CHAPTER 3 Travel Patterns

In planning for the future, an understanding of existing and projected travel patterns is necessary to determine what transportation investments are needed to meet the challenges and opportunities that face Santa Cruz County through 2045. Many factors influence the patterns of where, how much, and how we travel. The amount and distribution of traffic on highways and local roads, as well as the network of bicycle lanes, sidewalks, paths, and buses, can fluctuate based on population, the economy, location of jobs and services, public works decisions, travel choices, fuel prices, and other factors.

Population

Travel patterns within Santa Cruz County are impacted by the number of people who live, work, and visit the county. Figure 3.1 shows the historical population change in Santa Cruz County from 1950 to 2020 and forecasted population growth from 2025 through 2045. Currently home to more than a quarter-million people, the population in Santa Cruz County is expected to increase 9% between 2025 and 2045.

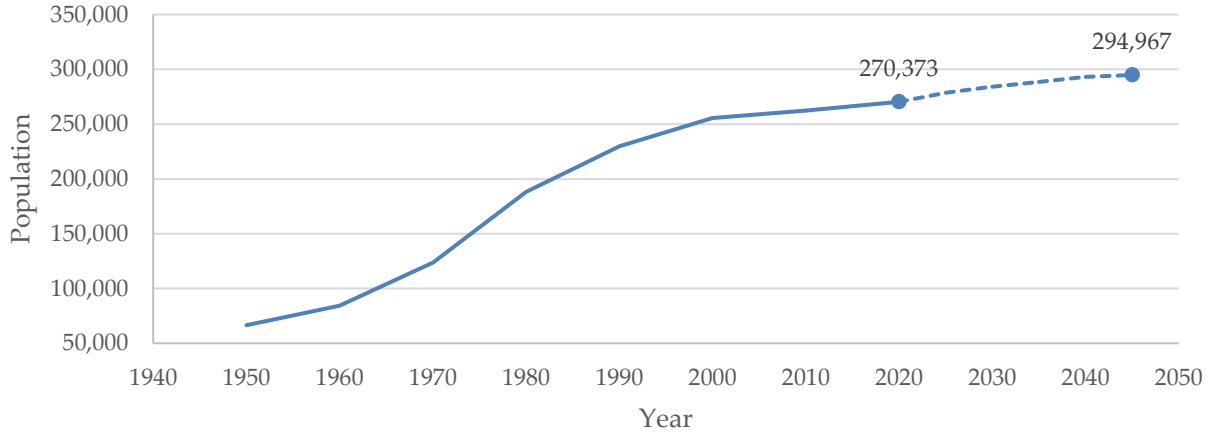

Figure 3.1 – Historical and Projected Santa Cruz County Population

Source: CA Department of Finance, U.S. Census Bureau, AMBAG 2022 Regional Growth Forecast

Population growth rates in the five jurisdictions in Santa Cruz County have varied substantially over the last thirty years with the City of Watsonville experiencing 66% population growth between 1990 through 2020 (Figure 3.2). In the same period, the City of Santa Cruz and City of Scotts Valley populations

increased approximately 30%. Between 2010 and 2020, the City of Santa Cruz population increased nearly 8% while the other jurisdictions and unincorporated county experienced modest growth.

Jurisdiction	*1990*	*2000*	*2010*	*2020**	*% Change (1990-2020)*
Capitola	10,171	10,033	9,918	10,142	-0.3%
Santa Cruz	49,711	54,593	59,946	64,547	29.8%
Scotts Valley	8,667	11,385	11,580	11,714	35.2%
Watsonville	31,099	44,265	51,199	51,656	66.1%
Unincorporated	130,086	135,326	129,739	132,314	1.7%
Santa Cruz County Total	**229,734**	**255,602**	**262,382**	**270,373**	**17.7%**

Figure 3.2 – Population Data for Santa Cruz County by Jurisdiction

*Source: U.S. Census Bureau, *2020 data are estimates from Department of Finance[1]*

Figure 3.3 shows the location of where people live in Santa Cruz County, illustrating how the population is clustered primarily along the coast between the City of Santa Cruz and Aptos, Watsonville, Scotts Valley, and San Lorenzo Valley. A large percentage of people in Santa Cruz County live in urban areas, making it easier to promote shorter trips and active transportation options for reducing congestion and GHG emissions.

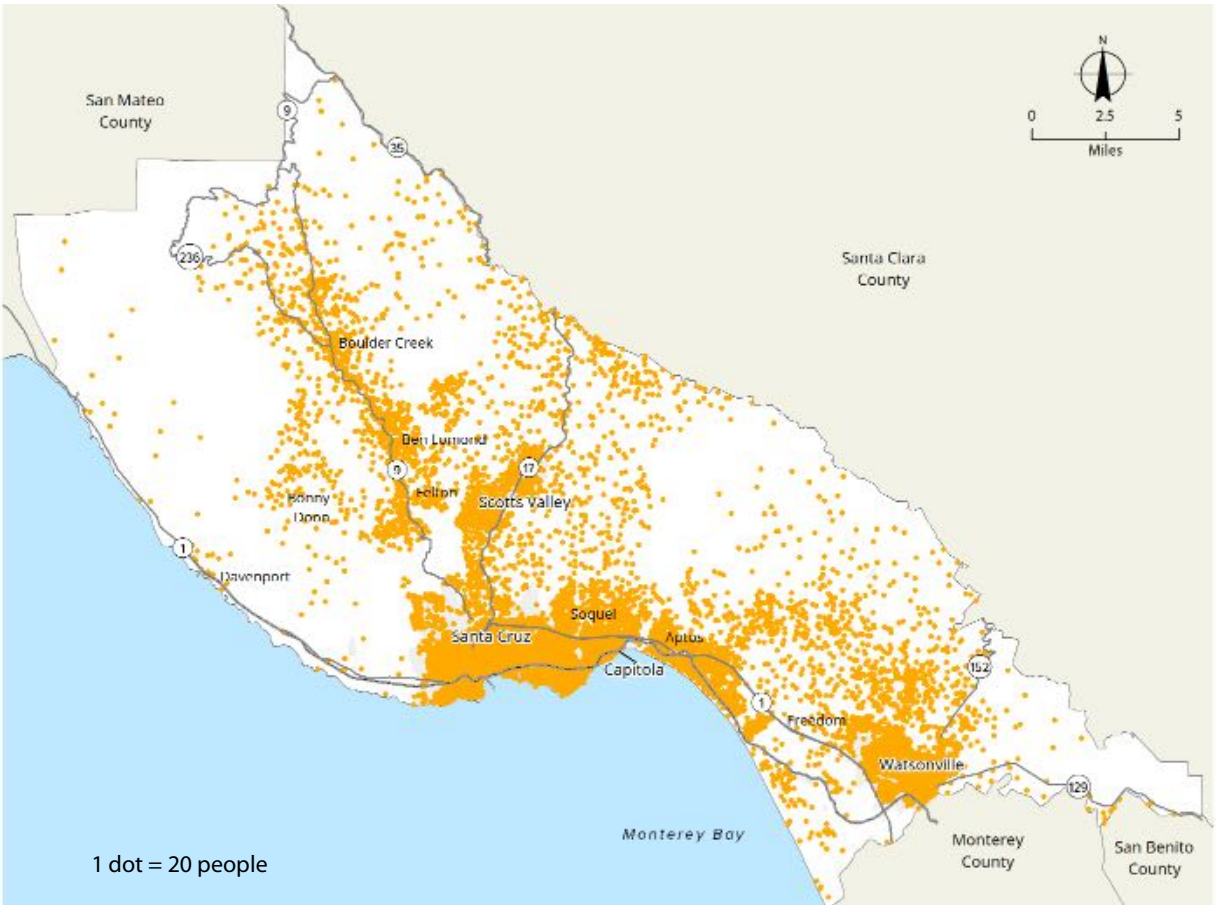

Figure 3.3 - 2010 Population Density

Source: U.S. Census Bureau

Employment Opportunities

Employment opportunities are another factor influencing travel patterns. Higher employment rates often mean greater traffic volumes as more people travel for work. Similarly, higher unemployment rates often mean less traffic volumes. The number of jobs in Santa Cruz County increased 7% between 2010 and 2015, and is expected to grow by 9.5% between 2020 through 2045 (Figure 3.4). Prior to the COVID-19 pandemic, unemployment in Santa Cruz County was relatively low at 5%. In 2020, the countywide unemployment rate increased to 9.5% with unemployment highest in the City of Watsonville at nearly 15% (Figure 3.5). The unemployment rate in Santa Cruz County reached up to 17% during the early months of the pandemic but has since fallen to near pre-pandemic levels. Middle and lower-income workers were impacted the most and saw greater employment losses than higher-earning workers.[2] Figure 3.6 shows the locations of where workers are employed throughout the Santa Cruz County.

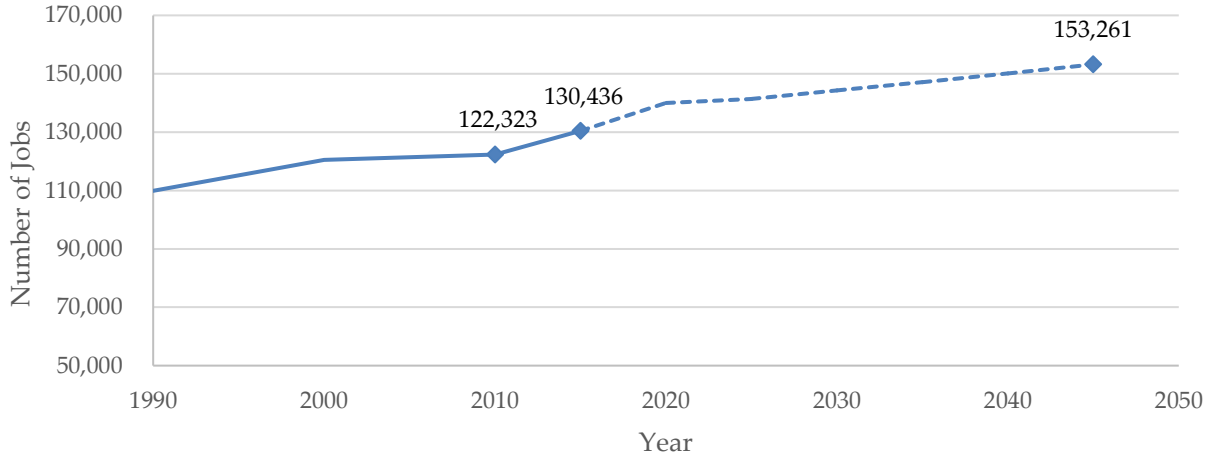

Figure 3.4 – Historical and Projected Number of Jobs in Santa Cruz County

Source: U. S. Census Bureau, EDD- InfoUSA, AMBAG 2022 Regional Growth Forecast

Jurisdiction	*2000*	*2005*	*2010*	*2015*	*2016*	*2017*	*2018*	*2019*	*2020*
	%	%	%	%	%	%	%	%	%
Capitola	2.5	3.5	10.7	5.9	5.5	2.6	1.5	1.1	2.1
City of Santa Cruz	4.2	5.2	11.9	6.7	6.1	3.9	3.4	3.3	7.8
Scotts Valley	2.2	3	12.2	6.8	6.3	4.4	2.9	3.2	6.2
Watsonville	11.5	14	16.8	9.6	8.9	12.1	10.7	10.8	14.8
Santa Cruz County	5.1	6.3	13.3	7.5	6.9	5.7	5	5	9.5

