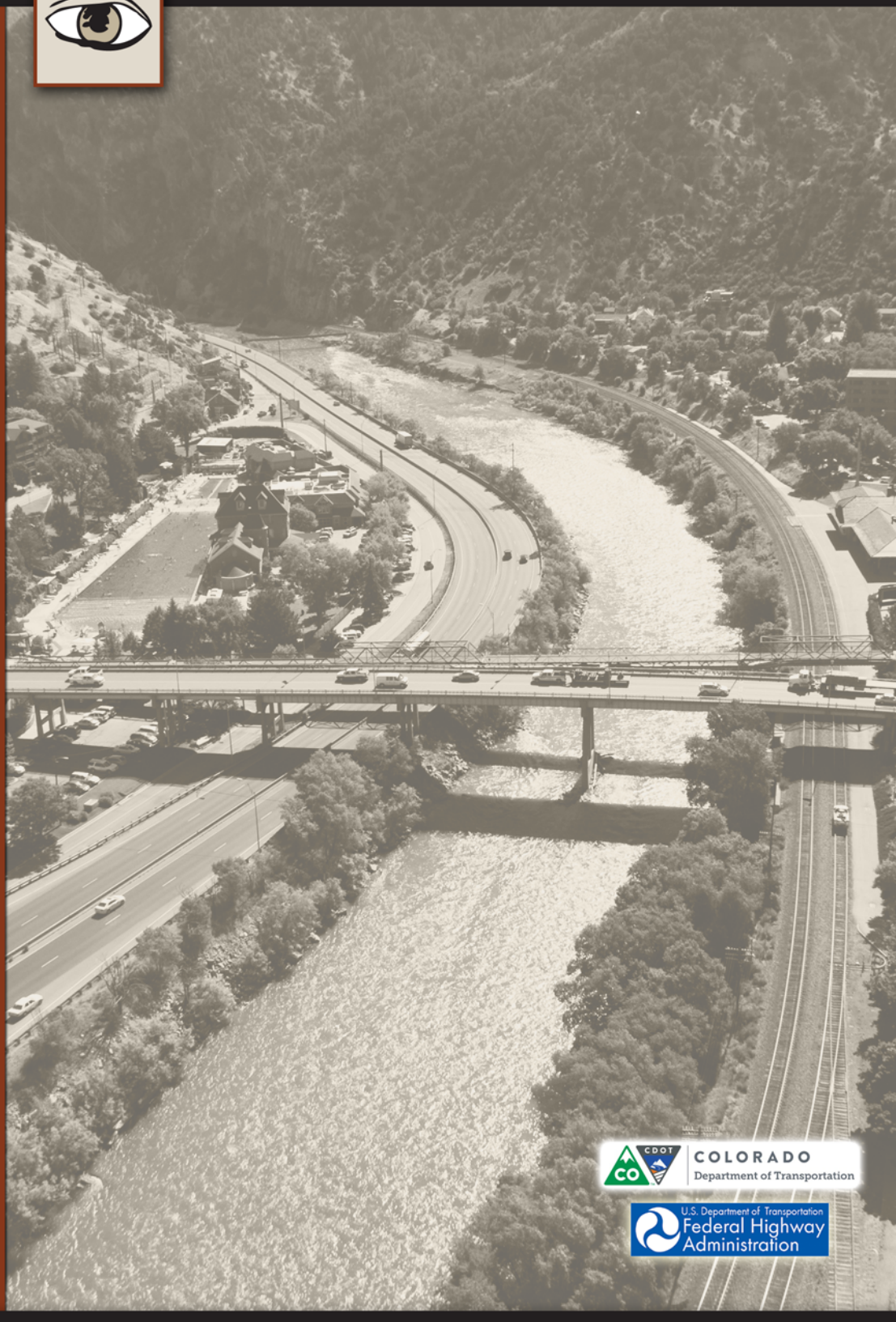
SH 82
GRAND AVENUE BRIDGE

Visual Impact Assessment
Technical Report



COLORADO
Department of Transportation

U.S. Department of Transportation
Federal Highway Administration

October 2014

Visual Impact Assessment Technical Report

for the

SH 82 Grand Avenue Bridge Environmental Assessment

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Prepared for:

Colorado Department of Transportation
Federal Highway Administration

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TABLE OF CONTENTS

ATTACHMENTS

LIST OF FIGURES

LIST OF TABLES

1.0 INTRODUCTION

The Colorado Department of Transportation (CDOT) and the Federal Highway Administration (FHWA), in cooperation with the City of Glenwood Springs, are preparing an Environmental Assessment (EA) that assesses impacts associated with replacing the Grand Avenue Bridge and the pedestrian bridge adjacent to the Grand Avenue Bridge, and reconstructing the Laurel Street/6th Street intersection in Glenwood Springs, Colorado (the project). This visual impact assessment was conducted in support of the State Highway (SH) 82 Grand Avenue Bridge EA. The purpose of this technical report is to describe the methods used for the visual impact assessment and document results of the analysis.

The Grand Avenue Bridge serves as a vital link SH 82 for across the Colorado River, I-70, and the Union Pacific Railroad, connecting downtown Glenwood Springs and the Roaring Fork Valley on the south side of the Colorado River with the historic Glenwood Hot Springs, iconic Hotel Colorado, and the I-70/Laurel Street interchange north of the river. The Grand Avenue Bridge is known to be the "gateway" to Glenwood Springs, Glenwood Canyon, and the Roaring Fork Valley. It serves local, regional, and state travelers; local commuters; and emergency responders. The pedestrian bridge connects bicyclists and pedestrians between downtown Glenwood Springs and the tourist attractions of Glenwood Hot Springs, Hotel Colorado and other hotels and restaurants, and the Glenwood Canyon Recreation Trail.

CDOT and FHWA have identified the need to replace the SH 82 Grand Avenue Bridge (Grand Avenue Bridge) in order to:

- Address the functional and structural deficiencies of the bridge to improve public safety, including emergency service response and reliability as a critical transportation route.
- Improve connectivity between downtown Glenwood Springs and the Roaring Fork Valley with the historic Glenwood Hot Springs and I-70.

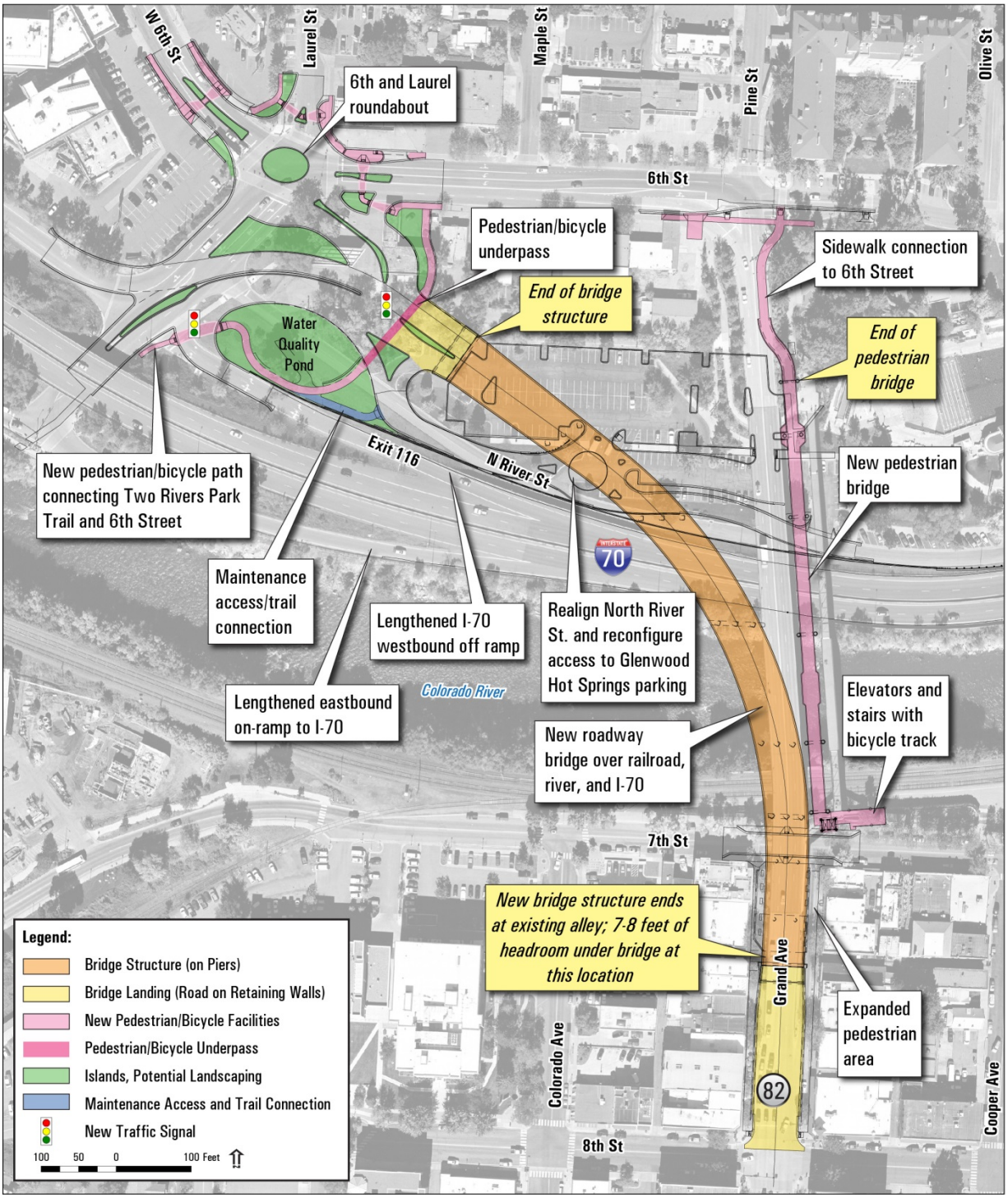
2.0 BUILD ALTERNATIVE DESCRIPTION

The Build Alternative would include the improvements described below. The Build Alternative footprint is shown on Figure 1.

2.1 Improve Existing Laurel Street/6th Street Intersection

The existing Laurel Street/6th Street intersection would be replaced with a new roundabout intersection that would accommodate traffic on Laurel Street, W. 6th Street, 6th Street, I-70 Exit 116, and the new Grand Avenue Bridge. This would require acquisition/removal of the existing Shell station.

FIGURE 1: BUILD ALTERNATIVE



2.2 Replace Existing Grand Avenue Bridge

The existing Grand Avenue Bridge would be replaced with a wider highway bridge consisting of four lanes, with shoulders and no sidewalks. The bridge deck depth, including girders, would vary. The bridge deck depth south of the Colorado River would be approximately three feet. Across the river and to the north, the bridge deck depth would be approximately seven feet. This compares to the existing bridge deck depth, including girders, of approximately five feet. The new Grand Avenue Bridge would curve west as it crosses the Colorado River, moving its northern touchdown point to the west near the roundabout intersection at Laurel Street/6th Street. The bridge would have concrete side barriers approximately 32 inches high. Shielding would be used on side barriers for the portion of the bridge approaching and along Grand Avenue to prevent splash back from the bridge on sidewalks and pedestrians along Grand Avenue, with the added benefit of noise reduction. It would have no pier in the center of the river, and require up to seven sets of piers and two abutments. The fill supporting the existing bridge's northern touchdown point near 6th Street would be removed. The utilities currently carried under the existing highway bridge would be moved to the new pedestrian bridge. Because the goal of creating a gateway to the Glenwood Springs area would be addressed by the new pedestrian bridge, design of the Grand Avenue Bridge focuses on simplicity and functionality.

Aerial view of new highway and pedestrian bridges and 6th and Laurel roundabout, looking east.

Source: TSH

2.3 Replace Existing Pedestrian Bridge

The existing pedestrian bridge would be replaced with a new pedestrian bridge. Several pedestrian bridge types were considered, as described in the following sections.

2.3.1 Pedestrian Bridge Types Considered and Eliminated

The pedestrian bridge types evaluated and eliminated from further consideration are described below. These bridge types were eliminated for various reasons, including constructability, cost, stakeholder and public input, and potential visual impacts.

- **Symmetric cable-supported bridge**. The superstructure of this bridge would be approximately 100 feet tall from the bridge deck (sidewalk level) to the top of the cable tower. This bridge type would have one or two cable towers that support the

cables. The cable tower and cables would be highly visible. The cable tower would be the visually dominant feature of this bridge type because the cables would be much thinner than the tower and would become increasingly transparent from greater distances. Unlike the existing pedestrian bridge, the taller superstructure associated with this bridge type would be visually dominant to the new highway bridge, and would intrude on distant views.

Example of symmetric cable-supported bridge, view from 7th Street south of river looking west. The cables associated with this bridge type would be more transparent from this distance than shown in this rendering.

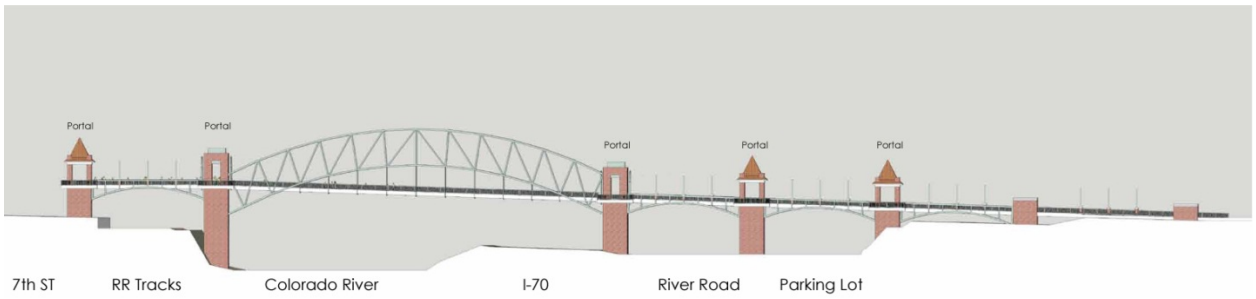
Source: Jacobs.

- **Asymmetric cable-supported bridge.** The height and general form of this bridge type would be similar to the symmetric cable-supported bridge type. The major difference between the two bridge types is that the cable tower and cables of the asymmetric cable-supported bridge would focus, or lean, in one direction or the other. Because the two bridge types are so similar, this bridge would have the same visual changes as the symmetric cable-supported bridge.

Example of asymmetric cable-supported bridge, view from 7th Street south of river looking west. The cables associated with this bridge type would be more transparent from this distance than shown in this rendering. This rendering shows the tower and cables focusing toward the south; focusing to the north is also an option.

Source: Jacobs.

- **Arch bridge.** This bridge type would have either a cable arch or truss arch. The superstructure of this bridge would be approximately half as tall the symmetric and asymmetric cable bridge options. This bridge would be highly visible to all sensitive viewer groups within the study area, making the pedestrian bridge more visually prominent. Both arch bridge types would be highly visible, with the arch support structure associated with the cable arch being the most visually dominant feature of that bridge type because the cables would be much thinner than the arch structure and would become increasingly transparent from greater distances. Because the arch truss option would consist of similarly-sized trusses, the overall arch structure would be more visually prominent from greater distances than the cable arch option. This bridge type would intrude on views of distant hills and Glenwood Canyon entrance, but to a lesser extent than the symmetric and asymmetric cable bridge options.



Example of truss arch span bridge, view from east side of bridge looking west. Note that rendering depicts an "above-deck truss arch." The type of arch structure, whether cable arch or truss arch, would be determined during final design. Pier size and materials, and aesthetic treatments shown are not necessarily representative of how the final bridge design would appear.

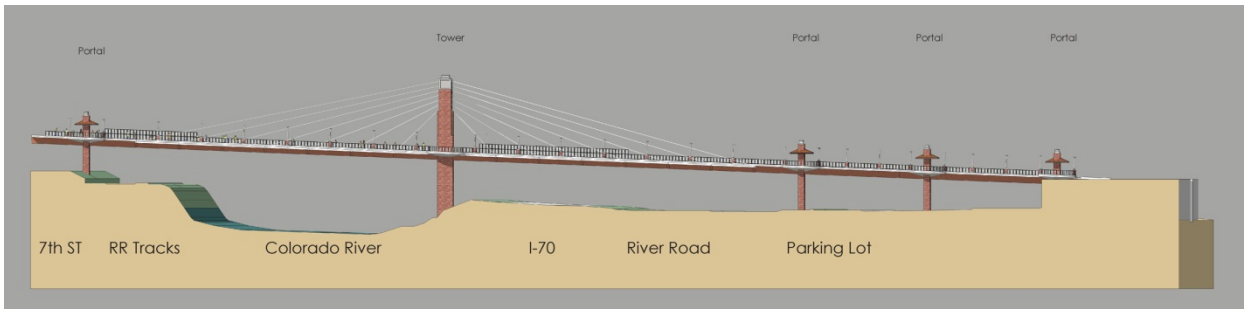
Source: Studio INSITE.

- **Three-span suspension bridge with two 45-foot-tall towers.** The general form of this bridge type would be similar to the symmetric cable-supported bridge type, except the support towers would be 55 feet shorter. Visual changes resulting from this bridge type would be similar to the symmetric cable-supported bridge, but would result in lower overall visual intrusion because of the shorter height of its superstructure. For example, the superstructure would visually intrude on views of distant hillsides and Glenwood Canyon entrance for all viewer groups, but to a lesser degree than the taller symmetric cable-supported bridge.

Example of three-span suspension bridge with 45-foot tall towers, view from east side of bridge looking west. Pier location, size, materials, and aesthetic treatments shown are not necessarily representative of how the final bridge design would appear.

Source: Studio INSITE.

- **Two-span cable-supported bridge with 45-foot-tall tower.** The general form of this bridge type would be similar to the symmetric cable-supported bridge type, except the support tower would be 55 feet shorter. Visual changes resulting from this bridge type would be similar to those described for the symmetric cable-supported bridge, but would result in lower overall visual intrusion because of the shorter height of its superstructure.



