

CHAPTER 9 ALTERNATIVES

9.1 CEQA REQUIREMENTS FOR ALTERNATIVES

According to the CEQA *Guidelines*, an EIR must describe a reasonable range of alternatives to the proposed project [or plan], or to the location of a proposed project that attain most of the basic objectives of the project in a feasible manner, but avoid or substantially lessen any of the significant effects of the project. The comparative merits of these alternatives must be evaluated (CEQA Guidelines §15126.6(d)). The CEQA *Guidelines* provides the following direction regarding the discussion of alternatives within an EIR.

Because an EIR must identify ways to mitigate or avoid the significant effects that a project may have on the environment (*Public Resources Code* §21002.1), the discussion of alternatives shall focus on alternatives to the project or its location that are capable of avoiding or substantially lessening any significant effects of the project, even if the alternative would impede to some degree the attainment of the project objectives, or would be more costly (CEQA Guidelines §15126.6(b)).

The range of potential alternatives to the proposed project shall include those that could feasibly accomplish most of the basic purposes of the project and could avoid or substantially lessen one or more of the significant effects. The EIR should briefly describe the rationale for selecting the alternative to be discussed. The EIR should also identify any alternatives that were considered by the lead agency, but were rejected as infeasible during the scoping process and briefly explain the reasons underlying the lead agency's determination. Additional information explaining the choice of alternatives may be included in the administrative record. (CEQA Guidelines §15126.6(c)).

The EIR shall include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed project [or plan]. A matrix displaying the major characteristics and significant environmental effect of each alternative may be used to summarize the comparison. If an alternative would cause one or more significant effects in addition to those that would be caused by the project as proposed, the significant effects of the alternative shall be discussed, the in less detail that the significant effects of the project as proposed (*County of Inyo v. City of Los Angeles*, 124 Cal. App.3d 1). (CEQA Guidelines §15126.6(d)).

“No project” Alternative. The specific alternative of “no project” shall also be evaluated along with its impact. The “no project” analysis shall discuss the existing conditions, as well as what would be reasonably expected to occur in the foreseeable future if the project is not approved, based on current plans and consistency with available infrastructure and community services. If the environmentally superior alternative is the “no project” alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives. (CEQA Guidelines §15126.6(e)).

Rule of Reason. The range of alternatives required in an EIR is governed by a “rule of reason” that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice. The alternative shall be limited to ones that would avoid or substantially lessen any of the significant impacts of the project. Of those alternatives, the EIR need examine in detail only the ones that the lead agency determines could feasibly attain most of the basic objectives of the project. (CEQA Guidelines §15126.6(f)).

9.2 DESCRIPTION OF ALTERNATIVES

CEQA requires that an EIR describe a range of reasonable alternatives to a proposed project [or plan] that feasibly attain most of the basic objectives of the project while avoiding or substantially lessening one or more of the project’s significant effects (CEQA Guidelines §15126.6). This same section also requires that an EIR evaluate the environmental effects of the alternatives, compare these effects to those of the proposed project, and identify the environmentally superior alternative. An EIR need not consider every conceivable alternative, but must consider a reasonable range of alternatives that will foster informed decision making and public participation (CEQA Guidelines §15126.6(a)). Consistent with these requirements, this PEIR evaluates these three alternatives to the proposed plan:

- 1) No Project (Existing 1993 General Plan) Alternative
- 2) Reduced Density Alternative
- 3) Resource Management Alternative

The No Project Alternative is required by CEQA. The Reduced Density Alternative reduces one or more of the significant quantitative-based impacts of the proposed plan (e.g., population/housing, traffic, air quality, noise, services, and utilities). The Resource Management Alternative reduces one or more of the significant resource-based impacts of the proposed plan (e.g., biological, agricultural, and cultural).

Tables 9-1 through 9-3 identify the geographic areas, land use breakdown, and buildout projections under the proposed project and each alternative. Figures 9-1 through 9-4 constitute the General Plan Land Use Diagrams for the proposed project and each alternative.

Table 9-1
Area Breakdown for the Proposed Plan and Alternatives (in acres)

Area	Existing Conditions	Proposed Plan	Alternatives		
			No Project (Existing G.P.)	Reduced Density	Resource Management
Incorporated City	3,114.0	3,114.0	3,114.0	3,114.0	3,114.0
Sphere of Influence	3,996.1	3,996.1	3,996.1	3,996.1	3,996.1
Proposed Planning Area (PA) Expansion	--	940.9	--	940.9	940.9
County Area to Remain Outside of PA	940.9	--	940.9	--	--
Total	8,051.0	8,051.0	8,051.0	8,051.0	8,051.0

Source: Planwest Partners, 2010.

Table 9-2
Land Use Designation Breakdown for the Proposed Plan and Alternatives (in acres)

Use	Proposed Plan	Alternatives		
		No Project (Existing G.P.)	Reduced Density	Resource Management
Residential	3,697.9	2,350.1	3,697.9	3,146.2
Commercial/Mixed-Use	477.1	380.0	477.1	465.0
Industrial	250.2	473.0	250.2	213.4
Agriculture	1,180.9	2,842.0	1,180.9	1,506.0
Timber	--	120.0	--	--
Parks	227.9	75.0	227.9	227.9
Open Space	778.4	--	778.4	1,089.8
Public	303.9	174.7	303.9	268.0
Other (ROW, rail, vacant, unknown)	193.8	695.3	193.8	193.8
Proposed Planning Area (PA) Expansion	940.9	--	940.9	940.9
County Area to Remain Outside of PA	--	940.9	--	--
Total	8,051.0	8,051.0	8,051.0	8,051.0

Source: Planwest Partners, 2010.

Table 9-3
Buildout Projections for the Proposed Plan and Alternatives

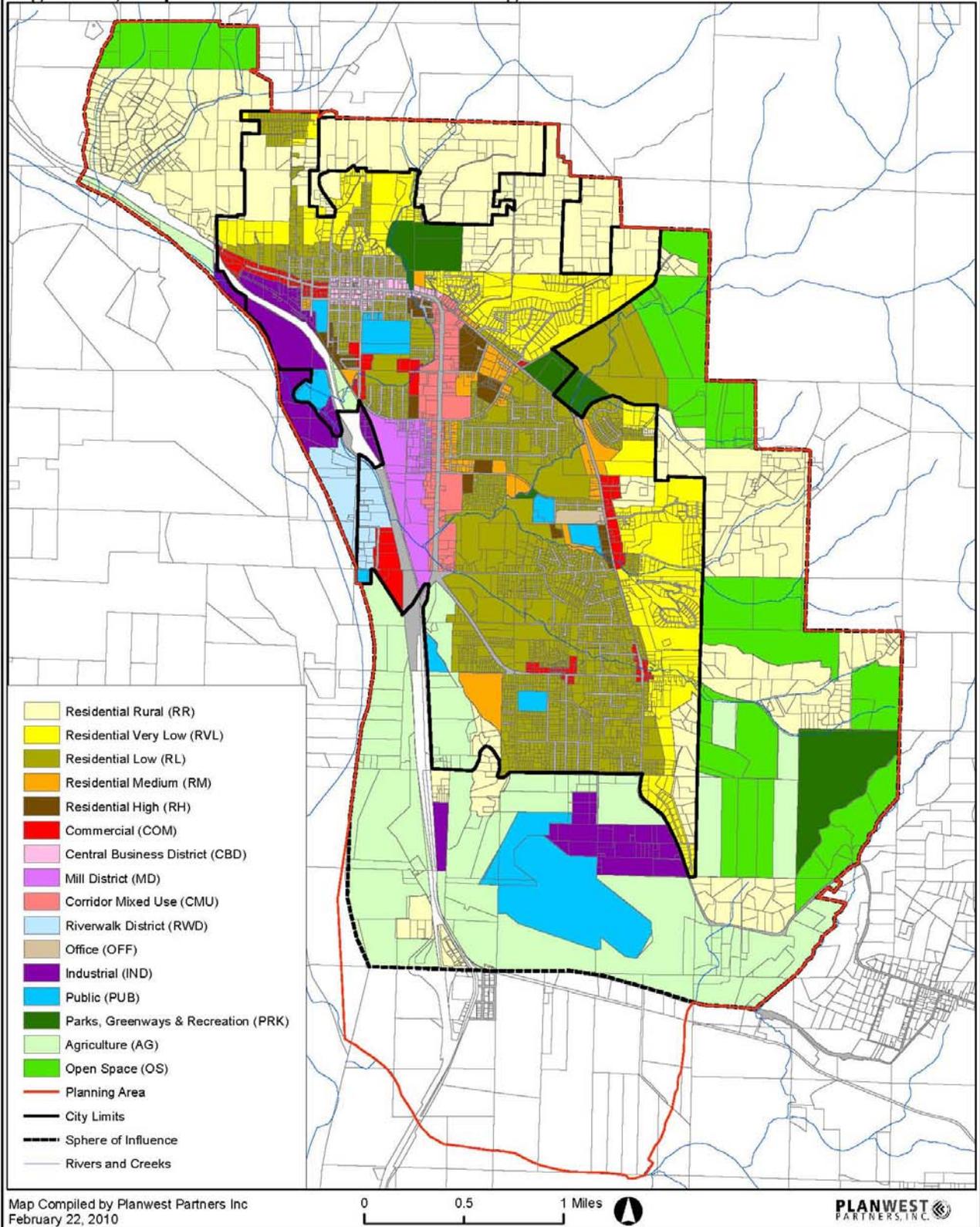
Use	Existing Conditions	Proposed Plan	Alternatives		
			No Project (Existing G.P.)	Reduced Density	Resource Management
Residential (units)	4,918	10,643	10,695	9,527	10,407
Commercial/Mixed Use (sq. ft.)	285,000	1,258,460	3,732,916	1,036,597	1,239,657
Industrial (sq. ft)	191,000	591,900	3,378,513	490,832	563,691
Resident Population	11,489	24,904	25,061	22,293	24,352
Employees	3,342	12,967	49,835	10,704	12,377

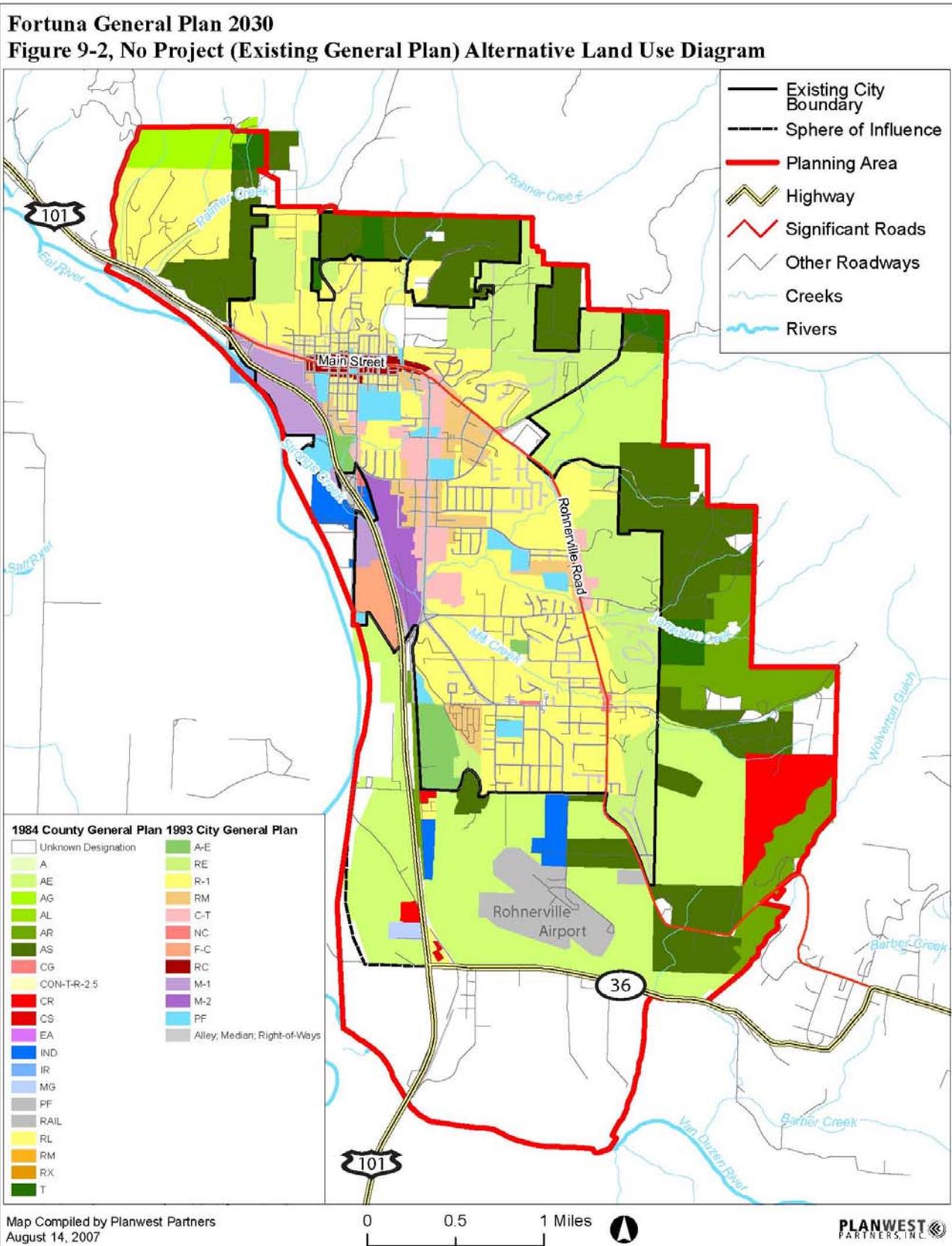
Source: Planwest Partners, 2010.

Note that alternatives identified above and evaluated in this PEIR are used to satisfy CEQA requirements for considering alternatives that attain most of the basic objectives of the proposed plan while avoiding or reducing one or more of its significant environmental effects. These alternatives are not the same as the alternatives identified in the Alternatives Report (e.g., Community Oriented City, South County Regional Center, Southern Industrial Expansion, etc.) that were generated during the General Plan formulation process to provide the decision makers with a range of land use alternatives from which to choose the “preferred alternative” (e.g., the proposed plan). See Chapter 2 of this PEIR for further discussion.

Fortuna General Plan 2030

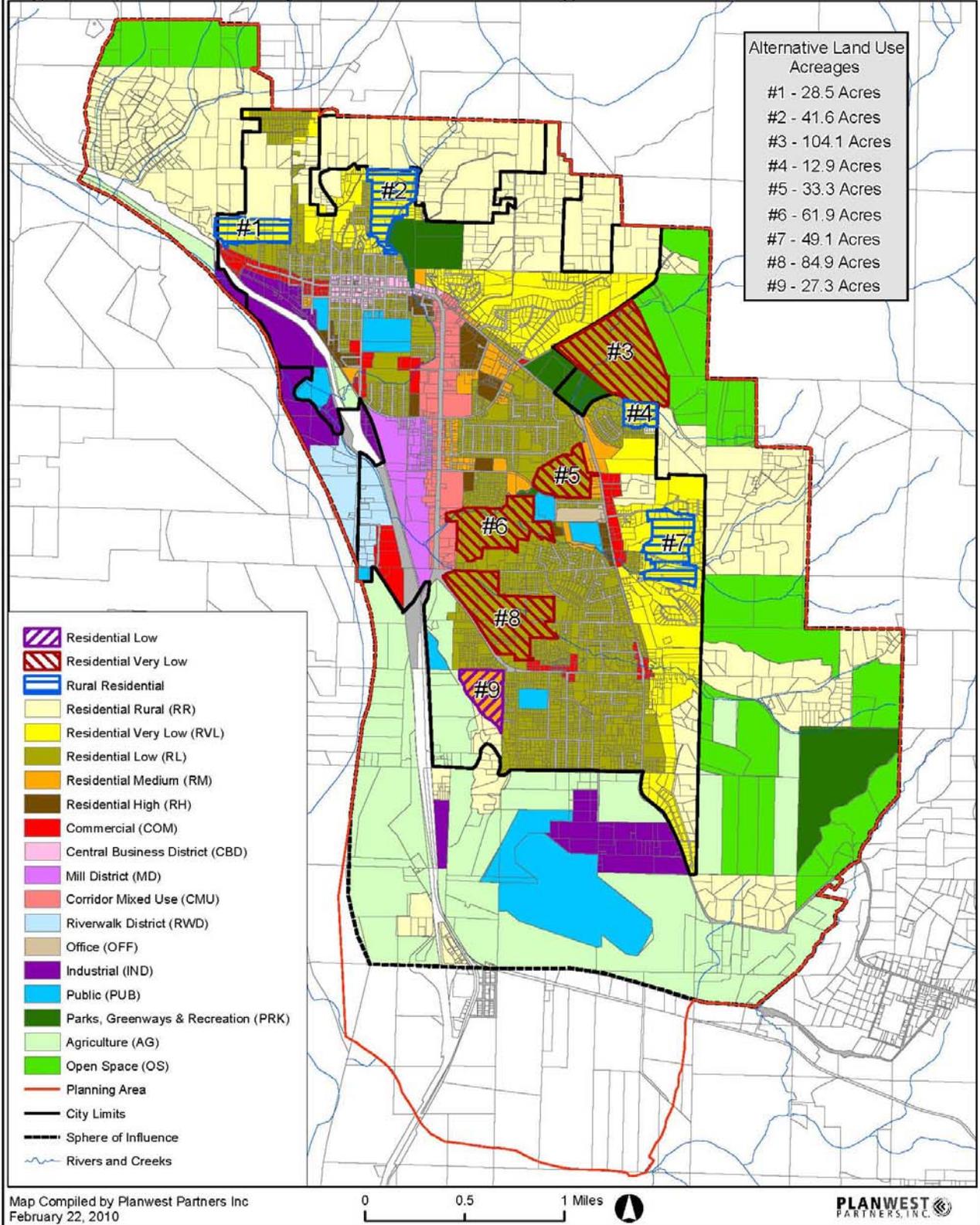
Figure 9-1, Proposed General Plan Land Use Diagram



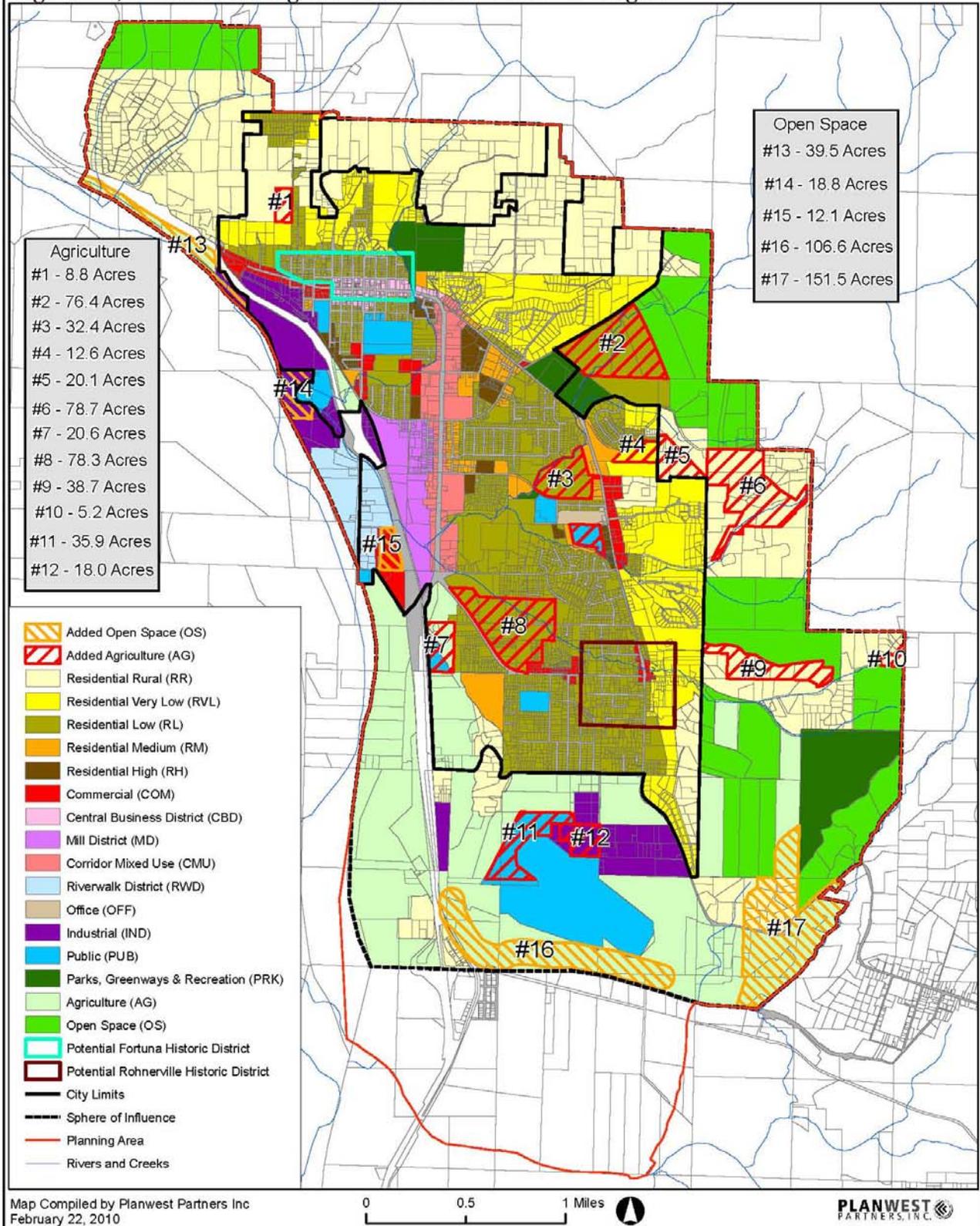


Fortuna General Plan 2030

Figure 9-3, Reduced Density Alternative Land Use Diagram



Fortuna General Plan 2030
Figure 9-4, Resource Management Alternative Land Use Diagram



No Project (Existing 1993 General Plan) Alternative

Under the No Project Alternative, the existing 1993 General Plan and associated Land Use Diagram (Figure 9-2) would remain in effect and continue to govern Fortuna's development; the proposed General Plan 2030 would not be adopted.

