



# **Southern California Regional Summary**

Los Angeles, Orange, Riverside, San Bernardino and Ventura Counties

Despite tremendous progress in cleaning up the air, Southern California remains home to some of the most polluted air in the United States. Emissions from the transportation sector are the leading source of pollution in the region, bringing significant lung health burdens.

#### **Key Successes:**

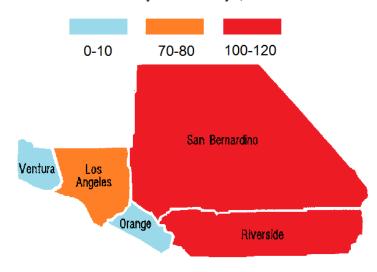
- Since SOTA 2000, unhealthy ozone days have fallen by 38% regionally, with lowest ever unhealthy ozone days in SOTA 2015.
- Despite an uptick over SOTA 2014, spikes in particle pollution days have fallen by 69% since SOTA 2004.
  - Annual particle pollution levels dropped by nearly half (48%) to their lowest levels since the 2004 report.
- Passenger vehicle and diesel emission controls, along with wood burning restrictions have driven these reductions.

#### **Key Solutions:**

- As transportation sources comprise roughly 90% of smog-forming NOx pollution regionally, strong rules, programs and increased investments are needed to support:
  - Zero emission vehicles and fuels
  - Sustainable zero emission freight systems
  - Healthy community planning to increase walk, bike and transit access
- Maintain and enhance wood burning controls

#### American Lung Association State of the Air 2015

Annual Unhealthy Ozone Days, 2011 - 2013



Highest recorded annual average unhealthy ozone days by County.

Regional Grades and Ranking Among Top 25 Counties in the United States									
County	Ozone Days†	Ozone Grade	US Ozone Rank	PM Days†	PM Grade	US PM Day Rank	Annual PM Value‡	Annual PM Grade	US Annual PM Rank
Los Angeles	76.7	F	4	26.8	F	8	13.0	Fail	13
Orange	3.33	F	-	5.7	F	-	10.7	Pass	-
Riverside	97.0	F	2	33.5	F	5	15.1	Fail	7
San Bernardino	117.7	F	1	2.8	D	-	12.6	Fail	16
Ventura	9.3	F	-	0.3	В	-	9.1	Pass	-

†Number of Days reported equals the weighted annual average of unhealthy ozone or particle days recorded over the three-year period of 2011-2013. An annual average of 3.3 or more unhealthy days earns an "F" grade.

‡Annual PM value represents the average concentration of particles measured in the air throughout the year. A concentration over 12 (micrograms/cubic meter) earns a "FAIL" grade.

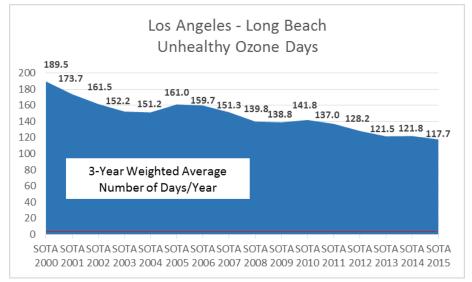
## **Populations Vulnerable to Polluted Air:**

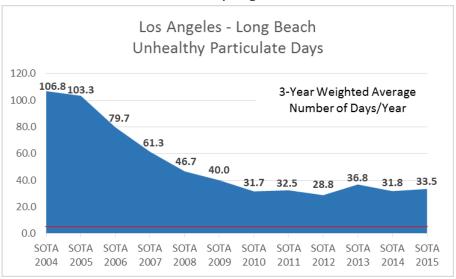
While even healthy adults and children are harmed by air pollution, most at risk are children, the elderly, those with heart and lung disease, diabetes, of lower socio-economic status, or proximity to major sources of pollution, like ports, rail yards or busy roadways. For these vulnerable populations, particle pollution increases the risk of asthma attacks and respiratory distress, heart attacks, stroke, and premature death. The World Health Organization concluded in 2013 that breathing particle pollution causes lung cancer. Ground-level ozone triggers asthma attacks, increases the risk of hospital admissions and emergency room visits and even increases the risk of premature death. In the Southern California region, millions of residents face increased health risks due to unhealthy air.

