



*Tehama Tomorrow*

Tehama Tomorrow Final Report  
Tehama County Transportation Commission  
September 30<sup>th</sup>, 2015

**Sponsored by the California Department of Transportation  
Division of Transportation Planning  
And  
The Federal Highway Administration**

## **Special Recognition and Appreciation**



California Department of  
Transportation

Division of Transportation Planning

Caltrans District 2, Redding

The Tehama County Transportation Commission (TCTC) and staff are pleased to thank and acknowledge the generous support from Caltrans with the award of five Blueprint planning grants as well as extensive partnership and mentoring. This partnership started the dialogue and provided a regional framework for collaboration in the Tehama region.

The purpose of Blueprint planning is to engage the community in a grassroots planning process using visual aids developed with GIS. Blueprint planning gives people a voice and provides information to decision makers to guide infrastructure and development in a manner that will result in financially viable, healthy, and desirable communities.

The tools and data generated will be used to analyze regional decisions that lead to more efficient land use patterns. Continued benefits of the Blueprint planning effort include improvements to regional air quality; increased use of alternative transportation modes such as transit, walking, and bicycling; and facilitation of infill development to minimize impacts on agricultural lands and open space.

# **Acknowledgments**

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The TCTC would like to thank the following agencies for participating in the development of Tehama Tomorrow.

Caltrans Division of Transportation Planning  
Caltrans District 2  
Federal Highway Administration  
Bureau of Land Management  
CAL FIRE  
California Department of Fish and Wildlife  
City of Corning Planning Department  
City of Red Bluff Planning Department  
City of Tehama  
Corning Chamber of Commerce  
California Department of Water Resources  
Lake California Property Owners Association  
Tehama County Air Pollution Control District  
Tehama County Assessor's Office  
Tehama County Planning Department  
Tehama County Department of Public Works  
Tehama County Resource Conservation District  
Tehama County Sheriff's Office

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## **Executive Summary**

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The intent of regional Blueprint planning is to foster comprehensive planning. Comprehensive planning is a process that determines community goals and objectives in terms of community development. The outcome of comprehensive planning is a compilation of tools and information to guide public policy in terms of transportation, utilities, land use, recreation, and housing. Comprehensive planning encompasses large geographical areas, a broad range of topics, and covers a long-term time horizon. It is an approach which engages community members in the planning process to identify community values to establish a shared vision for future development. Blueprint planning uses visual aids to make comprehensive planning more tangible for community members and decision makers.

***The Blueprint planning process does not determine which future development patterns should be implemented. Blueprint planning provides the tools for elected officials, planners, and the public to make informed decisions. It visually displays potential growth patterns based on scenarios consistent with the adopted general plans of each jurisdiction. Blueprint planning shows that changes to local land use patterns could achieve significant benefits to the region's transportation system and air quality.***

In 2007, Caltrans awarded the Tehama County Transportation Commission the first of five Blueprint planning grants. The funding started the dialogue and provided a regional framework for collaboration in Tehama County. Extensive public outreach was a backbone of this process, and a series of presentations were made to numerous communities and organizations. Blueprint flyers and paper surveys were posted in 22 locations throughout the county and 270 responses were received from the on-line survey. The primary goals of the Blueprint planning process include but are not limited to:

- Improve the mobility of people and goods through a “combination of strategies and investments to foster growth, reduce congestion, and contribute to the regional economy.
- Avoid and minimize impacts to agricultural lands, natural resources, water, open space, and air quality.
- Promote economic competitiveness and quality of life with improved transportation infrastructure.
- Seek community support, including tribal governments, local governments, and under-represented groups, to develop a regional vision.

A growth modeling tool (Uplan), was used to forecast where growth could occur in the future. Uplan is a modeling tool that gives community residents the ability to see how the choices that they make regarding land use and transportation will affect their communities. Commercial development and population growth can be converted into demand for land by applying conversion factors for employment and housing. The model uses the land use designations from the cities' and county general plans to forecast where future growth could occur. It demonstrates how planning and design choices, made by a community, have impacts on development patterns, modal choices, redevelopment potential, and livability to name a few. By being aware of the consequences of different development choices, citizens can improve their economies, environments, and quality of life.

After the Uplan model identified where growth could occur then Geographic Information System (GIS) was used to plot the projections on a map. GIS can be used to show everyone what future development “can” look like based on modeling of forecasted population.

The scenario planning is a “what if analysis” as a result of public input and stakeholder input. Through public outreach, it became evident that preserving agricultural lands, open space, and natural resources is a top priority of Tehama County residents (See Table 3). Further development in the rural areas will significantly impact existing residents in rural areas. Finding a balance of preservation and planning for rural housing is a challenge facing Tehama County.

The scenarios shown below are examples of potential growth patterns:

- Scenario A: *Strong Cities and Communities* encourages housing and commercial development to occur in existing communities where infrastructure, services, and transportation options are already in place.
- Scenario B: *I-5 Corridor/Specific Plans* focuses on building new communities along I-5, especially in the northern part of the county.
- Scenario C: The *Historic Trend* is a future projection of the region if historic and existing land use planning trends continue.

The *Strong Cities and Communities* scenario has the least impact to agricultural land, natural resources, and open space compared to both the *Historic Trend* and *I-5 Corridor/Specific Plans* scenarios. Preservation of agricultural lands ensures continuance of the region’s economic competitive advantages of same day access to several markets and ports, as well as lower costs of business (lower taxes, labor, and housing costs). To preserve agricultural land, the *Strong Cities and Communities* scenario designates 4,202 more housing units to be built in cities and communities compared to the *Historic Trend*. More walkable vibrant downtowns and community centers would likely result from this development pattern.

The *I-5 Corridor/Specific Plans* scenario closely follows the intent of the 2009 Tehama County General Plan. This scenario utilizes special planning areas created by the county’s general plan to form new communities along the northern I-5 corridor.

The *I-5 Corridor/Specific Plans* scenario impacts the same amount of agricultural land as the *Historic Trend* scenario. A negative impact to agricultural lands is also a negative impact to the region’s economy. Agricultural goods produced in Tehama County are shipped to 62 countries throughout the world. The 2014 Tehama County Crop Report stated the total value of agricultural production was \$380,340,300, an increase of 26% from 2013. Community surveys ranked perseveration of agricultural lands as a top priority. For these reasons the *I-5 Corridor/Specific Plan* scenario is less desirable than the *Strong Communities and Cities* scenario.

The *Historic Trend* scenario uses residential and commercial development patterns from a 10 year period (2000-2010) to project development patterns out to 2050. The *Historic Trend* encourages a high percentage of low and very low density housing spread throughout the county.

The *Historic Trend* scenario impacts 46% more agricultural land and 33% more open space and natural resource land than the *Strong Cities and Communities* scenario. Without proper planning and policies in place, continuing along this path would degrade agricultural lands, open space, and negatively impact the region's economy.

It is important to remember that local decisions and development patterns have a big impact on local mobility. In addition to mobility benefits, location-efficient communities allow households to manage their transportation costs, the second-highest expense after housing. When the urban footprint is smaller, the impacts of growth and development on lands essential for agriculture, grazing, natural resource production, wildlife habitat, healthy ecosystems, and outdoor recreation are minimized. Efficient location of neighborhoods also supports a more active lifestyle which strongly correlates to health and well-being of residents.

# Regional Blueprint Planning

In 2005, the California Regional Blueprint Program was initiated by Caltrans to help metropolitan planning organizations (MPOs) and rural regional transportation planning agencies (RTPAs) collaborate with stakeholders, local agencies, and the public to establish a regional vision of land use and transportation. Participating agencies received funding to conduct GIS based scenario planning, helping local and regional leaders work with community members to develop a shared vision, or “Blueprint” for their future.

Blueprint planning is a community-based effort to gather information and develop decision-making tools. Geographic data is used to map future growth scenarios within a region based on land use designations from the cities and county adopted general plans. The maps of scenarios generated from the modeling process are visual tools designed to engage the public in the planning process and help guide local decisions. It fosters a platform to build consensus for a vision of future land use and transportation infrastructure to accommodate future growth.

In 2007, Caltrans awarded the Tehama County Transportation Commission the first of five grants and the region’s Blueprint process known as Tehama Tomorrow commenced.

## Purpose of Blueprint Planning

The purpose of Blueprint planning is to engage the community in a grassroots planning process using visual aids developed with GIS. Blueprint planning gives people a voice and provides information to decision makers to guide infrastructure and development in a manner that will result in financially viable, healthy, and desirable communities.

The visual GIS maps provide tangible information for regional and local decision-making. The effectiveness of the process is the ability to show people what their community would look in the future based on development policies. It shows graphically the end results of different land use and infrastructure policies based on the adopted regional transportation plan and general plans. The process can identify small changes in development patterns that can reap the greatest benefit to a region over time.

**Figure 1.** California’s Blueprint Planning Process Integrated



## Goals of Blueprint Planning

The goal of the Blueprint process is a consensus driven scenario that preserves quality of life while improving public health, air quality, local economy, increases transportation choices, preserves agricultural land, minimizes the costs of public infrastructure, and improves coordination among all stakeholders.

Regional Blueprint Planning is based on the following goals:

1. Improve mobility through a combination of strategies and investments to accommodate growth, reduce congestion, and contribute to a strong economy;
2. Reduce automobile trips and increase active transportation by fostering more efficient regional land use patterns to encourage more walking, bicycling and transit use to meet state air quality goals while supporting health and obesity prevention goals;
3. Provide for an adequate supply of housing for the next 20-plus years by working with stakeholders to adopt land use plans and regulations that include opportunities for new residential growth to be located near transit and other transportation facilities, jobs, health facilities, retail businesses, and support services;
4. Increase transportation choices by adopting policies which increase housing affordability and choices, including a variety of housing types and densities with access to multimodal forms of transportation;
5. Avoid and minimize impacts to agricultural lands, natural resources, and water and air quality;
6. Increase conservation and efficient use of resources such as energy and water;
7. Promote California's economic competitiveness and quality of life with improved transportation infrastructure;
8. Reduce the costs and time to deliver transportation projects with early public and resource agency involvement;
9. Improve coordination and collaboration among all regional stakeholders by exchanging information during the Blueprint process about planning and investment decisions;
10. Reduce the region's greenhouse gas emissions;
11. Seek local government and community support, including tribal governments and under-represented groups, to develop a regional vision; and
12. Build awareness of critical infrastructure such as transportation facilities, housing, energy, health care, schools, communication systems, emergency services, waste facilities, and water facilities.

**Table 1.** What a Blueprint Study Is and Is Not

<b>What A Blueprint Study Is and Is Not</b>	
<b>Is</b>	A cooperative effort to gather information and develop decision-making tools for use by local agencies.
<b>Is Not</b>	A mandatory plan to be adopted by cities and counties that pre-empts local decision-making authority.
<b>Is</b>	Outcome - and performance-based strategies for a high return on public investments.
<b>Is Not</b>	Design-based standards to create community identities or “livable communities.”
<b>Is</b>	An identification of the smallest changes to the status quo of development patterns that can reap the highest community benefit.
<b>Is Not</b>	A wholesale change in the way we approach community development.
<b>Is</b>	A step in the direction of improved regional coordination.
<b>Is Not</b>	A cure-all for regional challenges.

### **Blueprint Planning Objectives**

Blueprint Planning achieves the following objectives:

- Produces development scenarios that preserve the quality of life in Tehama County while improving public health, reducing auto dependency by increasing transportation choices, improving air quality, minimizing impacts to natural resources and agricultural lands, minimizing costs of public infrastructure, and improving coordination among local and regional agencies.
- A visual tool that more easily communicates the integration of land use and transportation planning and other key indicators.
- A cooperative and community-based effort to gather information and develop decision-making tools for use by local agencies.
- Outcome and performance based strategies for maximizing return on public investments.

### **Blueprint Planning Process**

Blueprint planning was funded by grants from the Federal Highway Administration awarded through the California Department of Transportation (Caltrans). The Tehama County Transportation Commission (TCTC) was awarded five Blueprint grants to compile the data and develop the tools necessary to engage in scenario planning using GIS. Each of the five grants built on the success of the previous grant and helped the county and cities develop essential GIS data, GIS planning tools, and develop three potential growth scenarios. Table 2 describes the specific achievements of each awarded grant.

**Table 2. Summary of Blueprint Grants and Accomplishments**

<b>Grant</b>	<b>Achievement</b>
2007-08 TCTC Blueprint Planning: Phase 1-GIS Data Compilation and Internal Coordination	Inventoried and collected GIS data from local, state, and federal agencies, created data needed for scenario planning, created an accessible building permit database to determine development trends, and educated stakeholders on the blueprint planning process.
2008-09 Coordination and Progress in Tehama Region	Held Tehama Tomorrow TAC meetings to educate public officials and planners about scenario planning, overcame network deficiencies by connecting to a centralized server, started a centralized GIS database, and standardized data for input into model.
2009-10 Tehama Region in 2050	Completed updates of essential layers, improved countywide roads layer, conducted extensive public outreach through public meetings and a survey, ran model for Historic Trend and alternate scenarios, and calculated performance measures for each scenario.
2010-11 Integration of Planning	Updated parcels and layers for concurrent geometry, purchased high quality imagery of populated areas, enhanced the use of GIS software by increasing the number of licenses, and met with TAC to discuss and fine-tune the scenarios.
2012-13 TCTC Data for Shasta Regional Transportation Agency Regional GIS Platform	Updated parcel attributes for public use on Shasta Regional Transportation Agency Platform, merged countywide roads layer with CAL FIRE roads layer, trained key planning staff on availability and use of GIS data, planning tools, and prepared final report for TCTC adoption.

The Blueprint plan for the county and incorporated cities known as “Tehama Tomorrow” began with a grant in 2007. The grants provided funding to create, collect, and aggregate the necessary data for regional planning. The grant funds were utilized to improve data accuracy and develop planning tools. As a result of the grants, coordination between TCTC and the city and county planning departments has increased. Planning tools such as interactive online maps were developed. The availability of the data to community members and regional decision makers will help engage the public in the planning process.

## **Public Outreach**

Public participation is a primary goal of Blueprint planning. The public outreach for Tehama Tomorrow occurred in three steps. The first step involved the formation of a Blueprint Technical Advisory Committee (TAC). The Blueprint TAC included members of local agencies, GIS professionals, and planners who met to provide input into data quality, model inputs, and other technical matters. TAC members also formulated recommendations for TCTC regarding performance measures and staff provided quarterly updates to the commission.

Second, a series of presentations were made to various community organizations. These presentations were designed to show citizens historic development trends in the county projected out to 2030 and 2050, and to gather community member input to determine their ideal growth scenario as Tehama County's population increases.

The presentations to the following groups demonstrate the extensive outreach by TCTC staff to reach a diverse audience among Tehama County residents.

