

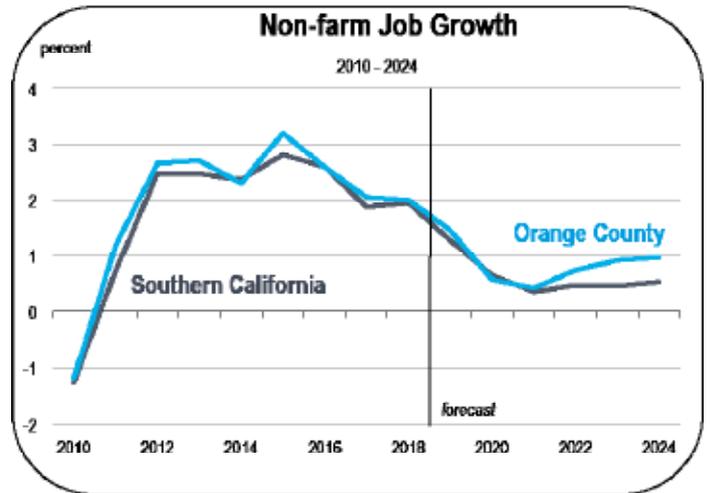
Orange County Economic Forecast

Forecast Summary

- 24,200 non-farm jobs will be created in Orange County during 2019. Over the following five years, an average of 12,400 new jobs per year are expected.
- Employment growth will be led by professional services, leisure services, and education and healthcare. These sectors will account for 95 percent of net job creation through 2024.
- Job losses are expected in the construction sector.
- The unemployment rate averaged 2.9 percent in 2018, and is expected deteriorate slightly to 3.1 percent in 2019.
- The Orange County population is expanding very slowly. Due to high home prices, people moving out of the county will exceed people moving into the county over the entire forecast period.
- Housing production has accelerated, but has not been sufficient to keep home prices from reaching record levels. Housing affordability is becoming an issue in Orange County. The typical household would have to spend more than 45% of their income on the median-priced home, which exceeds generally all affordability guidelines.

Job Growth

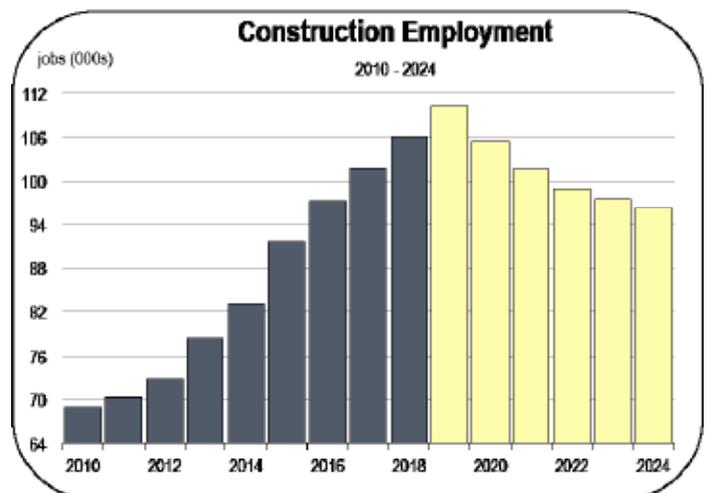
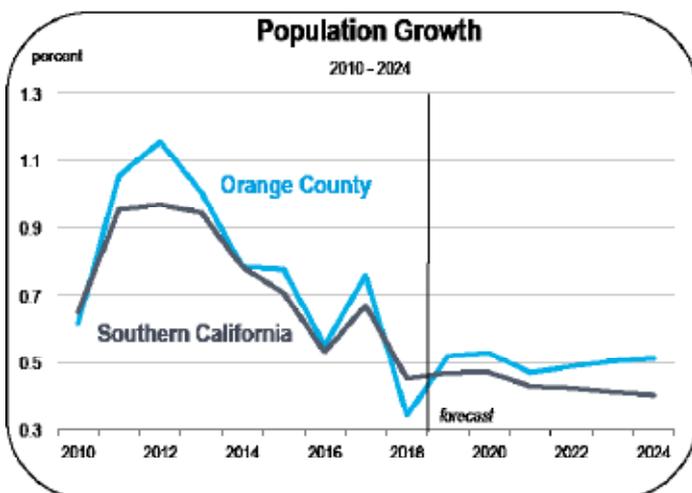
- Orange County job growth has been impressive, but fewer jobs will be created in 2019, and growth could turn negative in 2020 or 2021.
- 2018 growth was dominated by the leisure, education and healthcare, professional business, and construction sectors.



