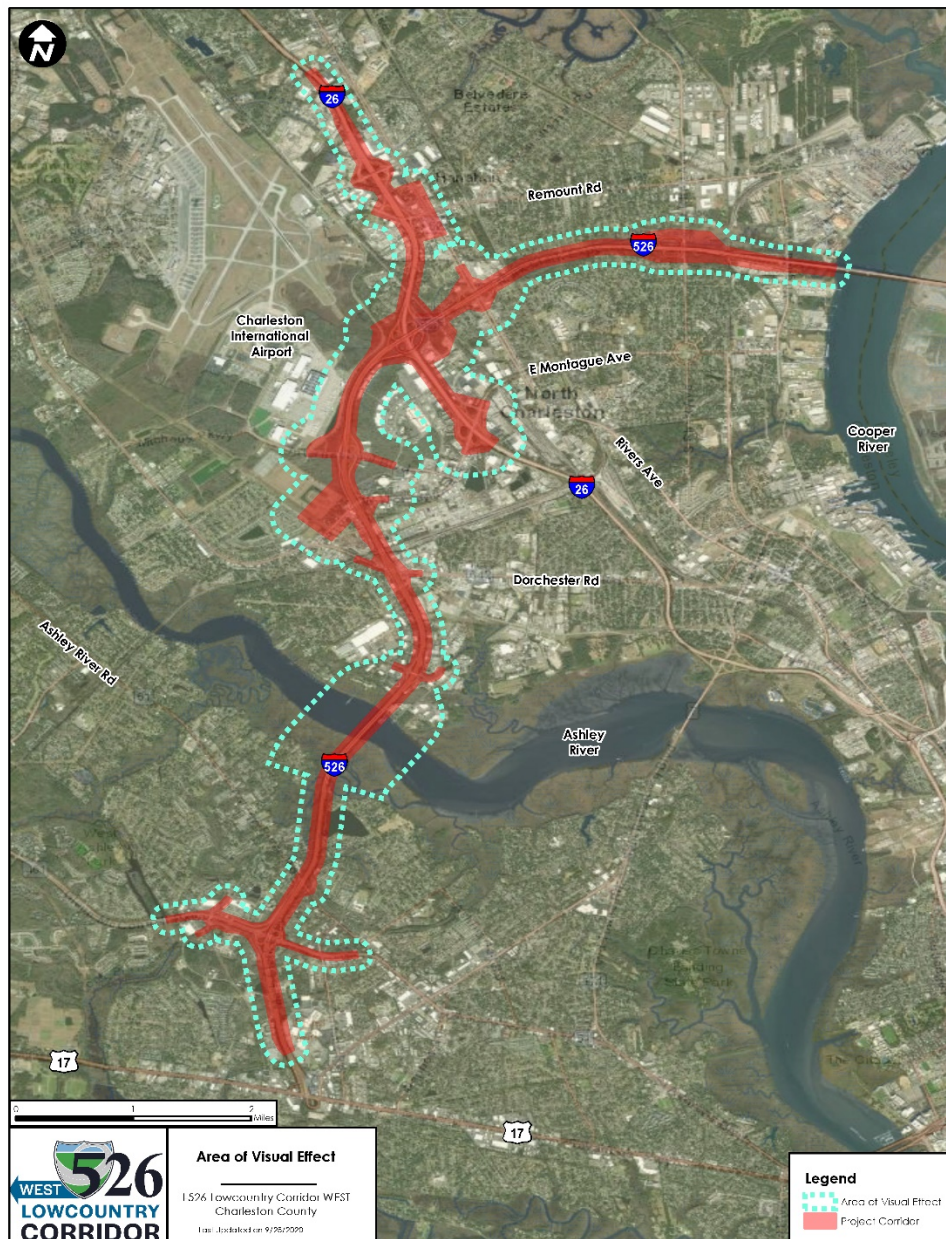
Figure 1. Project Location



4.0 AREA OF VISUAL EFFECT

The area of visual effect (AVE) is the area in which views of the project would be visible as influenced by the presence or absence of intervening topography, vegetation, and structures. The VIA considers a 500-foot buffer around the project corridor, except in the area from Montague Avenue to just east of the Rivers Avenue interchange (1000-foot buffer) and the area of the Ashley River bridge (2000-foot buffer) as the AVE (see Figure 2). The relatively flat topography within the study area allows for views of the elevated roadway from surrounding communities. The main landscape unit within the AVE is the I-526 corridor which traverses through residential and commercial land.

Figure 2. Project AVE





View from I-526 facing north towards the Ashley River.

5.0 INVENTORY OF THE PROJECT ENVIRONMENTS

Although the majority of the study area includes residential neighborhoods and commercial facilities, there are some other natural and cultural resources along the I-526 corridor which make up the visual quality of the area.

The southern end of the corridor has open views of the Ashley River and surrounding wetlands on both sides of the roadway. This resource increases the scenic integrity values along the I-526 corridor.

The project goes through suburban and urban residential areas and several commercial districts. Residential density increases from south to north as the project limits approach I-26.