- City of Corning
- City of Red Bluff
- Corning Chamber of Commerce
- Lake California Property Owners Association
- Lassen Volcanic National Park
- Los Molinos Chamber of Commerce
- Rancho Tehama Association
- Tehama County
- Red Bluff Chamber of Commerce

Third, to give the Blueprint planning process direction, a Community Survey was developed to gather input from Tehama County residents as to their values as they relate to growth and development in the region. The Community Survey was made available online at the Tehama County website. The Corning Observer and Red Bluff Daily News published the survey in full page ads from Wednesday, June 20 to Saturday, June 23, 2011. Recognizing the diversity of needs and viewpoints in Tehama County, outreach efforts were extended to rural outlying communities by enlisting various community Blueprint champions throughout the region. Paper copies of the survey were made available at public gathering locations such as country stores or meetings were held in the following locations:

- Bowman
- Gerber
- Mineral
- Rancho Tehama
- Bend
- Lassen Park
- Paskenta
- Richfield
- Dairyville
- Manton
- Paynes Creek
- R-Wild Horse Ranch
- Flourney
- Mill Creek
- Proberta
- Vina
- Los Molinos
- Lake California
- Red Bluff
- Corning
- Corning Chamber
- City of Tehama
- Red Bluff-Tehama County Chamber

These paper surveys from rural residents combined with the online surveys resulted in 270 completed surveys.

As part of the survey, community members were asked to rank in order of importance the issues

facing the region. Loss of jobs, crime, and loss of agricultural lands were the top three concerns identified. Factors that ranked lower included affordable housing and sprawl type development. See Appendix D for Community Survey Final Results.

**Table 3. Challenges Facing the Region**

Challenges Facing the Region	
1	Economic opportunity; jobs; education
2	Diminished sense of community; crime
3	Loss of agricultural acreage
4	Loss of open space
5	Urban-agriculture-nature interface
6	Air quality
7	"Sprawl" type development
8	Affordable housing

Residents were also asked to rank their priorities to preserve quality of life. The results show that people choose to live in Tehama County for the open space, scenic views, and rural lifestyle (See Table 4). Economic opportunities and job creation were identified as primary challenges as the unemployment rate in Tehama County is consistently higher than the state average. Jobs are necessary to maintain the current population and keep the younger generation from relocating to find employment. Preserving agricultural land, the number four priority, is one way to keep economic opportunities open to the current and future generations. Residents also favor strengthening downtowns of cities and communities through commercial development as opposed to residential development.

**Table 4. Priorities to Preserve Quality of Life**

Priorities to Preserve Quality of Life	
1	Open space, scenic views, natural resources
2	Rural lifestyle
3	Economic opportunities; jobs; education
4	Agriculture
5	Recreation opportunities
6	Strong downtowns & communities
7	Low cost of living
8	Travel mode choices

### Performance Measures and D Factors

The Blueprint planning process does not determine which future development pattern should be implemented. It visually displays the potential impacts of development patterns so the public and decision-makers can make informed choices. The following performance measures were used to evaluate and compare the impacts of each scenario:

- Economic and residential growth in cities and communities – i.e. acres of industrial, commercial, and residential land developed.

- Impacts to agricultural land – i.e. lands having prime soil for agriculture which development may occur.
- Impacts to open space, scenic views, and natural resources – i.e. areas of environmentally sensitive land which development may occur.

The five ‘D’ factors are also used to analyze development patterns to determine what the impact would be to the community:

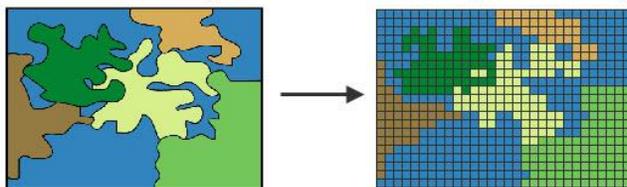
1. *Density* – number of persons, jobs, or dwellings in a specified area.
2. *Diversity* – balance of residential, retail, office, and other land uses in proximity to each other.
3. *Design* – built environment, street network, and pedestrian and bicycle facilities.
4. *Destination Accessibility* – number of jobs and other attractions accessible via any mode of travel.
5. *Distance to Transit* – proximity of public transit routes to home and work.

### **How the UPlan Growth Model Works**

The University of California, Davis Information Center for the Environment created a growth modeling tool called UPlan. It was used to forecast where growth may occur in future years for transportation planning purposes. The tool can also be used by other agencies to inform and encourage sound planning practices. The tool’s premise is that commercial and population growth can be converted into demand for land by applying conversion factors to employment and housing.

#### ***Conversion Factors for Employment and Housing***

UPlan operates by first dividing the project area (Tehama region) and its natural/built/political features and characteristics into a grid of cells, where each cell equals a 50 meter by 50 meter area. Within each cell, there are characteristics that Attract, Discourage, or Exclude (mask) new development.



#### ***Attractors***

UPlan assumes that the location of new development is correlated to its proximity to natural characteristics (i.e.: minimal slope), man-made features (i.e.: access to transportation network), and/or land use policies (i.e. zoning). Table 5 lists the main attractors used in UPlan.

**Table 5.** Attractors Used in the Model

<b>Attractors</b>	
City Limits	Transit Routes
City Sphere of Influence	Major Roads
Communities Point Buffer	Local Roads
Water Infrastructure	I-5 On-Ramps
Natural Gas Availability	Irrigated parcels
Community Service Districts	15 Mile Proximity to Redding
30 Mile Proximity to Chico	30 Mile Proximity to Redding

***Discouragers***

Some features make development more difficult due to natural barriers (i.e.: vernal pools), infrastructure costs (i.e.: lack of water or sewer services), or simply less desirable (ex: proximity to airport noise or steep slopes). Table 6 lists the main discouragers used in UPlan.

**Table 6.** Discouragers Used in the Model

<b>Discouragers</b>	
Red Bluff Environmental Layer North	Parcels with feedlots
Red Bluff Environmental Layer Middle	Parcels with feedlots
Red Bluff Environmental Layer South	Farm Security Zone Parcels
Agricultural Soils-Prime, Important and Unique Farmland	Natural Gas Well Field Boundaries
Airport Buffer	Timber Production Zones
FEMA Flood Zones	Vernal Pools
Fire Hazard - High	Wetlands
Fire Hazard - Very High	Williamson Act Lands
High Elevation -above 6500 ft.	Perennial Streams/Canals
Nitrate Monitoring Wells that test greater than 45.0 mg/L	Slope 15-30%
Parcels with dairy production	Slope 30-45%
Parcels with dairy production buffer	

### *Masks*

In addition to attractors and discouragers, the user may define areas as an exclusion or a ‘mask,’ in which UPlan will not allocate any new development. The use of masks has generally been limited to absolutes. Table 7 lists masks used in UPlan.

**Table 7.** Masks Used in the Model

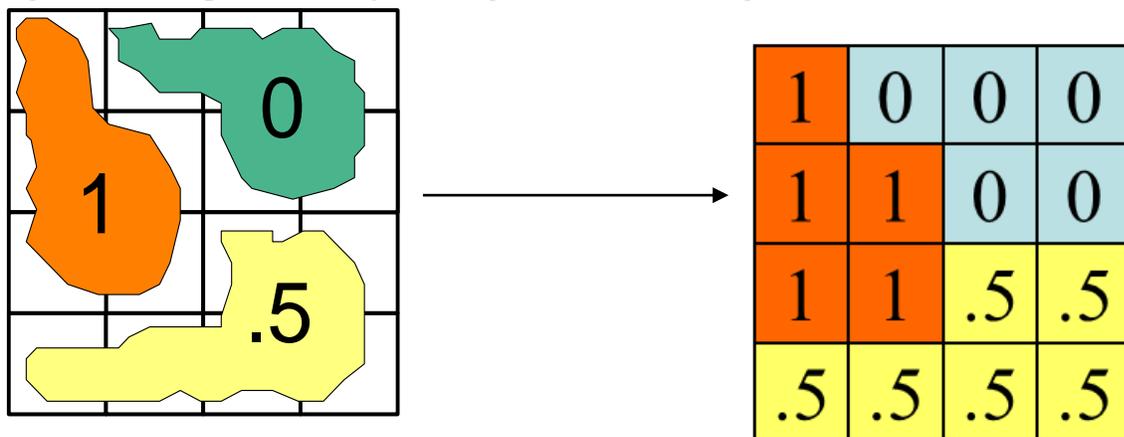
Masks	
Existing Developed	Lassen Volcanic National Park
Lakes and Ponds	USDA Wilderness
Airports	State Parks
Conservation Easements	Rivers
Government Property	Slopes in excess of 45%

### *Weighting*

Each attraction and discouragement feature is assigned a weighting value by the model user. This weighting value directly correlates to the features potential impact on land use development. A scale of 1 to 50 is utilized for the model. Multiple layers of attraction (+) and/or discouragement (-) are aggregated to arrive at a final value of attractiveness for each cell.

UPlan uses the final sum value for each cell area to prioritize the allocation of new growth. Cells with the highest net attraction value could be given consideration for development first. Cells with lower attraction values could be considered for development after all cells with a greater attraction value have been identified for development. The weights are assigned by land use type groupings. See Figure 2 for an example of how data layers are converted into grids and values are calculated.

Figure 2. Example of data layers being converted to 50m grids for use in Model



### ***General Plan Land Use Designations***

The general plan land use designations supersede attractions and discouragements. Land use designations allow the land use types and densities permitted by the general plan to be established in a given area. The actual land use designations from an adopted or proposed general plan are converted to six corresponding UPlan land use designations. Model outputs reflect these generalized UPlan designations:

1. Industrial
2. Commercial High Density
3. Commercial Low Density
4. Higher Density Residential (Less than 1 acre per lot)
5. Lower Density Residential (1-10 acre lot size)
6. Very Low Density Residential (Greater than 10 acre lot size)

### ***Model Inputs***

Population, housing, and employment data was collected and projected to year 2030 and year 2050. The inputs determine the amount of growth and acres necessary to provide housing and employment to accommodate the growth.

### ***Population***

A conservative approach was taken to ensure that future populations were not overstated. Care was taken to base population projections on historical trends. Two sources were used to assist staff in establishing a percentage growth that is reflective and realistic of the region. The model uses the data to show growth patterns for a 40 year period (2010-2050). The 2030 population projection used was from the Community Profile, the “2009-2010 Woods and Poole Economics,” produced by the Center for Economic Development at California State University, Chico. The 2050 population projections were derived from the 2007 California Department of Finance state and county population projections 2010-2060 (5-year increments). Based on these two sources, a growth rate of 0.99% was used from 2010 to 2029 and a 1.1% growth rate was used from 2030-2050. These percentages are consistent with historic population growth within the region.

<u>Population Inputs</u>	
Base population in 2010	62,836
Projected population in 2030	75,284
Projected population in 2050	91,679

### ***Employment Inputs***

The California Employment Development Department, Unemployment Rate, and Labor Force January 2011 Official Estimates were used to determine the size of the 2010 Tehama County labor force. Data from the Tehama County Assessors’ Office was used to determine the number of dwelling units and the current average acres per dwelling unit. Table 8 shows the calculated ratios and projections that were used in the model.

**Table 8.** Employment and Housing Figures and Ratios for use in the Model

Employment and Housing Inputs	
Persons/Household	2.3 (2010)
	1.91 (2030)
	1.67 (2050)
Employee/Housing Unit	.94 (2008)
	.85 (2030)
	.82 (2050)
Labor Force (2010)	25,106
Housing Units (2010)	27,308
Labor Force (2030):	33,549
Housing Units (2030):	39,398
Labor Force (2050):	44,830
Housing Units (2050) :	54,977

Employment proportions were derived from the California Employment Development Department's Industry Employment Official Monthly Estimates, 2009 and an InfoUSA database of North American Industry Classification System. The three percentages of persons employed by each category add up to 88.5% of the labor force. The remaining 11.5% have jobs that do not require an office or work from home. The amount of square feet needed for each employee was obtained from the InfoUSA database. The Floor Area Ratio (FAR) is calculated using the total square feet of a building divided by the total square feet of the lot. These inputs enabled the model to determine how many acres of land were needed for each new employee for each employment sector (See Table 9).

**Table 9.** Employment Data used to Calculate Model Inputs

Employment Proportions	
Industry:	9.20%
	1,000 sq. ft./employee
	0.22 Average FAR
Commercial High Density:	46.50%
	250 sq. ft./employee
	0.20 Average FAR
Low Density Commercial:	32.80%
	300 sq. ft./employee
	0.35 Average FAR

## Scenario Planning – “What if Analysis”

As result of the survey responses, community input, and stakeholder participation three scenarios were created during the Blueprint planning process. The scenarios below are examples of two potential growth patterns and the historical trend.

- Scenario A: Strong Cities and Communities;
- Scenario B: I-5 Corridor/Specific Plans
- Scenario C: Historic Trend

Maps can be used to provide visual examples of impacts associated with the growth patterns for each scenario. These scenario descriptions and associated graphics provide a visual representation of the potential development patterns in the region spanning the next 40 years depending on economic factors, population growth, and policies implemented by decision makers. To increase the accuracy each scenario was ran from 2010 to 2030. The scenario maps of each scenario were reviewed by the staff and the Blueprint TAC. Adjustments were made and the scenario was run again to produce results for year 2050. The attached maps are not the Blueprint plan. The maps are visual examples of potential impacts of different development patterns.

### Scenario A: Strong Cities and Communities

The main variables that change to produce different scenarios are the numbers associated with each attractor or detractor and the density of residential development. The following table shows the percentage of dwellings the model allocated to each density range.

