

## **4.13 VISUAL RESOURCES/LIGHT AND GLARE**



This section of the EIR describes the existing visual resources of the City of Madera Planning Area, summarizes the landscape and visual characteristics of the surrounding area, and discusses the impacts associated with implementation of the General Plan Update. The landscape analysis focuses on the anticipated alteration of landscape characteristics and potential visual resource impacts in the Planning Area. Information for this section comes from field observations and City documents.

### 4.13.1 EXISTING SETTING

#### REGIONAL SETTING

The Planning Area is located entirely within Madera County, in the San Joaquin Valley in Central California. Madera County is bounded on the north by Merced and Mariposa counties, on the east by Mono County, and on the south and west by Fresno County (see **Figure 3.0-1**). Madera County covers approximately 2,147 square miles (1,374,080 acres) of land, with elevations ranging from 180 feet to over 13,000 feet above mean sea level. Madera County can be divided generally into three regions – the San Joaquin Valley in the west, the foothills between the Madera Canal and the 3,500-foot elevation contour, and the mountains from the 3,500-foot contour to the crest of the Sierra Nevada. Land uses in the surrounding counties vary, with flat agricultural lands in Merced and Fresno counties, foothills in Mariposa and Fresno counties, and mountains in Mariposa and Mono counties (Madera County Transportation Commission, 2007).

#### SIGNIFICANT VISUAL RESOURCES

In general, the dominant visual features within the Planning Area are the open sections of the valley floor, urbanized land uses, agricultural land uses, rivers and creeks, and various species of trees. Because the entire Planning Area is relatively flat, views of these resources are available from roadways throughout the Planning Area. Streams and the Fresno River are among the most significant natural visual features in the Planning Area. Distant views of the Sierra Nevada and Coast Ranges are available under clear conditions.

#### Rivers and Creeks

Some of the most significant natural features are the rivers and creeks located in the Planning Area, primarily the Fresno River, Cottonwood Creek, Schmidt Creek, and Dry Creek.<sup>1</sup> Some portions of these stream and river corridors contain riparian vegetation that provides natural scenic views.

The Fresno River is the predominant natural feature in the Planning Area. The river has riparian habitat that provides textures and colors not commonly found in the urban environment. The river is dry for much of the year.

There are considerable public view points of the Fresno River. Views are primarily confined to those from the seven bridges in Madera that cross the river, including the bridge that carries State Route 99 over the river. Extended views of the river are available from Riverside Drive and Riverview Drive. There also is a trail system along one side or the other along the majority of the river through Madera.

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<sup>1</sup> Please see Section 4.8, Hydrology and Water Quality, for a detailed description of the Planning Area's waterways.

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Smaller streams, such as Cottonwood Creek and Dry Creek, have more limited riparian vegetation along their banks.

### **Agricultural Land**

Agricultural lands offer a break from the urban landscape by providing a viewshed of open land with minimal structures or human-made features. Agricultural lands surround the City of Madera. The Planning Area contains a variety of agricultural uses. Currently, agricultural uses in the Planning Area include row crops, field crops, orchards, vineyards, and dairies, as well as grazing land for cattle.

### **Trees**

In much of the Planning Area, natural vegetation has been replaced by agriculture and urban development, including urban landscaping. Small areas of riparian vegetation are found along Cottonwood Creek, located in the southern portion of the Planning Area.

Riparian vegetation within the Planning Area is characterized by patches of willow scrub, riparian forest, and scattered trees and shrubs, present along both banks of Cottonwood Creek. Willows and cottonwoods are the dominant tree species in the riparian community. Otherwise, most of the trees in the Planning Area are found along City of Madera streets and at residences and parks. The reader is referred to Section 4.10, Biological Resources, for a further discussion of natural habitats in the Planning Area.

### **Scenic Corridors**

California's Scenic Highway Program was created by the State Legislature in 1963. Its purpose was to preserve and protect scenic corridors from changes that would diminish the aesthetic value of lands adjacent to highways.

