5.8 Visual Resources and Aesthetic Qualities

This section discusses the visual resources and aesthetic qualities of the study area and explains why they are important to the project. The impacts of the project alternatives on these resources also are evaluated and proposed mitigation measures are discussed to offset any potential adverse effects.

5.8.1 What are visual resources and why are they important to this project?

FHWA defines visual resources in the memorandum, “Esthetics and Visual Quality Guidance Information” (August 18, 1986), as “those physical features that make up the visible landscape, including land, water, and vegetative and man-made elements. These elements are the stimuli upon which actual visual experience is based.”

NEPA and CEQ regulations identify aesthetics as one of the elements in the human environment that must be considered in determining the effects of a proposed project. Aesthetics, as used in this project, relate to the effect on visual resources. Visual resources and aesthetic qualities are important to this project, especially between Brighton Boulevard and Colorado Boulevard, because the existing viaduct has a dominant visual presence in the area and any changes to it will result in changes in the surrounding environment.

5.8.2 Have there been changes to visual resources in the study area or to the analysis process since the release of the 2008 Draft EIS?

The only visual characteristics that have changed since the 2008 Draft EIS are construction of the Central Park Boulevard exit east of Colorado Boulevard along I-70 and additional development near the highway in the Stapleton Neighborhood. The analysis process to identify visual impacts to the study area has not changed since the 2008 Draft EIS. However, the potential impacts to visual resources in the study area have changed because of changes to alternatives. These changes are analyzed in this Supplemental Draft EIS.

5.8.3 What study area and evaluation process were used to analyze visual resources?

The study area for visual resources is composed of two parts: the viewshed from the existing roadway alignment and the view of the facility (highway) from surrounding neighborhoods.

What is a viewshed?
A viewshed is an area that is visible to the human eye from a fixed point.
An inventory of visual resources seen from key observation points within the study area was developed through field survey and public scoping meetings. These resources were evaluated to determine their aesthetic quality, either positive or negative, and then reviewed to identify potential impacts from the project alternatives. Computer simulations, local planning and zoning documents, photos, aerial imagery, site visits, and draft engineering drawings assisted in this evaluation.

In compliance with FHWA visual impact assessment guidance, the aesthetic quality of each resource is noted, rated, and compared to the existing conditions based on the following terms from FHWA guidelines:

- **Vividness.** How memorable and distinctive the landscape component is.
- **Intactness.** How much visual integrity the natural and human-built landscape has, and its freedom from encroaching elements.
- **Unity.** How much visual coherence and compositional harmony the landscape has, considered as a whole.

Finally, each of the project alternatives was assessed for potential impacts from light and glare.

**5.8.4 What are the existing visual resources along I-70?**

The general visual character is an urban landscape dominated by commercial and industrial warehouses, transportation facilities, and residential structures. Visual resources are those that are visible to travelers on I-70 and those that are visible from the surrounding neighborhoods. The location of some of these resources is shown on Exhibit 5.8-1.
**I-70 East highway**

Concrete traffic lanes, overpasses, barriers, and moving vehicles dominate the visual character of I-70, which is typical of urban highways. The highway has a large footprint and is a dominant landscape feature. Throughout the project corridor, I-70 is either elevated on a bridge structure or at grade. The elevated portion begins at the I-25 interchange and extends eastward to just west of the Colorado Boulevard interchange. The at-grade portion of the highway extends from west of the Colorado Boulevard interchange to the eastern edge of the project corridor at Tower Road. The visual presence of the roadway is distinctly greater where it is elevated because it is the dominant view to travelers on the highway compared to the at-grade section. The presence of the highway also is distinctly greater to nearby residential neighborhoods. In fact, the viaduct is considered a disadvantage to most nearby residents because it overwhelmingly dominates views.
Rocky Mountains

Travelers going west on I-70, and some residents in the surrounding neighborhoods, can view the Front Range of the Rocky Mountains. The mountains are visible at the far west on a clear day and are considered a desirable visual resource in the area.

