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More Than “Not Urban”: Seeking a Quantifiable Definition of Rural

By Ruth Miller

Abstract

Traditionally, planners focus on urban areas, though a significant portion of the U.S. population and most of its land are rural. Existing federal and state definitions of “rural” conflict, inadequately distinguishing these areas, and obfuscating their challenges and opportunities. By developing a clear understanding of what makes a community rural, including a quantifiable and map-able definition, planners will be better prepared to improve outcomes in both rural and urban areas.

Introduction

Land use, housing, community and transportation planners often broadly characterize their function as “city planning,” but in many cases, this practice constitutes a division of people and places according to a false dichotomy of urban and rural. In practice, planners responsible for both categories of land use generally substitute urban policies for regional ones, on the assumption that beyond the urban core there is nothing else that requires planning.

This article establishes a specific definition of the word “rural” for planners. This new definition, which is intended to complement existing definitions of the term “urban,” is offered as guidance for policy planning in the example state of California. Next, in order to demonstrate how specifically rural characteristics may be tightly interwoven in a metropolitan area, the proposed definition is applied to the San Francisco Bay Area.

Why is Rural Planning Important?

Planning exclusively for urban development does not prevent rural areas from being developed; it allows rural areas to develop without planning.

Consider California’s future High Speed Rail stations, several of which will open throughout the Central Valley in relatively small cities surrounded by farmland. Station area planning is underway, but no process is in place to fortify the rural edge and prevent this new development from filling prime

farmland with automobile-dependent suburban sprawl. To be successful, these communities will need both urban and rural planning.

For areas without impending economic development, one may be tempted to believe these communities will maintain a status quo. Unfortunately, the actual consequence for a lack of economic development is deterioration, so communities with fewer resources require public investment to become more efficient.

In order to satisfy our growing need for sustainability, rural economies, environments, and communities will require thoughtful planning. An increased understanding of rural planning challenges will support more effective goals and policies throughout our whole regions.

Existing Definitions

For effective rural policy there must be a consensus about an adequate definition of the term “rural.” A number of definitions for rural exist. For a general understanding, let us begin with the etymology of the word that is provided by the Oxford English Dictionary:

*rural (adj.): early 15c., from O.Fr. rural (14c.), from L. ruralis “of the countryside,” from rus (gen. ruris) “open land, country,” from PIE *rur- “open space” (cf. O.C.S. ravinu “level,” O.Ir. roi, roe “plain field,” O.E. rum “space;” see room). (Online Etymology Dictionary n.d.)*

However, policymaking and analysis require a more specific and quantitative treatment. Unfortunately, existing government definitions are ambiguous, overlap, and rely on metrics poorly suited to planning.

For example, the following three United States federal agencies apply their own differing definitions of rural.

- The U.S. Census Bureau: any census-designated place with less than 2,500 people, plus all undesignated areas (U.S. Census Geography Division 2010).
- Office of Management and Budget (OMB): any county not included in a Metropolitan Statistical Area (MSA). MSAs have combined populations of 50,000 or more, and outlying counties are included if 25% or more of their workers are employed in the core urban counties (Federal Register 2010).
- Economic Research Service (ERS) of the United States Department of Agriculture (USDA): counties are ranked on a rural-urban continuum from 1-9, “1” being the most urban, and “9,” “completely rural.” These

rankings are based on MSA designation, population, and proximity to an OMB metro area (Economic Research Service 2012).

The above definitions differ in significant ways, and often lead to a location’s designation as rural by one agency, but as urban by another.

- The Census classifies places in municipal terms (as cities and towns), while OMB and ERS classifications are applied at the county level. The latter two definitions are ambiguous in their application both to the urban parts of rural counties and to the unincorporated areas of urban counties.
- The ERS considers counties with rankings of “4” or greater to be rural, whereas the OMB reserves the designation for rankings of “5” or greater. These definitions create ambiguity for counties ranked at level “4.”

Such ambiguity creates three problems, namely (Isserman 2005):

- The creation of misunderstanding about rural conditions
- The misdirection of federal funds and programs
- Breakdowns of communication which result in confusion

Table 1 depicts some of this confusion, specifically that which arises from the conflicting classification of California counties by the three different systems. Figure 1 shows how much of California’s population and land are rural by all three definitions.

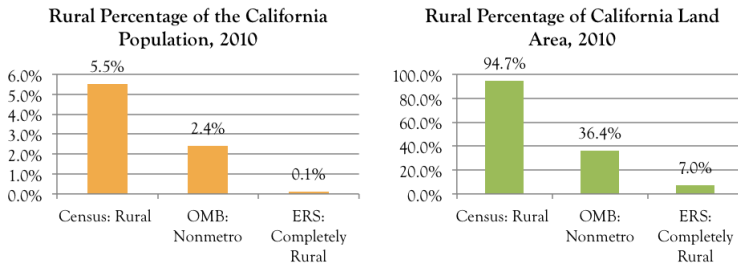


Figure 1: Percentages of California population and land deemed rural by Federal definitions.

