

## CHAPTER 2 HIGHLIGHTS

Sonoma County Today .....	2-2
Existing Travel Characteristics.....	2-10
Sonoma County in 2040, Forecasts .....	2-14

## CHAPTER 2

# OUR COMMUNITY

Sonoma County is located in Northern California approximately 50 miles north of San Francisco. The County spans an area from the San Francisco Bay to the Pacific Ocean, with mountain ranges to the north and east.

Population settlement patterns and development of the transportation system has largely followed geographic constraints. The central geographic feature in Sonoma County is the Santa Rosa Plain, bordered on the east by the Sonoma and Mayacama Mountains, and on the west by the Coastal Range and beyond that, the Pacific Ocean. The Russian River, Sonoma County's major waterway, creates a path through the heart of the county and flows westward to the ocean.

There are nine incorporated cities in the county, seven of which are located along the main north- south Highway 101 corridor. Populated areas away from this corridor are focused on the Russian River, Sonoma Valley, Dry Creek Valley, City of Sebastopol, and coastal areas, but there are other smaller unincorporated communities in other areas of the county.

Sonoma County's transportation system is diverse, including highways, local roads, public transit, a railroad right of way, airports, and bicycle and pedestrian routes and pathways. The various components of the transportation system are described in this chapter, along with other information on existing travel characteristics and county demographics.

## Sonoma County Today

Communities in Sonoma County have changed significantly over the past 60 years. The widespread availability of the automobile, significant population growth, and the creation of urban growth boundaries have been major factors shaping these changes. Since 1960 the population of the county has more than tripled. While Santa Rosa has experienced the greatest increase in population, growth has occurred in most parts of the county. Major services, educational facilities, shopping and over half of the population are located primarily in the cities, as are most county job centers. Development in the unincorporated areas is more dispersed and is spread over a very large geographic area.

**Table 2-1 Sonoma County Population**

	1960	1980	2000	2015 Est.
Cloverdale	2,848	3,989	6,831	8,708
Cotati	1,851	3,475	6,471	7,346
Healdsburg	4,816	7,217	10,722	11,687
Petaluma	14,035	33,834	54,548	59,540
Rohnert Park	n/a	22,965	42,236	41,077
Santa Rosa	31,027	83,320	147,595	173,071
Sebastopol	2,694	5,595	7,774	7,507
Sonoma	3,023	6,054	9,128	10,933
Windsor	n/a	n/a	22,744	27,335
Unincorporated County	87,081	133,232	150,565*	149,049
<b>Sonoma County Totals</b>	147,375	299,681	458,614	496,253

Sources: All data from U.S. Census except for 2015 estimate from the CA Dept of Finance.

\*Note: Unincorporated County Population shows a decrease in 2000 and 2010 because of annexations. Rohnert Park was incorporated in 1962. Windsor was incorporated in 1992.

## Population characteristics

Sonoma County, like the rest of the United States, has aged. The median age in 2010 was 39.9, 10 years older than the median age in 1960. Households with children under the age of 18 peaked in 1970 at 41 percent of the total number of households. That number has declined in every census since with the 2010 census estimating that 28 percent of households included children under the age of 18. Household sizes continue to get smaller dropping

from nearly 3 people per home in 1960 to 2.55 in 2010. Sonoma County households are smaller than the Bay Area average which could be attributed to the aging population and lower birth rates in the county.

Ethnically, Sonoma County is and has been predominately populated by people self-identified as White, though that is changing. In 1960 98 percent of the population self-identified as White according to the U.S. Census, and by 2010 that number decreased to 77 percent. Sonoma county residents identifying themselves as Hispanic has grown to 25 percent in 2010. This number was in the single digits (7 percent) as recently as 1980. The number of foreign born residents in the county has increased from 7.8 percent in 1960 to 16.6 percent in 2010, demonstrating Sonoma County's changing diversity.

### **Economic Development and Income**

In the past 100 years Sonoma County has shown steady growth in the cities, with the economy growing to include leisure, hospitality, retail, manufacturing, education, health services, financial, professional, and business jobs, while maintaining a strong agricultural economy.

Sonoma County has a high concentration of small businesses; 65 percent of firms employ four or fewer workers and close to 80 percent of all firms employ nine or fewer workers. An abundance of small businesses tends to indicate a healthy economy, as entrepreneurs are willing to take greater risks, and seed capital tends to become more accessible.<sup>1</sup>

The number of jobs and health of the Sonoma County economy declined sharply in 2008, leading to lower overall wages and home ownership, however, that trend is reversing. The Economic Development Board reported that “between June 2014 and June 2015, the number of jobs in Sonoma County rose by 2.2 percent. The unemployment rate is at its lowest since the recession at 4.3 percent for June 2015.”<sup>2</sup>

The income bracket that is the most represented in Sonoma County is \$50,000 to \$74,999 in annual household income,<sup>3</sup> the median household income being \$63,274. This is slightly higher than the State of California median income of \$61,489, but lower than any other county in the San Francisco Bay Area.<sup>4</sup> Over 10 percent of Sonoma County residents live in poverty, with household incomes below the federal poverty level of \$24,250 for a family of 4 in 2015. This is slightly higher than the Bay Area average of 9.7 percent. According to the Center for Neighborhood Technology, Sonoma County households spend 59 percent of their household incomes on housing (37 percent) and transportation (22 percent). A community is generally considered affordable when families spend up to 45 percent of their household income on housing and transportation.

The following are sources for updated economic information and analysis:

The Sonoma County Economic Development Board [www.sonomaedb.org](http://www.sonomaedb.org) produces the Sonoma County Indicators Report annually.

The Association of Bay Area Governments produced the reports *People, Places, & Prosperity* (2015) and the *San Francisco Bay Area State of the Region* (2015). These and other reports can be found at the ABAG website — <http://reports.abag.ca.gov/index.html>.

The Center for Neighborhood Technology (CNT) produces the H+T Affordability Index tool that measures the cost of housing in tandem with the cost of transportation resulting in analysis on the affordability of place — <http://htaindex.cnt.org/map/> CNT also maintains the Location Affordability Index, a second web-based tool that estimates the cost of housing and transportation based on location. <http://www.cnt.org/tools/location-affordability-index>.

1 Sonoma County Economic Development Board, *2015 Sonoma County Indicators*, 2015, 2 <[http://edb.sonoma-county.org/pdf/unabridged-indicators\\_2015.pdf](http://edb.sonoma-county.org/pdf/unabridged-indicators_2015.pdf), accessed June 17, 2016>.

2 Ibid.

3 Ibid, 5.

4 Santa Clara County median annual household income is the highest in the SF Bay Area at \$93,854 and Sonoma County median household income in the lowest in the region at \$63,799. The county with the next lowest median income is Solano County at \$67,341. From the Sonoma County Economic Development Board, *2015 Sonoma County Indicators*.

All of these sources use information from the US Census. The American FactFinder and QuickFacts, which can be accessed at <http://www.census.gov/data.html> provide easy access to census information for the county and municipalities.

## Spotlight — The Cost of Operating a Personal Vehicle in the United States

**Table 2-2 Estimated costs of driving a car in 2009 and 2014**

	2009	2014
cents per mile	45.3¢	47.6¢
total annual cost	\$9,055	\$9,513
gas /mile(cents)	10.09¢	8.45¢
maintenance / mile (cents)	4.56¢	5.28¢
tires / mile (cents)	0.77¢	\$1
insurance (annual)	\$976	\$1,222
license, registration taxes (annual)	\$567	\$4,687
depreciation (annual)	\$3,461	\$3,759
finance charges (annual)	\$779	\$683

Source: American Automobile Association

## Health and Education

Changes in travel behavior could have great positive impacts on health. Based on data from the California Health Information Survey (CHIS), it is understood that reducing traffic injuries has clear benefits, while the impacts of more active travel, biking and walking are known to reduce the risk of cardiovascular disease and diabetes. Sonoma County Department of Health Services (DHS) is in the process of developing the Obesity Prevention Strategic Plan that is anticipated to include similar mode shift strategies.

Many variables factor in the likelihood of long life in Sonoma County. DHS reports in Portrait of Sonoma County<sup>5</sup> that the level of education is a strong predictor of long life, while income is less closely tied to life expectancies in Sonoma County. The report states that “better-educated people have more access to health care and are more likely to comply with treatment regimens, use safety devices such as seat belts and smoke detectors, and embrace new laws and technologies.”

Educational attainment, as reported by the U.S. Census, has steadily increased in the County over time. In 2010, 11 percent of the population had earned a graduate or professional degree, 20 percent had a Bachelor’s degree, and 21 percent had graduated from high school. High school graduation rates vary widely across the county ranging from a low of 54 percent in the Roseland neighborhood to more than 99 percent in the community of Oakmont.

The report did not find broad geographical patterns, but noted that extreme disparities in basic social and economic outcomes are often found within small geographical areas. The cost of transportation, long commutes, dependence on the single occupant vehicle are identified as important economic factors in the report and are also addressed in the CTP Goals.

## The High Cost of Housing

Housing availability and affordability are critical to meeting housing needs and creating sustainable communities. **Appendix 2** includes a record of housing production in Sonoma County through 2013. Sonoma County median home price increased to \$555,000 in 2016, highest in nine years<sup>6</sup>. According to the Economic Development Board

<sup>5</sup> Sonoma County Department of Health Services, *A Portrait of Sonoma County, 2014* <[measureofamerica.org/Sonoma](http://measureofamerica.org/Sonoma), accessed June 17, 2016>.