Downtown skyline

Downtown Denver is located approximately five miles southwest of the I-70 viaduct. The downtown skyline is visible only to the travelers on I-70 near the viaduct; however, the viaduct and the larger industrial buildings block this view from the residential neighborhoods in the area. The view of the downtown skyline is a desirable resource that should be preserved and enhanced.

Nestlé Purina PetCare Company

The Nestlé Purina PetCare Company operates a large manufacturing facility in the center of the Elyria and Swansea Neighborhood. This facility is located to the south, adjacent to the existing I-70 viaduct, and dominates the skyline of the area with its large white concrete façade.

This building has been a major landmark in the area for decades. Due to its shape and condition, however, it is not considered a desirable visual resource. Other commercial facilities along the corridor have a similar visual quality, including Manna Pro Corporation, Univar, Safeway Distribution Center, and numerous other warehouses and distribution buildings.
Sand Creek Greenway corridor
The Sand Creek Greenway corridor crosses the existing I-70 alignment immediately east of Quebec Street. The corridor is a natural area and open space that includes an urban greenway trail. The corridor has an aesthetically high value, though it is difficult to see from the highway.

I-25 interchange
The I-25 and I-70 interchange is located at the western edge of the project corridor. This interchange also is known locally as the “mousetrap” due to its original design’s sharp turns. The visual characteristic of this resource is that of a typical highway-to-highway interchange, so it is not considered a negative or positive visual resource.

I-225 interchange
The I-225 and I-70 interchange is located in the eastern portion of the project corridor. The visual characteristic of this resource is that of a typical highway-to-highway interchange, so it is not considered a negative or positive visual resource.

Swansea Elementary School
Swansea Elementary School serves grades pre-kindergarten through fifth in the Denver Public Schools District and is located in the Elyria and Swansea Neighborhood just north of the I-70 viaduct. The school is one of the few public facilities in this neighborhood and is highly valued by the residents. The school also is only visible from surrounding neighborhoods. The school’s playground provides a desirable view for the residents.
Central Park Boulevard interchange

The Central Park Boulevard and I-70 interchange is located in the eastern portion of the project corridor. The visual characteristic of this resource is that of a typical highway-to-major street interchange, so it is not considered a negative or positive visual resource.

I-70 viaduct

The construction of the I-70 viaduct in 1964 bisected the Elyria and Swansea Neighborhood. This aging viaduct is considered structurally deficient and functionally obsolete by CDOT and FHWA standards. The viaduct is a dominant visual feature in Elyria and Swansea. The viaduct is not considered a desirable visual resource and the residents in the area have expressed concerns about its overwhelming visible presence in their neighborhood.

5.8.5 What are the potential impacts to visual resources from the project alternatives?

Effects to visual resources caused by the project alternatives focus on the changes to the aesthetic quality of the resources along the corridor. Exhibit 5.8-2 describes the general type of improvement by the project alternatives and visual resources that will be affected.

There will be no impacts to visual resources from any of the project alternatives from I-25 to Brighton Boulevard. There are minor impacts to visual resources from Colorado Boulevard to Tower Road. The only changes to the visual resources in this area as a result of the Build Alternatives is the increase in highway width, which results in a wider paved area and removal of vegetation adjacent to the existing highway. However, clearing and grubbing in this area will be a minimal change and will not result in a substantive impact to the visual character of the area. Direct connections at I-270, I-225, and Peña Boulevard...
All potential major visual impacts occur from Brighton Boulevard to Colorado Boulevard in the Elyria and Swansea Neighborhood, so the visual assessment focuses on this area.

The following discussion identifies the effects to visual resources in this area by the project alternative and option and discusses the minor visual impacts associated with the Managed Lanes Option.

