Key Trends, Issues, and Strategies Report

Marin Countywide Plan Update

January 2003

Marin County
Community Development Agency

Alex Hinds, Director

Key Trends, Issues, and Strategies Report

January 2003

Attention:

This background report has been assembled with input from a variety of sources including volunteer committees, staff, and members of the public. The purpose of the document is to be a reference tool to identify issues and potential strategies for consideration and discussion during the preparation of the Marin County General Plan Update. The information and suggestions contained in this report have not been debated by nor adopted by the County of Marin nor any of its decision-making bodies.

Public Participation

The public is invited to participate in the process of updating the Plan in a number of ways. You can attend workshops and public meetings, send email and letters, and review and comment on this report and others on the Internet. For additional information, log on to the Countywide Plan update website at www.future-marin.org, or contact our staff as indicated below.

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Marin Countywide Plan Update 2004

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Introduction

I. Introduction

The *Key Trends, Issues, and Strategies Report* is one of the principal background reports that will be used as a reference to update the Marin Countywide Plan. The report summarizes public and technical input from two years of community meetings and working group sessions. The report identifies trends, issues, and strategies affecting the future of Marin County in the three broad categories that will provide an organizing framework for the Plan: natural systems; the built environment; and the economy, equity, and culture. The report is to serve as a resource document, or "tool kit," to help shape the update of the Countywide Plan. The update to the Marin Countywide Plan is expected to be completed by 2004.

The natural systems section addresses environmental quality, environmental hazards, open space and trails, parks and recreation, and food and agriculture. The section on the built environment deals with transportation, housing, community design, community facilities, emergency preparedness, and community development. The section on the economy, equity, and culture focuses on a variety of socioeconomic issues, including the economy, social equity, public health, and the arts and cultural resources. Energy issues are addressed throughout the report.

The trends, issues, and strategies identified in the report have been assembled from a variety of sources. The process of gathering information began with public comments collected during 11 public workshops. There were also 15 meetings of four working groups. Additional public input was collected during the "Help Design the Future of Marin County" event held in February 2002.

Vision

Marin County intends to work toward the long term vision of becoming a sustainable county before the end of the 21st century. By drawing upon the best from the past and the present, we can plan communities designed to serve the needs of those who live and work within them, as well as sustain the natural systems that support life for future generations. While this vision will require a time frame and changes well beyond the scope of this Countywide Plan, establishing a program of indicators and targets will enable us to measure our progress toward more sustainable communities. Ongoing monitoring will also provide a forum to consider new or revised techniques as necessary to achieve our goals and objectives.

During the 21st century . . .

> Marin will become a place with dramatically reduced dependence upon fossil fuels, hazardous chemicals, and manufactured substances that accumulate in nature and harm life-sustaining systems. This vision includes the protection, restoration, and enhancement of watersheds, agriculture, air quality, and open space that will continue to enrich the lives of all species. Hazardous materials will not be released into the environment, and the concept of "waste" will be eliminated, as waste products will be converted into resources. We will not breathe harmful fumes from vehicle exhaust, and healthy, locally produced food without toxic residues will be available to the community.
>
> Marin residents will have the opportunity to live close to public transportation or to where they work, shop, or recreate. Our freeways will not be gridlocked, as our communities will be designed with many transportation choices. Homes will be heated, cooled and powered using intelligent design and renewable energy. Housing will be more affordable to the wide range of our workforce and our families. Housing choices will include mixed-use villages in our downtowns, above parking lots, within commercial areas, and near transit.
>
> Marin businesses and food growers will be supported through local purchasing. In turn, local agriculture and business will nourish and enrich their surrounding communities. We will enjoy a rich cultural diversity. There will be affordable choices for child and elder care in the workplace

and in the community. High quality education will be available to people of all ages, cultures and income levels equally. Support systems and housing will be in place to help those in need. Marin in the 21st century will be a place where community needs are met in fair, creative, and effective ways, where people know their neighbors, and where families can live, work and play in a safe, healthy, and just environment.

Guiding Principles

In May 1999, the Marin County Board of Supervisors adopted a recommendation from the Marin Economic Commission to address sustainability in the Marin Countywide Plan update. Subsequently, the Marin County Board of Supervisors determined that sustainability would be the overarching theme of the update. In late 2000, a working group consisting of 14 members of the public was convened to prepare a set of general principles to guide revisions to the Countywide Plan. This group met eight times over six months to review models from around the United States and the world, and proposed the guiding principles listed on the following pages.

MARIN COUNTYWIDE PLAN UPDATE
Interim Guiding Principles

Preamble

Meeting the needs of the present without compromising the future is the overarching theme of the Marin Countywide Plan. Marin County government is committed to lead by example, support public participation, and work in community partnerships to improve quality of life, using key indicators to measure progress. To design a sustainable future, we will adhere to the following:

Guiding Principles

1. Link equity, economy, and the environment locally, regionally, and globally.

We will improve the vitality of our community, economy, and environment. We will seek innovations that provide multiple benefits to Marin County.

Examples of community indicators: Social, economic, and environmental indicators listed below; GPI (Genuine Progress Indicator: comprehensive, aggregate measure of general well-being and sustainability including economic, social, and ecological costs).

2. Use finite and renewable resources efficiently and effectively.

We will reduce consumption, and will reuse and recycle resources. We will reduce waste by optimizing the full life cycle of products and processes.