Under this alternative: (1) the goals, policies, implementing programs, and Land Use Diagram of the existing General Plan would continue to apply; (2) the existing Planning Area boundary would not be extending southward to SR 36; (3) the four potential future annexation areas identified under the proposed plan would not be planned for; (4) the four focus areas identified under the proposed plan would not be established; (5) the Mill District Area Plan would not be adopted; and (6) the General Plan would not include the substantial number of new policies and programs identified in the proposed plan designed to reduce or avoid significant adverse impacts associated with development. In addition, the following proposed changes to the Land Use Diagram would not occur:

- 1) Pre-designation and pre-zoning of four potential annexation areas as follows:
 - a. Riverwalk: from Industrial and Unknown (County) to Industrial, Public and Riverwalk District (City).
 - b. Strong's Creek: from Agriculture and Timber (County) to Residential Low, Park and Open Space (City).
 - c. Carson Wood Road: from Agriculture (County) to Rural Residential (City).
 - d. Rohnerville Airport: from Public Facility, Agriculture and Industrial (County) to Public Facility, Agriculture, and a larger amount of Industrial (City).

- 2) Addition of four proposed Focus Areas (e.g., Riverwalk, Mill District, Main Street/Downtown, and Fortuna Boulevard), and the replacement of existing land use designations in these areas, as follows:
 - a. Riverwalk: from Industrial and Unknown (County) to Industrial, Public and Riverwalk District (e.g., single-use and mixed-use including retail, service, hotel, conference, restaurant, entertainment, office and public uses).
 - b. Mill District: from Manufacturing, Commercial, Multi-family and Commercial to Mill District (e.g., mixed-use including retail, service, restaurant, entertainment, office and residential uses as part of an integrated center). Also, No Mill District Area Plan.
 - c. Main Street/Downtown: Commercial to CBD (e.g., continuation of existing commercial, office and high-density residential uses).
 - d. Fortuna Boulevard: from Commercial to Commercial Mixed-Use (e.g., retail, service commercial, entertainment, office, residential and public uses).

- 3) Changing land use designations in the northwestern portion of the Planning Area (SOI area) from Agriculture and Timber to Open Space;
- 4) Changing land use designations in the northeast portion of the Planning Area around Newburg Road from Agriculture to Rural Residential and Open Space;
- 5) Changing land use designations in the eastern portion of the Planning Area around Mill Street (SOI area) from Agriculture to Rural Residential;
- 6) Changing the names of existing land use designations (e.g., Residential Estates to Rural Residential, etc.); and
- 7) Revising the development standards for each of the above land use designations, including identifying FAR standards for non-residential designations;

As indicated in Tables 9-2 and 9-3, this alternative would allow for roughly the same amount of residential development and residential population as the proposed General Plan, but would allow for substantially greater commercial and industrial development and associated employee populations. As indicated, this alternative would also designate timberland and substantially more land for agricultural use than the proposed plan, but would designate less parkland and no open space. Finally, because this alternative would not include a comprehensive update of the City's General Plan, the need to update the plan to address changed conditions since preparation of the 1993 General Plan would continue.

Reduced Density Alternative

Under the Reduced Density Alternative, a version of the proposed General Plan and Land Use Diagram (Figure 9-3) would be adopted designed to avoid or reduce one or more of the significant quantitative impacts (e.g., population/housing, traffic, air quality, noise, services, and utilities) of the proposed plan.

Under this alternative: (1) the same goals, policies, and implementing programs would be adopted as under proposed plan, except two programs dealing with new commercial and industrial square footage targets would be adjusted downward to provide approximately 20% less commercial and industrial development; (2) a similar Land Use Diagram (Figure 9-3) would be adopted as under the proposed plan, except that land use designations in certain areas would be changed (e.g., from Residential Very Low Density to Rural Residential) to provide approximately 10% less residential development; (3) the same 2030 time horizon would be adopted as under the proposed plan; and (4) the same four potential Annexation Areas¹ would be pre-designated and pre-zoned, the same five Focus Areas² established, and the same Mill District Area Plan adopted, as under the proposed plan.

¹ The potential future Annexation Areas include: Riverwalk, Strongs Creek, Carson Woods Road, and Rohnerville Airport.

² The Focus Areas include: Fortuna Boulevard, Downtown, Riverwalk District, Rohnerville, and Mill District.

The Land Use Diagram for this alternative would differ from the proposed plan as follows:

- 1) The area 300 feet north of Main Street between Bryant and Quail Hollow Roads would be designated Rural Residential (RR) instead of Residential Very Low (RVL);
- 2) The area generally bordered by the northern City Boundary, 14th Street, Vancil Street and Carson Woods Road would be designated RR instead of RVL;
- 3) The area generally bordered by Newburg Road, Loop Road, Newburg Park and open space to the east would be designated RVL instead of Residential Low (RL);
- 4) The area generally bordered by Loop Road and Hilltop Drive west of Strawberry Lane would be designated RR instead of RVL;
- 5) The area generally bordered by Shamrock Drive, Redwood Way, Springville Avenue and Rohnerville Road would be designated RVL instead of RL;
- 6) The area generally bordered by Jameson Creek, Kenmar Road, Fortuna Boulevard and Pineview Drive would be designated RVL instead of RL;
- 7) The area generally bordered by Gulikson Drive, Loop Road, Emil Court and Rancherio Road would be designated RR instead of RVL;
- 8) The area generally bordered by Kenmar Road, School Street, Ross Hill Road and Cheryl Lane would be designated RVL instead of RL; and
- 9) The area generally bordered by School Street, Crest Drive and Monarch Drive would be designated RL instead of Residential Medium (RM).

This alternative would also include the following amended programs that place targets on the amount of new commercial and industrial development in the Planning Area. New program text is shown in red underline, while deleted program text is shown in red strike out.

- 1) **Program LU-8.** The City shall allow new commercial development, up to the following levels, to equitably distribute sales and employment generating uses in the City and annexation areas:
 - Commercial (COM) 149,197 SQ. FT.
 - Office (OFF) 137,600 SQ. FT.
 - Central Business District (CBD) 28,000 SQ. FT.
 - Mill District (MD) 200,000 SQ. FT.
 - Fortuna Blvd (CMU) 116,800 SQ. FT.
 - Riverwalk District (RWD) 120,000 SQ. FT.
- 2) **Program LU-9.** The City shall allow new industrial development, up to the following levels, to equitably distribute sales and employment generating uses in the City and annexation areas:
 - South of Main Street in City 80,000 SQ. FT.
 - Riverwalk District Annexation 108,716 SQ. FT.

- Rohnerville Airport Annexation 111,116 SQ. FT.

As indicated in Tables 9-2 and 9-3, this alternative would allow for approximately 15% less urban development and associated residential and employee populations than the proposed General Plan. This alternative would also designate less land for high-density urban uses, and more land for low-density urban uses, agricultural and open space use.

Resource Management Alternative

Under the Resource Management Alternative, a version of the proposed General Plan and Land Use Diagram (Figure 9-4) would be adopted designed to avoid or reduce one or more of the significant resource impacts (e.g., biological, agricultural, and cultural) of the proposed plan.

Under this alternative: (1) the same goals, policies, and implementing programs would be adopted as under proposed plan, except that certain proposed programs would be amended or added to provide additional protections for biological, agricultural and cultural resources; (2) a similar Land Use Diagram (Figure 9-3) would be adopted as under the proposed plan, except that areas of significant agricultural and biological resources would be designated as Agriculture (AG) and Open Space (OS), respectively; (3) the same 2030 time horizon would be adopted as under the proposed plan; and (4) the same four potential future Annexation Areas would be pre-designated and pre-zoned, the same four Focus Areas established, and the same Mill District Area Plan adopted, as under the proposed plan.

The Land Use Diagram for this alternative would differ from the proposed plan as follows:

Differences to Conserve Prime Farmland:

- 1) The area bordered by Newburg Road, Newburg Park, Loop Road, and open space to the east would be designated Agriculture (AG) instead of Residential Low (RL);
- 2) The area bordered by Loop Road, Dick Smith Road, the eastern City Boundary, and Jameson Creek would be designated AG instead Residential Rural (RR);
- 3) The area generally bordered by Strongs Creek, Redwood Way, and Rohnerville Road would be designated AG instead of RL;
- 4) The area generally east of Ross Hill Road, between Kenmar Road and School Street in the vicinity of Mill Creek would be designated AG instead of RL.
- 5) The area generally bordered by Knob Hill Road, P Street, Home Avenue and Quail Hollow road would be designated AG instead of RR; and
- 6) The area immediately northwest and west of Rohnerville Airport would be designated AG instead of Public (PUB);

Differences to Conserve Wetlands:

- 1) The area immediately west of HWY 101 and north of Kenmar Road would be designated Open Space (OS) instead of Commercial (COM) to preserve existing wetland.

Differences to Conserve Special-Status Species and Their Habitat:

- 1) The area immediately west of HWY 101 and immediately northwest of the City boundary, and west of HWY 101 and inside the City's northwest boundary, would be designated OS to preserve Whitney's Farewell-to-Spring;
- 2) The area immediately west of the City's Wastewater Treatment Plant at Strongs Creek would be designated OS instead of IND to preserve Coho Salmon habitat;
- 3) The ridge between Rohnerville Airport and SR 36 would be designated OS instead of AG to preserve Pacific Gilia; and
- 4) The area roughly extending from the southwest corner of Redwood Empire Golf Course southwest to Willow Creek Gulch would be designated OS instead of RR and AG to preserve maple-leaved checkerbloom, Siskiyou checkerbloom, and both Coho salmon and red tree vole habitat.

Differences to Conserve Historic Resources:

- 1) The downtown and Rohnerville areas would each be designated "Potential Historic District" and subject to review by the City to determine whether they are eligible for listing as historic districts under federal and state listing criteria. These areas each contain a compact grouping of 1800's-era buildings.

As indicated in Tables 9-2 and 9-3, this alternative would allow for approximately 8% less urban development than the proposed General Plan while designating more land for agricultural and open space use, especially in areas identified in Figures 5-2, 5-3 and 5-4 as containing prime farmland, wetlands and sensitive species. This alternative would also include the following amended and new programs formulated to provide additional protections for agricultural, biological and historical resources. New program text is shown in red underline, while deleted program text is shown in red strike out.

- 2) **Program LU-8.** The City shall allow new commercial development, up to the following levels, to equitably distribute sales and employment generating uses in the City and annexation areas:
 - Commercial (COM) 149,197 SQ. FT.
 - Office (OFF) 172,000 SQ. FT.
 - Central Business District (CBD) 35,000 SQ. FT.
 - Mill District (MD) 250,000 SQ. FT.
 - Fortuna Blvd (CMU) 146,000 SQ. FT.
 - Riverwalk District (RWD) 150,000 SQ. FT.
- 3) **Program LU-9.** The City shall allow new industrial development, up to the following levels, to equitably distribute sales and employment generating uses in the City and annexation areas:

- South of Main Street in City 100,000 SQ. FT.
 - Riverwalk District Annexation 135,895 SQ. FT.
 - Rohnerville Airport Annexation 138,895 SQ. FT.
- 4) **Program NCR-14.** The City shall prepare a streamside management/wetland protection ordinance, following collaboration with resource agencies including but not limited to CDFG, establishing setback recommendations for perennial and intermittent streams, wetlands, and riparian corridors. At a minimum, the City shall implement the following watercourse, wetland and riparian area protection measures:

Watercourses and Riparian Areas:

- (a) The City shall maintain Streamside Management Areas (SMAs) of at least 100 feet around perennial streams and 50 feet around ephemeral streams, unless a biological report indicates that such SMA setbacks are not required;

Wetlands:

- (a) The City shall maintain Wetland Buffer Areas of at least 100 feet around jurisdictional wetlands, unless a biological report indicates that such Wetland Buffer Areas are not required;
- 5) **Program NCR-41.** For the areas identified in Figure 9-4 as “Potential Historic Districts”, the City shall conduct National Register of Historic Places and California Register of Historic Resources eligibility evaluations to determine if these areas are eligible for listing as “historic districts” in either of these registers. If either of these areas is determined eligible for listing, the City shall seek such listing, and if listed, shall write regulations into the Fortuna City Code protecting the historic integrity of these districts.

9.3 Alternatives Considered and Rejected

As discussed previously, CEQA requires that an EIR identify any alternatives that were initially considered by the lead agency, but were then rejected as infeasible during the scoping (CEQA Guidelines §15126.6(c)).

As part of the 2005 -2007 Fortuna General Plan Update formulation process, the City prepared several General Plan support documents, including an Alternatives Report, which served as both the building blocks for the Policy Document and provided analysis of the impacts associated with implementing the proposed plan. The Alternatives Report provided a detailed description of three alternative plans developed for the Fortuna General Plan. The report evaluated the economic, environmental, and social implications of each alternative to assist decision-makers and the community in weighing the benefits and drawbacks of each alternative, and was used by the City and consultants to compare the various draft versions of the proposed General Plan and eventually select the preferred version which become the proposed General Plan.

With the exception of the No Project (Existing 1993 General Plan) Alternative, the alternatives identified in the Alternatives Report were not evaluated as CEQA alternatives in this PEIR. This is because those alternatives: (1) were not formulated to avoid one or more of the significant environmental effects of the proposed General Plan as required by CEQA; (2) would have included substantially more commercial and/or industrial development, and substantially less policies and programs aimed at reducing environmental effects, than the proposed plan; and (3) would have resulted in greater environmental impacts than the proposed General Plan. However, for purposes of disclosure, each of these alternatives (with the exception of the No Project Alternative) is described below.

Alternative A - Community Oriented City. This alternative, identified by community workshop participants as having the most benefit, also received the highest amount of priority votes. This alternative would provide a balance of land uses, including a mix of residential, commercial, industrial, civic, and recreation uses, with most of the new development concentrated in the Riverwalk area and Mill District. This alternative would provide a mixed use center, neighborhood and community serving retail stores, a pedestrian friendly environment, and a variety of housing types.

Alternative B - South County Regional Center. This alternative would make Fortuna a regional destination that relies heavily on retail commercial development. Mill District development would focus on regional retail shopping opportunities, whereas Riverwalk development would focus on visitor serving retail and commercial recreational uses. This alternative would provide for centrally located parks and civic facilities and better auto and pedestrian access across Highway 101.

Alternative C - Southern Industrial Expansion. This alternative focused on the Rohnerville Airport as an economic asset and on expanding emerging industrial sectors. This alternative relied heavily on the City and Redevelopment Agency stimulating the City's declining industrial sector. This alternative would expand retail and commercial use around the Alton interchange and maintain the light industrial district in the Riverwalk area.

9.4 Evaluation of Alternatives

The following analysis identifies potential environmental impacts of alternative and compares these impacts to those of the proposed General Plan. The analysis indicates whether each alternative would result in a "greater", "lesser" or "similar" impact to the proposed plan for each of the environmental issues. In Section 9.5, this information is used to rank the alternatives and proposed plan from least impact to greatest impact. The plan that results in the least impacts while achieving most of the plan's objectives is identified as the "environmentally superior alternative".

No Project (Existing 1993 General Plan) Alternative

Land Use and Land Use Plans. Under the No Project Alternative, the broad distribution of land uses would be similar to that under the proposed plan, except that more outlying areas would remain in agriculture and timber uses. Neither plan would physically divide an established community; no highways, large-scale industrial plants, levees or other development typically associated with creating barriers, is proposed. Also, neither plan would conflict with a habitat Conservation Plan (HCP) or Natural Community Conservation Plan (NCCP); no such plans currently apply to the Planning Area. Finally, while both plans could generate potential land use conflicts, both include policies and programs to reduce such conflicts (although the policies and programs under the proposed plan are much stronger in this regard). However, while the No Project Alternative would not conflict with applicable plans adopted to avoid or mitigate environmental effects, the proposed plan would conflict with County Agriculture and Timber General Plan land use designations and zoning by designating portions of the potential Annexation areas for urban use (for example, the area immediately northeast of Rohnerville Airport is currently designated as Agriculture by the County, but would be designated as Industrial under the proposed plan). This is an instance where this alternative would avoid a significant unavoidable adverse impact of the proposed plan. Therefore, land use impacts would be *less* under this alternative.

Housing and Population. The No Project Alternative and the proposed plan would not result in population or housing displacement as neither proposes specific development projects, and because existing Fortuna City Code §17.54.185 specifically allows the continued occupancy and operation of nonconforming uses. Also, both plans would be consistent with adopted regional fair-share housing demand forecasts since both provide adequate residentially-designated land to accommodate Fortuna's fair share allotment of regional housing demand as set forth in the HCAOG's Regional Housing Needs Assessment (RHNA). As indicated in Table 9.3-3, the Planning Area currently contains 4,918 residential units, 11,489 residents, and 3,342 employees. Buildout under the No Project alternative would increase this to 10,695 units, 25,061 residents and 49,835 employees. In contrast, the proposed plan would increase this to 10,643 units, 24,904 residents and 12,967 employees. Based on these estimates, both plans would indirectly result in significant unavoidable population growth inducement. The extent of this impact would be greater under this alternative because of the substantially greater number of new employees. Therefore, housing and population impacts would be *greater* under this alternative.