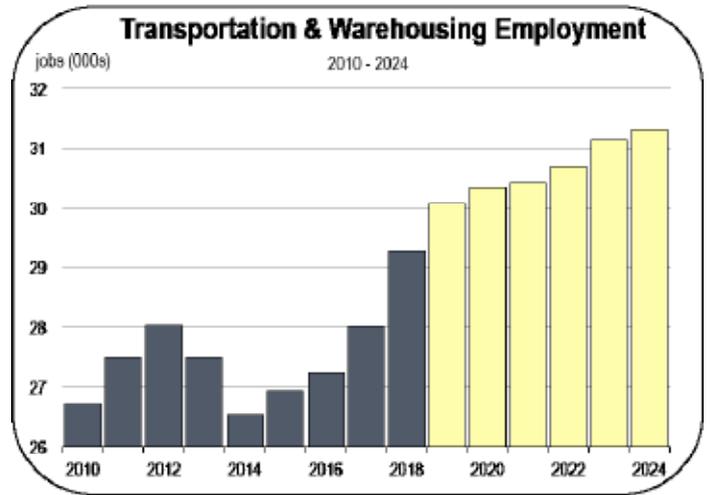
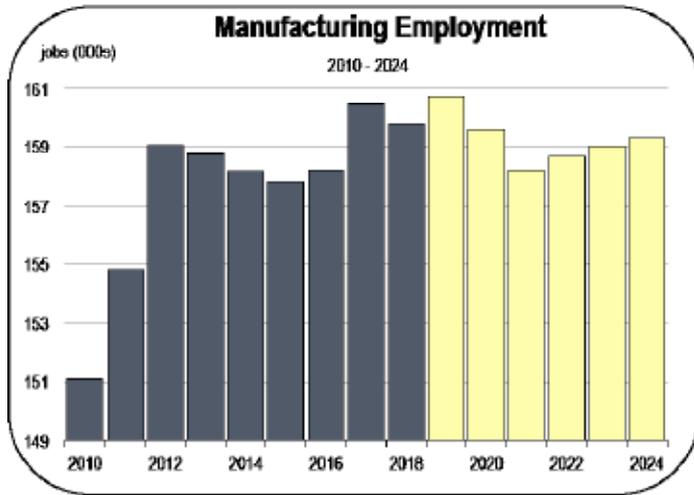
- Between 2012 and 2018, non-farm job growth averaged 2.5 percent per year.
- Between 2018 and 2024, growth is forecast to average 0.9 percent.
- Approximately 24,200 non-farm jobs will be created during 2019.
- Through 2024, an average of 12,400 new non-farm wage and salary jobs per year are forecast, with a rising number of informal or self-employed workers.

Construction Employment

- Orange County construction activity continues to generate thousands of jobs each year.
- As of early 2019, more than 8,000 apartments and 2 million square feet of commercial space were under construction.



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- Demand for construction workers will increase into 2019, but may soften over the remainder of the forecast period as current development projects are completed, and fewer new projects are started.

- Job growth will slow down between now and 2021, and could turn negative if the economy falls into recession.

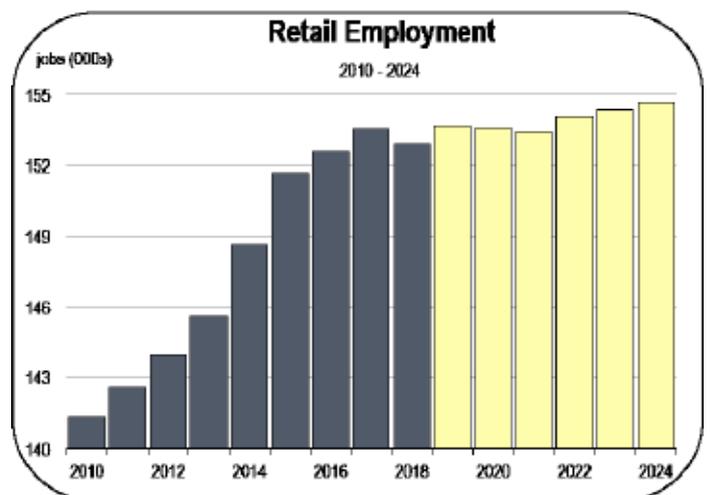
Manufacturing Employment

Retail Trade Employment

- The manufacturing sector lost 700 jobs in 2018.
- Job gains were strongest in companies that make semiconductors and medical equipment.
- Jobs were also created at breweries, which are included in the beverage manufacturing industry. Orange County now has 31 breweries that employ a total of 438 workers.
- Jobs were lost in pharmaceutical manufacturers and aerospace manufacturers. Allergan laid off 421 workers in Irvine, and a handful of aerospace companies, including Boeing and C&D Zodiac, laid off 451 workers countywide.
- Boeing is in the process of moving 2,100 jobs to Los Angeles County and St. Louis. These transfers began in 2017 and will continue through 2021.

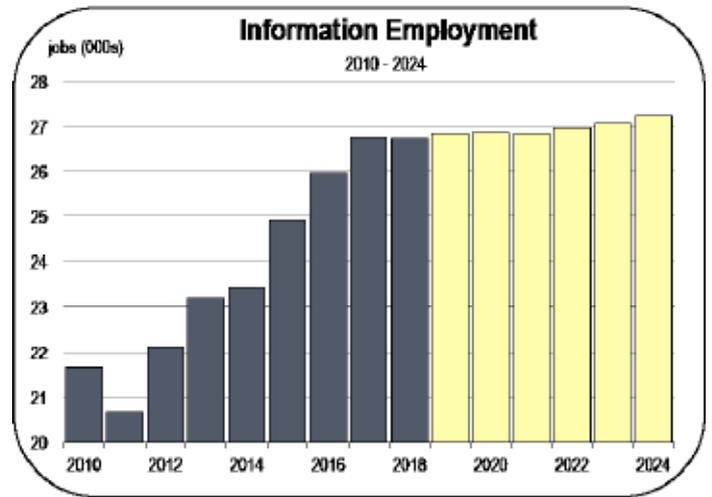
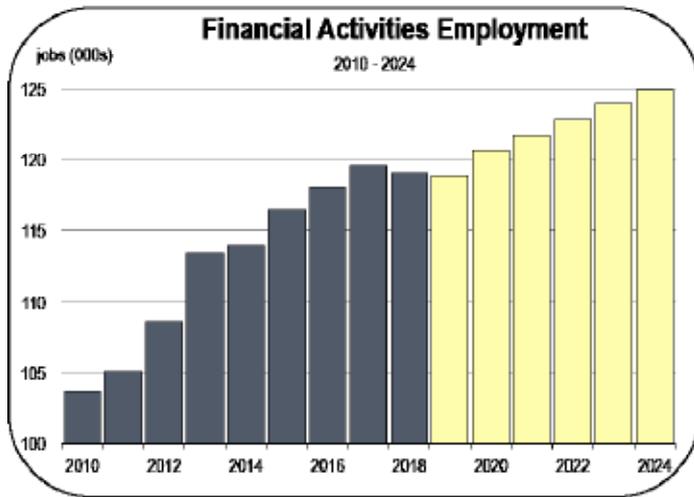
- The retail sector lost 600 jobs in 2018.
- Gains were strong in stores that are not particularly sensitive to online competition. They include auto dealerships, grocery stores, and drug stores.
- Prominent losses were observed at stores that do face heavy online competition, such as department stores, clothing stores, and sporting goods stores.