Determining the distinction between rural and urban on the county level is especially difficult in large counties. For example, Riverside County stretches more than 200 miles from Los Angeles east across the desert to the Arizona border. Nevertheless, it is ranked as “1” by the ERS and designated as “metro” by the OMB, even though more than 90% of the county is actually ranchland, farmland, or wilderness.

	California Counties	California Population	According to the OMB:	According to the ERS:
1 Counties in metro areas of 1 million people or more	26.3%	75.4%	Metro	Urban
2 Counties in metro areas of 250,000 to 1 million population	19.3%	17.4%	Metro	Urban
3 Counties in metro areas of fewer than 250,000 population	17.5%	4.8%	Metro	Urban
4 Urban population of 20,000 or more, adjacent to a metro area	8.8%	1.0%	Nonmetro	Urban
5 Urban population of 20,000 or more, not adjacent to a metro area	1.8%	0.4%	Nonmetro	Rural
6 Urban population of 2,500 to 19,999, adjacent to a metro area	10.1%	0.5%	Nonmetro	Rural
7 Urban population of 2,500 to 19,999, not adjacent to a metro area	8.7%	0.4%	Nonmetro	Rural
8 Completely rural or less than 2,500 urban population, adjacent to a metro area	7.0%	0.1%	Nonmetro	Rural
9 Completely rural or less than 2,500 urban population, not adjacent to a metro area	0.0%	0.0%	Nonmetro	Rural

Table 1: California's counties and population by the ERS Rural-Urban Continuum Code, 2010

The place-based Census definition is more precise, but relies on population totals, not the actual distribution of population density within politically defined boundaries. Consider two California cities as examples. The city of Portola has 2,104 people on 5.41 square miles, while the city of Belvedere has 2,068 people on 0.52 miles. The Census considers these municipalities equally rural, even though the density of Belvedere is over 10 times greater.

Comparing the density of places is also an unsatisfactory measure of rural status because of the Census' practice of "rounding up" fringes for placement within the nearest urban area (U.S. Census Bureau, Geography Division 2010), including:

- "Indentations" of up to 3.5 square miles
- Rural "enclaves" situated within surrounding urban areas
- Noncontiguous territory defined via "hops" and "jumps" of less than 0.5 and 2.5 miles, respectively. No hops are allowed after jumps
- Whole Census blocks with a "high degree" of impervious surface within 0.25 miles of an urban area

The accurate assessment of areas that comprise the rural fringe is important to planners. According to the Ed Thompson, California Director of the American Farmland Trust, these border areas, such as indentations, are most likely to constitute domains transitional between open space and sprawl-types of development (Ed Thompson, Jr., pers. comm.). Enclaves, also known as disadvantaged unincorporated communities (DUCs), were the subject of the recent senate bill, SB 244, which requires cities to incorporate these places and extend to them the same municipal services and infrastructure enjoyed by their relatively affluent neighbors (California Rural Legal Assistance, Inc. 2012). A planner’s definition of rural should be able to distinguish these areas: lazily rounding up the fringe areas diminishes their significance and renders the Census’s borders useless for predicting sprawl.

Examples of mismatched borders in Riverside County’s Coachella Valley are illustrated in Figure 2. Census designated places corresponding to municipal boundaries are shown in opaque gray, whereas Census designated urban areas are indicated by a transparent green. Neither of these Census designations correspond to areas that appear developed in aerial photography. The black borders indicate development according to the California Farmland Mapping and Monitoring Program, which is limited to California, but offers an adequate and high-resolution indicator of development.

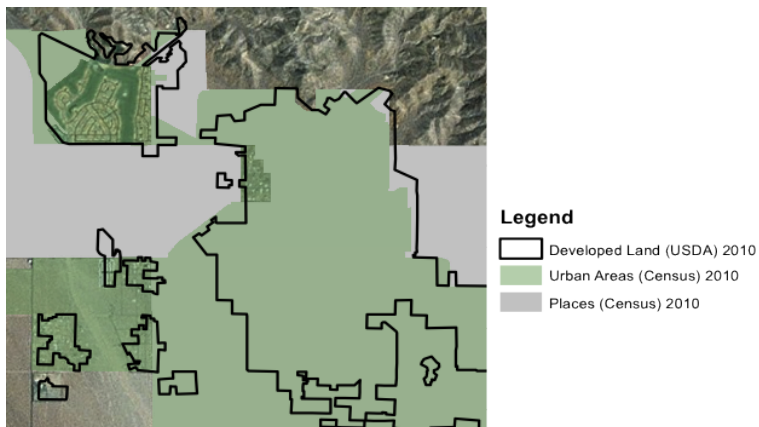


Figure 2: Overlapping urban boundaries in Coachella Valley

States also attempt to define “rural” to meet their various policy needs, but as with the Federal government, these definitions also apply a wide range of criteria unsuitable for planning. The State of California, for example, currently applies 11 definitions, including (Legislative Counsel of California n.d.):