Economic Impacts. As indicated in Table 9-3, the Planning Area currently contains 285,000 sq. ft. of commercial and 191,000 sq. ft. of industrial space. At buildout under this alternative, this would increase to 3,732,916 sq. ft. of commercial and 3,378,513 sq. ft. of industrial space and buildout. Under the proposed plan, it would increase to 1,258,460 sq. ft. of commercial/mixed and 591,900 sq. ft. of industrial space. The proposed plan would not generate blight³ because it

³ "Blight" is defined as a combination of physical and economic conditions that result in at least several of the following: unsafe buildings, a lack of proper maintenance, high commercial/industrial vacancy rates, low lease rates, presence of vacant/underutilized parcels, and an increase in crime. Blight most often occurs when development of commercial and industrial uses somewhere else takes market share away from existing businesses, thus causing closer or underutilization of those existing businesses.

accounts for only 26.7% and 30% of the County-wide 2030 commercial and industrial space demand, respectively, and because it includes policies and programs to ensure that new commercial and industrial development does not exceed demand. The No Project Alternative would generate blight because it would account for over 100% of County-wide 2030 commercial and industrial space demand and would not include the proposed policies and programs limiting space based on demand. Therefore, economic impacts would be *greater* under this alternative.

Roadway and Highway System (Traffic). To analyze traffic impacts associated with the General Plan alternatives it is necessary to compare each alternatives future traffic projections for the remaining anticipated development within the City of Fortuna and those of the proposed General Plan. Traffic data relative to projected future development levels are shown in this Chapter, Chapter 4 and Chapter 3 (Land Use Tables 3.1-5 and -6), which forms the basis of this analysis.

Traffic engineers and transportation planners use trip generation rates as an established tool to estimate traffic activity of a future project. Rate tables are used to evaluate the potential impacts of a single project or, when incorporated into a citywide analysis such as in a general plan, to evaluate a range of transportation facility improvements. To estimate the number of trips anticipated by future development of each alternative, *Trip Generation* (7th Edition, 2003), by the Institute of Transportation Engineers (ITE) is used. This is a standard reference for jurisdictions throughout the country, and is based on actual trip-generation studies performed at numerous locations within a variety of conditions (e.g. population and existing road conditions). For this analysis, several ITE rates were applied to the different land use categories, including Single Family Detached Dwelling (LU #210), Apartment (LU #220), Specialty Retail (LU #814), Shopping Center (LU #820), General Office Building (LU #710) and General Light Industrial (LU #110). Some of the land uses were not used for each alternative. The land use assumptions, trip generation rates, and resulting trip ends are summarized below for each alternative.

The existing 1993 General Plan and associated Land Use Diagram (Figure 9-2) would remain in effect under a No Project Alternative. Trips in and around the City of Fortuna would be completed on a circulation system identified by its hierarchal structure. Regional access to the City would be provided by US 101. The following roadways are providing primary access throughout the community:

- 12th Street
- Fortuna Boulevard
- Kenmar Road
- Main Street
- Newburg Road
- Redwood Way
- Riverwalk Drive
- Rohnerville Road
- Ross Hill Road
- School Street

With the exception of Fortuna Boulevard and Ross Hill Road, median-divided four-lane roadways, all of the roads in Fortuna have one travel lane in each direction. Left-turn pockets or two-way left-turn lanes exist on sections of some of these roadways, primarily at the critical intersections.

New development permitted under both the No Project Alternative and the proposed plan would increase trip ends. The No Project Alternative land use assumptions, trip generation rates, and resulting trip ends are summarized in Table 9-4.

**Table 9-4
No Project Alternative Trip Generation Summary**

Land Use	Units	Daily		A.M. Peak Hour				P.M. Peak Hour			
		Rate	Trips	Rate	Trips	In	Out	Rate	Trips	In	Out
Single Family Dwelling	7,237 sfd	9.57	69,258	0.75	5,428	1,357	4,071	1.01	7,309	1,827	5,482
Apartment	909 du	6.72	22,888	0.51	1,737	434	1,303	0.62	2,112	528	1,584
Retail	903.641 ksf	44.32	58,235	1.03	1,353	826	528	2.71	3,561	2,172	1,389
Shopping Center	598 ksf	36.32	31,515	0.76	659	402	257	3.41	2,959	1,805	1,154
Office Building	172.134 ksf	11.77	2,918	1.68	416	254	162	1.49	369	225	144
Industrial	644.971 ksf	6.97	19,431	0.92	2,565	2,308	256	0.98	2,732	2,459	273

Source: SHN, 2010.

Notes: sfd = single family dwelling, du = dwelling unit, ksf = 1000 square feet

Based on the applied assumptions, projected No Project future development within the Planning Area would generate an average of 204,245 trip ends per day; 12,159 during the morning peak hour and 19,042 during the evening peak hour.

To compare the transportation effects of the alternative, the peak hour trip generation rates between this alternative and the proposed plan were compared in Table 9-5. As the table indicates, the number of trips projected during the AM and PM peak hour reduced 26% and increase 18%, respectively, for the No Project Alternative versus the Proposed Plan. The proposed plan contains substantial traffic policies and programs designed to reduce traffic impacts that are not proposed in the proposed plan⁴. Because of this, and because trip generation would be substantial higher under the No Project Alternative, traffic impacts would be **greater** under this alternative.

⁴ For example: the City shall design and phase roadway improvements so that a level of service (LOS) C or better is maintained on all City streets, except that LOS D or better shall be maintained on Main Street; Development Impacts; the City shall consider the effects of new development on local streets in residential areas and require new development to mitigate significant traffic impacts on residential neighborhoods; Newburg Road and 12th Street Realignment; the City shall move the intersection of Newburg Road and 12th Street to align with the northbound US 101 on-ramp and extend the northbound off-ramp from US 101 onto 12th Street; Dinsmore Drive Intersection Redesign; the City shall redesign, in conjunction with annexation of land between Riverwalk Drive and the Eel River, the five-point intersection of Dinsmore Drive, the southbound off-ramp from US 101, Riverwalk Drive, and 12th Street; Eel River and Kenmar Intersection Improvements; the City shall request funding and design assistance from the California Department of Transportation (Caltrans) to alleviate traffic congestion at the intersection of Eel River Drive and Kenmar Drive resulting from the State's closure of Drake Hill Road in conjunction with the Highway 36 and 101 interchange; the City shall require proposed new development projects with greater than 30 residential units or 10,000 square feet of commercial, office or industrial uses to have a traffic study to: (1) quantify existing traffic volumes on area streets in the vicinity; (2) quantify project trip generation; (3) evaluate both traffic LOS/delay and pedestrian/traffic safety impacts; and (4) identify mitigation measures required to avoid significant traffic impacts; the City shall solicit comments from Caltrans for projects that may alter or have a measurable traffic impact on HWY 101 and its on/off ramps; the City shall require that proposed new development provide circulation improvements that may include new roadways, islands, traffic controls, dedicated turn lanes, sidewalks, pedestrian and bicycle lanes or paths, transit stops, and signage; and the City shall require that new development provide its fair share of City-wide roadway and traffic improvements.

**Table 9-5
No Project Alternative Peak Hour Trip Generation Comparison Summary**

Land Use	Proposed Plan		No Project (Existing G.P.)			
	AM Peak Trips	PM Peak Trips	AM Peak Trips	PM Peak Trips	% Diff AM	% Diff PM
Residential Rural	1254	1689	5,428	7,309	-333%	-333%
Residential Very Low	968	1304	NA	NA	NA	NA
Residential Low	3,307	4453	NA	NA	NA	NA
Residential Medium	720	875	NA	NA	NA	NA
Residential High	612	744	1,737	2,112	-184%	-184%
Commercial	246	647	1,353	3,561	-450%	-450%
Riverwalk District	369	475	NA	NA	NA	NA
Office	930	301	416	369	55%	-23%
Central Business District	556	180	659	2,959	-19%	-1544%
Mill District	309	813	NA	NA	NA	NA
Corridor Mixed Use	2,934	4077	NA	NA	NA	NA
Industrial	4,126	639	2,565	2,732	38%	-328%
Totals	16,331	16,197	12,159	19,042	26%	-18%

Source: SHN, 2010.
Notes: NA = not applicable, % Difference is between alternative and proposed plan, negative % difference indicates increased volume

Bicycle and Pedestrian Facilities. The No Project Alternative would increase the need for bicycle and pedestrian facilities due to the projected increase in residents. This alternative does not provide pedestrian access across Highway 101 or a network of pedestrian paths along the creek corridors. Under this alternative, pedestrian facilities would be guided by policies 5141.21 through 5141.23 and bikeway facilities would be guided by policies 5141.24 through 5141.31. These existing policies do not contain language that calls for the development of new pedestrian connections, sidewalks along new streets as well as sidewalk infill projects, pedestrian crossing enhancements, and amenities for pedestrians as a component of new development to serve both existing and future needs in Fortuna. This alternative would also have more impacts on bicycle and pedestrian facilities than the proposed plan due to the greater amount of development and thus greater demand for these facilities. Therefore, bicycle and pedestrian facilities impacts would be *greater* under this alternative.

Public Transportation. The No Project Alternative would result in substantially more development than the proposed plan and thus substantially higher public transit demand, while not including the substantial number of policies and programs proposed in the proposed plan to ensure that adequate public transit is provided. Therefore, public transportation impacts would be *greater* under this alternative.

Hydrology and Water Resources. In 2007, City wells extracted 1,402 acre-feet of water from the Eel River Valley Groundwater Basin. The No Project Alternative and the proposed plan would increase groundwater extraction to 6,087 and 3,078 acre-feet, respectively. Neither plan would substantially deplete groundwater supplies leading to a net deficit in aquifer volume or the

lowering of the Basin-wide groundwater level. This is because the Basin currently benefits from a substantial water surplus (e.g., recharge exceeds withdrawals). Development under both plans would increase stormwater runoff and treated wastewater. These both discharge to surface waters including the Eel River which is USEPA 303(d) listed as “impaired” for temperature and sediment. Such discharges would be subject to existing federal, State, County and local regulations and requirements designed to protect surface water quality (e.g., federal Clean Water Act, Basin Plan, Eel River TMDLs, Fortuna SWMP, Fortuna NPDES Phase II Municipal Stormwater Discharge Permit, Fortuna NPDES Permit for WWTP Discharges, etc.). However, while the proposed plan includes policies and programs designed to minimize substantial additional sources of polluted runoff and avoid violation of water quality standards and waste discharge requirements, the No Project Alternative includes no such requirements.⁵ Furthermore, this alternative would include several million more square feet of commercial and industrial development, and would generate substantially more urban runoff and wastewater than the proposed plan. Therefore, hydrology and water resources impacts would be **greater** under this alternative.

Biological Resources. The Planning Area contains: four recorded special-status plant species (Whitney’s farewell-to-Spring, Siskiyou checkerbloom, maple-leaved checkerbloom, and Pacific gilia); three recorded special-status animal species (tricolored blackbird, red tree vole and coastal cutthroat trout); potentially 10 other special-status plant species and 11 other special-status animal species (including several fish species); at least 30 jurisdictional wetlands; large areas of potential special-status species habitat (creeks, forests, etc.); and both waters of the U.S. and riparian habitat. Development permitted under both the No Project Alternative and the proposed plan would have the potential to impact these biological resources. The proposed plan contains substantial policies that avoid significant impacts to biological resources on a plan basis (although not on a cumulative basis where the cumulative loss of sensitive-species habitat would be significant unavoidable).⁶ However, this alternative includes no such policies and programs, and thus could result in both plan- and cumulative-level significant unavoidable adverse impacts (e.g., substantial adverse impacts to special-status species; substantial interference with the movement of native or migratory wildlife or fish species; and substantial adverse effect on federally protected watercourses, wetlands, riparian habitat, and other sensitive natural communities). Therefore, biological resources impacts would be **greater** under this alternative.

⁵ For example, the proposed plan includes hydrology and water resources policies and programs requiring that: new development include on-site storm drainage treatment facilities such as grassy swales, infiltration/sedimentation basins, and oil/grit separators and implement BMPs to reduce pollutants in storm water runoff; new development connect to the City’s storm water drainage and sewer systems; the City adopt a Post Construction Storm Water Runoff Control Ordinance; and the City designate buffers around area creeks and rivers.

⁶ For example, the proposed plan includes biological resources policies and programs requiring that: CNNDDB records searches and biological studies be conducted for development proposed within wetlands, riparian area, forested areas, or within 50 feet within any blue line stream, and that any mitigation recommended in the biological studies be implemented; wetland delineations be conducted for development proposed in potential wetland areas, and that any mitigation recommended in the delineations be implemented; the City adopt a Streamside Management and Wetland Protection Ordinance which requires the establishment of 50 foot buffers around perennial streams and wetlands and 25 foot buffers around ephemeral streams; and that the City require the implementation of BMPs and Low Impact Development (LID techniques such as bioswales and permeable surfaces in new development, require that projects prepare and implement a SWPPP, and that the City adopt a SWMP to control the discharge of sediment and pollutants to surface waters from development during construction and operation.

Agricultural and Timber Resources. The Planning Area currently contains 923 acres of prime farmland⁷, 861 acres of timberland, 2,842 acres designated as Agriculture (AE, AG, AR, and AS), and 396 acres under Williamson Act contracts. Under the No Project Alternative, 132 acres of the prime farmland and no timberland would be converted to urban use, and there would be no conflicts with existing agricultural zoning or Williamson Act contracts. Under the proposed plan, 289 acres of the prime farmland and 290 acres of timberland would be converted to urban use, over 1,000 acres currently designated Agriculture would be designated for urban use, and there would be no conflicts with Williamson Act contracts. Thus, while both plans would convert prime farmland to urban uses (a significant impact), and while neither plan would conflict with Williamson Act contracts (no impact), this alternative would avoid both the conversion of timberland and the agricultural zoning conflicts of the proposed plan (both significant impacts). Therefore, agricultural and timber resources impacts would be *less* under this alternative.

Cultural Resources. The Planning Area potentially contains significant archaeological resources, Native American remains and paleontological resources. The Planning Area also contains one building listed in the National Register of Historic Places (Gunshaw-Mudgett House), 72 other buildings that are potentially eligible for listing, and at least one potential historic district (the Rohnerville area). Both the No Project Alternative and the proposed plan would permit development and construction activities within the Planning Area that could disturb these cultural resources. However, while the proposed plan contains a substantial number of policies and programs that avoid significant impacts to cultural resources, this alternative contains no such policies and programs.⁸ In addition, because this alternative would permit more development, it would have a greater potential impact to cultural resources. Therefore, cultural resource impacts would be *greater* under this alternative.

Mineral Resources. The Planning Area currently contains two existing aggregate extraction sites, both located in the western-most portion of the Planning Area along the Eel River and both delineated in the Humboldt County General Plan as mineral resource sites. The Land Use Diagram of the No Project Alternative under-designates the northern site as Unclassified while the southern site is designated as Agriculture. In contrast, the Land Use Diagram of the proposed plan designates the northerly and southerly sites as Industrial and Agriculture, respectively.

⁷ “Prime Farmland” is defined as undeveloped land underlain by soils mapped by Humboldt County as having a Storie Index rating of from 80 to 100 and thus having soil conditions (e.g., soil type, depth, texture, slope, nutrient and pH levels, erosion potential, etc.) which are “well suited for general intensive agriculture.” See Section 5.3 of this PEIR for further discussion.

⁸ For example, the proposed plan includes cultural resources policies and programs requiring that: NCIC records searches and Native American consultations be conducted for any proposed development of 5 acres or more; if warranted by the records search and consultations, archaeological studies be prepared that evaluate potential impacts and identify mitigation required to reduce any significant impacts; Native American representatives be given the opportunity to observe subsurface construction activities; construction activities be suspended if archaeological resources or humane remains are unearthed pending evaluation; prior to alteration or demolition, buildings of 45 years of age or older have National and State Register eligibility evaluations conducted to determine if they are eligible for listing, and if yes, that mitigations consistent with the Secretary of Interior’s Standards for the Treatment of Historic Properties be implemented; and if paleontological resources are encountered during construction, a qualified paleontologist evaluate them for significance and identify any required mitigation.

None of these designations specifically permits aggregate extraction operations. In addition, there is the potential that existing aggregate extraction operations at these sites could be classified as “nuisances” in the future in response to petitions from adjacent landowners, potentially curtailing existing gravel extraction operations. However, Mitigation Measure NCR-4.9 requires the City to both allow existing mineral extraction operations to continue and also prohibits their classification as “nuisances”. Therefore, neither plan would result in the loss of a known mineral resource valuable to the region nor the loss of a locally-important mineral extraction site delineated in a local General Plan. Therefore, mineral resources impacts would be *similar* between the two plans.

Energy Conservation. Implementation of both the No Project Alternative and the proposed plan would substantially increase energy consumption in the Planning Area. While both plans would increase the number of residential units and associated residential populations by similar amounts, the No Project Alternative would result in substantially more commercial/industrial development and associated employees than would the proposed plan resulting in substantially more energy consumption. Also, while the proposed plan contains policies and programs aimed at maximizing energy conservation and avoiding the inefficient, wasteful or unnecessary consumption of energy, there are few such policies and programs in the existing General Plan.⁹ Therefore, energy conservation impacts would be *greater* under this alternative.

Parks, Recreation and Open Space. The Planning Area currently contains 75 acres of parkland (Rohner Park, Newburg Park, Overlook Park, several small pocket parks, and school playing fields), several recreational facilities (River Lodge, Monday Park, and Redwood Empire Golf Course), and approximately 563 acres of mostly privately-owned open space (timberland, meadows, bluffs, wetlands, riparian areas, and open fields, but not agriculture). Under the No Project Alternative, 75 acres would be designated as Parkland, 120 acres as Timberland, and 0 acres as Open Space., In contrast, under the proposed plan 227.7 acres would be designated as Parks, 0 acres as Timberland, and 778.4 acres as Open Space. Therefore, while both plans would result in roughly the same number of residential units and associated resident population (e.g., less than 1% difference); this alternative would designate substantially less land for parks and timberland/open space than the proposed plan. This alternative does not include the substantial number of policies and programs contained in the proposed plan designed to allow the City to meet the demand for new parks, recreational facilities, and open space and providing adequate

⁹ For example, the proposed plan includes energy conservation policies and programs requiring that: the City promote a health land use balance, encourage infill development, and discourage leap-frog development; the City work with HCAOG, HTA and RTS to expand transit service to new development; the City link pedestrian and bike routes with public transportation; large development projects provide sidewalks, work with RTS to extend transit service, initiate voluntary ridesharing programs for workers, provide preferential parking for ridesharing vehicles, and provide workers with transit incentives; the City adopt energy efficiency standards for existing buildings upon remodel; large projects increase energy efficiency in new buildings 20% beyond Title 24 requirements.

maintenance of existing park and recreational facilities.¹⁰ Therefore, parks, recreation and open space impacts would be **greater** under this alternative.

Visual Resources. The Planning Area contains scenic vistas in the form of northerly and easterly views of forested bluffs and meadows above the City of Fortuna as well as westerly and southerly views of the Eel River, Van Duzen River and agricultural fields. The Planning Area also contains scenic resources including forested hillsides, creeks, the Eel River, riparian corridors, agrarian features, and historic structures and neighborhoods. It has the visual character a small town surrounded by large amounts of forested and agricultural areas and open space. Both the No Project Alternative and the proposed plan would permit substantial new development on existing hillsides, in open space and agricultural areas, and along existing rivers and creeks. This development could adversely affect scenic vistas, damage scenic resources, degrade the existing visual character of the City and its surroundings, and create substantial light and glare. However, while the proposed plan contains policies and programs whose implementation help avoid significant visual resources impacts, except for light and glare where mitigation is identified in Section 6.2 of this PEIR to avoid significant impacts related to potential outdoor stadium lighting, the No Project alternative contains minimal such policies and programs.¹¹ In addition, this alternative would permit substantially more commercial and industrial development than the proposed plan (e.g., 7,111,429 sq. ft. versus 1,850,360 sq. ft. under the proposed plan). Therefore, visual resources impacts would be **greater** under this alternative.