Exhibit 5.8-2. Effects to visual resources by type of improvement

<table>
<thead>
<tr>
<th>Description of Improvements</th>
<th>Positive and Negative Visual Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Widening</strong>: Widening the highway to accommodate additional traffic</td>
<td>Highway widening increases visible mass, which will be considered a negative effect. However, the South Expansion Option for the Revised Viaduct Alternative and the No-Action Alternative will result in removing the Nestlé Purina PetCare Company structure which could be considered a positive visual effect.</td>
</tr>
<tr>
<td><strong>Lowering the highway below grade</strong>: Moving the highway below existing grade between Brighton Boulevard and Colorado Boulevard</td>
<td>Lowering I-70 removes the existing viaduct between Brighton Boulevard and Colorado Boulevard and eliminates a dominant skyline obstruction. Visual presence of the highway will be decreased in this area, which will be considered a positive effect.</td>
</tr>
<tr>
<td><strong>Walls</strong>: The project alternatives may include noise walls between 10 and 20 feet tall or safety barriers adjacent to the roadway</td>
<td>Noise walls block views from surrounding land uses and increase the highway’s visible mass. Noise walls or safety barriers present opportunities for context-sensitive mitigation and artistic treatments, which could be considered both a positive and negative effect.</td>
</tr>
<tr>
<td><strong>Interchange and structures</strong>: Bridges average 25 to 40 feet in height. Proposed improvements at interchanges may increase the existing vertical profile of interchange structures by 12 feet.</td>
<td>Bridges and interchanges have the potential to block views from surrounding land uses. Bridges and interchanges offer opportunities for context-sensitive mitigation and architecturally pleasing treatments, which could be considered both a positive and negative effect.</td>
</tr>
</tbody>
</table>
**No-Action Alternative**

The No-Action Alternative will not dramatically change the overall visual character of the corridor or study area. Due to the condition of the aging viaduct, the No-Action Alternative includes replacement of the existing viaduct between Brighton Boulevard and Colorado Boulevard without adding capacity. The highway footprint will be wider due to the current design standards, causing a few buildings to be acquired with either the North or South Expansion Options. The potential acquisition of taller buildings adjacent to the highway—such as the Nestlé Purina PetCare Company building that currently blocks views—will provide unobstructed views of the highway from the surrounding neighborhood. This is not an adverse effect on the existing visual characteristics of the area because it does not change any of the visual elements or the overall visual character of the area.

**Build Alternatives**

Views of the highway are a major concern for the local residential communities. The greatest impacts of the project alternatives occur where a physical widening of the highway is within the established residential neighborhoods.

The Build Alternatives include: Revised Viaduct Alternative and Partial Cover Lowered Alternative. The effects on the visual and aesthetic characteristics of this area vary based on the alternative.

**Revised Viaduct Alternative**

This alternative replaces the viaduct with a new structure to include additional capacity and conform to the new highway and bridge standards. The proposed replacement structure will include a wider footprint and structure, and will require business and residential property acquisition. The proposed structure is approximately 200 feet wide, while the existing structure is only approximately 90 feet wide.
Proposed noise walls range between 10 and 20 feet in height on the north edge of the highway, roughly between Brighton Boulevard and Vasquez Boulevard, and on the south edge of the highway between York Street and Madison Street. The noise walls will further contribute to the highway visual mass.

The replaced structure will be located along the existing highway alignment with either Expansion Option. Since the new structure has a larger footprint, the highway will have a more visible presence in the Elyria and Swansea Neighborhood in contrast to the existing structure.

**Partial Cover Lowered Alternative**

This alternative removes the viaduct and reconstructs the highway below the existing ground while adding capacity to the existing facility between Brighton Boulevard and Colorado Boulevard. Although this alternative increases the highway’s total concrete surface similar to the Revised Viaduct Alternative, it does not increase the highway visible mass because a large portion of the highway in this area is below ground level.

This lowered section has a maximum depth of 40 feet. The remaining portion of the lowered section has a depth of approximately 25 feet below grade. Noise walls or safety barriers are designed for this alternative and are approximately 10 to 20 feet high from the existing ground. As part of this alternative, a cover (or covers) will be placed on the lowered section of the highway, where feasible, with a length no longer than 900 feet. The placement of the cover on the highway eliminates the need for noise walls or safety barriers in the area of the cover.

