

Appendix D
Visual Analysis of the Overcrossing at Rail
Runner Loop and Camino Carlos Rey

Visual Analysis of the Overcrossings at Rail Runner Loop and Camino Carlos Rey

1.1 Methodology

Visual or scenic resources are the natural and built features of the landscape that contribute to the public's experience and appreciation of the environment. Visual resource or scenic impacts are generally defined in terms of a project's physical characteristics and potential visibility, and the extent to which the project's presence would change the perceived visual character and quality of the environment in which it would be located.

Comparison of the "before" photographs with the simulations of the project as it would appear after construction provided the basis for determining project impacts on views and visual quality. This analysis was conducted using the evaluative process set out by the Federal Highway Administration (FHWA) in *Visual Impact Assessment for Highway Projects* (FHWA, 1988). The FHWA visual quality and aesthetics assessment method used for this analysis addresses three primary questions:

- What are the visual qualities and characteristics of the existing landscape in the project area?
- What are the potential effects of the project's proposed alternatives on the project area's visual quality and aesthetics?
- Who would see the project, and what is their likely level of concern about or reaction to how the project visually fits within the existing landscape?

Applying the FHWA visual quality assessment method entails the following six steps:

1. Establish the project's area of visual influence.
2. Determine who has views of and from the project ("viewer").
3. Describe and assess the landscape that exists before project construction ("affected environment").
4. Assess the response of viewers looking at and from the project, before and after project construction ("viewer sensitivity or concern").
5. Determine and evaluate views of the project for before and after project construction (simulations).
6. Describe the potential visible changes to the project area and its surroundings that would result from the project.

A zone of visual influence analysis was not conducted at this stage in the alternatives analysis process.

The FHWA system uses a generally accepted set of tools and well-defined terminology. The following fundamental terminology is used throughout this analysis.

Views are what can be seen from the project area and what can be seen of the project area from the surrounding neighborhoods and communities. Because it is not possible to depict every view toward the project features, representative views have been selected to represent types of views that are available to the public. The viewpoints from which these representative views are seen are called key observation points (KOP).

Viewshed is the area surrounding a project area from which the project is or could be visible to viewers.

Simulations are images depicting views that have been modified by computer modeling to show the proposed project within the existing landscape.

Viewers are people who have views of the project. Viewers are usually discussed in terms of general categories of activities (such as residents, workers, recreationists [park users, boaters, or bicyclists], pedestrians, or motorists [both commuters and leisure travelers]) and are referred to as “viewer groups.”

Viewer sensitivity (or level of concern) is a combination of the following factors for a specific view:

- How many people have that view and what types of viewers are they?
- How long can they see the view? Residents and recreationists generally have views of long duration while bicyclists and motorists typically have short-duration views.
- What is their likely level of concern about the appearance, aesthetics, and quality of the view? Level of concern is a subjective response that is affected by factors such as the visual character of the surrounding landscape, the activity a viewer is engaged in, and their values, expectations, and interests. Generally, residents and recreationists are considered to be highly sensitive viewers, and local business staff and commuters are considered to be less sensitive.
- Low viewer sensitivity exists when there are few viewers who experience a defined view or they are not particularly concerned about the view. High viewer sensitivity exists when there are many viewers who have a view frequently or for a long duration, as well as viewers (many or few), such as those in a residential neighborhood, who are likely to be very aware of and concerned about the view. Viewer sensitivity or level of concern does not imply support for or opposition to a proposed project; it is a neutral term that is an important parameter in assessing visual quality.

Visual character is an impartial description of what the landscape consists of and is defined by the relationships between the existing visible natural and built landscape features. These relationships are considered in terms of dominance, scale, diversity, and continuity. Visual character-defining resources and features include the following:

- Landforms: types, gradients, and scale.
- Vegetation: types, size, maturity, and continuity.

- Land uses: height, bulk, scale, and architectural detail of associated buildings and ancillary site uses.
- Transportation facilities: types, sizes, scale, and directional orientation.
- Overhead utility structures and lighting: types, sizes, and scale.
- Open space: type (e.g., parks, reserves, greenbelts, and undeveloped land), extent, and continuity.
- Viewpoints and views to visual resources.
- Water bodies, historic structures, and downtown skylines.
- Apparent “grain” or texture, such as the size and distribution of structures and unbuilt properties or open spaces of the landscape.
- Apparent upkeep and maintenance.