**Table 10.** Housing Ratios Input into the Model

Housing Ratios input into Model	
Residential Densities	Strong Cities and Communities
Higher Density (Less than 1 acre lots)	67.9%
Lower Density (1-10 acres lots)	24.8%
Very Low Density (Greater than 10 acre lots)	7.3%
Total	100.0%

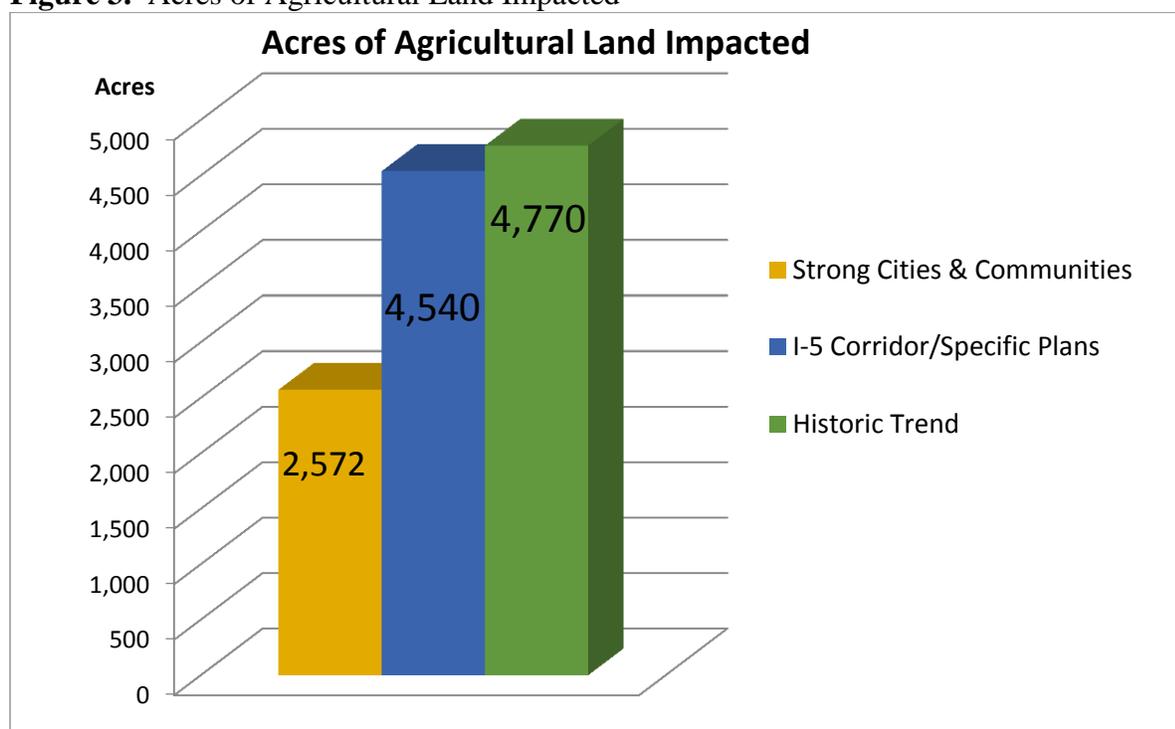
Due to the 67.9% of residential higher density development, the Strong Cities and Communities scenario is favorable as it builds up core areas with higher density residential and commercial development. This type of development pattern takes advantage of existing public infrastructure. Public infrastructure such as roads, sewer, and water are expensive to expand and require continued maintenance. The increased density in cities and communities allows for more transportation choices such as walking, bicycling, and transit. This scenario reduces vehicle miles traveled by residents, as housing is located near shopping, jobs, and other essential services. For these reasons, this scenario has the least impact to agricultural land and natural resource areas; top priorities of community members (See Table 2 and 3).

The *Strong Cities and Communities* scenario has the least impact to agricultural land and open space/natural resource lands by impacting 2,243 less acres of agricultural land and 2,248 acres of

open space/natural resource lands compared to *Historic Trend* (See Figure 2). Preserving agricultural land supports the local economy and protects future agricultural production and growth. The 2013 North State Transportation for Economic Development Study identified that 15% of the regions commodities are locally consumed and the balance is exported to national and international markets. Preservation of agricultural lands also preserves the region’s economic competitive advantages of same access to several markets and ports, as well as lower costs of business (lower taxes, labor, and housing costs).

To preserve agricultural land, the *Strong Cities and Communities* scenario designates 4,202 more housing units to be built in cities and communities compared to the *Historic Trend*. More walkable vibrant downtowns and community centers would likely result from this development pattern. See Appendix A for a map of the 2050 *Strong Cities and Communities* scenario.

**Figure 3.** Acres of Agricultural Land Impacted



**Scenario B: I-5 Corridor/Specific Plans**

The *I-5 Corridor/Specific Plans* scenario allocated a greater percentage to higher density residential development (76%) compared to the Strong Cities and Communities (67.9%). This will reduce the number of acres used for housing. However, much of the higher density residential development will take place in specific planning areas designated by the Tehama County General Plan as opposed to in existing cities and communities. This is a disadvantage as it increases the cost of public services (law enforcement, fire, streets, roads, bridges, interchanges, sidewalks, transit, and social services). Table 11 shows the percentage of dwellings the model allocated to each density range.

**Table 11.** Housing Percentages input into Model

Housing Ratios input into Model	
Residential Densities	I-5 Corridor/Specific Plans
Higher Density (Less than 1 acre lots)	76.0%
Lower Density (1-10 acres lots)	20.0%
Very Low Density (Greater than 10 acre lots)	4.0%
Total	100.0%

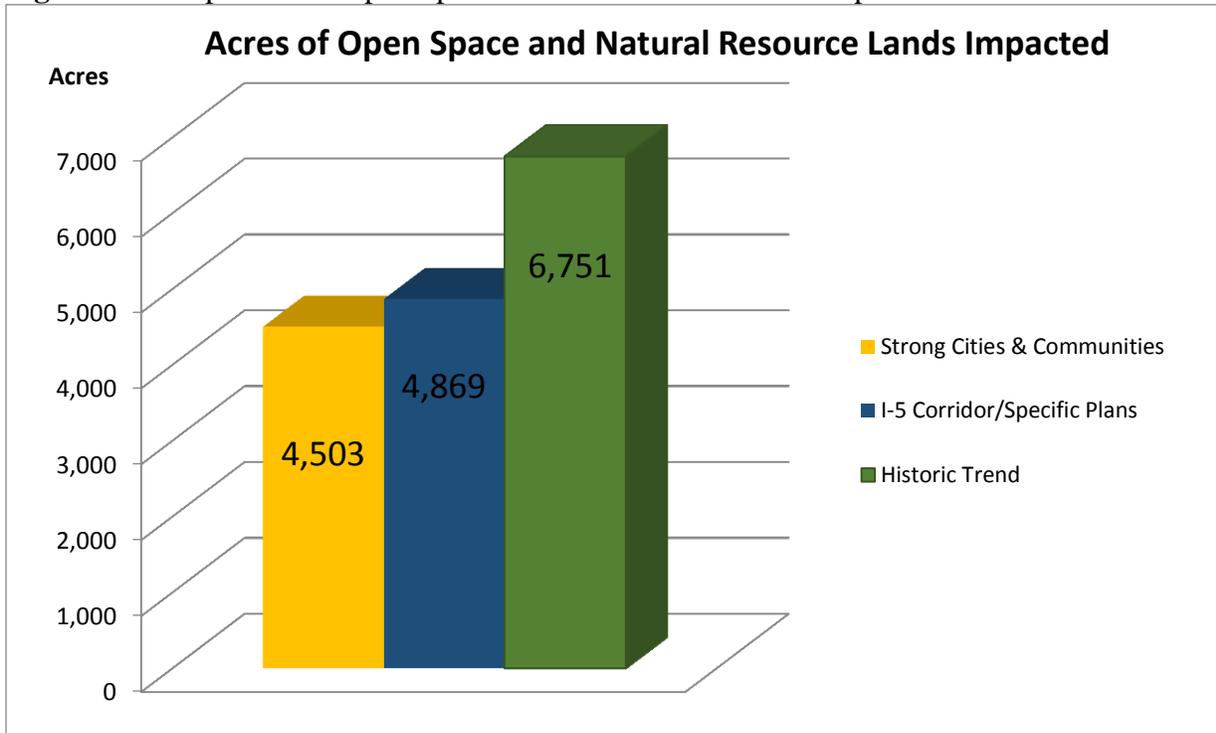
The *I-5 Corridor/Specific Plans* scenario closely follows the intent of the 2009 Tehama County General Plan. The scenario utilizes special planning areas created by the general plan to form new communities along the northern I-5 corridor. Interchanges on I-5 serving these communities would require improvements due to increased traffic. The impacts to public services will be felt by all. Services such as police, fire, solid waste, medical, transit, and social services would be forced to serve a larger geographical area, which could affect the quality and cost of these services for all residents.

The spheres of influence around Red Bluff and Corning would be developed with higher residential density and infill development would be encouraged. Commercial and industrial uses would strengthen the economic core of the cities and create more vibrant downtowns.

The *I-5 Corridor/Specific Plans* scenario impacts the same amount of agricultural land as the *Historic Trend* scenario. A negative impact to agricultural lands is also a negative impact to the region's economy. Agricultural goods produced in Tehama County are shipped to 62 countries throughout the world. The 2014 Tehama County Crop Report identified the total value of agricultural production as \$380,340,300, an increase of 26% from 2013. Community surveys ranked preservation of agricultural lands as a top priority. For these reasons the *I-5 Corridor/Specific Plan* scenario is less desirable than the *Strong Communities and Cities* scenario.

Fortunately, the *I-5 Corridor/Specific Plans* scenario impacts 28% or 2,248 acres less of open space and natural resource lands (See Figure 3). Conservation of open space and natural resources was also a top priority of community members. New residential development would take place in existing cities and newly formed communities with a majority of it occurring in specific plan areas as identified in the adopted Tehama County General Plan. See Appendix B for a map of the 2050 *I-5 Corridor/Specific Plans* scenario.

**Figure 4.** Comparison of Open Space/Natural Resource Lands Impacted



**Scenario C: Historic Trend Scenario**

The *Historic Trend* scenario has the lowest percentage of higher density development and the highest percentage of very low density residential development. This growth pattern will spread new development throughout the region. Table 12 shows the percentage of dwellings the model allocated to each density range.

**Table 12.** Housing Percentages Used in the Model

Housing Ratios input into Model	
Residential Densities	Historical Trend
Higher Density (Less than 1 acre lots)	57.9%
Lower Density (1-10 acres lots)	29.8%
Very Low Density (Greater than 10 acre lots)	12.3%
Total	100.0%

The *Historic Trend* scenario uses residential and commercial development patterns from a 10 year period (2000-2010) to project development patterns out to 2050. The *Historic Trend* encourages a high percentage of low and very low density housing spread throughout the county.

Proper planning and policies are needed to lessen the impacts of development patterns of the *Historic Trend*. Policies to preserve agricultural land through land-use classifications can address this issue. Coordination between the county and cities to ensure an adequate mix of residential and commercial land is available in or near existing cities would help ensure that agricultural land is preserved while maintaining the rural lifestyle.

The *Historic Trend* has over half of all new residential development taking place in rural areas. Dispersing the population throughout the county will reduce the amount of agricultural production and agricultural lands resulting in a negative impact to the regions core economy. *Historic Trend* also decreases open space/natural resource lands in the region. The negative impacts of low and very low density development would be significant and include increased commute times, increased vehicle miles traveled, and more residential/agricultural conflicts.

The *Historic Trend* scenario impacts 46% more agricultural land and 33% more open space and natural resource land than the *Strong Cities and Communities* scenario. Without proper planning and policies in place, continuing along this path would degrade agricultural lands and open space.

Preserving open space and natural resources is a top priority of residents. Further development in the rural areas will significantly impact existing residents in rural areas. Finding a balance of preservation and planning for rural housing is a challenge facing Tehama County. See Appendix C for a map of the 2050 *Historic Trend* scenario.

## **Location Efficient Growth**

Location-efficient communities are neighborhoods where residents have access to an array of transportation options to meet their daily travel needs. The most important determinants of location efficiency are the compactness of residential development (number of housing units per acre) and the proximity of public transit (number of transit trips available per hour at transit stops within a walkable distance). Location-efficient areas are also characterized by a mix of nearby uses and services, shorter travel distances, a concentrated business district or downtown area, and more opportunities to walk, bike, or use transit to get around.

These alternative travel options allow people living in location-efficient neighborhoods to drive fewer miles and own fewer cars, saving them substantial amounts of money on automobile costs—effectively increasing household income in these areas.

It is important to remember that local decisions and development patterns have a big impact on local mobility. In addition to mobility benefits, location-efficient communities allow households to manage their transportation costs, the second-highest expense after housing. When the urban footprint is smaller, the impacts of growth and development on lands essential for agriculture, grazing, natural resource production, wildlife habitat, healthy ecosystems, and outdoor recreation are minimized. Location efficient neighborhoods also support a more active lifestyle which strongly correlates to health and well-being of residents.

Location efficient neighborhoods in Tehama County may look different than those in urbanized areas. Supporting location efficient development in Tehama County may include development around existing rural communities that are located on existing transportation corridors or transit routes. Developing near existing transportation corridors will lessen the infrastructure needed and provide better access to jobs and services for the rural population.

Encouraging location-efficient communities can be achieved by directing rural residential

development away from prime agricultural land similar to Butte County's established Green Line west of the City of Chico. As the county population grows and pressure to develop increases these important decisions will need to be made which will shape Tehama County for current and future generations.

The *Strong Cities and Communities* and *I-5 Corridor/Specific Plans* scenarios identify more efficient development patterns than the *Historic Trend* scenario. The Blueprint planning process examined many factors that can increase the efficiency of development patterns in the region. In Tehama County, a goal of achieving a balanced combination of the 'D' factors: density, diversity, design, destination accessibility, and distance to travel will yield the greatest public benefits for the Tehama regions. No single 'D' factor will yield reduction in vehicle miles traveled or increase the available modes of transportation. A combination of factors and the degree to which they are present in a given area provides the largest impact.

## Conclusion

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The Tehama Tomorrow Regional Blueprint Plan started with the first grant application in 2007 and culminates with this report. The conversations started and the tools created during the process will continue to benefit the region for many years to come.

Tehama Tomorrow provides the tools for elected officials, planners, and the public to make informed decisions and shows that changes to local land use patterns could achieve significant benefits to the region.

Tehama Tomorrow articulates the regional consensus and performance outcomes for a more efficient land use pattern that supports improved mobility and reduces dependency on single-occupant vehicle trips. This plan establishes best practices to accommodate an adequate supply of housing for all income levels, to preserve valuable farmland and open space, and to facilitate coordination of regional infrastructure and public services. Additionally, it identifies sound methods for reducing impacts to air quality and reducing greenhouse gas emissions.

The planning scenarios included in the final report provide a benchmark to monitor performance measures as the region grows. The Blueprint process helped identify solutions and best practices to help solve challenges facing the region.

The online GIS viewer developed during the Blueprint planning process has the potential to make regional long range planning and public meetings more meaningful. It can be used to communicate, educate, and engage the public. The on-line viewer enables staff to post geographic information online for public use with key GIS layers such as parcels, jurisdictional boundaries, flood zones, school districts, transportation projects, land use and more can be posted online for the public, planners, and decision makers to use on a daily basis. Also the maps of each Blueprint scenario can be accessed online so the potential outcomes or scenarios are considered in the planning process.

The Tehama County Transportation Commission will continue to work with local agencies and stakeholders to implement lessons learned during the Blueprint process and maintain essential GIS data for land use and transportation planning. The three scenarios discussed in this report can be modified to adjust future growth trends and progress toward implementing Blueprint growth principles can be measured. TCTC will work with the county and cities to incorporate the goals of Blueprint planning to make a better Tehama Tomorrow.