- Business and Professions Code §13651[b][2]: An area with an annual average daily traffic count below 2,500 vehicles
- Education Code §8277.6[e][1][B]: Any county with fewer than 400 residents per square mile
- Government Code §22877[4]: An area with no board-approved health maintenance organization plan available for state employees
- Government Code §8589.10[f]: Territory outside an urban area as defined by the 1980 Census
- Government Code §51010.5[e]: The area beyond all incorporated areas, unincorporated communities, subdivision, and commercial areas
- Health and Safety §50101: A place that with its associated neighbors has a population less than 10,000. If the place and its neighbors are in an OMB-defined nonmetropolitan county, the maximum population for the area is 20,000, as long as the area “is rural in character”
- Streets and Highway §2503: “Areas not considered urban”

Some of these criteria, such as density and traffic, are more specific than the federal definitions, but none of California’s definitions are adequate for use by planners. Planning interventions are able to direct land use, housing, transportation, and economic policies, but none of the above definitions refer to those indicators. Planners need a working definition of rural derived from the use and quality of the particular land in question, not just its score among indicators of urban character.

Alternative Definitions of Rural

How should planners define rural? What definition would best inform policy specific to planning outcomes? What are the characteristics of a place, relevant to planning, that would classify it as rural?

Minnesota’s Center for Rural Policy and Development proposed a dichotomy of “metroplex” and “ruralplex.” If city, urban, and metropolitan are all defined by the qualities that make them centers of commerce (such as population and employment linkages), then rural should be defined by the qualities that best suited to the classification of rural areas, such as soil type, geology, and climate (Gillaspy 2006).

Prime farmland directs people to formulate specific development patterns. The attributes of such areas considered relevant for this particular land use constitute the terms appropriate for the definition of this kind of ruralplex.

Vineyards, on the other hand, cover areas with soil and climate conditions specifically different, and constitute a different type of ruralplex. Many more kinds of ruralplex exist wherever a distinct combination of resources and industry overlap. In the richness and diversity of our non-urban areas, what specific place types would be meaningful to planners?

Three previously proposed rural classification frameworks are discussed below.

National Cooperative Highway Research Program (NCHRP)

Written in 2007, NCHRP Report 582, identifies three overlapping rural place types in its report of rural transportation and land-use issues (Twadell and Emerine 2007):

- Exurban: describes bedroom communities peripheral to an urban center
- Destination: characterized by natural or cultural amenities attracting seasonal residents, tourists, and retirees
- Production: characterized by dependence on single industries, such as farming, mining, or manufacturing

The report estimates that in 2007, the United States’ rural land was divided as follows: 25% exurban, 23% destination and 53% production. California’s counties are classified as shown in Figure 3.



Figure 3: Exurban Counties (left), Destination Counties (center), and Production Counties (right)

In an interview, the lead author of the report noted that the county-based classification system failed in California’s larger counties (Twadell, pers. comm.). The analysis relied on the OMB definition, which designates a county “metro” if it contains any significant urban area. Several large and mostly rural counties are noticeably excluded from this analysis, including San Bernardino and Riverside Counties, which are considered metro, but are only 2.1 and 5.3% urbanized, respectively (Landis and Reilly 2003).

Smart Growth America

For its report, *Putting Smart Growth to Work in Rural Communities*, Smart Growth America developed five typologies “through discussions with a range of Smart Growth Network member organizations, including the National Association of Counties, the National Main Street Center and the U.S. Forest Service, as well as organizations outside the network.” Smart Growth America claims their classification framework is “now viewed as generally accepted terms within the smart growth community” (Smart Growth America 2009).

- **Gateway communities:** These are adjacent to high-amenity recreational areas such as National Parks, National Forests, and coastlines. They provide food, lodging, and associated services, and are increasingly becoming popular places to live and work.
- **Resource-dependent communities:** These communities depend on single industries, such as farming or manufacturing.
- **Edge communities:** At the fringe of metropolitan areas, these communities are typically connected by interstate highways.
- **Traditional Main Street communities:** Such communities enjoy a compact street design that is often accessible to a transportation hub. Historically significant architecture and public spaces are typical.
- **Second home and retirement communities:** These communities may overlap with the other groups, particularly edge communities.

Carsey Institute (University of New Hampshire)

The Carsey Institute took a social approach, classifying communities by household characteristics. Carsey identified four rural place types in its 2008 report (Carsey Institute 2008).

- **Amenity-rich:** Characterized by new, growing populations. Residents are attracted by the natural environment, and are generally more employed, better educated, and earn higher incomes than residents of other rural areas, though finding “good jobs” is still a problem. These residents are very concerned about the effects of urban sprawl and rapid development.
- **Declining resource-dependent:** Most of these households include long-term residents whose parents also grew up in the area. Out-migration of young adults is driving down the population. People in these areas are more likely to be church-going, married, and veterans. Outdoor recreation and hunting are more important to these residents

than is natural beauty. Residents expect these areas to stay the same, rather than to decline or improve.