Water Supply and Distribution. The City currently withdraws approximately 1,402 acre-feet of water annually from the Eel River Valley Groundwater Basin, and distributes this water to users via the City's municipal water system. Under the No Project Alternative and the proposed plan, additional development would increase water demand to 6,087 and 3,078 acre-feet, respectively. While the proposed plan contains policies and programs that limit new development to the availability of adequate water infrastructure and ensure that water infrastructure improvements are developed in a coordinated manner to minimize potential impacts, this alternative contains no

¹⁰ For example, the proposed plan includes parks, recreation and open space policies and programs requiring that: the City develop a park and open space system connected by natural greenways and bike paths; the City require the dedication and development of riparian corridors for recreational activities and natural resource protection; new planned developments dedicate common open space; the City maintain and update park equipment and facilities as needed; the City adopt a City-wide Parks and Recreation Master Plan to assess service areas, level of service, maintenance and upgrade schedules, ADA compliance, and future facility needs; the City maintain a park to population ratio of 5 acres of parks per 1,000 residents, and shall require new development to dedicate parkland at this standard; and the City conduct a feasibility study of the Rohner, Strongs, and Jamison Creek riparian corridors to upgrade flow capacity for multiuse open space, recreation, and flood control.

¹¹ For example, the proposed plan includes visual resources policies and programs requiring that: the City maintain the historic grain and scale of development and encourage adaptive reuse of historic structures, the City require vegetated buffers along corridors, visual buffering of loading docks, use of earth tones in new buildings, preservation of visual access to open space, and maintenance of natural hilltop features; the City plant trees throughout the City; the City adopt form-based codes in certain areas to preserve the historic nature and integrity of distinct neighborhoods; the City adopt a Design Guidelines Manual with landscape requirements, design standards, lighting standards, and both view corridor and setback requirements; new development design reflect existing natural features and visibility; lighting and landscaping plans be compatible with adjacent uses; new buildings incorporate low-glare or non-glare surfaces; and outdoor lighting be shielded and directed downward.

such policies and programs.¹² Given this, and given the substantially higher water demand under this alternative, water supply and distribution impacts would be *greater* under this alternative.

Wastewater Collection, Treatment, and Disposal. WWTP treated effluent discharges occur at two locations. The City's primary discharge point is percolation ponds located near the Eel River. Treated effluent is discharged to groundwater through the percolation ponds during summer months when low river levels predominate. Treated effluent is discharged to Strong's Creek both during the winter months when high river levels predominate and also during maintenance of the percolation ponds in early spring. These discharges occur under the City's NPDES permit for WWTP discharges (which is separate from the City's NPDES stormwater discharge permit). The NPDES WWTP discharge permit sets quantity, pollutant and temperature limitations for the discharge (City of Fortuna 2007).

The City's WWTP treats 0.95 MGD of wastewater during dry-weather conditions and has a dry-weather capacity of 1.5 MGD. Therefore, the treatment facility is currently operating at approximately 63 percent of its dry-weather flow capacity. Under the No Project Alternative, dry-weather flows would increase to 4.3 MGD, while under the proposed plan they would increase to 2.2 MGD.

The increased wastewater generated under both plans will be collected, treated and disposed of by the City. Because any increased wastewater discharges are required to occur consistent with the City's existing NPDES discharge permit, or an amended version thereof, and because this permit has been and will continue to be formulated by NCRWQCB consistent with the discharge requirements of the Basin Plan, Eel River TMDLs, and the City's WDRs, neither the No Project alternative nor the proposed plan would result in the violation of wastewater treatment or discharge requirements. Wastewater generation under both plans will eventually exceed the existing capacity of some City collection lines and the WWTP, thus requiring upgrades to both. While the proposed plan contains policies and programs that limit new development to the availability of adequate wastewater infrastructure, and which ensure that wastewater infrastructure improvements are developed in a coordinated manner to minimize potential

¹² For example, the proposed plan includes water and other utility policies requiring that: the City monitor water, wastewater and storm drain system capacity on an annual basis and make capacity improvements as needed; the City ensure that, through the development review process, adequate utility infrastructure is available to serve proposed new development and that no development is approved without the availability of adequate utility infrastructure to serve it; the City ensure that infrastructure improvements are coordinated in a logical manner to reduce design, construction and maintenance costs; the City monitor water use on an annual basis and acquire additional water rights prior to permitting new development that would exceed existing water rights; the City not approve new development in the future potential annexation areas until utility infrastructure is available in these areas; the City promote efficient water use; the City prepare and annually review public facility master plans for water, wastewater and drainage, and update these plans every five years; the City program additional water, wastewater and storm drain capacity in pipes, pumps, stations, treatment facilities, etc., when utilization of these facilities reaches 90% of capacity; developers prepare of SB 610 Water Supply Assessments for projects meeting the State Assessment threshold (e.g., ≥500 EDUs); the City establish and implement a fair-share fee program for new development to help pay for system-wide water, wastewater and storm drainage improvements; and the City prepare an UWMP that outlines water supply and demand conditions and identifies required water conservation practices.

impacts, the No Project alternative contains no such policies and programs.¹³ Given this, and given the substantially higher wastewater generation under this alternative, wastewater collection, treatment and disposal impacts would be *greater* under this alternative.

Storm Water Drainage. Portions of the Planning Area are currently served by Fortuna's storm water drainage system. The City collects storm water runoff and discharges it to area creeks and the Eel River under the City's NPDES storm water discharge permit and through several construction- and operations-related general permits. New development permitted under both the No Project Alternative and the proposed plan would: (1) alter the existing drainage pattern in certain areas in a manner which would result in erosion or siltation; (2) increase the rate and amount of surface runoff in a manner which could result in flooding; (3) create runoff which could exceed the capacity of existing storm water drainage systems; and (4) necessitate the construction of new storm water drainage facilities, the construction of which could cause environmental effects. The proposed plan contains a substantial number of policies and programs to avoid significant drainage impacts. The No Project alternative contains few such policies and programs.¹⁴ In addition, this alternative would permit an additional 5 million sq. ft. commercial/industrial development than the proposed plan and this would result in substantially more impervious surface area and associated storm water runoff. Therefore, storm water drainage impacts would be *greater* under this alternative.

Solid Waste. The City of Fortuna contracts with Eel River Disposal and Resource Recovery Inc. (ERD) for municipal, recyclable and green waste collection. It also subsidizes the cost of compost bins for City residents. Municipal waste collected by ERD is disposed of in the

¹³ For example, the proposed plan includes the wastewater and other utility policies listed in the footnote under Water Supply and Distribution in addition to those requiring that: all new development construct sewer infrastructure according to the City's municipal standards, that all new development connect to the City's sewer collection system, except in rare very low density areas where private septic systems can be used as long as engineering studies clearly demonstrate both that connection to the City's system is financially infeasible and that the septic system will not significantly impact groundwater quality and comply with Humboldt County Department of Environmental Health and NCRWQCB requirements; and that proposed new industrial and manufacturing projects of greater than 5 acres in size both file a Notice of Intent to comply with the California General Permit for Discharges of Stormwater Associated with Industrial Activities with the SWRCB and have a technical study conducted that demonstrates that associated industrial/manufacturing wastewater will not interfere with the City's ability to comply with its wastewater WDRs and wastewater discharge permits.

¹⁴ For example, the proposed plan includes the utility policies and programs listed in the footnote under Water Supply and Distribution in addition to the storm drainage policies and programs requiring that: adequate drainage facilities be provided in new development to convey 25-year storm event runoff without on-site or downstream flooding; new development of greater than one acre in size connect to the City's municipal storm drain system; grading activities be prohibited during the rainy season unless a Winterization Plan outlining sedimentation and erosion control BMPs is implemented; drainage studies be conducted for major development projects with the potential to create erosion and/or flooding, and that new development detain any increases in runoff beyond existing estimated 25-year flows; proposed subdivisions, PUDs and other large development projects route their storm water runoff through on-site grassy swales, infiltration/sedimentation basins, and oil/grit separators prior to discharging to the City's municipal storm drain system; the City encourage new development to incorporate Low Impact Development (LID) techniques such as bioswales and permeable pavement to minimize runoff; new projects with greater than one acre of ground disturbance implement a SWPPP to control storm water runoff from the construction site; and that the City adopt a Storm Water and Flood Protection Ordinance and Post Construction Water Runoff Control Ordinance.

Anderson Landfill (Shasta County) which has a permitted capacity of 16.0 million cubic yards and is currently at 50% capacity. Recyclables are sorted at ERD's transfer station in Fortuna and sold; green waste is burned in Scotia and by others to produce electricity. The City generated 8,281 tons of solid waste in 2008 and is striving to achieve the 50% waste diversion required under AB 939 and a 70% diversion required by AB 939 by 2015. Under the No Project Alternative and the proposed plan, annual solid waste would increase to 35,954 and 18,180 tons, respectively. While ERD has confirmed that the Anderson Landfill has the capacity to accommodate solid waste generation under the proposed plan, it is unclear whether this is true for the No Project alternative. Also, although the proposed plan contains policies and programs to reduce solid waste, maximize recycling, and help the City achieve its AB 939 waste diversion targets this alternative contains no such policies and programs.¹⁵ Therefore, solid waste impacts would be **greater** under this alternative.

Electricity and Natural Gas. PG&E annually provides 82,826 MWH of electricity and 8.0 million therms of natural gas to the Planning Area. Under the No Project Alternative, these would increase to 359,537 MWH and 34.8 million therms annually, while under the proposed plan they would increase to 181,799 MWh and 17.6 therms annually. This increased electricity and natural gas usage within the Planning Area will require additional gas and electricity facilities, the construction of which would affect the environment. While the proposed plan contains policies and programs that require the incorporation of energy conservation in new construction and requires that electricity and natural gas infrastructure improvements are developed in a coordinated manner to minimize potential impacts, the No Project alternative contains no such policies and programs.¹⁶ Given this, and given the substantially higher electricity and natural gas consumption under this alternative, electricity and natural gas impacts would be **greater** under this alternative.

Law Enforcement and Fire Protection. Law enforcement services within the incorporated parts of the Planning Area are provided by the Fortuna Police Department (FPD); the Humboldt County Sheriff serves the unincorporated areas. Fire protection services are provided by the Fortuna Fire Protection District (FFPD). In order to maintain existing levels of service, at buildout under the No Project Alternative, 28 new FPD police officers, 4 new Sheriff's officers, and 140 new FFPD volunteer firefighters would be required. At buildout under the proposed plan 17 new FPD police officers and 74 new FFPD volunteer firefighters would be needed. New or remodeled FPD and FFPD facilities would be required to house additional service personnel, the construction of which could cause environmental impacts. While the proposed plan contains policies and programs to ensure that adequate police and fire protection service is provided, and ensures that the construction or remodeling of police and fire facilities occurs in a coordinated

¹⁵ For example, the proposed plan includes solid waste policies and programs requiring that: all new development provide dedicated solid waste, recycling and green waste bins and enclosures, and participate in the City's recycling pick-up, green waste pick-up and composting programs; the City incorporate a requirement for the recycling of 50% of construction waste; and where economically feasible, the City use recycled materials and products.

¹⁶ For example, the proposed plan includes the utility and energy conservation policies and programs listed in the footnotes under Energy Conservation and Water Supply and Distribution, in addition to the following electricity and natural gas policies and programs requiring that: energy conservation features, including solar heating, be incorporated into new construction; the City coordinate planning and utility extensions with PG&E; and the City power most City buildings with renewable energy by 2030.

manner to minimize potential impacts, the No Project alternative contains no such policies and programs.¹⁷ Given the substantially higher service demand and need for new or remodeled police and fire facilities under this alternative, law enforcement and fire protection impacts would be *greater* under this alternative.

Schools. The Planning Area is served by the Fortuna Union Elementary, Hydesville Elementary, Rohnerville, and Fortuna Union High School Districts. Both the No Project Alternative and the proposed plan would permit new development in the Planning Area generating additional students and creating demand for new or physically altered school facilities. The No Project Alternative would permit the development of up to 5,777 new residential units leading to an increase of an estimated 4,044 new students, while the proposed plan would permit the development of up to 5,725 new residential units which would lead to an estimated increase of 4,008 new students. Both plans generate demand for roughly 10 new schools. Under each plan, new development would be required to pay the State-mandated school impact fees to fund the construction and pay taxes to fund the operation of these additional schools. Therefore, neither plan would result in significant impacts to schools. Therefore, school impacts would be *similar* between the two plans.

Air Quality. The Planning Area is located within the North Coast Air Basin (NCAB) and within the jurisdiction of the North Coast Unified Air Quality Management District (NCUAQMD). The NCAB is currently in “non-attainment for particulate matter of 10 microns or less (PM10)”, and ozone is a pollutant of concern in the NCAB. Both the No Project Alternative and the proposed plan would result in the following air quality impacts:

Less-than-Significant Impacts

- 1) Conflict with or obstruct implementation of the applicable Air Quality Management Plan (construction emissions);
- 2) Expose sensitive receptors to substantial pollutant concentrations; and
- 3) Create objectionable odors affecting a substantial number of people (proposed plan only).

Significant Unavoidable Adverse Impacts

- 1) Conflict with or obstruct implementation of the applicable Air Quality Management Plan (operational emissions only; not construction emissions);
- 2) Violate air quality standards or contribute substantially to an existing or projected air quality violation (construction emissions including CO; operational emissions including ROG, NO_x, CO and PM₁₀);

¹⁷ For example, the proposed plan includes the following law enforcement and fire protection policies and programs requiring that: the City maintain adequate police staffing levels to ensure public safety and to meet State public safety standards; the FPD and FFPD review the plans for proposed new development projects for police and fire protection accessibility, visibility, signage, lighting and brush clearance; the City provide adequate fire flow capacity for fire protection purposes; the City require water main size, water flow, fire hydrant spacing, and water storage capacity in new development consistent with FFPD fire protection standards.

- 3) Result in a cumulatively considerable net increase of criteria pollutants for which the region is in non-attainment (PM₁₀); and
- 4) Conflict with the State goal of Reducing GHG emissions;
- 5) Create objectionable odors affecting a substantial number of people (No Project Alternative only).

The degree of the above impacts would be substantially greater under the No Project Alternative for two reasons. First, this alternative would permit an additional 5 million square feet commercial and industrial square feet compared to the proposed plan generating substantially more construction and operational (mobile and stationary source) emissions. Second, while development under both plans would be subject to NCUAQMD construction and operational emission reduction BMPs (Best Management Practices), only the proposed plan contains policies and programs designed to further reduce air emissions.¹⁸ Therefore, air quality impacts would be **greater** under this alternative.

Noise. Both the No Project Alternative and the proposed plan would permit a substantial amount of new development within the Planning Area generating construction, stationary source and mobile source noise that could expose persons to excessive existing noise levels. The table below identifies the noise impacts of the No Project Alternative and the proposed plan.

Impact	No Project Alternative	Proposed Plan
Expose new noise-sensitive uses to existing noise in excess of applicable standards	SU	LTS
Result in substantial temporary or periodic increases in ambient noise levels	SU	LTS
Result in substantial permanent increases in ambient noise levels		
- Impacts on existing noise-sensitive uses	SU	SU
- Impacts on new noise-sensitive uses	SU	LTS
Expose persons to excessive ground borne noise or vibration	SU	LTS
Expose persons to excessive airport/airplane noise	LTS	LTS
<i>LTS = Less-than-significant impact</i>		
<i>SU = Significant unavoidable adverse impact</i>		

As indicated in the table, the No Project Alternative would result in significant unavoidable adverse noise impacts for the majority of noise issues analyzed, while the proposed plan would result in less-than-significant impacts for the majority of these issues. The reasons for this difference in noise impacts between the two plans are twofold. First, the No Project alternative

¹⁸ For example, some of the air quality policies and programs in the proposed plan require that: the City strive to achieve and maintain compliance with National Ambient Air Quality Standards for PM₁₀ and all Federal, State, regional and local air quality standards; the City work with NCUAQMD to develop/implement and Air Quality management Plan for controlling PM₁₀; new subdivisions, PUDs and other large development projects implement a given set of construction, area source and mobile source emission reduction measures (e.g., watering to control dust in construction areas, street-sweeping construction routes; covering haul trucks, limiting diesel-powered construction equipment idling time to 10 minutes; limiting residential development to one wood-burning EPA Phase III stove per unit, prohibiting open burning of vegetation, incorporating energy efficient in buildings by 20% beyond Title 21 requirements, providing bicycle lanes, working with RTS to extend transit service, initiating voluntary ridesharing programs and transit incentives, etc.); conducting asbestos and lead-based paint surveys of pre-1979 buildings proposed for renovation or demolition; and businesses minimize odors so they are not detected off-site.

would permit over 5 million square feet more commercial and industrial square feet than the proposed plan, and thus would generate substantially more construction activities, stationary noise sources and traffic than the proposed plan. Second, while the proposed plan contains a substantial number of policies and programs designed to avoid significant noise impacts, this alternative contains few such policies and programs.¹⁹ Therefore, noise impacts would be *greater* under this alternative.

Geologic and Seismic Hazards. The Planning Area is located within a seismically active area. The Little Salmon Fault, an active fault with a State-designated Alquist-Priolo Earthquake Fault Zone around it, bisects the easternmost portion of the Planning Area. The northern and eastern portions of the Planning Area contain hillsides and the potential for unstable slopes and landslides, and the western and southern portions of the Planning Area are bounded by the Eel and Van Duzen Rivers and underlain by sedimentary materials and the potential for unstable soils (e.g., soils subject to liquefaction, lateral spreading, subsidence, or expansion). Both the No Project alternative and the proposed plan would permit a substantial amount of additional development in the Planning Area, and could subject this development and associated population to geologic and seismic hazards. However, because development under both plans would be subject to Alquist-Priolo building setback requirements from the Little Salmon fault and to State building code requirements, neither plan would expose more people or property to a significant fault rupture hazard. The proposed plan contains a substantial number of policies and programs designed to avoid significant geologic and seismic hazards whereas the No Project alternative

¹⁹ For example, the proposed plan contains the following noise policies and programs requiring that: the City adopt a specific set of proposed noise compatibility standards for construction noise (for example, limiting construction noise levels at the exterior of adjacent residential uses to 60 dBA L_{max}); the City adopt a specific set of proposed daytime and nighttime noise compatibility standards for operational noise (for example, limiting exterior and interior noise levels at residential uses to 60 and 45 dBA L_{dn} , respectively); the City prohibit new land uses that result in exceedances of these noise compatibility standards at either existing adjacent or new noise-sensitive uses; buffers or noise barriers be provided between new uses that would generate high noise levels or ground borne vibration and adjacent sensitive receptors such as residential, group homes, hospitals, health care facilities, schools, libraries and churches; the City lessen noise increases along City streets through street design, coordination of routing, and other traffic controls; the City limit construction activities to the hours of 7:00 a.m. to 8:00 p.m., Monday through Saturday; the City require proposed new subdivisions, PUDs and other large project to have a noise study prepared which estimates resulting noise and identifies mitigation measures required to avoid any exceedances of the noise standards; the City require new loading docks to be enclosed by noise walls, loading dock deliveries be restricted to the hours of 7:00 a.m. to 8:00 p.m. Monday through Friday, and that HVAC systems be enclosed; and the City require that development near Rohnerville Airport occur consistent with the noise standards contained in the Humboldt County Airport Land Use Compatibility Plan.

contains minimal such policies and programs.²⁰ Also, this alternative would permit substantially more development than the proposed plan and thus subject more people to geologic and seismic hazards. Therefore, geologic and seismic hazards impacts would be *greater* under this alternative.