# Appendix A

## Strong Cities and Communities

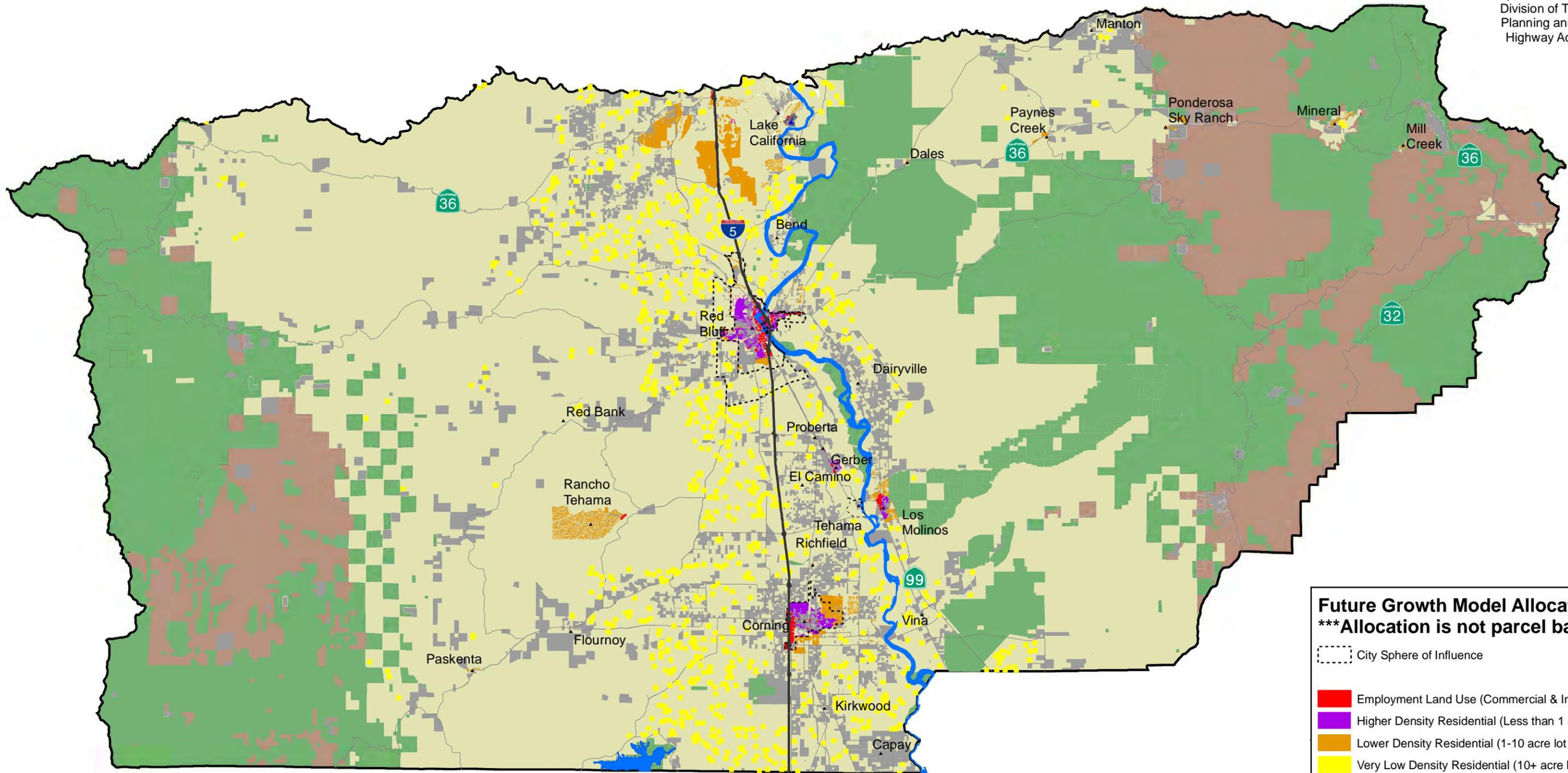


# Example of 2050 Strong Cities and Communities Scenario

Estimated Population in 2050: 91,679



Sponsored by the California Department of Transportation Division of Transportation Planning and the Federal Highway Administration.



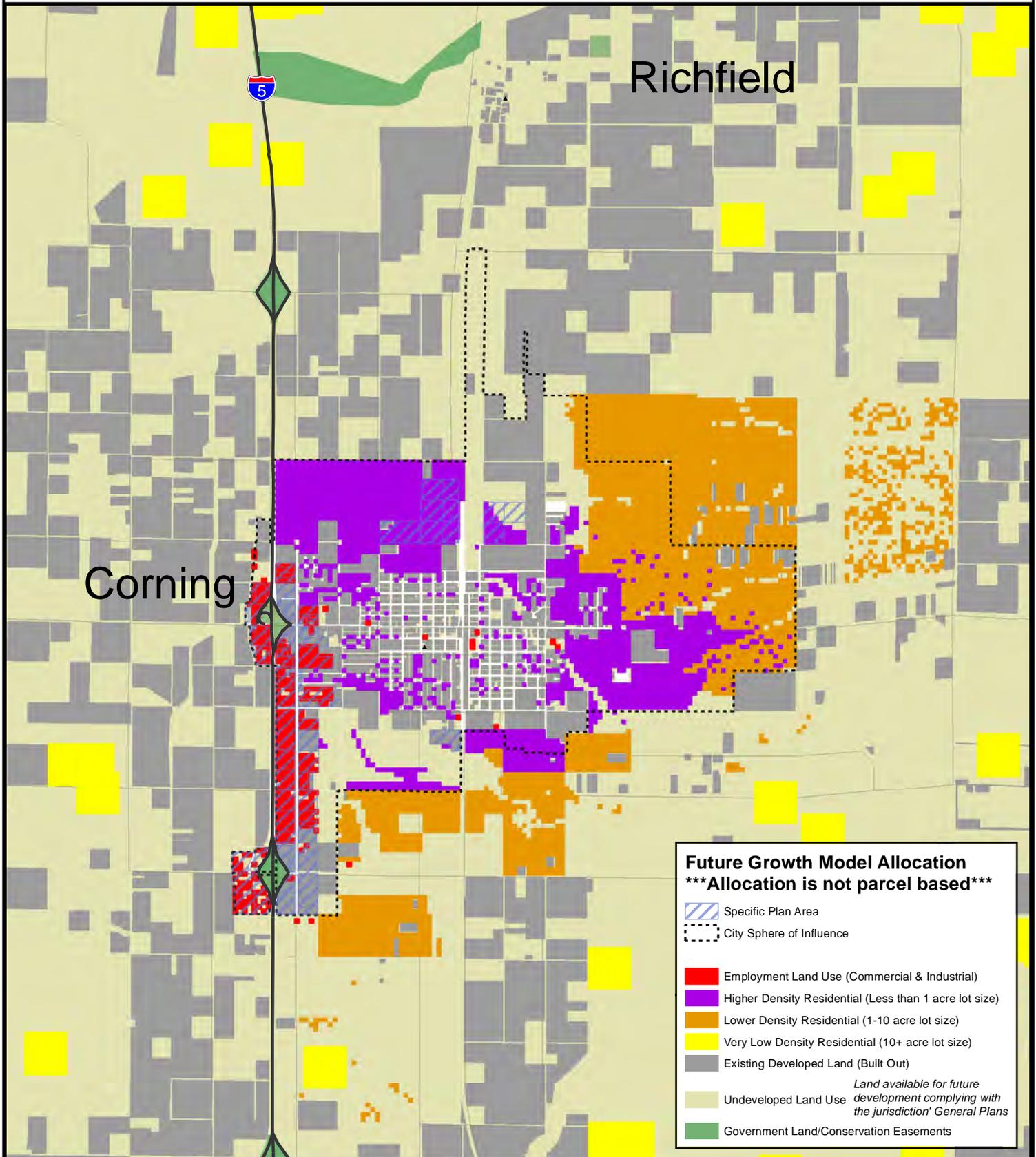
### Future Growth Model Allocation \*\*\*Allocation is not parcel based\*\*\*

- City Sphere of Influence
- Employment Land Use (Commercial & Industrial)
- Higher Density Residential (Less than 1 acre lot size)
- Lower Density Residential (1-10 acre lot size)
- Very Low Density Residential (10+ acre lot size)
- Existing Developed Land (Built Out)
- Undeveloped Land Use *Land available for future development complying with the jurisdiction's General Plans*
- Government Land/Conservation Easements
- Timber Land





Example of 2050 Strong Cities and Communities Scenario  
 Tehama County Estimated Population in 2050: 91,679

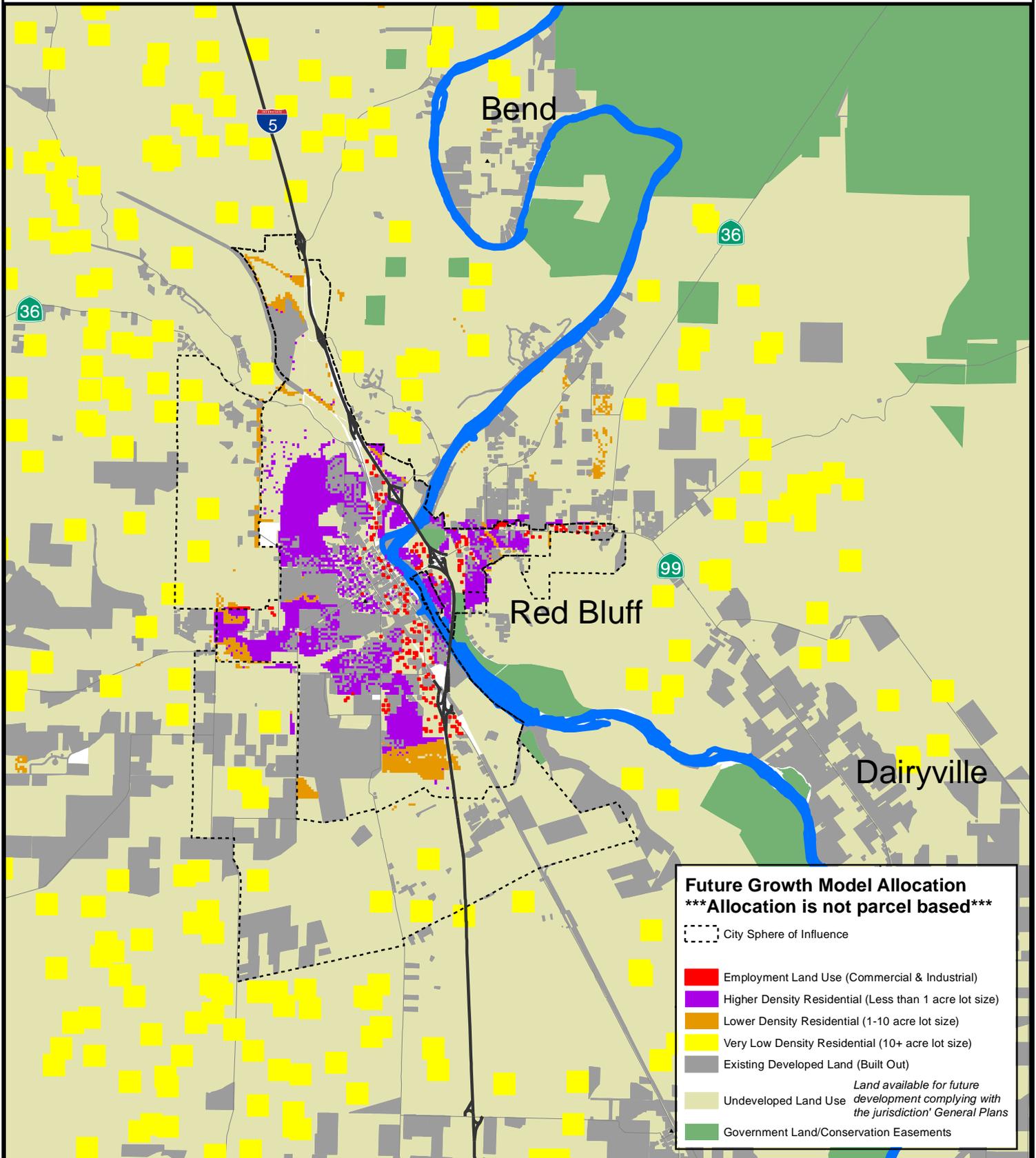


Land use and other features depicted are not displayed at the parcel level. See Tehama Tomorrow Final Report for more information.





Example of 2050 Strong Cities and Communities Scenario  
 Tehama County Estimated Population in 2050: 91,679



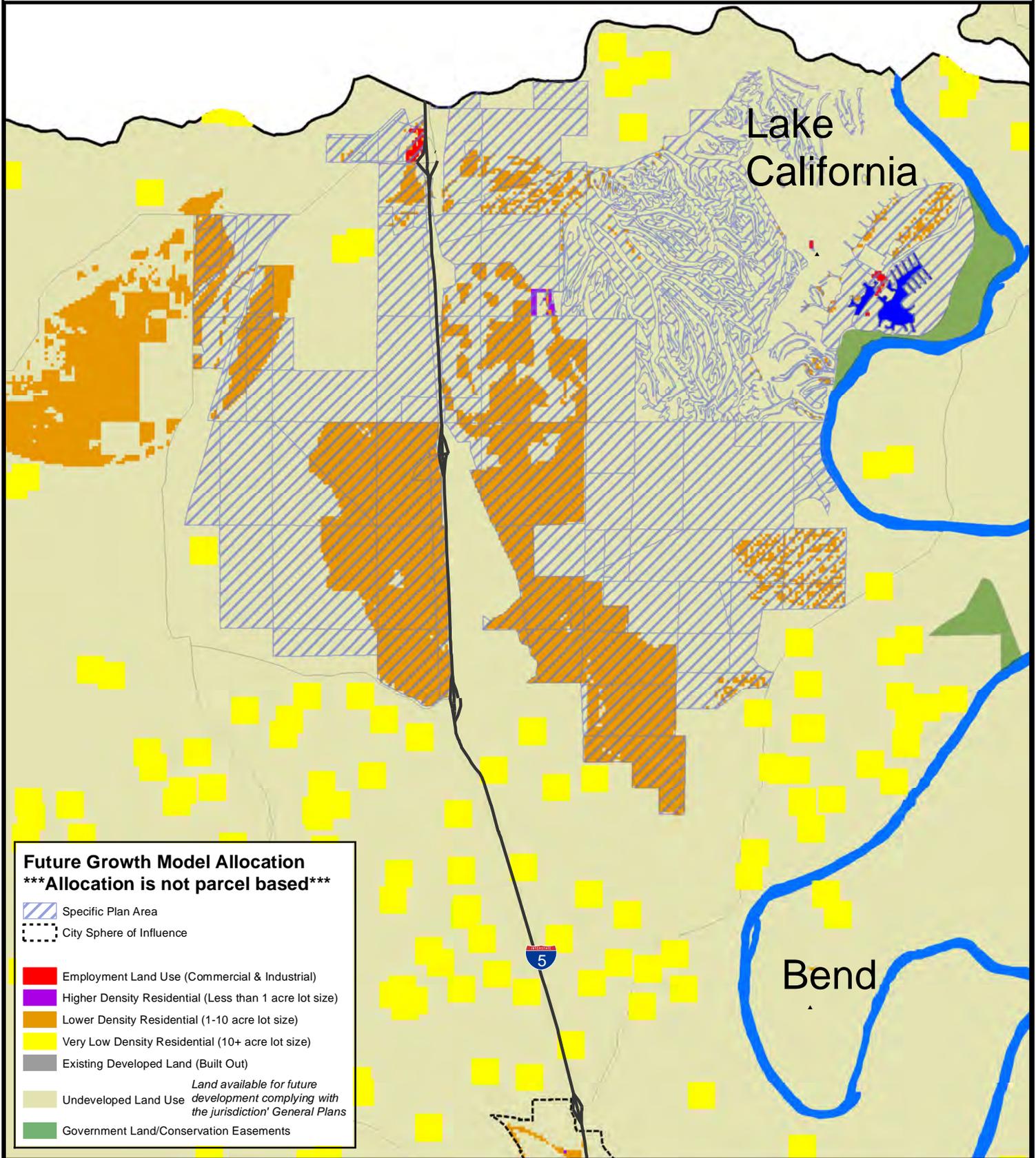
Land use and other features depicted are not displayed at the parcel level. See Tehama Tomorrow Final Report for more information.