Transportation and Warehousing Employment



- This sector is growing sharply, and will generate 1,000 additional jobs by 2020.
- Job gains in 2018 were largest in delivery services (e.g. FedEx and GrubHub) and long-distance trucking companies.

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- Several large stores closed in 2018, leading to many layoffs.
 - J.C. Penny in Buena Park – 638 layoffs
 - Sears in multiple cities – 285 layoffs
 - Sam’s Club in Stanton – 158 layoffs
 - Macy’s in Laguna Hills – 111 layoffs
- Retail employment will not increase meaningfully during the forecast period.

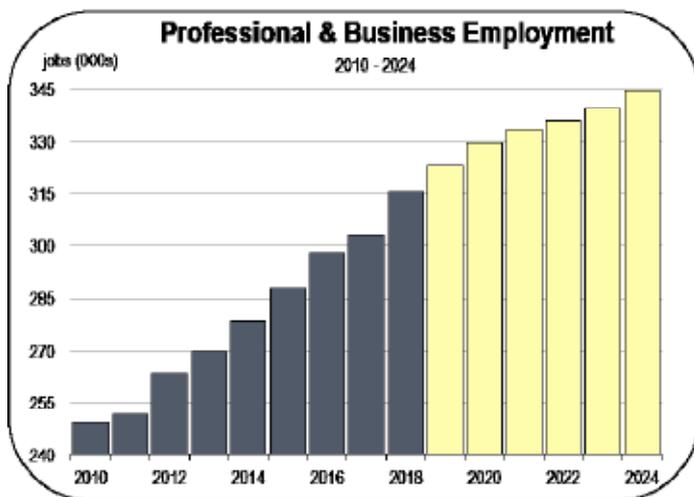
- The financial activities industry should continue to create jobs, but headwinds could emerge as the housing sector slows from a plateau in real estate construction and potential changes at U.S. health insurance companies.

Financial Activities Employment

- The financial activities industry lost a small number of jobs in 2018.
- Losses were most prominent at banks and credit unions. Big layoffs were observed at:
 - Wells Fargo in Irvine (331 layoffs)
 - Gateway One in Anaheim (285 layoffs)
 - Gold Cash Card in Irvine (228 layoffs)
 - Sterns Lending in Santa Ana (136 layoffs)

Professional and Business Services Employment

- Growth in this sector accelerated in 2018.
- Large numbers of jobs were created at engineering firms, IT consulting firms, business consulting firms, staffing organizations, janitorial companies, and landscaping firms.
- This sector is expected to create almost 30,000 jobs through 2024.



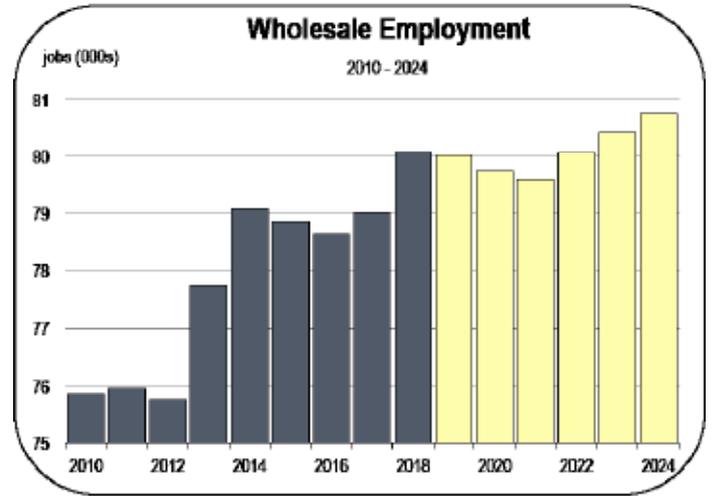
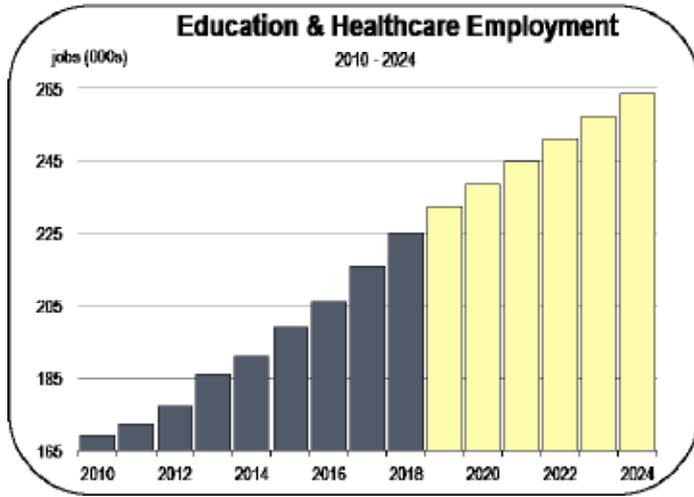
Information Employment

- The information sector was stagnant in 2018.
- Layoffs continued at local newspapers and magazines, and the telecommunications industry lost almost 600 jobs.
- Software firms continued to hire rapidly, and movie and TV studios generated 100 new jobs.
- The information industry is expected to return grow slightly in 2019, but it will create very few jobs over the forecast period.

