

## 4 INTRODUCTION TO THE ENVIRONMENTAL ANALYSIS

### 4.1 SCOPE OF THE PEIR

In accordance with Section 15082(a) of the California Environmental Quality Act (CEQA) Guidelines, Merced County prepared and circulated a Notice of Preparation (NOP) of a Draft Programmatic Environmental Impact Report (PEIR) for the proposed project. The NOP for the 2030 General Plan PEIR was published on April 21, 2011 (State Clearinghouse No. 2011041067). The NOP and Project Description were circulated to the public, local and state agencies, and other interested parties to solicit comments on the 2030 Merced County General Plan (2030 General Plan). After several extensions of the NOP review period, the County held two scoping meetings for the Draft PEIR consistent with State CEQA Guidelines Section 15082(c), and closed the period for public comment on the NOP on October 7, 2011.

Environmental issues and alternatives raised by comments received on the NOP during the 169-day public review period for the NOP were considered for inclusion in the Draft PEIR. (See Appendix A, *Notice of Preparation and Initial Study*, and Appendix B, *Comments on the Notice of Preparation*.) Public and agency comments received on the NOP were reviewed, and environmental issues identified in the comment letters are individually referenced in Chapter 2, *Executive Summary*, to indicate the specific section in the Draft PEIR where these issues are addressed. Pursuant to the State CEQA Guidelines, the focus of this Draft PEIR includes the specific issues identified in the NOP, as well as concerns identified in the responses to the NOP.

The issues to be evaluated in the environmental document as shown in Table 4-1 were identified in the NOP or raised in public and agency comments on the NOP:

Aesthetics and Visual Resources	Agricultural and Forestry Resources	Air Resources
Biological Resources	Historical and Cultural Resources	Geology, Soils, and Minerals
Global Climate Change	Hazards and Hazardous Materials	Hydrology and Water Resources
Land Use	Noise	Population and Housing
Public Services	Recreation	Transportation
Utilities and Service Systems	Alternatives	Cumulative Impacts and Other Required CEQA Topics

### 4.2 CONTENTS OF THE PEIR

The State CEQA Guidelines require that all EIRs include specified content (State CEQA Guidelines Sections 15122 to 15130). Table 4-2 sets forth the location in this Draft PEIR where required content appears.

**Table 4-2 CEQA Required Content of Draft EIRs**

<b>CEQA Requirement</b>	<b>Where It Appears in this Draft PEIR</b>
Table of Contents	Table of Contents
Summary	Chapter 2, Executive Summary of the Draft PEIR
Project Description	Chapter 3, Project Description
Environmental Setting	General Plan Background Report, Chapters 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, and 12. Summaries of the Environmental Setting set forth in detail in the Background Report appear in Chapters 5 – 20 of the Draft PEIR
Environmental Impacts	Chapters 2, and 5 – 20 of the Draft PEIR
Significant Environmental Impacts	Chapters 2, 5-20, and 22 of the Draft PEIR
Mitigation Measures	Chapters 2, and 5 – 20 of the Draft PEIR
Alternatives to the Proposed Project	Chapter 21 of the Draft PEIR
Effects Found Not to Be Significant	Chapters 2, 5-20, and 22 of the Draft PEIR
Organizations and Persons Consulted	Chapter 24 of the Draft PEIR
Cumulative Impacts	Chapter 22 of the Draft PEIR

### 4.3 PRESENTATION OF THE IMPACT ANALYSIS IN THE PEIR

The environmental analysis section of this Draft PEIR (Chapters 5 through 20) is organized and carried out in accordance with the CEQA Environmental Checklist (Appendix G of the State CEQA Guidelines, December 30, 2009); each section presents the setting, an assessment of the potential indirect and secondary environmental impacts, and, if needed, mitigation measures for each environmental issue area identified in Table 4-1 and in Chapter 2, *Executive Summary*. Cumulative impacts are evaluated in Chapter 22, *Required CEQA Analyses*. For each resource category, the following conditions are discussed:

- **Environmental Setting.** This section summarizes the more extensive setting discussion provided by the General Plan Background Report, and provides a general overview of the environmental resource and the conditions on and adjacent to the project area (unincorporated Merced County). The setting is presented from local and regional perspectives as appropriate for each environmental topic.
- **Regulatory Framework.** This section summarizes the more extensive regulatory setting discussion provided by the General Plan Background Report, and presents applicable laws, ordinances, regulations, and guidance for the resource.
- **Environmental Effects.** This section provides significance criteria with which to judge whether an environmental impact is significant, or less than significant. Significance criteria are established both by State CEQA Guidelines, and by significance thresholds of federal, state, and local agencies. Potential environmental impacts associated with the proposed project are assessed, the impacts' level of significance prior to mitigation is identified, and feasible mitigation measures for reducing the associated impacts are set forth. The level of significance after mitigation is then assessed.

