# 4 ENVIRONMENTAL SETTING, IMPACTS, AND MITIGATION MEASURES

## INTRODUCTION TO THE ANALYSIS

### Scope of the EIR

In accordance with the State CEQA Guidelines (Section 15126.2), this Draft EIR identifies and focuses on the significant direct and indirect environmental effects of the proposed multi-use trail project, giving due consideration to both its short-term and its long-term effects. Short-term effects are generally those associated with construction, and long-term effects are generally those associated with use of the trail project. Resource topics that would not be affected by the proposed project are addressed in Chapter 2, "Summary," of this Draft EIR, including agriculture and forest resources, mineral resources, and population and housing.

This chapter addresses the following resource topics:

4.1 Aesthetics
4.2 Air Quality
4.3 Biological Resources
4.4 Cultural Resources (which includes tribal cultural resources)
4.5 Geology and Soils
4.6 Greenhouse Gas Emissions and Climate Change
4.7 Hazards and Hazardous Materials
4.8 Hydrology and Water Quality
4.9 Land Use and Planning
4.10 Noise
4.11 Public Services
4.12 Recreation
4.13 Transportation and Circulation
4.14 Utilities

### Terminology Used In the EIR

This Draft EIR uses the following terminology to describe environmental effects of the project:

**Less-than-Significant Impact**: A project impact is considered less than significant if it would not exceed the threshold of significance and therefore would not cause a substantial adverse change in the environment. No mitigation is required for a less-than-significant impact.

**Potentially Significant Impact**: A potentially significant impact is an environmental effect that may cause a substantial adverse change in the environment; however, additional information is needed regarding the extent of the impact. For CEQA purposes, a potentially significant impact is treated as if it were a significant impact.

**Significant Impact**: A project impact is considered significant if it results in a substantial adverse change in the physical conditions of the environment. Significant impacts are identified by the evaluation of project effects in the context of specified thresholds of significance. Mitigation measures and/or project alternatives are identified to reduce these effects to the environment, where feasible.

**Significant and Unavoidable Impact**: A project impact is considered significant and unavoidable if it would result in a substantial adverse change in the environment that cannot be feasibly avoided or mitigated to a less-than-significant level if the project is implemented. If a lead agency proposes to approve a project with significant unavoidable impacts, it must adopt a statement of overriding considerations to explain its actions (State CEQA Guidelines Section 15093[b]).

**Cumulative Impacts**: According to CEQA, "cumulative impacts refer to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts" (State CEQA Guidelines Section 15355). CEQA requires that cumulative impacts be discussed when the "project's incremental effect is cumulatively considerable… [or] … provide a basis for concluding that the incremental effect is not cumulatively considerable (State CEQA Guidelines Section 15130 [a])."

**Mitigation Measures**: Mitigation measures are identified, where feasible, to avoid, minimize, rectify, reduce, or compensate for significant or potentially significant impacts of the project, in accordance with the State CEQA Guidelines (Section 15126.4).

## Format of the Environmental Analysis

Each section in Chapter 4 begins with a description of the project environmental setting and regulatory setting as it pertains to the particular resource topic. The environmental setting serves as the baseline, which provides a point of reference for assessing the environmental impacts of the proposed project and alternatives and determining the significance of those impacts. The setting description in each section is followed by an impacts and mitigation discussion. The impact and mitigation portion of each section includes impact statements, which are prefaced by a number in bold-faced type. An explanation of each impact and an analysis of its significance follow each impact statement. All mitigation measures pertinent to each individual impact follow after the impact statement and discussion. The degree to which the identified mitigation measure(s) would reduce the impact is also described.

**Environmental Setting:** This subsection describes the existing environmental conditions on the proposed project site and surrounding area, in accordance with State CEQA Guidelines Section 15125. The discussions of the environmental setting focus on information relevant to the resource topic under evaluation. The extent of the environmental setting area (the project study area) may differ among resources, depending on the nature of the impacts. For example, air quality impacts are assessed for the air basin, whereas cultural resource impacts are assessed for the project site only.

**Regulatory Setting:** This subsection presents information on the laws, regulations, plans, and policies that relate to the resource topic. Regulations originating from the local, state, and federal levels are each discussed as appropriate.

**Impacts:** This subsection identifies the thresholds of significance used to determine the level of significance of the environmental impacts for each resource topic, describes environmental impacts, where significant or potentially significant impacts would occur, and presents feasible mitigation measures. Key methods and assumptions used to frame and conduct the impact analysis, as well as issues or potential impacts not discussed further (such issues for which the project would have no impact), are also described.

Project impacts are organized numerically in each subsection (e.g., Impact 4.4-1, Impact 4.4-2, Impact 4.4-3, etc.). Impacts are summarized with bold-font impact title, a list of applicable policies and regulations, and the impact's level of significance. When a significant impact is identified, the levels of significance both before and after mitigation measures precede the discussion of each impact. An example of the format is shown below.

During preparation of feasibility studies beginning in 2009, alignment options were identified for two segments of the trail. In addition to the proposed project alignment, these optional alignments, identified as 1A, 1C, and 5A, are described in Chapter 3, "Project Description" and are analyzed in the Impacts portion of each resource section in Chapter 4.

| Impact 4.4-X | Impact title. |
|---|---|
| Applicable Policies and Regulations | List of applicable policy names |
| Significance with Policies and Regulations | Proposed Project: Potentially significant<br>Alignment Option 1A: Potentially significant<br>Alignment Option 1C: Potentially significant<br>Alignment Option 5A: Potentially significant |
| Mitigation Measures | Mitigation Measure 4.4-X (Proposed Project, Option 1A, Option 1C, Option 5A) |
| Significance after Mitigation | Less than significant (Proposed Project, Option 1A, Option 1C, Option 5A) |

The discussion that follows the impact summary includes the substantial evidence supporting the impact analysis and significance conclusion. If necessary, mitigation measures are then recommended to reduce potentially significant or significant impacts to less-than-significant levels, as feasible, and the significance of the impact after implementation of mitigation is described. Mitigation measures are organized numerically to correspond to the impact they address. For example, Impact 4.4-1 would be mitigated with Mitigation Measure 4.4-1.

**Proposed Trail Alignment**
The most detailed impact discussion is presented first for the proposed alignment for each impact in Chapter 4. Then, the alignment options are explained in as much detail as needed to understand impacts. Each impact includes a discussion of the substantial evidence supporting the significance conclusion.

**Alignment Option 1A**
Discussion of substantial evidence supporting the impact significance conclusion for alignment option 1A.

**Alignment Option 1C**
Discussion of substantial evidence supporting the impact significance conclusion for alignment option 1C.

**Alignment Option 5A**
Discussion of substantial evidence supporting the impact significance conclusion for alignment option 5A.

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# 4.1 AESTHETICS

## 4.1.1 Introduction

This section evaluates the potential changes to the existing visual characteristics of the project site and vicinity that could result from implementation of the proposed project. This analysis focuses on the change in the visual character, effects on views, visual compatibility with surrounding uses, and the potential for sensitive receptors to be disturbed by light and glare generated by the project.

No comments related to aesthetics were received during public review of the Notice of Preparation.

## 4.1.2 Environmental Setting

### REGIONAL SETTING

The City of Roseville is in a transitional zone between the flat, open terrain of the Central Valley and the foothills of the Sierra Nevada. The gently rolling topography of the region and the distant foothills provide a backdrop and context for other elements of the visual setting.

Historically, the area had a rural character associated with regional ranching and agricultural operations. Grassland covered the hillsides and valleys, which were dotted with oak woodlands and accentuated by riparian vegetation associated with creeks and other drainage ways. Although undeveloped areas of the region are still characterized by these open grasslands, development (consisting of a variety of residential, commercial, and industrial land uses) has become a prominent component of the landscape in the City of Roseville. Where development has not completely replaced the natural setting, it has segmented natural areas, thereby increasing the aesthetic value of the remaining contiguous open spaces.

### LOCAL SETTING

The trail would follow creek corridors along portions of Dry, Cirby, and Linda Creeks. The properties adjacent to the proposed alignment include a mix of residential, commercial, parks, open space and public/quasi-public uses. Flood control improvements, including floodwalls, berms, bypass channels, and bypass culverts are located along the length of the project site. Commercially-zoned properties are concentrated along Sunrise Avenue to the north and south of the project site along Linda Creek. Commercial areas are also found near the western part of the proposed alignment along Riverside Avenue between Darling Way and Cirby Way. Exhibit 4.1-1 and Exhibits 4.1-2 through 4.1-8 (Photos 1 through 7) provide representative views of the proposed trail alignment.

Natural vegetation and watercourses are distinctive features within the otherwise urban environment. The nature of the area is typified by Photo 1, although the quality of the habitat (and thereby, the general richness of the views) varies, and there are areas of the trail corridor where the built environment is more prominent and the views appear more disturbed. (See Section 4.3, “Biological Resources,” for a discussion of habitat quality.) Annual grassland occurs in open, cleared, or disturbed areas and forms the understory of mixed riparian and valley oak woodland communities. There are two groups of trees on the project site that are particularly distinctive in their scenic resource qualities: a group of oak trees located along an existing trail in the Sierra Gardens neighborhood and a group of trees along Linda Creek near Rocky Ridge Drive (see Photo 4). The trees and creek channel enhance the existing visual setting of the urban community by providing an open space corridor, natural landscape appearance, and scenes of moving water, all of which create elements of visual interest.

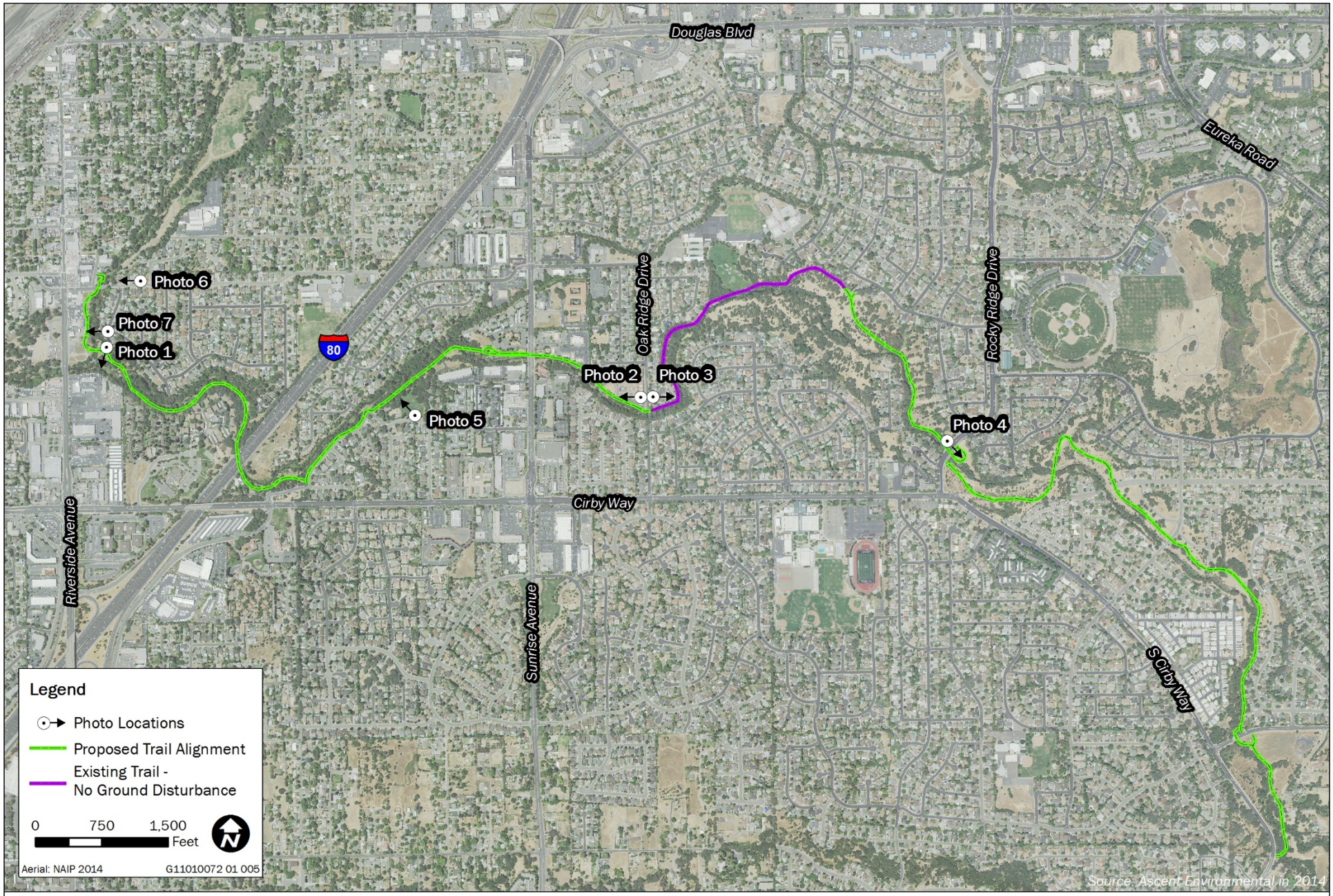


Exhibit 4.1-1

Photo Locations

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Exhibit 4.1-2 Photo 1: Dry Creek, East of Proposed Riverside Trailhead

The creek corridors currently contain segments of existing, unimproved natural surface paths and paved multi-use paths (see Photos 2, 3, and 4). Much of the corridor is used for recreation, infrastructure maintenance access, and transportation. Other notable features along the project site include the I-80 overpass, existing bridges north of Marlin Way and west of York Court, and retaining walls along the creek corridor at Sunrise Avenue. There are no scenic roads or highways, designated visual landmarks, or long-range vistas of regional importance along the project site.