Private Education and Healthcare Employment

- In 2018, jobs were created in doctors’ offices, hospitals, outpatient and nursing care centers, home health companies, and organizations that serve the elderly and disabled.
- 700 jobs were also created in private schools (public schools are included in the government sector).

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- An aging population should lead to further demand for healthcare. However, the future of the U.S. health insurance landscape is unknown, and legislative changes could influence employment growth in healthcare services.

Leisure and Hospitality Employment

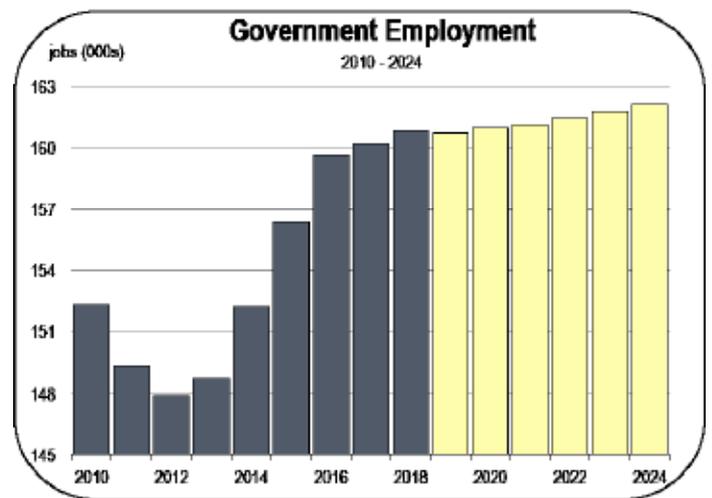
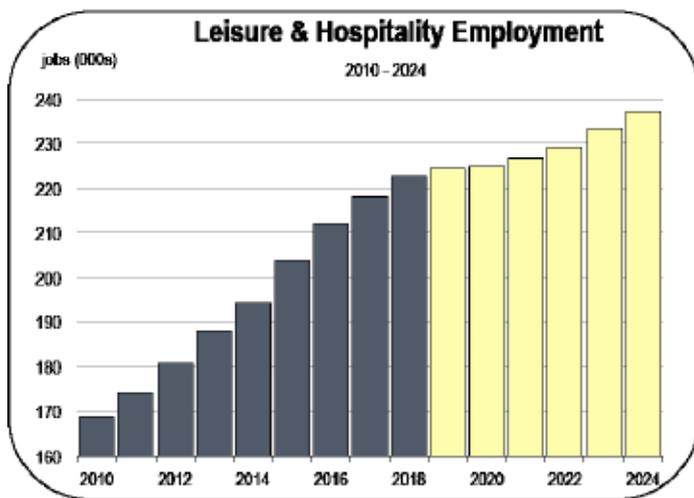
- Increased consumer demand has led to higher spending at restaurants, generating 3,200 new restaurant jobs in 2018.
- Over the past 5 years, 1,000 new restaurants have opened in Orange County, and 24,000 jobs have been created.
- This sector is particularly sensitive to changes in the business cycle. If the economy falls into recession in 2020 or 2021, job losses may occur.

Wholesale Trade Employment

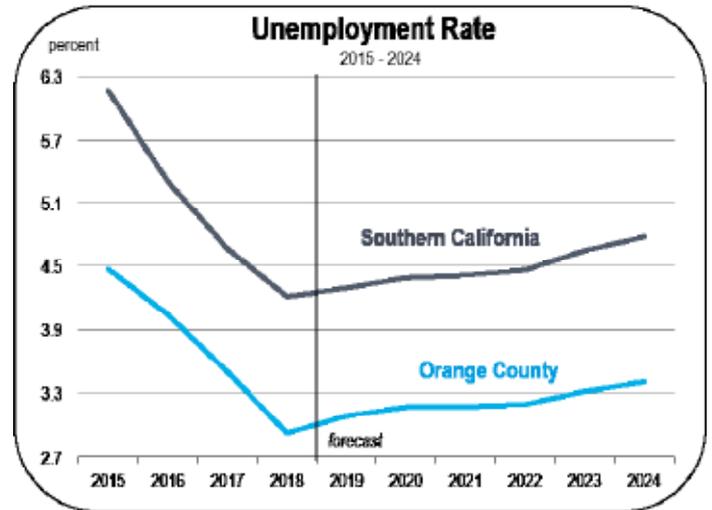
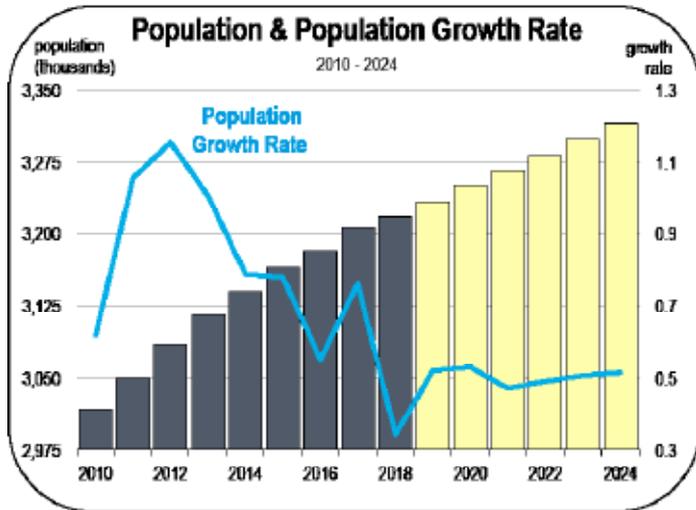
- After several years of stagnation, the wholesale industry generated 1,500 jobs in 2017 and 2018.
- Employment levels will plateau as we reach the peak of the economic cycle, and could shrink in 2020 and 2021