Figure 3.5 – Unemployment Rates by Jurisdiction within Santa Cruz County

Source: California Employment Development Department[3]

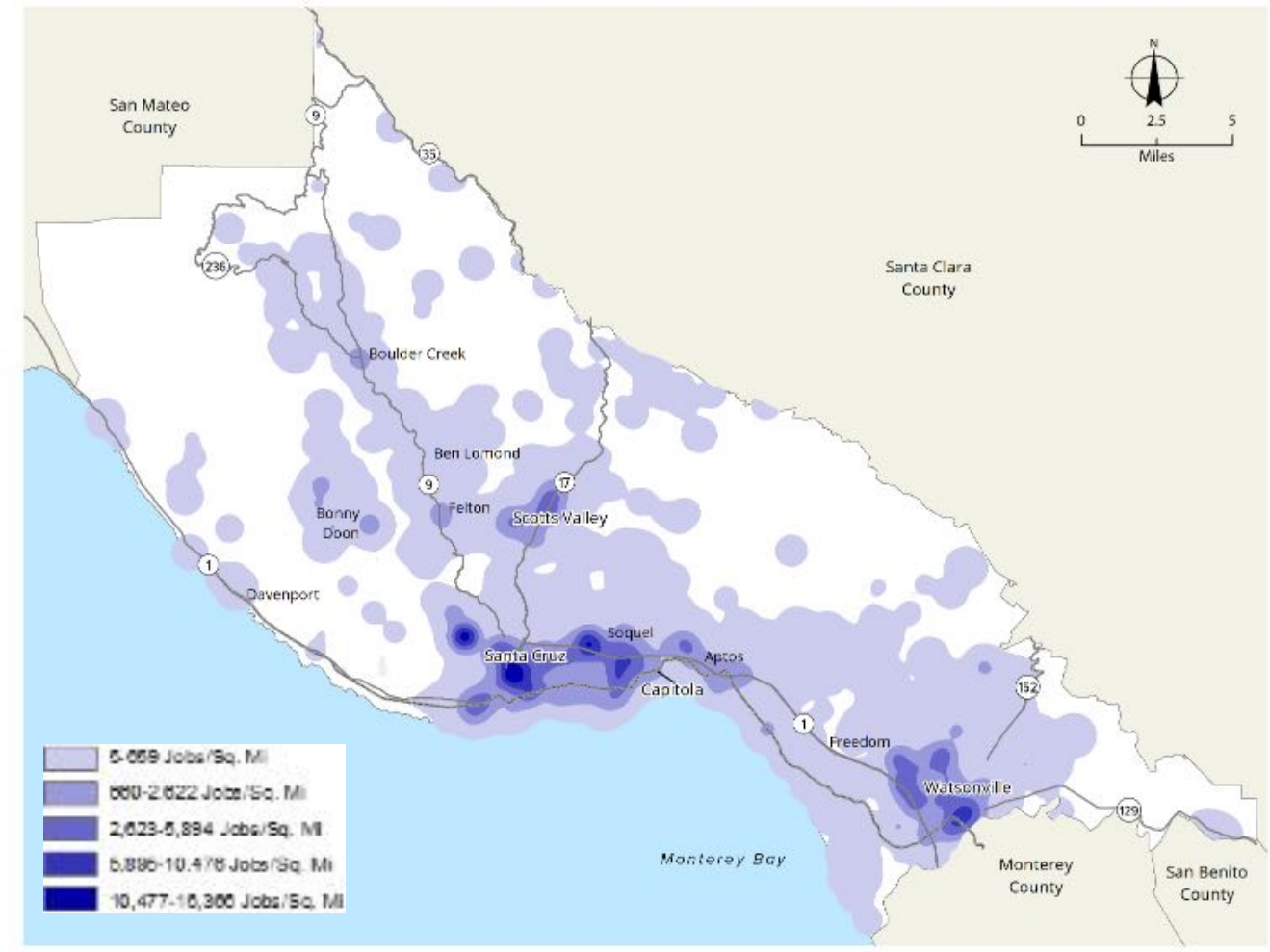

Figure 3.6 – Where People Work in Santa Cruz County

Source: U.S Census Bureau (On the Map), Center for Economic Studies, LEHD[4], 2018

Where Are We Traveling?

Eighty percent of the population in Santa Cruz County lives in approximately 20% of the area of the county. Trips are made between where people live (Figure 3.3) and where they work (Figure 3.6), go to school, shop, socialize and recreate. Many residents living in the southern portion or more remote corners of the county often travel to job centers located in the central portions of the county near urban developments, such as downtown Santa Cruz. Increasing the diversity of land uses within neighborhoods to improve access to goods and services can reduce trip lengths, increase opportunities for bicycling and walking, and improve access to transit stops.

The 2017 National Household Travel Survey (NHTS) is the most recent national inventory of daily travel, and the authoritative source on the travel behavior of the American public. One metric the NHTS analyzes is trends in Person Miles of Travel by Trip Purpose and 2017 survey results show that the average daily miles traveled were significantly higher for shopping and errands and for social and recreational travel in 2017 compared to 2009. Of all trips reported, the national average number of miles

traveled per person per year as a percentage of total trips taken was: 18% to and from work (excluding work errands), 26% for shopping and personal errands, 7% for school and church, 27% for social and recreation, and 22% other.[5]

County to County Commute Flows

The transportation network provides workers access to jobs throughout the region. Although many people travel outside Santa Cruz County as part of their commute, the proportion of residents who have had to do so has declined in recent years. Figure 3.7 provides the historical number of workers living in Santa Cruz County and the county where the worker is employed. The commute data presented represent typical commuting activity through 2016, the most recent year for which data are available. The data show nearly a quarter (22%) of residents have to commute outside of the County for work. Close to 100,000 people live and work in Santa Cruz County, while 21,000 travel to the Bay Area for work and 6,500 travel to Monterey County. Santa Clara County, with its numerous job centers, attracts the most workers from Santa Cruz County, capturing 14% of the county workforce. Figure 3.8 provides the historical number of workers employed within Santa Cruz County and the county where the worker lives. Of the total number of people working in the county, 18,000 or 16%, live outside Santa Cruz County; 8% travel from Monterey County, and 5% travel from the Bay Area. The number of workers living in Monterey County commuting into Santa Cruz County has increased 6% from the 2011-2015 average, and more than 30% since 2000.

County of Work	*Total Commuters 2000**	*Total Commuters 2006-10***	*Total Commuters 2009-13***	*Total Commuters 2011-15***	*Total Commuters 2012-16***	*% Share of Commuters 2012-16*	*% Change 2011-15 to 2012-16*
Santa Cruz	93,084	93,245	96,296	99,105	99,440	78%	0%
Monterey	5,164	5,779	5,995	6,583	6,490	5%	-1%
San Benito	622	538	659	700	545	0%	-22%
SF Bay Area	26,243	21,184	20,790	20,619	21,090	16%	2%
San Francisco	621	832	608	714	705	1%	-1%
San Mateo	2,010	1,305	1,273	1,242	1,290	1%	4%
Santa Clara	21,540	17,451	17,280	17,458	17,935	14%	3%
Alameda	1,419	1,007	1,118	862	820	1%	-5%
Contra Costa	244	274	227	156	140	0%	-10%
Solano	24	10	46	68	70	0%	3%
Napa	49	79	66	34	55	0%	62%
Sonoma	142	102	100	55	55	0%	0%
Marin	194	124	72	30	20	0%	-33%
Elsewhere	993	7,277	734	1,138	703	1%	-38%
Total	126,106	128,023	124,474	128,145	128,268	100%	0%

Figure 3.7 – Workers Living in Santa Cruz County

Source: Census Transportation Planning Products (CTPP), Federal Highway Administration

**U.S. Census Bureau, Census long form data*

***U.S. Census Bureau, American Community Survey 5-year summary data, Commuting Flows*

County of Residence	*Total Commuters 2000**	*Total Commuters 2006-10***	*Total Commuters 2009-13***	*Total Commuters 2011-15***	*Total Commuters 2012-16***	*% Share of Commuters 2012-16*	*% Change 2011-15 to 2012-16*
Santa Cruz	93,084	93,245	96,296	99,105	99,440	84%	0%
Monterey	7,601	8,551	9,178	9,640	10,175	9%	6%
San Benito	714	848	848	1038	1005	1%	-3%
SF Bay Area	4,738	5,420	5,452	5,829	5,945	5%	2%
San Francisco	206	213	259	389	425	0%	9%
San Mateo	214	441	332	475	405	0%	-15%
Santa Clara	3,463	3,725	4,045	4,249	4,375	4%	3%
Alameda	462	522	606	410	405	0%	-1%
Contra Costa	141	235	100	219	235	0%	7%
Solano	61	36	14	0	0	0%	-
Napa	30	12	5	10	10	0%	0%
Sonoma	70	222	67	32	35	0%	9%
Marin	91	14	24	45	55	0%	22%
Elsewhere	1,259	11,262	1,588	1,527	1,277	1%	-16%
Total	107,396	119,326	113,362	117,139	117,842	100%	1%

Figure 3.8 – Workers Employed in Santa Cruz County

Source: Census Transportation Planning Products (CTPP), Federal Highway Administration
**U.S. Census Bureau, Census long form data*
***U.S. Census Bureau, American Community Survey 5-year summary data, Commuting Flows*

The COVID-19 pandemic upended typical commute patterns and forced many employers to shift to remote work, especially for white-collar workers. Many were forced to stop or alter their daily commute to and from work. According to movement data tracked by Google[6] (Figure 3.9), travel to workplaces within Santa Cruz County dropped more than 50% at the beginning of the statewide stay-at-home order in March 2020 and remains 30% below pre-pandemic levels. Instead of completely going back to a pre-pandemic work style, many companies are adjusting to hybrid work, with a few days of teleworking and a few days of staggered in-person work schedules.