## Views of the Site from the Surrounding Area

The project area includes well-traveled roadways, including Interstate (I-80), Sunrise Avenue, Rocky Ridge Drive, and Old Auburn Road. Short-range views onto the project site from adjacent uses are generally dominated by oak trees and riparian vegetation. In most locations, the steep creek bank limits views of the waterway.

Public facilities, including parks, are located adjacent to the proposed alignment. Eastwood Park, located at 950 Madden Lane, is a 4-acre neighborhood park featuring a school-aged play area, covered picnic area, baseball/softball field, multi-use field, and a basketball court. Cirby Creek is generally not visible from the amenities at Eastwood Park because of a small grove of oak trees at the northern boundary of the park. Photo 5 looks across the basketball courts at Eastwood Park towards an unimproved trail, which is blocked by vegetation. Photo 6 provides a representative view of the project site from an area roadway.


Exhibit 4.1-3 Photo 2: Existing Unimproved Trail, Looking West from Oak Ridge Drive


Exhibit 4.1-4 Photo 3: Existing Paved Trail, Looking East from Oak Ridge Drive

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Source: Ascent Environmental 2012

Exhibit 4.1-5 Photo 4: View of Existing Trail, West of Rocky Ridge Drive, Looking Southeast

Source: Ascent Environmental 2014

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Exhibit 4.1-6 Photo 5: View of Existing Trail from Eastwood Park, Looking Northwest across Basketball Courts

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Exhibit 4.1-7 Photo 6: View of Darling Road Bridge, Looking West


Exhibit 4.1-8 Photo 7: View of Existing Trail Looking West from the Corner, of Hernandez Lane and Machado Lane

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### Views from the Project Site

Views from the project site toward adjacent lands consist of riparian vegetation, houses and backyard structures (e.g., decks, sheds), and the occasional roadway undercrossing. Where the existing trail is nearer to established uses, the urban environment is more apparent (see Photo 2); while in other parts of the corridor views from the project site are more restricted by the existing vegetation. In general, individuals recreating on the project site experience views with a natural aesthetic (see Photo 7). Photo 4 depicts the view from the existing trail near the intersection with Rocky Ridge Drive. The foreground and background are dominated by vegetation, including native oak trees, that draws attention from the boulevard in the middleground.

### Light and Glare Conditions

There are few sources of light and glare in the project area. There are existing street lights where the proposed trail crosses roadways, and there is some light trespass associated with interior and exterior lighting at existing residences and commercial buildings. These existing structures may also contribute some glare because of reflective surfaces, such as windows.

## 4.1.3 Regulatory Setting

Applicable local policies designed to protect the aesthetic resources are summarized below.

### FEDERAL

There are no federal laws that pertain to aesthetic resources that are applicable to the proposed project.

### STATE

There are no state laws that pertain to aesthetic resources that are applicable to the proposed project.

### LOCAL

#### City of Roseville General Plan

The City of Roseville General Plan does not identify any scenic roadways or corridors requiring special consideration. Further, the General Plan does not have policies or elements that specifically address protection of aesthetic or visual resources. The General Plan, through the “Community Design” section of the Land Use Element, promotes high-quality design, distinctive development or community character, public artistic expression, and incorporation or preservation of natural features. Pursuant to the general plan, the City has adopted Community Design Guidelines that set development standards for site design, architecture, lighting, signs, and artwork.

#### City of Roseville Tree Preservation Ordinance

Chapter 19.66 of the zoning ordinance (the Tree Preservation Ordinance) establishes requirements for the preservation of native oak trees. The natural scenic beauty of oak trees is cited as one of the reasons for the ordinance. The ordinance regulates activities that may affect native oak trees in an effort to preserve them. The ordinance recommends avoiding impacts and removal of native oaks where feasible. In instances where native oaks are impacted or removed, the ordinance provides standards for mitigating the impact. City projects, including bikeway projects, are not required to obtain a Tree Permit but are otherwise required to implement the ordinance.

### City of Roseville Design Standards

Section 13, Bikeways, of the City of Roseville Design Standards provides criteria intended to provide safe use of bikeways. The standards do not require illumination of bike trails, but indicate that lighting may be required, at the City's discretion, through underpasses, tunnels, roadway intersections, mid-block crossings, and whenever security could be an issue. Per the bikeway standards, all lighting must be designed with appropriate shielding to prevent unnecessary glare and be resistant to vandalism.

## 4.1.4 Impacts

### METHODS OF ANALYSIS

Potential impacts on aesthetic resources that could result from project implementation were determined through a professionally-accepted practice that considers three primary factors: (a) the existing scenic quality of an area; (b) the level of viewer exposure and concern regarding visual change; and (c) the level of actual visual change caused by the project as seen by a given viewer group. The sensitivity of the viewer, or viewer concern, is based on such factors as: the visibility of resources in the landscape, proximity of the viewers to the visual resource, elevation of the viewers in relation to the visual resource, frequency and duration of views, numbers of viewers, and types and expectations of individuals and viewer groups. Viewer groups are differentiated by physical factors that modify perception. For trail projects, a distinction can be made between three basic groups, passers-by (motorists and passengers in cars or buses), recreationists (walkers/users of the creek corridors and adjacent recreation sites), and residents (those home occupants who view the trail from nearby areas). These groups are further differentiated by the activities they are engaged in. Activities such as commuting or working can distract the observer from the visual environment. On the other hand, activities such as walking, biking, or relaxing can heighten awareness of scenic surroundings. Once overall visual sensitivity is established (based on existing visual quality, viewer exposure, and viewer concern), these factors are then considered together with the level of expected change in basic visual attributes such as form, line, color, and texture as a result of the proposed project. Thus, a substantial adverse effect can occur when viewers with high levels of overall visual sensitivity (i.e., high viewer concern and visual exposure, in settings of high existing visual quality) encounter high levels of visual change or scenic view obstruction as a result of a project.

This analysis takes into consideration the following features that are included in the project:

- All new bridges are proposed to be pre-fabricated steel truss bridges that would have a weathered steel finish to blend into the natural environment and not cause glare.
- To the maximum extent feasible, native oak trees would be avoided. Where avoidance is not feasible, the following protection measures would be implemented to protect oak woodlands and associated native trees from project related impacts:
  - Temporary protective fencing would be installed at least 1 foot outside the dripline of the native oak tree before initiating construction to avoid damage to the tree canopy and root system. A circle with a radius measurement from the trunk of the tree to the tip of its longest limb plus one foot would constitute the dripline radius protection area for each tree. Limbs must not be cut back to change the dripline. The area beneath the dripline is a critical portion of the root zone and defines the minimum protected area of each tree. Removing limbs that make up the dripline does not change the protected area.
  - No vehicles, construction equipment, mobile home/office, supplies, materials or facilities would be driven, parked, stockpiled or located within the dripline of the native oak trees.
  - No grading would be allowed within the dripline of the protected native oak.
  - No trenching would be allowed within the dripline of the native oak tree. If it is necessary to install underground utilities within the dripline of the native oak tree, the utility line would be

bored and jacked under the supervision of a certified arborist (or by other methods such as hand tools as specified in the ordinance).

- Drainage patterns onsite would not be modified so that water collects or stands within, or is diverted across, the dripline of any native oak tree.
- If ground disturbance must occur within the protected zone of a native oak tree, the work would occur consistent with provisions of the ordinance (City of Roseville Zoning Ordinance – Tree Preservation [Chapter 19.66]).

- Where feasible, depending on detailed engineering analysis, retaining walls would take the form of gabion baskets with timber facing and root wads or willow stalks to provide additional stabilization and to provide a more natural finish.
- Lighting would only be placed in locations where the trail passes under roadways and on bridges, as a safety feature. Lighting may be installed at the trailhead parking lot and at-grade roadway crossings. In adherence with adopted City standards, all proposed lighting would be limited to the amount required to safely illuminate these undercrossings. Lights would be designed such that they do not create light that would be cast onto oncoming traffic, into the surrounding community or into surface waters. Lighting would be installed at the lowest allowable height and would be screened and directed away from sensitive uses.
- In addition, where appropriate, consideration would be given to screening the trail from existing residential and urban development, such as at the intersection of Sunrise Avenue south of Coloma Way, Oak Ridge Drive north of Rampart Drive, Rocky Ridge Drive north of Cirby Way, and Old Auburn Road north of South Cirby Way.

## THRESHOLDS OF SIGNIFICANCE

Based on Appendix G of the CEQA Guidelines, the proposed project would result in a significant impact to aesthetic resources if it would:

- have a substantial adverse effect on a scenic vista;
- substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway;
- substantially degrade the visual character or quality of the site and its surroundings; or
- create a new source of substantial light or glare which would adversely affect day or nighttime views of the area.

## ISSUES OR POTENTIAL IMPACTS NOT DISCUSSED FURTHER

There are no designated scenic vistas within the City of Roseville, and the construction of the proposed trail would not obstruct existing view corridors. Therefore, potential effects on scenic vistas are not discussed further.

There are no designated scenic highways within the City of Roseville. Therefore, impacts related to the damage of scenic resources within a scenic highway are not evaluated further.

# IMPACT ANALYSIS

| Impact 4.1-1 | Substantially degrade the visual character or quality of the site and its surroundings. |
|---|---|
| Applicable Policies and Regulations | City of Roseville General Plan Land Use Element, City of Roseville Tree Preservation Ordinance |
| Significance with Policies and Regulations | Proposed Project: Less than significant<br>Alignment Option 1A: Less than significant<br>Alignment Option 1C: Less than significant<br>Alignment Option 5A: Less than significant |
| Mitigation Measures | None required (Proposed Project, Option 1A, Option 1C, Option 5A) |
| Significance after Mitigation | Less than significant (Proposed Project, Option 1A, Option 1C, Option 5A) |

**Proposed Trail Alignment**

Implementation of the Dry Creek Greenway East Trail would involve the installation of signs, bridges, undercrossings, and other structures as well as the paved trail. The trail would traverse open space and parks, and would be located in proximity to residences and businesses. It would result in paving segments of currently unimproved natural surface paths and the construction of up to eight bridges to provide creek crossings. The project would also include the rehabilitation and widening of two existing bridges. These improvements would be similar to the physical characteristics of the existing environment (see Exhibits 4.1-2 through 4.1-8), but may introduce pavement, structures, and recreational users into areas that are currently undeveloped, which has the potential to change the character of the private viewsheds of nearby residents and businesses.

The existing trail and open space areas on the project site provide, on the whole, moderate quality scenic resources. While the natural aesthetic is of particular value to recreationalists on the trail, the urban and industrial uses that surround the project site dominate views from most other points of public access (i.e., area roadways) and the creeks are obscured by vegetation. Viewer exposure and concern, likewise, is high for residents and recreationalists and low to moderate for passersby. Residents and recreationalists have extended, proximate exposure to the riparian areas and creeks on the project site and expect the site to have a natural character. Passersby, including motorists on roads that cross the project site, have low to moderate sensitivity to changes in the character of the site.

Construction Impacts

*Trail*

The proposed trail is visible from existing recreation sites, residences, businesses, and area roadways. During construction, heavy equipment would be used that is incongruent with the expectation of a natural creek resource. However, the intrusion would be temporary (typically no more than one construction season).

*Staging Areas*

The proposed project would include construction staging areas where equipment and material would be temporarily stored. These staging areas are proposed on land owned by the City of Roseville and are described in Table 4.1-1, below. Most staging areas are either currently disturbed and have a low scenic quality or are in areas where there is limited viewer exposure. While equipment would be visible during construction, these staging areas would be temporary and would not result in a permanent change in visual character.

Table 4.1-1 Scenic Quality and Viewer Exposure to Proposed Staging Areas

| Staging Area | Scenic Quality | Viewer Exposure |
|---|---|---|
| East of Riverside Avenue and north of Dry Creek | Low; Across from a BMX dirt bike park in an area dominated by used car lots and auto repair businesses. Site is partially disturbed/graveled. | High; Riverside Avenue is relatively heavily traveled and the site includes approximately 120 feet of frontage. |
| South of Marlin Drive and north of Cirby Way | Low; Undeveloped lot at the entry to a residential development. | Moderate to high; Off of a main road and near residences. No homes look directly on to the property. |
| Oak Ridge Drive north of Vinmar Court | Low; Grassy, undeveloped lot with a low wooden fence and palm trees partially blocking view from the street. | Moderate; Adjacent to residences and across Oak Ridge Drive from Alta Manor assisted living facility. |
| Riparian area south of Meadowlark Way and north of Linda Creek | High; Open, grassy area off of an existing, unpaved maintenance road. | Low; Set back approximately 175 feet from the existing paved trail south of the residences. |
| East of Rocky Ridge Drive and north of Linda Creek | Moderate; Undeveloped lot with a grassy, natural appearance. The trail would be constructed on three sides. | Moderate to high; Adjacent to a main road and near residences. No homes look directly onto site. |
| At the terminus of North Cirby Way on the north side of Linda Creek | Low; Asphalt-paved street between white fences marking the end of the street and the end of the pavement. | Low; There is no through traffic. In a residential neighborhood, but no homes look directly onto site. |
| Southwest corner of the Samoa Way/Champion Oaks Drive intersection | Moderate; Undeveloped grassy lot. | Low to moderate; Streets are residential and not heavily traveled. |
| Between the terminus of Meadow Lane and West Colonial Parkway on the north side of Linda Creek | High; Trail access developed from West Colonial Parkway. | Low; Residential roads are not heavily traveled and trees obstruct viewing. No homes look directly onto site. |
| West Colonial Parkway east of Linda Creek | Moderate to High; Grassy area with native tree plantings, developed with an unpaved trail | Moderate to Low; Frontage to residential road, which is not heavily traveled and adjacent to homes. |

## Use-related Impacts

*Trail*

Implementation of the proposed project would include some tree removal, which would result in a visual change to the landscape. Design of the Proposed Trail Alignment would, to the extent possible, avoid the larger trees along the creek corridor, especially the native oak trees, to minimize impacts to habitat and aesthetic values consistent with requirements of the City's Tree Preservation Ordinance. Also, the alignment travels through a dense riparian corridor, and views would not be substantially changed despite the removal of some trees because the prominent visibility of the riparian woodland would remain.

