Physical Environment

Geology and Soils

Geologic and soil conditions are examined for transportation projects relative to how the earth's structure and soil conditions may affect the types of construction practices necessary to construct a sustainable roadway, especially in areas where soils or existing slopes are unstable.

ENVIRONMENTAL CONSEQUENCES

No-Action	General Purpose Lanes	Tolled Express Lanes *(Preferred Alternative)*
No effects	• Construction activity may encounter expansive soils and bedrock, corrosive soils, steeply dipping bedrock, collapsible soils, and unstable slopes	• Construction activity may encounter expansive soils and bedrock, corrosive soils, steeply dipping bedrock, collapsible soils, and unstable slopes

MITIGATION

- Construct foundation systems and floor slabs for structures in areas with expansive soils, bedrock, or collapsible soils
- Construct reinforced, stabilized walls to stabilize slopes when cut or fill slopes require steep gradients
- Stabilize expansive soils under pavement with chemicals (lime), or remove and replace with better quality soil
- Stabilize embankment material by over excavation prior to embankment placement
- Construct drainage features to divert surface and subsurface water to prevent water ponding
- Protect slopes and other stripped areas from erosion by re-vegetation
- Develop and implement stormwater management plan to minimize soil erosion and monitor conditions before/after construction.

Hazardous Materials

Hazardous materials refer to any product that is flammable, corrosive, or toxic. Typically these materials are found in association with a variety of industrial, mining, and municipal land uses.

ENVIRONMENTAL CONSEQUENCES

No-Action	General Purpose Lanes	Tolled Express Lanes *(Preferred Alternative)*
No effects	• Four hazardous material sites may be exposed during construction excavation	• Four hazardous material sites may be exposed during construction excavation

MITIGATION

- Identify need for long-term treatment of contaminated soil or groundwater
- Conduct soils and groundwater testing for all hazardous materials sites prior to ROW acquisition
- Remove or contain contaminated materials from the site prior to construction
- Conduct asbestos and lead paint surveys where bridge, building, guardrails or sign alteration or demolition would be required

Visual and Aesthetic Character

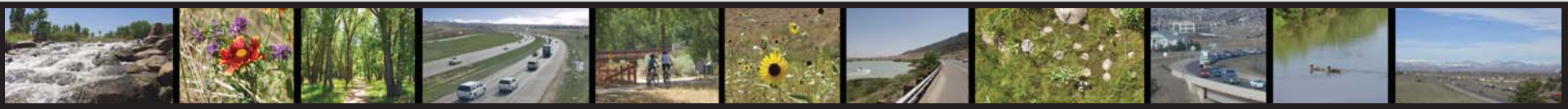
Visual and aesthetic character is a component of environmental quality that relates to views both to and from the transportation facility.

ENVIRONMENTAL CONSEQUENCES

No-Action	General Purpose Lanes	Tolled Express Lanes *(Preferred Alternative)*
No effects	• Changes to visual character include barrier median, wider typical section, retaining walls/noise walls, and flyover at Santa Fe	• Changes to visual character include additional overhead signage, barrier median, wider typical section, retaining walls/noise walls, braided ramp at Quebec, T-ramp at Colorado, and flyover at Santa Fe

MITIGATION

- Use standard architectural treatments to maintain visual consistency for the C-470 Corridor
- Overhead toll collection devices and signage would follow region-wide standard set by the Colorado Tolling Enterprise
- Interchange architectural treatment upgrades may include textured walls, landscaping, and bridge identification markings through coordination with local jurisdictions
- Tiered construction on largest retaining wall to provide visual break in wall height
- Retaining wall textures and colors will blend with existing landscape
- Community input obtained to incorporate colors and textures on noise walls at Wolhurst and improve entrance to community



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