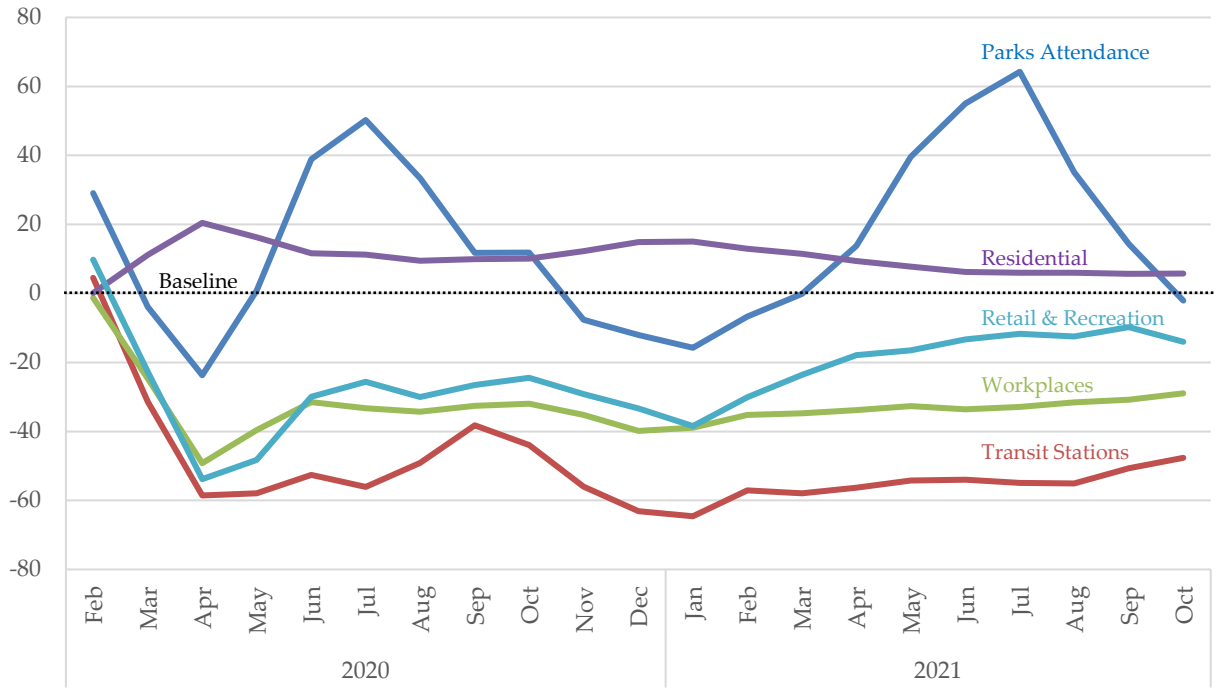

Figure 3.9 – Average of Percentage Change in Travel

Source: Google Community Mobility Reports

High Use Routes

Highways. Rising traffic congestion is an inescapable condition in most urban areas and on state highways, frustrating daily commuters. In Santa Cruz County, 47% of the miles driven are on state highways[7]. Figure 3.10 shows average annual daily traffic volumes on state highways in Santa Cruz County. Of the six state highways in the county, Highway 1 has the highest average daily traffic, as it is the primary north-south travel route in the region. Between the City of Santa Cruz and Aptos (and occasionally further south), Highway 1 is congested at peak travel times with peak periods stretched through the day. On the most congested segments of Highway 1, in the vicinity of the 41st Avenue interchange, weekday traffic volumes are 95,000. High traffic volumes on Highway 1 translate into longer travel times on both Highway 1 and parallel arterial routes (e.g., Soquel Drive and Capitola Road). It is no surprise that Highway 1 has been the focal point for much of the discussion and frustration about traffic congestion in the county. In 2011, Caltrans, in conjunction with the RTC, developed the Highway 1 Corridor System Management Plan (CSMP) and several projects resulting from the Plan are included in the Action Element of this RTP (Chapter 6).

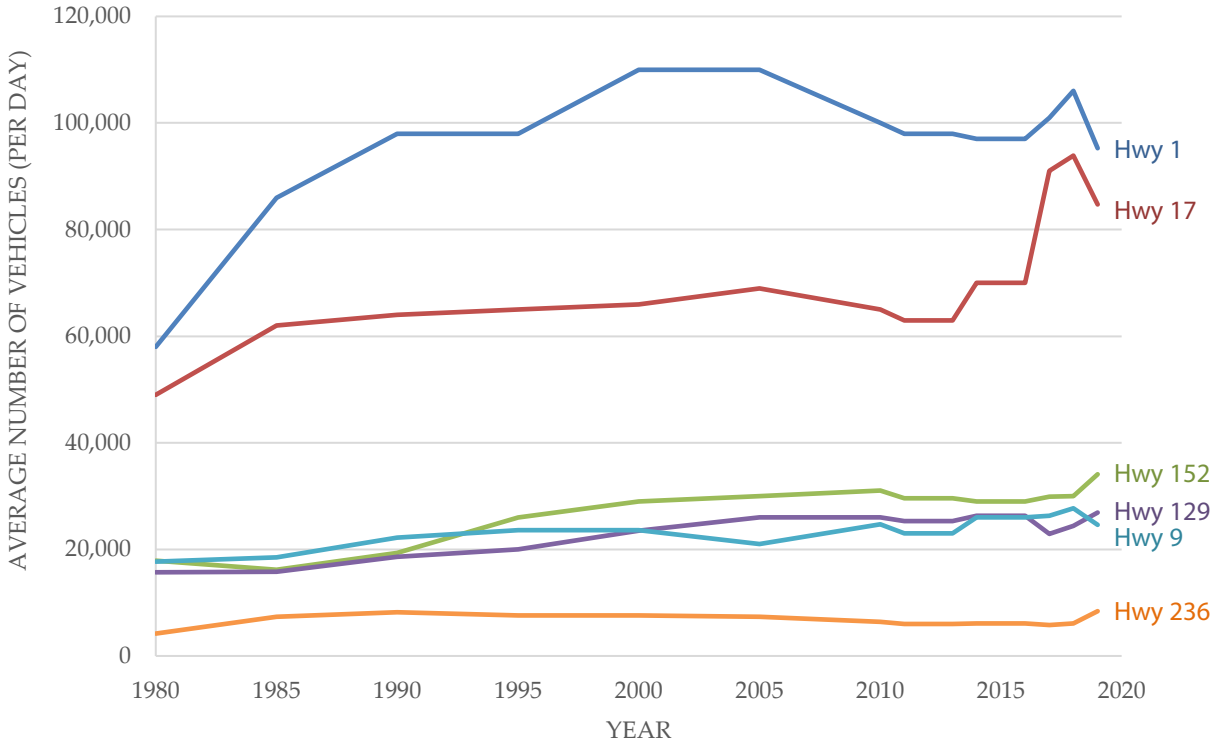

Figure 3.10 – Annual Average Daily Traffic Volumes at Most Traveled Segments on State Highways in Santa Cruz County

Source: Caltrans Traffic Data Branch

Traffic volumes on Highway 1 declined between 2005 through 2016, likely due to the increased level of congestion or delay on the highway rather than decreased demand. As traffic flow slows during peak periods, highway daily traffic volumes decrease as motorists use alternative arterial and local roads to try to find a faster route.

Traffic volumes on Highway 17 increased more than 20% between 2005 through 2016, and increased nearly 35% between 2016-2018. Congestion on Highway 17 is primarily in the northbound direction during the morning peak and in the southbound direction during the evening peak as it is the primary travel corridor for over 20,000 daily commuters going "over the hill" to jobs in the Bay Area. Congestion on Highway 17 resulting from collisions on this winding, mountainous highway, with little or no shoulder space, can hold up traffic for long periods of time given the challenge of accessing and clearing incidents and detouring vehicles to other roads. Highways 9, 129, 152, and 236, although not as heavily traveled as Highways 1 and 17, have also seen increasing traffic volumes since 2000 (Figure 3.10).

During the pandemic, people traveled less, schools were closed, and more people worked from home. Freeway vehicle miles traveled (VMT) decreased 11% and weekday congestion decreased 53% in Santa Cruz County.[8] Figure 3.11 shows pre-pandemic traffic is slowly coming back but with a more spread-out afternoon peak shifted peak.

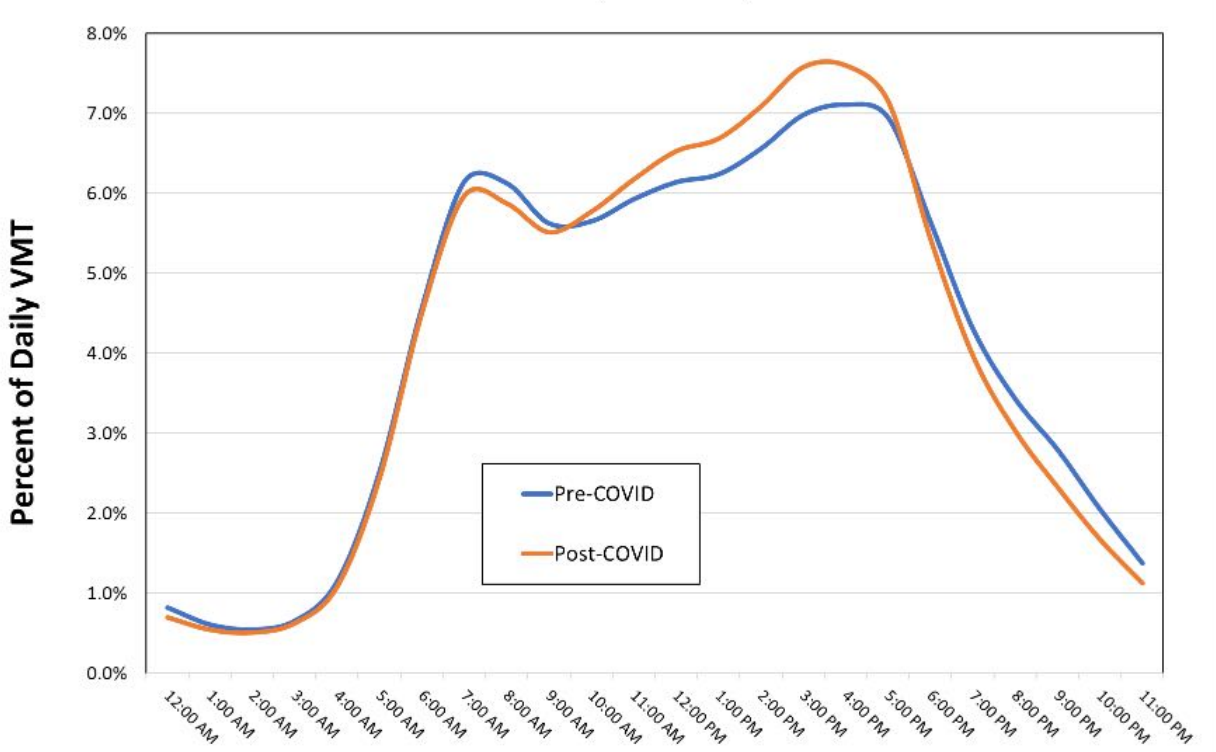

Figure 3.11 – Caltrans District 5 Freeway VMT by Time of Day

Source: Institute of Transportation Studies, UC Berkeley

Arterials. Despite high traffic volumes on state highways in Santa Cruz County, most travel occurs on the arterials, collectors and local streets and roads. Figure 3.12 provides average daily traffic volumes for motor vehicles on two, four and six lane arterials in Santa Cruz County. The most heavily traveled segment of each road is provided, where counts were available. As the only 6-lane arterial in the county, 41st Avenue in Capitola, has the highest average traffic volume at more than 40,000 vehicles per day. Mission Street and Mount Herman Road, both 4-lane arterials, follow close behind with approximately 34,000 to 37,000 vehicles per day. The Soquel corridor, a 2-to-4 lane arterial that serves as an alternate route between the City of Santa Cruz and Aptos, has traffic volumes that vary between 12,000 and 31,000 vehicles per day, depending on the location. Freedom Blvd, frequently used as an alternate route to Highway 1 between Watsonville and Aptos, provides primary access to the community of Corralitos. More than 27,000 vehicles travel through this 4-lane arterial daily. The "beach route" between the City of Santa Cruz and Capitola (Murray Street, East Cliff Drive and Portola Drive) attracts between 10,000 to 20,000 vehicles/day.