The two groups of oak trees that possess scenic importance, along the Sierra Gardens neighborhood and near Rocky Ridge Drive, would not be negatively affected by the project. The trail has been designed to avoid the approximately 30-year old trees in the Sierra Gardens neighborhood and no bridges or retaining walls would be constructed in that area. No bridges would be constructed in the vicinity of the older (approximately 200-year-old) trees near Rocky Ridge Drive. In fact, as described in Chapter 3, "Project Description," bank stabilization elements would be constructed in this vicinity because the bank of the creek adjacent to these trees is currently eroding. Therefore, the project could have a beneficial effect on the scenic value of these trees because the gabion baskets could serve to protect the trees in the future.

The proposed retaining walls would not have a negative effect on views of the area. The combination of steep banks and dense vegetation would shield most of the views from roadways. Architectural elements designed to improve the aesthetic quality and allow the walls to blend more naturally into the surrounding environment would be used where feasible. The project may also include landscaping to create a physical and visual separation between the trail and adjacent properties, as well as to restore graded areas outside of the trail profile or compensate for habitat removed by construction. Simple wood slate or more ornate benches may be placed at key areas and viewpoints to provide rest areas.

Once complete, the amount of visual change because of project implementation would be relatively low. The trail has been designed in consideration of visual resources, including: setbacks from native oaks, riparian areas, and wetlands; topography; setbacks from residences; and compliance with adopted design standards. Where there is an existing trail, the type of use on the project site would remain the same, although the pathway may appear more prominent. The project may benefit the community by cleaning and maintaining the existing trails, and providing more viewing opportunities.

*Trailhead*

The staging area on the eastern side of Riverside Avenue would be developed as a trailhead with a parking area. This portion of Riverside Avenue is characterized by used car lots and automotive repair shops. The proposed trailhead would not impair the visual quality of the area.

*Bridges*

One existing roadway bridge, the Darling Way Bridge, may be widened by 8 feet on the north side to accommodate a 10-foot multi-use trail and full lane widths across the bridge. The widening of this bridge would not alter the visual relationship of the existing bridge and roadway to the surrounding landscape and would not substantially change its visible mass.

The project also proposes installation of up to six new pedestrian bridges across Dry, Linda, and Cirby Creeks and the rehabilitation or widening of two bridges. The proposed new bridges would be pre-fabricated steel truss bridges that would have a weathered steel finish to blend into the natural environment and not cause glare. Examples of proposed bridge designs are shown in Exhibit 4.1-9 for the crossing of Dry Creek near Hernandez Lane and Exhibit 4.1-10 for the crossing of Cirby Creek near Machado Lane. The truss height of Bridge #2 across Dry Creek would be up to 8 feet, with a width of 16 feet, and an overall span of 110 feet. The truss height of Bridge #4 across Cirby Creek would be up to 14 feet with a width of 16 feet and an overall span length of 160 feet. Mid- to long-range views of these project elements from surrounding land uses would be mostly obscured by existing vegetation. Short-range views of the bridge elements, including the bridge structure and bridge approaches would be available for bicyclists and pedestrians using the trail for the time they are in sufficiently close proximity to bridges. Where some residents may have a clearer view of the bridges, including the locations shown in Exhibits 4.1-9 and 4.1-10, the bridges would not be inconsistent with other elements of the viewshed, such as the commercial and automotive repair uses across the creek. Adding bridges would not significantly change the scenic character of the project site because there are existing bridges across roads and existing commercial and industrial uses within the existing viewshed across the creeks. Views for recreational users would be temporary and would be similar to other existing bridge elements, such as the Darling Way Bridge.

Conclusion

During construction, there would be a temporary change in the visual character of the project site from vacant creek corridors to a construction site containing construction equipment and workers. The general community would have limited exposure to this visual change, because there are few existing public viewpoints from the outside that provide a view of the project site, because of topography and intervening vegetation. Recreation use of the portion of the trail under construction would not occur during construction. Area residents would be able to see any changes that occur within the viewshed of their homes. Staging areas may be more apparent to the public than trail construction. However, as described


Exhibit 4.1-9 Proposed Bridge Rendering – Dry Creek near Hernandez Lane


Exhibit 4.1-10 Proposed Bridge Rendering –Cirby Creek near Machado Lane

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in Table 4.1-1, none of the proposed staging areas are located in areas of high scenic quality where viewer exposure is also high. The temporary use of these locations is not anticipated to substantially degrade the visual character of the area.

The scenic character of the site is valued by viewer groups that are exposed to the site for extended durations of time. Although the visual quality of the site would be temporarily degraded during active construction, once completed, there would be minimal changes to the scenic character of the project site. Prominent parts of the construction would be bridges at creek crossings and a few taller retaining walls. These features also would improve trails and public access to stream corridor views, which may be perceived as a benefit by some viewer groups.

Therefore, although the visual quality of the site would be temporarily degraded during construction, implementation of the Dry Creek Gateway East Trail would have a **less-than-significant** impact on the visual character or quality of the site and its surroundings.

**Alignment Option 1A**

Construction activities under Option 1A would be of the same type and magnitude as the Proposed Trail Alignment. This option would cross under Darling Way as described for the Proposed Trail Alignment, but would remain on the south side of the creek, closer to the commercial uses on Riverside Avenue and further from the residences that front Machado Lane. Option 1A would also cross Dry Creek with one bridge (Bridge #3) rather than the two bridges (Bridges #2 and #4) required for the Proposed Trail Alignment. The retaining wall for this option would be located on the south side of Dry Creek, closer to the commercial uses. For these reasons, the trail may be less visible to existing residents under Option 1A than with the Proposed Trail Alignment. This could result in less potential for the perceived visual character or quality of the project area to be effected by construction or use of the trail.

As discussed above for the Proposed Trail Alignment, the actual visual change because of implementation of Option 1A would be relatively low. Although the visual quality of the site would be temporarily degraded during active construction, the proposed physical changes to the project area would be consistent with the area's character and may improve upon the existing quality of views. Therefore, for the same reasons discussed above for the Proposed Trail Alignment, implementation of Option 1A would have a **less-than-significant** impact on the visual character or quality of the site and its surroundings.

**Alignment Option 1C**

Option 1C would require the same bridges and a similar undercrossing as the Proposed Trail Alignment, but would be located closer to the residences that front Hernandez and Machado Lanes. Because Option 1C would result in constructing elements of the trail closer to residences than the Proposed Trail Alignment, there could be more potential for the perceived visual character or quality of the project area to be effected by construction or use of the trail because it would be more visible to area residents. However, as discussed above for the Proposed Trail Alignment, the actual visual change because of implementation of Option 1C would be relatively low. Although the visual quality of the site would be temporarily degraded during active construction, the proposed physical changes to the project area would be consistent with the area's character and may improve upon the existing quality of views. Therefore, as discussed above for the Proposed Trail Alignment, implementation of Option 1C would have a **less-than-significant** impact on the visual character or quality of the site and its surroundings.

**Alignment Option 5A**

Option 5A would cross under Sunrise Avenue on the south side of Linda Creek, rather than the north side as described for the Proposed Trail Alignment. Surrounding land uses are commercial, and this option is generally anticipated to result in the same effects as the Proposed Trail Alignment. With Option 5A, the bridge over Linda Creek (Bridge #14) would be constructed on the eastern side of Sunrise Avenue, immediately adjacent to residences on either side of the creek. This bridge may be visible from nearby residences, while the corresponding bridge for the Proposed Trail Alignment (Bridge

#13) would be less visible or not visible, because the residences located to the north of Bridge #13 are screened by at least 200 feet of dense vegetation. Option 5A also includes a connection to the residences on Meadow Gate Drive, which would increase the visibility of the project. As discussed above for the Proposed Trail Alignment, the actual visual change because of implementation of Option 5A would be relatively low. Although the visual quality of the site would be temporarily degraded during active construction, the proposed physical changes to the project area would be consistent with the area's character and may improve upon the existing quality of views. Therefore, as discussed above for the Proposed Trail Alignment, implementation of Option 5A would have a **less-than-significant** impact on the visual character or quality of the site and its surroundings.

Mitigation Measures

None required.

| Impact 4.1-2 | Create a new source of substantial light or glare that would adversely affect day or nighttime views of the area. |
|---|---|
| Applicable Policies and Regulations | City of Roseville General Plan Land Use Element, City of Roseville Community Design Guidelines |
| Significance with Policies and Regulations | Proposed Project: Less than significant<br>Alignment Option 1A: Less than significant<br>Alignment Option 1C: Less than significant<br>Alignment Option 5A: Less than significant |
| Mitigation Measures | None required (Proposed Project, Option 1A, Option 1C, Option 5A) |
| Significance after Mitigation | Less than significant (Proposed Project, Option 1A, Option 1C, Option 5A) |

**Proposed Trail Alignment**

Construction Impacts

Construction activities would not result in substantial light or glare. All construction activities would occur during the daytime; no lighting would be required and no impact would occur.

Use-related Impacts

The Dry Creek Greenway East Trail would not be intended for nighttime use. Therefore, lighting of the complete trail alignment is not proposed. However, to enhance public safety, the project may include lit undercrossings in locations where the trail passes under roadways, including Darling Way east of Riverside Avenue, I-80 north of Cirby Way, Sunrise Avenue south of Coloma Way, Rocky Ridge Drive north of Cirby Way, and Old Auburn Road north of South Cirby Way. Bridges may also be illuminated and would have a weathered steel finish to blend into the natural environment and not cause glare. Lighting may also be installed at the trailhead parking lot and at-grade roadway crossings to enhance visibility of bicyclists and pedestrians to motorists. The project would not include the installation or construction of elements with reflective surfaces and, therefore, would not result in glare that causes public hazards or annoyance for a sustained period of time.

In adherence with adopted City standards, all proposed lighting would be limited to the amount required to safely illuminate roadways and sidewalks. Streetlights would be designed such that they do not create light that would be cast onto oncoming traffic or directly into the aquatic environment. Lighting would be installed at the lowest feasible height and would be screened and directed away from sensitive uses.

Conclusion

The Proposed Trail Alignment would not result in substantial increases in light or glare that would affect any light sensitive uses on or near the site. The project would have a **less-than-significant** impact on views of the area because of light or glare.

**Alignment Option 1A**

Option 1A would cross under Darling Way as described for the Proposed Trail Alignment, but would remain on the south side of the creek, closer to the commercial uses on Riverside Avenue and further from the residences that front Machado Lane. As discussed above for the Proposed Trail Alignment, there would not be light and glare impacts associated with the construction of Option 1A. Because there would be one less bridge with associated lighting, and the bridge would be further from residences, which have more potential to be light sensitive than commercial land uses, there would be less potential for Option 1A to have adverse effects related to light and glare. However, as discussed for the Proposed Trail Alignment, compliance with adopted City standards would effectively reduce the impact on views of the area because of light or glare to a **less-than-significant** level.

**Alignment Option 1C**

As discussed above for the Proposed Trail Alignment, there would not be light and glare impacts associated with the construction of Option 1C. This option would require the same bridges and a similar undercrossing as the Proposed Trail Alignment. The Darling Way undercrossing would be on the side of the creek closer to residences, but is unlikely to affect these receptors because any lighting would be below street level. As discussed above, the main portion of the trail would not be lit. Further, as discussed for the Proposed Trail Alignment, compliance with adopted City standards would effectively reduce the impact on views of the area because of light or glare to a **less-than-significant** level.

**Alignment Option 5A**

Construction of Option 5A would not result in substantial light or glare for the same reasons discussed above for the Proposed Trail Alignment. Option 5A would cross under Sunrise Avenue on the south side of Linda Creek, rather than the north side as described for the Proposed Trail Alignment. In this commercial area, which already has ample street and business lighting, this change would not substantially affect views of the project area. Installation of Bridge #14 instead of Bridge #13 would result in a bridge with associated illumination in closer proximity to residences than the Proposed Trail Alignment. However, as discussed for the Proposed Trail Alignment, compliance with adopted City standards would effectively reduce the impact on views of the area because of light or glare to a **less-than-significant** level.

Mitigation Measures

None required.

# 4.2 AIR QUALITY

## 4.2.1 Introduction

This section includes a discussion of existing air quality conditions in the project area, a summary of applicable regulations, and an analysis of potential short-term and long-term air quality impacts caused by the proposed project.