Viewing distance is the distance between the viewed object and the viewer. The closer the viewer is to a viewed object, the more detail can be seen and the greater the potential influence the object has on visual quality. For this analysis, four viewing distances were used: (1) immediate foreground (between 0 and approximately 300 feet of the viewers), (2) foreground (between 300 feet and ½ mile), (3) middleground (between ½ and 4 miles, and (4) background (beyond 4 miles).¹

Visual quality is an assessment of the composition of the character-defining features for selected views. Under the FHWA visual quality analysis system, the characteristics are evaluated in terms of vividness, intactness, and unity (which are defined below) and are scored for these characteristics. The scores are then averaged for a total visual quality score between 1 and 7, where a low score represents low visual quality and a higher score represents high visual quality. This assessment asks: Is this particular view common or dramatic? Is it a pleasing composition (a mix of elements that seem to belong together) or not (a mix of elements that either do not belong together or are eyesores and contrast with the other elements in the surroundings)?

To accurately assess the degree of visual alteration that occurs as a result of implementing a project, visual quality must be considered under existing visual conditions and under the proposed conditions. Visual quality is evaluated and discussed using the following terms:

- Vividness is the degree of drama, memorability, or distinctiveness of the landscape components.
- Intactness is a measure of 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 in natural settings. High intactness means that the landscape is free of unattractive features and is not broken up by features and elements that are out of place. Low intactness means that visual elements can be seen in a view that are unattractive and/or detract from the quality of the view.

¹ This categorization of distance zones is well established among visual resource analysis practitioners and has been adopted by the U.S. Department of Agriculture, Forest Service, as part of its scenery management system (U.S. Department of Agriculture, Forest Service, 1995)

- Unity is the degree of visual coherence and compositional harmony of the landscape considered as a whole. High unity frequently attests to the careful design of individual components and their relationship in the landscape or an undisturbed natural landscape.

1.2 Existing Conditions at Key Observation Points

The following discussion provides existing conditions at each KOP. Table 1 summarizes the existing visual quality at three KOPs, which are described below.

TABLE 1
Existing Visual Quality

Visual quality	KOP 1	KOP 2	KOP 3
Vividness	Moderately High	Moderately Low	Moderate
Intactness	Moderately High	Moderately High	Moderate
Unity	Moderately High	Moderately Low	Moderately High
Visual Quality	Moderately High	Moderate	Moderate

1.2.1 KOP 1: Existing View of the Rail Runner Loop Overcrossing from the Frontage Road at Dinosaur Trail

The existing view of the project area is depicted in Figure 1. KOP 1 is located on Frontage Road at Dinosaur Trail, south of Interstate 25 (I-25), in an area that has little urban development. Viewer sensitivity at this location is moderate because while travel along Frontage Road provides extended views of the Sangre de Cristo mountain range, most motorists use I-25. The mountain range creates a strong horizon, and the representative southwestern vegetation, low-growing grasses and pinion pines, provides texture and color. This view has a moderately high level of vividness because of the mountain range in the distance and the vegetation in the foreground. The continuity between the foreground and background established by the vegetation creates cohesion for a moderately high level of unity. Aside from the road and traffic signs in the foreground, there are few features that encroach upon the view, providing a moderately high level of intactness. The overall existing visual quality of this view is moderately high.

FIGURE 1

Existing View KOP 1: Rail Runner Loop (from Frontage Road at Dinosaur Trail)



1.2.2 KOP 2: Existing View Camino Carlos Rey Looking South and West toward I-25

The existing view of the project area is depicted in Figure 2. KOP 2 is located at the southern most limits of Camino Carlos Rey looking to the south toward I-25. This location is representative of views of residents living within the Camino Carlos Rey subdivision and for motorists using Camino Carlos Rey; thus, viewer sensitivity is high at this location. From this KOP, the vegetation in the foreground and the mountain range in the far distance serve as the principle elements contributing to the view's vividness. However, the mountain range is partially screened by existing development and too distant to dominate the view, contributing to the moderately low degree of vividness. The lack of a strongly defined skyline or patterning within the built environment generates a moderately low level of cohesiveness or unity. There are few existing visual encroachments in this view for a moderately high level of intactness. Overall, the visual quality is average.