# Example of 2050 Strong Cities and Communities Scenario

Tehama County Estimated Population in 2050: 91,679



Land use and other features depicted are not displayed at the parcel level. See Tehama Tomorrow Final Report for more information.



# Appendix B

## I-5 Corridor/Specific Plans

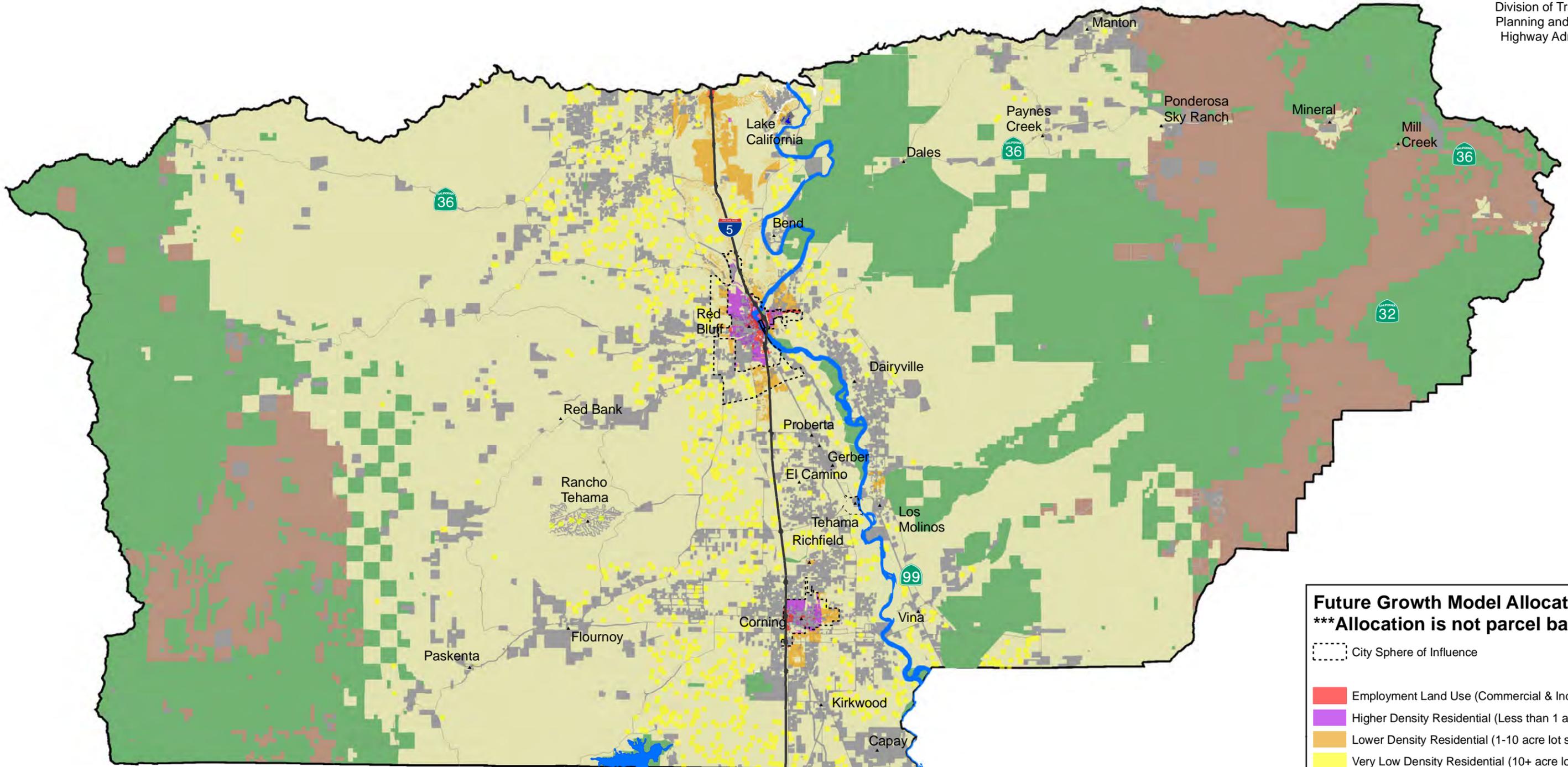


# Example of 2050 I-5 Corridor/Specific Plan Scenario

Estimated Population in 2050: 91,679



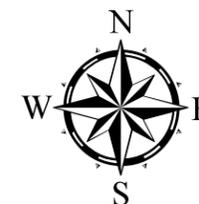
Sponsored by the California Department of Transportation Division of Transportation Planning and the Federal Highway Administration.



### Future Growth Model Allocation \*\*\*Allocation is not parcel based\*\*\*

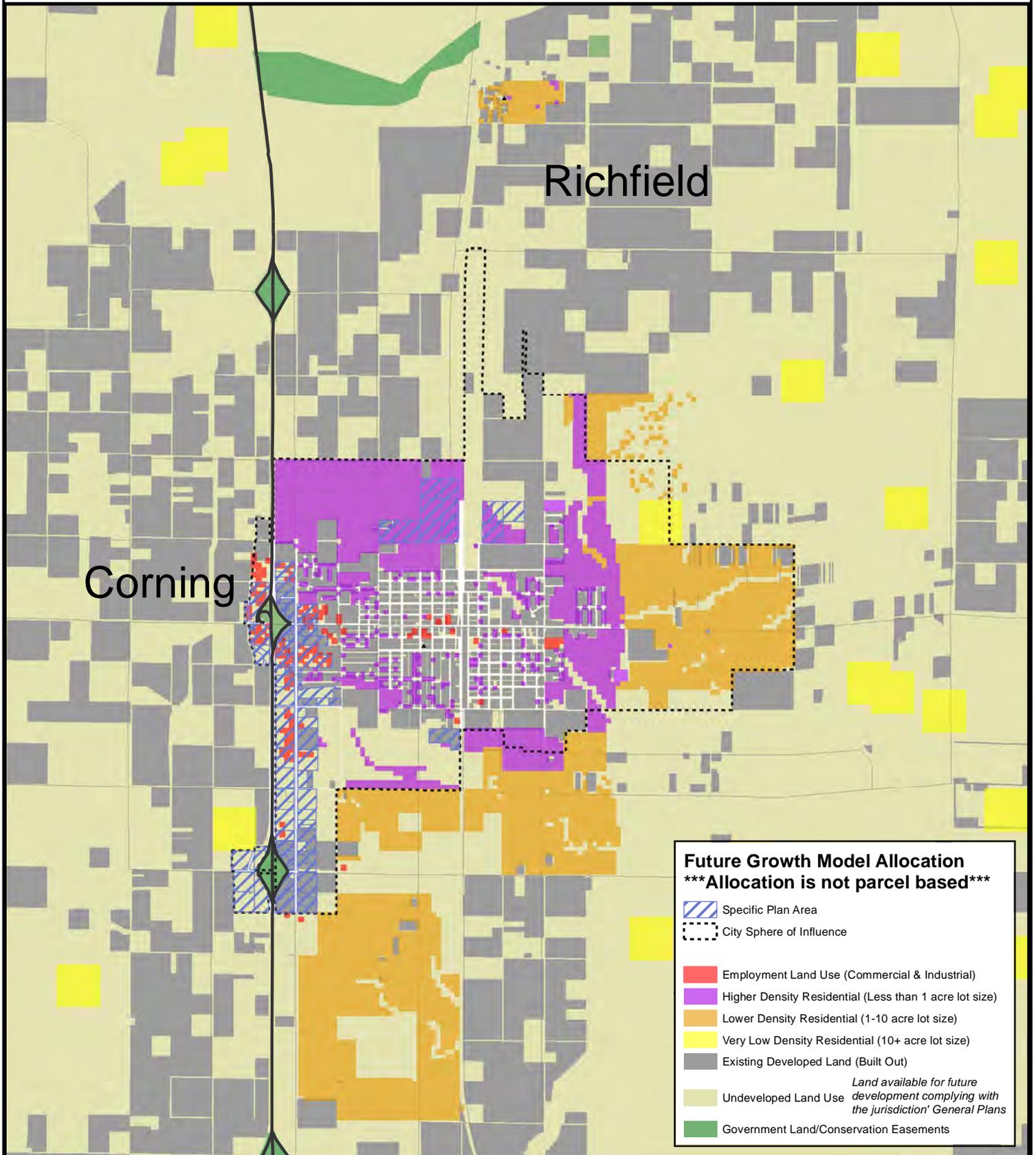
- City Sphere of Influence
  - Employment Land Use (Commercial & Industrial)
  - Higher Density Residential (Less than 1 acre lot size)
  - Lower Density Residential (1-10 acre lot size)
  - Very Low Density Residential (10+ acre lot size)
  - Existing Developed Land (Built Out)
  - Undeveloped Land Use
  - Government Land/Conservation Easements
  - Timber Land
- Land available for future development complying with the jurisdiction's General Plans*

Land use and other features depicted are not displayed at the parcel level. See Tehama Tomorrow Final Report for more information.





Example of 2050 I-5 Corridor/Specific Plan Scenario  
 Tehama County Estimated Population in 2050: 91,679



**Future Growth Model Allocation**  
 \*\*\*Allocation is not parcel based\*\*\*

- Specific Plan Area
- City Sphere of Influence
- Employment Land Use (Commercial & Industrial)
- Higher Density Residential (Less than 1 acre lot size)
- Lower Density Residential (1-10 acre lot size)
- Very Low Density Residential (10+ acre lot size)
- Existing Developed Land (Built Out)
- Undeveloped Land Use
- Government Land/Conservation Easements

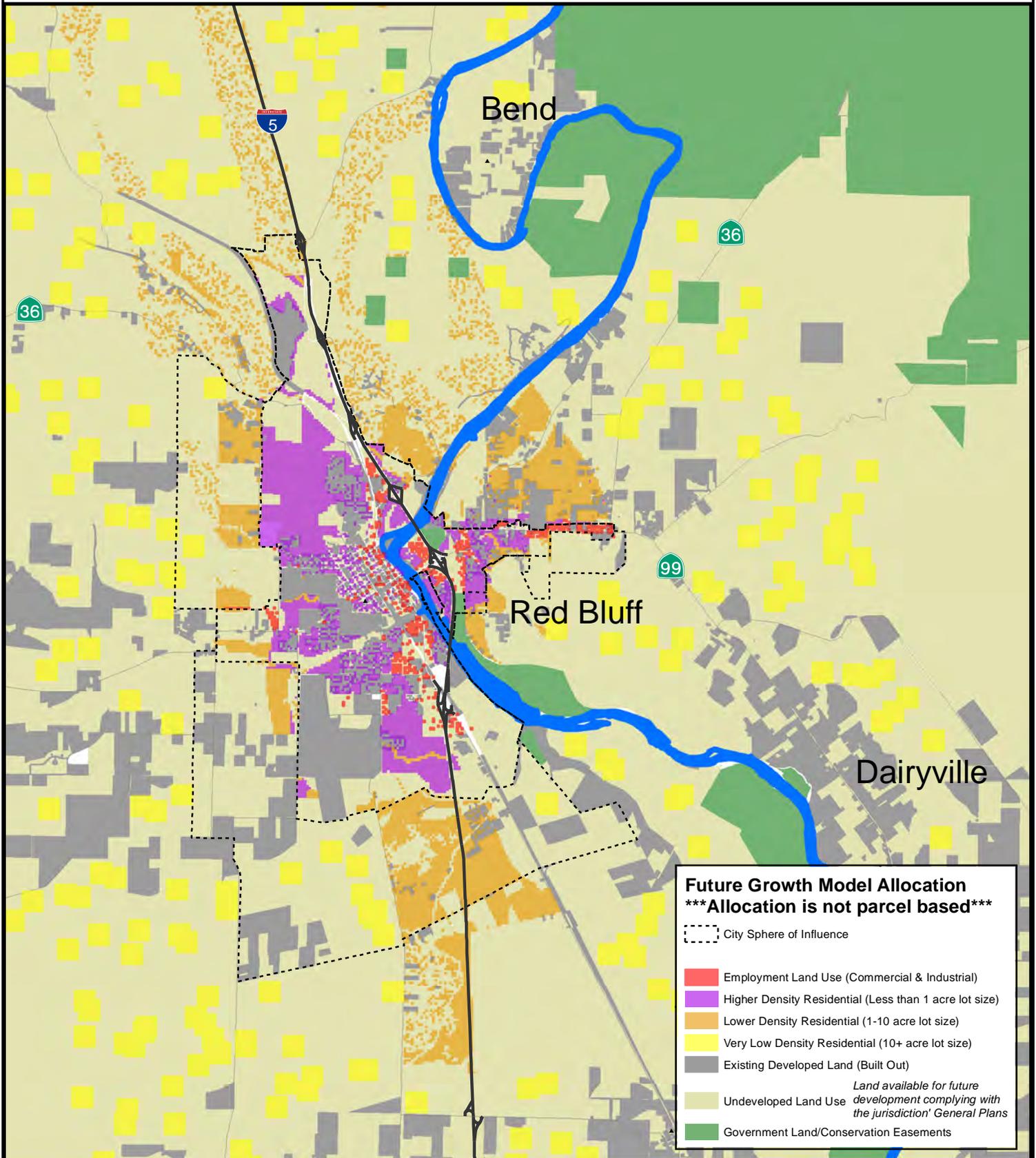
*Land available for future development complying with the jurisdiction's General Plans*

Land use and other features depicted are not displayed at the parcel level. See Tehama Tomorrow Final Report for more information.