Examples of community indicators: Per capita waste produced and recycled; per capita use of energy, natural gas, and water; ecological footprint (measures per capita consumption of natural resources).

3. Reduce the release of hazardous materials.

We will make continual progress toward eliminating the release of substances that cause damage to living systems. We will strive to prevent environmentally caused diseases.

Examples of community indicators: Water and air quality; measurements of toxic levels; childhood cancer rates.

4. Steward our natural and agricultural assets.

We will continue to protect open space and wilderness, and enhance habitats and biodiversity. We will protect and support agricultural lands and activities, and provide markets for fresh, locally grown food.

Examples of community indicators: Acres of wilderness; acres of protected land; levels of fish populations; track special-status plants and animals; quantity of topsoil; active farmland by crop; productivity of acreage and crop value of agricultural land; acres of organic farmland.

5. Provide efficient and effective transportation.

We will expand our public transportation systems to better connect jobs, housing, schools, and shopping and recreational facilities. We will provide affordable and convenient transportation alternatives that reduce our dependence on single occupancy vehicles, conserve resources, improve air quality, and reduce traffic congestion.

Examples of community indicators:Vehicle-miles traveled; bus and ferry ridership and fares; person-miles traveled; community walkability; miles and use of bike paths.

6. Supply housing that is affordable to the full range of our workforce and community.

We will provide and maintain well-designed, energy-efficient, diverse housing close to job centers, shopping, and transportation links. We will pursue innovative opportunities to finance workforce housing, promote in-fill development, and reuse and redevelop underutilized sites.

Examples of community indicators: Jobs-housing balance; housing affordability; number of new housing units within walking distance of jobs or transit.

7. Foster businesses that provide a balance of economic, environmental, and social benefits.

We will retain, expand, and attract a diversity of businesses that meet the needs of our residents and strengthen our economic base. We will partner with local employers to address transportation and housing needs.

Examples of community indicators: Taxable sales; retention and attraction of targeted businesses; job growth; unemployment rate; number of businesses with environmental management systems; hospitality revenues.

8. Educate and prepare our workforce and residents.

We will make high quality education, workforce preparation, and lifelong learning opportunities available to all sectors of our community. We will help all children succeed in schools, participate in civic affairs, acquire and retain well-paying jobs, and achieve economic independence.

Examples of community indicators: Education level of Marin residents; per-pupil expenditures; percentage of eligible voters who voted; high school dropout rate; percentage of high school graduates going to college or post-secondary training.

9. Cultivate ethnic, cultural, and socioeconomic diversity.

We will honor our past, celebrate our cultural diversity, and respect human dignity. We will build vibrant communities and enact programs to maintain, share, and appreciate our cultural differences and similarities.

Examples of community indicators: Racial diversity; diversity of community and corporate leadership; number of hate crimes; number and use of cultural resources such as museums and theaters.

10. Support public health, safety, and social justice.

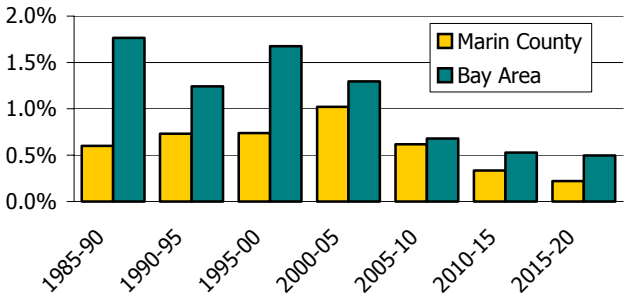
We will live in healthy, safe communities and provide equal access to amenities and services. We will particularly protect and nurture our children, our elders, and the more vulnerable members of our community.

Examples of community indicators: Income statistics; health statistics; percentage of uninsured (medical) population; longevity after retirement; volunteerism; crime rate; percentage of philanthropic contributions.

Marin Within the Region

Marin County accounts for only a small percentage of population growth in the Bay Area. The Bay Area's warm climate, beautiful setting, abundance of recreational activities, top universities, Fortune 500 businesses, and career opportunities attract people from around the world. While the Association of Bay Area Governments (ABAG) estimates that the population of the nine Bay Area counties is expected to grow by 1 million over the next 20 years, less than 3 percent of that growth will occur in Marin (Figure I-1). Between 2000 and 2020, Marin's population-growth rate is lower than that of all the counties in the Bay Area except San Francisco.

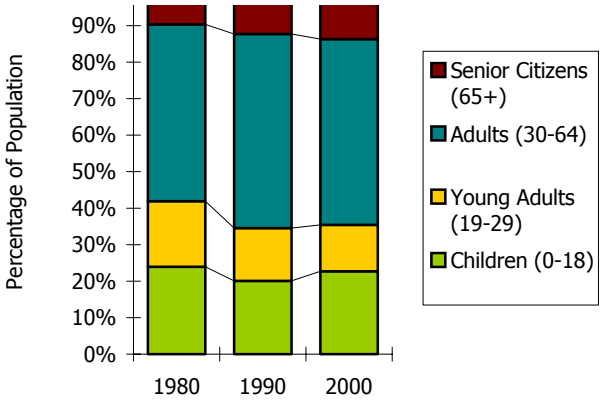
Figure I-1
Annual Population Growth, 1985-2020,
Averaged for Each Five-Year Interval



Source: 2001 Association of Bay Area Governments

One factor limiting growth in Marin is longstanding land use regulations focusing development within existing communities along the City-Centered Corridor. Of the county's 520 square miles of land area, only 11 percent is developed. The majority of the land is either in agricultural production, designated as open space or watershed areas, or in park lands, resulting in nearly half of the county's land area being in some form of protected open lands. Only 5 percent of additional land in Marin is potentially developable.