Human-Made Hazards and Emergency Response. The Planning Area currently contains 94 recorded hazardous-materials sites, a substantial number of pre-1979 buildings that may contain asbestos and lead-based paint, and the Rohnerville Airport. Development permitted under both the No Project Alternative and the proposed plan could: (1) release hazardous materials into the environment from existing hazardous materials/waste sites during construction; (2) release asbestos and lead-based paint into the environment during renovation or demolition of pre-1979 buildings; (3) include new development that could handle/emit hazardous materials, including within one-quarter mile of a school; (4) include new development around Rohnerville Airport including uses incompatible with airport operations; and (5) increase the need for emergency response and evacuation planning. Because the use, handling, emission, transportation and disposal of hazardous materials is heavily regulated, and because there are no proposals for new regional chemical plants, oil refineries, or other large industrial facilities that could use substantial quantities of hazardous materials, neither plan would result in a significant hazardous materials release hazard associated with the operation of new development, including the operation of new development within one-quarter mile of a school. Similarly, because the Humboldt Airport Land Use Compatibility Plan prohibits development that could cause significant impacts to airport and aircraft operations or significant safety hazard to people residing or working in the vicinity, neither plan would result in significant airport hazards. The proposed plan contains policies and programs designed to avoid the release of hazardous materials associated with the disturbance of hazardous materials/waste sites and buildings, and require adequate emergency response and evacuation planning. In contrast, the No project

²⁰ For example, the proposed plan contains the following geologic and seismic hazards policies and programs requiring that: the City prepare a Hazards Map that identifies areas at “high risk” from fault rupture, strong seismic ground shaking, seismic-related ground failure, liquefaction, landslides, soil instability, expansive soils, high soil erosion, and area faults; the City regulate land uses within the “high risk” areas identified in the Hazards Map, including prohibiting new critical facilities (hospitals, police stations, fire stations, and water/wastewater plants) in high risk areas, and requiring proposed non-critical development in “high risk” areas to have a geotechnical report prepared that characterizes the hazards and recommends mitigation measures to reduce the hazards to acceptable levels; the City prohibit development on slopes greater than 25% and that new development proposed on slopes of 15-25% have a geotechnical report prepared and characterizes the landslide and slope stability hazards and recommends mitigation; soils reports be prepared for new proposed subdivisions; a Grading Permit be obtained for all clearing and earthwork to minimize natural terrain disturbance, avoid grading during the rainy season, retain trees and native vegetation to stabilize hillsides and reduce erosion, balance cut/fill on-site where possible, and not impact off-site areas; and the City adopt standards for evaluating/mitigating geologic hazards during development review.

Alternative contains few such policies and programs.²¹ This alternative would also permit substantially more development than the proposed plan, and would both increase the potential for disturbance of existing hazardous materials/waste sites and buildings, and increase the need for emergency response and evacuation planning. Therefore, human-made hazardous and emergency response planning impacts would be *greater* under this alternative.

Flooding. The Planning Area contains lands located within the 100-year floodplain of the Eel River, the Van Duzen River, and area creeks. This includes all of the area west of HWY 101, most of the area south of SR 36, and areas along the North Fork of Strongs Creek and the lower reaches of Mill and Rohner Creeks. Many of these areas have flooded in the past and are likely to flood in the future. Both the No Project Alternative and the proposed plan would designate lands within the 100-year floodplain for urban development, including residential uses. Both plans would be subject to Mitigation Measure 8.5-1a in Section 8.5 of this PEIR requiring that all proposed buildings in the 100-year floodplain (not just non-residential buildings), be elevated above the 100-year Base Flood Elevation (BFE). This mitigation would avoid the exposure of new development and persons to 100-year flood hazards under either plan. However, the proposed plan contains policies and programs not included under the No Project Alternative that further reduce this hazard and which avoid any potential for new development to either cause the flooding of downstream properties or to impede or redirect flood flows.²² In addition, this alternative would permit substantially more development than the proposed plan (e.g., over 5 million sq. ft. more commercial/industrial uses), and thus would have a greater potential to cause downstream flooding. Therefore, flooding impacts would be *greater* under this alternative.

²¹ For example, the proposed plan contains the following human-made hazards and emergency response policies and programs requiring that: the City permit new development only in areas where any potential hazards can be mitigated; the City designate/zone areas of potential hazards as open space, agriculture, or other low-intensity use; the City ensure that new development is designed in compliance with the California Building Code, California Fire Code, and other regulations; the City work with the County to prepare a Hazardous Waste Management Plan; the City require uses that generate, use, handle, store, transport, dispose of or emit hazardous materials to file a Hazardous Materials Release Response Plan and Inventory with HCDEH; new development proposed at any of the hazardous materials/waste sites identified in Figure HS-3 include documentation from the applicable regulatory agencies indicating that the site has been adequately remediated; construction contractors report any potential soil contamination to the City; the City require that asbestos and lead-based paint surveys be conducted for pre-1979 structures, and any such materials found be removed in accordance with applicable regulations; the City continue to regulate land use around Rohnerville Airport consistent with the Humboldt Airport Land Use Compatibility Plan and Part 87 Federal Aviation Administration Regulations; the City coordinate emergency response planning with the City Police Department, Fortuna Fire Protection District, Caltrans, CAL-FIRE, Humboldt County, and the State Health Department; and the City designate evacuation routes and develop an Emergency Response Plan.

²² For example, the proposed plan contains the following flooding policies and programs requiring that: the City prohibit new residential uses, large public assembly uses, and essential facilities (hospitals, police stations, fire stations, etc.) in the 100-year floodplain identified in Figure HS-3, unless the structures and associated access roads are elevated above the 100-year Base Flood Elevation (BFE); permit; the City allow other uses in the 100-year floodplain without elevating above the BFE as long as no structure openings occur below the BFE; new large-scale developments provide on-site stormwater detention facilities that limit peak runoff flows to existing conditions; new subdivisions, PUDs and other large developments proposed in the 100-year floodplain have flood studies prepared that evaluate whether the development would change the FEMA flood zone designations on or within the vicinity, and that these studies be submitted to FEMA for required flood map revisions; the City prohibit new development that results in flooding on- or off-site; the City adopt a Flood Protection Master Plan; and the City investigate measures for the abatement of flooding hazards such as removal/relocation of development from Flood Hazard Areas, construction of impoundments or diversions, and implementation of debris/silt removal in drainage channels.

Wildland Fires. Wildland fires are primarily an issue in the unincorporated northern and eastern portions of the Planning Area. These are located at the urban/rural interface, contain areas of steep slopes and coniferous forest, are located within a State Responsibility Area (SRA) and under the fire protection responsibility of CAL FIRE, and are identified by 2006 Humboldt County Master Fire Protection Plan (HCMFPP) as areas of “moderate” to “very high” wildland fire risk. Under both the No Project Alternative and the proposed plan, portions of these areas would be designated for urban uses, including within the potential future Carson Woods Road and Strongs Creek and Rohnerville Annexation Areas as well as in other areas between the eastern boundary of the incorporated City and the eastern boundary of the Planning Area. Thus, both plans would increase the exposure of persons and property to loss, injury or death involving wildland fires. However, these areas are currently subject to Humboldt County “Fire Safe” regulations that implement the State’s SRA Fire Safe Regulations on behalf of CAL FIRE as authorized by PRC §4290. These regulations include emergency access, emergency water (fire flow), brush clearance, defensible space, and other measures which have been adopted by Humboldt County and the State to avoid significant wildland fire impacts. While the No Project alternative would permit more development than the proposed plan and thus potentially expose more persons and property to wildland fire risks, and while the proposed plan contains policies and programs²³ not included under this alternative to reduce wildland fire risks, neither plan would result in significant wildland fire impacts. This is because: (1) new development under either plan would be subject to the County’s Fire Safe regulations for as long as these areas stay in the County; and (2) if these areas are eventually annexed to the City, Mitigation Measure 8.6a would require that the County’s Fire Safe regulations be adopted and implemented by the City within these areas. Therefore, wildland fire impacts would be *similar* between the two plans.

Reduced Density Alternative

Land Use and Land Use Plans. Under the Reduced Density Alternative, the broad distribution of land uses would generally be similar to those of the proposed plan; the City core containing higher density urban development and the more outlying areas containing a mix of rural residential, agricultural, park and open space uses. Neither plan would physically divide an established community; no highways, large-scale industrial plants, levees or other development typically associated with creating barriers are proposed. Neither plan would conflict with an HCP or NCCP as no such plans currently apply in the Planning Area. While both plans could generate land use conflicts, they each contain the same policies and programs designed to minimize such conflicts. . Finally, both plans would conflict with existing plans adopted to avoid or mitigate environmental effects in Annexation Areas. Land designated by the County for agriculture and timber would be allocated to urban uses. Therefore, land use impacts would be *similar* between the two plans.

²³ For example, the proposed plan contains the following wildland fires policies and programs requiring that: the City endeavor to educate residents living at the wildland interface about CAL FIRE’s “General Guidelines for Creating Defensible Space”; the City adopt the fuel modification, emergency access, signage, and fire-fighting water supply requirements of Humboldt County’s Fire Safe Regulations, including the defensible space clearance requirements, and make these regulations applicable in the SRA portions of the Planning Area; and the City require that plans for new subdivisions, PUDs and other large development projects proposed in the SRA be submitted to CAL FIRE for review in the context of the wildland fire risk and associated mitigation measures.

Housing and Population. Neither the Reduced Density Alternative nor the proposed plan would result in population or housing displacement. Neither plan proposes specific development projects and the Fortuna Zoning Code §17.54.185 specifically permits the continued occupancy and operation of nonconforming uses. Also, both plans would be consistent with adopted regional fair-share housing demand forecasts. Both would provide adequate residentially-designated land to accommodate Fortuna's fair share allotment of regional housing demand as set forth in HCAOG's RHNA. In these respects, housing and population impacts would be similar between the two plans, although this alternative would include less housing and thus potentially be less effective in achieving RHNA regional housing objectives than the proposed plan.

As indicated in Table 9.3-3, the Planning Area currently contains 4,918 residential units, 11,489 residents, and 3,342 employees. At buildout under the Reduced Density alternative, these figures would increase this to 9,527 units, 22,293 residents and 10,704 employees. Under the proposed plan the numbers would increase this to 10,643 units, 24,904 residents and 12,967 employees. Based on these estimates, both plans would indirectly result in significant unavoidable population growth inducement. The extent of this impact would be less under this alternative because of the fewer number of new housing units, residents and employees. Therefore, housing and population impacts would be *less* under this alternative.

Economic Impacts. As indicated in Table 9-3, the Planning Area currently contains 285,000 sq. ft. of commercial and 191,000 sq. ft. of industrial uses. At buildout under the Reduced Density alternative would increase this to 1,036,597 sq. ft. of commercial and 490,832 sq. ft. of industrial uses. Buildout under the proposed plan would increase this to 1,258,460 sq. ft. of commercial/mixed and 591,900 sq. ft. of industrial uses. The proposed plan would not generate blight as discussed under the No Project Alternative. Because this alternative would include even less commercial and industrial development, it too would not generate blight. Therefore, economic impacts would be *similar* between the two plans.

Roadway and Highway System (Traffic). The Reduced Density Alternative and associated Land Use Diagram (Figure 9-3) would be adopted to reduce impacts of the Proposed Project. Trips in and around the City of Fortuna would be completed on a circulation system identified by its hierarchal structure. Regional access to the City of Fortuna would be provided by US 101. The following roadways are providing primary access throughout the community:

- 12th Street
- Fortuna Boulevard
- Kenmar Road
- Main Street
- Newburg Road
- Redwood Way
- Riverwalk Drive
- Rohnerville Road
- Ross Hill Road
- School Street

With the exception of Fortuna Boulevard and Ross Hill Road, median-divided four-lane roadways, all of the roads in Fortuna have one travel lane in each direction. Left-turn pockets or two-way left-turn lanes exist on sections of some of these roadways, primarily at the critical intersections.

New development permitted under both the No Project Alternative and the proposed plan would increase trip ends. The land use assumptions, trip generation rates, and resulting trip ends for the Reduced Density Alternative are summarized in Table 9-6.

**Table 9-6
Reduced Density Alternative Trip Generation Summary**

Land Use	Units	Daily		A.M. Peak Hour				P.M. Peak Hour			
		Rate	Trips	Rate	Trips	In	Out	Rate	Trips	In	Out
Residential Rural	1,504.80	9.57	14,401	0.75	1,129	282	846	1.01	1,520	958	562
Residential Very Low	1,161.90	9.57	11,119	0.75	871	218	654	1.01	1,174	739	434
Residential Low	3,968.10	9.57	37,975	0.75	2,976	744	2,232	1.01	4,008	2,525	1,483
Residential Medium	1,270.80	6.72	8,540	0.51	648	130	518	0.62	788	512	276
Residential High	1,080.00	6.72	7,258	0.51	551	110	441	0.62	670	435	234
Commercial (ksf)	210.00	44.32	9,307	1.03	216	132	84	2.71	569	250	319
Riverwalk District (ksf)	158.40	33.34	5,281	2.05	325	240	84	2.64	418	163	255
Office (ksf)	177.88	21.16	3,764	4.6	818	720	180	1.49	265	45	220
Central Business District (ksf)	106.35	21.16	2,250	4.6	489	430	108	1.49	158	27	132
Mill District (ksf)	264.00	44.32	11,700	1.03	272	166	106	2.71	715	315	401
Corridor Mixed Use (ksf)	190.82	127.15	24,263	13.53	2,582	1,343	1,239	18.8	3,587	1,973	1,614
Industrial (ksf)	520.87	6.97	3,630	1.01	526	473	53	1.08	563	79	484

Source: SHN, 2010.
Notes: sfd = single family dwelling, du = dwelling unit, ksf = 1000 square feet.

Based on the applied assumptions, projected future development within the Planning Area under this alternative would generate an average of 139,489 trip ends per day; 11,403 during the morning peak hour and 14,435 during the evening peak hour.

To compare the transportation effects of this alternative to the proposed plan, their peak hour trip generation rates were compared. The comparison was limited to the peak hours to remain consistent with the Proposed Project evaluation. The peak hour comparison and percentage differences are summarized in Table 9-7.

**Table 9-7
Comparison of Trip Generation Under the Proposed Plan and Reduced Density Alternative**

Land Use	Proposed Plan		Reduced Density Alternative			
	AM Peak Trips	PM Peak Trips	AM Peak Trips	PM Peak Trips	% Diff AM	% Diff PM
Residential Rural	1254	1689	1,129	1,520	10%	10%
Residential Very Low	968	1304	871	1,174	10%	10%
Residential Low	3,307	4453	2,976	4,008	10%	10%
Residential Medium	720	875	648	788	10%	10%
Residential High	612	744	551	670	10%	10%
Commercial	246	647	216	569	12%	12%
Riverwalk District	369	475	325	418	12%	12%
Office	930	301	818	265	12%	12%
Central Business District	556	180	489	158	12%	12%
Mill District	309	813	272	715	12%	12%
Corridor Mixed Use	2,934	4077	2,582	3,587	12%	12%
Industrial	4,126	639	526	563	87%	12%
Totals	16,331	16,197	11,403	14,435	30%	11%

Source: SHN, 2010.
Notes: NA = not applicable, % Difference is between alternative and proposed plan, negative % difference indicates increased volume.

As the table indicates, the number of trips projected during the AM and PM peak hour under this alternative would be reduced 30% and 11%, respectively, from that under the proposed plan. Both plans would implement the same substantial policies and programs designed traffic impacts. However, trip generation and thus traffic impacts would be *less* under this alternative.

Bicycle and Pedestrian Facilities. The Reduced Density Alternative would result in less demand for bicycle and pedestrian facilities than the proposed plan due to the lower amount of development under this alternative. However, both plans contain the same policies and programs designed to ensure that adequate bicycle and pedestrian facilities are provided. Therefore, bicycle and pedestrian facilities impacts would be *similar* between the two plans.

Public Transportation. The Reduced Density Alternative would result in less demand for public transit than the proposed plan due to the lower amount of development under this alternative. However, both plans contain the same policies and programs designed to ensure that adequate public transit is provided. Therefore, public transportation impacts would be *similar* between the two plans.

Hydrology and Water Resources. In 2007, City wells extracted 1,402 acre-feet of water from the Eel River Valley Groundwater Basin. Under the Reduced Density Alternative and the proposed plan, groundwater extraction would increase to 2,616 and 3,078 acre-feet, respectively. Neither plan would substantially deplete groundwater supplies to the point that there would be a net deficit in aquifer volume or a lowering of the Basin-wide groundwater level. This is because the Basin contains a substantial water surplus (e.g., annual recharge exceeds annual withdrawals). Development under both plans would increase stormwater runoff and treated wastewater discharges to surface waters including the Eel River. The Eel River is listed by the USEPA 303(d) as “impaired” for temperature and sediment. Such discharges would be subject to existing federal, State, County and local regulations and requirements designed to protect surface water quality (e.g., federal Clean Water Act, Basin Plan, Eel River TMDLs, Fortuna SWMP, Fortuna NPDES Phase II Municipal Stormwater Discharge Permit, Fortuna NPDES Permit for WWTP Discharges, etc.). In addition, both plans include the same proposed policies and programs designed to minimize substantial additional sources of polluted runoff and avoid violation of water quality standards and waste discharge requirements. Because of this, and because the amount of stormwater runoff and wastewater generated would be generally similar between the two plans (within approximately 15% of one-another), the hydrology and water resources impacts would be **similar** between the two.

Biological Resources. The Planning Area contains: four recorded special-status plant species including Whitney’s farewell-to-Spring, Siskiyou checkerbloom, maple-leaved checkerbloom, and Pacific gilia; three recorded special-status animal species (tricolored blackbird, red tree vole and coastal cutthroat trout); potentially 10 other special-status plant species and 11 other special-status animal species (including several fish species); at least 30 jurisdictional wetlands; large areas of potential special-status species habitat (creeks, forests, etc.); and both waters of the U.S. and riparian habitat. Development permitted under both the Reduced Density Alternative and the proposed plans have the potential to impact these biological resources. However, both plans contain the same policies and programs designed to minimize impacts to biological resources. Implementation of these policies and programs would avoid significant biological resources impacts on a plan basis, although the cumulative loss of sensitive-species habitat would be significant and unavoidable under either plan. Compared to the proposed plan, the Reduced Density alternative allows approximately 10% fewer residential units and 20% less commercial/industrial development, and thus would impact fewer habitats. Therefore, biological resources impacts would be **less** under this alternative.

Agricultural and Timber Resources. The Planning Area currently contains 923 acres of prime farmland, 861 acres of timberland, 2,842 acres designated by Humboldt County as Agriculture (AE, AG, AR, and AS), 120 acres designated by the County as Timber, and 396 acres under Williamson Act contracts. Under both the Reduced Density Alternative and the proposed plan, the existing General Plan land use designations would be amended. Two hundred eighty-nine acres of the prime farmland and 290 acres of the timberland would be designated for urban use. Over 1,000 acres of land designated Agriculture would be re-designated for urban use, and no conflicts would occur with existing Williamson Act contracts. Both plans convert prime farmland and timberland to urban use (significant impacts) and conflict with existing agricultural zoning (significant impact), although neither plan would conflict with Williamson Act contracts (no impact). Although the Reduced Density alternative would include allow 15% less development, none of the areas designated for urban development under the proposed plan would

be designated as Agriculture under this alternative (i.e., reductions in development under this alternative are achieved by reducing residential densities and commercial/industrial targets rather than designating additional land as Agriculture). Thus, agricultural and timber resources impacts would be *similar* between the two plans.

Cultural Resources. There is potential for the Planning Area to contain significant archaeological resources, Native American remains, and paleontological resources. The Planning Area contains one building listed on the National Register of Historic Places (Gunshaw-Mudgett House), 72 other buildings that are eligible for listing, and at least one undesignated historic district (the Rohnerville area). Both the Reduced Density Alternative and the proposed plan would permit development and construction activities within the Planning Area that could disturb these cultural resources. This alternative would permit approximately 15% less development than the proposed plan, and has less potential to impact cultural resources, but both plans include the same policies and programs to avoid significant impacts to cultural resources. Therefore, cultural resources impacts would be *similar* between the two plans.