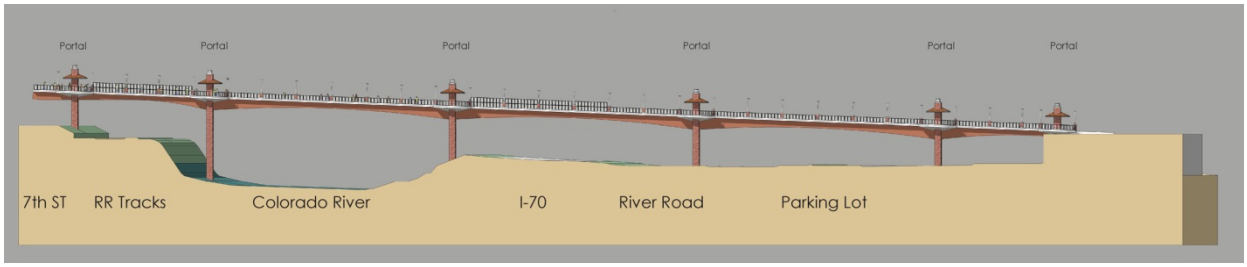
Example of two-span cable-supported bridge with 45-foot-tall towers, view from east side of bridge looking west. Pier location, size, materials, and aesthetic treatments shown are not necessarily representative of how the final bridge design would appear.

Source: Studio INSITE.

2.3.2 Preferred Pedestrian Bridge Type

View of dual elevators with clock tower aesthetic treatment, looking northwest from 7th Street. A preliminary level of design is shown and is subject to modification.
Source: Studio INSITE

A five-span variable depth girder bridge was selected as the preferred pedestrian bridge type, and is evaluated as part of the Build Alternative in this visual impact assessment. The bridge would cross the Colorado River on a straight alignment in a similar location as the existing bridge, with the northern touchdown point located slightly west of the existing touchdown point. The new bridge would be flatter and wider than the existing bridge (approximately 16 feet wide). It would include up to five piers and one abutment on the north end, and have no piers in the middle of the river. The bridge would include pedestrian overlooks and lighting along the bridge and at bridge connections either solid or open rail type side barriers. The side barriers would be approximately eight feet high where the bridge crosses I-70 per AASHTO requirements. The connection at 7th Street would include a stairway and dual elevators, and 6th Street would connect to the bridge via ramps. The new pedestrian bridge would carry utilities across the river that are currently carried by the existing highway bridge.



Example of five-span variable depth girder bridge. Pier location, size, materials, and aesthetic treatments shown are not necessarily representative of how the final bridge design would appear.

Source: Studio INSITE.

3.0 VISUAL IMPACT ASSESSMENT METHODS

The study team conducted this visual assessment in accordance with FHWA guidance (U.S. DOT Order 5610.1c, Procedures for Considering Environmental Impacts, and 23 CFR 771 Environmental Impact and Related Procedures). The study team referenced FHWA's publication entitled, *Visual Impact Assessment for Highway Projects* (FHWA, 1988) in the evaluation of potential visual impacts that may occur as a result of the project. The manual provides a methodology to characterize the visual quality of existing resources, analyze the project's effect on these resources, and predict any degradation of this visual quality and viewers' response.

For this assessment, the study team evaluated the study area visual resources and viewer group attitudes, identified possible impacts from the project, and identified mitigation measures that will be considered during the final design process to minimize adverse visual impacts that may result from the project. Generally, the visual impact assessment followed these steps:

1. Define the landscape units and existing visual environment of the study area. These were defined through site visits and aerial photography.
2. Identify sensitive viewers and their typical viewpoint locations that are likely to be affected by the project.
3. Identify community goals for visual quality through review of visual and scenic preservation policies in local and regional land use plans and through review of public comments received to-date during the project's scoping and alternatives analysis phases.
4. Identify visual landmarks or vistas of regional importance seen within or from the study area. These were identified through site visits, coordination with stakeholders, and review of area plans.
5. Identify the visual quality of the landscape units and viewsheds within the study area. These were defined through site visits and review of aerial photography.
6. Identify existing visual conditions for areas where structures are proposed as identified through site visits.
7. Evaluate whether the project would degrade the visual quality of the visual environment viewed by viewer groups. This included review of design drawings, renderings, and photo simulations of typical viewpoints to help predict the project's visual effect.
8. Predict viewer response to changes in visual quality based on viewer sensitivity.
9. Evaluate visual changes for areas where structures are proposed based on review of design drawings, renderings, and photo simulations.

10. Evaluate the project's consistency with visual and scenic preservation policies in local and regional land use plans.
11. Propose strategies that may be considered to mitigate adverse visual effects.

The study area has distinct landscape units with unique visual characteristics created by the land uses, city skylines, and natural features in each unit. Three key viewpoints representing typical views seen by typical viewer groups within each landscape unit were selected to measure how the project may change the study area's existing visual quality. Visual quality is measured by the strength of the visual characteristics of vividness, intactness, and unity for the three key viewpoints. In addition to those viewpoints, the study team also evaluated the existing visual environment for other areas within the study area landscape units where structures are proposed, and evaluated visual changes from the project. Changes in the visual characteristics for the three key viewpoints, visual changes in other areas where structures are proposed, and visual changes in the overall landscape units as perceived by the identified viewer groups together form the basis of this visual impact assessment.

4.0 TERMINOLOGY

Common terms and methods to identify visual character and quality, and assess impacts are described below:

Project Setting. The regional landscape establishes the general visual environment of the project, but the specific visual environment upon which this assessment focused is determined by defining landscape units and the project viewshed.

Landscape Units. A landscape unit is a portion of the regional landscape and can be thought of as an outdoor room that exhibits a distinct visual character. A landscape unit will often correspond to a place or district that is commonly known among local viewers.

Project Viewshed. A viewshed is a subset of a landscape unit and is comprised of all the surface areas visible from an observer's viewpoint. The limits of a viewshed are defined as the visual limits of the views located from the project. The viewshed also includes the locations of viewers likely to be affected by visual changes brought about by project features.

Method to Identify Visual Character. Visual character is descriptive and non-evaluative, which means it is based on defined attributes that are neither good nor bad. A change in visual character cannot be described as having good or bad attributes until it is compared with the viewer response to that change. If there is public preference for the established visual character of a regional landscape and resistance to a project that would contrast that character, then changes in the visual character can be evaluated.

Method to Assess Visual Quality. Visual quality is evaluated by identifying the vividness, intactness, and unity present in the viewshed. The FHWA states that this method should correlate with public judgments of visual quality well enough to predict those judgments. This approach is particularly useful in highway planning because it does not presume that a highway project is necessarily an eyesore. This approach to evaluating visual quality can also help identify specific methods for mitigating each adverse impact that may occur as a result of a project. The three criteria for evaluating visual quality can be defined as follows:

- **Vividness** is the visual power or memorability of landscape components as they combine in distinctive visual patterns.
- **Intactness** is the visual integrity of the natural and man-built landscape and its freedom from encroaching elements. It can be present in well-maintained urban and rural landscapes, as well as in natural settings.
- **Unity** is the visual coherence and compositional harmony of the landscape considered as a whole. It frequently attests to the careful design of individual manmade components in the landscape.

Methods of Predicting Viewer Response. Viewer response comprises two elements: viewer sensitivity and viewer exposure. These elements combine to form a method of predicting how the public might react to visual changes brought about by a highway project.

- **Viewer sensitivity** is defined both as the viewers' concern for scenic quality and the viewers' response to change in the visual resources that make up the view. Local values and goals may place visual significance on landscape components and areas that would otherwise appear unexceptional in a visual resource analysis. Even when the existing appearance of a project site is uninspiring, a community may still object to projects that fall short of its visual goals. Analysts can learn about these special resources and community aspirations for visual quality through citizen participation procedures, as well as from local publications and planning documents.
- **Viewer exposure** is typically assessed by measuring the number of viewers exposed to the resource change, type of viewer activity, duration of their view, speed at which the viewer moves, and position of the viewer. High viewer exposure heightens the importance of early consideration of design, art, and architecture and their roles in managing the visual resource effects of a project.

Method of Assessing Project Impacts. The visual impacts of project alternatives are determined by assessing the visual resource change due to the project and predicting viewer response to that change.

Visual resource change is the sum of the change in visual character and change in visual quality. The first step in determining visual resource change is to assess the compatibility of the project with the visual character of the existing landscape. The second step is to compare the visual quality of the existing resources with projected visual quality after the project is constructed.

The viewer response to project changes is the sum of viewer exposure and viewer sensitivity to the project as determined in the preceding section.

The resulting level of visual impact is determined by combining the severity of resource change with the degree to which people are likely to oppose the change.

Definition of Visual Impact Levels.

- **Low.** Minor adverse change to the existing visual resource, with low viewer response to change in the visual environment. May or may not require mitigation.
- **Moderate.** Moderate adverse change to the visual resource with moderate viewer response. Impact can be mitigated within five years using conventional practices.
- **Moderately High.** Moderate adverse visual resource change with high viewer response or high adverse visual resource change with moderate viewer response. Extraordinary mitigation practices may be required. Landscape treatment required will generally take longer than five years to mitigate.
- **High.** A high level of adverse change to the resource or a high level of viewer response to visual change such that architectural design and landscape treatment cannot mitigate the impacts. Viewer response level is high. An alternative project design may be required to avoid highly adverse impacts.

Proximity to Viewer.

- **Foreground View.** Area located within 0.0 to 0.5 mile of the viewer. Foreground elements include features nearest to the viewer.
- **Middleground View.** Area located 0.5 to 4.0 miles from the viewer. The middleground of a view is intermediate between the foreground view and background view.
- **Background View.** Area located 4.0 miles or greater from viewer. Background elements are those features that are at a great distance from the viewer.

5.0 EXISTING CONDITIONS

This section describes the existing visual environment of the study area, and is organized as follows:

- Description of regional setting and visual environment, including landscape units and viewsheds.
- Description of project viewing audience, which discusses study area viewer groups, local and regional plans for visual quality, and public and agency comments received concerning aesthetic values.
- Description of the visual environment in areas where structures are proposed under the Build Alternative, grouped by landscape unit.
- Existing visual quality of three key viewpoints and overall study area.

5.1 Project Setting and Existing Visual Environment

5.1.1 Regional Setting

The study area is located within the historic mountain town of Glenwood Springs on the Colorado River at the mouth of Glenwood Canyon. It is located in the city's developed downtown area on both sides of the Colorado River, on the comparatively flatter topography found along the Colorado River corridor and Roaring Fork Valley (Valley) that stretches south of the city. Sparsely vegetated and rock-faced mountains rise up in the near distance, almost entirely surrounding the city. Although the mountains block distant views from most of the study area, more distant views can be experienced looking down the Valley and river corridor. The historic Denver & Rio Grande railroad tracks run along the south side of the Colorado River, and continue to be regularly used by freight trains and Amtrak's cross-country passenger trains. I-70 follows along the north side of the river through Glenwood Springs. I-70 is nationally known as a scenic interstate highway through Glenwood Canyon and serves as a major regional transportation corridor through Glenwood Springs. The existing Grand Avenue (SH 82) Bridge and adjacent pedestrian bridge cross over the Colorado River, railroad tracks, and I-70, and link the two sides of the city separated by these features.

5.1.2 Landscape Units and Viewshed

The study area's visual environment can be broken down into distinct landscape units containing landforms and land cover that helps define the unit's boundaries. A landscape unit can be thought of as an "outdoor room" and may be named as a local district or place. Landscape units can have diverse visual resources, but it is important to note that the physical elements of landscape units form the visual patterns that strongly influence how people respond to the landscape. The physical elements in the study area's visual environment include water and wildlife features, landform and vegetation,

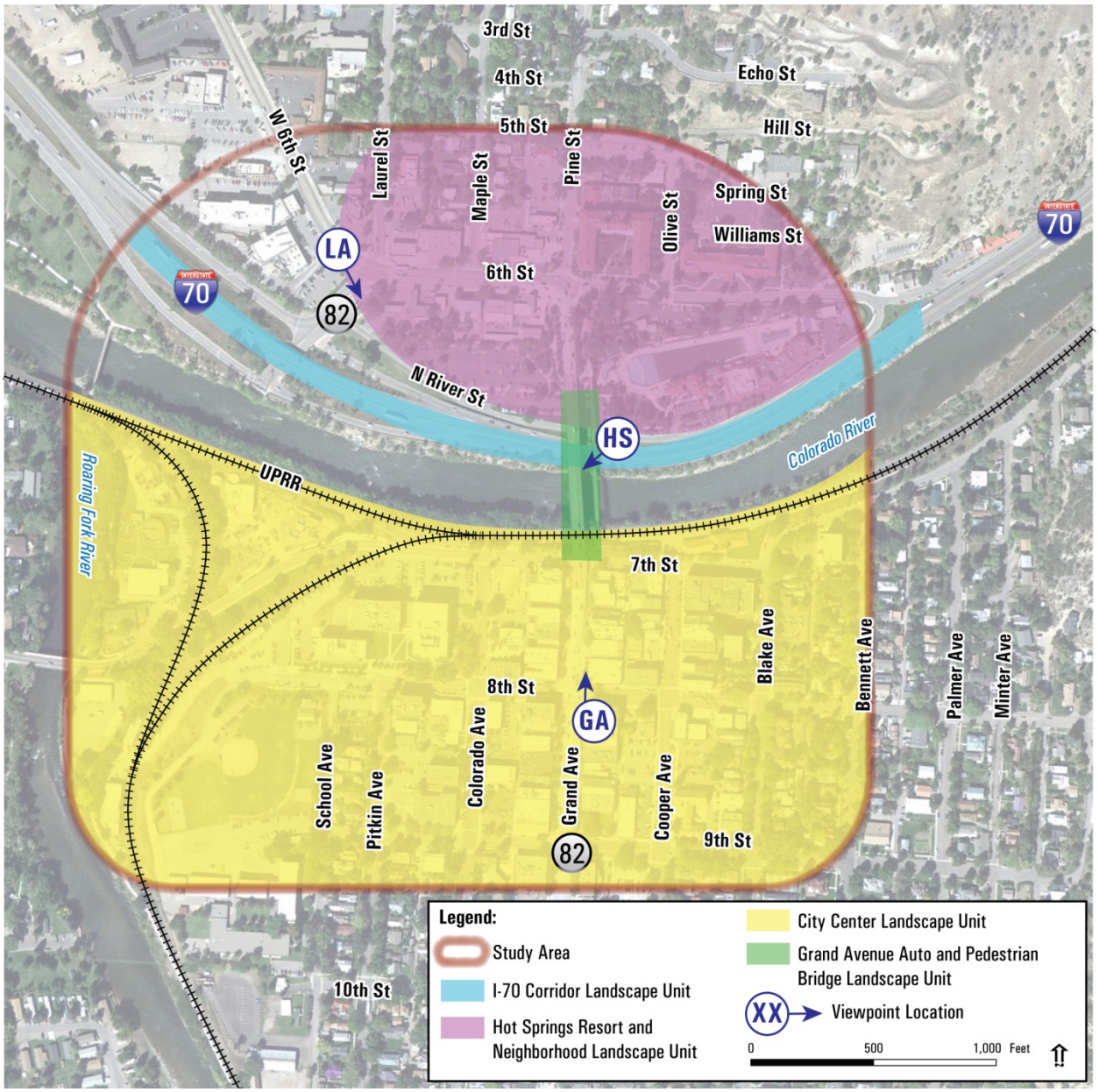
and human-made modifications, such as historic resources and residential and commercial development.

Regional Setting. Aerial view of study area looking south. Shows downtown Glenwood Springs in center with Roaring Fork Valley stretching to the south. I-70, the railroad, and the Colorado River are shown in center of photo, as well as existing highway and pedestrian bridges crossing over them. Glenwood Hot Springs and Hotel Colorado are shown at left, with historic train station shown at left in center of photo.

Source: Tsiouvaras Simmons Holderness Consulting Engineers (TSH).

The principal landscape units identified within the study area are defined below and shown on Figure 2. The I-70 Viewshed comprises all landscape units.

FIGURE 2: LANDSCAPE UNITS AND TYPICAL VIEWPOINTS



Source: Jacobs, 2014.

- **City Center Landscape Unit**. This landscape unit is located in the historic town center south of the Colorado River. Views in this landscape unit consist of city streets arranged in a grid pattern emanating from the rail station and river's edge, with Grand Avenue as its center. City Center is characterized by views of pedestrian-scale, one- to three-story historic and modern-era commercial and retail buildings located near the railroad station. Multistoried commercial buildings transition to one-story residential neighborhoods at the unit's south edge. City Center is a walkable urban district with views of storefronts and mature street-side landscaping. Although the traffic and wide pavement of Grand Avenue creates a physical and visual barrier through the center of the city, the barrier effect has been somewhat softened by the creation of pedestrian crossing amenities, such as use of pavers at crosswalks. Because of the developed and relatively flat nature of City Center, combined with the dense riverbank vegetation, views of the Colorado River are limited to areas adjacent to the river.

City Center Landscape Unit. View from Grand Avenue and 8th Street looking north toward the Grand Avenue Bridge and Hotel Colorado. Depicts a typical view within the City Center Landscape Unit with commercial/retail buildings and mature commercial landscaping in the foreground and middleground, and vegetated hills in the near distance.

Source: Jacobs.

- **Grand Avenue Auto and Pedestrian Bridges Landscape Unit.** This landscape unit consists of the Grand Avenue Bridge and adjacent pedestrian bridge that cross over 7th Street, the railroad tracks, I-70, and the Colorado River. This landscape unit is characterized by views of human-made linear transportation structures and the movement of motorized vehicles and pedestrians across the Colorado River. The foreground views of the river and railroad tracks are not blocked by surrounding land use. Middleground views include the historic downtown area to the south (the City Center Landscape Unit), Glenwood Hot Springs, Hotel Colorado, and urban development to the north (Hot Springs Resort and Neighborhood Landscape Unit). Background views of the surrounding mountains, the river corridor aligned east and west, and the mouth of Glenwood Canyon to the east are unobstructed.

Grand Avenue Auto and Pedestrian Bridges Landscape Unit. View of bridges from 7th Street south of Colorado River, showing pedestrian bridge with Grand Avenue Bridge partially visible behind.
Source: Jacobs.

- **Hot Springs Resort and Neighborhood Landscape Unit.** This landscape unit is located across the Colorado River from the City Center Landscape Unit. This area is characterized by the historic Hotel Colorado and Glenwood Hot Springs with park-like mature landscaping that combine to create a moderately intact and unified "resort campus." The historic buildings are vivid, iconic structures with building materials that are unified with the surrounding rock-faced hillsides. The Hot Springs Resort and Neighborhood Landscape Unit includes the residential neighborhood to the northwest, which consists of single- and multi-family residential buildings and mature landscaping. The unity of this landscape unit disintegrates somewhat farther west on 6th Street because of the presence of parking lots and auto-oriented businesses, such as motels, retail shops, and restaurant buildings built in mixed contemporary architectural styles. The westbound I-70 off-ramp introduces highway

traffic onto the traditional grid city street pattern in the southern portion of this landscape unit. I-70 creates a visual intrusion to the south edge of this landscape unit. The landscaped area adjacent to the I-70 off-ramp provides a visual cue to travelers that they are moving from the I-70 Corridor Landscape Unit into the Hot Springs Resort and Neighborhood Landscape Unit.