<sup>6</sup> Press Democrat — February 16, 2016. See **Appendix 3**.

the median home price increased by 18 percent from April 2014 to April 2015 - similar to the increase that occurred in the local housing market between 2013 and 2014. Sonoma County may still be considered affordable when compared to other parts of the Bay Area, but the high demand for housing and the desirable quality of life in the county continue to push housing prices up.<sup>7</sup> Similarly, rents are rising dramatically, which negatively impacts housing affordability. Families still struggling due to job loss or underemployment are finding it more difficult to find suitable housing. Seniors face serious challenges finding affordable, appropriate housing, while first time home buyers are competing for a limited supply of homes they can afford in an expensive market.

Local governments are engaging in stabilization strategies to assist prospective homeowners and renters. Officials are planning now for additional housing which will be required to house the estimated 100,000 additional people that will live in Sonoma County by 2040. Zoning and other current and future planning efforts provide opportunities to ensure that new development does not displace existing low-income residents and provides housing options for all Sonoma County residents.

### **Spotlight — Housing**

ABAG has produced The San Francisco Bay Area State of the Region Economy, Population & Housing report <http://reports.abag.ca.gov/sotr/2015/section4-housing-goals-progress.php>. This report provides an in depth look at the relationship between population growth, changing demographics, the economy and the regional housing market.

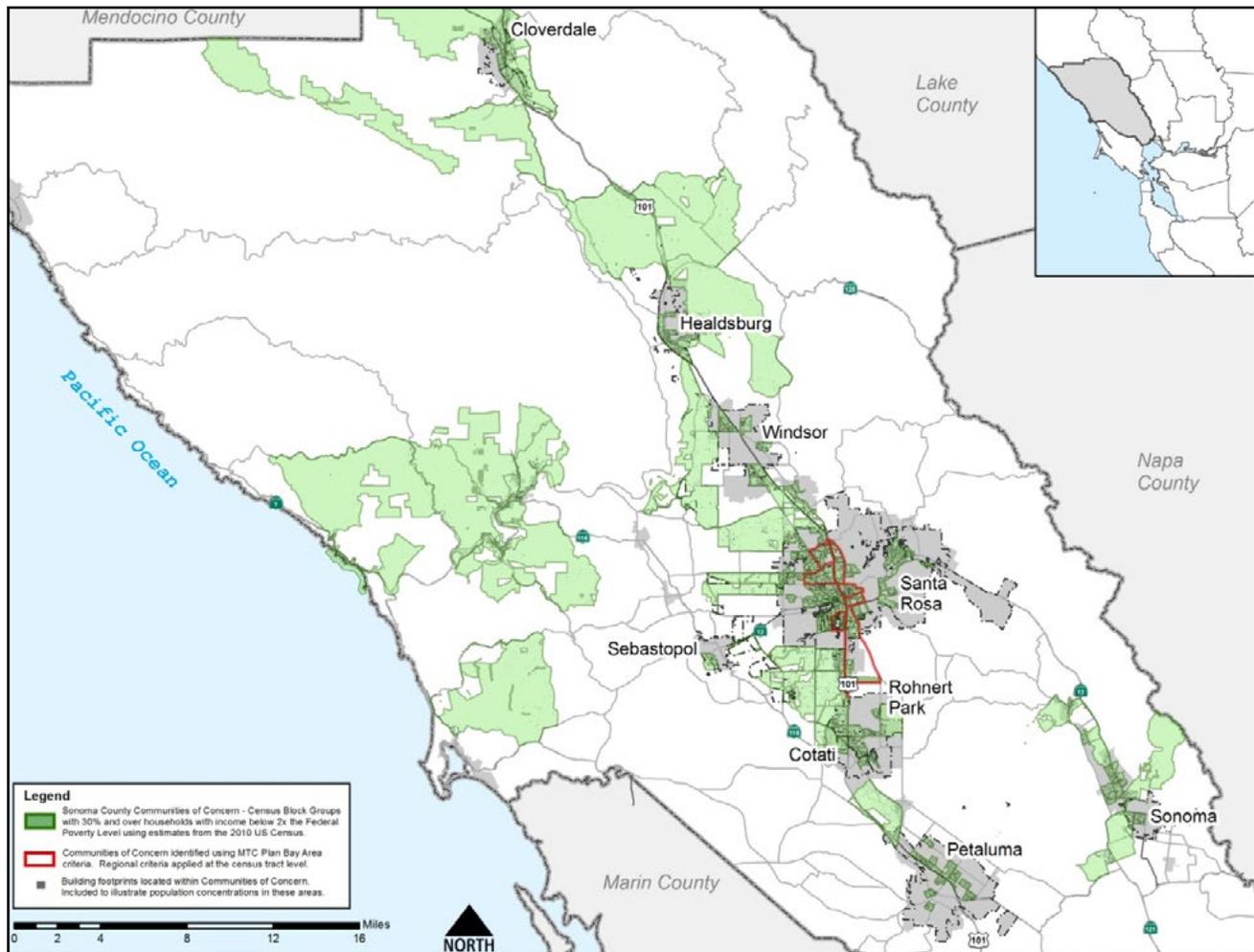
MTC held a Forum on Housing Policy February 2016. For more on topics discussed and related information see <http://mtc.ca.gov/whats-happening/news/february-forum-jumpstarts-conversation-housing-policy>.

### **Identifying Disadvantaged Communities in Sonoma County**

State, regional, and local planning efforts have focused on addressing transportation equity in recent years. These efforts have identified geographic concentrations of socioeconomically disadvantaged or vulnerable populations and have highlighted transportation issues facing these populations. These areas are termed by MTC as “Communities of Concern” (CoC). CoCs have special mobility needs associated with access to reliable transportation, proximity to pollutants, and safety. In Sonoma County these areas are currently defined by SCTA as census block groups in which 30 percent or more of families have incomes between 0–200 percent of the federal poverty level or \$21,660–\$74,020 total household income depending on family size. CoCs have been used to prioritize funding in an effort to improve conditions in disadvantaged areas

<sup>7</sup> Sonoma County Economic Development Board, Sonoma County Indicators <<http://edb.sonoma-county.org/content.aspx?sid=1033&id=2035>, accessed June 17, 2016>.

Figure 2-1 SCTA Defined Communities of Concern



## Spotlight — Identifying areas with transportation needs

The following methods have been used to identify areas or communities with specific transportation needs in Sonoma County and the San Francisco Bay Area:

**SCTA defined Communities of Concern** use poverty level<sup>8</sup> and detailed census geographies to identify areas with special transportation needs. Using detailed census block groups allowed more accuracy when identifying pockets of poverty in Sonoma County, especially in areas that are located in very large census tracts, or that are adjacent to very affluent areas. SCTA has used locally defined CoCs to allocate transportation funding.

**MTC Adopted Communities of Concern:** MTC identified regional communities of concern (CoCs) using demographic variables including ethnicity, income, English proficiency, senior population, disabled population, single-parent households, zero-vehicle households, and overburdened renters using Census Tract data from the 2010 U.S. Census. These CoCs were adopted as part of Plan Bay Area, and are currently being revised as part of the Plan Bay Area update that is underway. These areas have been used to prioritize regional transportation funding.

**2017 Caltrans Active Transportation Program Disadvantaged Communities:** Caltrans ATP grants are awarded in order to encourage increased use of active transportation modes. ATP applications are granted extra points if a project or program would serve a disadvantaged community. ATP defines disadvantaged communities using income, tribal lands, and proximity to disadvantaged schools.<sup>9</sup>

**CalEnviroScreen 2 — SB 535 Disadvantaged Communities:** Senate Bill 535 requires that at least 25 percent of State Cap and Trade proceeds allocated through the Greenhouse Gas Reduction Fund (GGRF) benefit disadvantaged communities and that at least 10 percent of these programs be located within these identified communities. CalEnviroScreen uses a combination of population characteristics and pollution exposure rates to identify the most disadvantaged communities in the state at the census tract level. No disadvantaged communities have been identified in Sonoma County using these criteria.<sup>10</sup>

**Portrait of Sonoma County Priority Places:** Portrait of Sonoma County provides an in-depth look at the life expectancy, education, and income of county residents. These variables were combined into a single Human Development Index (HDI) which can be used to identify disadvantaged communities and disparities between Sonoma County neighborhoods. The 20 census tracts with the lowest HDI have been included in the online disadvantaged communities map.

## Existing Land Uses

Sonoma County contains a diverse cross-section of landscapes and development types. It encompasses approximately one million acres of land and is the largest county in the nine-county Bay Area Region. Approximately 14 percent of the land is devoted to residential uses, 3 percent are used for commercial, industrial, and similar uses, with the remainder mostly consisting of agricultural lands and open space.