- **Chronically poor:** High birth rates offset out-migration. Most are long-term residents, whose parents also grew up in the area. More respondents described themselves as unemployed or disabled than for other areas. These residents are less likely either to have a high school education, and are more likely to belong to a religious or community group and to be married. Like the declining resource-dependent residents, this population is unlikely to see sprawl or climate change as problems, and hunting is the most popular form of outdoor recreation.
- **Amenity/decline rural:** This is an “in-between” category. Out-migration of the young seeking employment is roughly offset by new “amenity migrants” moving in. Employment is relatively high, but employment is still a priority for residents.

A New Framework for Planners

What lessons can be learned from the rural frameworks described above, and how can they be adapted to create a rural definition for planners?

Each individual framework describes the whole range of rural communities, so the three frameworks inevitably overlap. Certain place types, such as destinations and gateways, generally apply to the same locations. Similarly, the distinction between the declining resource dependent, chronically poor, and main street classifications is less clear when it comes to actual application. The general overlaps are illustrated in Figure 4.

These frameworks are driven by different parameters: The NCHRP 582 and Smart Growth reports focus on land use and economic connectivity, while Carsey focused on demographics. Ideally, a definition for planners would move away from demographics towards parameters that planners can control, such as land use. Thus, this discussion will focus on NCHRP 582 and Smart Growth.

Which of these place types are relevant for a planning framework?

Productive and Resource-Dependent: Both describe the idyllic working farm often associated with rural life. Agriculture, forests, and ranches are undoubtedly a key component of rural places, and one of these place types should be included. “Productive” is the more positive term.

Main Street: A planners’ framework should differentiate between communities whose economies are dependent upon or independent

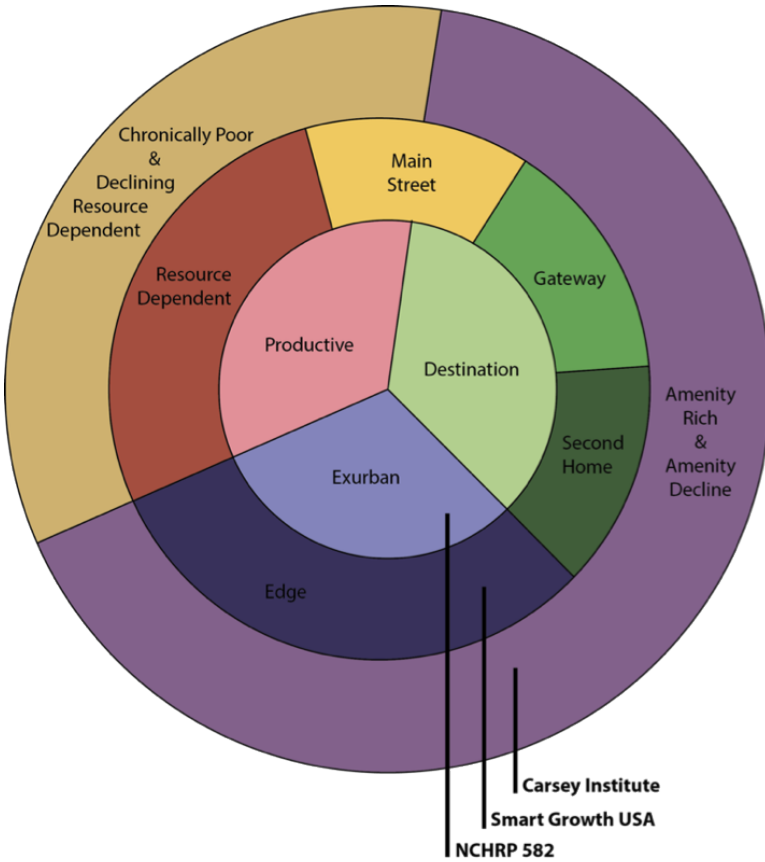


Figure 4: Visualized overlaps among the literature frameworks

of farming. Some Main Streets serve only the surrounding agricultural community, such as tiny and isolated downtown Coachella. Point Reyes Station is a Main Street, but serves regional tourists visiting the nearby Point Reyes National Seashore, and is a cultural destination unto itself. This new framework expands the productive place type to acknowledge the small commercial centers that serve local markets. Main Streets related to regional destinations will be regarded as destinations.

Destinations, Gateways, and Second Homes: Gateways and second homes are both subsets of the destinations place type. Lake Tahoe, for instance, is surrounded by gateways (serving tourists of a variety of incomes) and second homes (serving wealthier residents). However, not every destination has both a significant gateway and second home presence: Joshua Tree National Park is more remote and less populated than Lake Tahoe. “Destination” is broadened to acknowledge the multiple roles of regional attractions.

Edge and Exurban: As explained above, these place types apply to identical areas. Some suburban areas are already captured by urban policies, so these place types may feel redundant. Some suburbs are indeed quite urban, but others can be as sparsely populated as a productive or destination area. Even if one community relies on another for employment, as suburbs and exurbs do, extremely low-density development can pose transportation challenges.