The Placer County Air Pollution Control District (PCAPCD) submitted a comment letter in response to the Notice of Preparation with respect to usage of the PCAPCD CEQA Air Quality Handbook (Handbook) to assist with recommended analytical approaches and feasible mitigation measures when preparing air quality analyses for land use projects. This letter was dated December 19, 2013. In October 2016, PCAPCD adopted updated significance thresholds; and, in June 72017, PCAPCD released a draft 2017 update of the District's Handbook which was subsequently approved by the PCAPCD Board in August 2017. The method of analysis contained in this section for short-term construction, long-term regional (operational, or in this case, use of the trail), local mobile-source, and toxic air emissions is consistent with PCAPCD recommendations in the updated August 2017 Handbook.

## 4.2.2 Environmental Setting

The project site is located in the City of Roseville (City) within western Placer County, California, which is located within the Sacramento Valley Air Basin (SVAB). The SVAB also includes all of Butte, Colusa, Glenn, Sacramento, Shasta, Sutter, Tehama, Yolo, and Yuba counties and the eastern portion of Solano County.

The ambient concentrations of air pollutant emissions are determined by the amount of emissions released by the sources of air pollutants and the atmosphere's ability to transport and dilute such emissions. Natural factors that affect transport and dilution include terrain, wind, atmospheric stability, and sunlight. Therefore, existing air quality conditions in the area are determined by such natural factors as topography, meteorology, and climate, in addition to the amount of emissions released by existing air pollutant sources, as discussed separately below. The nearest sensitive receptors in the vicinity of the project site are residences in the residential neighborhoods located adjacent to the site. Several parks are also located near the project site along with Eich Middle School (see Chapter 3, "Project Description").

### TOPOGRAPHY, METEOROLOGY, AND CLIMATE

The SVAB is a relatively flat area bordered by the north Coast Ranges to the west and the northern Sierra Nevada to the east. Air flows into the SVAB through the Carquinez Strait, the only breach in the western mountain barrier, and moves across the Sacramento–San Joaquin Delta (Delta) from the San Francisco Bay area.

The Mediterranean climate type of the SVAB is characterized by hot, dry summers and cool, rainy winters. During the summer, daily temperatures range from 50 degrees Fahrenheit (°F) to more than 100°F. The inland location and surrounding mountains shelter the area from much of the ocean breezes that keep the coastal regions moderate in temperature. Most precipitation in the area results from air masses that move in from the Pacific Ocean, usually from the west or northwest, during the winter months. More than half the total annual precipitation falls during the winter rainy season (November through February); the average winter temperature is a moderate 49°F. Also characteristic

of SVAB winters are periods of dense and persistent low-level fog, which are most prevalent between storms. The prevailing winds are moderate in speed and vary from moisture-laden breezes from the south to dry land flows from the north.

The mountains surrounding the SVAB create a barrier to airflow leading to the entrapment of air pollutants when meteorological conditions are unfavorable for transport and dilution. Poor air movement is most frequent in the fall and winter when high-pressure cells are present over the SVAB. The lack of surface wind during these periods, combined with the reduced vertical flow caused by a decline in surface heating, reduces the influx of air and leads to the concentration of air pollutants under stable metrological conditions. Surface concentrations of air pollutant emissions are highest when these conditions occur in combination with agricultural burning activities or with temperature inversions, which hamper dispersion by creating a ceiling over the area and trapping air pollutants near the ground.

May through October is ozone season in the SVAB. This period is characterized by poor air movement in the mornings with the arrival of the Delta sea breeze from the southwest in the afternoons. In addition, longer daylight hours provide a plentiful amount of sunlight to fuel photochemical reactions between reactive organic gases (ROG) and oxides of nitrogen ($NO_X$), which result in ozone formation. Typically, the Delta breeze transports air pollutants northward out of the SVAB; however, a phenomenon known as the Schultz Eddy prevents this from occurring during approximately half of the time from July to September. The Schultz Eddy phenomenon causes the wind to shift southward and blow air pollutants back into the SVAB. This phenomenon exacerbates the concentration of air pollutant emissions in the area and contributes to the area violating the ambient-air quality standards.

The local meteorology of the project site and surrounding area is represented by measurements recorded at the Sacramento International Airport. The normal annual precipitation is approximately 17 inches. The predominant wind direction and speed is from the south at 8 miles per hour (WRCC 2013a, 2013b).

# EXISTING AIR QUALITY

## Criteria air pollutants

Concentrations of several air pollutants—ozone, CO, $NO_2$, $SO_2$, $PM_{10}$, $PM_{2.5}$, and lead—indicate the quality of ambient air and are, therefore, the premise of air quality regulations. Because these pollutants are the most prevalent air pollutants known to be harmful to human health, they are commonly referred to as “criteria air pollutants.” Their effects on human health have been studied in depth and their criteria for affecting health have been documented. Concentrations of emissions from criteria air pollutants are used to indicate the quality of the ambient air. A brief description of key criteria air pollutants in the SVAB is provided below. Monitoring data applicable to the project site is provided in Table 4.2-1.

Table 4.2-1 Summary of Annual Data on Local Ambient Air Quality (2012-2016)[1]

| | 2012 | 2013 | 2014 | 2015 | 2016 |
|---|---|---|---|---|---|
| OZONE | | | | | |
| Maximum concentration (1-hr/8-hr avg, ppm) | 0.108/0.093 | 0.111/0.084 | 0.097/0.087 | 0.098/0.085 | 0.115/0.093 |
| Number of days state standard exceeded (1-hr/8-hr) | 9/28 | 2/8 | 4/21 | 1/6 | 5/21 |
| Number of days national standard exceeded (8-hr)[2] | 27 | 6 | 19 | 6 | 20 |
| FINE PARTICULATE MATTER ($PM_{2.5}$) | | | | | |
| Maximum concentration ($\mu g/m^3$) | 28.0 | 57.0 | 30.7 | 44.1 | 24.4 |
| Number of days national standard exceeded[2] (calculated[3]) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

Table 4.2-1 Summary of Annual Data on Local Ambient Air Quality (2012-2016)[1]

| | 2012 | 2013 | 2014 | 2015 | 2016 |
|---|---|---|---|---|---|
| RESPIRABLE PARTICULATE MATTER ($PM_{10}$) | | | | | |
| Maximum concentration ($\mu g/m^3$) | 44.8 | 54.1 | 31.8 | 59.1 | 39.1 |
| Number of days state standard exceeded (calculated[3]) | 0.0 | * | 0.0 | * | 0 |
| Number of days national standard exceeded (calculated[3]) | 0.0 | 0.0 | 0.0 | * | 0 |

Notes: $\mu g/m^3$ = micrograms per cubic meter; ppm = parts per million

[1] Measurements from the Roseville-N Sunrise Blvd monitoring station.

[2] Based on 2015 National standard.

[3] Measured days are those days that an actual measurement was greater than the level of the state daily standard or the national daily standard. Measurements are typically collected every 6 days. Calculated days are the estimated number of days that a measurement would have been greater than the level of the standard had measurements been collected every day. The number of days above the standard is not necessarily the number of violations of the standard for the year.

* There was insufficient (or no) data available to determine the value.

Source: CARB 2017, data compiled by Ascent in 2017

Ozone

Ozone is a photochemical oxidant (a substance whose oxygen combines chemically with another substance in the presence of sunlight) and the primary component of smog. Ozone is not directly emitted into the air but is formed through complex chemical reactions between precursor emissions of ROG and $NO_X$ in the presence of sunlight. ROG are volatile organic compounds that are photochemically reactive. ROG emissions result primarily from incomplete combustion and the evaporation of chemical solvents and fuels. $NO_X$ are a group of gaseous compounds of nitrogen and oxygen that result from the combustion of fuels. Emissions of the ozone precursors ROG and $NO_X$ have decreased over the past several years because of more stringent motor vehicle standards and cleaner burning fuels. Emissions of ROG and $NO_X$ decreased from 2000 to 2010 and are projected to continue decreasing from 2010 to 2035 (CARB 2013a: Table 3-1).

Acute health effects of ozone exposure include increased respiratory and pulmonary resistance, cough, pain, shortness of breath, and lung inflammation. Long-term health effects include chronic bronchitis and chronic obstructive pulmonary disease (EPA 2017a).

Emissions of the ozone precursors ROG and $NO_X$ have decreased over the past several years because of more stringent motor vehicle standards and cleaner burning fuels. Between 2000 and 2015, the annual average daily emissions of ROG and $NO_X$ decreased by 56 percent. However, the ozone problem in the Sacramento Metropolitan Area, which includes western Placer County, still ranks among the most severe in the state. (CARB 2013a:4-45,2-16.)

Nitrogen Oxide

$NO_2$ is a brownish, highly reactive gas that is most present in urban environments. The major human-made sources of $NO_2$ are combustion devices, such as boilers, gas turbines, and mobile and stationary reciprocating internal combustion engines. Combustion devices emit primarily nitric oxide (NO), which reacts through oxidation in the atmosphere to form $NO_2$. The combined emissions of NO and $NO_2$ are referred to as $NO_X$ and are reported as equivalent $NO_2$. Because $NO_2$ is formed and depleted by reactions associated with photochemical smog (ozone), the $NO_2$ concentration in a particular geographical area may not be representative of the local sources of $NO_X$ emissions (EPA 2016, 2017b).

Particulate Matter

Respirable particulate matter with an aerodynamic diameter of 10 micrometers or less is referred to as $PM_{10}$. $PM_{10}$ consists of particulate matter emitted directly into the air, such as fugitive dust, soot, and

smoke from mobile and stationary sources, construction operations, fires and natural windblown dust, and particulate matter formed in the atmosphere by reaction of gaseous precursors (CARB 2013a:1-20). Fine particulate matter ($PM_{2.5}$) includes a subgroup of smaller particles that have an aerodynamic diameter of 2.5 micrometers or less. $PM_{10}$ emissions in the SVAB are dominated by emissions from area sources, primarily fugitive dust from vehicle travel on unpaved and paved roads, farming operations, construction and demolition, and particles from residential fuel combustion. Direct emissions of $PM_{10}$ are projected to remain relatively constant through 2035. Direct emissions of $PM_{2.5}$ have steadily declined in the SVAB between 2000 and 2010 and then are projected to increase very slightly through 2035. Emissions of $PM_{2.5}$ in the SVAB are dominated by the same sources as emissions of $PM_{10}$ (CARB 2013a:4-47).

Acute health effects of $PM_{10}$ exposure include breathing and respiratory symptoms, aggravation of existing respiratory and cardiovascular diseases, and premature death. Chronic health effects include reduced lung function and chronic bronchitis (EPA 2003).

## Monitoring Station Data and Attainment Area Designations

Criteria air pollutant concentrations are measured at several monitoring stations in the SVAB. The Roseville-North Sunrise Boulevard station is located approximately 0.75 mile north of the middle sections of the proposed trail alignment and is the closest monitoring station to the project site with recent data for ozone, $PM_{10}$, and $PM_{2.5}$. In general, the local ambient air quality measurements from this station are representative of the air quality near the project given its similar meteorological conditions and urban surroundings. Table 4.2-2 summarizes the air quality data for the four most recent calendar years for which data is available (2012–2016).

Both CARB and EPA use this type of monitoring data to designate areas according to their attainment status in accordance with ambient air quality standards for criteria air pollutants. The purpose of these designations is to identify those areas with air quality problems and thereby initiate planning efforts for improvement. The three basic designation categories are “nonattainment,” “attainment,” and “unclassified.” “Nonattainment” means that an area does not attain State or federal ambient air quality standards for a given pollutant, while “attainment” means that an area either attains or exceeds State or federal ambient air quality standards. “Unclassified” is used in an area that cannot be classified on the basis of available information as meeting or not meeting the standards. In addition, the California designations include a subcategory of the nonattainment designation, called “nonattainment-transitional.” The nonattainment-transitional designation is given to nonattainment areas that are progressing and nearing attainment. Attainment designations for the western, or SVAB portion, of Placer County are shown in Table 4.2-2 for each criteria air pollutant. Key pollutants for which Western Placer County is in nonattainment include ozone (California and National), $PM_{10}$ (California), and $PM_{2.5}$ (National).