Visual resources for the cultural environment were identified through a review of planning documents and a combination of field observation and desktop review. Generally, significant visual resources related to the cultural environment include historic structures, government facilities, and other notable buildings. Cultural environment visual resources include (from south to north):

- RiversEdge Marina - The marina includes a dry storage facility and amenities including a fuel dock, ship's store, captain's lounge, and picnic area.
- Charleston County Assessor – The Assessor's Office locates, lists and appraises the value of approximately 190,000 real property parcels and 9,000 titled mobile homes in Charleston County.
- Charleston International Airport – A joint civil-military airport located adjacent to I-26 and northwest of the I-26/I-526 interchange.

The I-526 LCC WEST corridor moving north from Paul Cantrell Boulevard across the Ashley River transitions from suburban to urban in nature, with both residential and commercial uses along the route. Roadway geometrics are flat and curvilinear to the west of the Ashley River, while the interstate is raised above the landscape from I-26 to Virginia Avenue. The roadway includes bridging at Bull Creek, the Ashley River, Paramount Drive, Dorchester Road, Montague Avenue, International Boulevard, and I-26. The roadway provides an unobstructed view of the river in the vicinity of the crossing. The immediate vegetation surrounding the highway consists of landscaped grasses and wooded areas, except in the vicinity of the Ashley River where estuarine and marine wetland areas are present. Throughout the corridor, highway structures include multiple overpasses and underpasses, five railroad bridge crossings, one river bridge crossing, and eight interchanges which add to the visual character of the project's highway environment.



View from I-526 facing north towards the I-26/I-526 interchange.

6.0 AFFECTED POPULATION

The neighboring land uses have views of the interstate that are mostly obstructed by trees except where interchanges and bridges are present along the corridor. Residents within the Environmental Justice (EJ) neighborhoods of Russelldale and Ferndale currently have views of the existing roadway in the vicinity of the Rivers Avenue interchange. The travelers on the highway have limited views of the natural environment and the sparse cultural environment along the corridor, except within the vicinity of the Ashley River. Based on the public meetings held throughout the course of the I-526 LCC WEST project, several viewers have expressed concerns with construction impacts and potential noise walls related to the proposed improvements.



View from the Ferndale neighborhood facing towards I-526.

Based on a review of local land use planning documents, some of the primary visual goals important to local communities are:

- Protect and enhance the environmental quality of natural resources and continue to require restrictive development standards along the OCRM Critical Line to protect water quality, wildlife habitat, and scenic vistas.
- Implement design character that enhances the quality of development along commercial corridors and establish scenic corridors and areas of environmental and cultural significance.
- Provide vegetated buffers of fifty feet or more between roads and structures where development occurs along or near designated scenic roads.
- Maintain or enhance the visual identity of existing scenic roads to foster the rural character of land outside the Urban Growth Boundary.
- Ensure development transitions appropriately from residential uses to non-residential uses through similar scale of buildings, architectural styles, and orientation of buildings and parking lots.

7.0 EFFECTS ANALYSIS

Transportation improvements associated with the DEIS Reasonable Alternatives could result in both short-term and long-term visual impacts. Short-term impacts include disruptions during construction while long-term impacts are the result of permanent alterations that change the way people commute in and around the area. Short-term impacts would include an increase in roadway congestion in and around the area, the presence of large equipment, dust from construction, and general disruption to the surrounding neighborhoods and businesses. These short-term impacts would have a temporary visual effect to the community.

Long-term impacts include relocation of businesses and residences; new interchanges; increased right-of-way; and changes to the surrounding landscape through the presence of new ramps and modifications to existing overpasses, bridges, retaining walls, medians, as well as from alterations to the existing roadway grade. The DEIS Reasonable Alternatives potentially include noise walls along I-526 near the Centre Pointe Apartments as well as areas south of the Ashley River. This will change the visual experience of the drivers and residents in the area.

The design of the highway generally follows the existing grade, however, in some areas there will be minor grade changes and braided ramps which will not create substantial visual changes. The widening of the highway and creation of collector-distributor roads would result in a minor change in the visual experience for motorists and residents due to additional pavement. Most of the bridges over the highway and the interchanges along the corridor are proposed to be reconstructed at approximately the same heights of existing structures minimizing changes to the existing visual character.

None of the identified visual resources nor the visual character of the urban area will be substantively altered due to the project and the project will not alter the viewers' (including residents and travelers) experience in the area. The proposed project will not create adverse impacts of visual quality. No adverse changes to the natural, cultural, or project environments and viewer exposure or awareness are anticipated. The Highland Terrace-Liberty Park Community Center is in the Area of Visual Effect (AVE) and would be impacted by the proposed project, but the visual change would be minimal as existing I-26 is already visible from the area.

Noise walls would be constructed with community consent at Centre Pointe Apartments, Colonial Village at Westchase, The Avenues of West Ashley, and Ashley Oaks Apartments and would impact the viewers' experience. These minor changes would not constitute an adverse impact therefore no mitigation is necessary.