#### 4.4 ENVIRONMENTAL BASELINE

As stated in the State CEQA Guidelines (Section 15125(a)), an EIR must describe the existing conditions in the vicinity of the proposed project. For each of the environmental resources assessed in this Draft PEIR, the description of existing environmental and regulatory conditions is included under the “Regulatory Setting” and “Environmental Setting” headings in each section.

In describing existing conditions, it is necessary to establish a date at which these conditions exist. As stated in the State CEQA Guidelines (Section 15125(a)), existing conditions are normally assessed “at the time the notice of preparation is published” or if a notice of preparation is not published “at the time environmental analysis is commenced.” The section further states, “[t]his environmental setting will normally constitute the baseline physical conditions by which a Lead Agency determines whether an impact is significant.” For the 2030 Merced County General Plan, the baseline is established as the year 2011, as the Notice of Preparation was prepared and made available for agency and public review from April 21 to October 7, 2011.

#### 4.5 ENVIRONMENTAL IMPLICATIONS OF THE 2030 GENERAL PLAN AND EVALUATION OF POTENTIAL ENVIRONMENTAL EFFECTS

Implementation of the 2030 General Plan would result in future land development and other actions that would result in increased levels of human activity, and that would convert or cover portions of the landscape. These actions could occur within areas designated by the existing 2000 General Plan and the 2030 General Plan for urban uses, or they could occur within areas of the county designated for continued rural land uses, primarily for agriculture, grazing, or habitat protection. Development that would occur within designated urban areas would consist of a variety of land uses, including residences, commercial activities, industrial uses, and the infrastructure necessary to support urban development. In rural areas, in addition to continued agricultural, grazing, and habitat uses, implementation of the 2030 General Plan could result in additional scattered residential uses, agriculturally related industries, and surface mines.

This Draft PEIR focuses on the secondary or indirect effects of implementing the proposed 2030 General Plan. Section 15358(a)(2) of the State CEQA Guidelines defines secondary or indirect impacts as:

Indirect or secondary effects (*are those*) which are caused by the project and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect or secondary effects may include growth-inducing effects and other effects related to induced changes in the patterns of land use, population density, or growth rate, and related effects on air, water, and other natural systems, including ecosystems.

According to this definition, potential secondary or indirect environmental effects may be divided into two broad classes:

- **Coverage Impacts** - Those that result from development or other activities covering land or otherwise physically interfering with a resource (e.g., constructing a paved parking lot on top of a biological resource); and,
- **Intensity Impacts** - Those that result from increased levels of human activity (e.g., increases in traffic levels leading to increased emissions of criteria air pollutants).

The definitions of these two types of potential effects as used in this Draft PEIR analysis are discussed further below.

#### **4.5.1 COVERAGE IMPACTS**

These impacts are based on the areal coverage of developed uses that would occur with implementation of the 2030 General Plan. For designated urban areas such as City Planning Areas and Urban Communities, potential coverage effects for certain environmental topics, including agricultural and biological resources, were quantified in a multi-step process. Quantitative evaluations began with a review of resources potentially affected by the implementation of the 2030 General Plan project, and the areal extent of urban development envisioned under the Plan. Importantly, the 2030 General Plan does not designate any additional urban areas beyond those identified in the 2000 General Plan as amended through 2011. Therefore, the environmental analysis concentrates its evaluation on those undeveloped areas within designated urban communities and the resources still present within those urban communities. The only urban-area exception, as reflected on the Land Use Diagram, is to reflect the more recent Spheres of Influence adopted by the Local Agency Formation Commission (LAFCo) for the cities of Atwater and Gustine. However, since these areas reflect City General Plan growth areas, and 2030 General Plan policy directs that projects within such areas be annexed to the appropriate city, they are not evaluated in this 2030 General Plan PEIR. Coverage impacts are also evaluated for scattered rural land uses, including rural residential uses.

To determine the estimated amount of a resource that would be converted to developed uses under the proposed 2030 General Plan, an inventory of each environmental resource within each urban area (City Planning Area, Urban Community) project boundary was completed. Using Geographic Information Systems (GIS), the amount of developed land was calculated by summing the acreage in the urban/built up and rural residential land classifications. The rural residential classification, a recently added California Department of Conservation Farmland Mapping and Monitoring Program (FMMP) classification, includes residential land with one to five structures for every ten acres. The remaining undeveloped land within each urban area was calculated by subtracting the sum of the two urban land classifications in the FMMP data set from the total land area existing within each urban area boundary. (For estimates of the total land area that could be converted within urban areas, see Tables 4-3 and 4-4.)