Example of 2050 I-5 Corridor/Specific Plan Scenario  
 Tehama County Estimated Population in 2050: 91,679

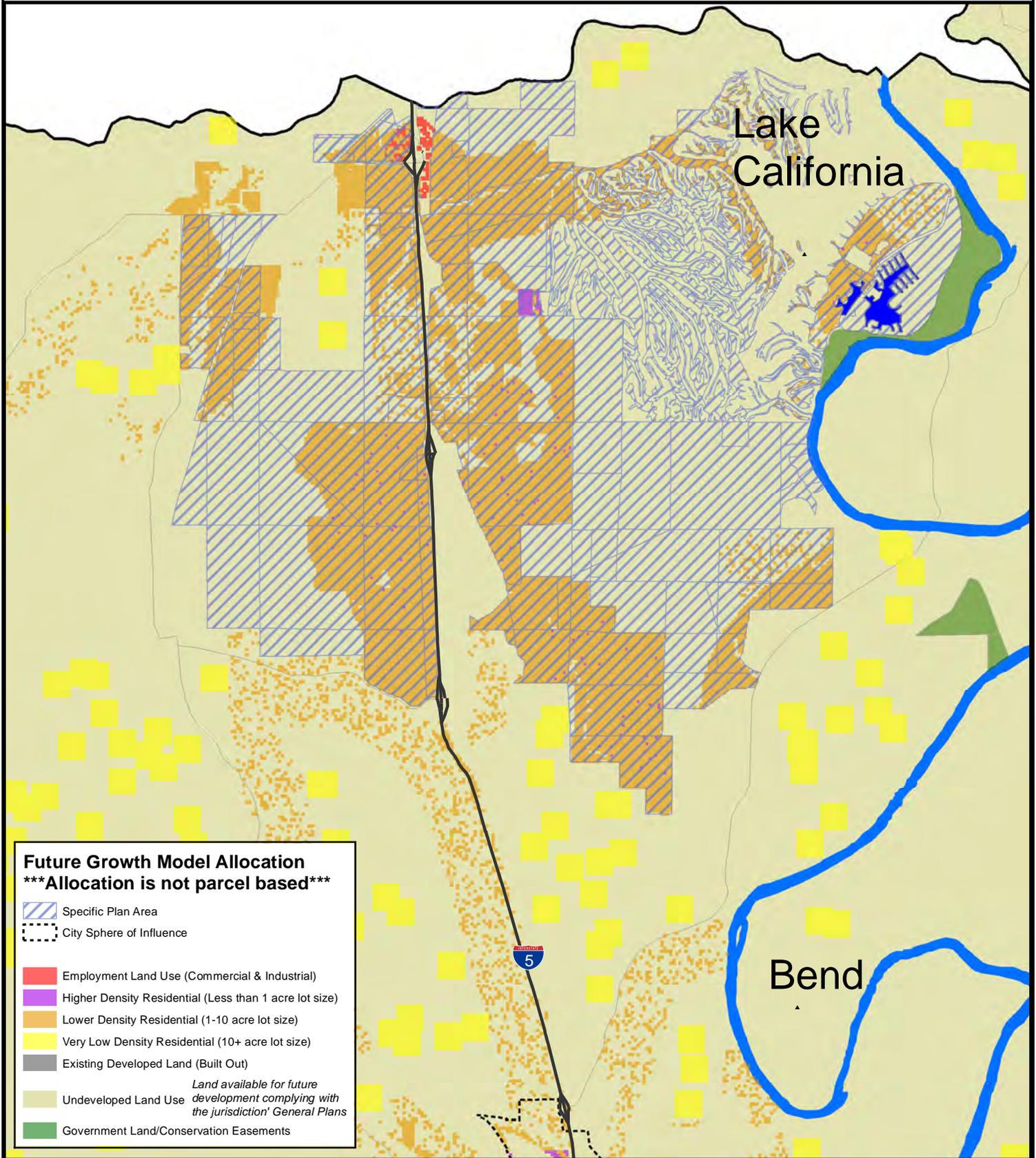


Land use and other features depicted are not displayed at the parcel level. See Tehama Tomorrow Final Report for more information.

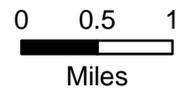




Example of 2050 I-5 Corridor/Specific Plan Scenario  
 Tehama County Estimated Population in 2050: 91,679



Land use and other features depicted are not displayed at the parcel level. See Tehama Tomorrow Final Report for more information.



# Appendix C

## Historic Trend

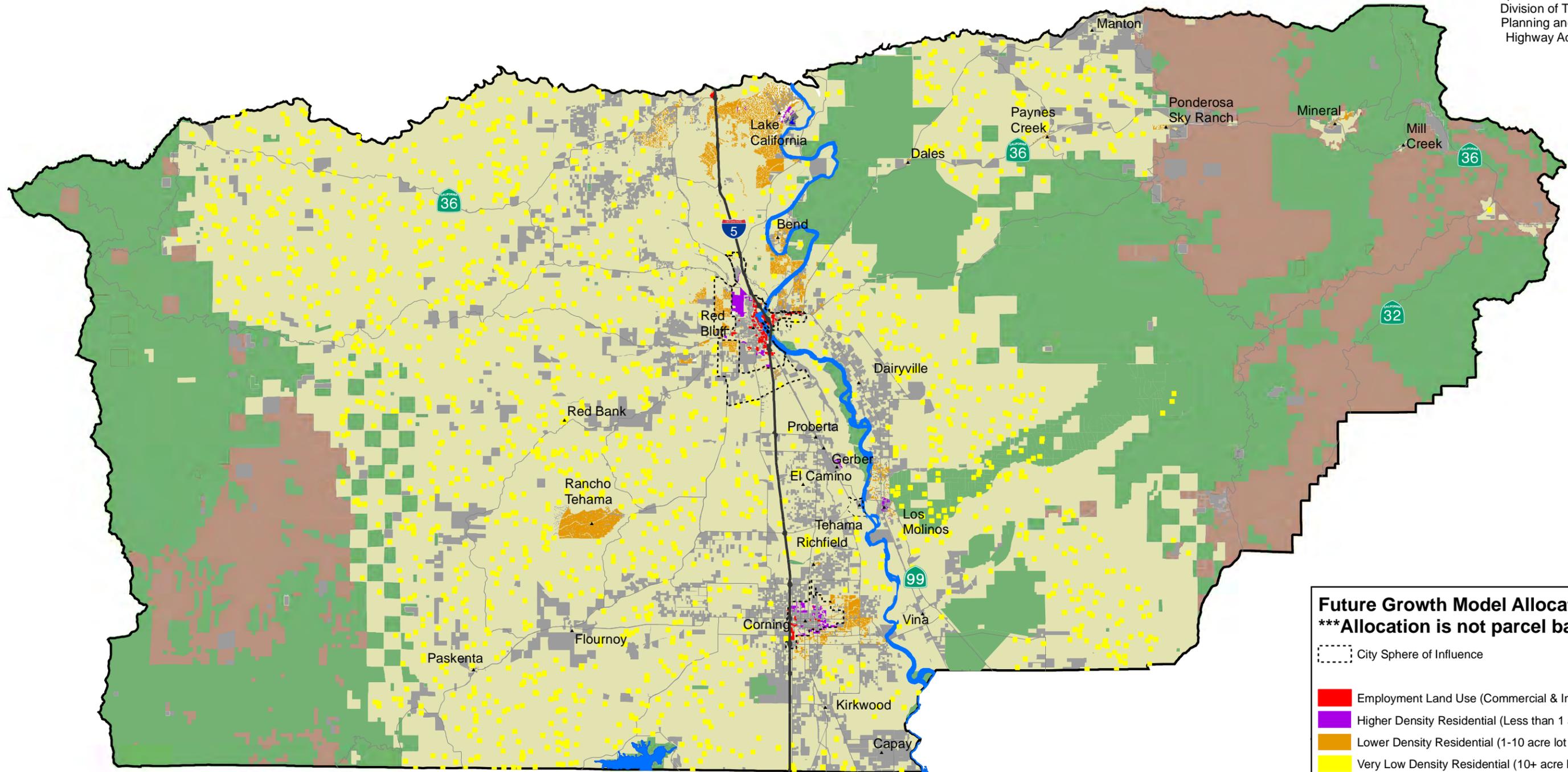


# Example of 2050 Historic Trend Scenario

Estimated Population in 2050: 91,679

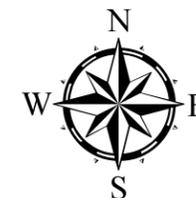


Sponsored by the California Department of Transportation Division of Transportation Planning and the Federal Highway Administration.



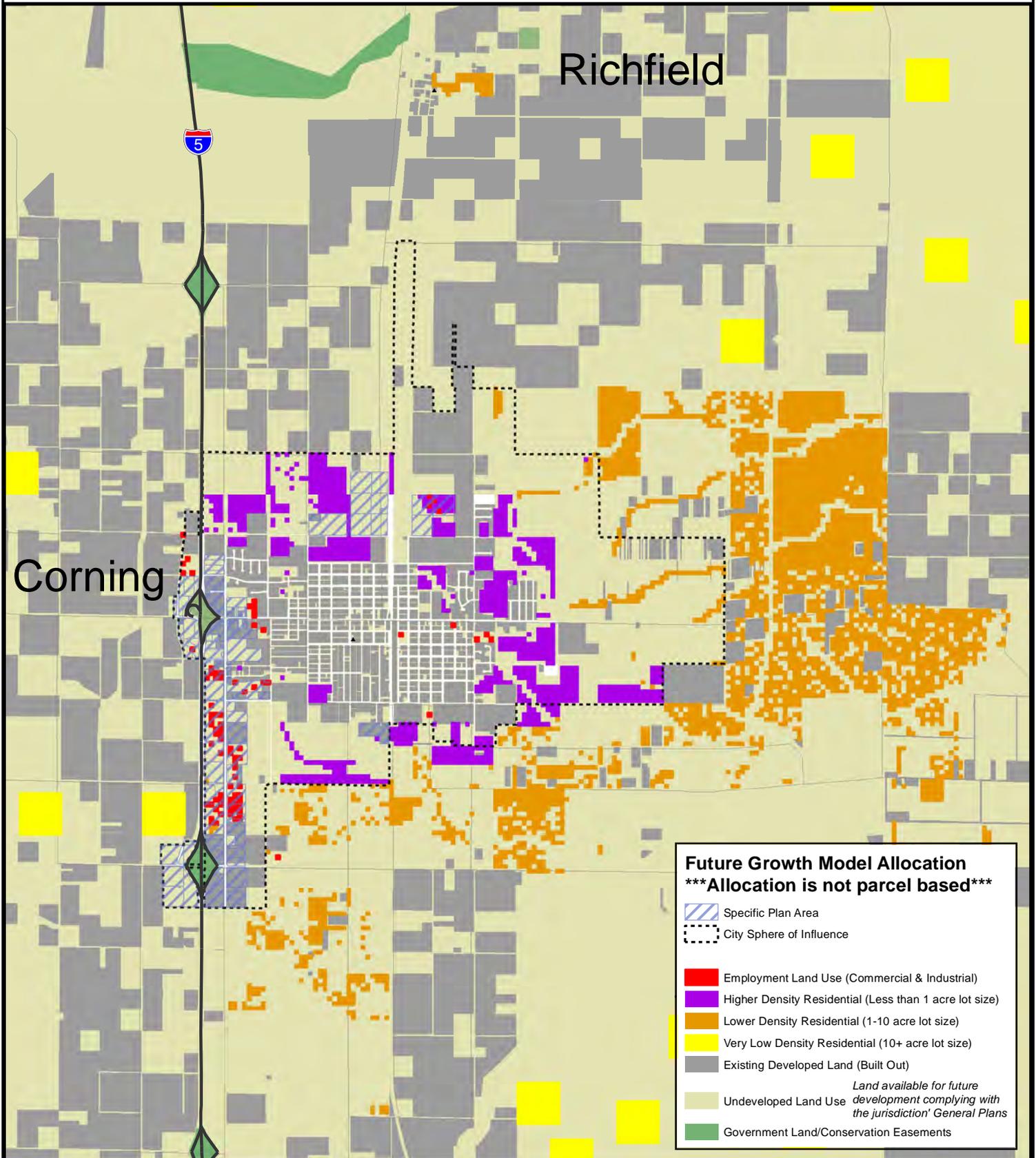
**Future Growth Model Allocation**  
**\*\*\*Allocation is not parcel based\*\*\***

- City Sphere of Influence
- Employment Land Use (Commercial & Industrial)
- Higher Density Residential (Less than 1 acre lot size)
- Lower Density Residential (1-10 acre lot size)
- Very Low Density Residential (10+ acre lot size)
- Existing Developed Land (Built Out)
- Undeveloped Land Use *Land available for future development complying with the jurisdiction's General Plans*
- Government Land/Conservation Easements
- Timber Land





Example of 2050 Historic Trend Scenario  
 Tehama County Estimated Population in 2050: 91,679



Corning

Richfield

**Future Growth Model Allocation**  
 \*\*\*Allocation is not parcel based\*\*\*

- Specific Plan Area
- City Sphere of Influence
- Employment Land Use (Commercial & Industrial)
- Higher Density Residential (Less than 1 acre lot size)
- Lower Density Residential (1-10 acre lot size)
- Very Low Density Residential (10+ acre lot size)
- Existing Developed Land (Built Out)
- Undeveloped Land Use
- Government Land/Conservation Easements