The word “Exurban” is a popular term for the area beyond suburbia, but was originally used to describe more prosperous communities. To apply more broadly, the new framework will use the term “edge.”

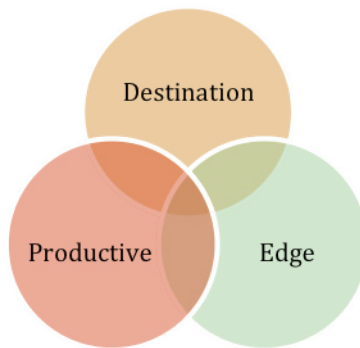


Figure 5: A new rural framework for planners

These place types capture most of the diversity of rural, and create a tool for articulating the general opportunities and challenges of specific rural places. This report will discuss rural in terms of these place types.

The NCHRP and Smart Growth frameworks allow overlaps. Overlaps do not diminish the usefulness of these place types, because overlaps allow the place types to describe a more nuanced reality. For example, various parts of Napa Valley are both destinations and productive, and this dual identity inherits the challenges of both place types. Competition between these identities drives conflicts that should be acknowledged, such as those arising from the operation of noisy farming equipment near vineyard resorts.

This review draws three key conclusions:

- Rural places are diverse and difficult to describe in general terms
- There is more than one kind of “rural,” and the appropriate definitions of the term are no less complex than those employed for areas designated as “urban”
- It is possible to categorize rural place types by their natural features and economic use

Equipped with a more complete understanding of what kinds of areas are rural, one can demonstrate the prevalence of rural areas within a metropolitan region. The next section will develop more specific quantitative definitions for each place type and map their locations and overlaps throughout the San Francisco Bay Area.

Mapping Rural in the San Francisco Bay Area

The three place types (production, destination, edge) proposed in the previous section provide a language for describing rural areas through the assignment of characteristics drawn from the realm of planning policy. In this section, these place types will be refined and given quantitative meaning. This section will answer the question, “How does the designation ‘rural’ fit within a more nuanced understanding of the San Francisco Bay Area?”

A Methodology For Rural Mapping

What requirements must this mapping methodology fulfill for policymakers to use and replicate it?

- **Low-cost:** The analysis should avoid private sources of data that may be costly to obtain.
- **Comprehensive:** Some cities and counties collect more information than others. The analysis should be replicable for at least the entire State of California and, ideally, for other states.
- **Simple:** Certain kinds of data, including zoning plans and municipal service boundaries, are available for every city and county, yet are not available for multiple jurisdictions from a single source. In the future, local governments could maintain this data in a state-wide clearinghouse, but until then, the aggregation of such data will remain labor intensive.
- **Transparent:** A layperson should be able to understand the definitions.

Any veteran San Francisco Bay Area resident could roughly classify at least a few popular destinations. Table 2 provides several examples as a check for the classification methodology.

Some places are clearly a combination of place types. Many vineyards in Sonoma may be both production and destination areas, while others closer to downtown would be a combination of production, destination, and edge classifications. A rural typology must be able to indicate overlaps, and planning policies must be capable of serving these overlaps.

Approximate Location	Productive	Destination	Edge
Farmland south of Gilroy (far side from San Francisco)	●	○	○
Downtown Sonoma	○	●	○
Western Contra Costa County	○	○	●
Tomales Bay	●	●	○
Point Reyes	○	●	●
Farmland north of Fairfield (the side nearest Sacramento)	●	○	●
Vineyards between Napa and Sonoma	●	●	●

Table 2: Example Place Types

What indicators and data would enable the mapping of the rural places?

This section has two purposes. The first purpose is to depict the close proximity of rural and urban locations. At the same time, it is necessary to emphasize the codependency of the rural and urban transportation, economic, and food systems, as well as the need for urban planners to understand and incorporate rural neighbors. The second purpose is to provide examples of quantitative measures of rural quality related to the policies and interventions available to planners. These definitions are proposed as usable for California, but should inspire future research to explore federal or global data sources that could provide more universal definitions.

The remainder of this section discusses the data sources available to map rural places, making selections that would be easily replicable in California. All data discussed here was obtained in shapefile formats, and spatially analyzed using ESRI ArcMap 10.1.

Productive

Is productive land defined in terms of its use, the people who use it, or its potential for use? The uses included in this definition of productive are all location dependent—some land is better suited to farming, timber harvesting, or mining than others. Fortunately, the characteristics that make land productive are well documented.

California has particularly detailed and current data available on soil quality and the potential for agricultural use. The California Department of Conservation monitors agricultural lands through the Farmland Mapping and Monitoring Program (FMMP). This program classifies and distributes spatial data on land suitability every two years. All counties have data available for 2008, though most also have 2010 data. The classifications of land suitability are described in Table 3 (California Department of Conservation 2007).