A highway may be designated as "scenic" if certain criteria are met, including how much of the natural landscape can be seen by travelers, the scenic quality of the landscape, and the extent to which development intrudes upon the traveler's enjoyment of the view.

A **scenic corridor** is the land generally adjacent to and visible from the highway and is identified using a motorist's line of vision. A reasonable boundary is selected when the view extends to the distant horizon.

There are no designated scenic highways in the Planning Area. However, both State Route 99 and State Route 145 pass through agricultural and rural lands. They also provide views of the distant Sierra Nevada to the east and the Coast Ranges to the west, especially on days of good air quality. Many Planning Area roads pass through agricultural areas and provide views of the mountain ranges.

### **Landscape Corridors**

Landscape corridors are linear open space corridors that link natural features with human populations. In addition, landscape corridors provide visual diversity and interest by contrasting urban and natural elements of the visual environment. Examples of landscape corridors include riparian/stream buffers, grassed waterways, field borders, hedgerows and windbreaks. New residential neighborhoods in a city can incorporate landscape corridors directly adjacent to the public right-of-way.

### Historic Visual Resources

Historic visual resources are important features of a community's history, providing a link between the visual landscape of the past and the urbanized landscape that characterizes the present. Examples of historic visual resources include buildings, structures, landmarks, monuments, and other visually prominent features. There are three properties listed in the Office of Historic Preservation (OHP) Directory of Properties for Madera. One property, the Madera County Courthouse, is listed on the National Register of Historic Places. Two other properties are in Madera – the Luther Burbank School and the Dixie Motel.

### LIGHT AND GLARE

A nighttime sky in which stars are readily visible is often considered a valuable scenic/visual resource. In urban areas, views of the nighttime sky are being diminished by “light pollution.” Light pollution, as defined by the International Dark-Sky Association, is any adverse effect of artificial light, including sky glow, glare, light trespass, light clutter, decreased visibility at night, and energy waste. Two elements of light pollution may affect city residents: sky glow and light trespass. Sky glow is a result of light fixtures that emit a portion of their light directly upward into the sky where light scatters, creating an orange-yellow glow above a city or town. This light can interfere with views of the nighttime sky and can diminish the number of stars that are visible. Light trespass occurs when poorly shielded or poorly aimed fixtures cast light into unwanted areas, such as neighboring property and homes.

Light pollution is a problem most typically associated with urban areas. Lighting is necessary for nighttime viewing and for security purposes. However, excessive lighting or inappropriately designed lighting fixtures can disturb nearby sensitive land uses through indirect illumination. Land uses which are considered “sensitive” to this unwanted light include residences, hospitals, and care homes.

Daytime sources of glare include reflections off of light-colored surfaces, windows, and metal details on cars traveling on nearby roadways. The amount of glare depends on the intensity and direction of sunlight, which is more acute at sunrise and sunset because the angle of the sun is lower during these times.

Light sources in residential areas of Madera include exterior residential security lights and streetlights commonly found along most residential streets. Other light sources include commercial centers with security lighting, parking lot lighting, and lighting from inside buildings. Industrial areas also have security lighting and lighting from parking lots. Public buildings, such as schools, have security lighting and lighting for outdoor facilities, such as the football stadium at Madera High School. Some recreational facilities also may have nighttime lighting, such as baseball/softball fields.

### 4.13.2 REGULATORY FRAMEWORK

#### STATE

#### State Scenic Highway Program

In 1963, the California legislature created the Scenic Highway Program to preserve and protect scenic highway corridors from changes that would diminish the aesthetic value of lands adjacent to state highways. The state regulations and guidance governing the Scenic Highway Program are found in the Streets and Highways Code, Section 260 et seq. A highway may be

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designated scenic depending on how much of the natural landscape can be seen by travelers, the scenic quality of the landscape, and the extent to which development intrudes upon the traveler's enjoyment of the view. There are no designated state scenic highways or eligible state scenic highways in the vicinity of the Planning Area.