Mineral Resources. The Planning Area currently contains two existing aggregate extraction sites, both located in the western most portion of the Planning Area along the Eel River. Both are delineated in the Humboldt County General Plan as mineral resource sites. Under the Land Use Diagrams of both the Reduced Density Alternative and the proposed plan, the northerly of these two sites would be designated as Industrial and the southerly as Agriculture. Neither of these designations specifically permits aggregate extraction operations. In addition, there is the potential that existing aggregate extraction operations at these sites could be classified as “nuisances” in the future in response to petitions from adjacent landowners curtailing existing gravel extraction operations. However, Mitigation Measure NCR-4.9 requires the City to allow existing mineral extraction operations to continue and prohibits their classification as “nuisances”. Therefore neither plan would result in the loss of a known mineral resource that is valuable to the region or the loss of a locally-important mineral extraction site delineated in a local General Plan. Therefore, mineral resources impacts would be *similar* between the two plans.

Energy Conservation. Implementation of both the Reduced Density Alternative and the proposed plan would substantially increase energy consumption in the Planning Area. Because this alternative results in approximately 15% less development than the proposed plan, it would require less energy. At the same time, this alternative would result in lower-density development and potentially result in a less efficient and more energy consumptive land use pattern. Both plans would include the same energy conservation policies and programs designed to avoid the inefficient, wasteful or unnecessary consumption of energy. With the implementation of these policies and programs, energy conservation impacts would be *similar* between the two plans.

Parks, Recreation and Open Space. The Planning Area currently contains 75 acres of parkland several recreational facilities, and approximately 563 acres of open space (primarily privately-owned). Both the Reduced Density Alternative and the proposed plan would designate 227.9 acres for Parks and 778.4 acres for Open Space. Both plans would also include the same policies and programs designed to allow the City to meet its demand for new parks, recreational facilities and open space while providing adequate maintenance of existing park and recreational facilities. Therefore, although park, recreational facility and open space demand would be approximately 10% less under this alternative, presuming approximately 10% fewer residential units and associated

population, adequate park, recreational facilities and open space would be provided under both plans. Thus, parks, recreation and open space impacts would be *similar* between the two plans.

Visual Resources. The Planning Area contains vistas and scenic resources, and has the visual character a small town surrounded by large tracts of forested, agricultural and open space areas. Both the Reduced Density Alternative and the proposed plan would permit substantial amounts of new development that could adversely affect scenic vistas, damage scenic resources, degrade the existing visual character of the City and its surroundings, and create substantial light and glare. However, while this alternative would result in approximately 15% less development than the proposed plan, the same visual resources policies, programs, and mitigation measures would be implemented to avoid significant visual resources impacts. Therefore, visual resources impacts would be *similar* between the two plans.

Water Supply and Distribution. The City of Fortuna currently withdraws approximately 1,402 acre-feet of water annually from Eel River Valley Groundwater Basin. The City distributes water to users in its service area via its municipal water system. Under the Reduced Density Alternative and the proposed plan, additional development would increase water demand to 2,616 and 3,078 acre-feet, respectively. Both plans would include the same policies and programs linking new development to the availability of adequate water infrastructure, and ensuring that water infrastructure improvements are developed in a coordinated manner to minimize potential impacts. However, because this alternative would generate approximately 15% less water demand than the proposed plan, water supply and distribution impacts would be *less* under this alternative.

Wastewater Collection, Treatment, and Disposal. WWTP treated effluent discharges occur at two locations. The City's primary discharge point is percolation ponds located near the Eel River. Treated effluent is discharged to groundwater through the percolation ponds during summer months when low river levels predominate. Treated effluent is discharged to Strong's Creek both during the winter months when high river levels predominate and also during maintenance of the percolation ponds in early spring. These discharges occur under the City's NPDES permit for WWTP discharges (which is separate from the City's NPDES stormwater discharge permit). The NPDES WWTP discharge permit sets quantity, pollutant and temperature limitations for the discharge (City of Fortuna 2007).

The City's WWTP treats 0.95 MGD of wastewater during dry-weather conditions and has a dry-weather capacity of 1.5 MGD. Therefore, the treatment facility is currently operating at approximately 63 percent of its dry-weather flow capacity. Under the Reduced Density Alternative, dry-weather flows would increase to 1.9 MGD, while under the proposed plan they would increase to 2.2 MGD.

During wet-weather conditions, the WWTP has a peak wet-weather flow capacity of 7.0 MGD. Peak flows over 3.0 to 4.0 MGD are bypassed to holding ponds and returned for treatment during low flow periods (NCRWQCB, 2009). The WWTP has experienced wet-weather flows of up to 7.0 MGD, and therefore currently operates at up to 100% capacity during large storm events. Under the Reduced Density Alternative and the proposed plan, the increase in service population and impervious surfaces will increase wet-weather flows, potentially exceeding the 7.0 MGD wet-weather capacity of the WWTP during certain storm events.

The increased wastewater generated under both plans would require collection, treatment and disposal by the City. Because any increased wastewater discharges must be consistent with the City's existing or amended discharge permit, and because this permit will continue to be formulated by NCRWQCB consistent with the discharge requirements of the Basin Plan, Eel River TMDLs, and the City's WDRs, neither plan would violate wastewater treatment or discharge requirements. Wastewater generated under both plans will eventually exceed existing capacity of some sewer trunk pipelines and the WWTP, thus requiring upgrades. However, both plans contain the same policies and programs that limit new development to the availability of adequate wastewater collection, treatment and disposal infrastructure, and which ensure that wastewater infrastructure improvements are developed in a coordinated manner to minimize potential impacts. Still, because this alternative would result in approximately 15% less wastewater than the proposed plan, wastewater collection, treatment and disposal impacts would be *less* under this alternative.

Storm Water Drainage. Portions of the Planning Area are currently served by the City's storm water drainage system which collects storm water runoff and discharges it to area creeks and the Eel River under the City's NPDES storm water discharge permit and several construction- and operational-related general permits. New development permitted under both the Reduced Density Alternative and the proposed plan would: (1) alter the existing drainage pattern in certain areas in a manner resulting in erosion or siltation; (2) increase the rate and amount of surface runoff in a manner which could result in flooding; (3) create runoff that could exceed the capacity of existing storm water drainage systems; and (4) necessitate the construction of new storm water drainage facilities, the construction of which could cause negative environmental effects. Both plans contain the same substantial number of policies and programs to avoid significant drainage impacts associated with the above. Still, because this alternative would result in approximately 15% less development than the proposed plan with a reduction in storm water runoff, storm water drainage impacts would be *less* under this alternative.

Solid Waste. The City of Fortuna contracts with Eel River Disposal and Resource Recovery Inc. (ERD) for municipal, recyclable and green waste collection. It also subsidizes the purchase price of compost bins to City residents. Municipal waste collected by ERD is disposed of at the Anderson Landfill (Shasta County) which currently at 50% of its permitted capacity of 16.0 million cubic yards. Recyclables are sorted at ERD's transfer station in Fortuna and sold. Scotia and others incinerate the green waste to produce electricity. In 2008m the City generated 8,281 tons of solid waste and is striving to achieve a 50% waste diversion and a 70% diversion by 2015 as required by AB 939. Under the Reduced Density Alternative and the proposed plan, solid waste would increase to 16,274 and 18,180 tpy, respectively. Because ERD has confirmed that the Anderson Landfill has capacity through 2030, to accommodate solid waste generation under the proposed plan, and because solid waste generation would be less under this alternative, adequate capacity exists at the landfill to accommodate solid waste generation under this alternative. Also, both plans contain the same policies and programs to reduce solid waste, maximize recycling, and help the City achieve its AB 939 waste diversion targets. The Reduced Density alternative would result in 15% less development than the proposed plan and a commensurate reduction in solid waste making it easier for the City to achieve its AB 939 waste diversion targets. Therefore, solid waste impacts would be *less* under this alternative.

Electricity and Natural Gas. PG&E annually provides 82,826 MWH of electricity and 8.0 million therms of natural gas to the Planning Area. Under the Reduced Density Alternative, these amounts would increase to 162,739 MWH and 15.8 million therms annually, while under the proposed plan they would increase to 181,799 MWh and 17.6 therms annually. Providing this amount of electricity and natural gas within the Planning Area would require the construction of additional gas and electricity facilities, the construction of which would cause environmental effects. Both plans contain the same policies and programs to avoid significant drainage impacts associated with the construction. Still, because this alternative would result in approximately 15% less development and electricity and natural gas consumption than the proposed plan, the need for associated electricity and natural gas infrastructure, electricity and natural gas impacts would be *less* under this alternative.

Law Enforcement and Fire Protection. Law enforcement within the incorporated area of the Planning Area is provided by the Fortuna Police Department (FPD) and the Humboldt County Sheriff serves the unincorporated areas. Fire protection services are provided by the Fortuna Fire Protection District (FFPD). In order to maintain existing levels of service, at buildout under the Reduced Density Alternative, 14 additional police officers and 63 additional volunteer firefighters would be required. At buildout under the proposed plan 17 new police officers and 74 volunteer firefighters would be needed. New or remodeled FPD and FFPD facilities would be required to house the additional service personnel, the construction of which could cause environmental impacts. Both the proposed plan and the Reduced Density alternative contain the same policies and programs to ensure adequate police and fire protection, and to ensure that the construction of new or remodeled police and fire facilities occurs in a coordinated manner to minimize potential impacts. This alternative results in approximately 15% less development than the proposed plan and lower demand for police and fire protection and the associated facilities, thus law enforcement and fire protection impacts would be *less* under this alternative.

Schools. The Planning Area is served by the Fortuna Union Elementary, Hydesville Elementary, Rohnerville, and Fortuna Union High School Districts. Both the Reduced Density Alternative and the proposed plan would permit new development in the Planning Area generating additional students and creating demand for new or remodeled school facilities. The Reduced Density Alternative would project the development of up to 4,609 new residential units with an estimated increase of 3,227 new students and the need for six new schools. In contrast, the proposed plan would permit the up to 5,725 new residential units with an estimated 4,008 new students and the need for 10 new schools. New development under both plans would be required to pay the State-mandated school impact fees that would fund the construction of additional schools, and that would generate additional tax revenues which would fund the operation of these additional schools; neither plan would result in significant impacts to schools. Therefore, school impacts would be *similar* between the two plans.

Air Quality. The Planning Area is located within the North Coast Air Basin (NCAB) and within the jurisdiction of the North Coast Unified Air Quality Management District (NCUAQMD). The NCAB is currently in “non-attainment for particulate matter of 10 microns or less (PM10)”, and ozone is a pollutant of concern in the NCAB. Both the No Project Alternative and the proposed plan would result in the following air quality impacts:

Less-than-Significant Impacts:

- 1) Conflict with or obstruct implementation of the applicable Air Quality Management Plan (construction emissions);
- 2) Expose sensitive receptors to substantial pollutant concentrations; and
- 3) Create objectionable odors affecting a substantial number of people.

Significant Unavoidable Adverse Impacts:

- 1) Conflict with or obstruct implementation of the applicable Air Quality Management Plan (operational emissions only; not construction emissions);
- 2) Violate air quality standards or contribute substantially to an existing or projected air quality violation (construction emissions including CO; operational emissions including ROG, NO_x, CO and PM₁₀);
- 3) Result in a cumulatively considerable net increase of criteria pollutants for which the region is in non-attainment (PM₁₀); and
- 4) Conflict with the State goal of Reducing GHG emissions.

Both plans would be subject to NCUAQMD construction and operational emission reduction BMPs, and both would implement the same policies and programs designed to further reduce air emissions. However, because the Reduced Density Alternative would result in approximately 15% less development than the proposed plan, it would result in approximately 15% less air emissions. Therefore, while it is not anticipated that this alternative would avoid any of the significant unavoidable air quality impacts of the proposed plan, air quality impacts would still be *less* under this alternative.

Noise. Both the Reduced Density Alternative and the proposed plan would permit a substantial amount of new development within the Planning Area generating construction, stationary source and mobile source noise, and could expose persons to excessive existing noise levels. The table below identifies the noise impacts of the Reduced Density Alternative and the proposed plan.

Impact	Reduced Density Alternative	Proposed Plan
Expose new noise-sensitive uses to existing noise in excess of applicable standards	LTS	LTS
Result in substantial temporary or periodic increases in ambient noise levels	LTS	LTS
Result in substantial permanent increases in ambient noise levels		
- Impacts on existing noise-sensitive uses	SU	SU
- Impacts on new noise-sensitive uses	LTS	LTS
Expose persons to excessive ground borne noise or vibration	LTS	LTS
Expose persons to excessive airport/airplane noise	LTS	LTS
<i>LTS = Less-than-significant impact</i>		
<i>SU = Significant unavoidable adverse impact</i>		

As indicated in the table, both plans would result in less-than-significant impacts in terms of the majority of the noise issues evaluated, and one significant unavoidable adverse impact. Less-than-significant noise impacts would occur because, although each plan would generate substantial construction, stationary and mobile source noise, identical policies and programs are included to avoid significant impacts associated with this noise. There is one significant unavoidable noise impact that would occur under both plans. This impact is a substantial permanent increase in ambient noise levels at existing noise-sensitive sites and will occur with both plans as a result from increased traffic noise along Fortuna's surface streets and the lack of policies, programs, and feasible mitigation to avoid this impact.

Although both plans would result in less-than-significant impacts for the majority of the evaluated noise issues, and one significant unavoidable impact, the degree of these impacts would be less under the Reduced Density alternative. This is because the alternative would generate approximately 15% less development than the proposed plan resulting in less construction activities and traffic, and fewer stationary noise sources. Therefore, noise impacts would be *less* under this alternative.

Geologic and Seismic Hazards. The Planning Area is located within a seismically active area. The Little Salmon Fault, an active fault with a State-designated Alquist-Priolo Earthquake Fault Zone around it, bisects the easternmost portion of the Planning Area. The northern and eastern portions of the Planning Area contain hillsides and the potential for unstable slopes and landslides. The western and southern portions of the Planning Area are bounded by the Eel and Van Duzen Rivers and are underlain by sedimentary materials and the potential for unstable soils (e.g., soils subject to liquefaction, lateral spreading, subsidence, or expansion). Both the Reduced Density Alternative and the proposed plan would permit a substantial amount of additional development in the Planning Area subjecting this development and associated population to geologic and seismic hazards. However, because development under both plans would be subject to Alquist-Priolo building setback requirements for the Little Salmon fault and the State building code requirements, and because both plans would contain the same proposed policies and programs designed to avoid significant geologic and seismic hazards, neither plan would subject more people or property to significant geologic or seismic hazards. Therefore, geologic and seismic hazards impacts would be *similar* between the two plans.

Human-Made Hazards and Emergency Response. The Planning Area currently contains 94 recorded hazardous materials sites, a substantial number of pre-1979 buildings that may contain asbestos and lead-based paint, and the Rohnerville Airport. Permitted development under both the Reduced Density Alternative and the proposed plan has the potential to: (1) release hazardous materials into the environment from existing hazardous materials/waste sites during construction; (2) release asbestos and lead-based paint into the environment during renovation or demolition of pre-1979 buildings; (3) include new development that could handle/emit hazardous materials, including within one-quarter mile of a school; (4) include new development around Rohnerville Airport that could include uses incompatible with airport operations; and (5) increase the need for emergency response and evacuation planning. Because the use, handling, emission, transportation and disposal of hazardous materials is heavily regulated, and because no new regional chemical plants, oil refineries, or other large industrial facilities that use substantial quantities of hazardous materials are proposed, neither plan would result in a significant hazardous materials release hazard associated with the operation of new development, including the operation of new development within one-quarter mile of a school. Similarly, because the

Humboldt Airport Land Use Compatibility Plan prohibits development that could cause significant impacts to airport and aircraft operations or a significant safety hazard to people residing or working in the vicinity, neither plan would result in significant airport hazards. Finally, both plans contain the same proposed policies and programs designed to avoid the release of hazardous materials associated with the disturbance of existing hazardous materials/waste sites and buildings, and designed to provide for adequate emergency response and evacuation planning. Therefore, human-made hazardous and emergency response planning impacts would be *similar* between the two plans.

Flooding. The Planning Area contains lands located within the 100-year floodplains of the Eel River, Van Duzen River, and area creeks. This includes all of the area west of HWY 101, most of the area south of SR 36, and areas along the North Fork of Strongs Creek and the lower reaches of Mill and Rohner Creeks. Many of these areas have flooded in the past and are likely to flood in the future. Both the Reduced Density Alternative and the proposed plan would designate lands within the 100-year floodplain for urban development, including residential uses. Both plans would be subject to Mitigation Measure 8.5-1a in Section 8.5 of this PEIR requiring that all proposed buildings in the 100-year floodplain, not just non-residential buildings, be elevated above the 100-year Base Flood Elevation (BFE). This mitigation reduces exposure of new development and persons to 100-year flood hazards under either plan. Both plans would also include the same proposed policies and programs that further reduce this hazard and avoid the potential for new development to cause the flooding of downstream properties or to impede or redirect flood flows. This alternative would result in approximately 15% less development than the proposed plan resulting in less runoff into area storm drains, significant flooding impacts would be avoided under both plans. Therefore, flooding impacts would be *similar* between the two plans.

Wildland Fires. Wildland fires are primarily an issue in the unincorporated northern and eastern portions of the Planning Area at the urban/rural interface. This is an area of steep slopes and coniferous forest located within a State Responsibility Area (SRA) and under the fire protection responsibility of CAL FIRE. The affected areas are identified by 2006 Humboldt County Master Fire Protection Plan (HCMFPP) as “moderate” to “very high” wildland fire risk. Under both the Reduced Density Alternative and the proposed plan, portions of these areas, including within the proposed Carson Woods Road and Strongs Creek and Rohnerville Annexation Areas and other areas between the eastern boundary of the incorporated City and the eastern boundary of the Planning Area would be designated for urban uses,. Thus, both plans would expose persons and property to loss, injury or death involving wildland fires. However, these areas are currently subject to Humboldt County’s “Fire Safe” regulations that implement the State’s SRA Fire Safe Regulations on behalf of CAL FIRE as authorized by PRC §4290. These regulations include emergency access, emergency water (fire flow), brush clearance, defensible space, and other measures adopted by Humboldt County and the State to avoid significant wildland fire impacts. Although the Reduced Density alternative would permit less development than the proposed plan in these areas exposing fewer persons and less property to wildland fire risks: (1) both plans contain the same policies and programs designed to minimize wildland fire risks; (2) new development under either plan would be subject to the County’s Fire Safe regulations for as long as these areas stay in the County; and (3) if areas in the Sphere of Influence are eventually annexed to the City, Mitigation Measure 8.6a would require the City to adopt and implement the County’s Fire Safe regulations within these areas. Therefore, wildland fire impacts would be *similar* between the two plans.

Resource Management Alternative

Land Use and Land Use Plans. Under the Resource Management Alternative, the broad distribution of land uses would be similar to the proposed plan, except that more outlying areas remain in agriculture and timber uses (versus the proposed plan where more outlying areas would be designated as rural residential, park, and open space). Neither plan would physically divide an established community; no highways, large-scale industrial plants, levees or other development typically associated with creating barriers are proposed. Also, neither plan would conflict with a Habitat Conservation Plan (HCP) or Natural Communities Conservation Plans (NCCP); no such plans currently apply in the Planning Area. Both plans could generate land use conflicts but they each contain the same policies and programs designed to reduce conflicts. Both plans would conflict with existing plans adopted to avoid or mitigate environmental effects in the proposed Annexation Areas. Land designated by the County for agriculture and timber would be allocated to urban uses. However, these conflicts would be less under this alternative (e.g., a large portion of the Strongs Creek Annexation Area, currently designated by the County as Agriculture and by the proposed plan as Residential Low, would remain designated as Agriculture under this alternative). Therefore, land use impacts would be *less* under this alternative.

Housing and Population. Neither the Resource Management Alternative nor the proposed plan would result in population or housing displacement. Neither plan proposes specific development projects and the Fortuna Zoning Code §17.54.185 specifically permits the continued occupancy and operation of nonconforming uses. Also, both plans would be consistent with adopted regional fair-share housing demand forecasts. Both would provide adequate residentially-designated land to accommodate Fortuna's fair share allotment of regional housing demand as set forth in HCAOG's RHNA. In these respects, housing and population impacts would be similar between the two plans, although this alternative would include less housing and thus potentially be less effective in achieving RHNA regional housing objectives than the proposed plan.