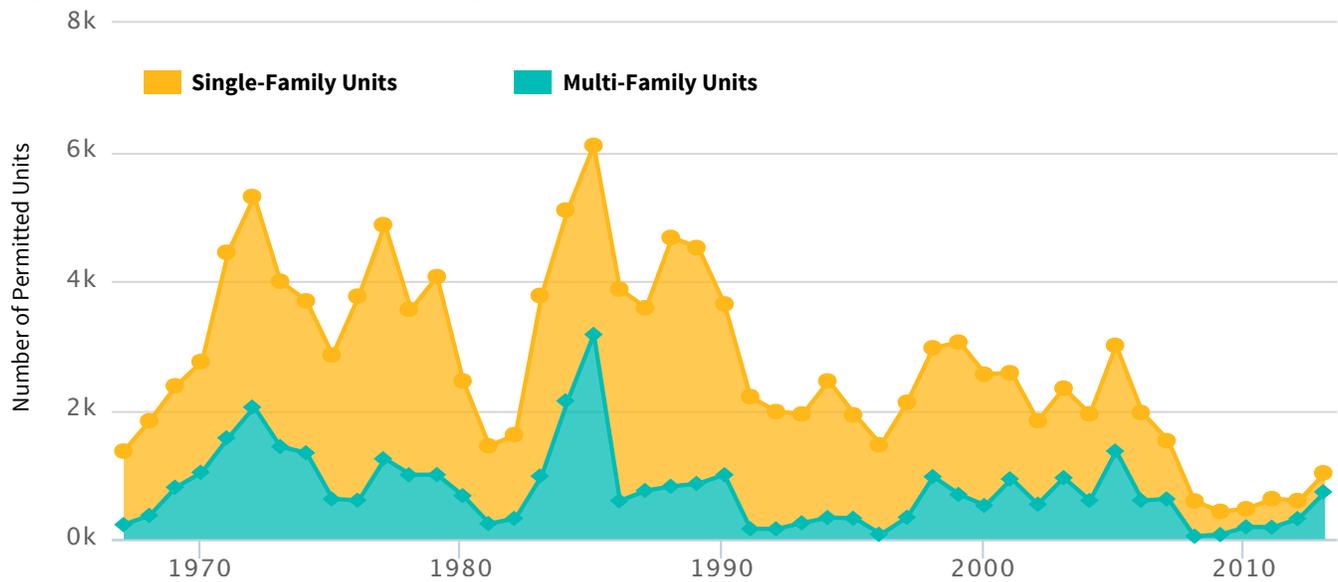
Since 2000, approximately 1,500 residential building permits have been issued in Sonoma County each year. Permits peaked in 2005 (3,003) and dropped off considerably after this peak due to the national housing crisis and recession. Permitting bounced back in 2013 (1,027 permits granted) after hitting a low of only 430 countywide housing permits granted in 2009. Historically, residential development in Sonoma County has been biased toward single-family detached (SFD) housing, with single family homes making up the majority of housing construction and permitting activity. This trend continued through the economic downturn, but there has recently been a shift towards multi-family unit permitting with over 50 percent of permits granted for multi-family units in 2012, and over 70 percent of permits granted for multi-family units in 2013.

<sup>8</sup> 30% of census block group households earning 200% or less of the federal poverty level

<sup>9</sup> 75% of students eligible to receive free or reduced meals

<sup>10</sup> CalEPA identified the 25% highest scoring CalEnviroScreen2 census tracts as disadvantaged communities.

**Figure 2-2 Historical Trend for Housing Growth — Sonoma County 1967–2013**



Source: MTC, Vital Signs (<http://www.vitalsigns.mtc.ca.gov/housing-growth>)

### Historical Growth

Although most growth in Sonoma County has historically centered on the Highway 101 corridor, a considerable amount of growth has occurred off of the corridor. Rapid growth in the 1970s and 80s led to development in areas outside of urban service areas, which are not well served by transit or an adequate road network.

In an effort to limit urban sprawl and to protect the rural character of the county, Sonoma County voters approved setting Urban Growth Boundaries (UGBs) that have now been in effect in Sonoma County for decades. This tool has been successful in promoting city infill growth and is helping redevelopment in areas that can absorb higher densities. Sonoma County voters also passed and reauthorized a sales tax to fund the preservation of agricultural land and community separators. Local general plans have prioritized city centered, focused growth.

### Spotlight — State and Regional Policy

The need for integrated land use and transportation planning became more urgent in California upon passage of two landmark pieces of state legislation that mandate reductions in greenhouse gas (GHG) emissions:

California Assembly Bill 32 (AB 32), the Global Warming Solutions Act of 2006 mandates a reduction in California's GHG emissions to 1990 levels by 2020.

Senate Bill 375 (SB 375), the Sustainable Communities and Climate Protection Act of 2008 provides more concrete requirements for implementation of AB 32 in order to achieve the emissions reductions expected from the land use sector. SB 375 aims to reduce GHG emissions from passenger vehicles through better coordination between transportation investments and land use decisions.

One key mechanism that is being used to achieve these reductions is to directly connect the region's primary transportation funding sources with regional growth projections.

SB 375 requires every regional Metropolitan Planning Organization (MTC and ABAG in the Bay Area) to produce and incorporate a Sustainable Communities Strategy (SCS) into their Regional Transportation Plans (RTP). The SCS is a regional land use strategy that illustrates how all projected population and employment growth can be distributed within the region across all income levels. The SCS/RTP, known in the Bay Area as Plan Bay Area, must accommodate this growth and demonstrate investment in transportation projects that will reduce GHG emissions. The planning horizon for the update of Plan Bay Area (anticipated approval in 2017) is 2040. Like the CTP, it is updated regularly.

### Sonoma County Focus on Priority Development Areas

Following the lead of Bay Area's regional governments (ABAG and MTC), communities in Sonoma County are using the framework of Priority Development Areas (PDAs) to identify areas for future population and employment growth. Cities recognize PDAs or other related place-types in their communities and use local land use authority to steer higher density growth to those areas. As a result of this coordination region wide, PDAs can accommodate a large percentage of the planned housing and job production. Increased density in PDAs is intended to locate more people near jobs and services in an effort to reduce travel and thereby transportation greenhouse gas (GHG) emissions.

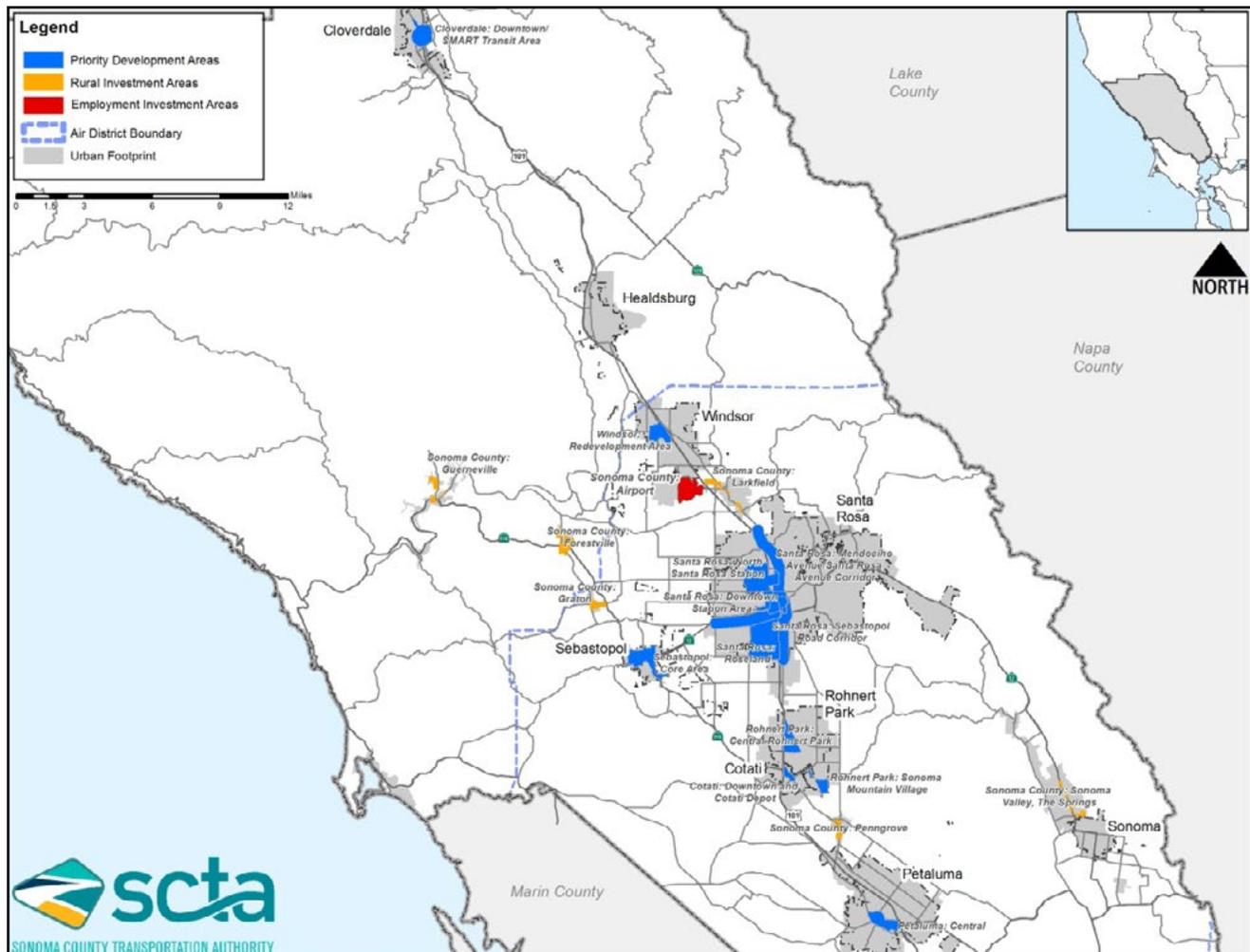
As of 2016, Sonoma County jurisdictions have designated 19 specific areas for priority locations for new development—12 PDAs, 6 Rural Investment Areas (RIAs) and 1 Employment Center. These different designations acknowledge the differences in the existing uses and services and the varying expectations for development in each of these areas. See **Appendix 4** for descriptions of these different location types.