### Nighttime Sky – Title 24 Outdoor Lighting Standards

The California Legislature passed a bill in 2001 requiring the California Energy Commission (CEC) to adopt energy efficiency standards for outdoor lighting for both the public and private sector. In November 2003, CEC adopted changes to the Title 24, parts 1 and 6, Building Energy Efficiency Standards. These standards became effective on October 1, 2005, and included changes to the requirements for outdoor lighting for residential and nonresidential development. The new standards will likely improve the quality of outdoor lighting and help to reduce the impacts of light pollution, light trespass, and glare. The standards regulate lighting characteristics such as maximum power and brightness, shielding, and sensor controls to turn lighting on and off. Different lighting standards are set by classifying areas by lighting zone. The classification is based on population figures of the 2000 Census. Areas can be designated as LZ1 (dark), LZ2 (rural), or LZ3 (urban). Lighting requirements for dark and rural areas are stricter in order to protect the areas from new sources of light pollution and light trespass.

### 4.13.3 IMPACTS AND MITIGATION MEASURES

#### STANDARDS OF SIGNIFICANCE

An aesthetic or visual resource impact is considered significant if implementation of the project would result in any of the following:

- 1) Have a substantial adverse effect on a scenic vista;
- 2) Substantially affect scenic resources or scenic views, including trees, rock outcroppings, or historic buildings within a state scenic highway, designated scenic roadway, scenic river corridor, roadway eligible for listing as a scenic roadway/highway or other public vantage point or scenic vista locally known for its scenic qualities;
- 3) Substantially degrade the existing visual character or quality of the city and its surroundings; or
- 4) Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area.

#### METHODOLOGY

The visual resource analysis is based on field review of the Planning Area and review of the proposed General Plan Update. This analysis is based on anticipated changes within the Planning Area from implementation of the proposed General Plan Update.

#### PROJECT IMPACTS AND MITIGATION MEASURES

##### Alteration of Scenic Resources

**Impact 4.13.1** Implementation of the proposed General Plan would result in the alteration of scenic resources. This is considered a **significant** impact.

Implementation of the proposed City of Madera General Plan would result in alterations to existing landscape characteristics of the city (agricultural land and rural residential areas). The General Plan Land Use Map calls for the conversion of approximately 13,285 acres of farmland in the Planning Area. **Figure 4.2-2** illustrates that there are important farmland areas that are proposed to be converted to urban land uses, including Village Reserve, residential land use designations, and commercial land uses. This conversion would substantially change the visual character of the Planning Area.

There are no designated scenic highways in the Planning Area. However, both State Route 99 and State Route 145 pass through agricultural and rural lands. They also provide views of the distant Sierra Nevada to the east and the Coast Ranges to the west, especially on days of good air quality. Many roads outside the Madera city limits also pass through agricultural areas and provide views of the mountain ranges. Conversion of agricultural land to urban uses would cause a change in these views.

This conversion of agricultural land to urban uses is considered a **significant** impact.

### Proposed General Plan Policies and Action Items that Provide Mitigation

The proposed General Plan Update contains several goals, policies, and action items that would assist in reducing the impact related to the alteration of scenic resources. The following list of policy provisions contains specific, enforceable requirements and/or restrictions and corresponding performance standards that assist in reducing (though not eliminating) this impact:

- Policy CD-1: The City of Madera will require that all new development is well-planned and of the highest possible quality. The City will seek to build an image of Madera as a contemporary small city with vibrant, livable neighborhoods and walkable pedestrian- and bicycle-oriented development.*
- Action CD-2.1: Adopt a set of comprehensive Design Guidelines to establish basic design standards and criteria for public and private development projects.*
- Policy CD-5: New development shall be approved only if it meets the design principles set forth in this Community Character Element and to any local, project-specific, or citywide design guidelines.*
- Policy CD-7: All new development projects requiring site plan approval, shall establish landscape and façade maintenance programs for the first three years, ensuring that streetscapes and landscapes areas are installed and maintained as approved.*
- Policy CD-8: In order to improve and protect the quality of neighborhoods and commercial districts, the City will enforce established building codes and community standards.*
- Policy CD-10: Madera will seek to transition the density and intensity of uses from an urban to rural character while maintaining a clear City edge and establishing a sense of entry and arrival to the City. To implement this policy, the City will:*
- Encourage the County of Madera to preserve undeveloped lands outside of the Sphere of Influence.*

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- Apply and implement land use designations and open space preservation techniques to create a clearly identifiable edge to the city.