As indicated in Table 9-3, the Planning Area currently contains 4,918 residential units, 11,489 residents, and 3,342 employees. At buildout under this alternative these numbers would increase this to 10,407 units, 24,352 residents and 12,377 employees. Buildout under the proposed plan would increase these numbers to 10,643 units, 24,904 residents and 12,967 employees. Based on these estimates, both plans would indirectly result in significant unavoidable population growth inducement. The extent of this impact would be similar between the two projects because the number of residential units and the resident and employee populations would be similar. Therefore, housing and population impacts would be *similar* between the two plans.

Economic Impacts. As indicated in Table 9-3, the Planning Area currently contains 285,000 sq. ft. of commercial and 191,000 sq. ft. of industrial uses. At buildout under the Resource Management alternative, this would increase this to 1,239,657 sq. ft. of commercial and 563,691 sq. ft. of industrial uses. Under the proposed plan the area would increase this to 1,258,460 sq. ft. of commercial/mixed and 591,900 sq. ft. of industrial uses. The proposed plan would not generate blight as discussed under the No Project Alternative. Because this alternative would include even less commercial and industrial development, it would not generate blight. Therefore, economic impacts would be *similar* between the two plans.

Roadway and Highway System (Traffic). The Resource Management Alternative and associated Land Use Diagram (Figure 9-4) would be adopted to reduce impacts of the Proposed Project. The land use assumptions, trip generation rates, and resulting trip ends are summarized in Table 9-8.

**Table 9-8
Resource Management Alternative Trip Generation Summary**

Land Use	Units	Daily		A.M. Peak Hour				P.M. Peak Hour			
		Rate	Trips	Rate	Trips	In	Out	Rate	Trips	In	Out
Residential Rural	1,633.54	9.57	15,633	0.75	1,225	306	919	1.01	1,650	1,039	610
Residential Very Low	1,261.31	9.57	12,071	0.75	946	236	709	1.01	1,274	803	471
Residential Low	4,307.59	9.57	41,224	0.75	3,231	808	2,423	1.01	4,351	2,741	1,610
Residential Medium	1,379.52	6.72	9,270	0.51	704	141	563	0.62	855	556	299
Residential High	1,172.40	6.72	7,879	0.51	598	120	478	0.62	727	472	254
Commercial (ksf)	235.06	44.32	10,418	1.03	242	148	94	2.71	637	280	357
Riverwalk District (ksf)	177.30	33.34	5,911	2.05	363	269	95	2.64	468	183	286
Office (ksf)	199.10	21.16	4,213	4.6	916	806	201	1.49	297	50	246
Central Business District (ksf)	119.04	21.16	2,519	4.6	548	482	120	1.49	177	30	147
Mill District (ksf)	285.60	44.32	12,658	1.03	294	179	115	2.71	774	341	433
Corridor Mixed Use (ksf)	213.59	127.15	27,158	13.53	2,890	1,503	1,387	18.8	4,015	2,209	1,807
Industrial (ksf)	563.49	6.97	3,928	1.01	569	512	57	1.08	609	85	523

Source: SHN, 2010.
Notes: sfd = single family dwelling, du = dwelling unit, ksf = 1000 square feet.

Based on the applied assumptions, projected Reduced Density alternative future development within the Planning Area will generate an average of 152,880 trip ends per day; 12,525 during the morning peak hour and 15,834 during the evening peak hour.

To compare the transportation effects of the alternatives, the peak hour trip generation rates were compared. The comparison was limited to the peak hours to remain consistent with the Proposed Project evaluation. The peak hour comparison and percentage differences are summarized in Table 9-9.

Table 9-9
Comparison of Trip Generation Under the Proposed Plan and Resource Management Alternative

Land Use	Proposed Plan		Resource Management Alternative			
	AM Peak Trips	PM Peak Trips	AM Peak Trips	PM Peak Trips	% Diff AM	% Diff PM
Residential Rural	1254	1689	1,225	1,650	2%	2%
Residential Very Low	968	1304	946	1,274	2%	2%
Residential Low	3,307	4453	3,231	4,351	2%	2%
Residential Medium	720	875	704	855	2%	2%
Residential High	612	744	598	727	2%	2%
Commercial	246	647	242	637	2%	2%
Riverwalk District	369	475	363	468	2%	1%
Office	930	301	916	297	2%	1%
Central Business District	556	180	548	177	2%	1%
Mill District	309	813	294	774	5%	5%
Corridor Mixed Use	2,934	4077	2,890	4,015	2%	2%
Industrial	4,126	639	569	609	86%	5%
Totals	16,331	16,197	12,525	15,834	23%	2%

Source: SHN, 2010.

Notes: NA = not applicable, % Difference is between alternative and proposed plan, negative % difference indicates increased volume.

As the table indicates, the number of trips projected during the AM and PM peak hour reduced 23% and 2%, respectively, for the Reduced Density Alternative versus the Proposed Plan. Both plans would implement the same substantial policies and programs designed to mitigate traffic impacts. Also, both plans would generate roughly the same number of PM peak hour trip ends which is the critical time period. Thus, traffic impacts would be *similar* between the two plans.

Bicycle and Pedestrian Facilities. The Resource Management Alternative would result in less demand for bicycle and pedestrian facilities than the proposed plan due to the lower amount of development under this alternative. However, both plans contain the same policies and programs designed to ensure that adequate bicycle and pedestrian facilities are provided. Therefore, bicycle and pedestrian facilities impacts would be *similar* between the two plans.

Public Transportation. The Resource Management Alternative would result in less demand for public transit than the proposed plan due to the lower amount of development under this alternative. However, both plans contain the same policies and programs designed to ensure that adequate public transit is provided. Therefore, public transportation impacts would be *similar* between the two plans.

Hydrology and Water Resources. In 2007, City wells extracted 1,402 acre-feet of water from the Eel River Valley Groundwater Basin. Under the Resource Management Alternative and the proposed plan, groundwater extraction would increase to 2,770 and 3,078 acre-feet, respectively. Neither plan would substantially deplete groundwater supplies to the point that there would be a net deficit in aquifer volume or a lowering of the Basin-wide groundwater level. This is because the Basin currently experiences a substantial water surplus (i.e., annual recharge exceeds annual withdrawals). Development under both plans would increase discharges of stormwater runoff and treated wastewater in to surface waters including the Eel River. The Eel River is USEPA 303(d) listed as “impaired” for temperature and sediment. Such discharges would be subject to existing federal, State, County and local regulations and requirements designed to protect surface water quality (e.g., federal Clean Water Act, Basin Plan, Eel River TMDLs, Fortuna SWMP, Fortuna NPDES Phase II Municipal Stormwater Discharge Permit, Fortuna NPDES Permit for WWTP Discharges, etc.). In addition, both plans include the same proposed policies and programs designed to reduce the number of additional sources of polluted runoff and avoid violations of water quality standards and waste discharge requirements. Because of this, and because the amount of stormwater runoff and wastewater generated would be generally similar between the two plans (within approximately 10% of one-another), the hydrology and water resources impacts would be *similar*.

Biological Resources. The Planning Area contains: four recorded special-status plant species including Whitney’s farewell-to-Spring, Siskiyou checkerbloom, maple-leaved checkerbloom, and Pacific gilia; three recorded special-status animal species (tricolored blackbird, red tree vole and coastal cutthroat trout); potentially 10 other special-status plant species and 11 other special-status animal species (including several fish species); at least 30 jurisdictional wetlands; large areas of potential special-status species habitat (creeks, forests, etc.); and both waters of the U.S. and riparian habitat. Development permitted under both the Resource Management Alternative and the proposed plan would have the potential to impact these biological resources, although both plans contain policies and programs to avoid significant biological resources impacts on a plan basis. However, the cumulative loss of sensitive-species habitat would be significant and unavoidable under either plan. The Resource Management alternative allows for approximately 10% less development, would designate existing areas of sensitive species habitat as Open Space, and would include additional programs aimed at protecting biological resources (such as providing a wider SMA areas around creeks and wetlands), and thus would impact less habitat. Therefore, biological resources impacts would be *less* under this alternative.

Agricultural and Timber Resources. The Planning Area currently contains 923 acres of prime farmland, 861 acres of timberland, 2,842 acres designated by Humboldt County as Agriculture (AE, AG, AR, and AS), 120 acres designated by the County as Timber, and 396 acres under Williamson Act contracts. Under the Resource Management Alternative, no prime farmland would be converted to urban use, 290 acres of timberland would be converted to urban use, and

approximately 700 acres currently designated for Agriculture would be designated for urban use. In contrast, under the proposed plan, 289 acres of prime farmland and 290 acres of timberland would be converted to urban use, and over 1,000 acres of land currently designated Agriculture land would be designated for urban use. Both plans would convert timberland for urban uses and conflict with existing agricultural zoning (a significant impact); neither plan would conflict with existing Williamson Act contracts (no impact). However, this alternative would avoid the conversion of prime farmland (a significant unavoidable adverse impact of the proposed plan), and would result in fewer conflicts with agricultural zoning. Therefore, agricultural and timber resources impacts would be *less* under this alternative.

Cultural Resources. The Planning Area is a potential site for significant archaeological resources, Native American remains and paleontological resources. The Planning Area also contains one building listed on the National Register of Historic Places (Gunshaw-Mudgett House), 72 buildings that are potentially eligible for listing, and at least one potential historic district (the Rohnerville area). Both the Resource Management Alternative and the proposed plan would permit development and construction activities within the Planning Area that could disturb these cultural resources. Although this alternative would permit approximately 10% less development than the proposed plan and potentially less impact on cultural resources, the plans contain the same policies and programs to avoid significant impacts to cultural resources. However, this alternative includes an additional policy not included under the proposed plan that requires the City to evaluate two areas identified in Figure 9-4 as representing “Potential Historic Districts (e.g., Downtown and Rohnerville area) against National Register of Historic Places and California Register of Historic Resources criteria to determine whether they are eligible for listing as historic districts in these registers, and if yes, that the City seek such listing. This would provide additional historic resource protection in areas not provided under the proposed plan (i.e., protect the historic context of these areas). Therefore, cultural resources impacts would be *less* under this alternative.

Mineral Resources. The Planning Area contains two aggregate extraction sites, both located in the western most portion of the Planning Area along the Eel River. Both are delineated in the Humboldt County General Plan as mineral resource sites. Under the Land Use Diagrams of the Resource Management Alternative, the northerly of these two sites would be designated as Open Space and the southerly as Agriculture. Under the Land Use Diagram of the proposed plan, the northerly and southerly sites would be designated as Industrial and Agriculture, respectively. None of these designations specifically permits aggregate extraction operations. In addition, there is the potential that existing aggregate extraction operations at these sites could be classified as “nuisances” in the future in response to petitions from adjacent landowners, potentially curtailing existing gravel extraction operations. However, Mitigation Measure NCR-4.9 requires the City to allow existing mineral extraction operations to continue and prohibits their classification as “nuisances”. Thus neither plan would result in the loss of a known mineral resource that is valuable to the region or the loss of a delineated locally-important mineral extraction site. Therefore, mineral resources impacts would be *similar* between the two plans.

Energy Conservation. Implementation of either the Resource Management Alternative or the proposed plan would substantially increase energy consumption in the Planning Area. This alternative would result in approximately 10% less development and lower energy consumption when compared to the proposed plan. At the same time, this alternative would result in lower-

density development as several large parcels in the City's urban core would be designated as Agriculture or Open Space resulting in a less efficient and more energy consumptive land use pattern. Both plans include the same energy conservation policies and programs designed to avoid the inefficient, wasteful or unnecessary consumption of energy. With the implementation of these policies and programs, energy conservation impacts would be *similar* between the two plans.

Parks, Recreation and Open Space. The Planning Area currently contains 75 acres of parkland, several recreational facilities, and approximately 563 acres of open space (mostly privately-owned). Both the Resource Management Alternative and the proposed plan would designate 227.9 acres for Parkland. Both plans would also include the same policies and programs designed to allow the City to meet its demand for new parks, recreational facilities and open space while providing adequate maintenance of existing park and recreational facilities. However, this alternative would designate 1,098.8 acres as Open Space versus the proposed plan's 778.4 acres and would generate lower demand for parks, recreational facilities and open space because it would permit approximately 10% fewer residential units and smaller resident population. Therefore, parks, recreation and open space impacts would be *less* under this alternative.

Visual Resources. The Planning Area contains vistas and other scenic resources, and has the visual character a small town surrounded by large tracts of forested and agricultural land and open space. Both the Reduced Density alternative and the proposed plan would permit substantial amounts of new development that could adversely affect scenic vistas, damage scenic resources, degrade the existing visual character of the City and its surroundings, and create substantial light and glare. This alternative would result in 10% less development and retain some areas in open space that would be developed under the proposed plan. Regardless, the same visual resource policies and mitigation measures apply to both plans and would avoid significant impacts to visual resources. Therefore, visual resources impacts would be *similar* between the two plans.

Water Supply and Distribution. City wells currently withdraw approximately 1,402 acre-feet of water annually from Eel River Valley Groundwater Basin. The City distributes this water to its service area via the City's municipal water system. Under the Resource Management Alternative and the proposed plan, new development would increase water demand to 2,770 and 3,078 acre-feet, respectively. Both plans would include the same policies and programs linking new development to the availability of adequate water infrastructure, and ensuring that water infrastructure improvements are developed in a coordinated manner to minimize potential impacts. Also, although proposed urban development would consume less water under this alternative as indicated by the quantified estimates above, more farmland and agricultural water uses would be retained under this alternative; therefore, water consumption would not necessarily be less under this alternative. Thus, water supply and distribution impacts would be *similar* between the two plans.

Wastewater Collection, Treatment, and Disposal. WWTP treated effluent discharges occur at two locations. The City's primary discharge point is percolation ponds located near the Eel River. Treated effluent is discharged to groundwater through the percolation ponds during summer months when low river levels predominate. Treated effluent is discharged to Strong's

Creek both during the winter months when high river levels predominate and also during maintenance of the percolation ponds in early spring. These discharges occur under the City's NPDES permit for WWTP discharges (which is separate from the City's NPDES stormwater discharge permit). The NPDES WWTP discharge permit sets quantity, pollutant and temperature limitations for the discharge (City of Fortuna 2007).

The City's WWTP treats 0.95 MGD of wastewater during dry-weather conditions and has a dry-weather capacity of 1.5 MGD. Therefore, the treatment facility is currently operating at approximately 63 percent of its dry-weather flow capacity. Under the Resource Management Alternative, dry-weather flows would increase to 2.0 MGD, while under the proposed plan they would increase to 2.2 MGD.

During wet-weather conditions, the WWTP has a peak wet-weather flow capacity of 7.0 MGD. Peak flows over 3.0 to 4.0 MGD are bypassed to holding ponds and returned for treatment during low flow periods (NCRWQCB, 2009). The WWTP has experienced wet-weather flows of up to 7.0 MGD, and therefore currently operates at up to 100% capacity during large storm events. Under the Resource Management Alternative and the proposed plan, the increase in service population and impervious surfaces will increase wet-weather flows, potentially exceeding the 7.0 MGD wet-weather capacity of the WWTP during certain storm events.

The increased wastewater generated under both plans would require collection, treatment and disposal by the City. Because any increased wastewater discharges must be consistent with the City's existing or amended discharge permit and because this permit will continue to be formulated by NCRWQCB consistent with the discharge requirements of the Basin Plan, Eel River TMDLs, and the City's WDRs, neither plan would result in violations of wastewater treatment or discharge requirements. Wastewater amounts under both plans will eventually exceed the existing capacity of some sewer trunk pipelines and the WWTP requiring upgrades to both. However, the plans contain identical policies and programs that link new development to the availability of adequate wastewater collection, treatment and disposal infrastructure, and which ensure that wastewater infrastructure improvements are developed in a coordinated manner to minimize potential impacts. While urban development under this alternative would generate slightly less wastewater, more farms would be retained including farms currently served by private septic systems. Thus the required wastewater collection, treatment and disposal capacity would not necessarily be less under this alternative. Therefore, wastewater collection, treatment and disposal impacts would be *similar* between the two plans.

Storm Water Drainage. Portions of the Planning Area are currently served by the City of Fortuna's storm water drainage system which collects storm water runoff and discharges it to area creeks and the Eel River under the City's NPDES storm water discharge permit and several construction- and operations-related general permits. New development permitted under both the Resource Management Alternative and the proposed plan would: (1) alter the existing drainage pattern in certain areas in a manner which would result in erosion or siltation; (2) increase the rate and amount of surface runoff in a manner which could result in flooding; (3) create runoff which could exceed the capacity of existing storm water drainage systems; and (4) necessitate the construction of new storm water drainage facilities, the construction of which could cause environmental effects. Both plans contain the same substantial number of policies and programs that would avoid significant drainage impacts associated with the above. Still, this

alternative would designate several hundred acres more of the Planning Area as Agriculture or Open Space than would the proposed plan, and thus would avoid the four drainage impacts identified above in these areas. Therefore, storm water drainage impacts would be *less* under this alternative.

Solid Waste. The City of Fortuna contracts with Eel River Disposal and Resource Recovery Inc. (ERD) for municipal, recyclable and green waste collection. It also subsidizes the purchase price of compost bins to City residents. Municipal waste collected by ERD is disposed of at the Anderson Landfill (Shasta County) which currently at 50% of its permitted capacity of 16.0 million cubic yards. Recyclables are sorted at ERD's transfer station in Fortuna and sold. Scotia and others incinerate the green waste to produce electricity. In 2008m the City generated 8,281 tons of solid waste and is striving to achieve a 50% waste diversion and a 70% diversion by 2015 as required by AB 939. Under the Resource Management Alternative and the proposed plan, solid waste generation would increase to 17,776 and 18,180 tpy, respectively. Because ERD has confirmed that the Anderson Landfill has capacity through 2030, to accommodate solid waste generation under the proposed plan, and because solid waste generation would be less under this alternative, adequate capacity exists at the landfill to accommodate solid waste generation under this alternative. Also, both plans contain the same policies and programs to reduce solid waste, maximize recycling, and help the City achieve its AB 939 waste diversion targets. Finally, both plans would generate roughly similar amounts of solid waste. Therefore, solid waste impacts would be *similar* between the two plans.

Electricity and Natural Gas. PG&E annually provides 82,826 MWh of electricity and 8.0 million therms of natural gas to the Planning Area. Under the Resource Management Alternative, this energy would increase to 177,770 MWh and 17.2 million therms. Under the proposed plan it would increase to 181,799 MWh and 17.6 million therms annually. To provide this increased electricity and natural gas within the Planning Area, additional gas and electricity facilities would be required, the construction of which would cause environmental effects. Both plans contain the same policies and programs to avoid significant drainage impacts associated with this construction, and both create demand for roughly similar amounts of electricity and natural gas. Therefore, electricity and natural gas impacts would be *similar* between the two plans.

Law Enforcement and Fire Protection. Law enforcement within incorporated areas of the Planning Area is provided by the FPD. The Humboldt County Sheriff serves the unincorporated areas. Fire protection is provided by the FFPD. In order to maintain existing levels of service, at buildout under the Resource Management Alternative 16 new FPD police officers and 72 new FFPD volunteer firefighters would be required. At buildout under the proposed plan, 17 new FPD police officers and 74 new FFPD volunteer firefighters would be needed. New or remodeled FPD and FFPD facilities would be needed in order to house additional service personnel, the construction of which could cause environmental impacts. Both plans contain the same policies and programs to ensure that adequate police and fire protection service is provided, and to ensure that the construction of new or remodeled police and fire protection facilities occurs in a coordinated manner to minimize potential impacts. Also, both plans create demand for roughly the same amount of new police and fire protection personnel and associated facilities. Therefore, law enforcement and fire protection impacts would be *similar* between the two plans.