With the Basic Option of this alternative, a cover is proposed to be placed between the Clayton Street bridge and the Columbine Street bridge, which is in front of the Swansea Elementary School in the Elyria and Swansea Neighborhood. The Modified Option
also can accommodate a secondary cover in the vicinity of Steele Street. The highway cover(s) will include an urban landscape and will be designed with community support and input.

Managed Lanes Option

With the Managed Lanes Option, the added capacity on the highway with the build alternatives will be managed through implementation of a pricing mechanism. The visual characteristics of the area with the Managed Lanes Option will not dramatically change as compared to the General-Purpose Lanes Option, which has been discussed with each of the Build Alternatives. The only changes with the Managed Lanes Option occur at the direct connections to I-270, I-225, and Peña Boulevard. The direct connection structures from the managed lanes to the adjacent highways pose permanent visual barriers but are not considered substantive, as noted earlier.

5.8.6 How were the potential impacts to visual resources assessed?

The potential impacts to the aesthetic qualities were assessed for views from the surrounding area toward the highway and the views from the highway. The analysis process is described further below.

Changes to views toward the highway

As part of the analysis, vantage points were selected between Brighton Boulevard and Colorado Boulevard to prepare visual simulations for the project alternatives. The vantage points were selected in this area because the major changes to the visual resources occur between Brighton Boulevard and Colorado Boulevard. The field of view of the visual simulations is limited to match the human-eye view, but the overall visual analysis considers the entire view. Exhibit 5.8-3 shows the location and direction of the vantage points where visual simulations have been prepared.

What are visual simulations?

Visual simulations are computer-generated images that illustrate proposed visual changes and relative scale of the proposed structures compared to the existing facilities from a pedestrian’s point of view.
Vantage Point 1—Elyria and Swansea Neighborhood north of I-70

The first vantage point is identified on the west side of the UPRR tracks on Vine Street in the residential area of the Elyria and Swansea Neighborhood. The vantage point looks southeast toward one of the tallest buildings and a major landmark in the area, the Nestlé Purina PetCare Company facility.

The Revised Viaduct, North Option will not substantially change the visual character of this vantage point. A new bridge structure with larger column spacing—as envisioned in preliminary designs—will improve the visual quality of this area compared to the existing conditions.

The Revised Viaduct, South Option also replaces the bridge structure but removes the Nestlé Purina PetCare Company facility, resulting in a larger visual effect in the area. Removing this building opens up some views to the downtown Denver skyline, but the view will be limited by the viaduct structure.

With the Partial Cover Lowered Alternative (both Basic and Modified Options), the area will be less visually dominated by the highway structure. Noise walls will introduce a new, though smaller, visual obstacle to the area. Exhibit 5.8-4 shows the visual simulations of Vantage Point 1 by alternative.
Exhibit 5.8-4. Vantage Point 1: Elyria and Swansea Neighborhood north of I-70

Existing conditions

Revised Viaduct Alternative, North Option

Revised Viaduct Alternative, South Option

Partial Cover Lowered Alternative, Basic and Modified Options
Vantage Point 2—Swansea Elementary School

As stated previously, Swansea Elementary School is a visual resource and landmark in the Elyria and Swansea Neighborhood. Since the publication of the 2008 Draft EIS, the project team modified the alternatives to reduce impacts to the school. As a result, the alternatives under evaluation in this document will not require acquisition of the school’s building. The Revised Viaduct Alternative, North Option and Partial Cover Lowered Alternative, Basic and Modified Options propose changes and updates to the school property because they move the highway much closer to the school. To show the changes to the visual character in the school area, the visual simulations shown in Exhibit 5.8-5 reflect the view adjacent to the existing school looking south toward the highway by each alternative option.

The overall character and quality of this area will improve as a result of the new facility with all of the alternatives. Although the visible mass of the structure increases with the Revised Viaduct Alternative, this alternative improves the visual quality by replacing the old viaduct with new infrastructure. The Partial Cover Lowered Alternative, Basic and Modified Options improve the visual quality of the area more than the other options by introducing additional public space and reducing the roadway’s visual domination in the area by removing the existing viaduct.