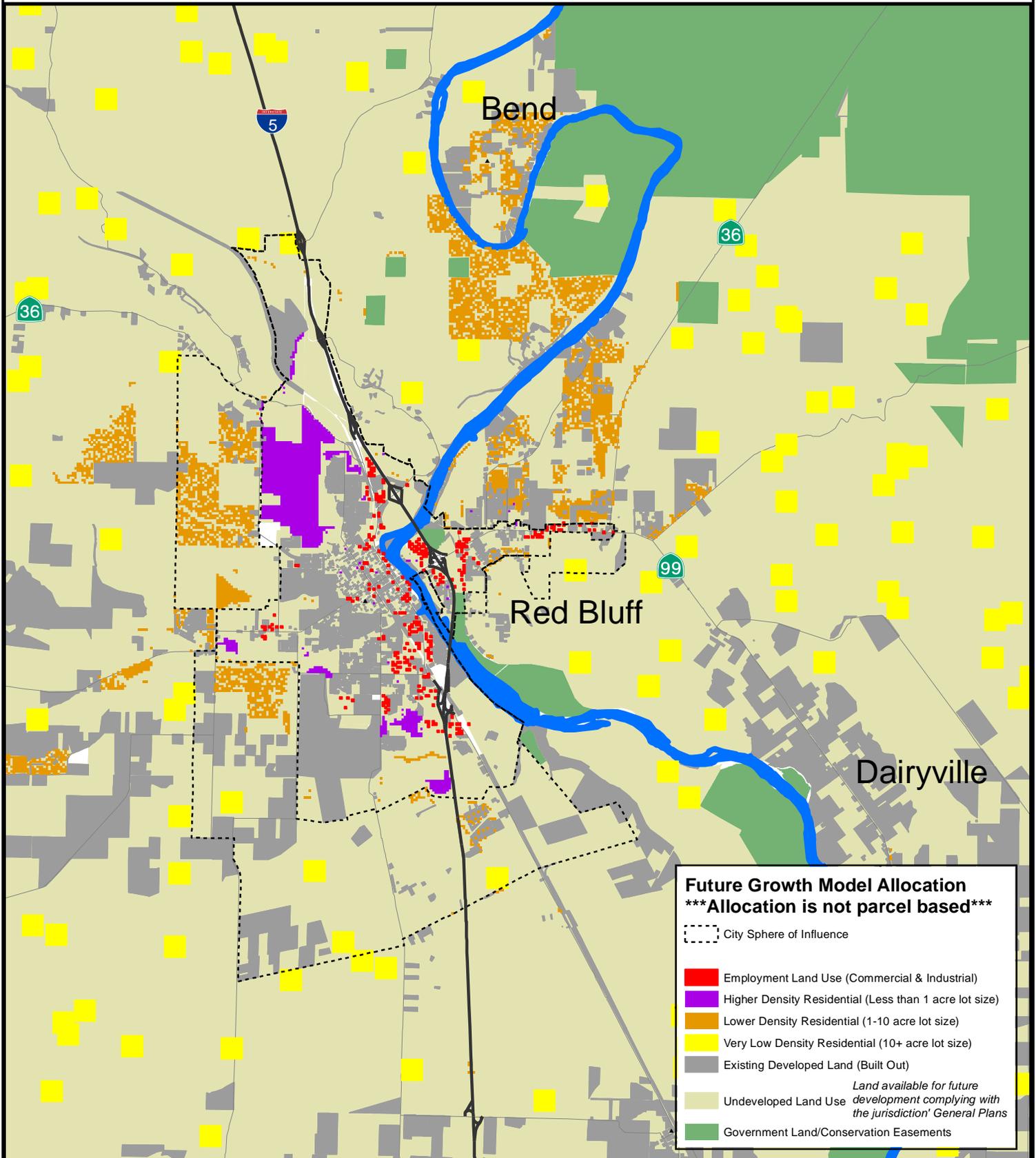
*Land available for future development complying with the jurisdiction's General Plans*

Land use and other features depicted are not displayed at the parcel level. See Tehama Tomorrow Final Report for more information.





Example of 2050 Historic Trend Scenario  
 Tehama County Estimated Population in 2050: 91,679

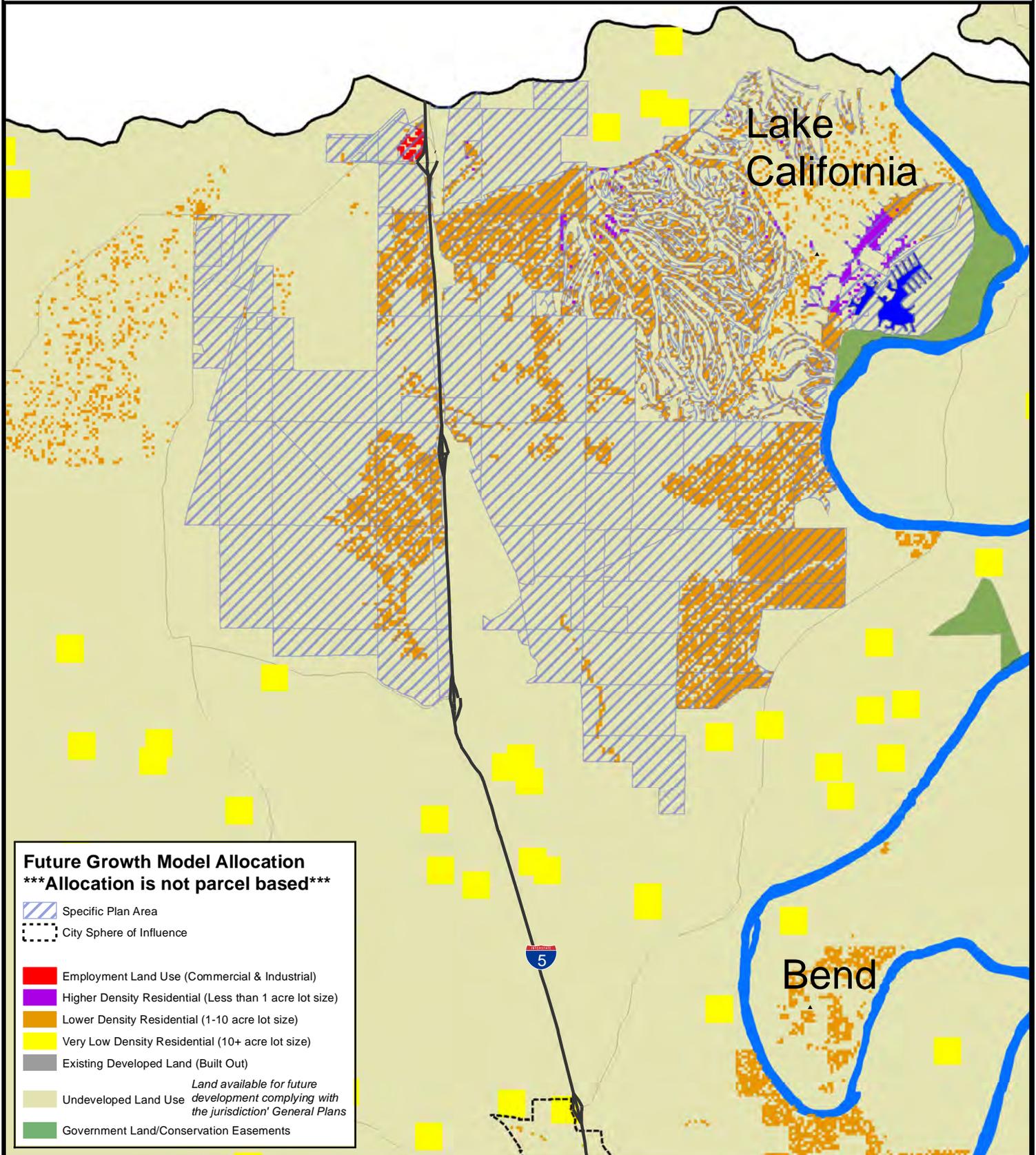


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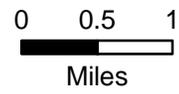




Example of 2050 Historic Trend Scenario  
 Tehama County Estimated Population in 2050: 91,679



Land use and other features depicted are not displayed at the parcel level. See Tehama Tomorrow Final Report for more information.



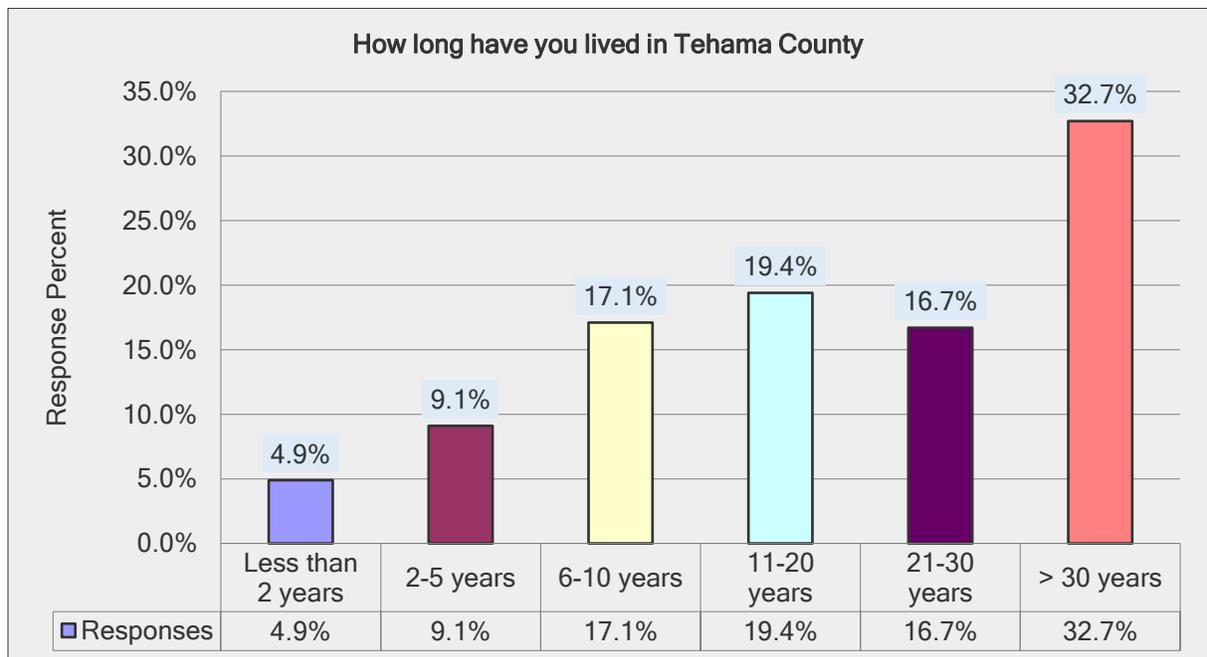
# Appendix D

## Blueprint Outreach

### Public Survey Results

## Blueprint Survey - Question #1

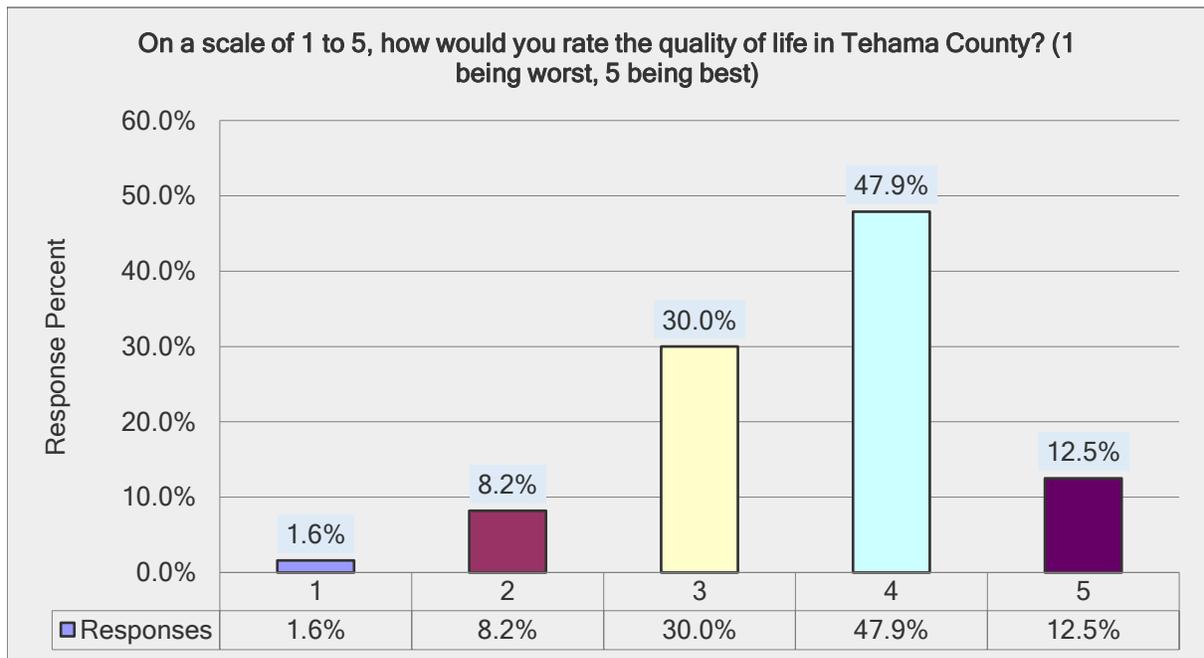
How long have you lived in Tehama County		
Answer Options	Response Percent	Response Count
Less than 2 years	4.9%	13
2-5 years	9.1%	24
6-10 years	17.1%	45
11-20 years	19.4%	51
21-30 years	16.7%	44
> 30 years	32.7%	86
<i>answered question</i>		<b>263</b>
<i>skipped question</i>		<b>2</b>



## Blueprint Survey - Question #2

On a scale of 1 to 5, how would you rate the quality of life in Tehama County? (1 being worst, 5 being best)

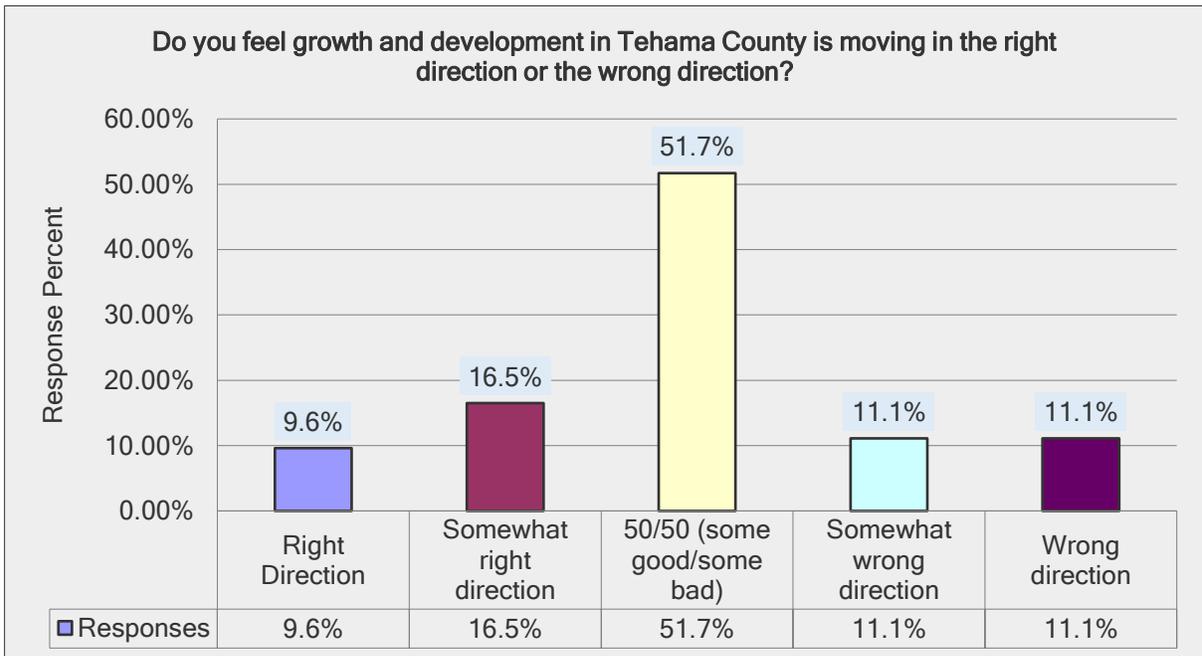
Answer Options	Response Percent	Response Count
1	1.6%	4
2	8.2%	21
3	30.0%	77
4	47.9%	123
5	12.5%	32
<i>answered question</i>		<b>257</b>
<i>skipped question</i>		<b>8</b>



### Blueprint Survey - Question #3

Do you feel growth and development in Tehama County is moving in the right direction or the wrong direction?