Hot Springs Resort and Neighborhood Landscape Unit. View toward Hotel Colorado looking north from 7th Street, with view of pedestrian bridge to the left. Depicts park-like setting with mature trees in the southeast portion of the Hot Springs Resort and Neighborhood Landscape Unit.

Source: Jacobs.

- **I-70 Corridor Landscape Unit.** This landscape unit consists of the I-70 highway corridor that crosses east-west through the study area. I-70 is wedged between the Colorado River and Glenwood Hot Springs. It is confined by its highway elements, including the roadway pavement, vehicle guardrails, on- and off-ramps, and fencing. I-70 is visually intact as a linear highway, but it is not visually unified with its more natural surroundings. I-70 also creates a visual and physical barrier between the historic City Center south of the river and the historic Glenwood Hot Springs and neighborhood north of the river.

Hot Springs Resort and Neighborhood Landscape Unit. View of Pine Street/6th Street intersection area looking west. Depicts the western portion of the Hot Springs Resort and Neighborhood Landscape Unit, and shows one-story auto-oriented commercial and retail urban development and background mountain views.

Source: Jacobs.

- **I-70 Viewshed.** The I-70 Viewshed comprises all landscape units. The view of the Grand Avenue Bridge and pedestrian bridge as seen by I-70 motorists is the principal viewshed within the study area. This viewshed looks west from I-70 toward Glenwood Springs and surrounding undeveloped hillsides. The I-70 Viewshed includes views of dense roadside vegetation that block views of downtown Glenwood Springs, views of the pedestrian bridge that partially block views of the adjacent Grand Avenue Bridge, and views of the Glenwood Hot Springs. Hillsides form the boundary of this viewshed in all directions.

5.2 Viewing Audience

5.2.1 Study Area Viewer Groups

The study team identified and categorized viewer groups in the study area. The viewer groups are categorized by what viewers can see as they move through the study area, or what can be seen of the project from adjacent areas. Each viewer group has a different visual sensitivity depending on the frequency and duration of their views, as well as their visual expectation and relationship to the visual resource. Viewers' activity can affect their sensitivity to the views of and from the study area. Residents and individuals driving for pleasure or engaging in recreational activities have a higher sensitivity to visual changes. Residents' sensitivity to visual quality is high because of the longer duration and more frequent exposure to the study area's visual setting. Like residents,

recreationists are highly sensitive to the visual environment because the purpose of their activities is pleasure or relaxation. Visual sensitivity is lower for people driving to and from work who experience the visual environment as part of their work routine.

The viewer groups identified in the study are described below, and are generally listed from highest to lowest in terms of visual sensitivity:

1. **Residents**. This group includes those who live within the study area. Residents are the most sensitive viewer group because they view the study area for the longest period of time compared to all other viewer groups, and because the visual quality of their living environment affects their quality of life.
2. **Owners/employees/patrons of local commercial/retail/hotel businesses.** This group includes those who work at or visit businesses in the study area. This group views the study area while engaging in common daily activities, such as shopping or commuting to and from work. However, they would view the study area for a longer time than viewer groups mentioned below. Additionally, the visual quality of the study area is important to this viewer group because the scenic beauty of the area attracts tourism, upon which many businesses in the study area rely.
3. **Tourists**. This group includes tourists visiting the study area. The visual sensitivity of this group is high because the purpose of their trip is sightseeing and recreation. This group may move through the study area on foot, bicycle, automobile or other vehicle, or as train passengers.
4. **River recreationists**. This viewer group includes those who kayak, raft, float, or fish in the Colorado River within the study area. River recreationists are sensitive viewers because the recreation experience is enhanced or degraded by the visual quality of the recreation environment.
5. **Pedestrians and bicyclists.** This group includes those who move through the study area on foot or bicycle. Their visual sensitivity is high because this group views the study area for a longer period of time than those who travel through the study area at higher speeds via motor vehicle or train.
6. **I-70, SH 82, and local motorists.** This group includes drivers and passengers who view the study area while traveling at higher speeds than other viewer groups. I-70 motorists are the least sensitive viewer in this group because they travel through the study area at higher speeds than others in this group.

5.2.2 Local and Regional Plans for Visual Quality

Glenwood Springs is located in a scenic area adjacent to I-70, which travels through Glenwood Canyon and is nationally known as a scenic interstate highway. The study area's natural scenic beauty and Glenwood Hot Springs draw visitors from around the country, making tourism an important part of Glenwood Springs' economy. As such, visual quality is an important aspect of the Grand Avenue Bridge project.

To better predict viewers' response to project effects, the study team reviewed area plans to identify community goals and policies concerning visual resources in the study area. Glenwood Springs and Garfield County goals and policies reflect the significance of the study area's visual and aesthetic quality. They are summarized below and detailed in **Attachment A.**

- ***Glenwood Springs Comprehensive Plan***, adopted March 2011 (City of Glenwood Springs, 2011). This plan acknowledges the value of Glenwood Springs' scenic natural setting and small town character by implementing zoning, lighting, and land conservation policies to preserve the area's high visual quality.
- ***Garfield County Comprehensive Plan 2030***, adopted November 20, 2010 (Garfield County, 2010). This plan recognizes the importance of preserving the visual quality of the county for its residents and visitors with policies and guidelines that protect natural and scenic resources, wildlife and native vegetation. It also includes policies to minimize light pollution and ensure compatibility of new developments with adjacent land uses.
- ***A Redevelopment Strategy for the Confluence Area, City of Glenwood Springs*** (City of Glenwood Springs, 2003). This report notes the importance of protecting the area's river resources and mountain views, which are important community amenities.
- **I-70 Mountain Corridor Aesthetic Guidance** (CDOT). This guidance provides an aesthetic vision for the entire I-70 corridor to guide the design of future interstate highway improvements. The SH 82 Grand Avenue Bridge project is not an I-70 Mountain Corridor project; however, because the Grand Avenue Bridge and adjacent pedestrian bridge cross over I-70, this visual impact assessment considered the guidelines, goals, and objectives in the guidance as they pertain to the Glenwood Springs area. Following are excerpts from the guidance that are relevant to the Grand Avenue Bridge project:

  - Glenwood Springs is a gateway that provides a sense of entry or arrival to key portions of the I-70 corridor. The east entrance to Glenwood Springs serves as a "front door" to Glenwood Springs, a community destination.
  - Special features of Glenwood Springs include dramatic views across Glenwood Springs and close range views into Glenwood Canyon; historic buildings and accommodations, such as the Glenwood Hot Springs; the city's railroad and mining history; and the shift in I-70 views from a rural to urban environment.
  - The guidance established aesthetic goals and objectives for the Glenwood Springs area that were considered in this project's development and design, and will continue to be considered during the final design process. The visual values and aesthetic principles are described in **Attachment A** and in the mitigation section of this technical memorandum.

5.2.3 Public and Agency Comments

To help predict viewers' responses to visual changes associated with the project, the study team also reviewed comments received from agencies and members of the public during the project's scoping and alternatives analysis phases. Comments received indicate that visual and aesthetic quality is an important project design consideration to agencies and members of the community. Most comments regarding visual and aesthetic concerns pertained to the proposed new highway and pedestrian bridges and are summarized as follows:

- Views of surrounding mountains are important, and views from businesses under or adjacent to the bridges should be considered.
- Aesthetics of the bridges are important. The new bridges should be attractive, serve as a visual invitation to visit Glenwood Springs, and fit in with the look and historic context of the surrounding area.
- The area under the bridges needs to be pleasant and inviting, such as a plaza under the Grand Avenue Bridge south of the Colorado River.

5.3 Areas where Structures are Proposed

This section describes the existing visual character of areas within study area landscape units where structures are proposed under the Build Alternative. Visual resources are considered as part of the visual ranges for foreground (within 0.0 to 0.5 mile of the viewer), middleground (0.5 to 4.0 miles from the viewer), or background (4.0 miles or greater from viewer). Foreground elements include features nearest to the viewer, and background elements are those features that are at a great distance from the viewer. The middleground of a view is intermediate between the foreground and background. Generally, the closer a resource is to the viewer, the more dominant and important it is in the visual range.

5.3.1 City Center Landscape Unit

7th Street at Grand Avenue Bridge

This area is located within the City Center Landscape Unit. The view of the Grand Avenue bridge from 7th Street has generally a low level of visual quality (see following photograph). Sensitive viewers of this area include local motorists, employees and patrons of area commercial and retail businesses, tourists, and bicyclists/pedestrians. Viewed from 7th Street, the area beneath the existing Grand Avenue Bridge presents a dark, closed-in visual environment dominated by views of transportation infrastructure. Views of the underside of the Grand Avenue Bridge include the bridge's substructure, including the underside of the bridge spans and deck, bridge pier, and abutment; parked cars; utilities; and evidence of bird roosting/nesting with netting to discourage bird use. Adjacent areas that can be seen from underneath the Grand Avenue Bridge include the sidewalk and east side of the bridge, concrete and paved sidewalks, paved roadways, commercial and retail businesses facing Grand Avenue, and commercial

landscaping. Where Grand Avenue begins to rise up to cross over the railroad tracks and river, a narrow northbound lane of Grand Avenue remains at-grade and runs along the east side of the bridge to provide access to 7th Street. This lane is locally referred to as the wing street, and is called the Grand Avenue wing street throughout this document. The Grand Avenue wing street can also be seen from underneath the Grand Avenue Bridge. The elevated ramp and connecting the pedestrian bridge to the Grand Avenue Bridge is visible, as well as its support posts.

Existing View Under Grand Avenue Bridge looking south. 7th Street visible in middleground. Buildings and trees along Grand Avenue wing street are shown at left. Note overhead pedestrian ramp in upper left of photo and support post. Also note Grand Avenue Bridge piers and parked cars behind bridge pier.

Source: TSH.

Pedestrian Views along Grand Avenue between 7th and 8th Streets

This area is located within the City Center Landscape Unit, and has a generally moderate level of visual quality. Sensitive viewers of this area include local motorists, employees and patrons of area commercial and retail areas, tourists, and bicyclists/pedestrians. In this area, sensitive viewers can see the Grand Avenue roadway and bridge and two-story historic and modern-era commercial and retail buildings. Sidewalks along the east side of Grand Avenue are narrower than those on the west side because of the Grand Avenue wing street located between the bridge and sidewalk. This creates a more enclosed visual environment on the east side of Grand Avenue where the bridge rises on retaining walls to span across the river. Views on the west side of Grand Avenue are more open, with wider pedestrian areas and no Grand Avenue wing street. The Grand Avenue roadway and bridge are a dominant visual presence that strengthens as the road rises to cross over the Colorado River, partially

blocking views across Grand Avenue. Vegetated hillsides are visible in the background from certain locations.

Pedestrian views along west side of Grand Avenue Bridge looking north. Shows pedestrian plaza areas on west sidewalk and partially blocked views of buildings across street. Hillsides are visible in distance.

Source: TSH.

Pedestrian views along west side of Grand Avenue Bridge looking south. Note paved pedestrian plaza area.

Source: Jacobs.

Pedestrian views along east side of Grand Avenue looking north toward Grand Avenue Bridge. Note pedestrian ramp along east side of Grand Avenue Bridge and Grand Avenue wing street between bridge and sidewalk, with narrower sidewalk area for pedestrians. Depicts partially blocked view of buildings across street. Hillsides are visible in distance.

Source: Jacobs.

Pedestrian views along east side of Grand Avenue looking south toward 8th Street. Note narrower pedestrian sidewalk area and Grand Avenue wing street between bridge and sidewalk.

Source: Jacobs.

Views for Residents along Grand Avenue between 7th and 8th Streets

This area is located within the City Center Landscape Unit, and has a generally moderate level of visual quality. Sensitive viewers for this area consist of upper-story residents along Grand Avenue south of the river. Their foreground views consist of Grand Avenue, Grand Avenue Bridge, and pedestrian bridge, with middleground views

of the railroad track, Colorado River, riverbank vegetation, and development north of the river. These residents also have views of the historic landmarks located on the north side of the river, including the Hotel Colorado and Glenwood Hot Springs. The Grand Avenue Bridge and pedestrian bridge visually intrude on views of the river and riverbank. Residents experience unobstructed background views of urban development and vegetated hillsides.

5.3.2 Hot Springs Resort and Neighborhood Landscape Unit

Views for Residents on North Side of River

This area is located within the Hot Springs Resort and Neighborhood Landscape Unit, and has a generally moderate level of visual quality. Sensitive viewers for this area consist of upper-story residents above the retail establishments along 6th Street north of the river's edge. Their views include foreground views of a paved parking lot and parking areas, with middleground views of the Colorado River, riverbank vegetation, railroad track, and downtown area of Glenwood Springs. These residents experience unobstructed background views of urban development south of the river and distant hillsides.

North Grand Avenue Bridge Touchdown Area

This area is located within the Hot Springs Resort and Neighborhood Landscape Unit, and has a generally moderate level of visual quality. Sensitive viewers for this area include local travelers, employees and patrons of adjacent commercial and retail establishments, bicyclists and pedestrians, and Hotel Colorado and Glenwood Hot Springs Lodge guests and employees. The existing Grand Avenue Bridge touches down north of the Colorado River at 6th Street, and is built on fill. A surface parking lot is adjacent to the west side of the Grand Avenue Bridge at riverbank level. Views are those of a transportation facility consisting of a paved four-lane roadway and bridge, traffic moving across the bridge and at the Pine Street/6th Street intersection, high-mast light poles, and traffic signals on poles. Background views consist of urban development with mature roadside trees, and distant hillsides. Views of the river are partially obstructed by the bridge and dense vegetation lining the river.

North Bridge Touchdown Area. View looking south along Pine Street toward Grand Avenue Bridge and its northern touchdown point. Hotel Colorado is located to the left. Note views of traffic approaching from bridge.

Source: Jacobs.

5.3.3 Grand Avenue Auto and Pedestrian Bridges Landscape Unit

Existing Grand Avenue Bridge and Adjacent Pedestrian Bridge

The Grand Avenue Bridge and adjacent pedestrian bridge make up the Grand Avenue Auto and Pedestrian Bridge Landscape Unit. This area has a generally moderate level of visual quality. This landscape unit crosses and is viewed from the I-70 Corridor Landscape Unit. Sensitive viewers include I-70 motorists, train passengers, tourists, local motorists, pedestrians /bicyclists, employees/patrons of commercial and retail establishments located near the two bridges on the north and south sides of the river, upper-story residences on Grand Avenue between 7th and 8th Streets south of the river and along 6th Street north of the river, and river recreationists. The Grand Avenue Bridge and pedestrian bridge are visually prominent to all sensitive viewers. The bridges are also visible from some of the area's historic resources, including historic commercial buildings along Grand Avenue and the railroad station on the south side of the river, and Hotel Colorado and Glenwood Hot Springs on the north side of the river.

The existing Grand Avenue Bridge is approximately 37 feet wide and 676 feet long, with open side railings and street lighting located on both sides. The bridge deck is

approximately five to six feet deep. This four-lane bridge is supported by eight concrete piers, with one pier located in the middle of the Colorado River and another located on the south riverbank adjacent to the railroad tracks. The number and three-legged design of the bridge piers creates numerous vertical visual intrusions for viewers at street level beneath the bridge. From the south, the Grand Avenue Bridge begins its rise over the Colorado River north of 8th Street, crosses the river on a straight alignment, and touches down on the north side of the river at 6th Street, where Grand Avenue becomes Pine Street.

Existing Grand Avenue Bridge, view looking south from pedestrian bridge. Shows bridge pier in river and on riverbank.

Source: Hermsen Consultants.

Existing Grand Avenue Bridge, view looking southeast from North River Street. Depicts visual intrusion created by the amount and design of bridge piers; street lighting along bridge is also visible. Pedestrian bridge and piers are visible in background.

Source: Jacobs.

The existing pedestrian bridge is approximately 10 feet wide with a concrete surface, open railings, and a truss bridge segment that partially screen views from the bridge. Lighting is provided on the bridge's side rails. The bridge crosses the Colorado River on a straight alignment and is located adjacent to the Grand Avenue Bridge on its east side. The pedestrian bridge blocks views of the highway bridge for I-70 westbound motorists. On the south side, two ramps provide connections to the bridge from Grand Avenue Bridge and 7th Street. On the north side, sidewalks along 6th Street and Grand Avenue lead to the pedestrian bridge. Pedestrians and bicyclists have noted that they experience a visual "tunnel" effect as they cross the bridge, which is created by the bridge's low superstructure and straight alignment. From the pedestrian bridge, bicyclists and pedestrians can see the Grand Avenue Bridge, Colorado River and distant views along the river, dense riverbank vegetation, distant hills, and Glenwood Canyon entrance to the east. Their views south of the Colorado River include the downtown developed area and distant hillsides; views north of the river include historic landmarks, such as Hotel Colorado and Glenwood Hot Springs Pool and Lodge, mature vegetation, commercial development, and hillsides.

Because the existing Grand Avenue Bridge and pedestrian bridge are adjacent to each other on the same straight alignment at similar heights, they appear as one bridge from the river or riverbanks for most viewers.

Existing Pedestrian Bridge, view looking northwest from 7th Street. Railroad tracks are seen in the foreground; the red-roofed Hotel Colorado and vegetated hillsides are seen in the background.

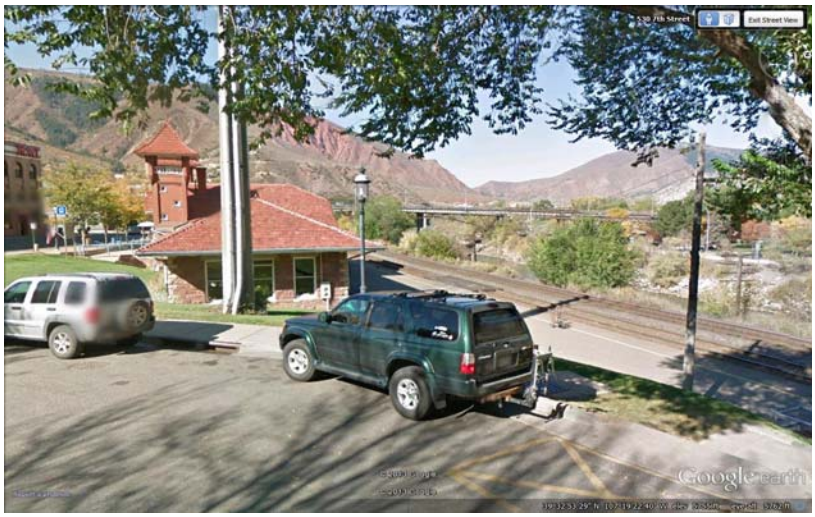
Source: Jacobs.