8.0 MITIGATION

Although no mitigation is necessary because the project has no adverse impacts on the visual resources in the study area, the project has identified measures to minimize the minor impacts to the resources. Mitigation measures to enhance the visual effects of the proposed highway widening may include landscaping and architectural features. A planting plan is included as part of potential project mitigation which may contribute to beautification or other aesthetic improvements and is anticipated to offset any further visual impacts from the widening of I-526 and I-26 on Environmental Justice neighborhoods.

APPENDIX A

VIA Scoping Questionnaire

The following ten questions can be used to determine the appropriate level of effort for assessing the impacts on visual quality that may result from a proposed highway project. The first set of five questions is concerned with environmental compatibility impacts on the visual resources of the affected environment. The second set of five questions deals with the sensitivity of the affected population of viewers to those impacts.

Consider each of the ten questions on the questionnaire and select the response that most closely applies to the project in question. Each response has a corresponding point value. After the questionnaire is completed the total score will represent the type of VIA document suitable for the project.

It is important that this scoring system be used as a preliminary guide only. Although these questions provide some guidelines for determining if a VIA is necessary, it should not, by itself, be considered definitive. If there is any hint that visual issues may be a factor in assessing impacts, it is recommended that a VIA be conducted. Although the total score will direct the user toward a particular level of VIA documentation, circumstances may necessitate selecting a different level of analysis and documentation based on previous experience, local concerns, or professional judgment. This checklist is meant to assist the writer of the VIA to understand the degree and breadth of the possible visual issues. The goal is to develop an analysis and document strategy that is appropriately thorough, efficient, and defensible.

Visual Impact Assessment Scoping Questionnaire

Project Name: I-526 LCC WEST Site Visit Date: N/A

Location: South Carolina Time: N/A

Special Conditions/Notes: Conducted By: Michael Wray

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 level of permanent change (3) Moderate level of permanent change (2)
- Low level of permanent or temporary change (1) No Noticeable Change (0)

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) Moderate Compatibility (2)
- High compatibility (1)

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) Moderate concern (2)
- Low concern (1) Negligible Project Features (0)

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) Some non-conventional Mitigation Likely (2)
 Only Conventional Mitigation Likely (1) No Mitigation Likely (0)

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 likely: 6-10 years (2)
 Cumulative Impacts unlikely (1)

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) Moderate Potential (2)
 Low Potential (1) No Potential (0)

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) Moderate Sensitivity (2)
 Low Sensitivity (1)

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) Moderate Compatibility (2)

High compatibility (1)

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) Maybe (2)

No (1)

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) Maybe (2)

No (1)

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 preceded 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 a 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.

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.

APPENDIX B

VISUAL IMPACT ASSESSMENT RECOMMENDATIONS

I-526 LCC WEST

Questionnaire Rationale

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.)

Rationale: Low level of permanent change was selected as a response to this question because the roadway is currently elevated above the affected communities in the project area, therefore the project would result in low visual changes to the existing conditions. There are several proposed noise walls and signing and railing will follow the existing standards. The design of the highway generally follows the existing grade, however, in some areas there will be minor grade changes and braided ramps which will not create substantial visual changes. Most of the bridges over the highway and the interchanges along the corridor are proposed to be reconstructed at approximately the same heights of existing structures minimizing changes to the existing visual character.

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.)

Rationale: Moderate compatibility was selected as a response to this question because the project does not change the visual character desired by the community and it does not change the area from a rural to an urban appearance. However, a slightly larger footprint will result in a minimal change of the existing conditions aesthetics. The public has expressed mixed sentiment regarding the project.

For more information, please refer to Chapter 6 of the DEIS, Public and Agency Involvement.

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.)

Rationale: Moderate concern was selected as a response to this question because some concern expressed within public comments regarding construction impacts and noise walls for the proposed project.

For more information, please refer to Chapter 6 of the DEIS, Public and Agency Involvement.

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?

Rationale: Only conventional mitigation strategies are most likely to be included as part of this project because there are no controversies on the minimal changes to the visual character in the area caused by this project.

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.)

Rationale: Cumulative impacts unlikely was selected as response to this question because the overall visual character of the area is not changing with other improvement projects. The I-526 LCC WEST project is consistent with other previous and future projects.

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.)

Rationale: High potential has been selected as a response to this question because there has been controversy within the community and a high level of public involvement and coordination regarding the project.

For more information, please refer to Chapter 6 of the DEIS, Public and Agency Involvement.

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.)

Rationale: Low sensitivity was selected as a response for this question because the visual changes caused by the project do not result in major changes in the overall visual quality of the area, orientation, or activities.

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

Rationale: High compatibility was selected as a response to this question because the project will be designed in accordance to all applicable policies and standards within the corridor.

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.)

Rationale: Yes, permits from outside regulatory agencies are required and will be obtained for various elements of the project.

For more information, please refer to Section 4.18 of the DEIS, Permits.

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.)

Rationale: No, because of minimal changes to visual impacts of the project, a more detailed visual analysis is not needed.