Regionally, it is anticipated that PDAs will house 80 percent of new growth. The proportion of growth forecasted within PDAs varies by city. The additional growth forecasted by ABAG in many of the PDAs is considered to be ambitious given the cost and availability of land and historic market trends. The anticipated density of development, land use mix, and character varies across PDAs, reflecting local needs and development goals, access to transit, and a host of other factors. The PDA framework is not a perfect fit for the North Bay currently, but is currently evolving to better meet local needs and has already been effective at concentrating some growth and reducing travel and emissions.

The PDA designations do not identify PDAs within Unincorporated Sonoma County, yet existing and planned uses call similar concentrations on housing and job growth in rural locations such as the Russian River communities, the Springs area of Sonoma Valley, and the Airport Industrial Area. The County of Sonoma has designated six Rural Community Investment Areas and one Employment Investment Area to recognize these targeted growth areas in

the unincorporated county. These areas are not expected to ever be as dense or busy as more urban areas, but are planned to focus on concentrating rural growth and encouraging walking and biking within these areas.

**Figure 2-3 Sonoma County Priority Development Areas, Rural Investment Areas and Employment Investment Areas**



## EXISTING TRAVEL CHARACTERISTICS

The U.S. Census Bureau and local and regional transportation planning agencies such as the Metropolitan Transportation Commission and the Sonoma County Transportation Authority collect survey data and run travel demand models in order to determine where people are going, how they get there, and how they travel. This information is used to assess and prioritize future transportation improvements in order to maximize the utility of the transportation system.

Travel is often summarized by trip which represents an individual’s travel from one location to another. Trips are normally categorized by trip purpose, or reason the trip was taken. Trips are first calculated as person-trips (i.e. two people driving together to work would be one vehicle trip, but counted as two person-trips) and are then converted to vehicle trips using vehicle occupancy rates. Vehicle occupancies are important, because they demonstrate how many vehicles are needed to move a given number of people from location to location.

Segmenting trips by trip purpose and vehicle/person trip helps provide information on what types of transportation improvements could provide the largest benefits to Sonoma County travelers.

**Table 2-3 Trip Purpose Chart 2010<sup>11</sup>**

Trip Purpose	Average Travel Time	Average Trip Length	Average Vehicle Occupancy
	Minutes	Miles	Persons/Vehicle
Home — Work (14.8%)	23.14	16.27	1.14
Home — School (10.3%)	9.97	4.87	4.16
Home — Other (43%)	10.91	5.63	1.65
Non-Home Based (32%)	9.92	5.35	1.45

Source: Sonoma County Travel Model

## How Are People Getting Around?

Travel in Sonoma County, like the rest of the Bay Area and United States, is heavily oriented towards private passenger vehicles. In 2013 there were 342,000 licensed drivers and 500,000 registered vehicles in the county according to DMV records. Commute trips are concentrated during peak, or rush hour, travel periods and are major contributors to traffic congestion. In 2006 nearly seventy-five percent of workers drove alone during their commute; 12.3 percent carpooled; 2.2 percent used public transit; 3.8 percent bicycled or walked; and 6.4 percent worked at home. *These mode shares have been fairly stable since 1980, although the transit and carpool mode shares have dropped slightly, and healthy increases in bicycle/walk and work-at-home mode shares have been observed.*

**Table 2-4 Travel to Work Mode Share in Sonoma County**

Travel to work	1980	1990	2000	2006	2010
Drive Alone	69.4	74.6	74.7	74.5	74.4
Carpool	16.3	13	12.6	12.3	11.3
Transit	3.2	2.3	2.4	2.2	2.0
Bike/Walk	5.7	4.3	3.9	3.8	4.3
Other means	2	0.9	1	0.8	0.6
Worked at home	3.4	4.9	5.4	6.4	7.1

Source: US Census

The use of alternative travel modes (i.e., those other than driving alone) for inter-county commute trips tends to be higher than for trips made inside the county. Approximately 5 percent of inter-county commute trips are made by transit (compared to 1.4 percent of intra-county trips); 15.1 percent are by carpool (compared to 10.5 percent of intra-county trips).<sup>12</sup>

## Motor vehicle ownership in Sonoma County

Motor vehicle ownership in the County tends to be somewhat higher than the Bay Area average. There are also fewer households without access to a private vehicle in Sonoma County compared to the Bay Area (1.9 percent vs. 5.3 percent); and more households with two or more vehicles (80 percent vs. 77 percent).<sup>13</sup> The higher auto ownership rates reflect the County's dependency on personal vehicles for transportation as a result of dispersed land uses, an extensive road network, and the rural nature of much of the county.

<sup>11</sup> Trip purpose characteristics are projected to stay mostly consistent through 2040 with the following exceptions. Home -other trip lengths (minutes and mileage) are expected to increase by 25-30% by 2040 and the average vehicle occupancy rate is for home-school trips forecasted to drop to just below 3 persons per vehicle by 2040.

<sup>12</sup> U.S. Census Bureau, Census Transportation Planning Package (2010).

<sup>13</sup> U.S. Census Bureau, 2010–2014 American Community Survey 5-Year Estimates.

**Table 2-5 Fee paid Registered Vehicles in Sonoma County**

Year	Registered Vehicles	Population	Vehicles per person
1950	51,582	103,405	.5
1980	240,204	299,681	.8
2007	428,000	484,470	.9
2014	456,249	500,292	.9

Source: Department of Motor Vehicles

## Workforce Commute

Sonoma County's 186,935 households contain a workforce of 235,040 employed residents. There are approximately 207,800<sup>14</sup> jobs available to these residents. Major employers in the county are generally located within the cities. There is a significant intra-county commute between the employees located in the county's cities to employers scattered throughout the county engaged in agriculture, tourism, and retail activities. A majority (83 percent) of the estimated 225,640 Sonoma County workers stay in the county for work, and 92 percent of jobs in the county are filled by in-county employees. Fewer than 20 percent (16.8 percent) of Sonoma County workers commute to jobs outside the County representing a steady decrease in out of county commuting since 1980. Of these out commuters, 16,745 work in Marin County (7.42 percent of workers) and 5,872 in San Francisco (2.6 percent of workers), both of which are served by the highly congested Highway 101 corridor. Commuting to Marin County has declined since 2000, with the out commute to San Francisco and Napa counties increasing slightly over the same time period.

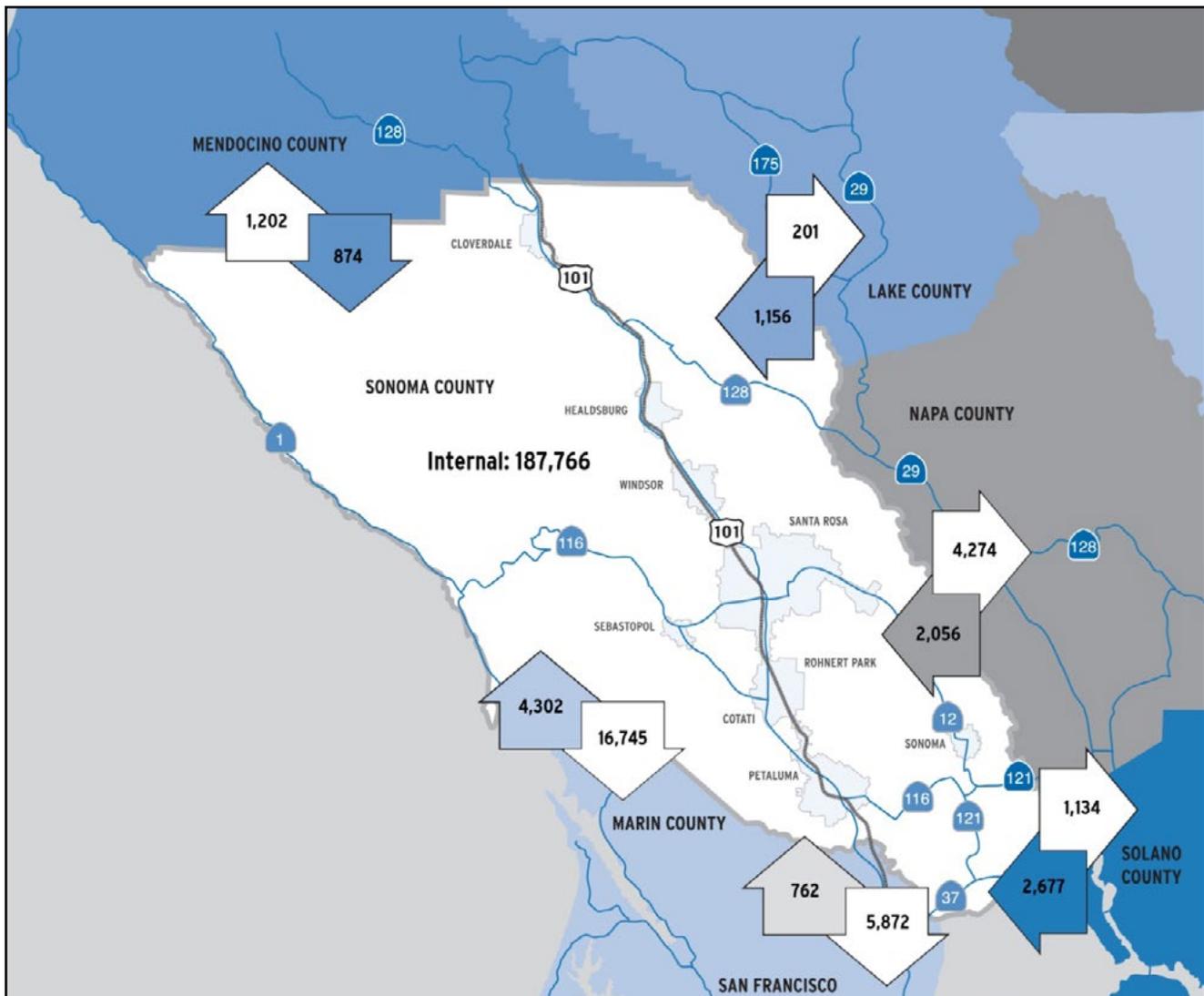
The number of *in-commuters*, or workers who work in Sonoma County but live in other counties, continues to rise with 17,019 workers commuting into the county per day in 2013. This represents an increase from 1990 and 2000 in which 9,326 to 14,000 workers commuted into the county.<sup>15</sup> Marin County supplies more workers to Sonoma County than any other county (4,300). Other California counties which, in 2013, supplied more than a thousand workers include: Contra Costa (1,072); Lake (1,156); and Napa Counties (2,056), Solano (2,677).<sup>16</sup>