Existing Pedestrian Bridge, view looking north. Depicts the "tunnel" visual effect from the low bridge truss and straight alignment.

Source: Jacobs.

Existing Pedestrian Ramp/Stairs on South Side of River, view looking northeast from Grand Avenue wing street**.** Shows one connection to pedestrian bridge via stairs at 7th Street and second connection to pedestrian bridge via elevated ramp leading from Grand Avenue Bridge to pedestrian bridge.

Source: Jacobs.



Existing Pedestrian Bridge, view from 7th Street south of river looking west. Historic train station and railroad tracks are visible in the middleground, with hillsides visible in the background.

Source: Google Earth.

River Recreationist Views

River recreationists view the Grand Avenue Auto and Pedestrian Bridge Landscape Unit. These views have a generally moderate level of visual quality. River recreationist foreground views include the Colorado River and rocky, densely vegetated riverbanks. The Grand Avenue Bridge pier in the middle of the river creates a human-made visual intrusion on views of the river. Both bridges have piers located on the riverbank, which intrude on views of the natural landscape. The pedestrian bridge partially blocks views of the Grand Avenue Bridge to river recreationists east of the bridges, with the highway bridge becoming more visually apparent as they move closer to the two bridges. Vegetated hillsides are visible in the background, but both bridges visually intrude on those views.

River Recreationist View of Bridges from Colorado River looking west. Shows pedestrian bridge partially blocking views of Grand Avenue Bridge behind. Note bridge pier in middle of river and dense vegetation along riverbanks.
Source: Jacobs.

5.3.4 Visual Elements in Multiple Landscape Units

Landmarks

Several historic resources are visible within the study area, and are located within the City Center Landscape Unit and Hot Springs Resort and Neighborhood Landscape Unit. Historic resources include two-story commercial buildings along Grand Avenue and the historic Denver & Rio Grande railroad tracks and station along the south side of the river. The historic three-story Citizen's National Bank Building on Grand Avenue at 8th Street is one of the more prominent historic buildings in Glenwood Springs, as is the historic multistory Hotel Colorado with red roof and prominent twin towers located north of the Colorado River on Pine Street. The Glenwood Hot Springs and Lodge is another well-known and visually prominent historic structure within the study area. It is located just east of Grand Avenue/Pine Street on the north side of the Colorado River. This multistoried building with peach-colored stone and red roof is highly recognizable, and has served as a tourist destination for over 120 years.

The mountains immediately surrounding Glenwood Springs are visually prominent, highly recognizable features and can be viewed from all landscape units within the study area. These mountain views are highly valued by the community. Although views of Mt. Sopris, located south of Glenwood Springs, are noted as an important community amenity in *A Redevelopment Strategy for the Confluence Area* (City of Glenwood Springs, 2013), Mt. Sopris is not visible from the study area.

Glenwood Hot Springs as seen from pedestrian bridge, looking east.

Source: Jacobs

Citizen's National Bank Building on Grand Avenue at 8th Street.

Source: Hermsen Consultants

Hotel Colorado on Pine Street north of Colorado River.

Source: Hermsen Consultants

Nighttime Lighting or Glare

Views of nighttime lighting and glare occur in all landscape units and are seen by all sensitive viewer groups. Nighttime lighting would be a special concern for residents and hotel guests with windows facing the project. Street lighting within the study area is located along I-70, major streets, and on the Grand Avenue Bridge. The existing pedestrian bridge has lighting on some side rails. Major intersections have street lighting and traffic signals, introducing nighttime lighting for sensitive viewers in the vicinity of these facilities. In addition, car headlights are visible to viewers in the vicinity of roads and bridges, creating nighttime glare.

5.4 Existing Visual Quality Rating for Selected Viewpoints

Because it is not feasible to analyze all the views in which the project would be seen, it is necessary to select a number of key viewpoints that would most clearly display the visual effects of the project. Key views also represent the primary viewer groups that would potentially be affected by the project.

To assess the existing visual quality of the study area, the study team first identified representative views that may be valued by viewer groups in the study area. These viewpoints were selected based on how they represented landscape units and views of sensitive viewers identified in the study area.

Figure 2 shows the viewpoint locations. The study team then ranked the existing visual quality for each viewpoint. Visual quality for the three key viewpoints is measured by the strength of the visual characteristics of vividness, intactness, and unity, as defined below:

- **Vividness** is the visual power or memorableness of landscape components as they combine in striking or distinctive visual patterns.
- **Intactness** is the visual integrity of the natural and human-built landscape and its freedom from encroaching elements; this factor can be present in well-kept urban and rural landscapes, as well as natural settings.
- **Unity** is the visual coherence and compositional harmony of the landscape considered as a whole; it frequently attests to the careful design of individual components in the artificial landscape.

Each of these visual characteristics was ranked in terms of Very Low, Low, Moderately Low, Moderate/Average, Moderately High, High, or Very High. The study team then combined the rankings of all viewpoints to determine the overall existing visual quality in the study area. Following are the viewpoints and their existing visual quality ratings.

5.4.1 Grand Avenue Viewpoint

Viewpoint #GA – Grand Avenue Viewpoint: View from Grand Avenue at 8th Street looking north toward the Grand Avenue Bridge over the Colorado River.

This viewpoint, located within the City Center Landscape Unit, illustrates the typical view of owners/employees/patrons of local commercial/retail/hotel businesses, tourists, pedestrians and bicyclists, local motorists looking north toward the Grand Avenue Bridge over the Colorado River. The vividness of this viewpoint is Moderately High, based on distinct historic architecture adjacent to a unique street pattern (bridge touchdown) with an undeveloped mountain background. The hillside in the background appears intact and presents a consistent pattern in the distance; however, the human-made elements (i.e., commercial development and traffic signals) visually encroach on that pattern. The roadway in the foreground is well defined, but the commercial buildings of both historic and contemporary architecture present a mixed pattern in the middleground, resulting in a Moderate/Average intactness rating for this view. Although the mature commercial landscaping in the middleground creates a visual link to the natural landscape in the background, overall the natural hillsides in the background, human-made commercial development in the middleground, and road pavement in the foreground do not form a coherent harmonious visual pattern, resulting in a Moderate/Average unity rating. The overall visual quality rating for this view is Moderate/Average.

Source: TSH.

Viewpoint #GA – Grand Avenue and 8th Street Looking North.

5.4.2 Hot Springs/I-70 Traveler Viewpoint

Viewpoint #HS – Hot Springs / I-70 Traveler Viewpoint: View from the Glenwood Hot Springs and Lodge looking southwest toward I-70, Colorado River, Grand Avenue Bridge, and pedestrian bridge.

This viewpoint illustrates the view of employees and tourists at the Glenwood Hot Springs, bicyclists and local motorists traveling on North River Street, and westbound I-70 motorists. It captures views from the Hot Springs Resort and Neighborhood Landscape Unit, and views toward the I-70 Corridor Landscape Unit and Grand Avenue Auto and Pedestrian Bridge Landscape Unit. The human-made elements in this view (i.e., roadways, highway, concrete barriers and fencing, and high-mast lighting) contrast in form with views of the distant undeveloped hillsides. The pedestrian bridge superstructure is unique and memorable. Although the linear nature of the pedestrian bridge contrast in form to the distant hillsides, the bridge color blends with that of the reddish-brown color of the hillside, minimizing its visual intrusion. While background views of hillsides are common in the study area, in this view they are dominant visual elements, and are striking and memorable. The vividness rating for this view is High. The hillside in the background appears intact and presents a consistent landform pattern in the distance. The human-made elements (i.e., bridge, high-mast lighting) visually encroach on that pattern, although the pedestrian bridge color blends with the hillside. The roadway and commercial landscape present a defined visual pattern in the foreground and middleground, but contrast with the natural landscape. This view has a High intactness rating. The natural hillside in the background, human-made elements (i.e., bridge, lighting, and fencing) in the middleground, and road pavement in the middleground and foreground do not form a coherent visual pattern. However, the roadway draws the eye toward the hillsides in the distance, and the trees soften the visual linear lines of the bridge and create a visual link to the natural landscape in the background. The unity rating for this view is High. The overall visual quality rating for this view is High.

Source: Jacobs.

Viewpoint #HS – Hot Springs / I-70 Traveler Viewpoint. View from River street looking southwest toward pedestrian bridge and Grand Avenue Bridge

5.4.3 Laurel Street/6th Street Intersection Viewpoint

Viewpoint #LA – Laurel Street/6th Street Viewpoint: View from 6th Street and Laurel Street looking southeast toward the area of proposed intersection improvements and the Grand Avenue Bridge.

This viewpoint illustrates views of local motorists, employees/patrons of area commercial and retail establishments, tourists, and bicyclists/pedestrians. It captures views of the western area of the Hot Springs Resort and Neighborhood Landscape Unit. This area currently provides visual indication to those exiting I-70 that they have left an interstate environment and entered a city environment. Paved roadways dominate the foreground view, presenting an auto-dominated environment. The commercial landscaping in the middleground partially screens views of one-story commercial buildings and provides a visual link to views of the natural hillside in the background. The view of distant hillsides in this view is common in the study area, and the hillsides in this view are not particularly memorable or striking. Therefore, the vividness rating for this viewpoint is Moderate/Average. The paved roadways in the foreground present a defined pattern that sharply contrasts with views of natural landscape in the middleground and background. The distant hillside appears intact and provides a consistent pattern in the distance, although the pattern is somewhat intruded upon by human-made elements (i.e., traffic signal, signage, and signal poles). The natural landscaping in the middleground provides a visual link to the hillside in the distance. The intactness rating for this view is Moderate/Average. The hillside in the distance is visually linked with landscaping in the middleground. However, human-made elements

(i.e., one-story commercial buildings, traffic signal, signage, and poles) visually intrude on that view. Hillside and roadway are competing visual elements. The unity rating is Moderate/Average. Overall visual quality rating is Moderate/Average.

Source: Jacobs.

Viewpoint #LA – Laurel Street/6th Street Viewpoint. View from 6th Street and Laurel Street looking southeast toward proposed roundabout.

Table 1 summarizes the existing visual quality ratings for the selected viewpoints.

TABLE 1: VIEWPOINTS EXISTING VISUAL QUALITY RATINGS

Viewpoint	Vividness	Intactness	Unity	Overall Existing Visual Quality
#GA – Grand Avenue	Moderately High	Moderate/Average	Moderate/Average	Moderate/Average
#HS – Hot Springs	High	High	High	High
#LA – Laurel Street / 6th Street	Moderate/Average	Moderate/Average	Moderate/Average	Moderate/Average

5.4.4 Overall Study Area Visual Quality Based on Viewpoints

Based on the visual quality ratings for the representative viewpoints, the study area's overall existing visual quality was assessed as Moderately High.

6.0 IMPACTS

This section describes anticipated impacts to study area visual quality as a result of the No Action and Build Alternatives. Visual impacts can result from the removal or replacement of existing visual elements, such as new bridges, roadways, and retaining walls.

6.1 No Action Alternative

The No Action Alternative would not result in direct or construction visual impacts beyond those associated with implementation of other currently planned/programmed transportation improvements and future urban development and redevelopment. Indirect visual effects resulting from the No Action Alternative would include views of increased traffic on the Grand Avenue Bridge, at the Pine Street/6th Street intersection, and the Laurel Street/6th Street intersection as traffic continues to increase over time.

6.2 Build Alternative

Major visual elements of the Build Alternative are described below (refer to Chapter 2 of the *SH 82 Grand Avenue Bridge Environmental Assessment* for more detail).

- Replace existing highway bridge with a wider, higher highway bridge that curves to the west, touching down near the new roundabout intersection at 6th Street and Laurel Street.
- Replace existing pedestrian bridge with a wider pedestrian bridge.
- A new roundabout intersection at 6th Street and Laurel Street.

For an objective assessment of visual changes resulting from the Build Alternative elements and how they compare to existing conditions, the study team assessed visual impacts based on basic forms and color. Proposed bridge piers, decks, roundabout median, and other elements were assumed to be, and were assessed as if they had, a concrete (or neutral) color with no design enhancements, such as earth-tone finishes and texture. The project materials, light fixtures, colors, and other aesthetic features shown in the renderings presented throughout this report are not necessarily representative of the final bridge design. However, they do represent examples of aesthetic treatment options that will be considered during the final design process to mitigate adverse visual impacts.

6.2.1 Landscape Units and Viewshed Impacts

This section describes visual changes from the Build Alternative within the project's identified landscape units.

City Center Landscape Unit

Although the new Grand Avenue Bridge and new pedestrian bridge would introduce visual changes and new visual elements to this landscape unit, overall the proposed

improvements would have minimal visual changes to this landscape unit and would enhance its existing visual quality.

7th Street at Grand Avenue Bridge

To minimize the visual bulk of the bridge deck and create more head room beneath it, the bridge deck would be approximately three feet deep, which is two to three feet thinner than the existing bridge deck. Utilities located beneath the existing Grand Avenue Bridge would be moved to the new pedestrian bridge, eliminating views of utility piping. The underside of the bridge deck would be a solid surface, eliminating views of the bridge substructure elements and preventing bird roosting/nesting. The bridge abutment in this area would be similar to the existing abutment. The overhead ramp along the Grand Avenue Bridge to the pedestrian bridge and its support post would be removed. The ground under the bridge that currently slopes up toward the east would be flattened, creating more vertical space under the new bridge.

These improvements would visually open up the pedestrian areas under and east of the bridge near 7th Street, creating a more visually open and welcoming space, and would provide opportunities for development by others of plaza areas and aesthetic improvements. Two preliminary Grand Avenue Bridge design options for this area are illustrated below; the specific design of the bridge, piers, slope under the bridge, and pedestrian facilities in this area will be determined during the final design process. This area's existing low visual quality would improve to moderate visual quality as a result of the Build Alternative.

Existing view under the Grand Avenue Bridge at 7th Street looking south. Note overhead pedestrian ramp in upper left of photo and its support post in center of photo. Also note Grand Avenue wing street left of bridge, multiple bridge piers, and parked cars under bridge.

Source: Jacobs.

View under the Grand Avenue Bridge at 7th Street looking south (two design options). Note removal of pedestrian ramp and support post and removal of Grand Avenue wing street left of bridge to accommodate a widened bridge, allowing for a wider pedestrian sidewalk area.

The top option locates bridge piers on the outside edge of the bridge, creating a more visually open space under the bridge, while narrowing the visual space at the sidewalk.

Conversely, the bottom option brings the bridge piers closer together underneath the bridge, narrowing the area under the bridge but visually opening up the sidewalk space.

Note: These renderings depict a preliminary level of design and are subject to modification.

Source: Jacobs

Pedestrian Views along Grand Avenue between 7th and 8th Streets

The slightly higher bridge structure along Grand Avenue would block views across Grand Avenue to a greater degree than the existing bridge. The wider bridge and roadway would move closer to the historic and modern-era commercial and retail establishments north of 8th Street along both sides of Grand Avenue, changing views to those of narrower sidewalks and strengthening the visual presence of the roadway and bridge for tourists, bicyclists and pedestrians, and employees/patrons of area commercial and retail businesses. Fill walls provided on both sides of the bridge at the bridge landing area would be similar to the existing fill walls. Hillsides would remain visible in the background. The visual quality of this area would remain moderate under the Build Alternative.

Existing pedestrian views. West side of Grand Avenue between 7th and 8th Streets looking northeast toward the river.

Source: Jacobs.

Simulated pedestrian views. West side of Grand Avenue between 7th and 8th Streets looking northeast toward the river. A widened Grand Avenue is closer to buildings. Higher bridge in this area blocks views across the street to a greater degree than existing conditions. Bridge railings block more of pedestrians' view of historic buildings on other side of the street. A preliminary level of design is shown and is subject to modification.

Source: 200 Inc. and Jacobs

Views for Residents along Grand Avenue between 7th and 8th Streets

The Build Alternative would result in visual changes for upper-story residents living above the commercial and retail establishments along Grand Avenue near 7th Street. The new Grand Avenue Bridge curving to the west would partially block views of the river and riverbank vegetation, and create views of a longer bridge. The new pedestrian bridge would have a stronger visual presence than the existing pedestrian bridge, and the new stair and dual elevator connection on the south end of the bridge would result in lower visual intrusion than the existing ramp connections. The visual quality for these viewers would degrade slightly but remain in the moderate category.

Hot Springs Resort and Neighborhood Landscape Unit

The new Grand Avenue Bridge would curve to the west away from this landscape unit, and the northern touchdown point of the new pedestrian bridge would be relocated slightly west of the existing touchdown point. Also, the northern touchdown point and associated fill of the existing Grand Avenue Bridge near 6th Street would be removed. These proposed improvements would create opportunities for redevelopment by others in this area, potentially introducing new views of a more pedestrian-friendly area. A water quality basin would be built adjacent to the westbound I-70 off-ramp. This feature would provide a visual indication to travelers that they have transitioned from a transportation-dominated visual environment to a city environment. The design features of the water quality basin will be determined during final design. The Build Alternative would increase the visual separation between the park-like atmosphere of this landscape unit and the Grand Avenue transportation facilities. The Build Alternative would strengthen the visual cohesion of the Hot Springs Resort and Neighborhood Landscape Unit and improve its visual quality overall.

Views for Residents on North Side of River

The upper-story residents above the retail establishments along 6th Street north of the river would experience visual changes from the new bridges associated with the Build Alternative. The new pedestrian bridge would be more visually apparent, and its design likely would make views of the bridge more vivid and memorable. The new Grand Avenue Bridge would be visible in the middleground and mostly block existing views of the Colorado River and riverbank vegetation to the south, changing residents' middleground views to that of an elevated, four-lane, paved bridge. Background views of urban development and distant hills to the south and west would be unchanged. The Build Alternative would degrade these views to a low level of visual quality.

Grand Avenue Bridge Northern Touchdown Area

The Build Alternative would change views of this area as seen by local travelers, tourists, employees and patrons of adjacent commercial and retail establishments, bicyclists and pedestrians, Hotel Colorado guests and employees, and Glenwood Hot Springs visitors. Their views of a four-lane paved bridge on fill would change to views of a highway bridge curving away to the west, with potential views of new urban redevelopment by others in the existing touchdown area. These changes would replace

views of a transportation facility to views of a more pedestrian-scale and pedestrian-friendly area, improving the general visual quality of this area.