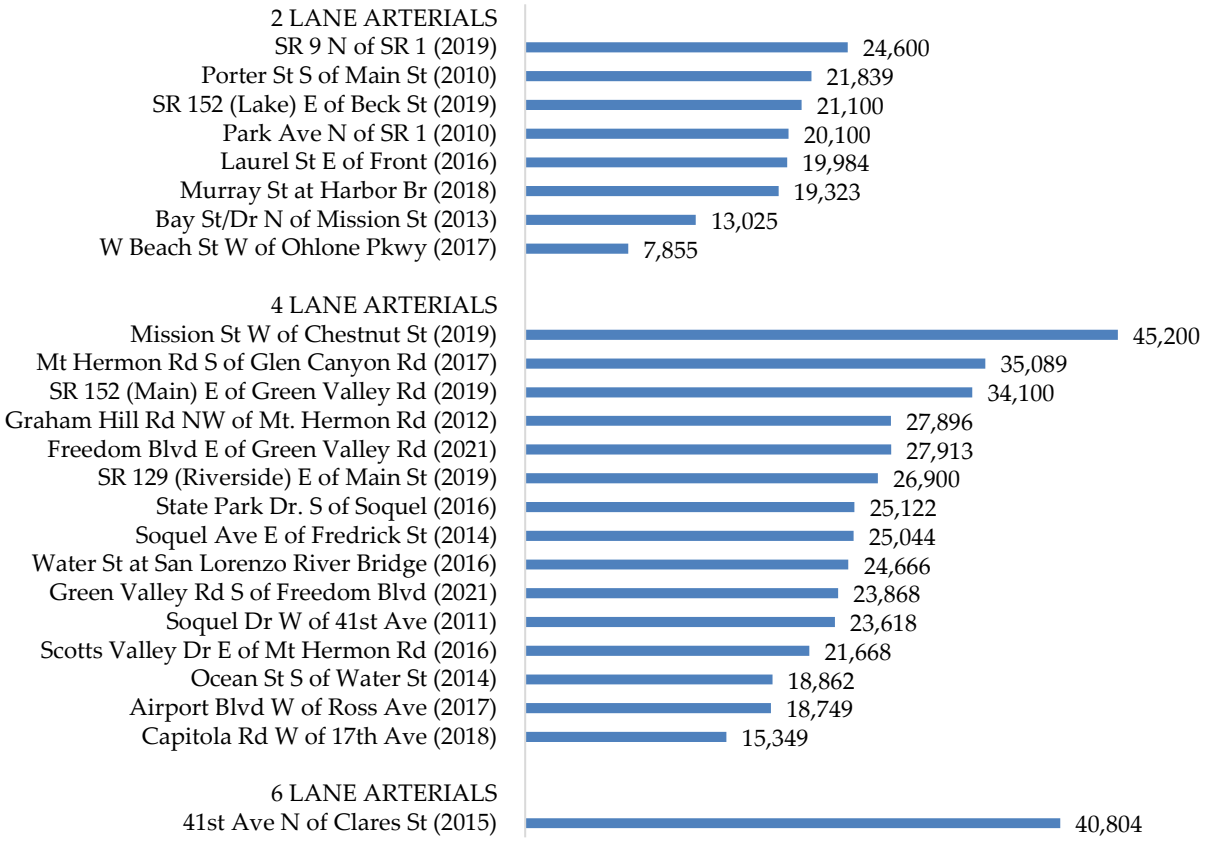

Figure 3.12 – Local ADT: Average Daily Traffic Volumes at Most Traveled Segments on Selected Local Roadways

Most recent year available is provided. Source: Santa Cruz County Regional Transportation Commission, Caltrans Traffic Data Branch, City of Watsonville

Transit. Santa Cruz METRO operates over 90 buses (including 4 all electric buses) on 24 fixed routes and provided over 5 million trips per year prior to COVID-19. METRO primarily serves Santa Cruz County but also operates regional service to San Jose. Numerous routes experience heavy ridership including routes serving the UCSC campus (Routes 10, 15, 18, 19, 20), routes to San Lorenzo Valley (Route 35), mainline routes between Santa Cruz and Watsonville (Routes 71, 69A and 69W, and 91X), and the Highway 17 Express. UCSC students receive free bus passes in exchange for paying a Transportation Fee with their tuition, and employees can purchase a reduced-price pass subsidize by the university. Since 2017, Cabrillo College students also receive free bus passes for paying a fee with their registration fees. In addition, METRO partnered with the City of Santa Cruz in 2020 to provide a free "Eco-Pass," paid for by the City, to all 4,000+ downtown Santa Cruz employees through the GO Santa Cruz program.

Cavallaro Transit Center in Scotts Valley

Figure 3.13 shows overall average ridership by route data for METRO transit service during the 2018-2019 school year before the COVID-19 pandemic impacted service. UCSC boardings (approximately 10,300 riders per weekday) comprise approximately 50% of all METRO ridership when school is in session. As a result, these routes tend to be the most frequent and have the longest running spans of service in the system. Route 71, 69A and 69W between Watsonville and Santa Cruz have approximately 3,500 boardings per weekday, Route 35 between Santa Cruz and San Lorenzo Valley has approximately 1,100 boardings per weekday, and the Highway 17 Express has approximately 900 boardings per weekday. Cabrillo students comprise about 1,200 boardings per weekday.

Figure 3.13 – METRO Weekday School Year Average Ridership by Route

Source: Santa Cruz Metropolitan Transit District, FY2019. Note: Line thickness is based on each route's total average, regardless of where on route the boardings take place. On street segments where there is more than one route, the averages are summed.

METRO annual ridership peaked in 2008-09 at 6 million riders and remained steady at 5 million riders per year for three years prior to COVID-19 (Figure 3.14). METRO reduced service in 2010 and 2011 (in addition, fares were increased in 2011), and again in 2016, as a result of changing economic conditions that contributed to reduced revenues. The level of transit service (number, frequency, and areas covered by buses), fuel prices, unemployment rates, traffic congestion, and accessibility of transit stops for pedestrians can influence ridership levels. Ridership decreased after the service reduction in September

2016 but severe weather conditions in January and February of 2017 may have also affected annual ridership for this service year.

The COVID-19 pandemic and related restrictions led to major transit demand decline for many public transit systems in the United States. Santa Cruz METRO ridership decreased nearly 90% during the peak of the pandemic, and overall ridership remained 80% below pre-COVID 19 levels in FY21, down from over 5,000,000 annual passenger boardings to just over 900,000 (Figure 3.14). This is a steeper decline than transit ridership nationally owing to METRO's greater reliance on student riders. Non-student ridership, however, decreased the least and recovered the fastest, with over a third of non-student customers relying on METRO service regularly. Highway 17 ridership sustained decreases of 85% below pre-pandemic levels throughout much of FY21 whereas student ridership at UCSC and Cabrillo decreased over 95% below pre-COVID levels.[9] For 14 months of the pandemic, METRO enforced strict capacity limits on all buses to protect public and driver safety, and in addition to reduced demand and reduced service, contributed to steep declines in ridership. Another effect of COVID-19, with office workers being the ones most commonly working from home during the pandemic, is that there has been less of the traditional morning and afternoon peak ridership pattern, resulting in more even demand throughout the day.

Santa Cruz METRO conducts onboard surveys of its customers to gather information regarding travel patterns, customer demographics, and overall satisfaction among METRO riders. In 2013, METRO surveyed passengers asking questions about trip purpose. The most common reason reported was travel to or from work (39%), followed by travel to or from a college or university (24%), personal business (16%), shopping (11%), K-12 schools (8%), recreation/social (6%), medical (5%), and trips to or from an airport (0.5%). Responses for "other" accounted for 5% of the total. In 2019, METRO conducted another onboard passenger survey, excluding routes that serve UCSC. The 2019 survey results found that if METRO services were not available, 17% of riders would have no other means of making their trip, and 59% of riders would have made an extra automobile trip (drive alone, get driven, or taxi/Lyft/Uber). For occasions when riders choose not to use METRO, the top reasons given were: too difficult to plan around the bus schedule (23%), bus takes too long (22%) and bus does not run often enough (20%).

Santa Cruz METRO also operates paratransit service (METRO ParaCruz) for people that are unable to use the fixed route bus system due to disabilities. This service is consistent with the Americans with Disabilities Act of 1990 (ADA). ParaCruz serves destinations within Santa Cruz County that are within three-quarter (¾) mile of a fixed bus route. Prior to 2016 service reductions, ParaCruz provided greater than 90,000 rides per year and currently provides on average about 75,000 rides per year. ParaCruz fulfills riders' needs to get to and from work, as well as bringing them to medical appointments, grocery shopping and social events.