<sup>14</sup> California Employment Development Department, October 2015 estimated wage and salary employment.

<sup>15</sup> U.S. Census, 2009–2013 5 Year American Community Survey Commuting Flows.

<sup>16</sup> U.S. Census, American Community Survey 2010–2013.

Figure 2-4 Ingress/Egress Map



Source: US Census: 2009–2013 5 Year American Community Survey Commuting Flows.

Just under 15 percent of all weekday trips are for commute purposes<sup>17</sup>. Although modest in number, commute trips have a disproportionate impact on the transportation system’s performance for several reasons. Commute trips are usually longer than other trips. They tend to be concentrated in a few hours of the day (7-9 AM and 4-6 PM); and vehicle occupancies are generally much lower for trips to work.

### Trips to School

Though the number of homes with school aged children has declined, the morning traffic caused by the school commute is significant. Historically, children usually walked or biked to school, or rode a school bus. This is no longer true, with a large proportion of students being driven to and from school, though there are movements to make walking and biking to school more attractive to children and parents.

<sup>17</sup> Sonoma County Travel Model.

**Table 2-6 2010 Sonoma County School Trips — Mode of Travel**

<b>Travel Mode</b>	<b>Percentage</b>
Drive Alone	15.02
Shared Ride	70.71
Transit	0.63
Walk/Bike	13.63

Source: Sonoma County Travel Model

## Non-Commute Trips

Other travel, including trips to medical appointments, shopping, and recreation and tourism trips make up the largest proportion of total daily trips (43 percent) but are less consistent than trips that are part of daily routines and are more difficult to analyze. Data available for these types of trips suggests that these trips are shorter than work trips and travelers are more likely to travel with other people in their vehicles.

## SONOMA COUNTY IN 2040, FORECASTS

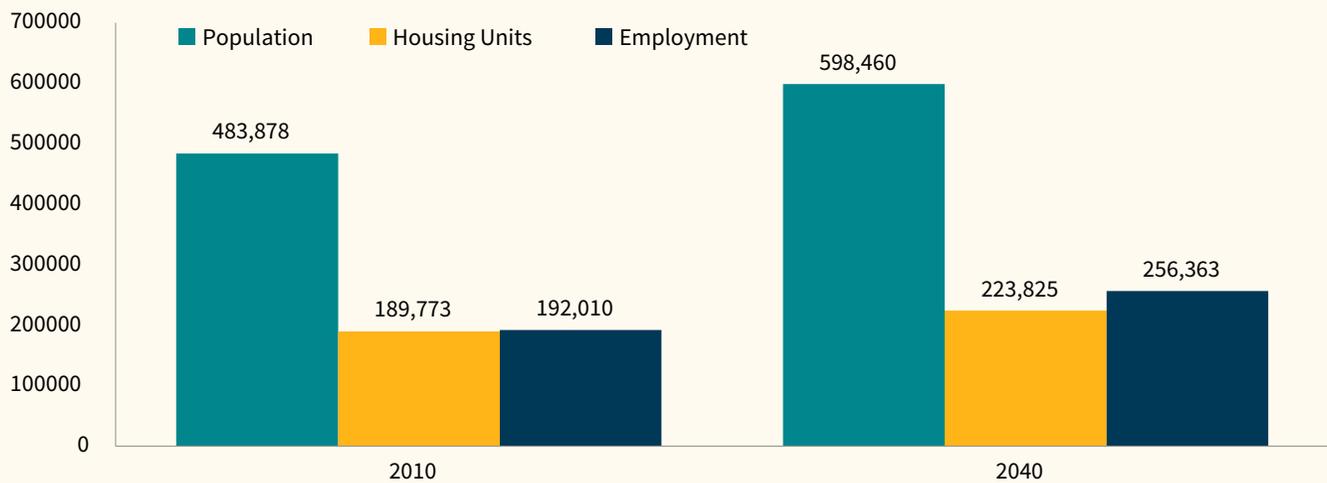
Future population, housing, and employment growth are forecasted at the regional level by the Association of Bay Area Governments and Metropolitan Transportation Authority. The California Department of Finance and Economic Development Department provide additional estimates of future population, housing, and employment growth. The forecasts provided by these agencies provide the best estimate or picture of how Sonoma County will grow and develop through 2040. These forecasts can help guide decisions about how the transportation system can be maintained and improved, and how these decisions can help meet countywide transportation goals. These forecasts were developed using the most recent planning, economic, and transportation data available, including local general plans, more detailed area specific plans, economic trend analysis, and transportation system usage data such as traffic counts, transit ridership, and traveler surveys.

The most recent forecasts produced at the regional level have been developed for the San Francisco Bay Area Regional Transportation Plan, “Plan Bay Area” and are forecasted for a 30-year time period from 2010–2040. The land use component of the regional forecast forms the basis for the regional Sustainable Communities Strategy (SCS). These RTP and SCS growth estimates have been incorporated into the Sonoma County Travel Model and have been used the analysis that has been performed as part of the most recent CTP update. The Sonoma County population is predicted to grow by almost 20 percent by 2040, from 483,878 residents in 2010 to 574,031 in 2040. Employment growth is predicted to grow at an even greater rate (34 percent) from 192,010 in 2010 to 257,450 in 2040. Population and employment growth have a significant impact on total travel in Sonoma County. The additional people and new jobs and destinations that attract employees and travelers are expected to increase countywide travel by over one-third by 2040 (36 percent increase in daily vehicle miles traveled by 2040).

### Spotlight — Forecasting and Modeling Uncertainty

Forecasting and modeling techniques provide valuable information about how populations may grow and change, how the economy will develop, and how population and employment growth may impact travel in the future. These processes are based on observed data, mathematical equations, and scientific knowledge. Modeling tools used by SCTA to analyze future conditions in the CTP have been validated using real world data such as roadway traffic counts, transit ridership data, bicycle and pedestrian counts, and population, housing, and employment growth data collected by the US Census Bureau and other government agencies. This validation process ensures that model results are reasonable and are consistent with actual travel conditions and observed growth trends. Though care is taken to ensure that forecasts and model results are accurate, they are not perfect and may not provide a complete or perfect picture of the future. Forecasts and model results are useful for long range planning and to support decision making, but should always be compared to historic trends, existing conditions, and other empirical research and the results should be used and applied with care.

**Figure 2-5 Sonoma County Growth Forecasts: 2010–2040, Population, Housing Units, Employment**



Source: Association of Bay Area Governments

### Spotlight — Sonoma County in 2040

Between 2010 and 2040 the Sonoma County population is expected to grow by over 100,000 people or around 20% (483,878 residents in 2010 to 598,460 in 2040).

The Sonoma County population is projected to continue to age. The senior population (ages 65+) is expected to increase from 14 percent to 22 percent of the total population by 2040.

34,000 additional housing units are projected to be built in Sonoma County by 2040. This is an 18 percent increase in housing units over a 30 year period. Multifamily or higher density housing is expected to make up a larger proportion of housing growth than has been observed in the past.

Over 60,000 additional jobs are expected to be added to the Sonoma County economy by 2040 (65,430 from 2010–2040). These jobs are expected to be focused primarily within the Health, Education, Professional Services, and Arts and Recreation job sectors.