Government Employment

- In 2018, local schools gained 300 jobs, while state colleges and universities added 500 jobs. There was very little change at most other state, local, or federal agencies.
- Future government job growth will be dependent on countywide population growth and the state’s budgetary condition. However, job gains are expected to decelerate in 2019 and 2020.



Orange County Economic Forecast

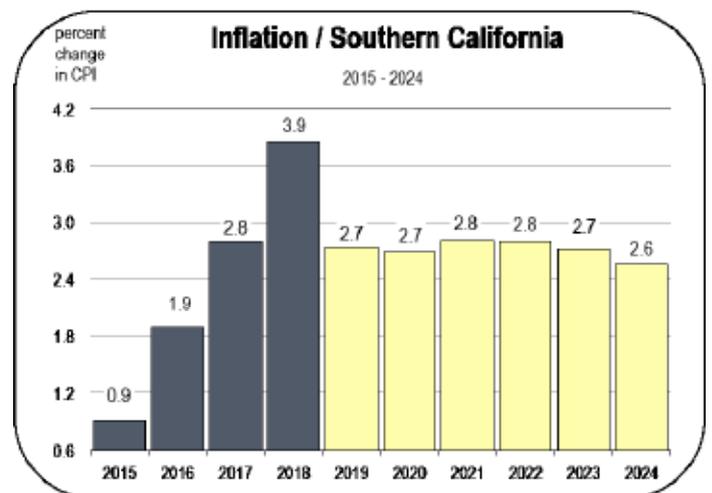
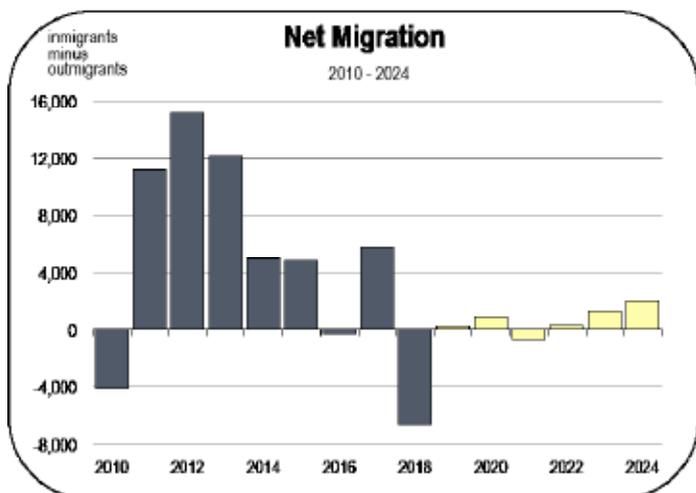


Population Growth

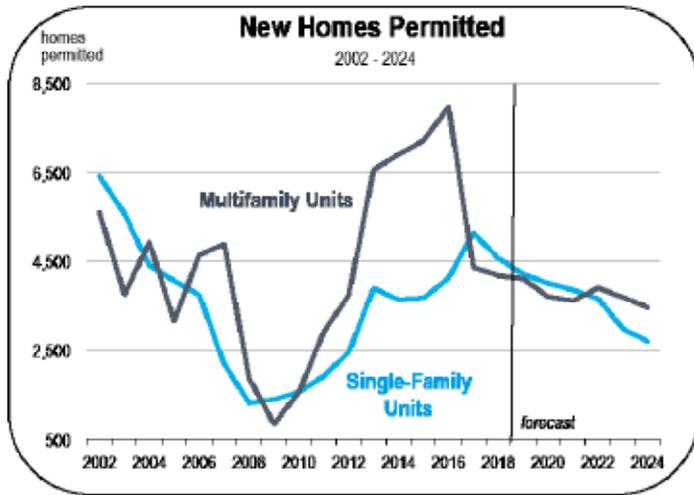
- The Orange County population grew very slowly in 2018.
- Almost 7,000 net migrants left the county.
- Housing affordability is becoming a major issue, and contributed substantially to out-migration.
- Over the forecast period, an average of 670 net migrants will enter the county each year.
- Population growth will average 0.5 percent, and the county will surpass 3.3 million residents by 2024.

Unemployment and Inflation Rates

- The unemployment rate in Orange County averaged 2.9 percent in 2018, which is lower than the composite rate for Southern California.
- In 2019, the unemployment rate may begin to deteriorate, but with an unemployment rate of just 3.1 percent, the job market will still be very tight.
- Inflation accelerated in 2018 as home prices and energy costs increased across Southern California.
- In 2019 and 2020, inflation is expected to be within a range of 2.5 percent and 3 percent.