Figure I-2
Age Distribution



Source: United States Census Bureau

Marin residents are aging and living longer. According to ABAG, another factor limiting Marin's demographic growth is the county's aging population. The population of Marin continues to age, as both the median age and the percentage of people over the age of 65 continue to increase. The population of Marin has aged significantly since 1980, when the median age was 33.6 years. By 1990, the median age increased to 38.0 years, and it increased again to 41.3 years in 2000. The percentage of senior citizens has increased significantly, from 9.7 percent of the population in 1980 to 13.7 percent by 2000 (Figure I-2).

ABAG estimates that the proportion of the region's population of people 65 years old and over will double in the next 20 years, while the proportions of the population less than 20 years old and of children less than 5 years old will decrease. The proportion of the Bay Area population age 65 and older increased from 9.7 percent in 1980 to 13.7 percent in 2000, about the same increase as Marin's. The portion of Marin's population 85 years and older has grown by 62 percent since 1990.

The percentage of children in Marin is decreasing as the population ages. The number of children decreased from 24 percent of the population in 1980 to 20.1 percent in 1990 and then increased to 22.7 percent in 2000. Although young adults were 18.0 percent of the population in 1980, they were only 12.7

percent by 2000. The adult (age 30–64) share of the population was 48.4 percent in 1980, peaking at 53.2 percent in 1990 and then decreasing to 50.9 percent in 2000.

Although the region's population is aging, life expectancy in the Bay Area continues to outpace life expectancy compared with the rest of California as well as the nation as a whole. Residents of the Bay Area have a life expectancy six months longer than that of people in other parts of California, and two years longer than in the United States as a whole.

Marin residents are living longer for a variety of reasons. One factor is the high level of income and education of residents. Residents are more knowledgeable about health care and preventive health measures and can afford to pay for health insurance. Improved nutrition and diet, exercise, less smoking, and access to modern medications are other factors that have produced a healthier, older population.

Long term job growth is anticipated in the Bay Area and in Marin, although there may be a shortage of Marin workers to fill jobs. Despite the recent downturns in the Bay Area economy, the long term forecast shows significant change. According to ABAG, the region already has an unusually high concentration of computer electronics, telecommunications, and computer software jobs. In addition, the Bay Area is also one of the leading regions for biomedical research and development. It is expected that the number of jobs in the region will increase by 1.1 million by 2020.

Job growth in Marin mirrors the trend in job growth for the Bay Area. Between 1990 and 2000, Marin added more than 15,500 jobs. ABAG projects that the county will add about 33 percent more jobs, which translates into 40,310 more jobs, over the next 25 years. Similarly, high technology and finance have been the fastest growing employment sectors in the county, although the service sector still continues to dominate Marin's economy.

Marin's aging population impacts the available workforce and the local economy. The retired senior population generally has less disposable income than people in the workforce, and the decrease in the share of the population age 30 to 64 means fewer Marin residents to fill local jobs.

The unemployment rate in the San Francisco Bay Area is the highest it has been in six years. This has also had an impact on consumer confidence. Between November 2000 and the end of 2001, the region's consumer confidence had decreased from the mid-130s to almost 80. The unemployment rate in Marin continues to remain low in comparison with the Bay Area, California, and U.S. averages. Because Marin has fewer people employed in volatile industries, such as construction and manufacturing, the county is not as affected as other areas when there is a downturn in the regional, state, or national economy.

The Bay Area's workforce is changing as well. The traffic congestion in the region and advances in technology may transform the office job of the future. Improved technology may bring about an increase in telecommuting: more people working from home, attending meetings via satellite, communicating with colleagues via email, and submitting assignments via dial-up modem, DSL, or cable modem.

Knowledge-based industry will contribute to the future of Marin's economy. ABAG projections indicate that approximately 18 percent of the Bay Area's workforce will be in knowledge-based industry, which drives innovation, economic growth, and job generation in the region. Marin is expected to absorb 19 percent of the total growth. The jobs typical of knowledge-based industry are in fields including computers, electronics, telecommunications, multimedia, movie and television production, biotechnology, environmental technology, and travel and tourism.

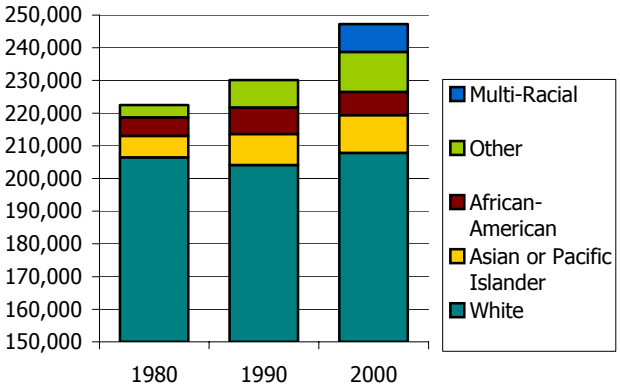
There will continue to be a high demand for housing in the region and in Marin. The Bay Area is well known for its tight housing market due to the high demand for housing. Only half a million dwelling units are expected to be added to the Bay Area's housing supply within the next 20 years. The projected population growth will only increase the demand for housing in the region. In Marin, this increased demand, coupled with limited supply, contributes to high housing prices.