Policy CD-45: New development in the Downtown shall be designed to be similar in character to the existing pattern of development, including:

- Placement of buildings adjacent to the sidewalk;
- Building heights (although multi-story mixed use is encouraged);
- Use of storefront display windows; and
- Other features as determined appropriate by the City based on the location of the new building and the desirable features of adjacent and nearby structures.

Policy LU-10: The Growth Boundary is considered by the City to define the physical limits of development in Madera. The City shall direct all future growth in Madera and in the unincorporated area outside the city limits to occur inside the Growth Boundary shown on the Land Use Map in this General Plan. Within the City's Planning Area, the City encourages the County to assist the City in maintaining an agricultural green belt around the Growth Boundary by only allowing agricultural uses where land is designated for such use on the City's General Plan Land Use Map.

The following apply to the Growth Boundary:

- The Growth Boundary may only be revised as part of a comprehensive update of the General Plan involving, at a minimum, the Land Use and Circulation elements.
- Any revision to the Growth Boundary shall be accompanied by a statement of findings which demonstrate the following:
  - 1) That the revision is consistent with the intent of the Growth Boundary and all other applicable policies in this General Plan
  - 2) That the revision is necessary to accommodate planned growth in Madera

Action LU-12.1: Develop and implement programs and strategies that support the Growth Boundary and keep urban growth inside the Growth Boundary.

#### Mitigation Measures

The proposed General Plan Update policy provisions assist in minimizing visual impacts related to the conversion of agricultural lands to urban uses by adopting and enforcing development design standards, landscape and façade maintenance programs, building codes, and community standards, as well as by implementing open space preservation techniques, building design standards, and growth boundary programs. The General Plan Update would nevertheless result in a substantial change in visual resources in the Planning Area. There are no feasible mitigation measures available to offset this change in visual resources, as the urban uses

proposed under the General Plan are fundamentally different from current farmland uses. Thus, this impact is considered **significant and unavoidable**.

### Daytime Glare and Nighttime Lighting

**Impact 4.13.2** Implementation of the proposed General Plan could result in the introduction of a substantial amount of daytime glare sources and nighttime lighting in developed portions of the Planning Area and create new sources in undeveloped areas. These increased daytime glare and nighttime lighting levels could have an adverse effect on adjacent areas and land uses. This is considered a **less than significant** impact.

The main sources of daytime glare are generally sunlight reflecting from structures and other reflective surfaces and windows. Implementation of the proposed City of Madera General Plan would introduce new sources of daytime glare into the city and increase the amount of daytime glare in existing developed areas. The proposed land uses consist of various densities of commercial, office, recreation, and other public uses. Building materials (i.e., reflective glass and polished surfaces) are the most substantial sources of glare. Daytime glare impacts would not be substantial in areas of the Planning Area that are already developed, since these areas currently have various sources of daytime glare. Daytime glare would, however, result in greater adverse impacts on any undeveloped portions of the Planning Area.

Planned development and growth proposed in the General Plan would introduce new light sources into undeveloped portions of the Planning Area. Nighttime lighting levels would increase substantially over current levels in undeveloped portions of the Planning Area and incrementally with future projects in developed areas. New light sources would include, but not be limited to, new residential developments, street lighting, parking lot lights, and security related lighting for nonresidential uses. These new light sources could result in adverse effects to adjacent land uses through the "spilling over" of light into these areas and "sky glow" conditions. In addition, implementation of the proposed General Plan would result in intensified nighttime lighting levels associated with increased traffic levels and further residential and commercial development.