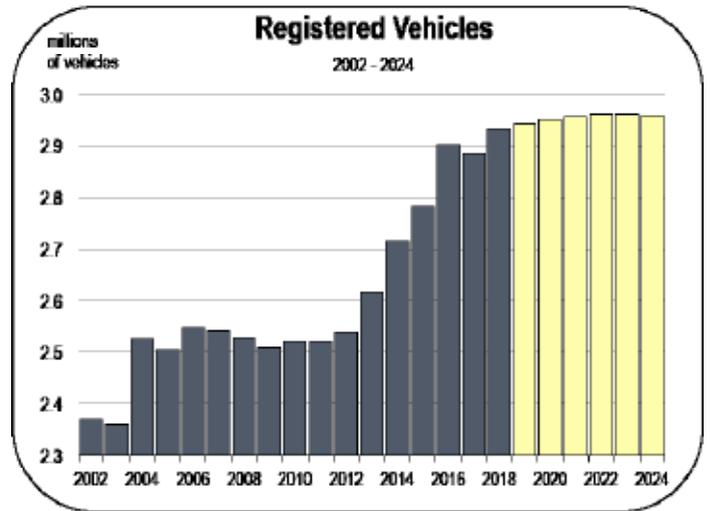
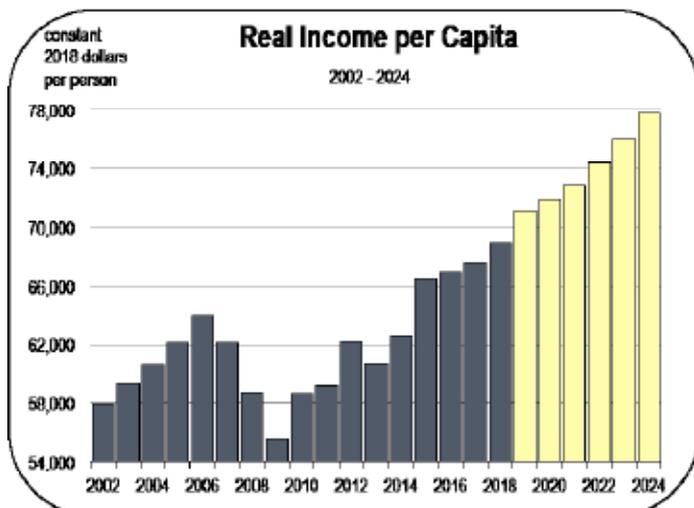


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New Housing Production

- From 2013 to 2018, an average of 10,400 new homes were authorized per year. Multifamily units outnumbered single-family homes almost 2-to-1.
- Housing affordability is becoming an issue in Orange County because supply (new units) is not keeping pace with demand. Households frequently have to spend more than 45% of their pre-tax income on mortgage payments, which exceeds the recommendations of most affordability guidelines.
- Housing production will average 7,300 homes per year from 2019 to 2024. Slightly more than half will be multifamily units.
- The current development pipeline includes:
 - 6,500 units in Irvine
 - 3,600 units in Anaheim
 - 3,100 units in Newport Beach
 - 2,500 units in Mission Viejo
 - And thousands more in other regions of the county



Income per Capita

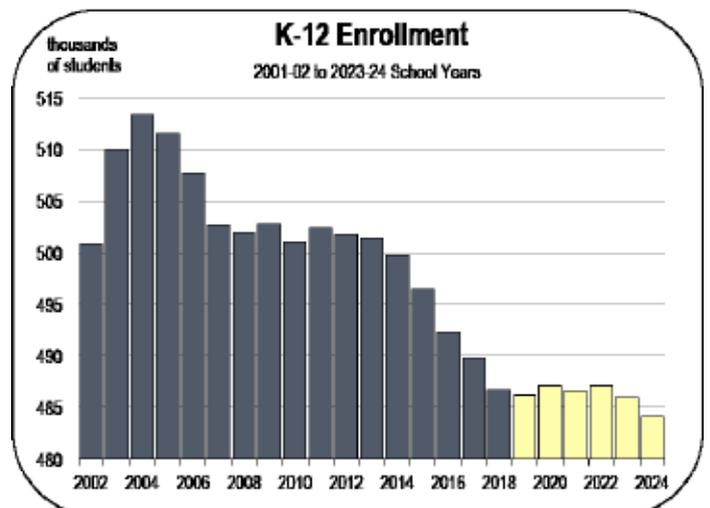
- Income per capita in 2018 was \$69,000, and is expected to rise to \$77,800 by 2024, adjusted for inflation.

Registered Vehicles

- There were 2.93 million registered vehicles in Orange County in 2018. By 2024, it is expected that the county will have approximately 2.96 million registered vehicles.

Public School Enrollment

- In Orange County, approximately 486,700 students were enrolled in K-12 public schools during the 2017-2018 school year.
- By 2024, there are expected to be 484,100 K-12 students in the county. Enrollment will decline because the population aged 5 to 17 will decline.