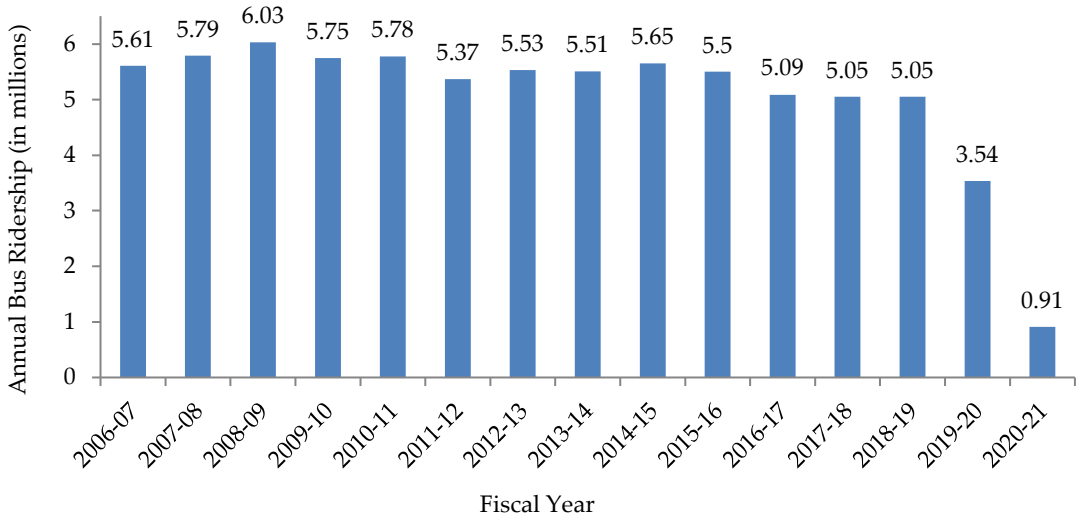

Figure 3.14 – Total Transit Ridership for Santa Cruz County Fixed Route Service

Source: Santa Cruz Metropolitan Transit District. Note: Levels dropped in FY05/06 as no service was provided in October 2005 due to a labor strike. COVID-19 measures began in March 2020, affecting FY19/20 and FY20/21.

How Much Are We Traveling?

The California Household Travel Survey collected in 2010-2012 estimated that on average each person in California takes 3.6 trips per day.[10] The purpose of these trips is primarily to go to work, school, shop, and socialize/recreate. According to the five-year summary of the American Communities Survey from 2015-2019, the average travel time for traveling to work in Santa Cruz County was 27.7 minutes.[11] This time is a 6.5% increase in travel time to work compared to data collected in 2011-2015. Potential reasons for the increase in average travel time to work include more people traveling during peak periods, congestion, and workers living farther from where they work.

Vehicle Miles Traveled

A common measurement for how much travel is occurring in a region is the number of "vehicle miles traveled" (VMT). One vehicle (regardless of the number of passengers) traveling one mile constitutes one "vehicle mile". Vehicle miles traveled can be estimated on a daily per capita basis or daily for the whole region. The number of vehicle miles traveled is used in calculating greenhouse gas emissions (GHG) from transportation.

Senate Bill 375 (SB 375) requirements for the AMBAG region, require GHG per capita to be reduced by a minimum of 1% by 2020 and 6% by 2035 relative to 2005 levels. Both the 2045 RTP and the 2045 Metropolitan Transportation Plan – Sustainable Communities Strategy emphasize prioritizing projects that reduce GHG emissions primarily through a reduction in VMT. The AMBAG regional travel demand model estimates the amount of VMT based on population and traffic counts throughout the region. See Chapter 7 for a more detailed discussion on historical and projected vehicle miles traveled for Santa Cruz County.

Visitors

Santa Cruz Beach Boardwalk

Santa Cruz County is a popular tourist destination that attracts many visitors to its scenic beaches, many county and state parks, and popular events such as the Santa Cruz County Fair, Capitola Art and Wine Festival, Wharf to Wharf running race, and Watsonville's Airshow. The number of tourists to Santa Cruz County, especially in the summer and on weekends, contributes significantly to the number of cars on our roadways. The Santa Cruz Conference and Visitors Council estimates that there are approximately 3 million tourists per year to Santa Cruz County. The Boardwalk in the City of Santa Cruz attracts a large percentage of these visitors. The University of California Santa Cruz, with a population of approximately 18,000 students, also brings numerous visitors especially during spring graduation and when the new school year begins in the fall. Daily traffic volumes on Highway 17 during summer weekends are typically higher than weekday traffic. Highway 1 traffic volumes on summer weekends are similar volumes to typical weekday traffic.

Goods Movement

Strawberries and other berries are the top crops grown in Santa Cruz County.

Another source of traffic on our roadways comes from goods movement. Nearly all commodities sold in stores or used in local manufacturing in Santa Cruz County arrive on roads by truck. Similarly, most products that are produced in Santa Cruz County are shipped out by truck. The 2020 Crop Report for Santa Cruz County shows that the agricultural gross regional product was $636 million, with steady growth through the late 2010s.[12] When looking at freight volumes, sand and gravel products are the largest commodity group in the county at 35% of the total, or 9.2 million tons. Agricultural goods are the second largest commodity by volume, estimated at 2.5 million tons in 2012.[13] Trucks are the preferred mode for time-sensitive agricultural products, including fresh produce and other agricultural commodities.[14] There are many refrigeration (coolers) and packing facilities for agricultural products located in and around Watsonville, contributing to increased freight traffic for farm products. Granite Rock operates a quarry in Santa Cruz and ships large quantities of sand by truck. Timber harvest volume in 2016 was 11.2 million board feet in Santa Cruz County and accounted for less than 1% of California's total timber harvest.[15] The majority (59%) of the commodities based on weight flow outbound from Santa Cruz County, with internal flows at 1.5% and shipments inbound to Santa Cruz County from other counties at 39.5%.[16]

U.S. Highway 101 is the primary truck route for the Central Coast region. The key routes that connect Santa Cruz County with the rest of the Central Coast region's freight network are Highways 1, 17, and 129. Truck volume also contributes to congestion in the region. Figure 3.15 lists the annual average daily truck volumes on highways in Santa Cruz County. Truck traffic accounts for nearly 12% of overall daily

traffic on Highway 129. In comparison, truck traffic on Highways 1, 17, and 152 range from 3 to 7% of overall vehicular traffic. Truck volumes on all the state highways have been increasing over the last decade. The demand for more goods into our county will likely increase as population continues to grow. Even small numbers of trucks relative to overall traffic can create traffic jams on some roads, especially in mountainous areas where there are greater differences in speed between trucks and cars.

Santa Cruz County Highway	*2015 Daily Truck Volume**	*2016 Daily Truck Volume**	*2017 Daily Truck Volume**	*2018 Daily Truck Volume**	*2019 Daily Truck Volume**	*2020 Daily Truck Volume**	*% of Total Traffic Volume*
Highway 1	3760	4700	5814	6120	5604	5220	6.0%
Highway 9	1820	1820	1841	1939	1722	1785	7.0%
Highway 17	2100	2100	2301	2376	2142	1650	3.0%
Highway 129	2478	2478	2159	2301	2537	2537	11.8%
Highway 152	935	935	910	956	1085	910	3.5%

Figure 3.15 - Annual Average Daily Truck Volumes on Highways in Santa Cruz County

Notes: Truck volumes are from locations with highest counts on each highway; Source: Caltrans Traffic Data Branch

Since more than 75% of goods shipped into and out of the Santa Cruz County are transported by truck, congestion is a key challenge for freight-dependent industries. It is important that these industries can thrive in the region as they are critical in terms of jobs and contribution to the regional economy. Local and regional governments can continue to help the goods movement industries thrive by supporting freight and transportation projects that improve the efficiency of goods movement to major destinations and intermodal facilities. This includes maintenance of key roadways, improved travel time reliability on highways and arterials, improving safety on key routes and increasing options for shipping freight by rail.

The Santa Cruz Branch Rail Line is used for freight service and there are currently about half a dozen freight rail customers in Watsonville. Commodities shipped by rail in 2012 accounted for about 4.9% of the County's freight by weight and 2.4% by value.[17] Prior to the closure of the Cemex cement plant in 2009, cement and coal were shipped by rail to and from the cement plant in Davenport each year. Currently, the rail line is used for freight service from Watsonville south connecting to the Union Pacific main line in Pajaro. Upward pricing pressure on the trucking industry due to rising fuel costs, congestion, additional wear and tear on roads caused by trucks, as well as safety and environmental concerns, have prompted the region's freight and transportation stakeholders to look for alternatives for transporting goods. The rail system is one of the main options available. The 2018 California State Rail Plan and the 2020 California Freight Mobility Plan stress the importance of short line railroads, including the Santa Cruz Branch Rail Line, Santa Maria-Valley Rail, and Monterey Bay Rail Line, and the potential for rail freight to integrate with other freight modes and with passenger rail, lowering energy use and pollution, maintaining global competitiveness, and aiding in developing livable and vibrant communities.

Prioritizing traffic flow improvement projects on Highways 1, 17 and 129, the main routes that connect to Highway 101, as well as freight rail service that connects to the rest of California and beyond will provide the greatest benefit to goods movement in Santa Cruz County.

Freight rail on the tracks outside Watsonville. Photo credit: Howard Cohen

Air freight in 2012 accounted for negligible tonnage, but 3% of freight value in Santa Cruz County, since this mode tends to reflect the time-sensitive or higher value, but lower weight shipments made by air.[18] One example is the flower industry that often ships via air cargo due to time-sensitivity. The Watsonville Airport serves many growers; however, the primary cargo airports for Santa Cruz County are located in Monterey, San Jose and San Francisco.

AMBAG completed the U.S. 101 Central Coast California Freight study in 2016 to identify short-term and long-term strategies to improve freight mobility and transportation operations along the U.S. 101 corridor from San Benito County through Santa Barbara County. The U.S. 101 corridor supports the economic vitality of the Central Coast area as a major goods movement corridor. The report recommends upgrading the rail on the Santa Cruz Branch Line to Federal Rail Administration Class 2 rail, allowing freight train speeds of up to 25 mph on sections in Santa Cruz County in order to improve freight connectivity to other regions in California and nationwide.[19]

How Are We Getting Around?

The California Household Travel Survey (CHTS) that was conducted between 2010 to 2012 indicates that the mode share for transit, bike and walk trips throughout California approximately doubled from survey results taken in 2000, with a decline of automobile trips by 10% (Figure 3.16). In 2010-2012, automobile trips accounted for 77% of all trips throughout California, while 18% of all trips were non-motorized and 4% of reported trips were made by public transit. The mode share for all trips in Santa Cruz County collected by the 2010-2012 CHTS is presented in Figure 3.17. Compared to statewide data, Santa Cruz County has a higher percentage of bicycle mode share and falls below the State average for walk and transit mode share. National studies show that nearly 70% of the millennial population (ages 22-38) uses multiple travel options several times or more per week.[20] This flexible concept of mobility, combined with a well-designed multi-modal transportation network, could set a new direction for transportation.