Grand Avenue Auto and Pedestrian Bridges Landscape Unit

The new Grand Avenue Bridge and pedestrian bridge would become more visually prominent in this landscape unit. Because of the different alignments proposed for the new Grand Avenue Bridge and pedestrian bridge compared to existing conditions, the two bridges would become separate visual elements instead of appearing as one bridge structure from the river's edge. The Build Alternative would improve the visual quality of this landscape unit to a Moderately High rating because of the aesthetic and context-sensitive elements that would be incorporated into the designs of the new bridges.

Grand Avenue Bridge and Adjacent Pedestrian Bridge

The new Grand Avenue Bridge would change existing views to those of a wider highway bridge with a simpler design than the existing bridge, making it visually subordinate to the design for the new pedestrian bridge. Motorists would be able to see over the approximately 32-inch-high solid concrete side barrier proposed for the highway bridge; therefore, the barrier would not block motorist's views from the bridge. Overall visual quality of the Grand Avenue Bridge would improve.

View of new Grand Avenue Bridge from west side of bridge looking east. A preliminary level of design is shown and is subject to modification.

Source: Jacobs.

The overall mass and form of the new pedestrian bridge would be similar to the existing pedestrian bridge. Major visual differences with the new pedestrian bridge include:

- A stairway and dual elevator connection at 7th Street.
- Pedestrian overlooks.
- A wider bridge than the existing bridge.

The new pedestrian bridge would eliminate the visual "tunnel" effect currently experienced by users of the existing bridge because it would be wider than the existing bridge and would not have above deck truss structures like that found on the existing pedestrian bridge. This, combined with pedestrian overlooks, would improve views from the bridge of the river, historic landmarks, distant hillsides, and Glenwood Canyon entrance. The new pedestrian bridge would create a gateway at the east entrance of Glenwood Springs. Overall, the visual quality of the pedestrian bridge would improve.

In response to stakeholder input, and to address I-70 Mountain Corridor Aesthetic Guidance goals and policies for the Glenwood Springs area, one goal of the Build Alternative is to create a gateway to Glenwood Springs. This would be achieved by incorporating architectural and aesthetic treatments in the new pedestrian bridge design, as described in the mitigation section of this report.

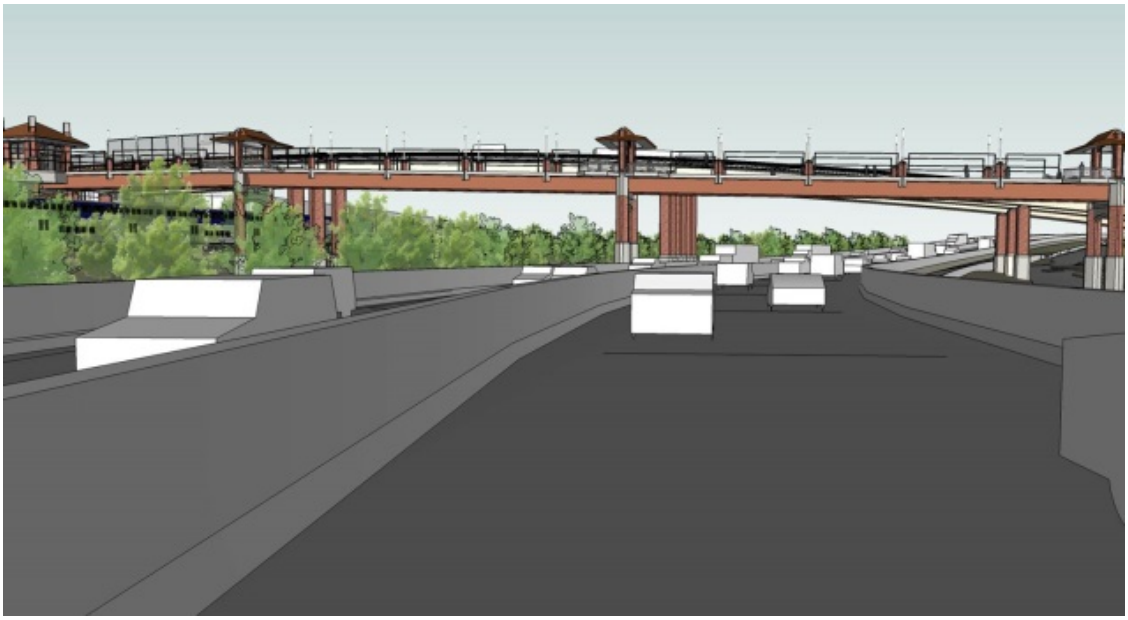
River Recreationist Views

Visual changes for river recreationists associated with the new highway and pedestrian bridges would include changed views of wider bridge structures while floating under the bridges. River users would spend slightly more time crossing under a wider, curved Grand Avenue Bridge compared to the existing narrower straight bridge because the curved bridge would cover a longer portion of the river. For river recreationists east of the two bridges, the pedestrian bridge would continue to partially block views of the new Grand Avenue Bridge. While the existing Grand Avenue Bridge has a pier in the middle of the river, the new Grand Avenue Bridge would not, which would visually open up the area under the bridge and remove that visual intrusion for river recreationists. River recreationist views of riverbanks with mature dense vegetation would temporarily change until restored riverbank vegetation reaches mature growth. The proposed dual elevator and stairway pedestrian bridge connection on the south side of the river would be partially visible to river recreationists. The visual quality of this area would improve under the Build Alternative but remain moderate.

I-70 Corridor Landscape Unit

I-70 would remain visually intact as a linear highway and continue to contrast with its natural surroundings. I-70 would continue to create a visual and physical barrier between the historic city center south of the river and the historic Glenwood Hot Springs and neighborhood north of the river. The new Grand Avenue Bridge would be visually subordinate to the new pedestrian bridge. The new pedestrian bridge would create a

gateway to Glenwood Springs for I-70 motorists and train passengers, thereby meeting the goals of the I-70 Mountain Corridor Aesthetic Guidance. The visual quality of this landscape unit would improve as a result of the Build Alternative.



View of new pedestrian and Grand Avenue bridges from I-70 travelers looking west. A preliminary level of design is shown and is subject to modification.
Source: StudioINSITE.

Visual Elements in Multiple Landscape Units

Landmarks

The Build Alternative would change views to and from the historic buildings along Grand Avenue between 7th and 8th Streets because the widened roadway and bridge would be located closer to these structures, and the higher bridge would block some views across the street to a greater degree than existing conditions. However, views to and from the historic Citizen's National Bank Building would be unaffected.

Views to the historic Hotel Colorado and Glenwood Hot Springs would minimally change as a result of the new Grand Avenue Bridge and pedestrian bridge. Views of Hotel Colorado and the Glenwood Hot Springs by motorists on the new Grand Avenue Bridge would change because the roadway bridge would curve away to the west, minimizing views of those buildings. Views of the Glenwood Hot Springs from I-70 motorists would not change, but pedestrian and bicyclist views from the new pedestrian bridge would improve because the new bridge would have pedestrian overlooks and would not have above deck truss structures like that on the existing pedestrian bridge to intrude on those views.

The Build Alternative would minimally change views from the Hotel Colorado and Glenwood Hot Springs. Employees and visitors at these historic landmarks would experience visual changes associated with a wider Grand Avenue Bridge that curves to the west, reducing views of the bridge from the Glenwood Hot Springs. The Build Alternative would remove the existing highway bridge and associated piers near this parking area, which would remove those visual intrusions between the parking lot and the Glenwood Hot Springs, opening up views in this area for visitors and tourists using the parking lot. The new pedestrian bridge would continue to partially obscure views of the new Grand Avenue Bridge from the Glenwood Hot Springs.

The existing ramps that provide connections to 7th Street and Grand Avenue on the south end of the bridge would be replaced with a stairway and dual elevators. The dual elevators would be located at the south end of the pedestrian bridge, with the stairway located on the east side of the elevator bank. The elevator height would extend approximately 15 to 20 feet above the pedestrian bridge deck, depending on the roof design. The dual elevators/stairway are anticipated to result in minimal visual changes to viewers along 7th Street. They would not intrude on existing views across the river, and views of distant hills would be largely unaffected. The existing mature street-side trees along the north side of 7th Street would be preserved during construction and not affected.

View of dual elevators and stairway pedestrian bridge connection, looking west from 7th Street. Note: A preliminary level of design is shown and is subject to modification.

Source: StudioINSITE

View of dual elevators with clock tower aesthetic treatment, looking northwest from 7th Street. A preliminary level of design is shown and is subject to modification.

Source: StudioINSITE

Cut and Fill Walls

The Build Alternative would require construction of several cut and fill walls. These walls would be located in areas such as the new Grand Avenue Bridge abutments/touchdown areas, the pedestrian bridge abutments, pedestrian bridge accesses north of the river, pedestrian tunnel southeast of the 6th Street/Laurel Street roundabout, and along the I-70 on-ramp. These walls would be located within several landscape units and would be seen by all viewer groups to varying degrees. Walls range between approximately 2.5 feet to 25 feet in height, and between approximately 15 feet to 562 feet in length. The tallest walls would be located at the bridge abutment to River Road along river road and parking lot, and at the steps by the northern pedestrian bridge abutment. The longest wall would be located along the south side of the I-70 eastbound on-ramp. Several walls would be located in areas where similar walls currently exist and, therefore, would result in a minor visual change. Wall locations, type, and approximate length and height would be determined during final design. Preliminary wall locations and dimensions are listed in Table 2.

TABLE 2: PROPOSED CUT AND FILL WALLS

Wall Location, Type	Length (feet)	Min Height (feet)	Max Height (feet)
Village Inn parking/I-70 on-ramp . Parking lot above road, cut wall.	149	2.5	6
North end of pedestrian underpass (west), cut and fill along wall. Tiered wall if needed for landscaping	101	2.5	10
North end of pedestrian underpass (west), cut wall. Tiered wall if needed for landscaping	110	2.5	14.5
North end of Pedestrian underpass (east), cut wall	131	2.5	8.4
Wall between new abutment and pedestrian underpass, fill wall	140	6.3	19
South end of pedestrian underpass. Wall parallel to roadway on either side of box, fill wall	81	2.5	12.5
South end of pedestrian underpass. Located along water quality pond, fill wall	49	3	4
Wall between River Street and off-ramp. Extends to water quality pond, fill wall	318	2.5	10
Wall between River Street and off-ramp. Extends to water quality pond, fill wall	521	2.5	6.5
From bridge abutment to River Road. Along river road and parking lot, fill wall	158	2.5	25
NE corner of proposed parking lot widening. Extension of existing wall that is leaning over, cut wall	111	12	17
Wall for steps by ped bridge abutment, fill wall	91	2.5	25
West side of ped bridge abutment needs small wall or wingwall, cut wall	36	2.5	16
I-70 on-ramp between ramp and river. Ties to existing type 7 barrier, fill wall	562	2.5	11
Downtown under bridge from abutment to 7th Street, cut wall	117	2.5	4
Downtown. Small walls on north side of abutment, cut and fill wall	19.5	2.5	10.5
Downtown. Small walls on north side of abutment, cut and fill wall	15	3	10.5
Downtown. Tall walls coming off abutment on either side of bridge	211	2.5	13
Downtown. Tall walls coming off abutment on either side of bridge, fill wall	155	2.5	11.5
Wall between RR and 7th Street. Along sidewalk by pedestrian ramp, fill			

Nighttime Lighting or Glare

The Build Alternative would provide pedestrian-scale lighting on the pedestrian bridge and adequate lighting on the Grand Avenue Bridge to create a safe driving environment.

Lighting also would be provided at the entrance/exit points of both bridges and at the new Laurel Street/6th Street roundabout intersection. These lighting changes would potentially increase light glare and sky glow during the nighttime over current conditions.

I-70 Viewshed

The new pedestrian bridge would result in visual changes in the I-70 viewshed. The new pedestrian bridge would create a visual gateway and sense of entry into Glenwood Springs, consistent with the I-70 Mountain Corridor Aesthetic Guidance.

6.2.2 Visual Quality Rating Changes for Selected Viewpoints

The study team completed Visual Assessment Worksheets for the selected viewpoints to assess visual impacts as a result of the Build Alternative (included in **Attachment B**). The visual impacts for each viewpoint are described below.

Grand Avenue Viewpoint

Viewpoint #GA – Grand Avenue Viewpoint: View from Grand Avenue at 8th Street looking north toward the Grand Avenue Bridge over the Colorado River.

The visual change from the Build Alternative is almost indiscernible in this view. Views of the historic buildings along Grand Avenue, Grand Avenue as it rises to cross over the Colorado River, and views of distant hillsides remain memorable and unchanged; therefore, the vividness rating for this view would remain Moderately High. The visual pattern of the distant hillside and human-made elements in this view remain largely unchanged. Although the roadway definition would be slightly improved by the roadway widening, the intactness rating for this would not change and remain Moderate/Average. The improvements would not change the existing visual pattern; therefore, the unity rating would not change and remain Moderate/Average. The overall visual quality rating for this view would not change and remain Moderate/Average.

Source: TSH.

Viewpoint #GA – Grand Avenue Viewpoint at 8th Street looking North: Before View.

Source: 200 Inc.

Viewpoint #GA – Grand Avenue Viewpoint at 8th Street looking North: After View. A preliminary level of design is shown and is subject to modification.

Hot Springs / I-70 Traveler Viewpoint

Viewpoint #HS – Hot Springs / I-70 Traveler Viewpoint: View from the Glenwood Hot Springs and Lodge looking southwest toward I-70, Colorado River, Grand Avenue Bridge, and pedestrian bridge.

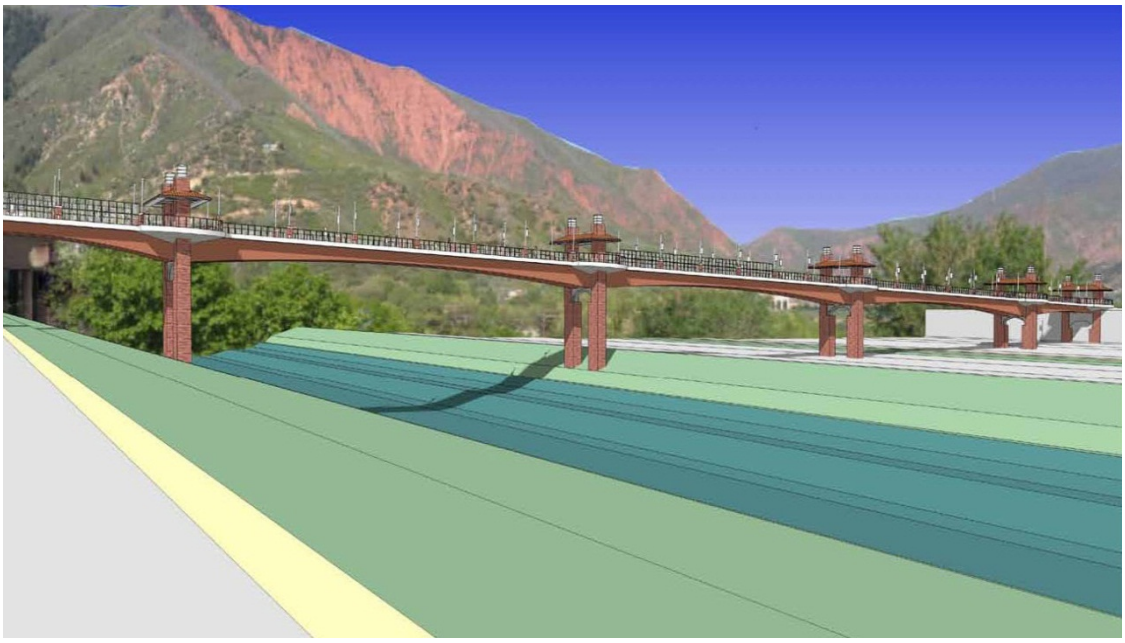
The visual simulation used for this analysis depicts a symmetric cable-supported pedestrian bridge with single tower, which is one of the bridge types eliminated from further consideration. The renderings of the five-span variable depth girder bridge presented below represent the bridge's mass and form. The human-made elements, including roadways, highway, concrete barriers, and fencing continue to contrast in form with views of the distant undeveloped hills. The new pedestrian bridge design is unique and memorable. Hillsides in the background continue to be dominant visual elements, and are striking and memorable. The vividness rating for this view is unchanged and remains High. The background hillsides continue to appear intact and present a consistent pattern in the distance. The roadway still presents a defined pattern in the foreground and middleground and continues to contrast with the natural landscape. The intactness rating is slightly reduced but remains High. The natural hillside in the background, human-made elements (i.e., bridge, lighting, and fencing) in the middleground, and road pavement in the middleground and foreground continue to present an incoherent visual pattern. The roadway continues to draw the eye toward the hillsides in the distance, and the trees still soften the visual linear lines of the new bridge, creating a visual link to the natural landscape in the background. The unity rating for this view is slightly reduced but remains in the High category. The overall visual quality rating for this view is slightly reduced but remains in the High category.

Source: Jacobs.

Viewpoint #HS – Hot Springs / I-70 Traveler Viewpoint, view from River street looking southwest toward pedestrian bridge and Grand Avenue Bridge: Before View.

Source: Jacobs.

Viewpoint #HS – Hot Springs / I-70 Traveler Viewpoint, view from River street looking southwest toward pedestrian bridge and Grand Avenue Bridge: After View. Note: this rendering does not include the existing light pole in the center of the photograph, which is a prominent existing visual intrusion in this view. A preliminary level of design is shown and is subject to modification.



Source: Studio INSITE.

View of pedestrian bridge, from west looking east. Note that highway bridge would curve in front of the pedestrian bridge in this view. A preliminary level of design is shown and is subject to modification.

Source: Studio INSITE.

View of pedestrian bridge, from west looking east. Note that highway bridge would curve in front of the pedestrian bridge in this view. A preliminary level of design is shown and is subject to modification.