FIGURE 2

Existing View KOP 2: Camino Carlos Rey (Looking South and West towards I-25)



1.2.3 KOP 3: Existing View of Camino Carlos Rey from Pueblos del Sol Residential Subdivision

The existing view of the project area is depicted in Figure 3. KOP 3 is located on Pueblo Bonito in the Pueblos del Sol residential subdivision, west of the proposed Camino Carlos Rey bridge extension. This location is representative of the view for residents in this neighborhood; thus, viewer sensitivity is high at this location. From this point, the Sangre de Cristo mountain range comprises the principal element of vividness. The prevalence of native vegetation creates screening and texture that integrates much of the built environment into the natural environment, producing an uninterrupted, continuous view from foreground to background. The vegetation and the mountain range contribute to a moderate level of vividness. Existing urban development, including light poles, traffic signs, and commercial development dilute the intactness of the view. However, existing residences incorporate architecture characteristic of Santa Fe to produce coherence between human-made and natural features. Existing overall visual quality at this location is moderate.

FIGURE 3

Existing View KOP 3: Camino Carlos Rey (Looking East)



1.3 Project Impacts

The following sections provide analysis of visual changes with implementation of the project features.

1.3.1 KOP 1: Impacts on View from KOP 1

Figure 4 is a simulation of the view from KOP 1 as it would appear during the project's operational period. As review of this simulation indicates, from this observation point, the project's features would be visible. At this location, the addition of the flyover and the overpass would diminish the level of vividness by partially blocking the view of the mountain range, which is the primary element contributing to vividness. The scale of the overpass at this distance compared with the surrounding landscape dominates the view and becomes the focal point. The highway would divide the view into two distinct landscape units, with the mountains in the distance separated from the landscape in the foreground. This separation would diminish the unity, or cohesiveness, of the view. The addition of the overpass would also constitute a visual intrusion, decreasing the intactness of the view. The contrast between the texture that the vegetation provides with the smoothness of the overpass diminishes the unity and intactness. The overall visual quality at this location would decrease with the installation of the overpass from moderately high to average.

FIGURE 4

KOP 1 Simulation: Rail Runner Loop (from Frontage Road at Dinosaur Trail)



1.3.2 KOP 2: Impacts on View from KOP 2

Figure 5 is a simulation of the view from KOP 2 as it would appear during the project's operational period. As review of this simulation indicates, from this observation point, the project's features would be visible. Because the overpass would be backdropped against the sky, it would become the dominant visual feature in this view. The overpass would

partially block views of the distant mountain range, which would decrease the view's vividness as the mountain range is a contributing element to vividness. However, the peak shown to the right of the photo would remain visible to motorists, so vividness would remain relatively unaffected. The introduction of the highway overpass into this relatively undeveloped area would constitute a visual intrusion and would serve to diminish slightly the intactness of the view from moderately high to moderate. The highway would not disrupt the level of unity of this view because the overpass would constitute an additional horizontal feature to the horizontal patterning already present in the view. With the introduction of the roadway features into this view, the overall visual quality would be moderately low.

FIGURE 5

KOP 2 Simulation: Camino Carlos Rey (Looking South and West toward I-25)



1.3.3 KOP 3: Impacts on View from KOP 3

From this location in the study area, the elevated overpass would be visible against the mountain range in the background. However, the vegetation would screen some views of the bridge structure to help integrate the project feature into the nature landscape. The overpass would, to a minor degree, diminish the vividness of the mountain range by partially blocking views. The bridge would produce a visual barrier between the foreground and the background and encroach partially, slightly reducing the unity and intactness of the view. The project would introduce a horizontal visual element into a view with existing horizontal patterning. Additionally, the scale of the proposed bridge is appropriate for the landscape, and the mountain range would remain the dominant visual feature. The overall visual quality of this view would remain moderate.

1.4 References

Federal Highway Administration (FHWA). 1988. *Visual Impact Assessment for Highway Projects*.

U.S. Department of Agriculture (USDA), Forest Service. 1995. *Agricultural Handbook 701 Landscape Aesthetics: A Handbook for Scenery Management*.