Marin is less ethnically diverse than the rest of the Bay Area. The ethnic makeup of the Bay Area is expected to significantly change within the next 20 years. ABAG projects that the proportion of the Bay Area population that is white will fall from 61 percent to 47 percent between 1995 and 2020. During the same period the Hispanic population is expected to grow from 16 percent to 24 percent, and the population of Asians and Pacific Islanders from 16 percent to 20 percent. The African American population is expected to remain around 9 percent.

Marin County is not as ethnically diverse as the rest of the region. In Marin, whites comprise 84 percent of the total population, followed by persons of Hispanic origin (11.1 percent), Asians or Pacific Islanders (4.7 percent), African Americans (2.9 percent), and other races (4.9 percent) (Figures I-3 & 4). The racial composition of the Bay Area, however, is 58.1 percent white, 19.5 percent Asian and Pacific Islander, 7.5 percent African American, 9.8 percent other races, and 4.9 percent multiracial.

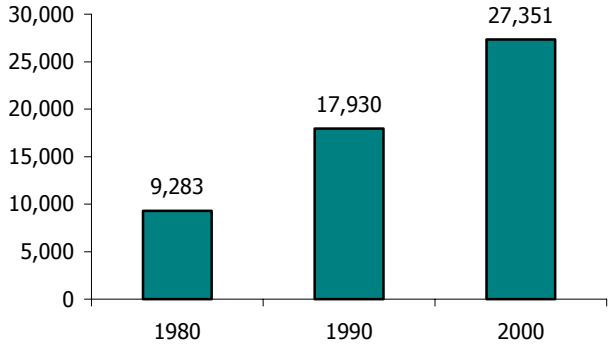
Change is gradually occurring in the ethnic makeup of Marin's population. While the population is becoming more diverse, Marin County is diversifying at a much slower rate than the rest of the Bay Area or California. A combination of factors may be influencing this, including housing costs and disparity in education levels, which in turn affects employment potential.

Figure I-3
Population Growth and Racial Distribution, Marin County, 1980–2000



Source: United States Census Bureau

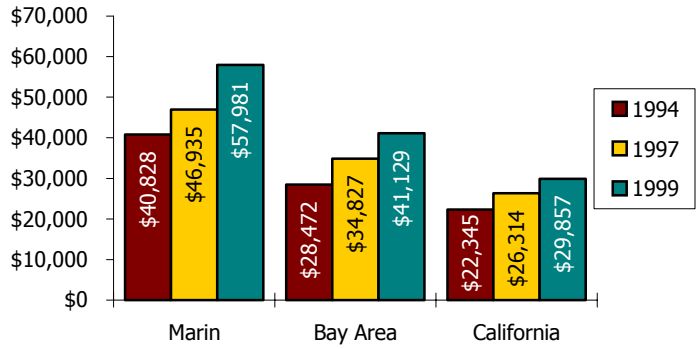
Figure I-4
Persons of Hispanic Origin, 1980–2000



Source: United States Census Bureau

Marin has the highest per capita income in California. In 1999 the per capita income in Marin was $57,981, compared with $41,129 for the Bay Area and $29,857 for the state (Figure I-5). Household income in Marin is also higher than in the Bay Area: $100,000 in 2000 compared with less than $80,000 for the Bay Area. Household income includes income from all income earners in the household. The growth in household income may indicate an increase in households where more than one person is employed. This may be a result of Marin's high cost of living, which requires a greater household income in order to afford to live in the area.

Figure I-5
Per Capita Personal Income



Source: Bureau of Economic Analysis

Development in the region is spreading outward from central cities. The relationship between central cities and suburbs has changed over the last few decades. The relationship between San

Francisco and Marin is no exception. Fifty years ago, cities were the location for major employers, museums, theaters, and homes for many people. Today those resources and the economic activities that surround them have dispersed and they will continue to disperse.

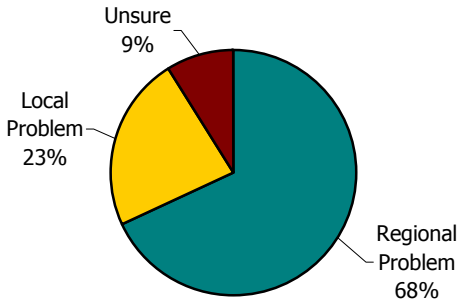
The region, rather than the city, is now the basic geographic unit in which goods and services are produced. Workers are hired from a regional labor pool. Transportation and infrastructure systems are regional.

According to ABAG, 60 percent of the land available for residential development between 1995 and 2020 is earmarked for single-family homes. Housing more affordable in price tends to be built far from jobs and public transit on the periphery of the region, where land costs are relatively low. ABAG indicates that a significant portion of the land anticipated for development is on the periphery of the region because land there is less expensive. Most of this land is earmarked for single-family residential development at very low densities. Residential and commercial/industrial development is being pushed geographically outward.

Traffic congestion in the Bay Area is increasing. Most daily automobile trips made by Bay Area residents are less than five miles and are trips to the grocery store, gym, day-care center, or a child's school or sports practice. Between 1980 and 1990, a 45 percent decrease in the cost of gasoline per mile encouraged more people to drive. Despite significant public investment in public transportation, the number of people driving alone to work grew by 35 percent during the same period. Modern subdivision design has not encouraged walking or cycling, and driving a car is often the only safe way to travel from home to various activity centers.