	Description	"Productive"
Prime Farmland (P)	Irrigated land with the best combination of physical and chemical features able to sustain long-term production of agricultural crops. Must have produced crops four years prior to the mapping date.	Yes
Farmland of Local or Statewide Importance (L or S)	Similar to Prime Farmland, with minor shortcomings, such as greater slopes or lower soil moisture. Must have produced crops four years prior to the mapping date.	Yes
Unique Farmland (U)	Lesser quality soil. May include non-irrigated orchards and vineyards. Must have produced crops four years prior to the mapping date.	Yes
Grazing Land (G)	Suited to livestock.	Yes
Urban and Built-Up Land (D)	Occupied by structures with at least 1 unit per 1 or 1.5 acres.	No
Other Land (X)	Includes low density rural development, heavily forested land, mined land, and land with government restrictions on use.	Uncertain/Yes
Water (W)	Bodies of water greater than 40 acres.	No
Rural Residential Land (R)	Residential areas with 1-5 structures per ten acres.	No
Vacant or Disturbed Land (V)	Open fields that do not qualify for agriculture, mineral and oil extraction areas, rural freeway interchanges.	Uncertain/Yes
Confined Animal Agriculture (CI)	Dairies, feedlots, poultry facilities.	Yes
Nonagricultural and Natural Vegetation (nv)	Heavily wooded, rocky or barren areas, and both natural and constructed wetlands.	Uncertain/Yes
Semi-Agricultural and Rural (sAC)	Farmsteads, agricultural storage, packing sheds, unpaved parking areas, equine facilities, and campgrounds.	No

Table 3: Farmland Mapping and Monitoring Program Classification

Several of these classifications are obviously related to agriculturally productive land, and some should obviously be excluded. However, three classifications are less clear because the term "Productive" is meant to represent more than agriculturally productive land. Heavily forested land, which falls into "Other Land, Nonagricultural" is ill suited for agriculture but includes the entire timber industry. Similarly, some land designated "Vacant" is host to the mineral and oil extraction industries. To be as inclusive as possible, this analysis will include these uncertain classifications.

To be considered productive, it is not enough for an area to be used productively—it must rely on those productive uses. An area reliant on productive uses would also have relatively low population density and low population growth. The analysis undertaken in this research effort sets the value of the maximum density at 100 people per square mile (California’s average was 237 in 2010) with a 5% maximum increase in population from 2000.

These population figures are borrowed from the U.S. Census, and are available at the tract level. Many tracts, particularly in rural areas, changed boundaries between 2000 and 2010. To account for this, a high-resolution raster was created from both 2000 and 2010 tracts to show a population gradient across the San Francisco Bay Area. As a result of this process, the final product retains some of the tract boundaries.

Note that in the San Francisco Bay Area, most of the productive land is used for grazing.