The total acreage of an environmental resource with the potential to be affected by development was calculated by determining the amount of the resource within currently undeveloped areas of each urban area where growth would be directed under the 2030 General Plan. The analysis did not include the remaining unincorporated areas of the county because these areas do not have a confined boundary necessary for determining quantitative impacts. Although the 2030 General Plan goals and policies would direct growth to city planning areas and urban communities, and away from rural locations, it is possible that some future urban development may occur within Rural Centers, Rural Residential Centers, and Highway Interchange Centers. Additionally, uses including scattered rural residences, agriculturally related industrial uses, and surface mines are permitted uses within areas designated for continued agricultural uses. Therefore, the effects of development on environmental resources in these areas were assessed qualitatively.

## 4.5.2 INTENSITY IMPACTS

Intensity impacts, such as those for traffic, air quality, and noise, depend upon both the location and level of human activity. Though the 2030 Merced County General Plan proposes no increases in the amount of land identified for urban uses beyond that currently identified in the 2000 Merced County General Plan as amended (except for amendments to the Spheres of Influence of Atwater and Gustine), the amount of land designated and available for residential and employment growth could induce population growth by increasing the number of people and jobs in the County beyond 2030 forecasts. While it is unlikely that all urban uses identified in the 2030 General Plan would be constructed and occupied by the year 2030, this Draft PEIR evaluates total buildout conditions under the 2030 Merced County General Plan, meaning the Draft PEIR considers the population and employment that may be induced if all the land uses designated for residential uses were accommodated and all commercial and industrial uses were utilized for new employment by 2030. As with the Coverage Impact analysis, the Intensity Impact Analysis focuses on the difference between the location and level of human activity currently occurring, and the level of activity that would exist with implementation of the 2030 General Plan.

## 4.5.3 QUANTIFICATION OF ACTIVITIES UNDER MAXIMUM BUILDOUT

The following discussion estimates activities under maximum buildout conditions with implementation of the 2030 General Plan. According to the Draft 2030 General Plan, total maximum buildout would result in an additional 56,425 dwelling units within the unincorporated county and an additional 58,615 jobs. Table 4-3 summarizes how many developed acres would result from these additional dwelling units and jobs using averaged density assumptions (i.e., dwelling units/acre).<sup>1</sup>

	<b>Estimated Number of Units by 2030</b>	<b>Dwelling Units Per Gross Acre<sup>1</sup></b>	<b>Estimated Amount of Developed Acres</b>
Single-Family	51,199 units	4.0 units/acre	12,800 acres
Multi-Family	5,226 units	11 units/acre	475 acres
Total	56,425 units	--	13,275 acres

<sup>1</sup> Equals the number of dwelling units expected per gross acre. Estimates were derived from Merced County General Plan - Buildout Analysis assumptions.

Source: Mintier Harnish, 2011; Environmental Planning Partners, 2012.

As shown in Table 4-3, by 2030, new dwelling units in Merced County would include approximately 51,199 single-family units and approximately 5,226 multi-family units. Assuming low-density residential (LDR) land uses would be built out with the single-family units, and assuming that a maximum of four dwelling units would be constructed per gross acre, this would result in the development of approximately 12,800 acres of residential uses within unincorporated lands, most of which would be within urban areas. Assuming medium-density residential (MDR) land uses would be built out with the multi-family units, and assuming that an expected 11 dwelling units are constructed per gross acre, this would result in the development of approximately 475 acres of

<sup>1</sup> Buildout estimates are based on assumptions from the land use standards provided in Table LU-2 in the Draft 2030 Merced County General Plan, Land Use Element.

multi-family land uses. Together, residential units would result in approximately 13,275 developed residential acres.

Table 4-4 shows the number of additional jobs and the estimated amount of new construction expected in Merced County by 2030.<sup>2</sup>

<b>Jobs</b>	<b>Estimated Number of Jobs by 2030</b>	<b>Average Square Feet Per Employee<sup>1</sup></b>	<b>Estimated Amount of New Construction (square feet)</b>	<b>Estimated Amount of New Development (acres)<sup>2</sup></b>
Agricultural	11,376	500 square feet/employee	5,688,000 square feet	131 acres
Industrial	12,949	1,000 square feet/employee	12,949,000 square feet	297 acres
Retail	23,059	500 square feet/employee	11,529,500 square feet	265 acres
Office	11,231	400 square feet/employee	4,492,400 square feet	103 acres
<b>Total</b>	<b>58,615</b>	--	<b>34,658,900 square feet</b>	<b>796 acres</b>

<sup>1</sup> Equals the amount of square feet of floor area per one employee. Estimates were derived from Merced County General Plan - Buildout assumptions.