Vantage Point 3—Elyria and Swansea Neighborhood south of I-70

The third vantage point was identified south of the existing highway on Fillmore Street in the Elyria and Swansea Neighborhood looking north toward the highway. The Revised Viaduct Alternative will not change the visual character of this area dramatically. With the noise walls on the viaduct, it will be more visible and the visible mass of the highway will increase with these options compared to the existing conditions. With the Partial Cover Lowered Alternative, both Basic and Modified Options, similar to the first and second vantage points, the highway will be below the existing ground level, making it less visible in this area. The noise walls will block the viewer’s sight to look across the highway, but the ground-level noise walls are less intrusive to viewers’ eyes compared to the viaduct options.

Visual simulations of Vantage Point 3 for project Build Alternatives are shown in Exhibit 5.8-6.
Exhibit 5.8-5. Vantage Point 2: Swansea Elementary School

Existing conditions

Revised Viaduct Alternative, North Option

Revised Viaduct Alternative, South Option

Partial Cover Lowered Alternative, Basic and Modified Options
Exhibit 5.8-6. Vantage Point 3: Elyria and Swansea Neighborhood south of I-70

**Existing conditions**

**Revised Viaduct Alternative, North Option**

**Revised Viaduct Alternative, South Option**

**Partial Cover Lowered Alternative, Basic and Modified Options**
Changes to views from the highway

With the Revised Viaduct Alternative, vehicle occupants traveling eastbound on I-70 between Brighton Boulevard and Colorado Boulevard will experience a view similar to the existing conditions. Traveling westbound on I-70, the views will be slightly different with the north and south options.

Vehicles traveling west on the highway with the Revised Viaduct Alternative, North Option will experience a view similar to existing conditions, with the Nestlé Purina PetCare Company’s building remaining on the south side of the highway and a view of the mountains to the far west. The new noise walls on the viaduct, however, will obstruct the view of the downtown skyline.

Vehicles traveling west on the highway with the Revised Viaduct Alternative, South Option will have a slightly different view compared to existing conditions. The Nestlé Purina PetCare Company will be removed to expand the highway. The new noise walls on the viaduct, however, will obstruct the view of the downtown skyline.

The views for the vehicles traveling eastbound and westbound with the Partial Cover Lowered Alternative will be entirely different from the existing conditions.

Vehicles traveling on I-70 in both directions will experience an average 4-percent grade change on the approach to the covered area with noise walls on each side, resulting in new views for drivers on the highway. The views under the covered area(s) are constrained by the height of the cover and fire suppressant facilities.

With the Managed Lanes Option, vehicles traveling on I-70 experience slightly different views from the General-Purpose Lanes Option. Toll facilities along the way pose minor changes to the travelers’ view. The direct connections from the managed lanes to other facilities at I-270, I-25, and Peña Boulevard change the visual characteristics slightly and create permanent visual barriers.
Aesthetic quality assessment

The effects to the aesthetic quality from impacts to the visual resources were assessed by comparing the existing conditions to the future conditions with the project alternatives. The comparison reviewed each alternative for vividness, intactness, and unity of the visual character of the area. Exhibit 5.8-7 summarizes the visual quality effects of each alternative compared to the existing conditions. The following criteria were used to rate the visual quality of the alternatives:

- **Vividness**
  - Low: Mundane or nondescript landscape
  - Moderate: Some features with striking attributes
  - High: Presence of dominant feature

- **Intactness**
  - Low: Built features placed without sensitivity to or in conflict with existing setting
  - Moderate: Built features placed somewhat in response to existing setting
  - High: Natural and built components in balance and harmony with each other and their relationship to the landscape

- **Unity**
  - Low: Reduced integrity due to prevalence of incompatible structures including conflicting scales, colors, or purposes
  - Moderate: Presence of some features not compatible with the existing landscape
  - High: The visual elements of the environment join together to form a harmonious visual pattern
Exhibit 5.8-7. Aesthetic quality effects summary