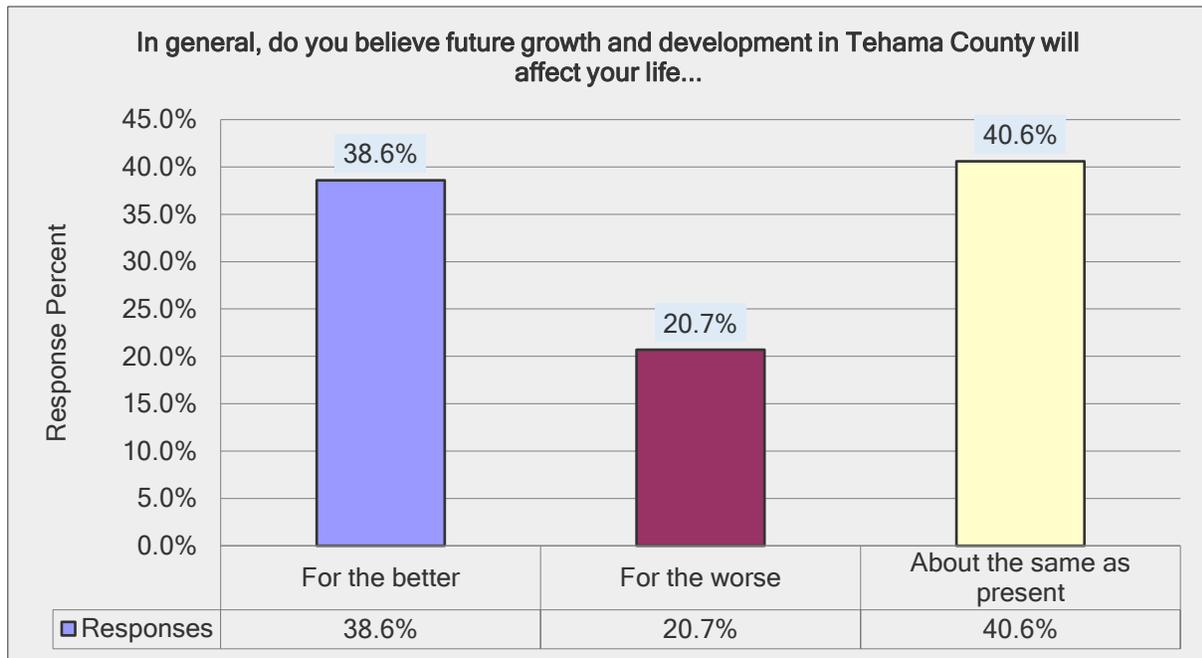
Answer Options	Response Percent	Response Count
Right Direction	9.6%	25
Somewhat right direction	16.5%	43
50/50 (some good/some bad)	51.7%	135
Somewhat wrong direction	11.1%	29
Wrong direction	11.1%	29
<i>answered question</i>		<b>261</b>
<i>skipped question</i>		<b>4</b>



## Blueprint Survey - Question #4

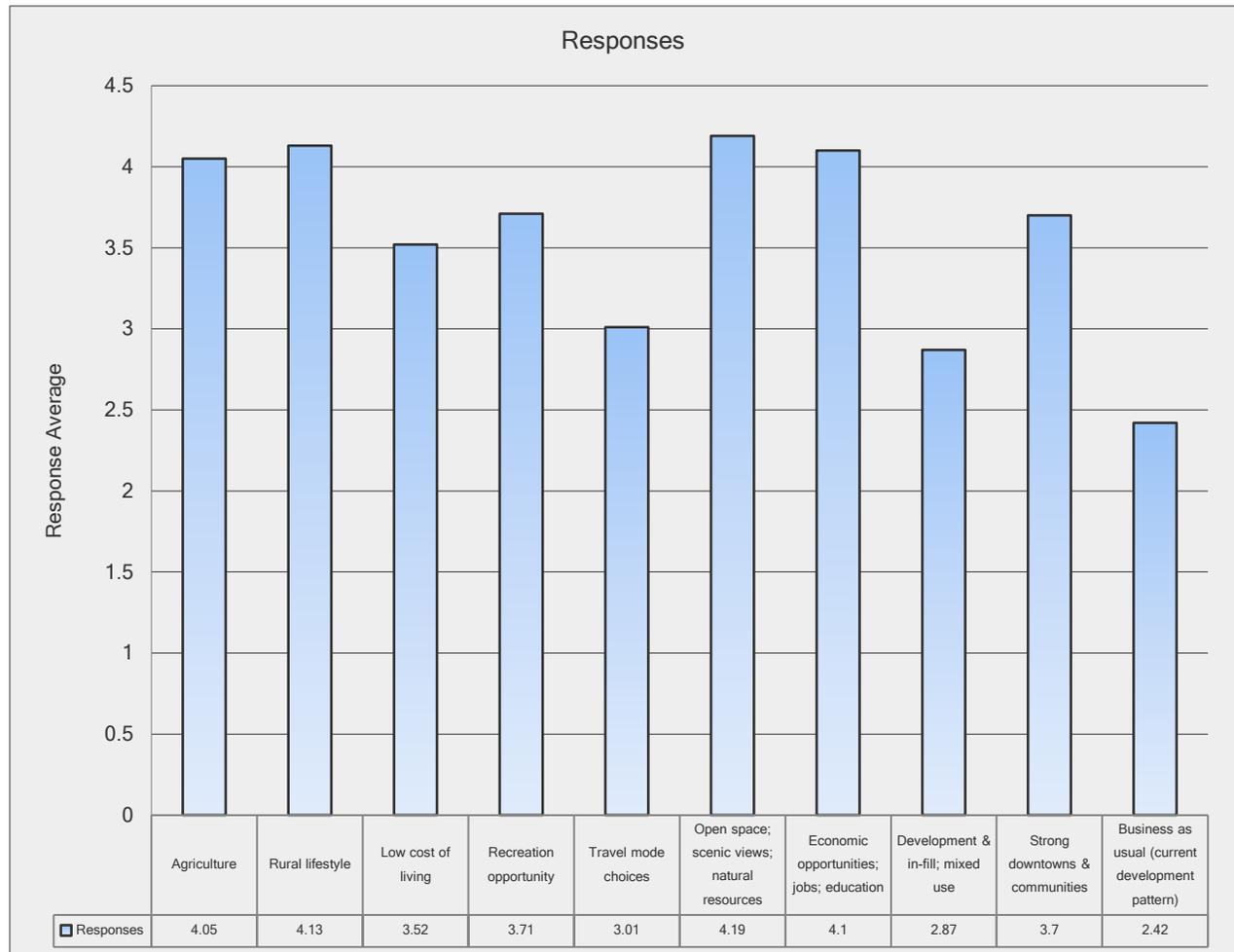
In general, do you believe future growth and development in Tehama County will affect your life...

Answer Options	Response Percent	Response Count
For the better	38.6%	97
For the worse	20.7%	52
About the same as present	40.6%	102
<i>answered question</i>		<b>251</b>
<i>skipped question</i>		<b>14</b>



## Blueprint Survey - Question #5

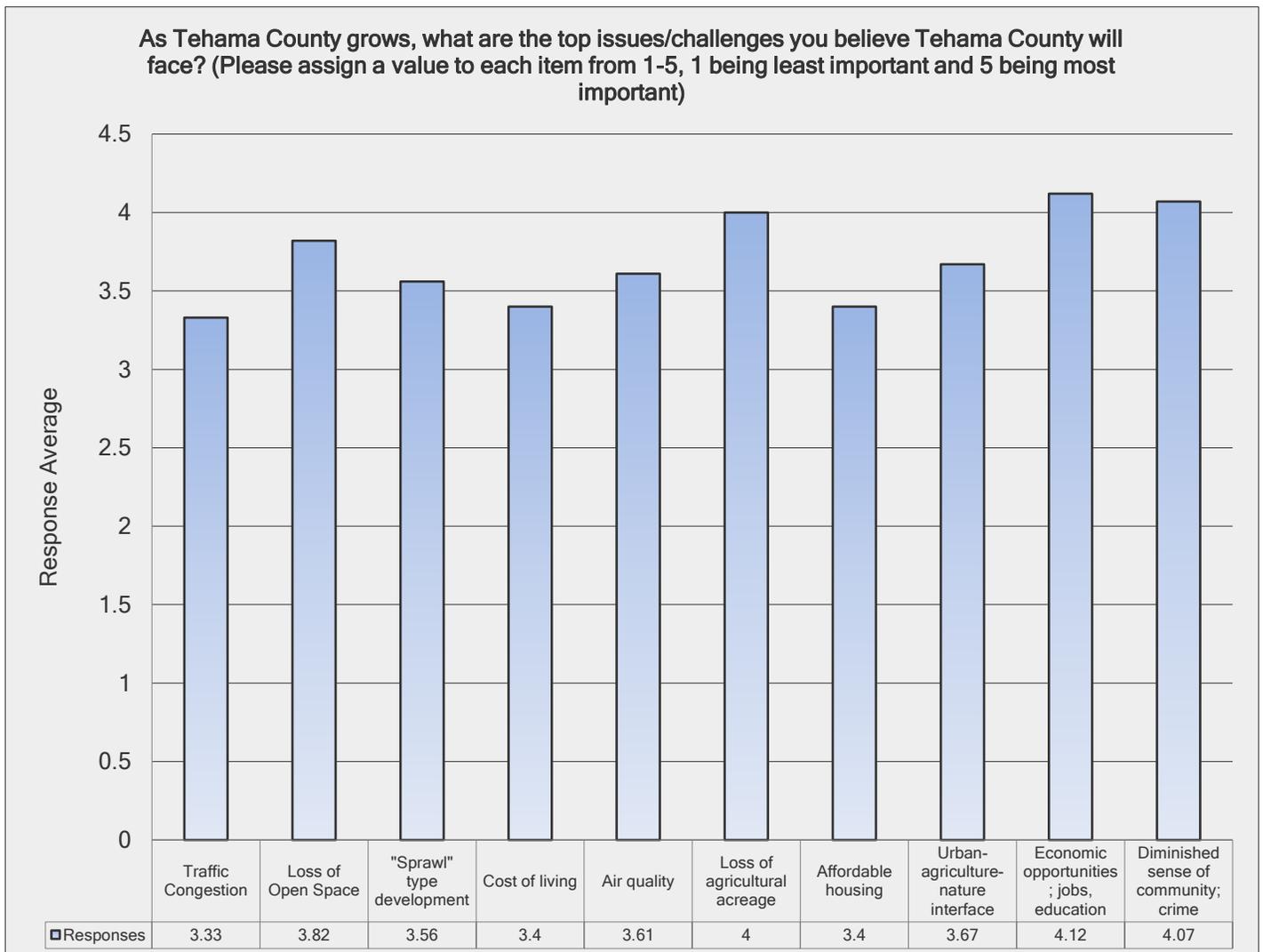
What characteristics do you believe would add most to the quality of life in Tehama County? (Please assign a value to each item, from 1 to 5, 1 being least important and 5 being most important)			
Answer Options	Response Average	Response Total	Response Count
Agriculture	4.05	839	207
Rural lifestyle	4.13	880	213
Low cost of living	3.52	701	199
Recreation opportunities	3.71	782	211
Travel mode choices	3.01	586	195
Open space; scenic views; natural resources	4.19	897	214
Economic opportunities; jobs; education	4.10	910	222
Development & in-fill; mixed use	2.87	534	186
Strong downtowns & communities	3.70	773	209
Business as usual (current development pattern)	2.42	433	179
<i>answered question</i>			<b>235</b>
<i>skipped question</i>			<b>30</b>



## Blueprint Survey - Question #6

As Tehama County grows, what are the top issues/challenges you believe Tehama County will face?  
(Please assign a value to each item from 1-5, 1 being least important and 5 being most important)

Answer Options	Response Average	Response Total	Response Count
Traffic Congestion	3.33	709	213
Loss of Open Space	3.82	794	208
"Sprawl" type development	3.56	694	195
Cost of living	3.40	725	213
Air quality	3.61	754	209
Loss of agricultural acreage	4.00	855	214
Affordable housing	3.40	680	200
Urban-agriculture-nature interface	3.67	719	196
Economic opportunity; jobs, education	4.12	919	223
Diminished sense of community; crime	4.07	874	215
<i>answered question</i>			<b>239</b>
<i>skipped question</i>			<b>26</b>



## Blueprint Survey - Question #7

Where do you live?		
Answer Options	Response Percent	Response Count
Antelope	4.6%	12
Bend	3.4%	9
Bowman	5.7%	15
Capay	0.4%	1
City of Corning	7.6%	20
City of Red Bluff	15.3%	40
City of Tehama	4.2%	11
Dairyville	2.3%	6
Dales	0.0%	0
El Camino	0.8%	2
Flournoy	2.7%	7
Gerber	2.3%	6
Kirkwood	0.0%	0
Lake California	12.2%	32
Las Flores	0.0%	0
Los Molinos	8.8%	23
Manton	4.2%	11
Mill Creek	0.8%	2
Mineral	3.1%	8
Newville/Black Butte	0.0%	0
Paskenta	0.8%	2
Paynes Creek	0.4%	1
Ponderosa Sky Ranch	0.4%	1
Proberta	0.0%	0
Rancho Tehama	3.8%	10
Red Bank	2.3%	6
Richfield	0.8%	2
Vina	4.2%	11
Other	9.2%	24
<i>answered question</i>		<b>262</b>
<i>skipped question</i>		<b>3</b>