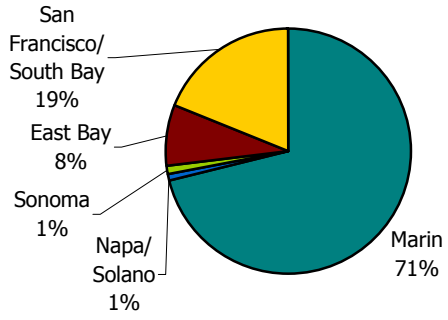
The majority of people interviewed in a Marin County survey believe that traffic congestion is more a regional than a local problem to resolve (Figure I-6). However, the data shows that 71 percent of all vehicle trips starting in Marin also end in Marin. The next most frequent destination is San Francisco and the South Bay, with 19 percent of trips (Figure I-7).

Figure I-6
Traffic Congestion: A Local or Regional Problem?



Source: 2000 Marin County Congestion Management Agency

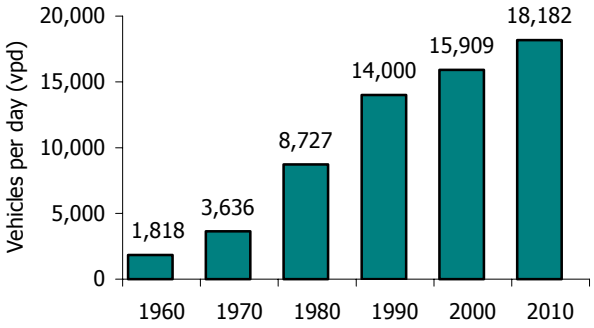
Figure I-7
Destination of Vehicles Originating in Marin County, 1999



Source: 2000 Nelson \Nygaard/Marin County Congestion Management Agency

There is a perception that much of the traffic congestion on Highway 101 is from Sonoma County commuters traveling through Marin. Traffic data indicates that there has been a 281 percent increase in the number of one-way vehicle trips from Sonoma to Marin over the last 50 years (Figure I-8). Slightly fewer than half the vehicle trips originating in Sonoma County are going to Marin County destinations (Figure I-9). In fact, the proportion of trips destined to Marin and San Francisco from Sonoma is expected to decrease as Sonoma County further develops its own job base. However, trips to Marin from Sonoma, Napa and other counties will continue to grow as Marin is still a major destination with a significant lack of affordable housing (Nelson\ Nygaard).

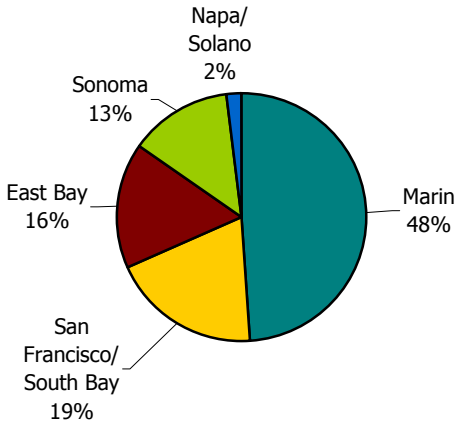
Figure I-8
Total Daily One-Way Vehicle Trips from Sonoma to Marin



Source: Nelson|Nygaard/Marin Congestion Agency

In the Bay Area there is a relationship between income and the number of vehicles owned. The higher the income per Bay Area household, the more vehicles owned in that household (Figure I-10). In the Bay Area, the average number of vehicles per household grew from 1.67 to 1.76 from 1980 to 1990, and was expected to have averaged 1.91 in 2000. Similar to the rest of the Bay Area, the number of vehicles registered in Marin County has increased steadily between 1981 and 1999 (Figure I-11).

Figure I-9
Destination of Vehicles Originating in Sonoma County, 1999



Source: 2000 Nelson\Nygaard/Marin County CMA

Figure I-10
Bay Area Vehicles per Household by Income and Unit Type (1990)

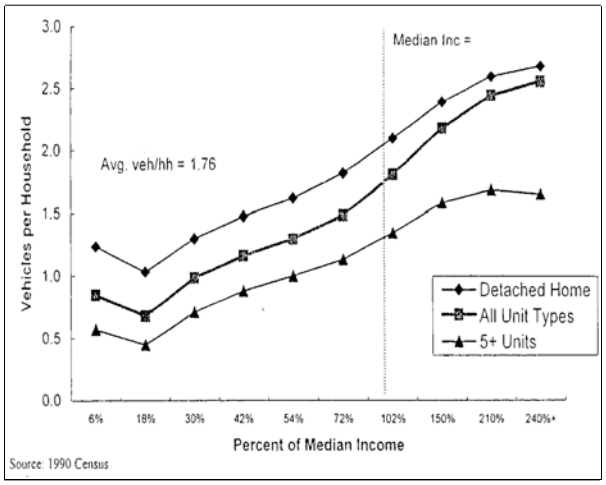
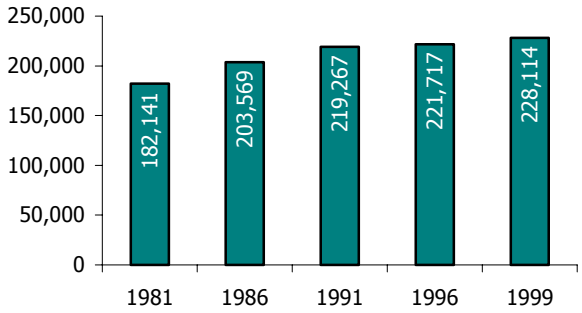