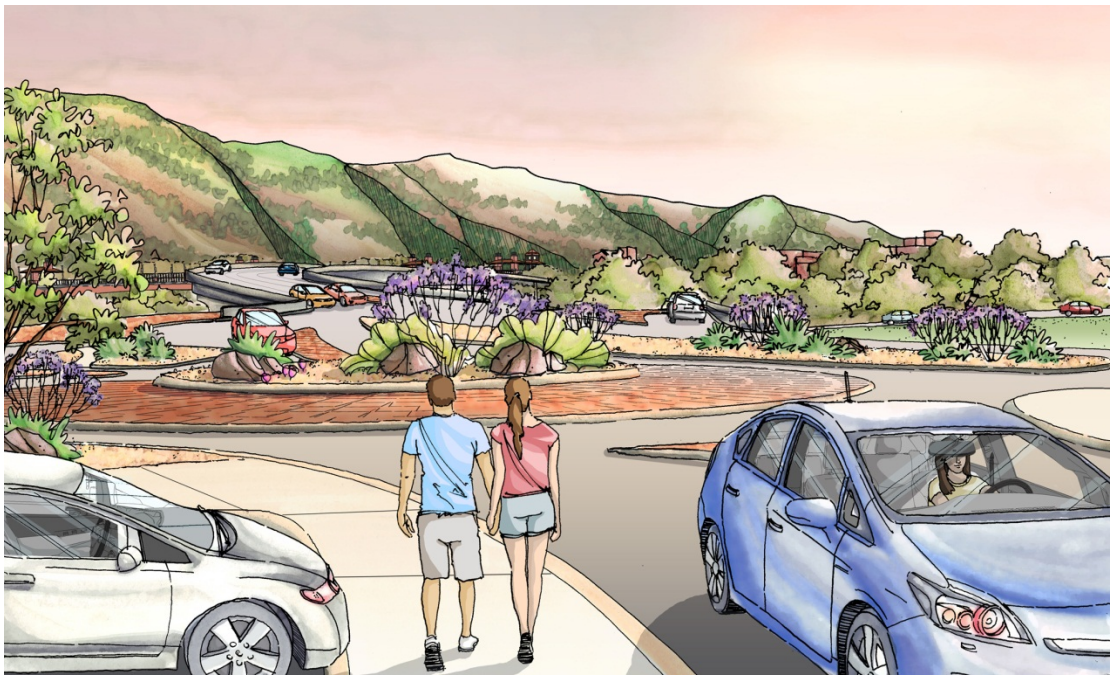
Laurel Street/6th Street Viewpoint

Viewpoint #LA – Laurel Street/6th Street Viewpoint: View from 6th Street and Laurel Street looking southeast toward the area of proposed intersection improvements and the Grand Avenue Bridge.

The Build Alternative would construct a new roundabout intersection in this area, and a new Grand Avenue Bridge that would curve toward and touchdown near the new roundabout intersection. Paved roadways continue to dominate the foreground view. Removal of landscaping in the middleground removes the visual link to natural hillsides in the background, although it opens up more views of the hillsides. The vividness rating for this viewpoint is unchanged and remains Moderate/Average. Roadways in the foreground continue to present a defined pattern that sharply contrasts with views of natural landscape in the middleground and background. Removal of natural landscaping in middleground removes visual link to natural hillside in distance. The contrast between transportation facilities in foreground and middleground and natural landscape in the background is stronger. The intactness rating for this view is reduced but remains Moderate/Average. Removal of middleground landscaping removes the visual link to distant hillsides. Distant hillside and roadway continue to be competing visual elements, but to a greater degree than existing conditions. The unity rating is reduced to Moderately Low. The visual quality rating for this view would be reduced but remain in the Moderate/Average category.

Source: Jacobs.

Viewpoint #LA –6th Street and Laurel Street looking southeast toward proposed roundabout: Before View.



Source: Jacobs.

Viewpoint #LA –6th Street and Laurel Street looking southeast toward proposed roundabout: After View. The materials, colors, landscaping, and other aesthetic features shown are not necessarily representative of the final roundabout design. However, they do represent examples of aesthetic treatment options that will be considered during the final design process to mitigate adverse visual impacts. Assessment assumed neutral (concrete) color for roundabout elements.

Summary of Visual Quality Changes by Viewpoint

A general assessment of potential change in the study area's visual quality can be made by comparing the change of each viewpoint's vividness, intactness, and unity ratings.. These changes are summarized in **Table 3**.

Visual changes for the selected viewpoints are measured in terms of Low, Moderate, Moderately High, or High changes to visual resources. Based on the visual quality ratings, the study team has determined that, with implementation of mitigation measures outlined later in this report, the Build Alternative would result in a moderate visual change within the study area. A moderate visual change means that a moderate adverse change to the visual resource with moderate viewer response would occur, and that the visual impact can be mitigated within five years using conventional practices (refer to the mitigation section later in this report for description of measures that CDOT will implement to mitigate visual impacts). As such, the study area's overall existing visual quality would remain Moderately High after construction of the Build Alternative.

TABLE 3: SUMMARY OF VISUAL QUALITY CHANGES BY VIEWPOINT

Criteria	View #GA		View #HS		View #LA	
	Existing Condition	After Construction	Existing Condition	After Construction	Existing Condition	After Construction
Vividness	Moderately High	Moderately High	High	High	Moderate/ Average	Moderate/ Average
Intactness	Moderate/ Average	Moderate/ Average	High	Moderately High	Moderate/ Average	Moderate/ Average
Unity	Moderate/ average	Moderate/ Average	High	High	Moderate / Average	Moderately Low
Overall Visual Quality Rating	Moderate/ Average	Moderate/ Average	High	High	Moderate / Average	Moderate / Average
Change in Overall Visual Quality (degraded, no change, or improved)	No change		No change		No change	

6.2.3 Predicted Viewer Response

Viewer response is predicted from an analysis of the viewer's sensitivities and the viewer's exposure. These elements together form a prediction of how project viewer groups may react to the visual changes created from the project.

Predicted Viewer Response by Viewpoint

This section describes the predicted viewer response to the visual changes for each viewpoint associated with the Build Alternative based on local and regional visual and aesthetic policies and public and agency comments received during this study.

- **Viewpoint #GA (Grand Avenue).** Viewer response is predicted to be neutral because visual changes for this viewpoint resulting from the Build Alternative would be almost indiscernible and would not change the visual quality rating of the viewpoint.

- **Viewpoint #HS (Hot Springs**). Viewer response is predicted to be neutral. Although the visual quality rating for this viewpoint would not change, the color of the bridge contrasts with the earth tones of background hillsides.

- **Viewpoint #LA (Laurel Street/6th Street)**. Although removal of mature landscaping would remove the visual link to the natural hillsides in the background, it would open up more views of the hillsides themselves. Viewer response is predicted to be neutral.

Predicted Viewer Group Response by Landscape Unit

Viewpoint simulations discussed in Section 6.2.2 are one tool to help predict the response of residents and viewers moving through the project by vehicle or on foot. This section describes another tool used to predict viewer response to overall visual changes

associated with the Build Alternative that is based on local and regional visual and aesthetic policies and public and agency comments received during this study. They are organized by landscape unit.

- **City Center Landscape Unit.** The visual changes associated with the widened Grand Avenue roadway and bridge would be almost indiscernible to motorists driving along the road; therefore, local motorists are predicted to have a neutral response to the visual changes. The wider Grand Avenue roadway and bridge would create narrower sidewalk and plaza areas, and the slightly higher bridge structure would block views across the street to a greater degree than the existing bridge. However, the design options for the new Grand Avenue Bridge would create more open views under the bridge at 7th Street and remove the existing Grand Avenue wing street east of the bridge to accommodate the wider bridge, allowing for a wider pedestrian/sidewalk area along the east side of Grand Avenue and improving the visual quality of this area. Overall, the response to these visual changes by tourists, bicyclists and pedestrians, and employees/patrons of area commercial and retail businesses is predicted to be neutral. The response of residents along Grand Avenue between 7th and 8th Streets is predicted to be negative because the new Grand Avenue Bridge would partially block views of the river.

- **Hot Springs Resort and Neighborhood Landscape Unit**. As described previously, the improvements at the existing Grand Avenue Bridge northern touchdown point would create opportunities for redevelopment along 6th Street by others in this area, potentially introducing new views of a more pedestrian-friendly area. The new pedestrian bridge would be only slightly more visually prominent than the existing bridge. The Build Alternative would strengthen the visual cohesion of the Hot Springs Resort and Neighborhood Landscape Unit and improve its visual quality overall. The response of tourists, bicyclists and pedestrians, and employees/patrons of area commercial, retail, and hotel businesses is predicted to be neutral. For the upper-story residents north of the river, the new Grand Avenue Bridge would mostly block existing views of the Colorado River to the south. This would change residents' views from those of a natural river and riverbank vegetation to views of an elevated, paved bridge. Therefore, these residents are predicted to have a negative response to the visual changes associated with the Build Alternative.

- **Grand Avenue Auto and Pedestrian Bridges Landscape Unit**. The new Grand Avenue Bridge and new pedestrian bridge would become more visually prominent in this landscape unit. The Build Alternative would improve the visual quality of this area to a Moderately High rating because of the aesthetic and context-sensitive elements that would be incorporated into the design of the new bridges. Therefore, all viewer groups are predicted to have a positive response to the visual changes associated with the Build Alternative.

- **I-70 Corridor Landscape Unit.** The new pedestrian bridge would create a gateway to Glenwood Springs for I-70 motorists and train passengers. The visual quality of this

landscape unit would improve as a result of the Build Alternative. Therefore, I-70 travelers, tourists, and train passengers are predicted to have a positive response to the visual changes associated with the Build Alternative.

- **Visual Elements in Multiple Landscape Units.**

  - **Landmarks**. The Build Alternative would change views to and from the historic buildings along Grand Avenue between 7th and 8th Streets because the widened roadway and bridge would be located slightly closer to these structures, and the slightly higher bridge would block views across the street to a greater degree than the existing bridge. Tourists, bicyclists/pedestrians, and owners/employees/patrons of local commercial/retail businesses along Grand Avenue are predicted to have a neutral response to these visual changes. Local motorists are predicted to have a neutral response because the visual changes would be almost indiscernible to that viewer group.

    Employees and visitors at the Hotel Colorado and Glenwood Hot Springs would experience visual changes associated with a wider Grand Avenue Bridge that curves to the west, reducing views of the bridge from the Glenwood Hot Springs. The new pedestrian bridge design would be slightly more visually prominent for viewers at the Hotel Colorado and Glenwood Hot Springs. The employees, patrons, and tourists visiting these historic landmarks, as well as local motorists and bicyclists/pedestrians traveling on the two bridges are predicted to have a neutral response to these visual changes.

  - **Nighttime Lighting or Glare.** The Build Alternative would provide lighting on both bridges and at their entrance and exit points, as well as at the new Laurel Street/6th Street roundabout intersection to provide a safe nighttime environment. This would potentially increase light glare and sky glow during the nighttime over current conditions**.** Because minimizing light pollution is important to the community, all viewer groups are predicted to have a negative response to this visual change.

Consistency with Area Plans

The Build Alternative would be consistent with the visual and aesthetic goals and policies in area plans, as described in Table 4:

TABLE 4: BUILD ALTERNATIVE CONSISTENCY WITH AREA PLANS

Area Plan Visual and Aesthetic Goals and Policies	Build Alternative's Consistency with Area Plans
Glenwood Springs Comprehensive Plan (2011). This plan acknowledges the value of Glenwood Springs' scenic natural setting and small town character by implementing zoning, lighting, and land conservation policies to preserve the city's high visual quality.	The Build Alternative would be consistent with the Glenwood Springs plan in the following ways: Scenic and natural setting: • The Build Alternative would preserve and protect scenic vistas and views of natural hillsides and ridgelines because the new pedestrian bridge would not have above deck truss structures like that on the existing pedestrian bridge that would block scenic views. • Vegetated areas along the Colorado River would be protected as practicable during construction. Areas where construction requires removal of vegetation would be revegetated and restored. Small town character: • Aesthetic and architectural treatments of the Grand Avenue Bridge and pedestrian bridge will be considered during the final design process to enhance the small town character of Glenwood Springs. • Design of the Laurel Street/6th Street roundabout intersection would be consistent with preserving the small town character of Glenwood Springs by introducing traffic calming elements into the intersection design. Also, the roundabout design would require a smaller paved area compared to a traditional intersection, and would provide more opportunities for incorporating landscaping and other aesthetic features to integrate views of this new transportation facility into Glenwood Springs' small town setting. Lighting: • The Build Alternative would minimize light pollution as dictated by local ordinances. Land Conservation: • The Build Alternative would require minimal acquisition of right-of-way.
Garfield County Comprehensive Plan 2030 (2010). This plan recognizes the importance of preserving the visual quality of the county for its residents and visitors with policies and guidelines that protect natural and scenic resources, wildlife and native vegetation. It also includes policies to minimize light pollution and ensure compatibility of new developments with adjacent land uses.	The Build Alternative would be consistent with this plan's goal of preserving the visual quality of the county, natural and scenic resources, native vegetation, as well as minimizing light pollution as described above for the Glenwood Springs Comprehensive Plan. In addition, the Build Alternative would protect the scenic resources of natural vegetation and wildlife habitat during construction by implementing measures such as: • Install fence around riparian vegetation for protection from construction activities. • Replace riparian trees and shrubs per CDOT's Guidelines for Senate Bill 40 Wildlife Certification. • Do not allow construction activities or equipment to work in flowing water or disturb sediment during recognized spawning seasons. • Minimize sediment entering the river. Compatibility with adjacent land use policy: • The Build Alternative is consistent with current zoning and land use plans.
A Redevelopment Strategy for the Confluence Area, City of Glenwood Springs (2003). This report notes the importance of protecting the area's river resources and mountain views, which are important community amenities.	The Build Alternative would be consistent with this plan's goals of protecting river resources and mountain views as described above for the Glenwood Springs Comprehensive Plan and the Garfield County Comprehensive Plan 2030.

Area Plan Visual and Aesthetic Goals and Policies	Build Alternative's Consistency with Area Plans
I-70 Mountain Corridor Aesthetic Guidance (CDOT). This guidance provides an aesthetic vision for entire I-70 corridor to guide design of future interstate highway improvements. Excerpts from this Guidance that are relevant to the project are listed below: • Glenwood Springs is a gateway that provides a sense of entry or arrival to key portions of the I-70 corridor. The east entrance to Glenwood Springs [this project] serves as a "front door" to Glenwood Springs, a community destination. • Special features of Glenwood Springs include dramatic views across Glenwood Springs and close range views into Glenwood Canyon; historic buildings representing the city's railroad and mining history; and the shift in I-70 views from a rural to urban environment. • The I-70 aesthetic guidance established aesthetic goals and objectives for the Glenwood Springs area, such as: - Improve the consistency in design and color schemes for roadway structures. - Realign utilities to remove visual distractions. - Preserve and restore significant stands of vegetation, especially in riparian areas. - Preserve major site resources and features, such as views, geologic features, historic character, and other qualities native to the site. - Improve transition from rural character of Glenwood Canyon to the urban Glenwood Springs character.	The Build Alternative would be consistent with the I-70 Mountain Corridor Guidance's aesthetic vision in the following ways: Gateway/sense of entry or arrival: • The design of the new pedestrian bridge would create a gateway at the east entrance of Glenwood Springs by identifying opportunities during the final design process for aesthetic and architectural treatments that respect the City's small town character and historic setting, which would strengthen the function of this area as a "front door" to the city. Dramatic views across Glenwood Springs and historic structures: • The new pedestrian bridge would not have above deck truss structures like that on the existing pedestrian bridge that intrudes on existing views, and, therefore, would preserve the views across Glenwood Springs and the area's historic structures and railroad. Shift in I-70 views from a rural to urban environment: • Design of the Laurel Street/6th Street roundabout intersection would be consistent with preserving the small town character of Glenwood Springs and creating a feeling of entering a small town urban setting as described above for the Glenwood Springs Comprehensive Plan. The study team has and will continue to consider the -70 Mountain Corridor Aesthetic Guidance visual and aesthetic goals and objectives during the final design process as described above for other area plans.

Consistency with Public/Agency Comments

The Build Alternative would be consistent with public and agency comments regarding visual quality for the following reasons:

- The Build Alternative would minimally intrude upon views of surrounding mountains, and would maintain scenic views.
- Views from Grand Avenue businesses under or adjacent to the bridges were considered by minimizing the bridge width in the 700 block of Grand Avenue and creating more open space under the bridge at 7th Street. This also addressed public comments requesting that the area underneath the bridges be pleasant and inviting.
- The pedestrian bridge design would create a gateway to Glenwood Springs. During final design, aesthetic treatments that are compatible with the historic setting of the area will be considered.

6.2.4 Indirect Effects

This section describes the indirect visual effects that would occur for study area landscape units as a result of the Build Alternative.

City Center Landscape Unit

Indirect visual effects would include views of pedestrian activity within the plaza areas under the Grand Avenue Bridge at 7th Street., if such activities are initiated and maintained by the City of Glenwood Springs or local organization.

Hot Springs Resort and Neighborhood Landscape Unit

Viewer groups in the vicinity of the new Laurel Street/6th Street roundabout intersection would experience more open views of pedestrian movement and reduced views of traffic because the new intersection would remove SH 82 traffic movements from this intersection. Viewer groups in the vicinity of the existing Grand Avenue Bridge northern touchdown point would experience reduced views of traffic because the new Grand Avenue Bridge would curve to the west, removing bridge traffic from this area.

Grand Avenue Auto and Pedestrian Bridges Landscape Unit

All viewer groups with views of the new bridges would continue to see traffic moving across the Grand Avenue Bridge and pedestrians/bicyclists crossing the pedestrian bridge. However, viewer groups located west of the existing bridge would experience increased views of bridge traffic because the new bridge would move closer to those viewers. Conversely, viewer groups located east of the existing Grand Avenue Bridge would experience reduced views of traffic on the bridge because it would curve away to the west.

I-70 Corridor Landscape Unit

Viewer groups would experience indirect effects from nighttime lighting and glare, as described in Section 5.3.4.

Visual Elements in Multiple Landscape Units

Landmarks

Viewers from the historic Hotel Colorado and Glenwood Hot Springs, which are located near the existing northern Grand Avenue Bridge touchdown point at the Pine Street/6th Street intersection, would experience reduced views of traffic at the intersection because the new bridge's northern touchdown point would move farther to the west, removing bridge traffic from the intersection.

Nighttime Lighting and Glare

Improvements at the Laurel Street/6th Street roundabout intersection would provide more open views of car headlights for viewers adjacent to the intersection. All viewer groups (except river recreationists who do not typically use the river during nighttime hours) would continue to experience views of headlight glare from vehicles traveling both directions on the bridge during nighttime hours. For viewers located farther west and east of the existing Grand Avenue Bridge, views of headlight glare from the bridge would be increased because the new bridge would be angled toward those viewers as it

turns in an east-west direction. Conversely, because the new Grand Avenue Bridge would curve away to the west from the area of the Hotel Colorado and Glenwood Hot Springs, viewers in those areas would experience reduced glare from car headlights.