County	Total Population	Children under 18	Adults over 65	Pediatric Asthma	Adult Asthma	COPD	Heart Disease	Diabetes	Poverty
Los Angeles	10,017,068	2,322,711	1,187,071	205,766	670,227	347,183	499,827	755,975	1,872,964
Orange	3,114,363	727,016	397,165	64,405	209,171	111,471	162,288	244,921	416,204
Riverside	2,292,507	615,555	294,281	54,531	146,427	78,238	114,669	171,404	392,513
San Bernardino	2,088,371	578,417	208,565	51,241	131,342	66,473	94,315	144,112	392,242
Ventura	839,620	206,064	110,178	18,255	55,744	30,260	44,348	66,883	99,227
Regional Totals	18,351,929	4,449,763	2,197,260	394,199	1,212,912	633,626	915,447	1,383,294	3,173,150

## **Air Pollution Trends**

Both ozone and particle pollution continue to decline in the Southern California region. Despite this progress, the region remains in excess of health protective air quality standards and must continue to pursue healthy air goals. Further, all regions are seeing climate impacts to air quality. Intensifying droughts and related weather conditions, wildfire risks and prolonged heat events will increasingly threaten decades of clean air progress.





#### **Region Summary**

Southern California is home to over 40 percent of all Californians. Coupled with the large population, significant challenges due to weather and geography make improving air quality more quickly difficult in the region. Sunny weather and other conditions in the basin allow smog to form more easily. Surrounded by mountains on three sides, pollutants are also easily trapped as stagnant air lingers in the basin. The worst air quality in the region tends to occur in the Inland parts of the basin due to smog transport patterns from coastal areas. The South Coast Air Basin also transports pollution to the San Diego and Mojave Desert areas.

Metropolitan Areas appearing in SOTA 2015 National Rankings						
Metro Area	Ozone	Short-term Particles	Annual Particles			
Los Angeles-Long Beach-Riverside	1	5	5			

#### **Key Emission Sources:**

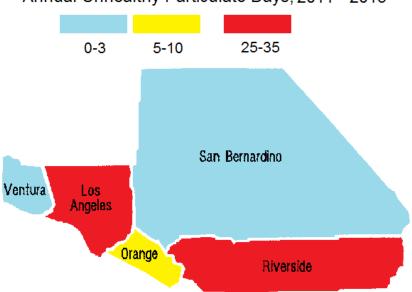
- Mobile sources, including on- and off-road diesel fueled-vehicles, cars, trucks buses and locomotives, ships and aircraft contribute nearly 90 percent of pollution in the region
- Ports and goods movement (contributes to regional pollution and generates significant hot spots of pollution near the Ports of Los Angeles and Long Beach)
- Stationary sources including oil refineries and power plants
- Area sources including residential wood burning

Pollution hotspots like freeways, major roadways, ports, rail yards and truck distribution centers pose real health risks to nearby residents and should be the focus of additional monitoring (monitoring stations are distributed throughout California counties and are not always in close proximity to major or localized pollution sources). As the result of new federal regulations, several air districts throughout California are now installing and operating permanent air monitoring sites near major roadways.

## **Additional Maps**

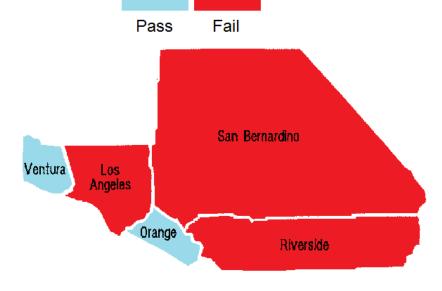
#### American Lung Association State of the Air 2015

Annual Unhealthy Particulate Days, 2011 - 2013



### American Lung Association State of the Air 2015

Annual Particulate Grade



**All sources**: American Lung Association, State of the Air 2015

California Air Resources Board, Almanac of Emissions and Air Quality, 2013

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