Schools. The Planning Area is currently served by the Fortuna Union Elementary, Hydesville Elementary, Rohnerville, and Fortuna Union High School Districts. Both the Resource Management Alternative and the proposed plan would permit new development in the Planning Area adding students and creating demand for new or remodeled school facilities. The Resource Management Alternative would permit up to 5,489 new residential units, an estimated 3,850 new students and the need for nine new schools. The proposed plan would permit up to 5,725 new residential units, an estimated 4,008 new students and the need for 10 new schools. New development under both plans would be required to pay State-mandated school impact fees to fund the construction of additional schools, and to generate additional tax revenues to fund their operation. Thus, neither plan would result in significant impacts to schools. Therefore, school impacts would be *similar* between the two plans.

Air Quality. The Planning Area is located within the North Coast Air Basin (NCAB) and within the jurisdiction of the North Coast Unified Air Quality Management District (NCUAQMD). The NCAB is in “non-attainment for particulate matter of 10 microns or less (PM₁₀) and ozone is a pollutant of concern in the NCAB. Both the Resource Management Alternative and the proposed plan would result in the following air quality impacts:

Less-than-Significant Impacts

- 4) Conflict with or obstruct implementation of the applicable Air Quality Management Plan (construction emissions);
- 5) Expose sensitive receptors to substantial pollutant concentrations; and
- 6) Create objectionable odors affecting a substantial number of people.

Significant Unavoidable Adverse Impacts

- 1) Conflict with or obstruct implementation of the applicable Air Quality Management Plan (operational emissions only; not construction emissions);
- 2) Violate air quality standards or contribute substantially to an existing or projected air quality violation (construction emissions including CO; operational emissions including ROG, NO_x, CO and PM₁₀);
- 3) Result in a cumulatively considerable net increase of criteria pollutants for which the region is in non-attainment (PM₁₀); and
- 4) Conflict with the State goal of Reducing GHG emissions.

Both plans would be subject to NCUAQMD construction and operational emission reduction BMPs, and both would implement the same policies and programs designed to further reduce air emissions. However, because the Reduced Density Alternative would preserve approximately 500 more acres in agriculture and open space than the proposed plan, it would result in substantially fewer construction emissions. Also, this alternative would include fewer residential units and less commercial/industrial development than the proposed plan resulting in somewhat fewer operational (stationary and mobile source) emissions. Therefore, while it is not anticipated that this alternative would avoid any of the significant unavoidable air quality impacts of the proposed plan, air quality impacts would still be *less* under this alternative.

Noise. Both the Resource Management Alternative and the proposed plan would permit a substantial amount of new development within the Planning Area, and this development would generate construction, stationary source and mobile source noise, that could expose persons to excessive existing noise levels. This table identifies the noise impacts of the Reduced Density Alternative and the proposed plan.

Impact	Resource Management Alternative	Proposed Plan
Expose new noise-sensitive uses to existing noise in excess of applicable standards	LTS	LTS
Result in substantial temporary or periodic increases in ambient noise levels	LTS	LTS
Result in substantial permanent increases in ambient noise levels - Impacts on existing noise-sensitive uses - Impacts on new noise-sensitive uses	SU LTS	SU LTS
Expose persons to excessive ground borne noise or vibration	LTS	LTS
Expose persons to excessive airport/airplane noise	LTS	LTS
<i>LTS = Less-than-significant impact</i> <i>SU = Significant unavoidable adverse impact</i>		

As indicated, both plans would result in less-than-significant impacts for the majority of the noise issues evaluated, and one significant unavoidable adverse impact. The less-than-significant noise impacts would occur because, although each plan would generate substantial construction, stationary and mobile source noise, the same policies and programs would apply to avoid significant impacts associated with this noise. The one significant and unavoidable noise impact is a substantial and permanent increase in ambient noise levels at existing noise-sensitive sites that occur primarily to an increase in traffic noise along Fortuna's surface streets under both plans and the lack of policies, programs, and feasible mitigation to avoid this impact.

While this alternative would result in less overall development than the proposed plan, it is not anticipated that this difference would translate into any substantive Planning Area wide reduction of noise that would be generated under the proposed plan. However, under this alternative approximately 500 acres that would be developed under the proposed plan will remain undeveloped. It is therefore conceivable that, in these areas, significant mobile source (e.g., traffic-related) noise impacts on any existing noise-sensitive uses would be avoided. Therefore, noise impacts would be *less* under this alternative.

Geologic and Seismic Hazards. The Planning Area is located within a seismically active area. The Little Salmon Fault, an active fault with a State-designated Alquist-Priolo Earthquake Fault Zone around it, bisects the easternmost portion of the Planning Area. The northern and eastern portions of the Planning Area contain hillsides and the potential for unstable slopes and landslides. The western and southern portions of the Planning Area are bounded by the Eel and Van Duzen Rivers and are underlain by sedimentary materials and the potential for unstable soils (e.g., soils subject to liquefaction, lateral spreading, subsidence, or expansion). Both the Resource Management alternative and the proposed plan would permit a substantial amount of additional development in the Planning Area subjecting this development and associated population to geologic and seismic hazards. However, because development under both plans

would be subject to Alquist-Priolo building setback requirements for the Little Salmon fault and the State building code requirements, and because both plans would contain the same proposed policies and programs designed to avoid significant geologic and seismic hazards, neither plan would subject more people or property to significant geologic or seismic hazards. Therefore, geologic and seismic hazards impacts would be *similar* between the two plans.

Human-Made Hazards and Emergency Response. The Planning Area currently contains 94 recorded hazardous materials sites, a substantial number of pre-1979 buildings that may contain asbestos and lead-based paint, and the Rohnerville Airport. Development permitted under both the Resource Management alternative and the proposed plan could: (1) release hazardous materials into the environment from existing hazardous materials/waste sites during construction; (2) release asbestos and lead-based paint into the environment during renovation or demolition of pre-1979 buildings; (3) include new development that could handle/emit hazardous materials, including within one-quarter mile of a school; (4) include new development around Rohnerville Airport that could include uses that are incompatible with airport operations; and (5) increase the need for emergency response and evacuation planning. Because the use, handling, emission, transportation and disposal of hazardous materials is heavily regulated, and because no new regional chemical plants, oil refineries, or other large industrial facilities that could use substantial quantities of hazardous materials are proposed, neither plan would result in a significant hazardous materials release hazard associated with the operation of new development, including the operation of new development within one-quarter mile of a school. Similarly, because the Humboldt Airport Land Use Compatibility Plan prohibits development that could cause significant impacts to airport and aircraft operations or a significant safety hazard to people residing or working in the vicinity, neither plan would result in significant airport hazards. Finally, both plans contain the same proposed policies and programs designed to avoid the release of hazardous materials associated with the disturbance of existing hazardous materials/waste sites and buildings, and designed to provide for adequate emergency response and evacuation planning. Therefore, human-made hazardous and emergency response planning impacts would be *similar* between the two plans.

Flooding. The Planning Area contains lands located within the 100-year floodplains of the Eel River, Van Duzen River, and area creeks. This includes all of the area west of HWY 101, most of the area south of SR 36, and areas along the North Fork of Strongs Creek and the lower reaches of Mill and Rohner Creeks. Many of these areas have flooded in the past and are likely to flood in the future. Both the Resource Management alternative and the proposed plan would designate lands within the 100-year floodplain for urban development, including residential uses. Both plans would be subject to Mitigation Measure 8.5-1a in Section 8.5 of this PEIR requiring that all proposed buildings in the 100-year floodplain, not just non-residential buildings, be elevated above the 100-year Base Flood Elevation (BFE). This mitigation reduces exposure of new development and persons to 100-year flood hazards under either plan. Both plans would also include the same proposed policies and programs that further reduce this hazard and avoid the potential for new development to cause the flooding of downstream properties or to impede or redirect flood flows. Although this alternative would result in several percent less development than the proposed plan resulting in less runoff into area storm drains, and although this alternative would designate some areas in the 100-year floodplain west of HWY 101 for agricultural use instead of urban development, significant flooding impacts would be avoided under both plans. Therefore, flooding impacts would be *similar* between the two plans.

Wildland Fires. Wildland fires are primarily an issue in the unincorporated northern and eastern portions of the Planning Area at the urban/rural interface. This is an area of steep slopes and coniferous forest located within a State Responsibility Area (SRA) and under the fire protection responsibility of CAL FIRE. The affected areas are identified by 2006 Humboldt County Master Fire Protection Plan (HCMFPP) as “moderate” to “very high” wildland fire risk. Under both the Reduced Density Alternative and the proposed plan, portions of these areas, including within the proposed Carson Woods Road and Strongs Creek and Rohnerville Annexation Areas and other areas between the eastern boundary of the incorporated City and the eastern boundary of the Planning Area would be designated for urban uses. Thus, both plans would expose persons and property to loss, injury or death involving wildland fires. However, these areas are currently subject to Humboldt County’s “Fire Safe” regulations that implement the State’s SRA Fire Safe Regulations on behalf of CAL FIRE as authorized by PRC §4290. These regulations include emergency access, emergency water (fire flow), brush clearance, defensible space, and other measures adopted by Humboldt County and the State to avoid significant wildland fire impacts. Although the Resource Management alternative would permit less development than the proposed plan in these areas exposing fewer persons and less property to wildland fire risks: (1) both plans contain the same policies and programs designed to minimize wildland fire risks; (2) new development under either plan would be subject to the County’s Fire Safe regulations for as long as these areas stay in the County; and (3) if areas in the Sphere of Influence are eventually annexed to the City, Mitigation Measure 8.6a would require the City to adopt and implement the County’s Fire Safe regulations within these areas. Therefore, wildland fire impacts would be *similar* between the two plans.

9.5 CONSISTENCY WITH GENERAL PLAN OBJECTIVES

The following are the proposed General Plan objectives (e.g., “plan objectives”):

- To maintain Fortuna’s small town character;
- To create a balanced community where residents can live, work, play and shop;
- To establish controlled growth that is adequately served by public services/infrastructure;
- To encourage mixed use, infill, and sustainable development;
- To maintain and enhance scenic resources, including but not limited to views of the Eel River and surrounding Eel River Valley and rustic agricultural lands in the south;
- To strengthen connection with Fortuna’s history and local culture;
- To establish a dynamic waterfront that is easily accessible, that provides scenic and recreational opportunities, and development complimentary to the riverfront;
- To maintain the Downtown area as the established city center and the social, institutional, and economic heart of the City;
- To provide convenient access to parks and recreational, community, and public facilities and services to all Fortuna residents;
- To stimulate economic growth and diversity, particularly through local business, retail

- development and employment, that provide city residents with a living wage;
- To create an extensive open space/trail network along the Eel River and creeks throughout the City;
 - To establish a multi-modal transportation system (i.e., roadways, bike paths, sidewalks) that will provide strong connectivity among neighborhoods and districts, is free of congestion, provides convenient transit opportunities, and greater safety for pedestrians and motorists;
 - To address safety concerns such as landslides, flooding, dangerous intersections and criminal activity;
 - To respond to significant demographic shifts and adequately provide services;
 - To encourage housing types that meet the community's needs, such as senior housing, residential mixed use (such as what exists in Downtown), townhouses, apartments, or second units;
 - To provide protections for riparian corridors, Palmer Creek, Rohner Creek, North Fork Strongs Creek, Strongs Creek, Mill Creek, and Jameson Creek;
 - To expand Riverwalk and recreational and visitor serving uses in the vicinity of the River Lodge Conference Center;
 - To capitalize on the airport as an economic development asset; and
 - To create a well-planned and well-designed Mill District for the old PALCO mill site and adjacent area.

No Project (Existing 1993 General Plan) Alternative

The No Project Alternative would not be consistent with the majority of the plan objectives as set forth below:

- 1) This alternative does not maintain Fortuna's small town character because it results in roughly 13 times more commercial development and 17 times more industrial development than currently exists (compared to roughly four times the amount of commercial and three times the amount of industrial under the proposed plan).
- 2) This alternative does not foster controlled growth that is adequately served by public services and infrastructure, or encourage sustainable development, because: (1) it would require multiple new police stations, fire stations, water intake facilities, wastewater treatment plants, roads and associated rights-of-way, intersection improvements, and other service and infrastructure facilities to serve the large amount of additional development it would permit; and (2) it is unlikely, given the City's small scale, rural nature, and current economic conditions, that the City will pose a tax base sufficient to fund these improvements.
- 3) This alternative does not establish a dynamic waterfront because: (1) it would leave County General Plan land use designation of the waterfront as Agriculture and Industrial rather than preparing for eventual annexation of the waterfront and designating portions of the waterfront as Riverwalk District (e.g., mixed-use); and (2) it

would not include the policies proposed in the proposed plan aimed at creating a tourist, retail, business, and recreational focus area along the waterfront.

- 4) This alternative does not provide convenient access to parks and recreational facilities, or create an extensive open space/trail network, because it would not include park and trail dedication requirements or reserve land along the Eel River or area creeks for open space use.
- 5) This alternative does not establish a multi-modal transportation system with strong connectivity between neighborhoods and districts, that is free of congestion, or that provides convenient transit opportunities, because it would not require multi-modal features in new development (e.g., trails, bike paths, bus stops, carpooling, incentives for transit use, connectivity), and would not require the City to work with the transit provides to extend service.
- 6) This alternative does not address safety concerns as effectively as the proposed plan because it would not include policies and programs requiring construction to be above the base flood elevation within the 100-year floodplain, limiting development on steep hillsides, or requiring hydrologic and geotechnical studies for new development.
- 7) This alternative and the proposed plan would each permit roughly the same number of residential units as the proposed plan, designate an adequate amount of land for residential uses to meet the City's fair share allocation of regional housing need, and incorporate the same separate Housing Element that includes new policies and programs facilitating a range of housing opportunities and promoting affordable housing. However, this alternative would not be as effective as the proposed plan to encourage housing types that meet the community's needs (e.g., senior housing, affordable housing, higher density housing, etc.) because a greater proportion of the housing under this alternative would be low-density housing presumably not as affordable.
- 8) This alternative does not provide protections for riparian corridors because it would not include the Streamside Management Area (SMA) or sensitive habitat analysis requirements of the proposed plan.

Overall, the No Project Alternative is not as effective in achieving the plan objectives as either the proposed plan or the other alternatives.

Reduced Density Alternative

The Reduced Density Alternative would be consistent with a majority of the plan objectives because the majority of the proposed Land Use Diagram and all the proposed policies and programs would be the same between this alternative and the proposed General Plan. Instances where this alternative would be more or less effective at meeting plan objectives are set forth below:

- 1) This alternative would be more effective in maintaining Fortuna's small town character than the proposed plan because it would permit approximately 20% less development than the proposed plan.

- 2) This alternative and the proposed plan would designate an adequate amount of land for residential uses to meet the City's fair share allocation of regional housing need, and would include the same separate Housing Element that includes a substantial number of new policies and programs facilitating a range of housing opportunities and encouraging affordable housing. However, this alternative would designate less land for residential development, especially less land for high density residential development reducing the potential for construction of housing types that meet the community's needs (e.g., senior and affordable housing).
- 3) This alternative would be less effective than the proposed plan in stimulating economic growth and diversity, particularly through local businesses, retail development, and employment opportunities, because it would permit approximately 20% less commercial, mixed-use and industrial development than the proposed plan.

Overall, the Reduced Density Alternative is slightly less effective in achieving the plan objectives than either the proposed plan or the Resource Management Alternative, but would be more effective in achieving the plan objectives than the No Project Alternative.

Resource Management Alternative

The Resource Management Alternative would be consistent with the majority of the plan objectives because the majority of the proposed Land Use Diagram and proposed policies and programs are the same as the proposed General Plan. Instances where this alternative would be more or less effective at achieving the plan objectives are set forth below:

- 1) This alternative would be more effective than the proposed plan in maintaining Fortuna's small town character because a greater proportion of currently undeveloped and agricultural areas would remain undeveloped under this alternative.
- 2) This alternative would be less effective than the proposed plan in encouraging mixed use and infill development because it would designate certain areas within Fortuna's urban core as Added Open Space or Added Agriculture rather than permitting infill of these parcels.
- 3) This alternative would be more effective than the proposed plan in strengthening the connection with Fortuna's history and local culture because it would include a program requiring the City to review and potentially establish historic districts in areas of the City where compact groups of 1800s and early 1900s-era structures exist.
- 4) This alternative would be more effective than the proposed plan in maintaining and enhancing scenic resources, including views of the Eel River, surrounding valley, and agricultural lands, because a greater proportion of the undeveloped Eel River waterfront and existing agricultural lands would be preserved under this alternative.
- 5) This alternative would be less effective than the proposed plan in stimulating economic growth and diversity, particularly through local businesses, retail development, and employment opportunities because it would not permit some commercial and industrial development permitted under the proposed plan.

- 6) This alternative would be more effective than the proposed plan in providing protections for riparian corridors because, while both this alternative and the proposed plan would require the establishment of SMA no-build buffers adjacent to the Eel River and area creeks and wetlands.

Overall, the Resource Management Alternative would be more effective than the proposed plan in meeting the plan's small town character and resource-based objectives, and slightly less effective than the proposed plan in meeting the plan's development-based objectives. With respect to the other alternatives, the Resource Management Alternative would be more effective in meeting the plan objectives than either the No Project or Reduced Density Alternatives.

9.6 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

As indicated by the totals and rankings at the bottom of Table 9-10, the Reduced Density Alternative would have the least impact, followed by the Resource Management Alternative, the proposed General Plan, and the No Project (Existing 1993 General Plan) Alternative. The Reduced Density Alternative would have less impact than the proposed project in terms of 11 environmental issues, similar impacts in terms of 16 environmental issues, and greater impacts in terms of 0 environmental issues. Although it would not avoid any of the significant and unavoidable adverse impacts of the proposed plan, it would lessen several of these impacts and lessen other impacts of the proposed plan, especially in the quantitative areas (e.g., population growth inducement, traffic, air quality, noise, utilities, and services). In addition, this alternative would achieve most of the plan objectives. Therefore, in accordance with CEQA Guidelines §§15126.6(e), the Reduced Density Alternative is identified as the "environmentally superior alternative".

**Table 9-10
Comparison of Impacts of the Alternatives to Those of the Proposed Plan**

Environmental Issue	Proposed Plan	Alternatives		
		No Project (Existing G.P.)	Reduced Density	Resource Management
Land Use and Land Use Plans	--	less	similar	less
Housing and Population	--	greater	less	similar
Economic Impacts	--	greater	similar	similar
Roadway and Highway System (Traffic)	--	greater	similar	similar
Bicycle and Pedestrian Facilities	--	greater	similar	similar
Public Transportation	--	greater	less	less
Hydrology and Water Resources	--	greater	similar	similar
Biological Resources	--	greater	less	less
Agricultural and Timber Resources	--	less	similar	less
Cultural Resources	--	greater	similar	less
Mineral Resources	--	similar	similar	similar
Energy Conservation	--	greater	similar	similar
Parks, Recreation and Open Space	--	greater	similar	less
Visual Resources	--	greater	similar	similar
Water Supply and Distribution	--	greater	less	similar
Wastewater Collection, Treatment and Disposal	--	greater	less	similar
Storm Water Drainage	--	greater	less	less
Solid Waste	--	greater	less	similar
Electricity and Natural Gas	--	greater	less	similar
Law Enforcement and Fire Protection	--	greater	less	similar
Schools	--	similar	similar	similar
Air Quality	--	greater	less	less
Noise	--	greater	less	less
Geologic and Seismic Hazards	--	greater	similar	similar
Human Made Hazards and Emergency Response	--	greater	similar	similar
Flooding	--	greater	similar	similar
Wildland Fires	--	similar	similar	similar
Totals: Greater Impact	0	22	0	0
Less Impact	0	2	11	9
Similar Impact	28	3	16	18
Environmental Ranking (from lowest to highest impact)	3	4	1	2
<i>Source: Planwest Partners, February 2010.</i>				