Table 4.2-2 Ambient Air Quality Standards and Designations for Western Placer County

| Pollutant | Averaging Time | California | | National Standards [1] | |
|---|---|---|---|---|---|
| | | Standards [2, 3] | Attainment Status [4] | Primary [3] | Attainment Status [6] |
| Ozone | 1-hour | 0.09 ppm (180 µg/m$^3$) | N | – | N (Severe) |
| | 8-hour | 0.070 ppm (137 µg/m$^3$) | | 0.075 ppm (147 µg/m$^3$) | |
| Carbon Monoxide (CO) | 1-hour | 20 ppm (23 mg/m$^3$) | A | 35 ppm (40 mg/m$^3$) | U/A |
| | 8-hour | 9 ppm (10 mg/m$^3$) | | 9 ppm (10 mg/m$^3$) | |
| | 8-hour (Lake Tahoe) | 6 ppm (7 mg/m$^3$) | | – | |
| Nitrogen Dioxide ($NO_2$) | Annual Arithmetic Mean | 0.030 ppm (57 µg/m$^3$) | A | 0.053 ppm (100 µg/m$^3$) | U/A |
| | 1-hour | 0.18 ppm (339 µg/m$^3$) | | 0.100 ppm | |

Table 4.2-2 Ambient Air Quality Standards and Designations for Western Placer County

| Pollutant | Averaging Time | California | | National Standards [1] | |
|---|---|---|---|---|---|
| | | Standards [2, 3] | Attainment Status [4] | Primary [3] | Attainment Status [6] |
| Sulfur Dioxide ($SO_2$) | Annual Arithmetic Mean | – | A | 0.030 ppm (80 µg/m$^3$) | U |
| | 24-hour | 0.04 ppm (105 µg/m$^3$) | | 0.14 ppm (365 µg/m$^3$) | |
| | 3-hour | – | | 0.5 ppm (1300 µg/m$^3$)[5] | |
| | 1-hour | 0.25 ppm (655 µg/m$^3$) | | 0.075 ppm | |
| Respirable Particulate Matter ($PM_{10}$) | Annual Arithmetic Mean | 20 µg/m$^3$ | N | – | U |
| | 24-hour | 50 µg/m$^3$ | | 150 µg/m$^3$ | |
| Fine Particulate Matter ($PM_{2.5}$) | Annual Arithmetic Mean | 12 µg/m$^3$ | A | 12 µg/m$^3$ | A |
| | 24-hour | – | | 35 µg/m$^3$ | N (Moderate) |
| Lead [7] | 30-day Average | 1.5 µg/m$^3$ | A | – | – |
| | Calendar Quarter | – | | 1.5 µg/m$^3$ | U/A |
| | Rolling 3-Month Avg | – | | 0.15 µg/m$^3$ | U/A |
| Sulfates | 24-hour | 25 µg/m$^3$ | A | No National Standards | |
| Hydrogen Sulfide | 1-hour | 0.03 ppm (42 µg/m$^3$) | U | | |
| Vinyl Chloride [7] | 24-hour | 0.01 ppm (26 µg/m$^3$) | U | | |
| Visibility-Reducing Particle Matter | 8-hour | Extinction coefficient of 0.23 per kilometer —visibility of 10 mi or more | U | | |

Notes: µg/m$^3$ = micrograms per cubic meter; ppm = parts per million

[1] National standards (other than ozone, PM, and those based on annual averages or annual arithmetic means) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration in a year, averaged over 3 years, is equal to or less than the standard. The $PM_{10}$ 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m$^3$ is equal to or less than one. The $PM_{2.5}$ 24-hour standard is attained when 98 percent of the daily concentrations, averaged over 3 years, are equal to or less than the standard. Contact EPA for further clarification and current federal policies.

[2] California standards for ozone, CO (except 8-hour Lake Tahoe), $SO_2$ (1- and 24-hour), $NO_2$, PM, and visibility-reducing particles are values that are not to be exceeded. All others are not to be equaled or exceeded. California Ambient Air Quality Standards (CAAQS) are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

[3] Concentration expressed first in units in which it was promulgated [i.e., ppm or micrograms per cubic meter (µg/m$^3$)]. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas. Secondary national standards are also available from EPA.

[4] Unclassified (U): a pollutant is designated unclassified if the data are incomplete and do not support a designation of attainment or nonattainment.

Attainment (A): a pollutant is designated attainment if the state standard for that pollutant was not violated at any site in the area during a 3-year period.

Nonattainment (N): a pollutant is designated nonattainment if there was a least one violation of a state standard for that pollutant in the area. Nonattainment designations for ozone are classified as marginal, serious, severe, or extreme depending on the magnitude of the highest 8-hour ozone design value at a monitoring site in a nonattainment area.

Nonattainment/Transitional (NT): is a subcategory of the nonattainment designation. An area is designated nonattainment/transitional to signify that the area is close to attaining the standard for that pollutant.

[5] Secondary Standard

[6] Nonattainment (N): any area that does not meet (or that contributes to ambient air quality in a nearby area that does not meet) the national primary or secondary ambient air quality standard for the pollutant.

Attainment (A): any area that meets the national primary or secondary ambient air quality standard for the pollutant.

Unclassifiable (U): any area that cannot be classified on the basis of available information as meeting or not meeting the national primary or secondary ambient air quality standard for the pollutant.

Maintenance (M): any area previously designated nonattainment pursuant to the CAAA of 1990 and subsequently redesignated to attainment subject to the requirement to develop a maintenance plan under Section 175A of the CAA, as amended.

[7] CARB has identified lead and vinyl chloride as toxic air contaminants with no threshold of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

Source: CARB 2015a, 2016; EPA 2017c; data compiled by Ascent in 2017.

## Emissions Inventory

Exhibit 4.2-1 summarizes an estimated emissions inventory of criteria air pollutants within western Placer County (the portion of the county located within the SVAB) for various source categories in 2012. According to the emissions inventory, mobile sources are the largest contributor to the estimated annual average for levels of ROG and $NO_X$, accounting for approximately 47 percent and 73 percent respectively, of the total emissions. Area-wide sources (i.e., sources that occur over a large area rather than at a stationary source [e.g., smoke stack] or mobile-source [e.g., tailpipe]) account for approximately 76 percent and 58 percent of the western portion of the county's $PM_{10}$ and $PM_{2.5}$ emissions, respectively (CARB 2013b). This is the current emissions inventory available for the western Placer County area.

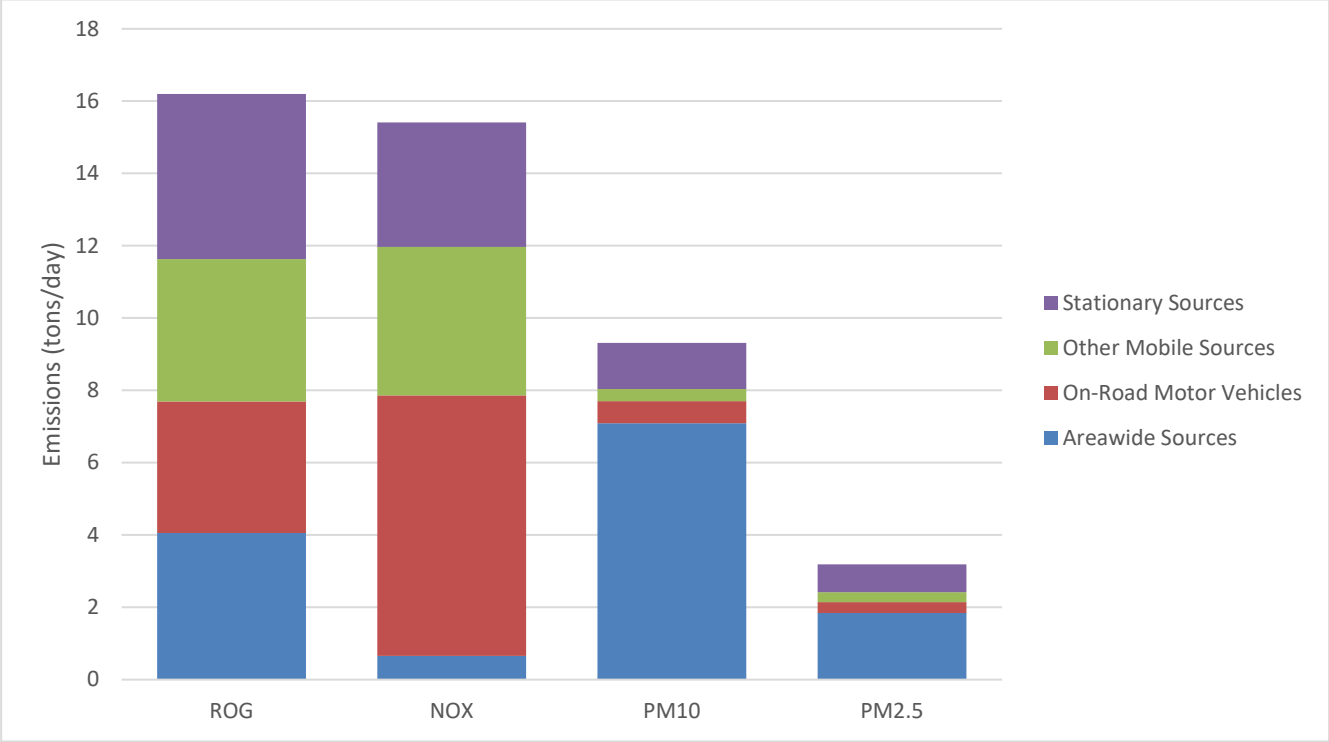


Exhibit 4.2-1 Western Placer County 2012 Emissions Inventory

## Toxic Air Contaminants

Concentrations of toxic air contaminants (TACs) are also used to indicate the quality of ambient air. A TAC is defined as an air pollutant that may cause or contribute to an increase in mortality or in serious illness, or that may pose a hazard to human health. TACs are usually present in minute quantities in the ambient air; however, their high toxicity or health risk may pose a threat to public health even at low concentrations.

According to the California Almanac of Emissions and Air Quality (CARB 2013a), the majority of the estimated health risks from TACs can be attributed to relatively few compounds, the most important being particulate matter from diesel exhaust (diesel PM). Diesel PM differs from other TACs in that it is not a single substance, but rather a complex mixture of hundreds of substances. Although diesel PM is emitted by diesel-fueled internal combustion engines, the composition of the emissions varies depending on engine type, operating conditions, fuel composition, lubricating oil, and whether an emissions control system is being used. Unlike the other TACs, no ambient monitoring data are available for diesel PM because no routine measurement method currently exists. However, CARB has made preliminary concentration estimates based on a PM exposure method. This method uses the

CARB emissions inventory's $PM_{10}$ database, ambient $PM_{10}$ monitoring data, and the results from several studies to estimate concentrations of diesel PM.

In addition to diesel PM, the TACs that pose the greatest ambient risk in California, for which data are available, are benzene, 1,3-butadiene, acetaldehyde, carbon tetrachloride, hexavalent chromium, para-dichlorobenzene, formaldehyde, methylene chloride, and perchloroethylene. Sources of these TACs vary considerably and include (but are not limited to) consumer products, gasoline dispensing stations, auto repair and auto body coating shops, dry cleaning establishments, chrome plating and anodizing shops, welding operations, and other stationary sources.

Diesel PM poses the greatest health risk among the 10 TACs mentioned. Based on receptor modeling techniques, CARB estimated the health risk from diesel PM to be 360 excess cancer cases per million people in the SVAB in the year 2000. Since 1990, the health risk associated with diesel PM has been reduced by 52 percent. Overall, levels of most TACs, except para-dichlorobenzene and formaldehyde, have decreased since 1990 (CARB 2009).

According to the CARB Air Toxics "Hot Spots" Program (see Regulatory Setting below), stationary facilities that emit toxic substances above a specified level are required to prepare an inventory of toxic emissions, prepare a risk assessment if emissions are significant, notify the public of significant risk levels, and prepare and implement risk reduction measures. There are approximately 117 existing facilities that meet the reporting criteria located in the same Roseville zip codes (95661 and 95678) as the proposed project, including hospital facilities, auto dealerships, schools, large retail and service businesses or shopping centers (e.g., grocery stores, department stores), hotels, and other commercial and industrial uses (CARB 2015b). Minor stationary sources of TACs may also be located in the project area and could include, but are not limited to: gasoline dispensing stations, dry cleaning establishments, printing operations, and auto body coating operations.

Major highways and roadways are also considered sources of TAC emissions, associated with the presence of diesel PM emissions from vehicle exhaust. Interstate 80 (I-80) passes over the western portion of the proposed trail alignment just north of Cirby Way between Riverside Avenue and Sunrise Avenue. The annual average daily traffic volume on this segment of I-80 in the project area is approximately 175,000 vehicles per day (Caltrans 2014).

## Naturally Occurring Asbestos

Asbestos is the common name for a group of naturally occurring fibrous silicate minerals that can separate into thin but strong and durable fibers. Naturally occurring asbestos, which was identified as a TAC by CARB in 1986, is located in many parts of California and is commonly associated with serpentine soils and rocks. According to two reports by the California Department of Conservation, Division of Mines and Geology, the proposed project site is not likely to contain naturally occurring asbestos (Higgins and Clinkenbeard 2006:54, Churchill and Hill 2000).

## Odors

Odors are generally regarded as an annoyance rather than a health hazard. However, manifestations of a person's reaction to foul odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache).

With respect to odors, the human nose is the sole sensing device. The ability to detect odors varies considerably among the population and is subjective. Some individuals have the ability to smell very minute quantities of specific substances; others may not have the same sensitivity but may have sensitivities to odors of other substances. In addition, people may have different reactions to the same odor; an odor that is offensive to one person may be acceptable to another (e.g., fast food restaurant). It is important to also note that an unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. This is because of the phenomenon known as odor fatigue, in which a

person can become desensitized to almost any odor and recognition only occurs with an alteration in the intensity.

Quality and intensity are two properties present in any odor. The quality of an odor indicates the nature of the smell experience. For instance, if a person describes an odor as flowery or sweet, then the person is describing the quality of the odor. Intensity refers to the strength of the odor. For example, a person may use the word strong to describe the intensity of an odor. Odor intensity depends on the odorant concentration in the air. When an odorous sample is progressively diluted, the odorant concentration decreases. As this occurs, the odor intensity weakens and eventually becomes so low that the detection or recognition of the odor is quite difficult. At some point during dilution, the concentration of the odorant reaches a detection threshold. An odorant concentration below the detection threshold means that the concentration in the air is not detectable by the average human.