Mode	2000 Mode Share	2010-2012 Mode Share
Auto	86.7%	76.9%
Transit	2.2%	4.4%
Walk	8.4%	16.6%
Bike	0.8%	1.5%

Figure 3.16 – Mode Share for All Trips in California

Source: California Household Travel Survey

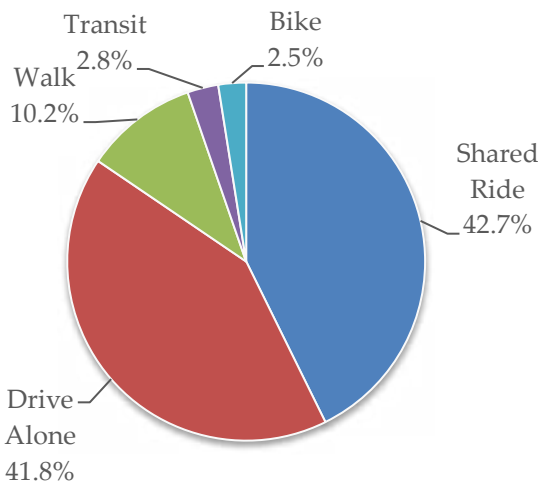

Figure 3.17 – Mode Share for All Trips in Santa Cruz County

Source: 2010-2012 California Household Travel Survey

While the mode split data in Figure 3.17 are representative of all trips, the American Community Survey (ACS) provides a comparison of the ways Santa Cruz County residents get to work (Figure 3.18). The total number of workers for the 2015-2019 estimate was 132,921, as compared to 128,145 in 2011-2015. The convenience of driving alone still attracts most people and the percentage of people driving alone to work has not changed significantly since 2000 (Figure 3.18). The chance to get some exercise, be productive while carpooling or taking transit, concerns about the environment and/or the opportunity to save some money are all reasons to consider alternatives to driving alone. There has been a slight increase in the number of people walking to work and working from home but the number of people biking to work in Santa Cruz County has declined since the high in 2011-2015. The difference between reported results for travel by mode for all trips in Santa Cruz County and only work trips in Santa Cruz County may be explained by an increase in active transportation trips for non-work purposes such as shopping, social, and recreation trips. Non-work trips may be shorter and more readily amenable to a shift from auto to biking and walking. Higher gasoline prices, a weak economy and changing generational preferences may also result in less driving, according to a 2013 study by the U.S. Public Interest Research Group and Frontier Group.[21]

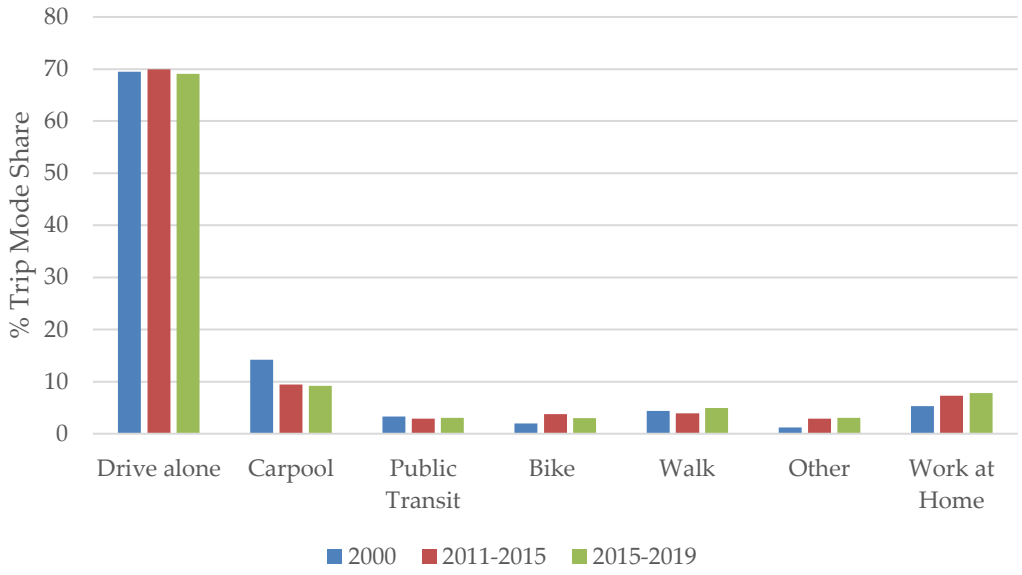

Figure 3.18 – Mode Share for Work Trips in Santa Cruz County

Source: U.S. Census Bureau, American Community Survey

The 2015-2019 American Community Survey (5-year estimate) indicates that there is a significant difference between the way residents of the four cities in Santa Cruz County travel to work (). Watsonville residents used carpooling more often (14%) compared to the other cities (9% average) as an alternative to driving alone. City of Santa Cruz residents on average walk, bike, and take transit more often for work. City of Santa Cruz has the least number of drive alone trips (59%) likely due to the land use that includes proximity of jobs to housing, high bus ridership by UCSC students, lower-speed streets, and more of a connective street grid pattern. Capitola, Scotts Valley, and the unincorporated areas have the greatest number of residents working from home but also the greatest percentage of drive alone trips. This mode share data shows people's travel preferences are influenced by the type of land use and transportation facilities that are available in their community. This information is valuable for assessing how the number of drive-alone trips could be further reduced in each area.

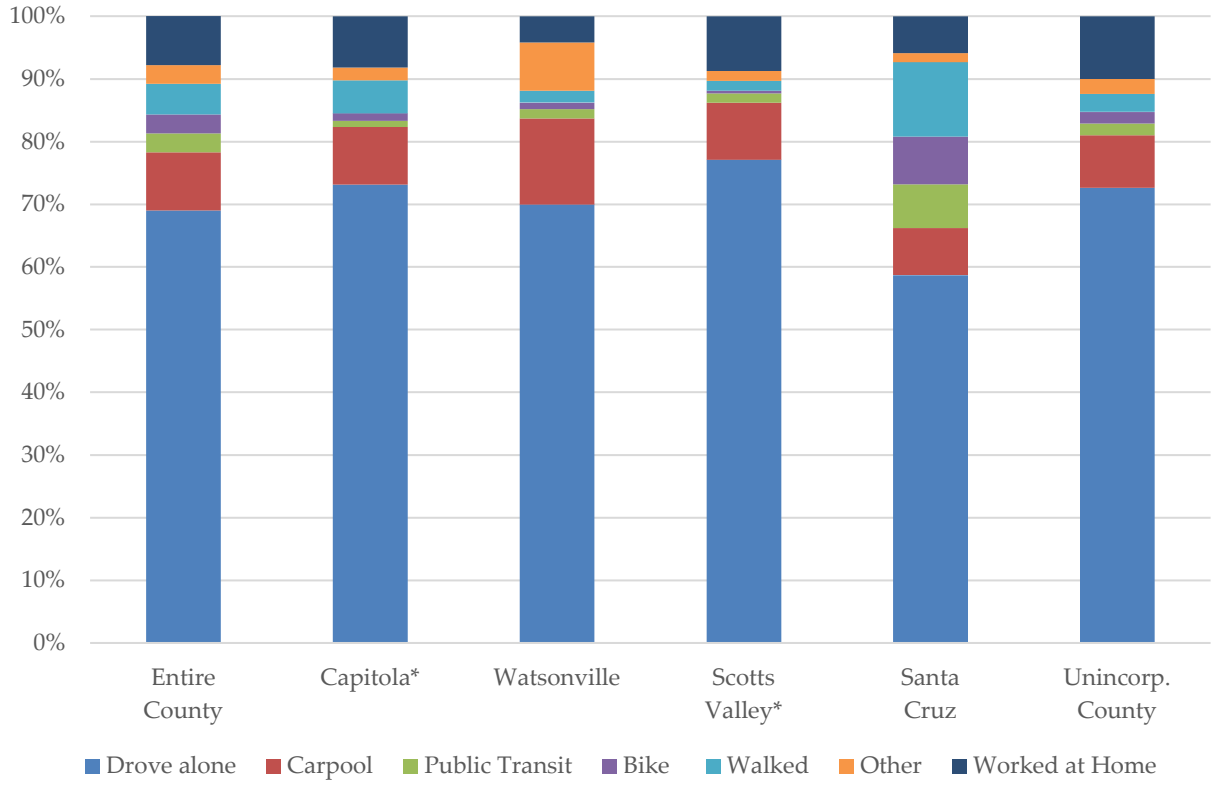

Figure 3.19 - Mode Share for Work Trips by City of Residence

*Source: 2015-2019 American Community Survey. *High margin of error for smallest cities*

Bicycle Use

The RTC and Community Traffic Safety Coalition (CTSC) periodically conducts bike and pedestrian observation surveys to help identify behavior trends among cyclists, pedestrians, and motorists alike. Figure 3.20 shows countywide bicycle counts from observation surveys conducted at nearly 30 intersections throughout the county during peak travel periods on weekday afternoons between 2003 and 2021. Not all locations are counted each collection year, and one-day counts can be affected by weather or other fluctuations. Survey results show the greatest number of bicyclists in the City of Santa Cruz and mid-County. The data also show a decrease in bicycle ridership in Santa Cruz County since 2012. The

survey results do not take into account locations near recently built or improved paved bike/ped facilities such as the Coastal Rail Trail and the Riverwalk and current bicycle ridership may be somewhat higher than indicated.

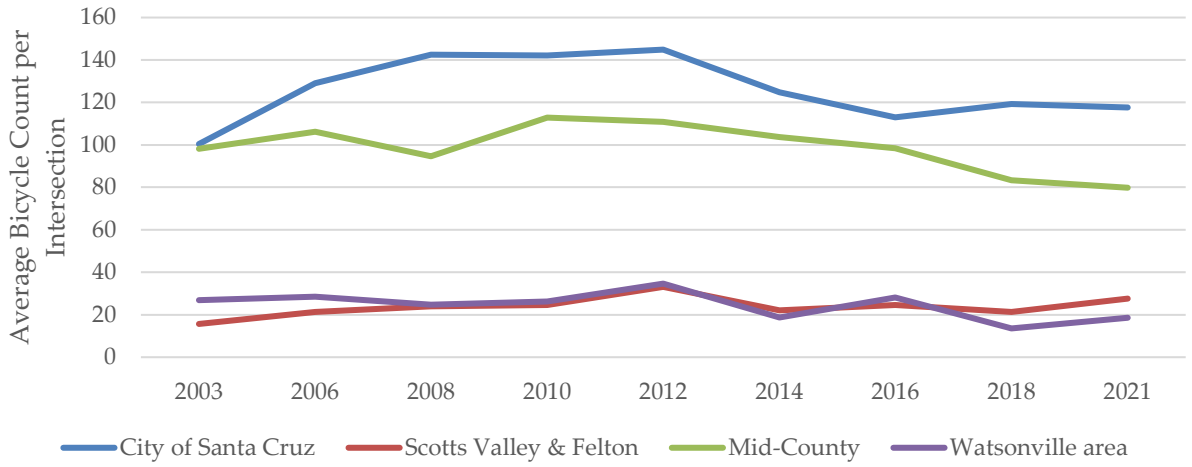

Figure 3.20 – Countywide Bicycle Counts from 2003-2021

Note: Counts were taken for 2 hours at all locations.
Source: Data collected by Community Traffic Safety Coalition and RTC

School Trips

Due to safety concerns and urban sprawl, most parents drive their children to school. According to the Surface Transportation Policy Project, two-thirds of the country's children walked or biked to school 30 years ago; now, less than 10% do so. This phenomenon has led to a sharp increase in short-distance trips made by car, evidenced by the traffic surrounding elementary and secondary schools at the beginning and end of the school day. By some estimates, 20 to 25% of rush-hour traffic on local roads and streets can be attributed to school commutes. Travel to the University of California and community college campuses also impact peak period traffic. UCSC and Cabrillo College students receive free METRO bus passes to reduce congestion, emissions, and demand for parking spaces.