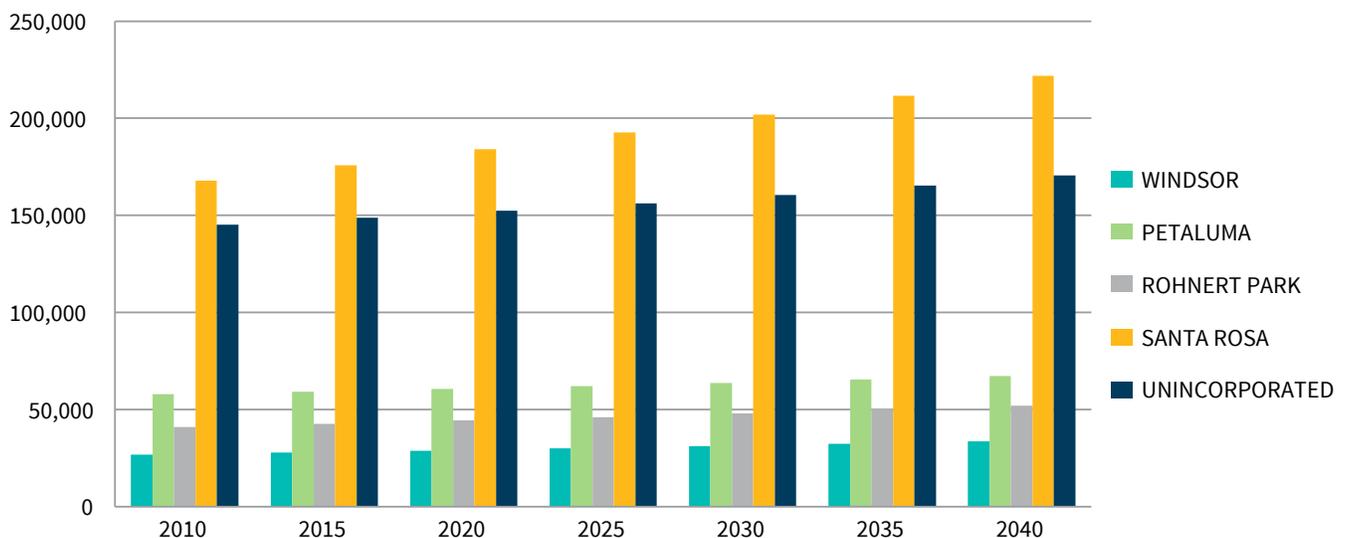
## Projected Population Growth in Sonoma County

Sonoma county population forecasts are developed by ABAG by considering job growth forecasts, existing population, labor force participation rates, birth and death rates, local general plans, and migration. Sonoma County population is predicted to grow by 24 percent by 2040, increasing from 483,878 residents in 2010 to 598,460 residents in 2040. Cloverdale, Santa Rosa, and the Town of Windsor are projected to grow the fastest during this time period (26-33 percent growth rates over the 30 year period), with the Cities of Healdsburg, Sonoma, and Petaluma expected to experience the slowest local growth rates (9–16 percent growth rates over the 30 year period).

The Sonoma County population continues to age with the median age rising from 37.5 in 2000 to 39.9 in 2010. The senior population (ages 65 and over) is projected to increase from 14 percent (2010) to 22 percent of the total population by 2040. Aging of the population could have significant impacts on local employment trends, demand for goods and services especially those oriented towards care and service of the senior population, and travel patterns. Retirees will make up a larger proportion of the population, which will reduce the size of the local workforce, which could trigger a need to import more labor from surrounding counties to fill Sonoma County jobs. Senior travel patterns can also be quite different from the rest of the population. With no need to commute to work or drop children off at school, some travel could shift to off-peak periods, taking some pressure off of the busy and congested peak period travel times. The Public Policy Institute of American Association of Retired Persons (AARP) developed a web-based tool to measure community livability for seniors. Users can search the Index by address, ZIP Code, or community to find an overall livability score, as well as a score for each of seven major livability categories: housing, neighborhood, transportation, environment, health, engagement, and opportunity. Sonoma County as a whole scores 56. To calculate the score of your community or read about the variables go to <https://livabilityindex.aarp.org/>.

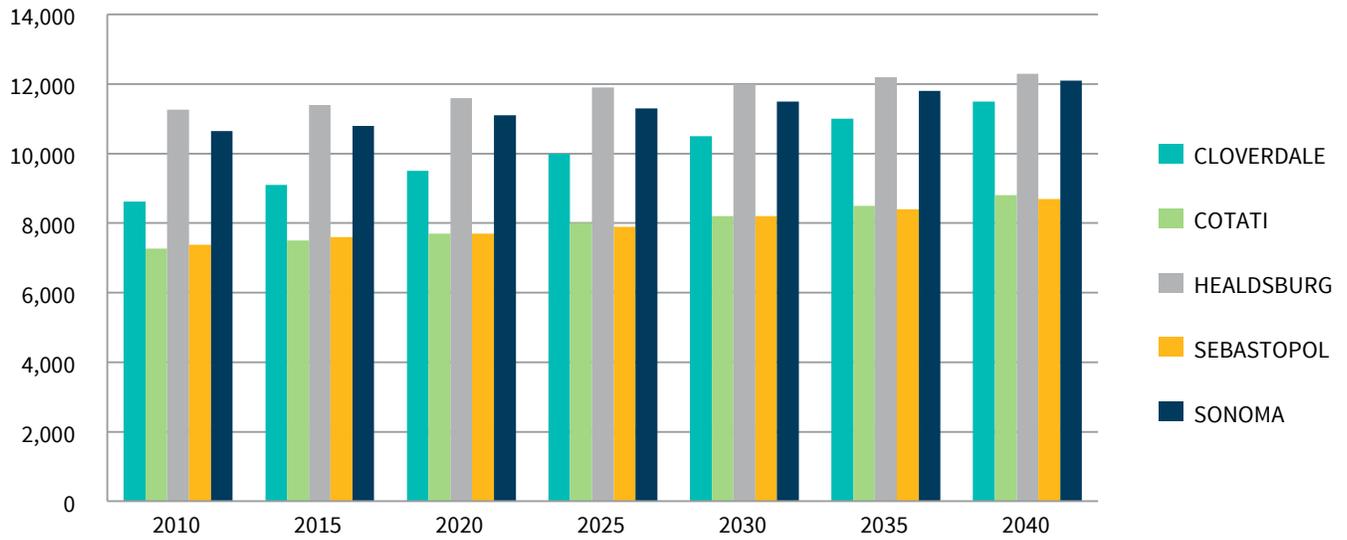
The Sonoma County population is projected to become more racially and ethnically diverse by 2040. The Latino and Asian population shares will increase significantly by 2040, and together will make up 42 percent of the total Sonoma County population. Population growth of these ethnic groups is expected to impact housing preferences and household formations rates. According to the California Department of Finance, these populations have a historically high preference for multifamily housing and form multi-generational households at a higher rate than the general population.

**Figure 2-6 Sonoma County 2010–2040 Population Growth, Large Jurisdictions**



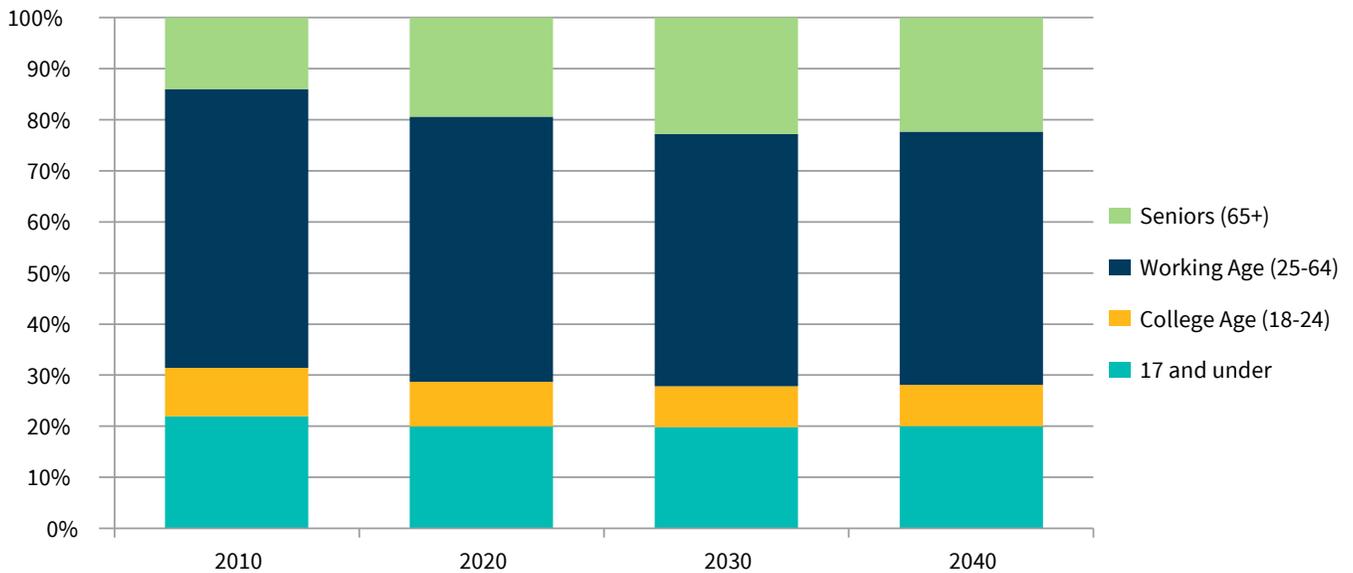
Source: Association of Bay Area Governments