Land uses that are major sources of odor typically include wastewater treatment and pumping facilities, sanitary landfills, transfer stations, recycling and composting facilities, and various industrial uses such as chemical manufacturing and food processing. There are no major sources of odor located adjacent to or in the immediate vicinity of the proposed project.

### Sensitive Land Uses

Sensitive land uses generally include uses where prolonged exposure to pollutants could result in health-related risks to individuals. Residential dwellings and places where people recreate or congregate for extended periods of time such as parks or schools are of primary concern, because of the potential for increased and prolonged exposure of individuals to pollutants.

A number of sensitive land uses are located adjacent to or in close proximity to the proposed trail alignment, including single-family and multi-family residential dwellings, parks, and schools.

## 4.2.3 Regulatory Setting

As stated previously, the proposed trail alignment is located in the SVAB. Air quality in the vicinity of the proposed project is regulated by the EPA, CARB, PCAPCD, and the City. Each of these agencies develops rules, regulations, policies, and/or goals to comply with applicable legislation. Although EPA regulations may not be superseded, both state and local regulations may be more stringent.

As discussed above under “Environmental Setting,” acceptable levels of exposure to criteria air pollutants have been determined and ambient standards have been established for them (see Table 4.2-2).

Air quality regulations also focus on TACs (also known as hazardous air pollutants [HAPs] in federal regulations). In general, for those TACs that may cause cancer, all concentrations present some risk. In other words, there is no threshold level below which adverse health impacts may not be expected to occur. EPA and CARB regulate HAPs and TACs, respectively, through statutes and regulations that generally require the use of the maximum or best available control technology for toxics (MACT and BACT) to limit emissions. These statutes and regulations, in conjunction with additional rules set forth by PCAPCD, establish the regulatory framework for TACs.

Applicable regulations associated with criteria air pollutants, TACs, and odors are described below.

### FEDERAL

At the federal level, EPA implements the national air quality programs. EPA’s air quality mandates are drawn primarily from the Federal Clean Air Act (CAA), enacted in 1970. The most recent major amendments were made by Congress in 1990.

## Criteria Air Pollutants

The CAA requires EPA to establish National Ambient Air Quality Standards (NAAQS). As shown in Table 4.2-2, EPA has established primary and secondary NAAQS for the following criteria air pollutants: ozone, CO, $NO_2$, $SO_2$, $PM_{10}$, $PM_{2.5}$, and lead (CARB 2016). The primary standards protect public health and the secondary standards protect public welfare. The CAA also required each state to prepare an air quality control plan referred to as a State Implementation Plan (SIP). The Federal Clean Air Act Amendments of 1990 (CAAA) added requirements for states with nonattainment areas to revise their SIPs to incorporate additional control measures to reduce air pollution. The SIP is modified periodically to reflect the latest emissions inventories, planning documents, and rules and regulations of the air basins as reported by their jurisdictional agencies. EPA is responsible for reviewing all SIPs to determine whether they conform to the mandates of the CAA and its amendments, and whether implementation will achieve air quality goals. If EPA determines a SIP to be inadequate, a federal implementation plan that imposes additional control measures may be prepared for the nonattainment area. If an approvable SIP is not submitted or implemented within the mandated time frame, sanctions may be applied to transportation funding and stationary air pollution sources in the air basin.

## Hazardous Air Pollutants and Toxic Air Contaminants

Toxic air contaminants (TACs), or in federal parlance, hazardous air pollutants (HAPs) are a defined set of airborne pollutants that may pose a present or potential hazard to human health. A TAC is defined as an air pollutant that may cause or contribute to an increase in mortality or in serious illness, or that may pose a hazard to human health. TACs are usually present in minute quantities in the ambient air; however, their high toxicity or health risk may pose a threat to public health even at low concentrations.

A wide range of sources, from industrial plants to motor vehicles, emit TACs. The health effects associated with TACs are quite diverse and generally are assessed locally, rather than regionally. TACs can cause long-term health effects such as cancer, birth defects, neurological damage, asthma, bronchitis, or genetic damage; or short-term acute affects such as eye watering, respiratory irritation (a cough), running nose, throat pain, and headaches.

For evaluation purposes, TACs are separated into carcinogens and non-carcinogens based on the nature of the physiological effects associated with exposure to the pollutant. Carcinogens are assumed to have no safe threshold below which health impacts would not occur. This contrasts with criteria air pollutants for which acceptable levels of exposure can be determined and for which the ambient standards have been established (Table 4.2-2). Cancer risk from TACs is expressed as excess cancer cases per one million exposed individuals, typically over a lifetime of exposure.

EPA and, in California, CARB regulate HAPs and TACs, respectively, through statutes and regulations that generally require the use of the maximum available control technology or best available control technology for toxics to limit emissions.

# STATE

The California Air Resources Board (CARB) is the agency responsible for coordination and oversight of state and local air pollution control programs in California and for implementing the California Clean Air Act (CCAA). California law authorizes CARB to set ambient (outdoor) air pollution standards (California Health and Safety Code Section 39606) in consideration of public health, safety, and welfare (California Ambient Air Quality Standards [CAAQS] (Table 4.2-2).

## Criteria Air Pollutants

CARB has established CAAQS for sulfates, hydrogen sulfide, vinyl chloride, visibility-reducing particulate matter, and the above-mentioned criteria air pollutants. In most cases the CAAQS are more stringent than the NAAQS. Differences in the standards are generally explained by the health effects

studies considered during the standard-setting process and the interpretation of the studies. In addition, the CAAQS incorporate a margin of safety to protect sensitive individuals.

The CCAA requires that all local air districts in the state endeavor to achieve and maintain the CAAQS by the earliest date practical. The act specifies that local air districts should focus particular attention on reducing the emissions from transportation and areawide emission sources, and provides districts with the authority to regulate indirect sources.

Among CARB's other responsibilities are overseeing local air district compliance with Federal and State laws, approving local air quality plans, submitting SIPs to EPA, monitoring air quality, determining and updating area designations and maps, and setting emissions standards for new mobile sources, consumer products, small utility engines, off-road vehicles, and fuels.

### Toxic Air Contaminants

TACs in California are regulated primarily through the Tanner Air Toxics Act (Assembly Bill [AB] 1807, Chapter 1047, Statutes of 1983) and the Air Toxics Hot Spots Information and Assessment Act of 1987 (AB 2588, Chapter 1252, Statutes of 1987). AB 1807 sets forth a formal procedure for CARB to designate substances as TACs. Research, public participation, and scientific peer review are required before CARB can designate a substance as a TAC. To date, CARB has identified more than 21 TACs, including diesel PM, and adopted EPA's list of HAPs as TACs.

Once a TAC is identified, CARB then adopts an airborne toxics control measure for sources that emit that particular TAC. If a safe threshold exists for a substance at which there is no toxic effect, the control measure must reduce exposure below that threshold. If no safe threshold exists, the measure must incorporate best available control technology for toxics to minimize emissions.

CARB has adopted diesel exhaust control measures and more stringent emission standards for various on-road mobile sources of emissions, including transit buses, and off-road diesel equipment (e.g., tractors, generators). Recent milestones included the low-sulfur diesel fuel requirement and tighter emissions standards for heavy-duty diesel trucks (effective in 2007 and subsequent model years) and off-road diesel equipment (2011). Over time, replacing older vehicles will result in a vehicle fleet that produces substantially lower levels of TACs than under current conditions. Mobile-source emissions of TACs (e.g., benzene, 1-3-butadiene, diesel PM) in California have been reduced substantially over the last decade; such emissions will be reduced further through a progression of regulatory measures (e.g., low emission vehicle/clean fuels and Phase II reformulated-gasoline regulations) and control technologies.

CARB's *Air Quality and Land Use Handbook: A Community Health Perspective* (CARB 2005) provides guidance concerning land use compatibility with TAC sources. While not a law or adopted policy, the handbook offers advisory recommendations for the siting of sensitive receptors near uses associated with TACs, such as freeways and high-traffic roads, commercial distribution centers, rail yards, ports, refineries, dry cleaners, gasoline stations, and industrial facilities, to help keep children and other sensitive populations out of harm's way.

## LOCAL

## Placer County Air Pollution Control District

<u>Criteria Air Pollutants</u>

PCAPCD attains and maintains air quality conditions in Placer County through a comprehensive program of planning, regulation, enforcement, technical innovation, and promotion of the understanding of air quality issues. The clean air strategy of PCAPCD includes preparing plans for the attainment of ambient air quality standards, adopting and enforcing rules and regulations concerning sources of air pollution,

and issuing permits for stationary sources of air pollution. PCAPCD also inspects stationary sources of air pollution and responds to citizen complaints, monitors ambient air quality and meteorological conditions, and implements programs and regulations required by the CAA, CAAA, and CCAA.

All projects in Placer County are subject to PCAPCD's adopted rules and regulations. Specific rules applicable to the construction under the action alternatives may include but are not limited to the following:

- PCAPCD Rule 217—Cutback and Emulsified Asphalt Paving Materials. Prohibits the use of the following asphalt materials for road paving: rapid cure cutback asphalt; slow cure cutback asphalt; medium cure cutback asphalt; or emulsified asphalt.
- PCAPCD Rule 218—Application of Architectural Coatings. This rule limits the quantity of volatile organic compounds (VOCs) in architectural coatings used in PCAPCD's jurisdiction. Subsection 301 lists VOC content limits for a variety of architectural coatings.
- PCAPCD Rule 228—Fugitive Dust. To regulate fugitive dust emissions, this rule prescribes limits and best management practices to be applied during construction and operation activities. See Appendix H-2 for a detailed list of these guidelines.
- PCAPCD Rule 501— General Permit Requirements. Any person operating an article, machine, equipment, or other contrivance, the use of which may cause, eliminate, reduce, or control the issuance of air contaminants, shall first obtain a written permit from the Air Pollution Control Officer. Stationary sources subject to the requirements of Rule 507, Federal Operating Permit Program, must also obtain a Title V permit pursuant to the requirements and procedures of that rule.

Toxic Air Contaminants

At the local level, PCAPCD may adopt and enforce CARB's airborne toxic control measures. Under PCAPCD Rule 501 ("Permit Requirements"), PCAPCD Rule 502 ("New Source Review"), PCAPCD Rule 507 ("Federal Operating Permit"), all sources that possess the potential to emit TACs are required to obtain permits from PCAPCD. PCAPCD may grant permits to these operations if they are constructed and operated in accordance with applicable regulations, including new source review standards and air toxics control measures. PCAPCD limits emissions and public exposure to TACs through a number of programs.

Sources that require a permit are analyzed by PCAPCD (e.g., health risk assessment) based on their potential to emit TACs that would expose receptors to substantial health risk. If it is determined that a source would emit TACs in excess of PCAPCD's standard of significance for TACs (identified below), then the source would have to implement the best available control technology (BACT) for TACs to reduce emissions. If a source cannot reduce the risk below the standard of significance even after the BACT has been implemented, PCAPCD will deny issuing a permit to the source. This helps to prevent new problems and reduces emissions from existing older sources by requiring them to apply new TAC-reduction technology when being retrofitted.

## City of Roseville General Plan

The Air Quality and Climate Change Element of the City of Roseville's General Plan 2035 contains numerous goals and policies that pertain to criteria air pollutant emissions, TACs, and odors (City of Roseville 2016). Key policies that are applicable to the proposed project include the following:

Air Quality Goals

**GOAL 1:** Improve Roseville's air quality by:

a) Achieving and maintaining ambient air quality standards established by the U.S. Environmental Protection Agency and CARB; and

b) Minimizing public exposure to toxic or hazardous air pollutants and air pollutants that create a public nuisance through irritation to the senses (such as unpleasant odors).

**GOAL 2:** Integrate air quality planning with the land use and transportation planning process.

**GOAL 4:** Increase the capacity of the transportation system, including the roadway system and alternate modes of transportation.

**GOAL 5:** Provide adequate pedestrian and bikeway facilities for present and future transportation needs.

**GOAL 7:** While recognizing that the automobile is the primary form of transportation, the City of Roseville should make a commitment to shift from the automobile to other modes of transportation.

Air Quality Policies

- **Policy 2:** Work with the Placer County Air Pollution Control District to monitor air pollutants of concern on a continuous basis
- **Policy 3:** Develop consistent and accurate procedures for evaluating the air quality impacts of new projects.
- **Policy 5:** Develop transportation systems that minimize vehicle delay and air pollution.
- **Policy 6:** Develop consistent and accurate procedures for mitigating transportation emissions from new and existing projects.
- **Policy 7:** Encourage alternative modes of transportation including pedestrian, bicycle, and transit usage.
- **Policy 9:** Encourage land use policies that maintain and improve air quality.

Air Quality Implementation Measures

Interagency Coordination

- Coordinate with other local and regional jurisdictions, including the PCAPCD and CARB, in the development of regional and county clean air plans and incorporate the relevant provisions of those plans into City planning and project review procedures. Also cooperate with the PCAPCD and CARB in:
  - enforcing the provisions of the California and Federal Clean Air Acts, state and regional policies, and established standards for air quality
  - establishing a monitoring station to accurately determine the status of carbon monoxide, ozone, nitrogen dioxide, and hydrocarbon concentrations;
  - developing and implementing clean fuel regulations for vehicle fleets; and
  - developing consistent procedures for evaluating project-specific and cumulative air quality impacts of projects.
- Submit development proposals to the PCAPCD for review and comment in compliance with CEQA prior to consideration by the appropriate decision-making body.
- Cooperate with Placer County in the identification of hazardous material users (both large and small-scale users) and the development of an inspection process and hazardous materials management plan. (Policies 1, 2, 3, 9 and 11)

Development Review Process

- Notify and solicit comments from local and regional agencies of proposed projects that may affect regional air quality. The comments of the responding agencies will be considered during the review of the projects. The City will encourage project applicants to consult early in the planning process with Planning Department staff regarding the applicability of county-wide indirect and area wide

source permit program and TCM programs. Project review should also address energy efficient building and site designs, as well as the proper storage, use, and disposal of hazardous materials.