<table>
<thead>
<tr>
<th>Alternative/Option</th>
<th>Vividness</th>
<th>Intactness</th>
<th>Unity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Existing Conditions</td>
<td>High</td>
<td>Low</td>
<td>Low</td>
</tr>
<tr>
<td>No-Action Alternative, North Option</td>
<td>High</td>
<td>Moderate</td>
<td>Low</td>
</tr>
<tr>
<td>No-Action Alternative, South Option</td>
<td>Moderate</td>
<td>Moderate</td>
<td>Low</td>
</tr>
<tr>
<td>Revised Viaduct Alternative, North Option</td>
<td>High</td>
<td>Moderate</td>
<td>Moderate</td>
</tr>
<tr>
<td>Revised Viaduct Alternative, South Option</td>
<td>Moderate</td>
<td>Moderate</td>
<td>Low</td>
</tr>
<tr>
<td>Partial Cover Lowered Alternative</td>
<td>High</td>
<td>High</td>
<td>High</td>
</tr>
</tbody>
</table>

The existing conditions in the area between Brighton Boulevard and Colorado Boulevard have a high vividness factor. The highway structure and several large industrial buildings on the south side of the highway create a memorable vision for the viewer. The existing condition is ranked low in intactness and unity due to the presence of the highway and the industrial buildings within the residential neighborhood.

The visual character for the No-Action Alternative, North Option is similar to the existing visual character because the structure will be rebuilt similarly to the existing viaduct, but only slightly modified to comply with the current safety and engineering standards. Intactness has been ranked as moderate because of construction of the new structure. There will be no improvements to the community with this alternative; therefore, unity is ranked low.

The visual character for the No-Action Alternative, South Option is similar to the Revised Viaduct Alternative, South Option which is discussed later in this section.

The Revised Viaduct Alternative, North Option has a high vividness factor because of the highway structure and the industrial buildings to the south. The intactness for this option is ranked as moderate because the visual character of the area will improve compared to the existing conditions due to the construction of the new structure. The unity also is ranked as moderate because of the modifications to Swansea Elementary School site and additional amenities under the viaduct. The new structure also could incorporate more creative and visually pleasant design elements. The viaduct will still be visible from the community, though, and the expansion to the north brings the highway closer to the school.
Vividness for the Revised Viaduct Alternative, South Option is moderate because this option will remove the tallest structure in the area (Nestlé Purina PetCare Company). The reconstructed viaduct could incorporate more creative and visually pleasant design elements. The intactness is ranked moderate because the highway will not get any closer to the school and the majority of the residential areas on the north side and will eliminate Nestlé Purina PetCare Company. The unity is ranked low because the highway still will be visible from the surrounding neighborhoods and there will be no changes or beautification to the school and the neighborhoods north of the highway.

The Partial Cover Lowered Alternative offers high vividness, intactness, and unity. The lowered highway will have noise walls or safety barriers that can incorporate artistic designs meaningful to the neighborhood and the proposed cover(s) will introduce a new urban/gathering or park space in the neighborhood, which results in high vividness for this alternative.

Unity and intactness also are rated high because the presence of the highway will no longer be visible from the surrounding neighborhoods. A new park in the area that covers the highway and proposed modifications to the school property also will contribute to the high unity and intactness of this alternative.

**Light and glare**

The increase in the ambient light level in the study area results in impacts on visual resources. Adding a new light source in the area changes the visual appearance of the area. Each of the project alternatives was assessed to determine the potential impact from light and glare. Since the project corridor is in an urban setting, the additional lighting from the newly constructed highway will not cause a negative impact to the environment.

The lighting for the Revised Viaduct Alternative and the No-Action Alternative are similar to the existing conditions. For most of the viewers in the area, noise walls block light and glare from the highway, as well as highway traffic noise. The presence of a lighted structure above ground emphasizes the structure cutting across the surface streets for nighttime views and the visibility of the viaduct, which is an intrusive element in this residential neighborhood.

The elevated light source also is an additional disruptive source of glare for upper windows of buildings that will not be directly affected by lighting of surface streets; however, the taller buildings in the area are industrial and will not be affected. The
residential houses in the area are shorter than the viaduct, so there will be minimal glare impact on them with the No-Action Alternative and Revised Viaduct Alternative.