**Figure 2-7 Sonoma County 2010–2040 Population Growth, Small Jurisdictions**



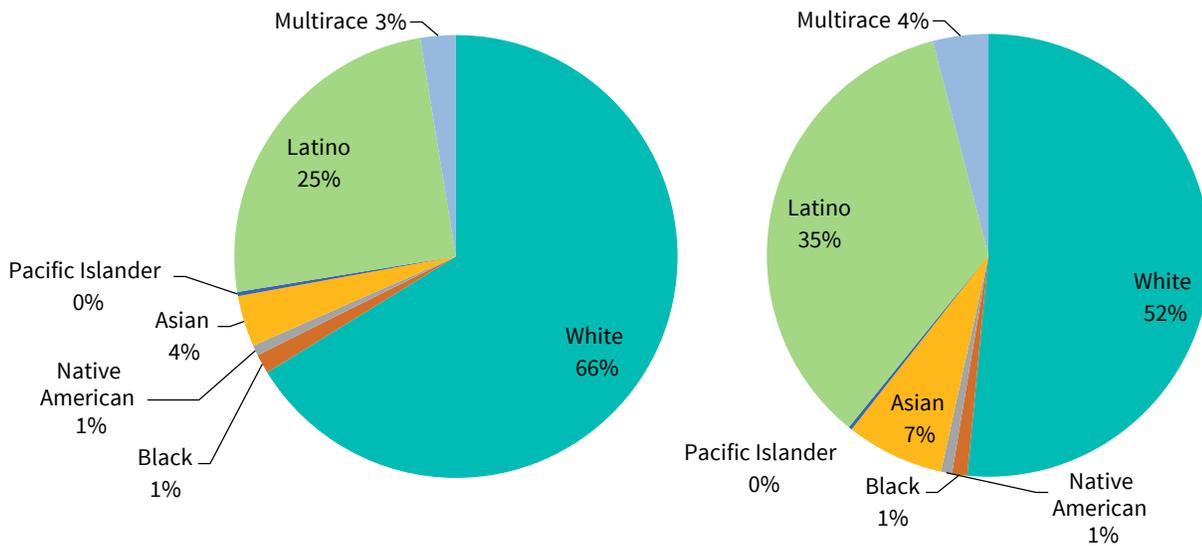
Source: Association of Bay Area Governments

**Figure 2-8 Sonoma County Aging Population, % of Total Population, 2010–2040**



Source: Metropolitan Transportation Commission, Association of Bay Area Governments, California Department of Finance

**Figure 2-9 Sonoma County Population by Race/Ethnicity, 2010–2040**



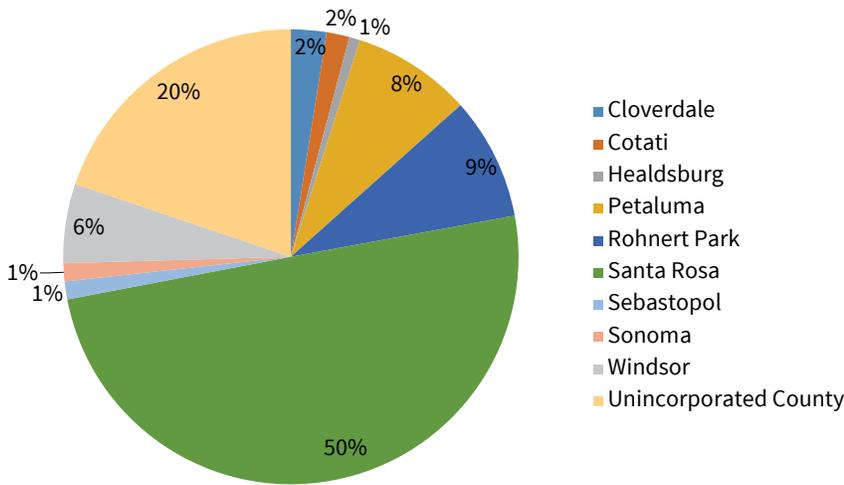
Source: U.S. Census 2010, Association of Bay Area Governments, California Department of Finance

### Projected Housing Growth in Sonoma County

ABAG develops housing production forecasts based on expected household income and demand, historic housing production rates and local planning (general plans and zoning). Housing growth assumptions also account for changes in housing type preferences due to aging populations, changes in the ethnic makeup of populations, and housing preference changes in younger populations. Higher shares of housing growth have been allocated to Priority Development Areas as part of the regional Sustainable Communities Strategy.

Housing is predicted to increase by 18 percent, or over 34,000 units, from 2010 to 2040. A higher proportion of constructed housing is expected to be focused on multi-family housing including town-homes, condominiums, and apartments, especially in the urban areas of Sonoma County. This shift is expected because of the aging population, housing affordability, growth in the Latino and Asian populations, and changing housing preferences for younger age groups. Housing growth is projected to be the highest in and around the largest Sonoma County cities including Santa Rosa, Petaluma, and Rohnert Park. As shown in **Figure 2-9**, ABAG predicts healthy housing growth in the Town of Windsor and the Sonoma Valley and Russian River areas of unincorporated Sonoma County. Housing growth in these areas is concentrated in Priority Development Areas or Rural Investment Areas.

**Figure 2-10 Sonoma County Percentage of Forecasted Housing Growth 2010–2040**



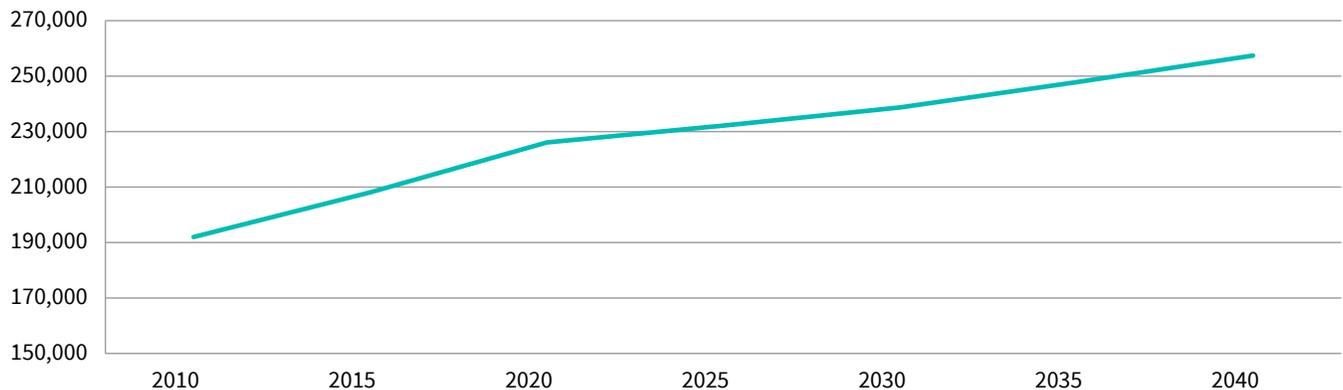
Source: Association of Bay Area Governments, Metropolitan Transportation Commission

### Projected Employment Growth in Sonoma County

ABAG forecasts regional employment by industry sector based on forecasts provided by the Center for Continuing Study of the California Economy (CCSCE). This analysis considered employment and job growth trends, national population and economic forecasts, housing supply, and characteristics of the work force (education, training, etc.). This forecast projects that over 60,000 additional jobs are expected to be added to the Sonoma County economy by 2040 (65,430 from 2010–2040). Job growth from 2010 to 2020 is predicted to be particularly healthy, accounting for a rebound and recovery from the job loss experienced during the Great Recession that began in 2007. Geographically, the majority of job growth is projected to occur in the cities, urbanized areas, and business parks in the unincorporated areas. Cloverdale, Rohnert Park, and Santa Rosa employment markets are forecasted to grow the fastest, with job growth in Sebastopol, Healdsburg, Sonoma, and the unincorporated county occurring at a slower rate.

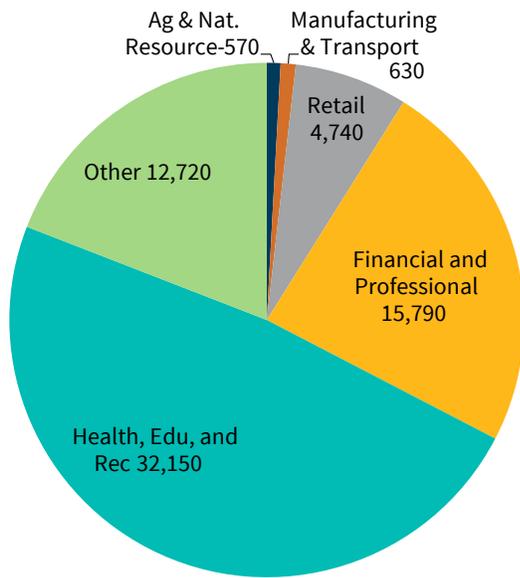
Job growth is expected to be heavily biased towards health, education, recreation, financial, and professional services sectors. Agricultural, natural resource, industrial (manufacturing and warehousing), and transportation/distribution sectors are expected to stay about the same with retail, government, and other job sectors expected to grow at a slower rate.