- Include identification of potential air quality impact and designation of design and other appropriate mitigation measures or offset fees to reduce impacts in the environmental review of a project. The City will dedicate staff to work with project proponents and other agencies in identifying, ensuring the implementation of, and monitoring the success of mitigation measures. (Policies 1, 3, 10, and 11)

Mitigation Strategies – Motor Vehicle Alternatives

- Encourage transportation alternatives to motor vehicles by developing infrastructure amenable to such alternatives by doing the following:
  - implementing the Bicycle Master Plan and Long-Range Transit Plan as specified in the Circulation Element;
  - considering right-of-way requirements for bike usage in the planning of new arterial and collector streets and in street improvement projects;
  - requiring that new development be designed to promote pedestrian and bicycle access and circulation;
  - providing safe and secure bicycle parking facilities at major activity centers, such as public facilities, employment sites, and shopping and office centers;
  - providing convenient and safe pedestrian and bike movement through the large parking areas that surround large retail and office centers;
  - providing safe pathways that link residential areas to schools, parks, services, and employment areas and transit facilities;
  - promoting project design that encourages pedestrian and cyclist use, including grade separated crossing at major arterials, clear and safe connections between projects and uses; and
  - installing sidewalks in residential and commercial developments with protective curbing and adequate lighting and pedestrian amenities.

## 4.2.4 Impacts

## METHODS OF ANALYSIS

PCAPCD has issued guidance on the analysis of criteria air pollutants and toxic air contaminants the PCAPCD's 2017 Handbook (PCAPCD August, 2017). The Handbook outlines expectations and methodologies for the analysis of emissions generated by a proposed project, and guidance on determining the significance of impacts and appropriate mitigation.

Temporary construction-related and permanent use-related air quality (regional and local) impacts, as well as impacts from TACs, were assessed in accordance with PCAPCD-recommended methods consistent with the 2017 Handbook (PCAPCD August, 2017).

### Construction

Temporary emissions of criteria air pollutants (e.g., $PM_{10}$ and $PM_{2.5}$) and ozone precursors (e.g., ROG and $NO_X$) generated by project construction were assessed in accordance with PCAPCD-recommended methods. Where quantification was required, these emissions were modeled using the California Emissions Estimator Model (CalEEMod) Version 2016.3.1 computer program as summarized in Table 4.2-3. CalEEMod is designed to model both construction and use-related emissions and allows for the input of project-specific information. Project-specific data, such as construction equipment types, along with PCAPCD-recommended and default model settings were used to estimate reasonable worst-case conditions.

### Use of the Proposed Project

The proposed project is a multi-use trail and would include a trailhead with accompanying parking lot at the western end of the trail, off Riverside Avenue just south of Darling Way. The parking lot would include approximately 35 parking spaces. This would be the only parking associated with the project. While it cannot be known with certainty how many motor vehicle trips or vehicle miles traveled (VMT) could be reduced by increased use of the proposed trail by bicyclists and pedestrians (in lieu of vehicle trips), over the long term it is expected that trail use would contribute to decreased motor vehicle travel. Similarly, no new stationary sources would be included in the use of the proposed project. Thus, the proposed project would not result in a net increase in permanent emissions of criteria air pollutants, precursors, or TACs associated with mobile or stationary sources.

## THRESHOLDS OF SIGNIFICANCE

Based on Appendix G of the CEQA Guidelines and the August 2017 PCAPCD CEQA Air Quality Handbook thresholds of significance, the proposed project was determined to result in a significant impact to air quality if it would:

- conflict with or obstruct implementation of an applicable air quality plan;
- result in short-term (construction) or long-term (operational/use) emissions of 1) ROG and $NO_X$ that exceed PCAPCD's CEQA threshold (e.g., level that attains/maintains concentrations in the County in regards to the California Clean Air Act) of 82 lb/day (construction phase) and 55 lb/day (operational phase) or 2) $PM_{10}$ that exceed PCAPCD's CEQA threshold of 82 lb/day for both construction and operational phases (PCAPCD August, 2017);
- violate any air quality standard or contribute substantially to an existing or projected air quality violation;
- result in the exposure of sensitive receptors to substantial pollutant concentrations; or
- result in cumulative annual emissions of 1) ROG and $NO_x$ that could exceed the federal *de minimis* level of 25 tons/year or 2) $PM_{2.5}$ that could exceed the federal *de minimus* level of 100 tons/year, based on Western Placer County's attainment status for ozone and $PM_{2.5}$ NAAQS (EPA 2017d).

## ISSUES OR POTENTIAL IMPACTS NOT DISCUSSED FURTHER

There are no major sources of odor at or near the project site. Additionally, the proposed construction and use of a multi-use trail would not include activities that typically generate excessive odors. Therefore, potential impacts related to odor are not discussed further.

## IMPACT ANALYSIS

| Impact 4.2-1 | Short-term construction-generated emissions of ROG, $NO_X$, $PM_{10,}$ and $PM_{2.5}$. |
|---|---|
| Applicable Policies and Regulations | NAAQS<br>CAAQS<br>PCAPCD Rules<br>City of Roseville General Plan Air Quality and Climate Change Element |
| Significance with Policies and Regulations | Proposed Project: Potentially significant<br>Alignment Option 1A: Potentially significant<br>Alignment Option 1C: Potentially significant<br>Alignment Option 5A: Potentially Significant |
| Mitigation Measures | Mitigation Measure 4.2-1 (Proposed Project, Option 1A, Option 1C, Option 5A) |
| Significance after Mitigation | Less than significant (Proposed Project, Option 1A, Option 1C, Option 5A) |

**Proposed Trail Alignment**

Construction emissions are described as "short term" or temporary in duration. Construction-related activities would result in project-generated emissions of ROG, $NO_X$, $PM_{10}$ and $PM_{2.5}$ (a subset of $PM_{10}$) from site preparation (e.g., excavation, grading, and vegetation clearing), heavy off-road equipment, material delivery, worker commute vehicle travel to and from the site, trenching and asphalt paving, bridge construction, and other related activities. Fugitive dust emissions are associated primarily with site preparation and vary as a function of soil silt content, soil moisture, wind speed, acreage of disturbance, VMT both on- and off-site, and other factors. Ozone precursor emissions of ROG and $NO_X$ are associated primarily with construction equipment exhaust and the application of architectural coatings.

For the purposes of this analysis, construction was assumed to take place over 4 years (2021–2024), commencing in 2021. The maximum daily disturbed acreage for the proposed project would be less than 1 acre. Because the proposed project would be constructed in up to four segments, construction emissions were modeled for each segment and phase separately, according to construction phasing and equipment anticipated for each segment. For phases that are anticipated to overlap, maximum daily emissions were aggregated and presented as such in Table 4.2-3.

Appendix C contains model input and output parameters, detailed assumptions, and daily construction emissions estimates. Construction emissions are summarized in Table 4.2-3. Based on the modeling, construction of the proposed project would result in maximum daily emissions of approximately 10 lb/day of ROG, 106 lb/day of $NO_X$, 13 lb/day of $PM_{10}$ and 8 lb/day of $PM_{2.5}$.

Table 4.2-3 Summary of Modeled Temporary Construction-Generated Emissions for the Proposed Project

| | ROG (lb/day) | $NO_X$ (lb/day) | $PM_{10}$ (lb/day) | $PM_{2.5}$ (lb/day) |
|---|---|---|---|---|
| Segment A: Darling Way – Eastwood Park | | | | |
| 2021 Maximum Daily Emissions | 5 | 56 | 5 | 3 |
| 2022 Maximum Daily Emissions | 5 | 51 | 4 | 3 |
| Segment B: Eastwood Park – Oak Ridge Dr | | | | |
| 2021 Maximum Daily Emissions | 3 | 33 | 2 | 1 |
| 2022 Maximum Daily Emissions | 2 | 17 | 1 | 1 |
| Segment C: Eich School – Rocky Ridge Dr | | | | |
| 2021 Maximum Daily Emissions | 1 | 11 | 1 | 1 |
| 2022 Maximum Daily Emissions | 4 | 40 | 9 | 5 |
| Segment A, B, and C: Overlapping Phases | | | | |
| 2021 Maximum Daily Emissions | 8 | 89 | 6 | 4 |
| 2022 Maximum Daily Emissions | 10 | 106 | 13 | 8 |
| Segment D: Rocky Ridge Dr – Spahn Ranch Rd | | | | |
| 2023 Maximum Daily Emissions | 6 | 56 | 5 | 3 |
| 2024 Maximum Daily Emissions | 3 | 29 | 5 | 3 |
| Maximum daily emissions across all years, unmitigated | 10 | 106 | 13 | 8 |
| PCAPCD CEQA significance criteria<br>Project-level threshold of significance | 82 | 82 | 82 | N/A |

Notes: Totals may not sum due to rounding. lb/day = pounds per day; $NO_X$ = oxides of nitrogen; $PM_{2.5}$ = fine particulate matter with an aerodynamic diameter of 2.5 micrometers or less; $PM_{10}$ = respirable particulate matter with an aerodynamic diameter of 10 micrometers or less; ROG = reactive organic gases; PCAPCD = Placer County Air Pollution Control District.

Source: Ascent Environmental, 2017. See Appendix C for detailed CalEEMod modeling results.

It is important to note that the project would be required to comply with PCAPCD Rules 228, Fugitive Dust Emissions; Rule 202, Visible Emissions; Rule 217, Cutback and Emulsified Asphalt Paving Materials; and Rule 218, Architectural Coatings.

When separately considered, construction emissions from any single phase would be below PCAPCD's recommended CEQA project-level significance thresholds of 82 lb/day of ROG, 82 lb/day of $NO_X$, lb and 82 lb/day of $PM_{10}$. However, construction of segments A, B and C occurring within a single day would result in construction emissions that would exceed PCAPCD's recommended CEQA project-level significance threshold of 82 lb/day of $NO_x$.

Conclusion

Depending on the number of segments being constructed within a single day, construction emissions associated with construction of the proposed project could exceed applicable thresholds for $NO_X$ and thus, contribute to the existing nonattainment status of the SVAB with respect to the CAAQS and NAAQS. This would be a **potentially significant** impact.

**Alignment Option 1A**

Construction-related activities for Option 1A would be the same type and general magnitude of activities that would occur under the Proposed Trail Alignment. The total number of bridges constructed under Option 1A would be less than the number of bridges constructed under the Proposed Trail Alignment, which would result in fewer emissions associated with bridge construction activities. Option 1A would require an additional 765 linear feet of retaining walls or streambank stabilization when compared to the Proposed Trail Alignment. Overall, construction emissions would be less than under the Proposed Trail Alignment because emissions from the lighter type of equipment needed to construct these elements would be less than emissions for the heavy construction equipment needed for bridge construction. However, depending on the number of segments being constructed within a single day, Option 1A could still potentially exceed PCAPCD's recommended CEQA-level project significance threshold of 82 lb/day of $NO_X$ during construction. Therefore, project construction under this option could substantially contribute to air pollutant concentrations that exceed the NAAQS or CAAQS. This impact would be **potentially significant**.

**Alignment Option 1C**

Construction-related activities for Option 1C would be the same type and general magnitude of activities that would occur under the Proposed Trail Alignment. Option 1C would not require the widening of the Darling Way Bridge, which would result in fewer emissions associated with bridge construction activities. Thus, construction activities under Option 1C would result in less emissions than estimated for the Proposed Trail Alignment. However, depending on the number of segments being constructed within a single day, Option 1C could still potentially exceed PCAPCD's recommended CEQA-level project significance threshold of 82 lb/day of $NO_x$ during construction. Therefore, project construction under this option could substantially contribute to air pollutant concentrations that exceed the NAAQS or CAAQS. This impact would be **potentially significant**.

**Alignment Option 5A**

Construction-related activities for Option 5A would be the same type and general magnitude of activities that would occur under the Proposed Trail Alignment. Implementing Option 5A would change the location of one bridge (#14 rather than #13), but would not change the number of bridges proposed, which would result in approximately the same emissions associated with bridge construction activities. Thus, estimated emissions for construction activities under Option 5A would be the same as the Proposed Trail Alignment and would not exceed PCAPCD's recommended CEQA-level project significance thresholds for trail use. However, depending on the number of segments being constructed within a single day, Option 5A could still potentially exceed PCAPCD's recommended CEQA-level project significance threshold of 82 lb/day of $NO_x$ during construction. Therefore, project construction under this option could substantially contribute to air pollutant concentrations that exceed the NAAQS or CAAQS. This impact would be **potentially significant**.