Figure I-11
Number of Vehicles Registered in Marin County



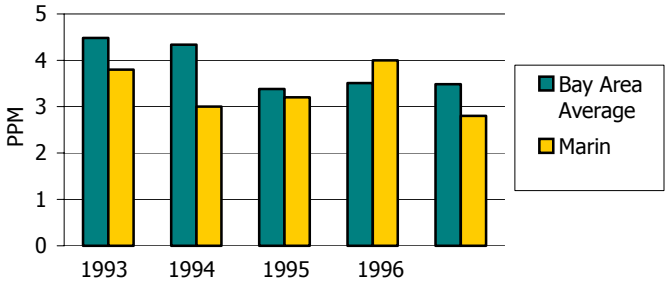
Source: 2001 Marin County Congestion Management Agency

California's growing population will intensify the demand for water. According to the California Water Plan, by 2020 the state will face a water shortfall of 2.9 million acre-feet in average years. The forecast for the San Francisco Bay Area is far less dire. However, the projections assume a substantial increase in conservation efforts, with the greatest savings anticipated through landscaping and irrigation in new and existing developments, and aggressive conservation efforts by commercial and institutional establishments.

According to Marin Municipal Water District (MMWD) figures, Marin's demand for water has grown from about 23,000 acre-feet in 1992 to slightly more than 30,000 acre-feet in 2001. Demand is projected to increase to nearly 33,000 acre-feet by 2020 in the area served by MMWD. A combination of conservation, recycling, and development of a new water supply may meet demand.

Although motor vehicles contribute to air pollution, air quality in the Bay Area is getting better. According to the Bay Area Air Quality Management District, motor vehicles produce nearly half the emissions that combine to produce ozone, the principal component of smog. Automobile emissions also include a significant amount of carbon dioxide, which contributes to global warming and cannot be removed from the atmosphere easily or inexpensively.

Figure I-12
Air Quality in Marin and Bay Area, Carbon Monoxide



Source: California Air Resources Board

Air quality in the Bay Area is improving. Since 1998, the Environmental Protection Agency reclassified the area as a carbon monoxide "maintenance" area. Prior to 1998, the Bay Area was a "moderate non-attainment" area for carbon monoxide due to localized violations of the national carbon monoxide standards in downtown San Jose and Vallejo (Illingworth & Rodkin) (Figure I-12). Although air quality is improving in the region, the Bay Area has continued to violate National Ambient Air Quality Standards for ozone since 1998. Standards are violated when an area exceeds ozone standards three times a year for three consecutive years (Illingworth & Rodkin).

In Marin County, air quality is generally good because there are no major air pollution sources and prevailing winds are mostly off the ocean. However, since the winds blow eastward, sources of air pollution in Marin can contribute to air quality problems in other parts of the Bay Area and beyond.

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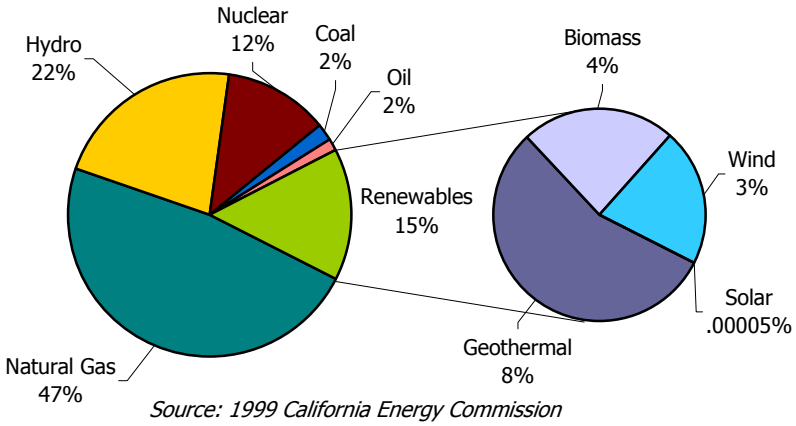
Natural gas is California's primary energy source, although there is a slight trend toward diversification. The recent electricity supply and cost problems helped to increase awareness of energy use among California residents. Though the majority of California's energy consumption involves natural gas, there has been a gradual migration toward diversifying the mix of energy resources in the state (Figure I-13). In comparison, the majority of Marin's electricity and natural gas is imported by the privately owned utility Pacific Gas & Electric (PG&E). Gasoline is still the primary fuel used for transportation (99.9 percent) (Energy Information Administration).

Figure I-13
PG&E Energy Sources



Source: 1999 California Energy Commission

Over the past 10 years, the relative composition of California's energy generation sources has remained steady. The greatest percentages of electricity generated are from natural gas, hydroelectric power, and nuclear energy, respectively. Overall, use of petroleum has had the largest decrease, followed by nuclear, coal, and renewables. The use of natural gas has changed significantly, with a growing percentage in the use of natural gas for co-generation facilities, which produce electricity by using both oil and natural gas. The use of natural gas for combustion power plants has decreased (Figure I-14).