6.2.5 Construction Impacts

The Build Alternative would result in temporary visual changes during the anticipated 18- to 24-month construction phase. Visual impacts would include new views of construction material stockpiles, increased dust, and construction equipment movement and operation during construction activities, such as building demolition in the Laurel Street/6th Street intersection area; demolition of the existing highway and pedestrian bridges and piers; temporary falsework construction; regrading and temporary shoring construction; construction of bridge piers, abutments and retaining wall; and bridge deck construction.

Viewers would experience visual changes caused by construction and use of construction causeways built to cross the river during construction, and temporary construction accesses near the river. Views of riverbank vegetation by all viewer groups in the vicinity of the bridge construction area would change because of removal of existing vegetation along the river bank during construction.

Full closure of I-70 would be necessary during certain bridge demolition/construction activities, but would be minimized to overnight periods between approximately 9:00 p.m. and 5:00 a.m. To avoid a lengthy detour, and to allow for emergency service access to Glenwood Canyon, a temporary detour near the Yampah Vapor Caves is planned to allow I-70 traffic to bypass the bridge construction zone using 6th Street. During detour use, viewers along 6th Street, including viewers from the historic Glenwood Hot Springs Pool and Hotel Colorado, would experience views of increased traffic and headlight glare. Because this detour would occur approximately eight times and during the night when the presence/activity of most viewer groups is low, the impact of this visual change is anticipated to be low.

During the approximate 90-day full closure of the Grand Avenue Bridge, regional and truck traffic would be detoured from the I-70 Exit 114 south on Midland Avenue to 8th Street across the Roaring Fork River and a new 8th Street extension into downtown. In downtown, traffic would be routed through a temporary "square about" and continue south on SH 82/Grand Avenue to Aspen. This detour route would extend 8th Street to the existing 8th Street bridge. This would require temporary removal of railroad tracks, excavating an open cut in the rail bed, grading of 8th Street to achieve appropriate grade to pass through the open cut in the railed, grading on adjacent streets and accesses to match 8th Street grade, constructing a paved, two-lane 8th Street, building retaining walls on adjacent slopes, and making minor modifications to the 8th Street/Midland Avenue intersection to accommodate turning trucks. Viewers near the detour route would experience temporary views of construction activities and signage during construction of improvements along the route.

During the approximate 90-day full bridge closure, viewers along the detour routes would experience increased views of traffic and increased glare from vehicle headlights. Once the Grand Avenue bridge is reopened, viewers along the detour route would experience temporary views of construction activities and signage while the detour routes are returned to preconstruction conditions.

Nighttime construction activities may temporarily add new sources of light and glare for pedestrians/bicyclists, residents, business employees and patrons, tourists, and local motorists.

6.3 Summary of Visual Impacts

Table 5 summarizes the visual impacts anticipated for all alternatives.

TABLE 5: SUMMARY OF VISUAL IMPACTS

Location	No Action Alternative	Build Alternative
Direct Impacts		
City Center Landscape Unit	No visual impacts beyond those associated with other currently planned / programmed improvements and future urban redevelopment.	▪ Overall, the proposed improvements would result in minimal visual changes to this landscape unit and would enhance its existing visual quality. ▪ 7th Street at Grand Avenue. Would open up and improve views under Grand Avenue Bridge at 7th Street, improving visual quality in this area. ▪ Pedestrian views along Grand Avenue between 7th and 7th Streets. Visual presence of roadway and bridge would strengthen. Views of narrower sidewalks would occur. Views across Grand Avenue would be blocked to a greater degree than existing conditions. Views of distant hillsides would remain. Overall visual quality would not change. ▪ Resident Views along Grand Avenue between 7th and 8th Streets. Highway and pedestrian bridge would become more visually apparent. New highway bridge alignment would intrude on views of river to a greater degree than existing conditions. Views of distant hillsides would remain largely unchanged. The visual quality for these viewers would degrade slightly but remain in the moderate category.
Hot Springs Resort and Neighborhood Landscape Unit	No visual impacts beyond those associated with other currently planned / programmed improvements and future urban redevelopment.	▪ Would strengthen visual cohesiveness of this landscape unit and improve its visual quality overall. ▪ Resident Views on North Side of River. Grand Avenue Bridge would partially block views of river, degrading the visual quality for these viewers. ▪ Grand Avenue Bridge North Touchdown Area. Visual changes would replace views of a transportation facility to views of a more pedestrian-scale and pedestrian-friendly area, improving the general visual quality of this area.
Grand Avenue Auto and Pedestrian Bridges Landscape Unit	No visual impacts beyond those associated with other currently planned / programmed improvements and future urban redevelopment.	▪ The Build Alternative would improve the visual quality of this landscape unit to a Moderately High rating. ▪ New highway and pedestrian bridges would become more separate visual elements. ▪ Grand Avenue Bridge. Would create views of a wider highway bridge. Simpler design makes bridge visually subordinate to new pedestrian bridge. Overall visual quality of the Grand Avenue Bridge would improve. ▪ New Pedestrian Bridge. Views of historic buildings and distant hills, including entrance to Glenwood Canyon, would be improved because the new bridge would not have above deck truss structures that intrude on views like that on the existing pedestrian bridge. Overall, the visual quality of the pedestrian bridge would improve. ▪ River Recreationist Views. Removal of highway bridge pier in middle of river would improve views for river recreationists.
I-70 Corridor Landscape Unit	No visual impacts beyond those associated with other currently planned / programmed	▪ I-70 would remain visually intact as a linear highway, continue to contrast with its natural surroundings, and continue to create a visual and physical barrier between

TABLE 5: SUMMARY OF VISUAL IMPACTS

Location	No Action Alternative	Build Alternative
	improvements and future urban redevelopment.	the areas of the city north and south of the river. ▪ Design of the new pedestrian bridge would create a visual gateway and sense of entry into Glenwood Springs for I-70 motorists and train passengers.
Visual Elements in Multiple Landscape Units	No visual impacts beyond those associated with other currently planned / programmed improvements and future urban redevelopment.	▪ Landmarks. Changed views to and from historic buildings along Grand Avenue between 7th and 8th Streets due to taller bridge in this area. Pedestrian bridge would be slightly more visually prominent to historic landmarks. Views of new Grand Avenue Bridge would be reduced for Glenwood Hot Springs and Hotel Colorado employees and visitors because it would curve to the west away from these historic landmarks. ▪ Nighttime Lighting or Glare. Lighting on bridges and street lighting at new Laurel Street/6th Street roundabout intersection would potentially increase light glare and sky glow during nighttime hours over current conditions.
I-70 Viewshed	No visual impacts beyond those associated with other currently planned / programmed improvements and future urban redevelopment.	▪ New pedestrian bridge design would create a visual gateway and sense of entry into Glenwood Springs.
Selected Viewpoints	Not applicable.	▪ Grand Avenue Viewpoint. Visual quality rating for this view would not change and remain Moderate/Average. ▪ Hot Springs/I-70 Traveler Viewpoint. Visual quality rating for this view would be slightly reduced but remain in the High category. ▪ Laurel Street/6th Street Viewpoint. Visual quality rating for this view would be slightly reduced but remain in the Moderate/Average category. ▪ Overall visual quality rating for the study area would not change and remain Moderately High.
Predicted Viewer Response by Viewpoint		▪ Grand Avenue Viewpoint. Viewer response is predicted to be neutral. ▪ Hot Springs/I-70 Traveler Viewpoint. Viewer response is predicted to be neutral. ▪ Laurel Street/6th Street Viewpoint. Viewer response is predicted to be neutral.
Predicted Viewer Group Response by Landscape Unit		▪ City Center Landscape Unit. Local motorists are predicted to have a neutral response to the visual changes; the response to visual changes by tourists, bicyclists and pedestrians, and employees/patrons of area commercial and retail businesses is predicted to be neutral. The response of residents along Grand Avenue between 7th and 8th Streets is predicted to be negative. ▪ Hot Springs Resort and Neighborhood Landscape Unit: The response of tourists, bicyclists and pedestrians, and employees/patrons of area commercial, retail, and hotel businesses to visual changes is predicted to be neutral. Upper-story residents on north side of river are predicted to have a negative response to the visual changes. ▪ Grand Avenue Auto and Pedestrian Bridges Landscape Unit. All viewer groups are predicted to have a positive response to the visual changes.

TABLE 5: SUMMARY OF VISUAL IMPACTS

Location	No Action Alternative	Build Alternative
		▪ I-70 Corridor Landscape Unit. I-70 travelers, tourists, and train passengers are predicted to have a positive response to the visual changes. ▪ Visual Elements in Multiple Landscape Units – Landmarks. All sensitive viewer groups are predicted to have a neutral response to the visual changes. – Nighttime Lighting or Glare. Because minimizing light pollution is important to the community, all viewer groups are predicted to have a negative response to this visual change.
Consistency with Area Plans		
		Consistent with visual and scenic preservation policies in area plans because scenic views and small town character would be preserved. Consistent with I-70 Mountain Corridor Aesthetic Guidance to create sense of entry or arrival into Glenwood Springs.
Consistency with Public/Agency Comments		
	Not applicable.	Would be consistent with public and agency comments for the following reasons: ▪ It would minimally intrude upon views of surrounding mountains and entrance to Glenwood Canyon, and maintain scenic views. ▪ Views from Grand Avenue businesses under or adjacent to the bridges were considered by minimizing the bridge width in the 700 block of Grand Avenue and creating more open space under the bridge at 7th Street. This also addresses public comments requesting that the area underneath the bridges be pleasant and inviting. ▪ The pedestrian bridge types would create a gateway to Glenwood Springs. During final design, aesthetic treatments that are compatible with the historic setting of the area will be considered.
Indirect Effects		
	Would result in views of increased traffic on the Grand Avenue Bridge, at the Pine Street/6th Street intersection, and the Laurel Street/6th Street intersection as traffic continues to increase over time.	▪ City Center Landscape Unit. Would include views of increased pedestrian activity under the Grand Avenue Bridge at 7th Street. ▪ Hot Springs Resort and Neighborhood Landscape Unit. Would result in more open views of pedestrian movement and reduced views of traffic at the new Laurel Street/6th Street roundabout intersection. Reduced views of traffic at the existing Grand Avenue Bridge northern touchdown point. ▪ Grand Avenue Auto and Pedestrian Bridges Landscape Unit. Continued views of vehicular and pedestrian traffic moving across bridges. Viewers west of existing bridge would have increased views of bridge traffic; viewers east of existing bridge would have decreased views of bridge traffic. ▪ I-70 Corridor Landscape Unit. Indirect effects from nighttime lighting and glare, as described below. ▪ Visual Elements in Multiple Landscape Units.

TABLE 5: SUMMARY OF VISUAL IMPACTS		
Location	**No Action Alternative**	**Build Alternative**
		– Landmarks. Viewers from Hotel Colorado and Glenwood Hot Springs would experience reduced views of traffic at the Pine Street/6th Street intersection. – Nighttime lighting and glare. Increased car headlight glare at Laurel Street/6th Street intersection. Reduced headlight glare on bridge for Hotel Colorado and Glenwood Hot Springs area viewers. Increased headlight glare for viewers west and east of the new highway bridge.
Construction Impacts		
	No temporary visual changes beyond those associated with other planned / programmed improvements and future urban redevelopment.	▪ All viewer groups would experience temporary visual effects from new views of construction equipment operations, construction activities, dust, construction material stockpiling, removal of existing vegetation in construction areas, and light from nighttime construction. ▪ Temporary views of detour construction, increased traffic during operation of detours, and construction activities returning detour routes to preconstruction conditions.

7.0 MITIGATION

CDOT will implement the following measures to mitigate visual impacts associated with the Build Alternative. The exact design and implementation of these measures will be determined during the final design process:

- Using the established CSS process, CDOT has and will continue to work with stakeholders to identify opportunities for aesthetic treatments in the design of the bridge, roadway, and sidewalk elements to reflect the materials and architectural style of Glenwood Springs' small town character and historic structures, as well as the visual and aesthetic goals and objectives provided in the I-70 Mountain Corridor Aesthetic.
- Use open rail type side barriers on the pedestrian bridge to preserve views from the bridge.
- Preserve existing vegetation where practicable.
- Revegetate riverbanks with native species.
- Use bridge materials and/or aesthetic bridge treatments to blend with the historic and mountain context of the study area. This would include, but not be limited to, the following:
  - Use earth-tone paints and stains.
  - Select paint finishes with low reflectivity.
  - Use natural appearing forms to complement landscape.
  - Take advantage of natural screening.
- Incorporate visual mitigation measures developed for the project through the Section 106 process.
- Develop a lighting plan that balances sometimes conflicting needs, such as:
  - Comply with CDOT, Garfield County, and City of Glenwood Springs design standards.
  - Incorporate lighting fixtures that minimize night-time glare and sky glow. Where new light fixtures are added, use lamps and/or light shields that direct light away from the street, buildings, or the sky to minimize glare and sky glow, in accordance with local ordinances.

- Incorporate bridge and highway lighting as part of aesthetic treatments.

- Consider landscaping, monuments, entryways, and other aesthetic features for the design of the 6th Street/Laurel Street roundabout intersection areas to soften views of transportation facilities and create visual urban environment.

- Minimize light glare during nighttime construction activities by taking measures to direct the light inward toward the construction site and minimize glare for motorists, pedestrians, and visitors in the vicinity of the construction site.

In addition to the above measures, the study team will continue to consider visual and aesthetic goals and objectives provided in the I-70 Mountain Corridor Aesthetic Guidance during the final design process, as noted below and provided in **Attachment A**:

- **Visual Values.**

  - Improve the consistency in design and color schemes for roadway structures (i.e., sound walls, retaining walls, barriers, guardrails, bridges, and wildlife fencing).

  - Preserve areas of high visual value or recreational value by restricting construction material stockpiling in these locations.

  - Consider realigning or placing utilities underground to remove additional visual distractions in this area.

  - Preserve major site resources and features, such as topography, views, unique vegetation, geological features, historic character, wetlands, and other qualities native to the site and its surroundings.

  - Evaluate a variety of sound attenuation solutions to improve the visual quality of the area and provide improved buffers between the corridor and adjacent residential and commercial land uses.

  - Use strategies, such as landform, landscaping, and realignment, to buffer Glenwood Springs from the negative effects of highway-related noise and views.

  - Improve the transition from the rural character of Glenwood Canyon to the urban character of Glenwood Springs.

- **Aesthetic Principles.**

  - Connect to the setting; harmonize with the surroundings; and be a light touch on the land, subservient to the landscape.

- Celebrate crossing the Rocky Mountains with a high-country travel experience.
- Respect urban, rural, and natural settings.
- Draw upon and regenerate the context of place.
- Aesthetic design treatments shall:
  - Maintain a sense of the greater whole.
  - Respect the current time and place.
  - Integrate with functional elements.
  - Borrow materials from the landscape.
  - Showcase key views while buffering inconsistent views.

8.0 REFERENCES

City of Glenwood Springs. 2011. *Glenwood Springs Comprehensive Plan*. Adopted March 2011.

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Attachment A
Area Plan Excerpts Regarding Visual Resources

The study team reviewed area plans to identify community goals and policies concerning visual resources in the study area to better predict viewers' response to project effects. Plans reviewed, and their policies regarding these resources, are listed below:

- ***Glenwood Springs Comprehensive Plan,*** adopted March 2011.
  - Zoning requirements should be implemented to protect scenic vistas, river corridors, steep hillsides and ridgelines.
  - People are attracted to Glenwood Springs because of its natural setting and resources.
  - The city's surrounding rural setting, its river corridors, its pristine hillsides and undeveloped ridge lines are distinctive and important community assets that must be preserved.
  - The views of and within the city are as important as the views from the city.
  - Light pollution remains an issue among many residents, who value the ability to view the stars against a dark sky. The City should continue to enforce its adopted Exterior Lighting Standards to decrease light pollution.
  - The visual quality of the community is an important element of the local and regional tourist and hospitality industry, as well as the local quality of life.
  - Attractive, accessible and healthy riparian areas are highly visible assets. Residents and visitors highly prize both the Colorado and Roaring Fork rivers as crucial elements to the overall quality of life and add to the visual beauty of the city. Development that reduces the visual quality of the river corridor should be discouraged.
  - The small town character should be preserved while maintaining the livability of Glenwood Springs.

- ***Garfield County Comprehensive Plan 2030,*** adopted November 20, 2010.
  - Commercial/industrial developments should be compatible with adjacent land uses and preserve the visual quality of the county.
  - The county recognizes that the tourism industry is an important part of the regional economy that is enhanced by open space and scenic vistas
  - Natural and scenic corridors in the county should be protected and impacts mitigated.
  - The county has preserved and enhanced the habitat for wildlife, native vegetation, riparian corridors, scenic and other important features of the natural environment.
  - The county has successfully worked to minimize light pollution.
- A Redevelopment Strategy for the Confluence Area, City of Glenwood Springs, October 2003, Public Comment Appendix.
  - Views of river resources should be protected.
  - Views from north to south and west to east (Mt. Sopris) are an important community amenity.
- **I-70 Mountain Corridor Aesthetic Guidance.** The I-70 Mountain Corridor Programmatic Environmental Impact Statement (EIS) resulted in the development of the I-70 Mountain CSS Guidance, which presents the Context Statement and Core Values developed that represent the vision and goals for the corridor. It outlines processes developed for use on future studies, designs, and construction projects to ensure that these values are incorporated into decision-making, and provides strategies for engineering, aesthetics, mitigation, and construction that are consistent with the Context Statement and Core Values.

  The I-70 Mountain CSS Guidance also includes the I-70 Mountain Corridor Aesthetic Guidance, which provides an aesthetic vision for the entire I-70 corridor to guide the design of future improvements. It established corridor aesthetic principles and regional functional context, identified areas of special attention, and established aesthetic themes within each segment of the corridor.

  The SH 82 Grand Avenue Bridge project is not an I-70 improvement project; however, because the bridge crosses over I-70, the I-70 CSS Guidance and I-70 Mountain Corridor Aesthetic Guidance processes and strategies applicable to the

Glenwood Springs area were considered during project development, alternatives analysis, preliminary design, and the Environmental Assessment. This visual impact assessment considers the guidelines, goals, and objectives included in the I-70 Mountain Corridor Aesthetic Guidance as they pertain to the Glenwood Springs area, and are described below:

- **Scenery Analysis Units (SAU).** The I-70 Mountain Corridor Aesthetic Guidance identified areas of distinctly different visual characteristics as defined by landform character, vegetative appearance, and community values or place identify; utilized in visual resource assessment. Glenwood Springs falls under the "Gateway Views" SAU, which provides "a sense of entry or arrival to key portions of the I-70 corridor."