The lighting of the lowered section of the Partial Cover Lowered Alternative will be similar to the lighting for the Revised Viaduct Alternative, in compliance with the lighting standards. The lighting of the covered section will be designed to avoid the “black hole effect” by evaluating the latest lighting technologies and factors affecting the performance of the lighting system.

The glare effect for the Partial Cover Lowered Alternative will be different from the Revised Viaduct Alternative. The lighting of the highway will not be as intrusive as the Revised Viaduct Alternative because the highway is not located on an elevated structure and the light sources are below grade and blocked by safety barriers. This option will locate 46th Avenue on each side of the highway, resulting in additional street lighting in the area, which will comply with Denver standards. Depending on the future plans for the highway cover, additional lighting sources may be introduced by the urban area on the cover. The future lighting of the highway cover will not conflict with the lighting of the surrounding area and will blend in with the neighborhood's existing lighting.

5.8.7 How are the negative effects from the project alternatives to visual resources mitigated?

There are no adverse impacts to visual resources in the study area. The project alternatives will improve the aesthetic quality of the area by either replacing the viaduct with a newer structure that can be designed to complement neighborhood architecture or removing it and locating the highway below grade. Any additional improvements to enhance the visual effects of the proposed highway alternatives will be developed through a collaborative process during final design to reflect the needs of individual neighborhoods and local aesthetic context.

Community input will be sought from neighborhoods impacted by the Preferred Alternative to help develop requirements that define the aesthetic quality. Landscaping and architectural features associated with the highway structure can further improve a design concept and will be considered. Local communities, participating agencies, and an interdisciplinary panel of urban designers, artists, architects, and landscape architects will help develop these features. Exhibit 5.8-8 lists the impacts and mitigations associated with visual resources and aesthetic qualities.

What is the black hole effect?

The black hole effect is the substantial light contrast between outside and inside of a tunnel, causing motorists to slow down. This phenomenon can be minimized by providing adequate lighting at the tunnel entrance or the threshold zone to allow time for the eyes to adapt.
### Exhibit 5.8-8. Summary of visual resources and aesthetic qualities impacts and mitigations

<table>
<thead>
<tr>
<th>Alternative/Option</th>
<th>Impacts and/or Benefits</th>
<th>Mitigation Measures Applicable to All Alternatives</th>
</tr>
</thead>
</table>
| No-Action Alternative | - Replacing the highway will improve the visual quality of the area  
- Replacing the old viaduct with new infrastructure will improve the visual quality  
- The new noise walls on the viaduct will obstruct the view of the downtown skyline  
- Relocating the Nestlé Purina PetCare Company and removing the facility will open up some views to the downtown Denver skyline (South Option only) | Seek community input to help develop requirements that define the aesthetic quality of the area, such as artistic design elements |
| Revised Viaduct Alternative, North Option | - Replacing the highway will improve the visual quality of the area  
- Replacing the old viaduct with new infrastructure will improve the visual quality  
- The new noise walls on the viaduct will obstruct the view of the downtown skyline | |
| Revised Viaduct Alternative, South Option | - Replacing the highway will improve the visual quality of the area  
- Replacing the old viaduct with new infrastructure will improve the visual quality  
- The new noise walls on the viaduct will obstruct the view of the downtown skyline  
- Relocating the Nestlé Purina PetCare Company and removing the facility will open up some views to the downtown Denver skyline | |
| Partial Cover Lowered Alternative | - Introducing public space to the area and reducing the roadway's visual domination in the area by removing the existing viaduct will greatly improve the visual quality of the area  
- Ground-level noise walls or safety barriers are less intrusive to viewers' eyes compared to the No-Action and Revised Viaduct Alternatives, but they also introduce a new visual impact to the area by blocking the view across the highway  
- The views for the vehicles traveling eastbound and westbound will be entirely different from the existing conditions | |
| Managed Lanes Option (option to Build Alternatives) | - Additional visual barriers will be created with the direct connections at I-270, I-225, and Peña Boulevard | |
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