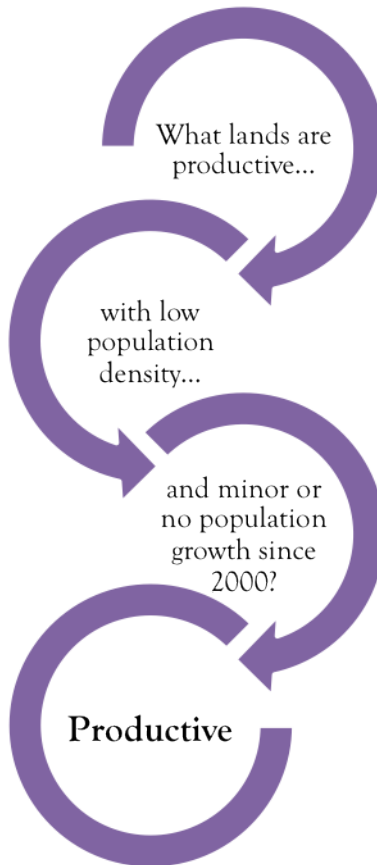


Figure 6: Productive Map Logic

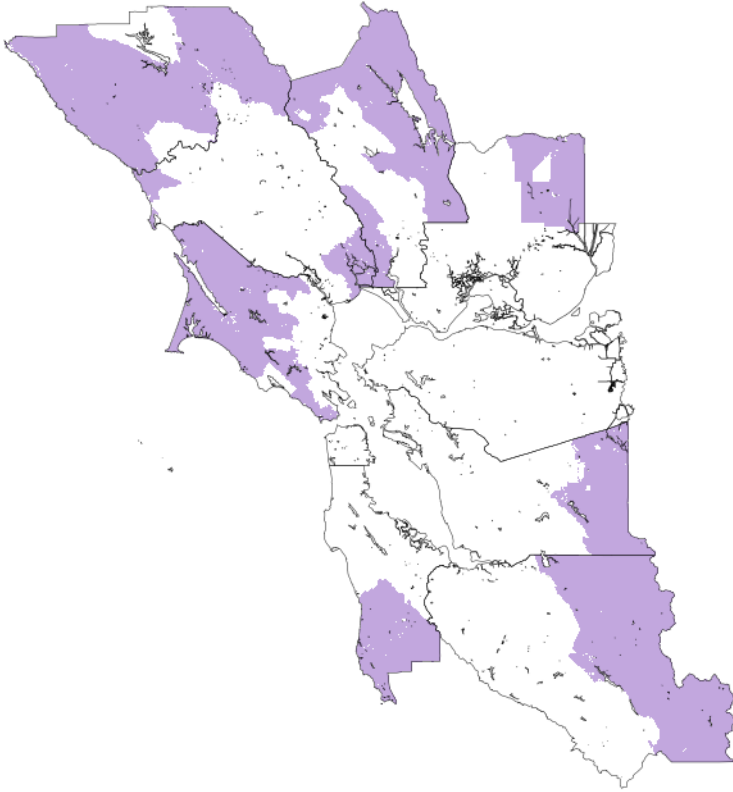


Figure 7: Rural Productive Areas in the Bay Area

Destination

Unlike productive areas, which are designated according to qualities intrinsic to the land such as soil and slope, destinations are somewhat subjective. For example, people deem some parts of certain lakes more attractive than others. Therefore destinations require both natural and cultural indicators.

What characteristics define a destination? The NCHRP report relied on the percentage of seasonally occupied housing, but what is an acceptable threshold? The mean percentage of seasonally occupied housing by tract in California is 12.3%, with a standard deviation of 16.7%. One standard deviation above the mean—29%—is a relatively high threshold. Applying this threshold to the Bay Area identifies the popular tourist destinations one would generally expect.

Once an area establishes itself as a destination, it typically sees an increase in property values. There are private data sources for property values, but to keep this analysis repeatable, mean household income by tract is free and a sufficient substitute.

The average household income by tract is \$65,587 across all of California. The average across only tracts with more than 29% seasonal occupancy is \$71,178. This validates our assumption that destinations are relatively wealthier than other rural areas. But how wealthy should an area be to qualify as a destination?

The standard deviation of mean household income by tract is \$30,383. Repeating the logic applied to seasonal occupancy creates a minimum household income of \$95,970.

One might assume that people live adjacent to a destination, and property values uniformly increase with their proximity to the attraction. However, this is not necessarily true: Lake Tahoe enforces strict environmental regulations that make development adjacent to the lake nearly impossible, for example. As a result, the nearest residential communities are quite poor. Demand for higher quality housing and services have pushed development to Truckee, 30 miles away.



Figure 8: Destination map logic

Destination areas in the Bay Area are highlighted in Figure 9.

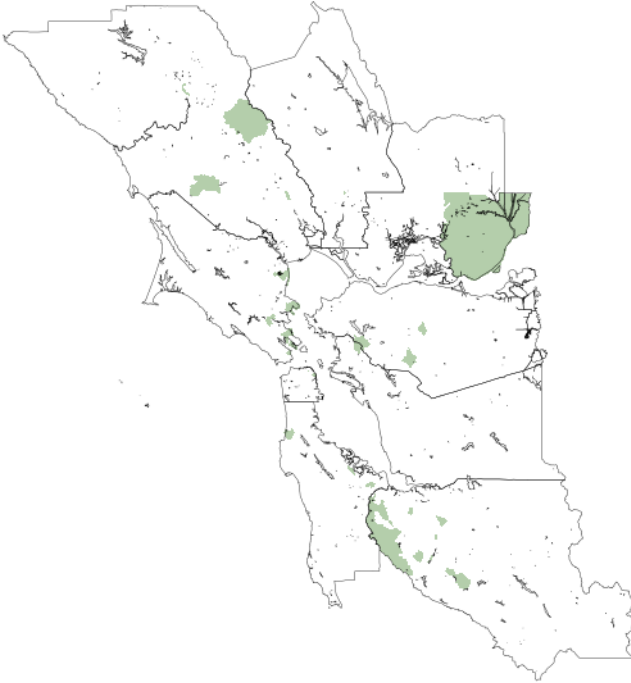


Figure 9: Rural Destinations in the Bay Area

Edge

How can one describe the space on the outskirts of an urban area? Three different phenomena exemplify the rural–urban edge:

1. Rural areas can be “rounded up” and included within urban boundaries. This inclusion disposes the rural areas for development into an urban or edge community, for example, the outer edges of Stockton.
2. Urban development extends beyond its official boundaries, spilling into more rural areas. Such seepage leads to further outward growth. This phenomenon has occurred outside Elk Grove.
3. Once an area has developed at a very low density, both infill and returning to active agriculture usage are nearly impossible. The growth on the western edge of Vallejo is one such case.

Each type of edge community can be mapped separately.

1. “Rounded up” rural areas. The boundaries of Census-defined urban areas and places generally mimic municipal boundaries. The Farmland Mapping and Monitoring Program (FMMP) designates the

areas that are actually developed as “urban and built-up land.” Any area considered an urban area or place, but not built up, is considered at risk for sprawl and an Edge.

2. Density beyond urban boundaries. Aggregating zoning or General Plans across the entire state would be prohibitively labor intensive. Instead, the Census gives an understanding of population density.



Figure 10: Edge Map Logic

One hundred people per square mile is the maximum density allowable for the productive designation, so unincorporated areas over that threshold are classified as edge.