Orange County Economic Forecast

Economic Indicators

2015-2018 History, 2019-2050 Forecast

	Population (people)	House- holds (thousands)	Average Household Income (dollars)	New Homes Permitted (homes)	Registered Vehicles (thousands)	Personal Income (billions)	Taxable Retail Sales (billions)	Local Sales Tax (millions)	Real Industrial Production (billions)	Real per Capita Income (dollars)	School Enrollment (thousands)	Births (people)	Deaths (people)
2015	3,164,230	1,015	\$190,586	10,897	2,784	\$193.4	\$40.6	\$711	\$33.7	\$66,468	496.4	37,609	19,314
2016	3,181,654	1,021	\$195,328	12,083	2,901	\$199.4	\$41.3	\$722	\$34.0	\$66,920	492.2	38,106	19,588
2017	3,205,855	1,029	\$202,865	9,501	2,885	\$208.7	\$42.6	\$746	\$34.6	\$67,595	489.7	37,369	20,001
2018	3,216,817	1,037	\$213,961	8,732	2,932	\$221.9	\$44.4	\$777	\$34.9	\$68,984	486.7	37,232	20,661
2019	3,233,525	1,044	\$226,476	8,300	2,942	\$236.4	\$45.9	\$804	\$36.1	\$71,169	486.1	37,466	21,003
2020	3,250,615	1,052	\$234,656	7,700	2,950	\$246.8	\$47.1	\$824	\$36.3	\$71,945	487.0	37,602	21,393
2021	3,265,884	1,059	\$243,721	7,450	2,956	\$258.0	\$48.3	\$845	\$36.6	\$72,827	486.6	37,747	21,786
2022	3,281,850	1,065	\$255,560	7,550	2,959	\$272.3	\$50.1	\$878	\$37.4	\$74,402	487.0	37,885	22,208
2023	3,298,416	1,072	\$267,967	6,660	2,960	\$287.3	\$51.7	\$906	\$38.3	\$76,052	485.9	37,970	22,655
2024	3,315,340	1,078	\$280,938	6,138	2,957	\$302.9	\$53.4	\$934	\$39.1	\$77,790	484.1	38,000	23,120
2025	3,331,872	1,084	\$293,120	5,943	2,953	\$317.7	\$55.0	\$962	\$39.9	\$79,256	481.5	37,925	23,607
2026	3,348,280	1,089	\$305,393	5,465	2,948	\$332.7	\$56.6	\$990	\$40.4	\$80,677	478.1	37,814	24,109
2027	3,364,675	1,094	\$318,835	5,520	2,942	\$348.9	\$58.2	\$1,018	\$41.3	\$82,335	476.1	37,622	24,626
2028	3,380,952	1,099	\$332,844	5,099	2,935	\$365.9	\$59.8	\$1,047	\$42.2	\$83,991	473.6	37,438	25,163
2029	3,396,722	1,104	\$345,110	4,865	2,928	\$381.0	\$61.4	\$1,074	\$42.5	\$85,008	470.2	37,285	25,719
2030	3,412,248	1,108	\$357,467	4,543	2,920	\$396.2	\$62.9	\$1,101	\$42.8	\$86,024	467.0	37,114	26,300
2031	3,426,736	1,113	\$369,969	4,364	2,913	\$411.6	\$64.5	\$1,129	\$43.2	\$87,068	463.4	36,984	26,899
2032	3,440,034	1,117	\$381,814	4,243	2,906	\$426.3	\$66.0	\$1,155	\$43.3	\$87,723	459.5	36,903	27,514
2033	3,452,989	1,120	\$395,196	4,045	2,899	\$442.8	\$67.6	\$1,183	\$43.7	\$88,985	454.9	36,777	28,141
2034	3,465,009	1,124	\$409,228	4,003	2,892	\$460.0	\$69.1	\$1,209	\$44.2	\$90,143	450.9	36,520	28,776
2035	3,475,638	1,128	\$423,640	3,899	2,885	\$477.7	\$70.6	\$1,235	\$44.5	\$91,233	445.5	36,213	29,425
2036	3,485,543	1,131	\$438,014	3,829	2,879	\$495.5	\$72.0	\$1,260	\$44.5	\$91,883	441.7	35,887	30,076
2037	3,493,838	1,135	\$453,139	3,811	2,876	\$514.2	\$73.3	\$1,284	\$44.7	\$92,536	438.4	35,505	30,723
2038	3,501,599	1,138	\$469,108	3,620	2,875	\$534.0	\$74.7	\$1,308	\$44.9	\$93,453	435.0	35,139	31,363
2039	3,508,740	1,142	\$485,321	3,580	2,876	\$554.0	\$76.0	\$1,331	\$45.0	\$94,136	432.6	34,790	31,992
2040	3,515,579	1,145	\$502,290	3,533	2,879	\$575.0	\$77.4	\$1,354	\$45.6	\$94,956	430.3	34,485	32,607
2041	3,521,873	1,148	\$518,920	3,490	2,883	\$595.7	\$78.7	\$1,377	\$45.5	\$95,808	428.4	34,241	33,191
2042	3,526,984	1,151	\$536,272	3,395	2,888	\$617.3	\$80.0	\$1,400	\$45.8	\$96,819	426.9	34,033	33,746
2043	3,530,920	1,154	\$553,833	3,409	2,893	\$639.3	\$81.3	\$1,422	\$46.1	\$97,894	425.7	33,882	34,278
2044	3,534,854	1,157	\$571,695	3,278	2,899	\$661.7	\$82.6	\$1,445	\$46.4	\$99,124	424.6	33,767	34,793
2045	3,538,803	1,160	\$589,704	3,248	2,904	\$684.3	\$83.8	\$1,467	\$46.9	\$100,093	423.8	33,655	35,305
2046	3,542,262	1,163	\$607,512	3,288	2,907	\$706.7	\$85.1	\$1,489	\$47.1	\$101,051	422.8	33,596	35,801
2047	3,545,357	1,166	\$625,593	3,205	2,909	\$729.6	\$86.3	\$1,510	\$47.4	\$101,990	422.4	33,616	36,270
2048	3,548,009	1,169	\$644,010	3,095	2,910	\$753.0	\$87.5	\$1,531	\$47.5	\$102,911	422.3	33,633	36,708
2049	3,550,278	1,172	\$663,013	3,079	2,911	\$777.1	\$88.6	\$1,551	\$47.6	\$103,848	421.7	33,663	37,117
2050	3,552,430	1,175	\$682,526	3,022	2,910	\$801.9	\$89.8	\$1,571	\$47.8	\$104,785	421.8	33,694	37,505