Students crossing the street at Bay View Elementary in Santa Cruz. Photo credit: Shmuel Thaler, Santa Cruz Sentinel

Less Trips

Not only are people changing how they get around, but there are also a number of reasons why people are traveling less altogether. Technological advances, including remote connectivity, wireless networks, smart phones, and video conferencing have made it possible for individuals to work in locations other than traditional worksites. The American Communities Survey from 2015-2019 estimated that 7.8% of

employees residing in Santa Cruz County work at home, most or all of the time, up from 7.3% in 2011-2015 (Figure 3.18). While exact numbers are not yet available, the COVID-19 pandemic caused a major change in commute patterns, with most office workers working from home well into 2021. Avoiding traffic congestion, gas prices, and/or environmental concerns can be motivators to decide to travel closer to home or plan ahead by linking multiple trips together into one trip.

Transportation Equity

Investments in transportation determine the choices that are available for how we travel. Low-income people, people with disabilities, seniors, youth and minorities can often be disproportionately limited by the transportation choices available to them. The cost of car ownership or inability to drive, underinvestment in public transportation, and a lack of pedestrian and bicycle-accessible thoroughfares can isolate transportation disadvantaged people from jobs, services and medical care.

There are a number of ways to ascertain populations that are transportation disadvantaged. Figure 3.21 shows the areas in Santa Cruz County with the greatest populations of transportation disadvantaged people due to race and income. Figure 3.22 shows the areas of the county that have low community engagement due to a large population of the households where English is not spoken "very well" and a large population that is over 25 without a high school diploma. Figure 3.23 shows the areas of the county that have low mobility due to either a large population of people who are over 65 and have an income below poverty level, a large population of households who do not own a vehicle, or a large population of people who are disabled. All these areas meet the regional definition of Disadvantaged Community (or DAC) for Santa Cruz County and are consistent with the Environmental Justice communities identified by AMBAG in the 2045 MTP-SCS. Figure 3.24 shows the distribution of youth and senior populations in Santa Cruz County. Nearly one-third of Santa Cruz County residents—notably children, the elderly and disabled, and low-income individuals and families who cannot afford a car—do not drive a personal vehicle (Figure 3.25). For people who do not drive a personal vehicle, access to convenient transit service and safe routes to walk or ride a bike are a lifeline.

Figure 3.21 – Minority, Low Income and Poverty Areas in Santa Cruz County

Note: Minority areas are defined as census tracts where greater than 65% of the total population is non-white. Low-income areas are defined as census tracts where greater than 33% of residing families earn less than 200% of the 2015 federal poverty level. Poverty areas are defined as census tracts where greater than 25% of households earned less than the 2015 federal poverty level.

Source: U.S. Census Bureau, AMBAG

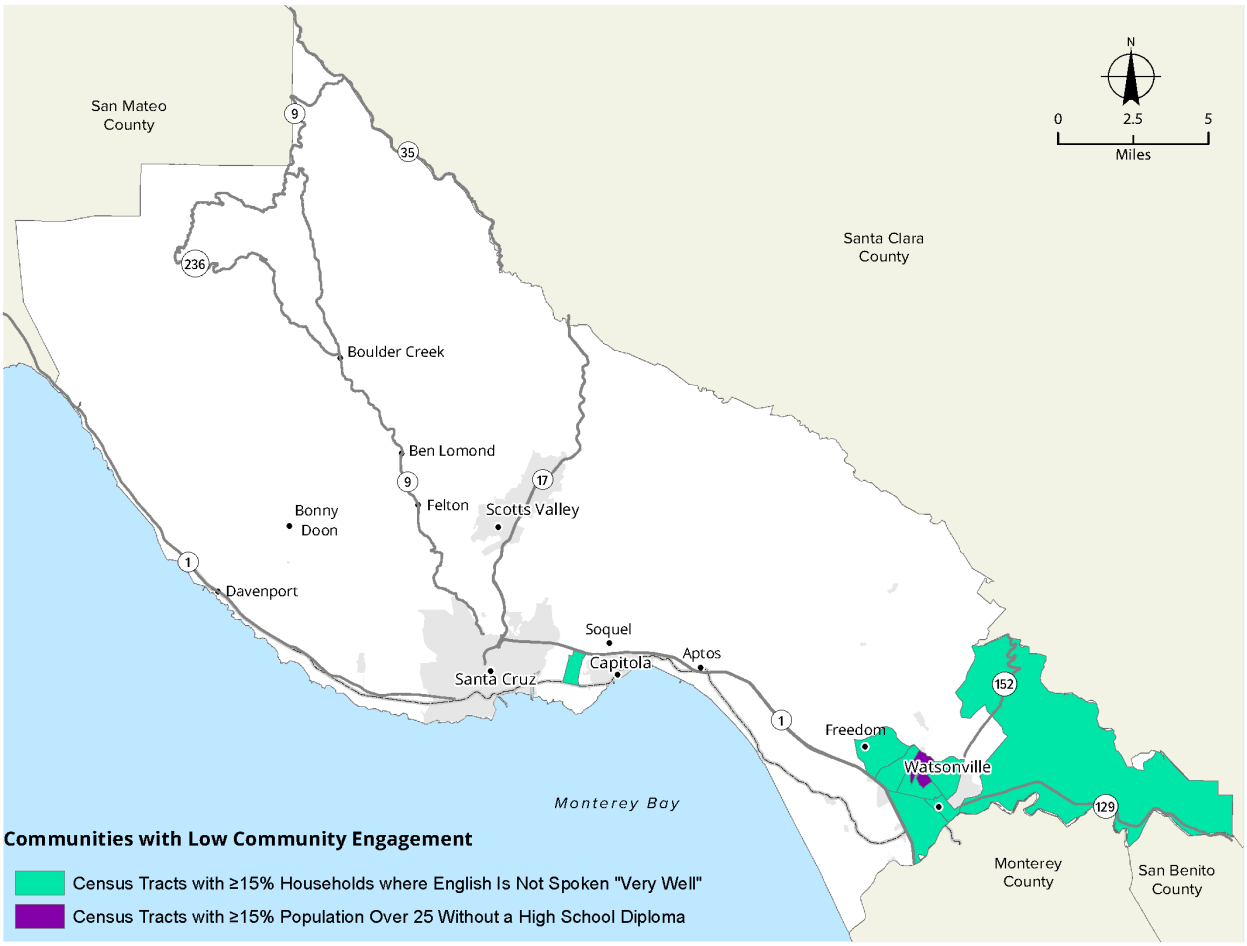

Figure 3.22 - Communities with Low Community Engagement

Note: Low Community Engagement areas defined as any Census tract in which 15 percent or less of the tract were households where English is not spoken "very well" and/or 15 percent or less of the tract is over the age of 25 without a high school diploma.

Source: U.S. Census Bureau, AMBAG

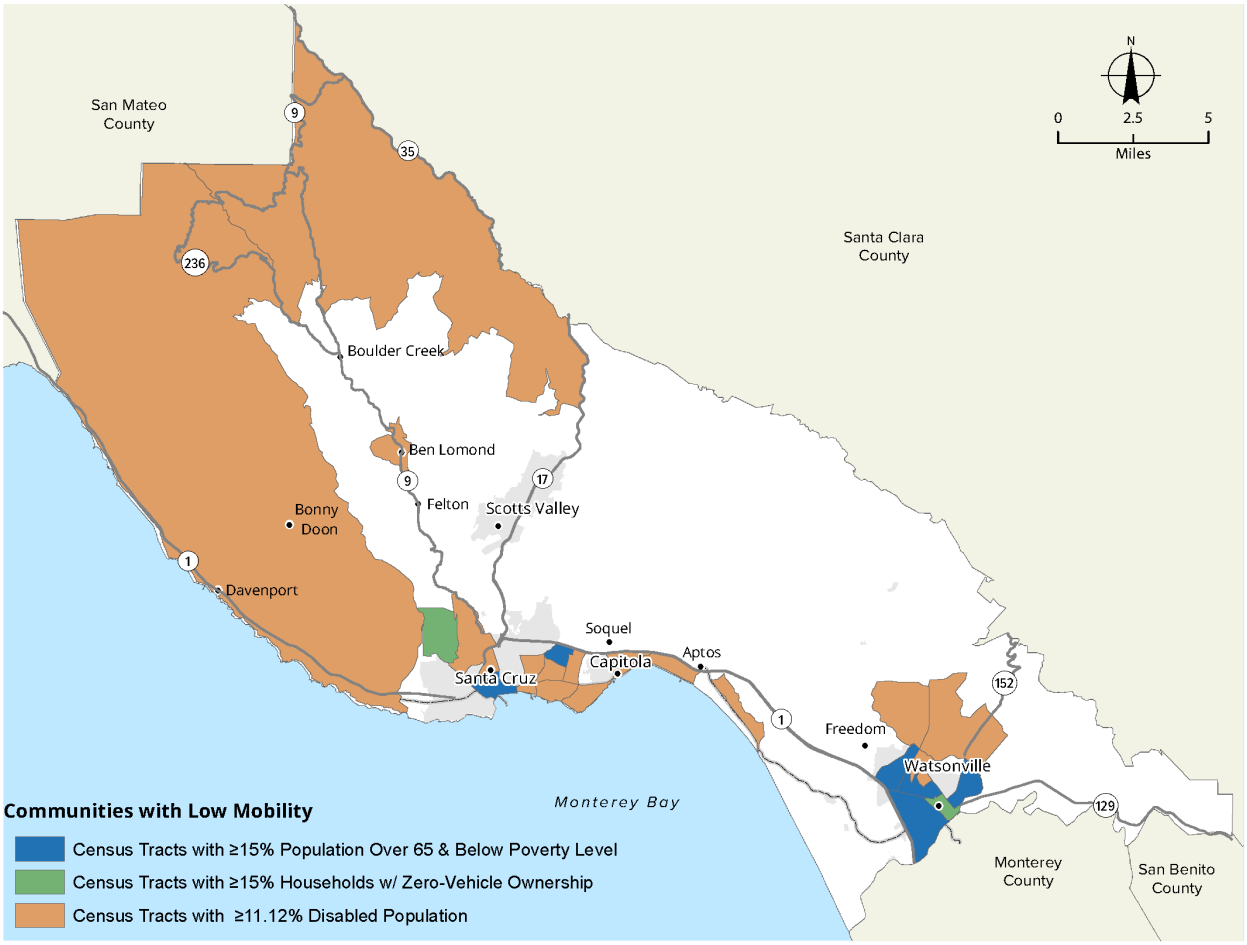

Figure 3.23 - Communities with Low Mobility

Note: Low Mobility areas are defined as any Census tract in which 5 percent or less of the households have zero-car ownership, more than 11.35 percent of the population had a disability, and/or 15 percent of the population aged 65 and over had income below the 2015 federal poverty level.