Figure I-14
California's Generation Sources

Generation Source	1990 (MW)	1999 (MW)	% Change (1990–1999)
Natural gas	25,123	19,303	-10.1
Hydroelectric	13,317	14,086	+1.9
Co-generation	1,151	8,486	+13.9
Nuclear	4,746	4,310	-0.7
Coal	474	376	-0.2
Oil	3,345	1,024	-4.3
Renewables	5,945	5,573	-0.5

MW = Megawatt

Source: 2000 California Energy Commission

Marin has no large- or small-scale generating capacity of its own. The primary sources of energy purchased by PG&E are natural gas, hydroelectric power, and nuclear energy. Use of renewable energy commands a smaller percentage of the state's energy mix, at 15 percent combined.

Interest in renewable energy is growing in the Bay Area and Marin County and residents are increasingly pursuing alternatives. For example, in November 2001 the voters of San Francisco passed Bond Measures B and H, which will seek bond money to install 40 to 50 megawatts of photovoltaic panels in the city.

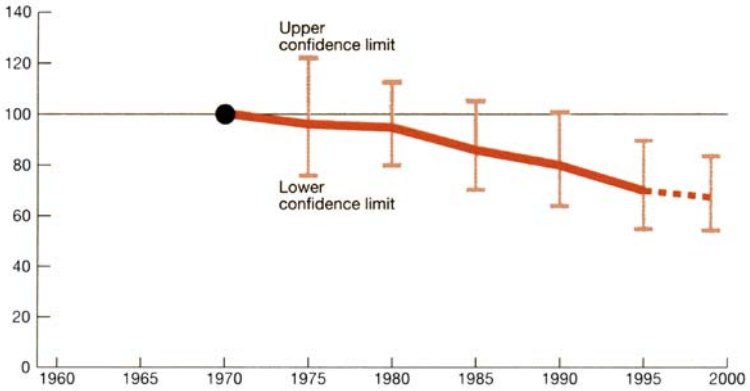
The Bay Area is well known for its earthquake activity, with several active faults running through the region. Six strike-slip faults and one thrust fault in the San Francisco Bay Area are known to be slipping between 2 and 24 mm/year. These faults in general release most of the seismic energy in the Bay Area and include the San Andreas, Hayward-Rodgers Creek, Calaveras, San Gregorio, Concord-Green Valley, Greenville, and Mount Diablo faults (Snyder and Smith Associates). The Working Group on California Probabilities (WG99) found that there is a 70 percent probability of at least one earthquake of magnitude 6.7 or greater before 2030 within the San Francisco Bay region. This earthquake is likely to occur on one of the seven major fault systems in the Bay Area. It was determined that the Hayward-Rodgers Creek, San Andreas, and Calaveras fault systems have the highest probabilities of generating an M>6.7 earthquake before 2030 (Snyder and Smith Associates).

Marin Within the Global Context

Human beings now use natural resources faster than they regenerate them. While the productive capacity of the earth's natural ecosystems has declined about 33 percent over the last 30 years (Figure I-15), the human impact on the earth's natural systems has increased by about 50 percent over that same period (Figure I-16).

The ecological footprint measures the use of natural resources against the planet's actual biocapacity. It can be calculated for individuals, regions, countries, or the entire earth and is expressed as the number of acres of the earth's total surface area it takes to support one person. Given the current global population, there are about 5 acres for each individual on Earth. The average American accounts for 24.0 acres while the Marin footprint is 27.4 acres per capita, 15 percent higher than the average American. Other western democracies such as Canada, France, and Italy have footprints of 21.8, 13.0, and 9.5 acres, respectively (Figure I-17).

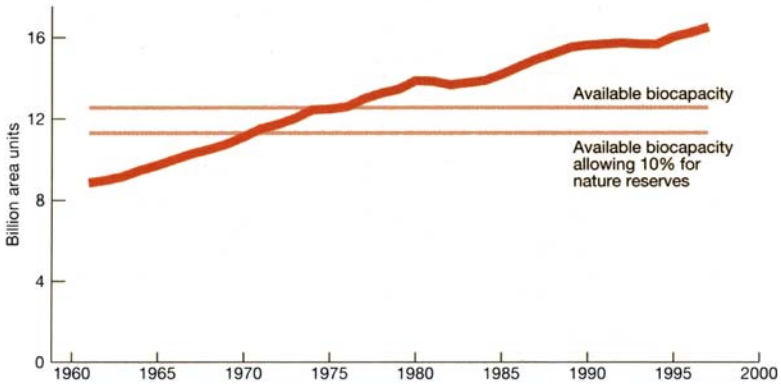
Figure I-15
Living Planet Index



**The Living Planet Index is a measure of the natural wealth of the Earth's forests, freshwater ecosystems, oceans, and coasts.*