**Figure 2-11 Sonoma County Employment Growth 2010–2040**



Source: Association of Bay Area Governments, California Department of Finance

**Figure 2-12 Sonoma County Job Growth by Sector 2010–2040**



Source: Association of Bay Area Governments, Metropolitan Transportation Commission

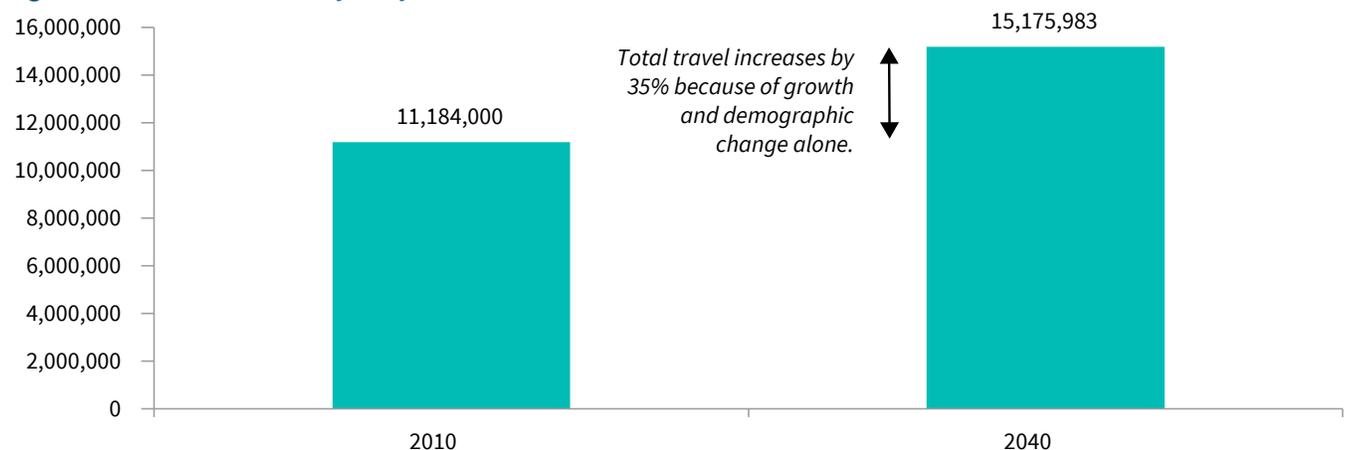
### Growth Impacts on the Transportation System

Population and employment growth have a significant impact on total travel in Sonoma County. The additional people and new jobs and destinations that attract employees and travelers increase total countywide travel and congestion. Growth is a primary factor behind increases in Sonoma County travel and congestion.

#### Travel

Vehicle miles traveled (VMT) is a commonly used measure of travel activity. VMT is a function of population, vehicle ownership, how often people travel, and where they are going. The SCTM estimates a 36 percent increase in VMT from 2010–2040 based on population and employment growth. This represents an increase from 11 million VMT per day in 2010 to 15 million VMT per day in 2040. VMT is predicted to grow at a greater rate than population and employment. Forecasts indicate that employment growth will outpace population growth. This factor along with the continued aging of the Sonoma County workforce means that labor may need to be imported from outside of the County and in-commuting from neighboring counties and the region is expected to increase accordingly. These in-commute trips are longer than in county commute trips and contribute to the increased VMT growth rate.

**Figure 2-13 Sonoma County Daily VMT 2010–2040**



Source: Sonoma County Travel Model

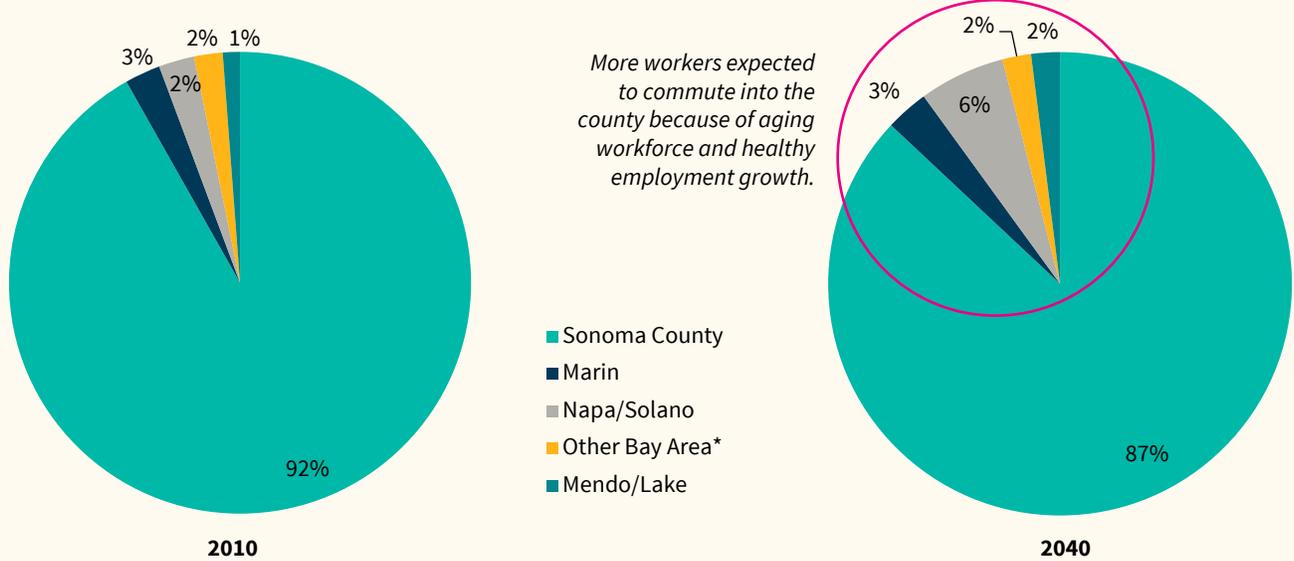
### Spotlight — Shifting Commute Patterns

FIGURE 2-14 Sonoma County Commuting Patterns 2010–2040

#### Where do Sonoma County residents work?



#### Where do Sonoma County workers come from?



Source: Sonoma County Travel Model



### **Emissions and Air Quality**

Transportation accounts for around 50 percent of all countywide GHG emissions in Sonoma County. The SCTA and Sonoma County jurisdictions have committed to reducing GHG emissions to 20 percent below 1990 levels by 2020. Transportation GHG emissions are calculated using estimates of total vehicle travel (VMT), travel speeds, and vehicle fleet characteristics.

Sonoma County transportation GHG emissions are expected to increase by about 39 percent during the period from 2010–2040. This is largely a factor of increased travel due to population and employment growth, and assumes that the vehicle fleet makeup and vehicle fuel economy stay about the same as they currently are by 2040. GHG emissions are expected to increase at a greater rate than VMT because of increased congestion and because of slower, and less efficient, travel speeds. State mandated fuel economy improvements (Pavley, AB 1493) could provide significant GHG reductions by 2040 because of improved vehicle fuel economies, and other developing and emerging vehicle technologies are likely to also contribute to reduced emissions from automobile travel.

### **Congestion and Travel Delay**

Traffic volumes and congestion continue to increase in Sonoma County. Increased traffic congestion can lead to lost productivity due to increased delay, increased fuel consumption and pollution, reduced accessibility, longer emergency response times, higher traffic collision rates, and impacts to quality of life.

A commonly used measure of congestion is Person Hours of Delay (PHD). PHD is calculated by determining the difference between estimated travel time under congested conditions and under free-flow or uncongested conditions for a roadway segment or trip. The travel model estimates that in 2010 almost 44,000 hours were lost each day because of traffic congestion in Sonoma County. Sonoma County congestion is predicted to triple by 2040. Most of this increase can be attributed to increased travel because of population and employment growth. Over half of this delay is expected to occur during the morning and evening peak travel periods, and highways and major local arterials would be impacted the most.

### **Travel Modes**

Travel in Sonoma County is dominated by the private automobile and is expected to remain so into the future if transportation policy, funding, and attitudes do not change. In 2010 approximately 8 percent of trips were made using active transportation modes. The Sonoma County Travel Model estimates that the rate of using active travel modes will stay in the 8 percent range in 2040, and estimates that major transportation projects and growth will have a very small impact on shifting travel to active transportation modes at the countywide level. Total transit ridership and walking/biking is expected to increase in the future but increased travel using these modes is offset by increased auto travel.

**Table 2-7 Sonoma County Mode Shares by Trip Purpose — 2010 and 2040**

	Auto				Non-Auto			
	Drive Alone		Shared Ride		Transit		Walk/Bike	
	2010	2040	2010	2040	2010	2040	2010	2040
All Trips	45.95%	45.30%	46.63%	46.50%	0.41%	0.40%	8.00%	7.80%
Commute	77.13%	76.80%	18.40%	18.40%	1.29%	1.50%	3.11%	3.30%
School	15.02%	15.00%	70.71%	70.90%	0.63%	0.70%	13.63%	13.40%

Source: Sonoma County Travel Model

Figure 2-15 2040 Daily Traffic