Source: U.S. Census Bureau, AMBAG

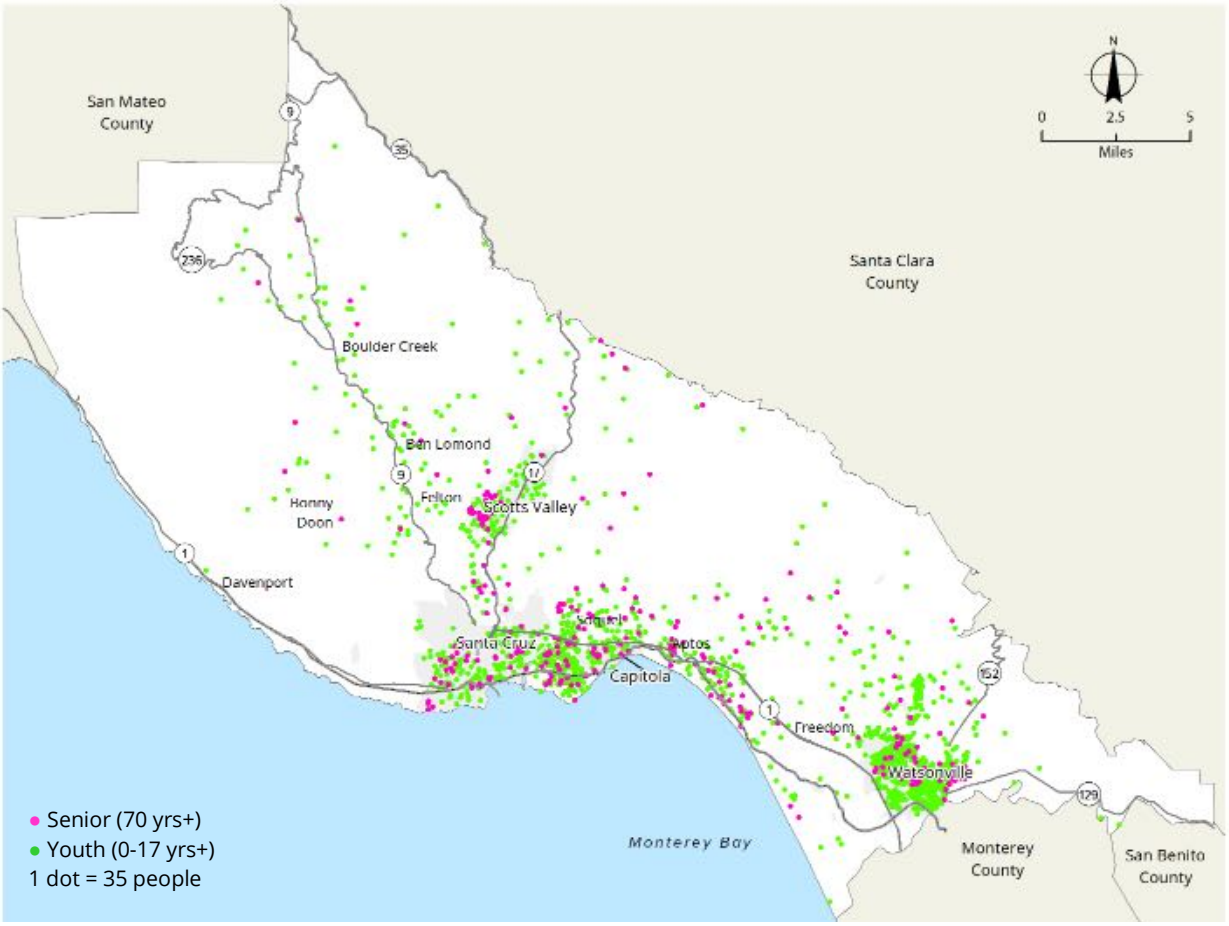

Figure 3.24 – Distribution of Senior and Youth Populations in Santa Cruz County

Source: U.S. Census Bureau, 2010 Census

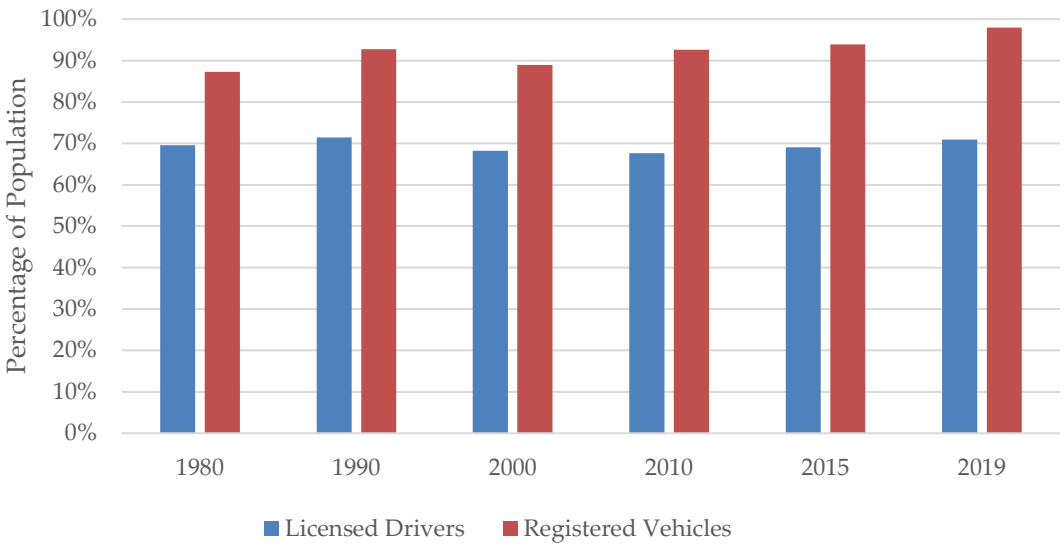

Figure 3.25 – Historical Trends in Licensed Drivers and Registered Vehicles in Santa Cruz County

Source: Department of Motor Vehicles, U.S. Census, California Department of Finance

Variations in growth rates between age groups are distinct in Santa Cruz County. While the Association of Monterey Bay Area Governments (AMBAG) currently projects a total population increase of 9% between 2020 and 2045, there is a projected *decrease* in the population under 70, and those 70 and older are expected to grow by 90% through 2045 (Figure 3.26). Seniors age 70 and over make up about 11% of the population today and will make up about 20% of the population by 2045. This demographic shift will impact both the economy and the local transportation needs of our community.

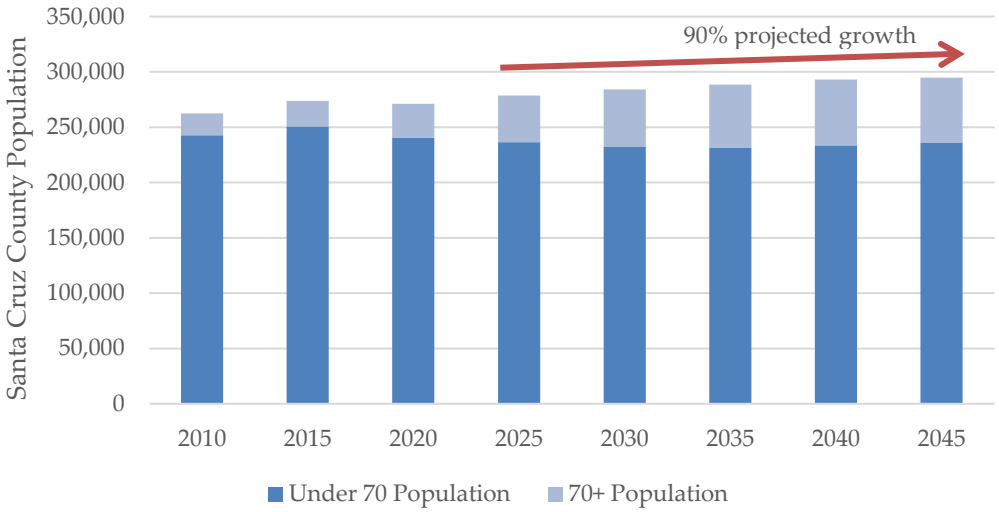

Figure 3.26 – Population Projections for Seniors Aged 70 and Over

Source: AMBAG. Note: forecasting was performed prior to release of 2020 census data.

As a result of this projected growth in the senior population, Santa Cruz County could potentially experience a greater demand for mobility services for aging and disabled adults. Expecting to continue

driving well into their later years, many older adults will not anticipate life without a car. Furthermore, it has been well documented that many older adults will retire in or migrate to low density suburban areas, characterized by single family homes, that are poorly served by public transit or lack adequate pedestrian facilities. Older adults no longer able to drive could face severe mobility deficiencies such as isolation, lack of access to social or medical needs, and increased risk of accidents. Survey results taken at five senior dining centers in Santa Cruz County indicate that the majority of respondents (43%) drive themselves as their primary form of transportation.[22] Next to driving, the most common means of transportation is bus use at 16 percent, followed by getting a ride with friends/family and walking. While the automobile was the most common means of transportation among respondents, approximately 41 percent of respondents reported using the bus at least once in the past month.

According to the American Community Survey 2015-2019 5-year summary, 12% of the total population in Santa Cruz County has one or more disabilities. The number of seniors age 70 or greater residing in the county is expected to grow significantly by 2045 as the "Baby Boomer" population ages and seniors are living longer (Figure 3.26). This projected increase in the senior population could increase the number of individuals with disabilities in Santa Cruz County.

Providing for the needs of transportation disadvantaged individuals due to age, income, race, disability or limited English proficiency is a crucial part of the 2045 RTP. According to the Surface Transportation Policy Project's *Beyond Gridlock* report (2000), unless we provide more alternative transportation facilities and services, "the next generations of California parents may well see their time spent behind the wheel continue to rise as they play chauffeur to both their kids and their own parents."

Notes for Chapter 3

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