Mitigation Measures

**Mitigation Measure 4.2-1: Reduce construction-related $NO_X$ emissions.**

Before approval of grading permits, the construction contractor shall submit for PCAPCD approval, a written calculation demonstrating that the fleet of heavy-duty (> 50 horsepower) off-road equipment used during the project's construction, including owned, leased, and subcontractor vehicles, will achieve the necessary percent reduction in $NO_X$ emissions during all construction phases, and for any periods during which multiple phases would overlap, as to not exceed 82 lb/day. Acceptable options for reducing emissions may include reduction in the number of segments constructed in a single day, use of late model-year engines, low-emission renewable diesel fuel, engine retrofit technologies, and/or other effective options as recommended by PCAPCD at the time (see Appendix C of the PCAPCD 2017 CEQA Handbook [PCAPCD 2017:75] for additional options). The calculation shall be provided using PCAPCD's Construction Mitigation Calculator.

Significance after Mitigation

Tier 4 engines are readily available in California for off-road equipment, and therefore, the use of off-road construction equipment with higher tiered engines would be able to achieve $NO_X$ reductions sufficient (i.e., 24 lb/day) to ensure construction-generated levels of $NO_X$ would be less than PCAPCD's threshold of 82 lb/day, presumably with some combination of Tier 3 and Tier 4 engines. Additionally, use of renewable diesel fuel could result in further $NO_x$ reductions of 14 percent (SMAQMD 2015).

Thus, given that the reduction of construction-related $NO_x$ emissions to below 82 lb/day is achievable, Mitigation Measure 4.2-1 would reduce construction-generated emissions of $NO_x$ to less than the PCAPCD's recommended significance threshold of 82 lb/day for all construction phases. This impact would be reduced to a **less-than-significant** level.

| Impact 4.2-2 | Long-term use-related emissions of ROG, $NO_X$, $PM_{10,}$ and $PM_{2.5}$. |
|---|---|
| Applicable Policies and Regulations | NAAQS<br>CAAQS<br>PCAPCD Rules<br>City of Roseville General Plan Air Quality and Climate Change Element |
| Significance with Policies and Regulations | Proposed Project: Less than significant<br>Alignment Option 1A: Less than significant<br>Alignment Option 1C: Less than significant<br>Alignment Option 5A: Less than significant |
| Mitigation Measures | None required (Proposed Project, Option 1A, Option 1C, Option 5A) |
| Significance after Mitigation | Less than significant (Proposed Project, Option 1A, Option 1C, Option 5A) |

**Proposed Trail Alignment**

The proposed project would be a 4.25-mile multi-use trail intended for use by bicyclists and pedestrians with accompanying parking lot at the western end of the trail, off Riverside Avenue just south of Darling Way. The parking lot would include approximately 35 parking spaces. This would be the only parking associated with the project. The trail would also need occasional maintenance as a standard part of its use. The proposed project was envisioned as a component of the City's 2008 Bicycle Master Plan. While it cannot be known with certainty how many motor vehicle trips or VMT could be reduced by increased use of the proposed trail by bicyclists and pedestrians (in lieu of vehicle trips), over the long term it is expected that trail use would contribute to decreased motor vehicle travel.

Therefore, emissions generated by trail use would be below PCAPCD's project-level significance thresholds, and the project would not substantially contribute to air pollutant concentrations that exceed the NAAQS or CAAQS. It is reasonably foreseeable that a net air quality benefit could accrue over the long term to the extent that bicycle or pedestrian travel occurs on the proposed trail in lieu of motor vehicle trips. Such a benefit would be consistent with the mobility enhancement goal of the proposed project. It is not feasible to precisely quantify the number of motor vehicle trips avoided, so a beneficial impact conclusion would not be a certainty.

Conclusion

Over the long term, the proposed multi-use trail with accompanying parking lot is expected to decrease motor vehicle travel. Emissions generated by trail use would be below PCAPCD's project-level significance thresholds, and the project would not substantially contribute to air pollutant concentrations that exceed the NAAQS or CAAQS. Consequently, this impact would be **less than significant**.

**Alignment Option 1A**

Use-related activities for Option 1A would be the same type and general magnitude of activities that would occur under the Proposed Trail Alignment. Thus, use-related activities under Option 1A would be the same as the estimated emissions for the Proposed Trail Alignment. This impact would be **less than significant**.

**Alignment Option 1C**

Use-related activities for Option 1C would be the same type and general magnitude of activities that would occur under the Proposed Trail Alignment. Thus, use-related activities under Option 1C would result in similar emissions as estimated for the Proposed Trail Alignment, and Option 1 C would not exceed PCAPCD's recommended CEQA-level project significance thresholds for trail use. This impact would be **less than significant**.

**Alignment Option 5A**

Use-related activities for Option 5A would be the same type and general magnitude of activities that would occur under the Proposed Trail Alignment. Thus, estimated emissions for use-related activities under Option 5A would be the same as the Proposed Trail Alignment and would not exceed PCAPCD's recommended CEQA-level project significance thresholds for trail use. This impact would be **less than significant**.

Mitigation Measures

None required.

| Impact 4.2-3 | Generation of local mobile-source CO emissions. |
|---|---|
| Applicable Policies and Regulations | NAAQS<br>CAAQS<br>PCAPCD Rules<br>City of Roseville General Plan Air Quality and Climate Change Element |
| Significance with Policies and Regulations | Proposed Project: Less than significant<br>Alignment Option 1A: Less than significant<br>Alignment Option 1C: Less than significant<br>Alignment Option 5A: Less than significant |
| Mitigation Measures | None required (Proposed Project, Option 1A, Option 1C, Option 5A) |
| Significance after Mitigation | Less than significant (Proposed Project, Option 1A, Option 1C, Option 5A) |

**Proposed Trail Alignment**

Construction Impacts

CO concentration is a direct function of vehicle idling time and, thus, traffic flow conditions. Under specific meteorological conditions, CO concentrations near congested roadways and/or intersections may reach unhealthy levels with respect to local sensitive land-uses such as residential areas, schools, and hospitals. Notably, the City of Roseville is in attainment for CO and has not experienced a violation of ambient air quality standards for CO in 20 years (CARB 2012). The project would not result in a net increase in VMT on the local roadway network, and would have no or negligible traffic impacts during construction and would not result in traffic congestion because construction equipment would be staged adjacent to or near each phase of construction, and closure of traffic lanes during construction would be temporary and would implement traffic control measures.

Thus, implementation of the proposed project would not result in, or contribute to, local CO concentrations that exceed the California 1-hour or 8-hour ambient-air quality standards of 20 ppm or 9 ppm, respectively, as a result of project-related construction activities. This impact would be **less than significant**.

Use-related Impacts

The proposed project is a 4.25-mile multi-use trail intended for bicyclists and pedestrians. The proposed project would include a trailhead with accompanying parking lot at the western end of the trail, off Riverside Avenue just south of Darling Way. The parking lot would include approximately 35 parking spaces. This would be the only parking associated with the project. While it cannot be known with certainty how many motor vehicle trips or VMT could be reduced by increased use of the proposed trail by bicyclists and pedestrians (in lieu of vehicle trips), over the long term it is expected that trail use would contribute to decreased motor vehicle travel. Use of the trail and parking lot would have negligible traffic impacts and would not result in traffic congestion (see Section 4.13, “Transportation and Circulation”). Therefore, as discussed above, implementation of the proposed project would not result in, or contribute to, local CO concentrations that exceed the California 1-hour or 8-hour ambient-air quality standards of 20 ppm or 9 ppm, respectively. This impact would be **less than significant**.

**Alignment Option 1A**

Both construction and use-related activities for Option 1A would be the same type and magnitude of activities that would occur under the Proposed Trail Alignment. Implementation of Option 1A would not result in, or contribute to, local CO concentrations that exceed the California 1-hour or 8-hour ambient-air quality standards of 20 ppm or 9 ppm, respectively, as a result of project-related construction or use-related activities as described above for the proposed trail alignment. This impact would be **less than significant**.

**Alignment Option 1C**

Both construction and use-related activities for Option 1C would be the same type and magnitude of activities that would occur under the Proposed Trail Alignment. Implementation of Option 1C would not result in, or contribute to, local CO concentrations that exceed the California 1-hour or 8-hour ambient-air quality standards of 20 ppm or 9 ppm, respectively, as a result of project-related construction or use-related activities. This impact would be **less than significant**.

**Alignment Option 5A**

Both construction and use-related activities for Option 5A would be the same type and magnitude of activities that would occur under the Proposed Trail Alignment. For the reasons above for the proposed trail alignment, implementation of Option 5A would not result in, or contribute to, local CO concentrations that exceed the California 1-hour or 8-hour ambient-air quality standards of 20 ppm or 9 ppm, respectively, as a result of project-related construction or use-related activities. This impact would be **less than significant**.

Mitigation Measures

None required.

| Impact 4.2-4 | Exposure of sensitive receptors to toxic air contaminant (TAC) emissions. |
|---|---|
| Applicable Policies and Regulations | NAAQS<br>CAAQS<br>PCAPCD Rules<br>City of Roseville General Plan Air Quality and Climate Change Element |
| Significance with Policies and Regulations | Proposed Project: Less than significant<br>Alignment Option 1A: Less than significant<br>Alignment Option 1C: Less than significant<br>Alignment Option 5A: Less than significant |
| Mitigation Measures | None required (Proposed Project, Option 1A, Option 1C, Option 5A) |
| Significance after Mitigation | Less than significant (Proposed Project, Option 1A, Option 1C, Option 5A) |

**Proposed Trail Alignment**

The exposure of sensitive receptors (e.g., existing offsite residents) to TAC emissions during construction is discussed below. As stated earlier, the project is exempt from Conformity Requirements under the Clean Air Act pursuant to 40 CFR 93.126, and is, by definition, a type of project considered to have no meaningful potential mobile source air toxics (MSAT) effects (FWHA 2012). The nearest sensitive receptors to the proposed trail alignment are adjacent residences, schools, and parks. The predominant wind direction in the project area is from the south/southwest.

Construction Impacts

Construction of the proposed project would result in temporary diesel exhaust emissions from onsite heavy-duty equipment required for site preparation, paving, and other construction activities. Particulate-exhaust emissions from diesel-fueled engines (diesel PM) were identified as a TAC by CARB in 1998. PCAPCD has not established a quantitative threshold of significance for construction-related TAC emissions. In this case, lead agencies may address this issue on a case-by-case basis, taking into consideration the specific construction-related characteristics of each project and its proximity to offsite receptors.

The nearest sensitive receptors to the project site are single-family residences located on properties adjacent to the project boundary along the length of the proposed multi-use trail, with the distance to the homes, themselves, ranging from less than 50 feet to several hundred feet. The dose to which the receptors are exposed (a function of concentration and duration of exposure) is the primary factor used to determine health risk. According to the Office of Environmental Health Hazard Assessment, health risk assessments, which determine the exposure of sensitive receptors to TAC emissions, should be based on a 70-year exposure period; however, for construction, use of mobilized equipment would be temporary (i.e., only constituting 3 percent of the total health-risk exposure period).

The primary construction activities in which TAC emissions (including diesel PM) from heavy equipment would be generated include site preparation and paving. The proposed project would involve relatively small construction crews and would result in daily ground disturbances of less than 1 acre per day. Project construction activities would not exceed $PM_{10}$ or $PM_{2.5}$ thresholds of significance for mass emissions as shown in Table 4.2-3. In addition, there would be no net increases in mobile source emissions as a result of project use.

These factors, in combination with the dispersive properties of diesel PM (Zhu et al. 2002), would not result in the exposure of sensitive receptors to TAC levels that would result in a health hazard or exceed applicable standards during construction of the proposed project. Thus, the exposure of sensitive receptors to TACs would be **less than significant**.

Use-related Impacts

The proposed project is a 4.25-mile multi-use trail intended for bicyclists and pedestrians, and other non-motorized vehicles. Use of the trail would not be a substantial source of TAC emissions. However, a portion of the proposed trail improvements would be located near or directly adjacent to the I-80 freeway, which could result in the exposure of trail users to mobile source TAC emissions.

While the project would result in new trail users within close proximity to the freeway, the exposure period would be relatively short and temporary in nature. Most trail users would travel along the segment trail near the freeway for relatively short periods of time (i.e., minutes within a given hour), rather than for longer-duration or sustained periods of time (i.e., many hours per day over a 70-year period, such as in the case of a single-family residence; see OEHHA health risk assessment criteria in construction impacts discussion above). Thus, users of the trail would not be considered sensitive receptors for the purposes of TAC emissions exposure, and use-related impacts would be **less than significant**.

**Alignment Option 1A**

Both construction and use-related activities for Option 1A would be the same type and magnitude of activities that would occur under the Proposed Trail Alignment. Both existing sensitive receptors in adjacent land uses and users of the trail would not be exposed to TAC levels that would result in a health hazard or exceed applicable standards during construction or use of the proposed project under Option 1A. This impact would be **less than significant**.

**Alignment Option 1C**

Both construction and use-related activities for Option 1C would be the same type and magnitude of activities that would occur under the Proposed Trail Alignment. Both existing sensitive receptors in adjacent land uses and users of the trail would not be exposed to TAC levels that would result in a health hazard or exceed applicable standards during construction or use of the proposed project under Option 1C. This impact would be **less than significant**.

**Alignment Option 5A**

Both construction and use-related activities for Option 5A would be the same type and magnitude of activities that would occur under the Proposed Trail Alignment. Both existing sensitive receptors in adjacent land uses and users of the trail would not be exposed to TAC levels that would result in a health hazard or exceed applicable standards during construction or use of the proposed project under Option 5A. This impact would be **less than significant**.

Mitigation Measures

None required.

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