### Proposed General Plan Policies and Action Items that Provide Mitigation

The proposed General Plan contains goals, policies, and action items that are intended to prevent light and glare impacts within the Planning Area. The following list contains those policies that include specific, enforceable requirements and/or restrictions and corresponding performance standards that address the impact:

*Action CD-2.1: Adopt a set of comprehensive Design Guidelines to establish basic design standards and criteria for public and private development projects.*

*Policy CD-5: New development shall be approved only if it meets the design principles set forth in this Community Character Element and to any local, project-specific, or citywide design guidelines.*

*Policy CD-8: In order to improve and protect the quality of neighborhoods and commercial districts, the City will enforce established building codes and community standards.*

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Policy CON-38: *The City supports the use of green building practices in the planning, design, construction, management, renovation, operations, and demolition of all private buildings and projects, including:*

- *Land planning and design techniques that preserve the natural environment and minimize disturbance of the land.*
- *Site development to reduce erosion, minimize paved surfaces and runoff and protect vegetation, especially trees.*
- *Water conservation indoors and outdoors.*
- *Energy efficiency in heating/cooling systems, appliances, lighting and the building envelope.*
- *Selection of materials based on recyclability, durability and the amount of energy used to create the material.*
- *Waste reduction, reuse and recycling during construction and throughout the life of the project.*
- *Other new aspects of green design and construction included in LEED or other certification programs.*
- *Control nighttime lighting to lower energy use, reduce glare, and prevent illumination of the night sky.*

Implementation of the above policies and action items would minimize impacts associated with light and glare through the adoption and enforcement of development design standards, building codes, and community standards, as well as the control of nighttime lighting. Thus, implementation of these provisions would reduce impacts related to daytime glare and nighttime lighting to **less than significant** levels.

### Mitigation Measures

None required.

## 4.13.4 CUMULATIVE SETTING, IMPACTS, AND MITIGATION MEASURES

### CUMULATIVE SETTING

The cumulative impact takes into account planned and proposed development anticipated in the Madera Planning Area under buildout conditions (see Section 4.0 for a further description of cumulative growth conditions). Buildout of the proposed General Plan Update is not expected to occur until roughly 2065, based on a projected residential growth rate of around 2.65 percent per year. Currently, there are a number of projects proposed in Madera that would result in increased daytime glare and nighttime lighting over existing levels and that would contribute to cumulative conditions.

As mentioned in Section 4.0, Introduction to the Environmental Analysis and Assumptions Used, potential development of the Planning Area and surrounding region could have an effect on

scenic resources in those areas. This would also contribute to the visual resource impacts of the larger Planning Area as well as of the region.

### CUMULATIVE IMPACTS AND MITIGATION MEASURES

#### Cumulative Impacts to Visual Resources

**Impact 4.13.3** Implementation of the proposed General Plan along with potential development of the Planning Area would result in the further conversion of the region's rural landscape to residential, commercial, and other land uses. This would contribute to the alteration of the visual resources in the region. This is considered a **cumulatively considerable** impact.

Implementation of the General Plan Land Use Map would result in the conversion of approximately 13,185 acres of farmland in the Planning Area, which would contribute to the alteration of the visual character of the region anticipated from growth and development in the region (e.g., growth and development in Madera and Fresno counties).

#### Proposed General Plan Policies and Action Items that Provide Mitigation

The proposed General Plan contains several goals, policies, and action items that would assist in reducing agricultural land conversion and conflict impacts. The reader is referred to Impacts 4.13.1 and 4.13.2 for those policies and action items that contain specific, enforceable requirements and/or restrictions and corresponding performance standards that assist in reducing (though not fully mitigating) this impact.

Implementation of these policies and action items would reduce the proposed General Plan Update's cumulative impacts on visual resources through the adoption and enforcement of development design standards, landscape and façade maintenance programs, building codes, and community standards, as well as the implementation of open space preservation techniques, building design standards, growth boundary programs, and nighttime lighting controls. However, with implementation of the proposed General Plan, increased development would occur and changes to existing scenic resources would be inevitable. Therefore, this impact is considered **cumulatively considerable** and **significant and unavoidable**.

#### Mitigation Measures

None available.

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##### **REFERENCES**

California Energy Commission. *2005 Building Energy Efficiency Standards, Nonresidential Compliance Manual*. Prepared by Architectural Energy Consultants. San Francisco, CA.

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