- **Areas of Special Attention.** These are locations or stretches along the I-70 Mountain Corridor that have been identified as having multiple or unique issues. The east entrance of Glenwood Springs is considered an Area of Special Attention for several reasons; those applicable to this visual impact assessment include:

  - Dramatic views across Glenwood Springs and close range views into Glenwood Canyon.
  - Historic buildings and accommodations
  - Glenwood Hot Springs
  - Proximity to Colorado River and Glenwood Canyon
  - Railroad and mining history
  - Shift from rural to urban

- **Functional Context.** The east entrance to Glenwood Springs serves as a "Front Door" to Glenwood Springs, and serves as a community destination.

- **Visual Values and Aesthetic Principles.** The I-70 Mountain Corridor Aesthetic Guidance established the following goals and objectives for the Glenwood Springs area:

- **Visual Values.**
  - Improve the consistency in design and color schemes for roadway structures (sound walls, retaining walls, barriers, guardrails, bridges, and wildlife fencing)
  - Preserve areas of high visual value or recreational value by restricting construction material stockpiling in these locations.
  - Consider realigning or placing utilities underground to remove additional visual distractions in this area.
  - Preserve and restore significant stands of vegetation, especially in riparian areas.
  - Preserve major site resources and features, such as topography, views, unique vegetation, geological features, historic character, wetlands, and other qualities native to the site and its surroundings.
  - Evaluate a variety of sound attenuation solutions to improve the visual quality of the area and provide improved buffers between the corridor and adjacent residential and commercial land uses.
  - Use strategies including landform, landscaping, and realignment to buffer Glenwood Springs from the negative effects of highway-related noise and views.
  - Improve the transition from the rural character of Glenwood Canyon to the urban character of Glenwood Springs.
- **Aesthetic Principles.**
  - Connect to the setting; harmonize with the surroundings; and be a light touch on the land, subservient to the landscape.
  - Celebrate crossing the Rocky Mountains with a high-country travel experience.
  - Respect urban, rural, and natural settings.
  - Draw upon and regenerate the context of place.

- Aesthetic design treatments shall:
  - Maintain a sense of the greater whole.
  - Respect the current time and place.
  - Integrate with functional elements.
  - Borrow materials from the landscape.
  - Showcase key views while buffering inconsistent views.

Attachment B
FHWA Visual Impact Assessment Worksheets

Typical Viewer Group Views Visual Quality Assessment Worksheets - Methodology
The visual character and quality of each viewpoint were evaluated using well-established FHWA criteria for visual landscape relationships. These criteria form the foundation of an objective methodology that is commonly used to establish the visual characteristics and quality of landscapes and to assess impacts on scenic vistas and scenic resources under the National Environmental Policy Act (NEPA). The FHWA criteria are vividness, intactness, and unity, as defined below:

- **Vividness** is the visual power or memorableness of landscape components as they combine in striking or distinctive visual patterns.
- **Intactness** is the visual integrity of the natural and human-built landscape and its freedom from encroaching elements; this factor can be present in well-kept urban and rural landscapes, as well as natural settings.
- **Unity** is the visual coherence and compositional harmony of the landscape considered as a whole; it frequently attests to the careful design of individual components in the artificial landscape.

The appearance of the landscape is described using these criteria and descriptions of the dominance of elements of form, line, color, and texture. These elements are the basic components used to describe visual character and quality for visual assessments. In addition to their use as descriptors, the criteria of vividness, unity, and intactness are used more objectively as part of a rating system to assess a landscape's visual quality. Visual quality is evaluated using the following equation:

$$\text{Visual Quality} = \frac{\text{Vividness} + \text{Intactness} + \text{Unity}}{3}$$

Vividness, intactness, and unity are evaluated independently; each quality is assigned a rating from 1 to 7, as defined below:

- 0 to 1.5 – Very Low
- 1.5 to 2.5 – Low
- 2.5 to 3.5 – Moderately Low
- 3.5 to 4.5 – Moderate/Average

- 4.5 to 5.5 – Moderately High
- 5.5 to 6.5 – High
- 6.5 to 7.0 – Very High

Note that the criteria of vividness, intactness, and unity are used to evaluate the "before" condition (existing conditions) and the "after" condition (after construction of proposed action) to evaluate the change in visual conditions as a result of construction of the proposed action.

VISUAL IMPACT ASSESSMENT WORKSHEET				Alternative: **Build Alternative**	
Describing and Ranking Visual Quality by Key View and Viewer Group **Before**  **After** 				Key View: **#GA (Grand Avenue). View from Grand Avenue at 8th Street looking north toward the Grand Avenue bridge over the Colorado River**	
				Viewer Group: **Owners/employees/patrons of local commercial/retail/hotel businesses, tourists, pedestrians and bicyclists, local motorists.**	
Project: SH 82 Grand Avenue Bridge Environmental Assessment				Landscape Unit: **City Center**	
	BEFORE		**AFTER**		**CHANGE**	
VIVIDNESS	The distinct historic architecture adjacent to a unique street pattern (bridge touchdown) with an undeveloped mountain background results in a Moderately High vividness rating for this view (4.5).		The visual change from construction of the Build Alternative is barely discernible in this view. Views of the historic buildings along Grand Avenue, Grand Avenue as it rises to cross over the Colorado River, and views of distant hillsides remain memorable and unchanged; therefore, the vividness rating for this view would remain Moderately High (4.5).		No change.	
	Vividness Rating	4.5	**Vividness Rating**	4.5	**Vividness Rating**	0
INTACTNESS	The hillside in the background appears intact and presents a consistent pattern in the distance; however, the human-made elements (commercial development, traffic signal) visually encroach on that pattern. The roadway in the foreground is well defined, but the commercial buildings of both historic and contemporary architecture present a mixed pattern in the middleground, resulting in a Moderate/Average intactness rating for this view (3.5)		The visual pattern of the distant hillside and human-made elements in this view remain largely unchanged. Although the roadway definition is slightly improved by the roadway widening, the intactness rating for this would not change and remain Moderate/Average (3.5).		No change.	
	Intactness Rating	3.5	**Intactness Rating**	3.5	**Intactness Rating**	0
UNITY	Although the mature commercial landscaping in the middleground creates a visual link to the natural landscape in the background, overall the natural hillsides in the background, human-made commercial development in the middleground, and road pavement in the foreground do not form a coherent harmonious visual pattern, resulting in a Moderate/Average unity rating (3.5).		The improvements would not change the existing visual pattern; therefore, the unity rating would not change and remain Moderate/Average (3.5).		No change.	
	Unity Rating	3.5	**Unity Rating**	3.5	**Unity Rating**	0
TOTALS	Total of Before Ratings (V+I+U)	11.5	Total of After Ratings (V+I+U)	11.5	Total of Change Ratings (V+I+U)	0
	VISUAL QUALITY (V+I+U)/3	3.8 (moderate / average)	VISUAL QUALITY (V+I+U)/3	3.8 (moderate / average)	VISUAL QUALITY (V+I+U)/3	0

Criteria Definitions:

- Vividness is the visual power or memorableness of landscape components as they combine in striking or distinctive visual patterns.
- Intactness is the visual integrity of the natural and human-built landscape and its freedom from encroaching elements; this factor can be present in well-kept urban and rural landscapes, as well as natural settings.
- Unity is the visual coherence and compositional harmony of the landscape considered as a whole; it frequently attests to the careful design of individual components in the artificial landscape.

RATINGS:
0 to 1.5 – Very Low
1.5 to 2.5 – Low
2.5 to 3.5 – Moderately Low
3.5 to 4.5 – Moderate / Average
4.5 to 5.5 – Moderately High
5.5 to 6.5 – High
6.5 to 7.0 – Very High

<table>
<tr><td colspan="3">VISUAL IMPACT ASSESSMENT WORKSHEET</td><td colspan="3">Alternative: Build Alternative</td></tr>
<tr><td colspan="3">Describing and Ranking Visual Quality by Key View and Viewer Group
Before After
  </td><td colspan="3">Key View: #HS: Hot Springs / I-70 Traveler Viewpoint: View from the Glenwood Hot Springs area and representative of views of westbound I-70 travelers. View is looking southwest from the Hot Springs area toward I-70, Colorado River, pedestrian bridge, and Grand Avenue Bridge.

This rendering shows a cable-supported pedestrian bridge, which was eliminated from further consideration.</td></tr>
<tr><td colspan="3">Rendering of preferred bridge type. The project materials, colors, and other aesthetic features shown are not necessarily representative of the final bridge design. However, they do represent examples of aesthetic treatment options that will be considered during the final design process to mitigate adverse visual impacts. Assessment assumed neutral (concrete) color for bridge elements.</td><td colspan="3">Viewer Group: Owners/employees/patrons of local commercial/retail/hotel businesses, tourists, bicyclists, and I-70 and local motorists</td></tr>
<tr><td colspan="3">Project: SH 82 Grand Avenue Bridge Environmental Assessment</td><td colspan="3">Landscape Unit: Hot Springs Resort and Neighborhood, and I-70 Corridor</td></tr>
<tr><td></td><td colspan="2">BEFORE</td><td colspan="2">AFTER</td><td colspan="2">CHANGE</td></tr>
<tr><td rowspan="2">VIVIDNESS</td><td colspan="2">The human-made elements in this view (roadways, highway, concrete barriers and fencing, and high-mast lighting) contrast in form with views of the distant undeveloped hillsides. The pedestrian bridge superstructure is unique and memorable. Although the linear lines of the pedestrian bridge contrast in form to the distant hillsides, the bridge color blends with that of the reddish-brown color of the hillside, minimizing its visual intrusion. While background views of hillsides are common in the study area, in this view they are dominant visual elements, and are striking and memorable. The vividness rating for this view is High (6.0).</td><td colspan="2">The human-made elements, including roadways, highway, concrete barriers, and fencing) continue to contrast in form with views of the distant undeveloped hills. The new pedestrian bridge is memorable because its neutral color and linear lines visually stand out against the natural-colored hillsides in the background. Hillsides in the background continue to be dominant visual elements, and are striking and memorable. The vividness rating for this view is unchanged and remains High (6.0)</td><td colspan="2"></td></tr>
<tr><td>Vividness Rating</td><td>6.0</td><td>Vividness Rating</td><td>6.0</td><td>Vividness Rating</td><td>0</td></tr>
<tr><td rowspan="2">INTACTNESS</td><td colspan="2">The hillside in the background appears intact and presents a consistent landform pattern in the distance. The human-made elements (bridge, high-mast lighting) visually encroach on that pattern, although the pedestrian bridge color blends with the hillside. The roadway and commercial landscape present a defined visual pattern in the foreground and middleground, but contrast with the natural landscape. This view has a high intactness rating (6.0)</td><td colspan="2">The background hillsides continue to appear intact and present a consistent pattern in the distance; however, the new pedstrian bridge visually encroaches on that pattern to a slightly greater degree than the existing bridge. The roadway still presents a defined pattern in the foreground and middleground and continues to contrast with the natural landscape. The intactness rating is slightly reduced but remains High. (5.7)</td><td colspan="2"></td></tr>
<tr><td>Intactness Rating</td><td>6.0</td><td>Intactness Rating</td><td>5.7</td><td>Intactness Rating</td><td>-0.3</td></tr>
<tr><td rowspan="2">UNITY</td><td colspan="2">The natural hillside in the background, human-made elements (bridge, lighting, and fencing) in the middleground, and road pavement in the middleground and foreground do not form a coherent, visual pattern. However, the roadway draws the eye toward the hillsides in the distance, and the trees soften the visual linear lines of the bridge and create a visual link to the natural landscape in the background. The unity rating for this view is High (5.7).</td><td colspan="2">The natural hillside in the background, human-made elements (bridge, lighting, and fencing) in the middleground, and road pavement in the middleground and foreground continue to present an incoherent visual pattern. The roadway continues to draw the eye toward the hillsides in the distance, and the trees still soften the visual linear lines of the new bridge, creating a visual link to the natural landscape in the background. The unity rating for this view is slightly reduced but remains in the High category (5.5)</td><td colspan="2"></td></tr>
<tr><td>Unity Rating</td><td>5.7</td><td>Unity Rating</td><td>5.5</td><td>Unity Rating</td><td>-0.2</td></tr>
<tr><td rowspan="2">TOTALS</td><td>Total of Before Ratings (V+I+U)</td><td>17.7</td><td>Total of After Ratings (V+I+U)</td><td>17.2</td><td>Total of Change Ratings (V+I+U)</td><td>-0.5</td></tr>
<tr><td>VISUAL QUALITY (V+I+U)/3</td><td>5.9 (High)</td><td>VISUAL QUALITY (V+I+U)/3</td><td>5.7 (High)</td><td>VISUAL QUALITY (V+I+U)/3</td><td>-0.16</td></tr>
</table>

Criteria Definitions:

- Vividness is the visual power or memorableness of landscape components as they combine in striking or distinctive visual patterns.
- Intactness is the visual integrity of the natural and human-built landscape and its freedom from encroaching elements; this factor can be present in well-kept urban and rural landscapes, as well as natural settings.
- Unity is the visual coherence and compositional harmony of the landscape considered as a whole; it frequently attests to the careful design of individual components in the artificial landscape.

RATINGS:
0 to 1.5 – Very Low
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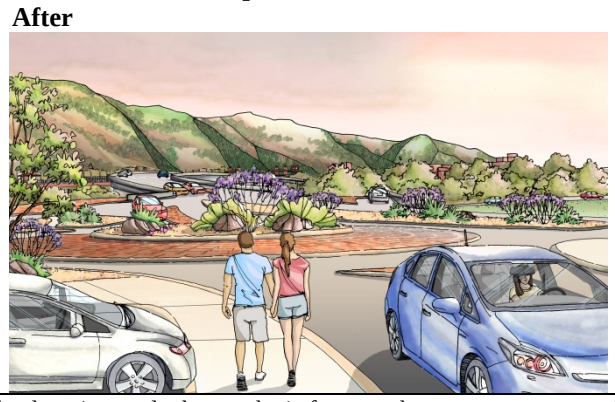
2.5 to 3.5 – Moderately Low
3.5 to 4.5 – Moderate / Average
4.5 to 5.5 – Moderately High
5.5 to 6.5 – High
6.5 to 7.0 – Very High

VISUAL IMPACT ASSESSMENT WORKSHEET						Alternative: **Build Alternative**	
Describing and Ranking Visual Quality by Key View and Viewer Group **Before**  **After** 						Key View: **#LA: Laurel Street/6th Street** **Viewpoint: View from 6th Street and Laurel Street looking southeast toward the area of proposed intersection improvements and the Grand Avenue Bridge**	
Rendering of roundabout. The project materials, colors, landscaping, and other aesthetic features shown are not necessarily representative of the final roundabout design. However, they do represent examples of aesthetic treatment options that will be considered during the final design process to mitigate adverse visual impacts. Assessment assumed neutral (concrete) color for roundabout elements.						Viewer Group: **Owners/employees/patrons of local commercial/retail/hotel businesses, Tourists, Pedestrians and Bicyclists, and local motorists**	
Project: SH 82 Grand Avenue Bridge Environmental Assessment						Landscape Unit**: Hot Springs Resort and Neighborhood**	
	BEFORE		**AFTER**			**CHANGE**	
VIVIDNESS	Paved roadways dominate the foreground view, presenting an auto-dominated environment. The commercial landscaping in the middleground partially screens views of one-story commercial buildings and provides a visual link to views of the natural hillside in the background. The view of distant hillsides in this view is common in the study area, and the hillsides in this view are not particularly memorable or striking. Therefore, the vividness rating for this viewpoint is Moderate/Average. (4.0)		Paved roadways continue to dominate the foreground view. Removal of landscaping in the middleground removes visual link to natural hillsides in the background, although it opens up more views of the hillsides. The vividness rating for this viewpoint is unchanged and remains Moderate/Average (4.0)				
	Vividness Rating	4.0	**Vividness Rating**	4.0		**Vividness Rating**	0
INTACTNESS	The paved roadways in the foreground present a defined pattern that sharply contrasts with views of natural landscape in the middleground and background. The distant hillside appears intact and provides a consistent pattern in the distance, although the pattern is somewhat intruded upon by human-made elements (traffic signal, signage, and signal poles). The natural landscaping in the middleground provides a visual link to the hillside in the distance. The intactness rating for this view is Moderate/Average (4.0).		Roadways in the foreground continue to present a defined pattern that sharply contrasts with views of natural landscape in the middleground and background. Removal of natural landscaping in middleground removes visual link to natural hillside in distance. The contrast between transportation facilities in foreground and middleground and natural landscape in the background is stronger. The intactness rating for this view is reduced but remains Moderate/Average (3.5).				
	Intactness Rating	4.0	**Intactness Rating**	3.5		**Intactness Rating**	-0.5
UNITY	The hillside in the distance is visually linked with landscaping in the middleground. However, human-made elements (one-story commercial buildings, traffic signal, signage, and poles) visually intrude on that view. Hillside and roadway are competing visual elements. The unity rating is Moderate/Average. (4.0)		Removal of middleground landscaping removes visual link to distant hillsides. Distant hillside and roadway continue to be competing visual elements, but to a greater degree than existing conditions. The unity rating is reduced to Moderately Low (3.4)				
	Unity Rating	4.0	**Unity Rating**	3.4		**Unity Rating**	-0.6
TOTALS	Total of Before Ratings (V+I+U)	12	Total of After Ratings (V+I+U)	10.9		Total of Change Ratings (V+I+U)	-1.1
	VISUAL QUALITY (V+I+U)/3	4.0 (Moderate/Average)	VISUAL QUALITY (V+I+U)/3	3.6 (Moderate/Average)		VISUAL QUALITY (V+I+U)/3	-0.4

Criteria Definitions:

- Vividness is the visual power or memorableness of landscape components as they combine in striking or distinctive visual patterns.
- Intactness is the visual integrity of the natural and human-built landscape and its freedom from encroaching elements; this factor can be present in well-kept urban and rural landscapes, as well as natural settings.
- Unity is the visual coherence and compositional harmony of the landscape considered as a whole; it frequently attests to the careful design of individual components in the artificial landscape.

RATINGS:
0 to 1.5 – Very Low
1.5 to 2.5 – Low
2.5 to 3.5 – Moderately Low
3.5 to 4.5 – Moderate / Average
4.5 to 5.5 – Moderately High
5.5 to 6.5 – High
6.5 to 7.0 – Very High