3. Very low density development. The FMMP also reports “rural residential land” at densities of 2 to 0.5 units per acre. Converting these areas into any other density would be difficult.

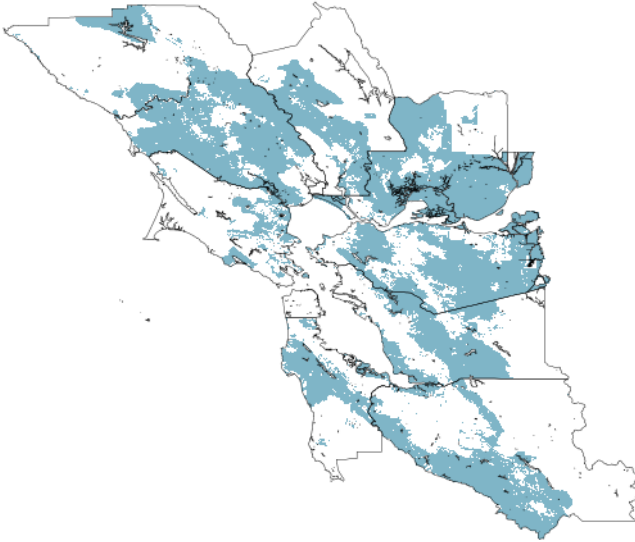


Figure 11: Rural Edges in the Bay Area

The areas qualifying as edge communities are shown in Figure 11.

Findings

The analysis correctly placed all six examples from Table 2. All three place types are shown mapped together in Figure 12, which makes clear the following lessons from this exercise.

- In addition to urban cores, metropolitan areas contain large regions that are rural in character
- Rural areas may express more than one place type, meaning that a “one-size fits all” approach is inappropriate for rural planning
- A considerable portion of land is already developed at low-density or is at risk to be developed soon

- An individual community would have no difficulty explaining its character and place type to a visiting planner, but the ability to identify place types over multiple counties on a single map enables one to consider the entire region at once. These categories also allow individual rural communities to engage their regional or state agencies in dialogues leading to more complete and mutual understandings of the specific challenges present in each community.

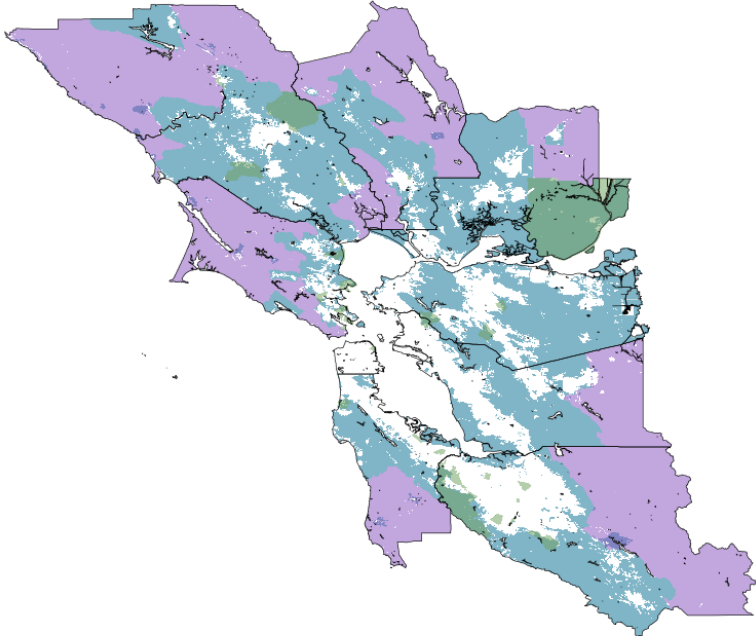


Figure 12: All three rural place types in the Bay Area

These findings are significant because they demonstrate both the close proximity of urban and rural areas, and the narrow-mindedness of planning for urban areas without considering their deep ties to the rural. Commuters travel between rural and urban spaces each day, and urban areas depend on the rural for food security. Understanding the extent of urban and rural areas is important, but ultimately, these boundaries are open, and both sides must be considered in any attempt at systems planning.

As noted in the literature review, there are many categorizations of “rural.” Depicting them spatially allows for emphasis on the failure of the designation “rural,” to be a “one-size fits all” classification for all non-urban spaces, and such realizations call for greater attention to the diversity of the communities in these places.

Finally, and perhaps most urgently, these maps indicate the enormous portion of the San Francisco Bay Area that is now at risk for unsustainable and environmentally costly low-density development. Assuming a rural place will remain rural indefinitely is shortsighted, and this is a shortsightedness that California cannot afford.

Conclusion

California contains a range of urban and rural areas, but these areas are intermixed, interdependent, and constantly changing. Prepared with an understanding of how to describe and identify rural locations, we are better able to discuss the challenges and opportunities for each. With the ambitious sustainability goals required for wise development, it is imperative that California's planners develop a language and skill set adequate to addressing great diversity of communities on the entire spectrum of development.

Thoughtful planning supports positive outcomes, in urban and rural areas alike.

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