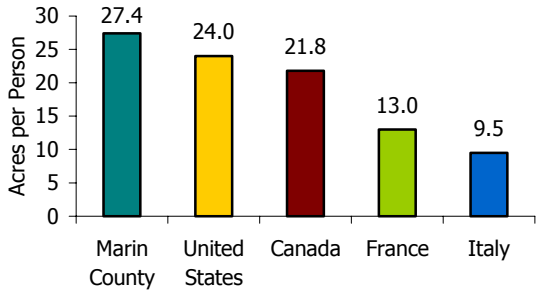
Source: 2000 World Wide Fund for Nature

Figure I-16
World Ecological Footprint



Source: 2000 World Wide Fund for Nature

Figure I-17
Ecological Footprint Comparison



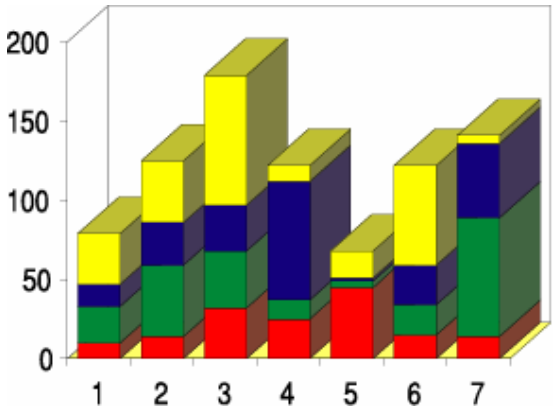
Source: 2000 Sustainable Sonoma County with Redefining Progress

What Are Trends?

Trends indicate the general direction, movement, or prevailing tendency of a course of events.

The following are some examples of possible trends:

- Fewer but larger dairies
- More cars per household
- Larger, more expensive housing



How Will Trends Be Used?

While trends do not automatically indicate our destiny, trend analysis helps us to evaluate factual information, project the direction in which we may be heading, and identify key issues to be considered in planning our future.

Community Development Agency staff conducted research on identified trends and provided background information for each of the trends listed in the report. The trends are based on facts and statistics from governmental agencies, nonprofit organizations, consulting firms, and other sources. Sources are identified in the text and in a list at the end of each section.

What Are Issues?

Issues are topics of concern to the community. Key issues may involve unmet needs or be subject to dispute. The following are examples of issues:

- Protection of agricultural lands
- Traffic congestion
- High cost of housing

How Will Issues Be Used?

Issue identification will help to determine what community concerns which will be addressed in the update of the Countywide Plan.

The issues in this report represent the diverse views of working group members, and some issues may appear incompatible with others. Nevertheless, the issues listed in the report are important because they represent significant public concerns and should be considered during the preparation of the Countywide Plan Update.

What Are Strategies?

Strategies identify how we may work to achieve the goals and objectives of the Countywide Plan. Strategies include proposed courses of actions, such as policies and programs.

How Will Strategies Be Used?

These strategies will be considered when creating or modifying policies and programs to be contained in the updated Plan.

As the process of updating the Countywide Plan proceeds, staff will compare the proposed strategies in the report with policies and programs already in the Plan. All the strategies will be considered, but not all will be included in the final Countywide Plan.

What Are Indicators and Targets?

An *indicator* is a measurement that assists in demonstrating movement toward or away from a goal or objective. Indicators should be understandable, representative and relevant. A *target* is a nonbinding, quantifiable objective that is proposed to determine progress toward a goal. Examples include:

Indicator	Target
Acres of protected agricultural land	20 percent increase in agricultural conservation easements by 2020
Vehicle miles traveled	15 percent increase in carpools by 2010
Number of affordable housing units	133 very low and low income units construction by 2006

How Will Indicators and Targets Be Used?

Identification of proposed indicators and nonbinding targets will help us to measure our progress toward or away from the goals and objectives in the Countywide Plan. Each indicator will be monitored and reported on periodically. The results of this periodic monitoring will be useful in alerting the public and decision makers to the effectiveness of the policies and programs that implement the Countywide Plan. Such a process should also provide an opportunity to review our progress and consider the need for new or revised strategies and implementation measures.

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I

Cross-reference of subjects covered in more than one section

The report is organized into chapters which correspond with the three elements of the Countywide Plan: Natural Systems; Built Environment; and Economy, Equity, and Culture. A number of subjects are addressed in more than one chapter. The table below cross-references subjects and indicates where they are addressed in each chapter.

Subject	Natural Systems	Built Environment	Economy, Equity, and Culture
Agriculture	pp. 57–68		p. 157, Economy
Air Quality	pp. 35–36	p. 75, Automobiles and Roadways pp. 77, 88, Land Use	p. 180, Environmental Justice; p. 197, Transportation
Child Care			p. 170; p. 157, Economy
Education	p. 66, Agriculture, Education and Public Awareness; p. 67, Food and Food Systems	p. 141, Schools	p. 177; p. 157, Economy; p. 161, Economy Workforce Education; p. 199, Workforce Training and Compensation; p. 203, Arts Education; p. 207, Archaeological Resource;
Energy	p. 38	p. 91; p. 118, Community Design, Green Building	p. 168; p. 157, Economy
Fire Hazard	p. 45	p. 136, Emergency Preparedness; p. 139, Fire Protection; p. 146, Community Development	
Flooding	p. 41	p. 136, Emergency Preparedness; p. 146, Community Development	
Geologic Hazards and Landslides	p. 44	p. 136, Emergency Preparedness	
Hazardous Materials	p. 47	p. 134, Solid Waste	p. 180, Environmental Justice; p. 185, Public Health
Housing		p. 99; p. 109, Community Design	p. 183, Housing; p. 159, Economy, Workforce Housing; p. 175, Cultural and Ethnic Diversity

Subject	Natural Systems	Built Environment	Economy, Equity, and Culture
Seismic Hazards	p. 43	p. 136, Emergency Preparedness; p. 152, Community Development	
Transportation	p. 35, Air Quality; p. 36, Noise	p. 74; p. 109, Community Design	p. 197, Transportation; p. 163, Economy Transportation
Water Quality	p. 32	p. 112	