Employment Sectors

2015-2018 History, 2019-2050 Forecast

	Total Wage & Salary	Farm	Construction	Manufac- turing	Transportation & Utilities	Wholesale & Retail Trade (thousands of jobs)	Financial Activities	Professional Services	Information	Health & Education	Leisure	Government
2015	1,547	2.4	91.7	157.8	26.9	230.5	116.4	287.9	24.9	198.9	203.8	156.4
2016	1,587	2.4	97.4	158.2	27.2	231.2	118.0	297.9	26.0	206.2	212.0	159.6
2017	1,619	2.1	101.8	160.5	28.0	232.5	119.6	303.0	26.8	215.9	218.1	160.2
2018	1,651	2.0	106.1	159.8	29.3	233.0	119.1	315.4	26.7	225.0	222.6	160.8
2019	1,675	1.9	110.2	160.7	30.1	233.7	118.8	323.0	26.9	232.3	224.2	160.7
2020	1,685	1.9	105.4	159.6	30.3	233.3	120.6	329.6	26.9	238.7	224.6	161.0
2021	1,692	1.9	101.5	158.2	30.4	233.0	121.7	333.3	26.9	244.7	226.4	161.1
2022	1,705	1.9	99.0	158.7	30.7	234.1	122.9	335.8	27.0	251.1	229.1	161.4
2023	1,721	1.8	97.5	159.0	31.1	234.8	124.0	339.3	27.1	257.4	233.3	161.7
2024	1,737	1.8	96.2	159.3	31.3	235.4	124.9	344.6	27.2	263.7	236.9	162.1
2025	1,755	1.8	95.8	160.0	31.5	236.1	126.0	349.4	27.4	270.0	240.0	162.6
2026	1,771	1.8	95.5	159.7	31.8	237.0	127.1	354.2	27.8	276.3	242.6	163.1
2027	1,788	1.8	94.3	160.4	32.0	238.1	128.3	358.9	28.0	282.5	245.6	163.8
2028	1,806	1.7	93.5	161.0	32.2	239.4	129.6	363.7	28.4	288.5	248.5	164.6
2029	1,821	1.7	93.0	160.5	32.4	240.4	130.9	368.3	28.7	294.6	251.1	165.4
2030	1,835	1.7	91.9	159.8	32.6	241.2	131.6	373.0	29.1	300.8	251.8	166.2
2031	1,849	1.7	91.0	159.1	32.9	242.0	132.0	377.7	29.5	306.9	253.3	166.9
2032	1,861	1.7	90.4	158.4	33.0	242.5	132.3	382.1	29.7	313.0	254.2	167.6
2033	1,875	1.6	89.8	157.7	33.1	243.3	132.9	386.5	29.9	319.2	256.1	168.3
2034	1,889	1.6	89.2	158.1	33.2	243.8	133.4	390.9	30.0	325.3	257.6	168.9
2035	1,901	1.6	88.6	157.4	33.3	244.3	134.1	395.4	30.2	331.5	259.1	169.5
2036	1,913	1.6	88.0	156.6	33.5	244.4	134.8	399.8	30.4	337.6	259.8	169.9
2037	1,925	1.6	87.4	156.4	33.6	244.4	135.5	404.2	30.6	343.8	260.4	170.2
2038	1,937	1.6	86.8	156.2	33.7	244.5	136.2	408.6	30.7	350.0	261.4	170.5
2039	1,948	1.6	86.1	155.4	33.8	244.5	136.8	412.9	30.9	356.2	262.0	170.7
2040	1,961	1.6	85.5	156.7	33.9	244.4	137.2	417.3	31.0	362.4	262.7	170.8
2041	1,971	1.6	84.8	154.9	34.0	244.5	137.7	421.7	31.1	368.6	263.6	170.9
2042	1,983	1.6	84.3	154.7	34.1	244.5	137.9	426.0	31.2	374.8	264.6	170.9
2043	1,994	1.6	83.6	154.5	34.2	244.7	138.4	430.4	31.3	381.0	265.6	170.8
2044	2,006	1.6	82.9	154.3	34.3	244.9	138.8	434.7	31.4	387.2	266.9	170.7
2045	2,018	1.6	82.1	155.0	34.4	245.0	139.0	439.1	31.5	393.4	267.7	170.6
2046	2,029	1.6	81.4	154.3	34.5	245.0	139.2	443.5	31.6	399.7	268.6	170.5
2047	2,040	1.7	80.7	154.6	34.6	245.1	139.2	447.8	31.6	405.9	269.4	170.6
2048	2,051	1.7	79.9	153.9	34.7	245.1	139.6	452.2	31.7	412.1	270.1	170.4
2049	2,061	1.7	79.2	153.1	34.8	245.1	139.8	456.5	31.8	418.4	270.8	170.4
2050	2,072	1.8	78.5	152.4	35.0	245.0	139.8	460.9	31.8	424.7	271.6	170.4

Orange County Economic Forecast

Socioeconomic Indicators