<sup>2</sup> 43,560 square feet equals 1 acre.

Source: Mintier Harnish, 2011; Environmental Planning Partners, 2012.

As shown in Table 4-4, total buildout of the 2030 General Plan would result in an additional 58,615 jobs, including an estimated 11,376 agricultural jobs, 12,949 industrial jobs, 23,059 retail jobs, and 11,231 office jobs. Assuming approximately 500 square feet is constructed per employee in the agricultural industry, over five million square feet of new construction may occur, or 131 acres of agricultural development. Assuming approximately 1,000 square feet is constructed per industrial employee, almost 13 million square feet of new construction may occur, or up to 297 acres of industrial development. Similarly, if 500 square feet is constructed per retail employee, approximately 11.5 million square feet of new construction may occur, or up to 265 acres of retail development. Lastly, assuming 400 square feet is constructed per office employee, an estimated 4.5 million square feet of new construction may occur, or up to 103 acres of business park development. Together, new jobs in the county by 2030 would result in approximately 796 acres of commercial development.

For traffic modeling purposes, these estimates were disaggregated and assigned to specific geographic areas (Traffic Analysis Zones, or TAZs). Additionally, the estimates were modified to include both Buildout of the 2030 General Plan, which includes the full development of all uses designated in the General Plan, and a 2030 Development scenario, defined as a forecast of the development that would be likely to occur by 2030. This 2030 Development scenario is designed to acknowledge the possibility that maximum growth or “theoretical buildout” identified under the proposed project may not occur by the horizon year of 2030. In many cases, theoretical buildout may be less than the maximum allowed densities and intensities due to a number of factors, including:

- A property owner may seek less development than is allowed under the General Plan;

<sup>2</sup> Buildout estimates are based on assumptions from the land use standards provided in Table LU-2 in the Draft 2030 Merced County General Plan, Land Use Element.

- Environmental constraints may result in lower intensity of development than allowed on some parcels;
- Policies or regulations (e.g., height limits, setbacks, infrastructure constraints, etc.) may lower the amount of development allowed on a particular parcel, and/or
- Infrastructure constraints such as water or sewer may limit the amount of development.

For all other intensity impacts, including air quality emissions, noise, and greenhouse gas emissions, the Buildout scenario was used to model the potential effects of implementing the 2030 General Plan.

#### 4.6 PRESENTATION OF MITIGATION IN THE PEIR

Mitigation measures identified in this report are characterized in one of two categories: 1) necessary to reduce the identified impact below a level of significance; and 2) recommended to reduce the magnitude of a significant impact, but not below a level of significance. Where implementation of more than one mitigation measure is needed to reduce an impact below a level of significance, this fact is noted.

Mitigation measures in this Draft PEIR are formulated to be consistent with the strategy as set forth in State CEQA Guidelines Section 15370 as follows:

- Avoiding the impact altogether by not taking a certain action or parts of an action.
- Minimizing impacts by limiting the degree or magnitude of the action and its implementation.
- Rectifying the impact by repairing, rehabilitating, or restoring the impacted environment.
- Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action.
- Compensating for the impact by replacing or providing substitute resources or environments.

#### 4.7 FREQUENTLY USED TERMS

**Implementation** - This term implies that something is constructed and becomes operational, or a policy or procedure is enacted and becomes effective.

**Project Area** - The 2030 General Plan project area includes all unincorporated areas of Merced County, except for those areas under the management of a state or federal agency. For more information regarding the location and area of the project, see Chapter 3, *Project Description*.

##### **Conversions and Equivalencies**

1 acre = 43,560 square feet  
1 square mile = 640 acres  
1 mile = 5,280 feet

**Less-than-Significant Impact (LS)** - A less-than-significant impact is an impact that would not result in a substantial and adverse change in the environment and would not require mitigation.

**Significant Impact (PS)** - CEQA (PRC Section 21068) defines a significant impact as that which has “a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project.” Levels of significance can vary by project, based on the change in the existing physical condition and the “...substantial body of opinion that considers or will consider the effect to be adverse...” The State CEQA Guidelines provide a list of consequences that would normally be regarded as having a significant effect on the environment. This Draft PEIR uses the CEQA definition of significant impacts together with the local environmental standards established by the County. Mitigation measures are proposed, when feasible, to reduce the magnitude of significant impacts.

**Significant and Unavoidable Impact (SU)** - A significant and unavoidable impact is one that would result in a substantial adverse effect on the environment which could not be mitigated to a less-than-significant level. A project could still proceed with significant unavoidable impacts, but the County would then be required to prepare a Statement of Overriding Considerations, pursuant to State CEQA Guidelines Section 15093, that would explain why the County would proceed with the project despite the occurrence of the impacts.