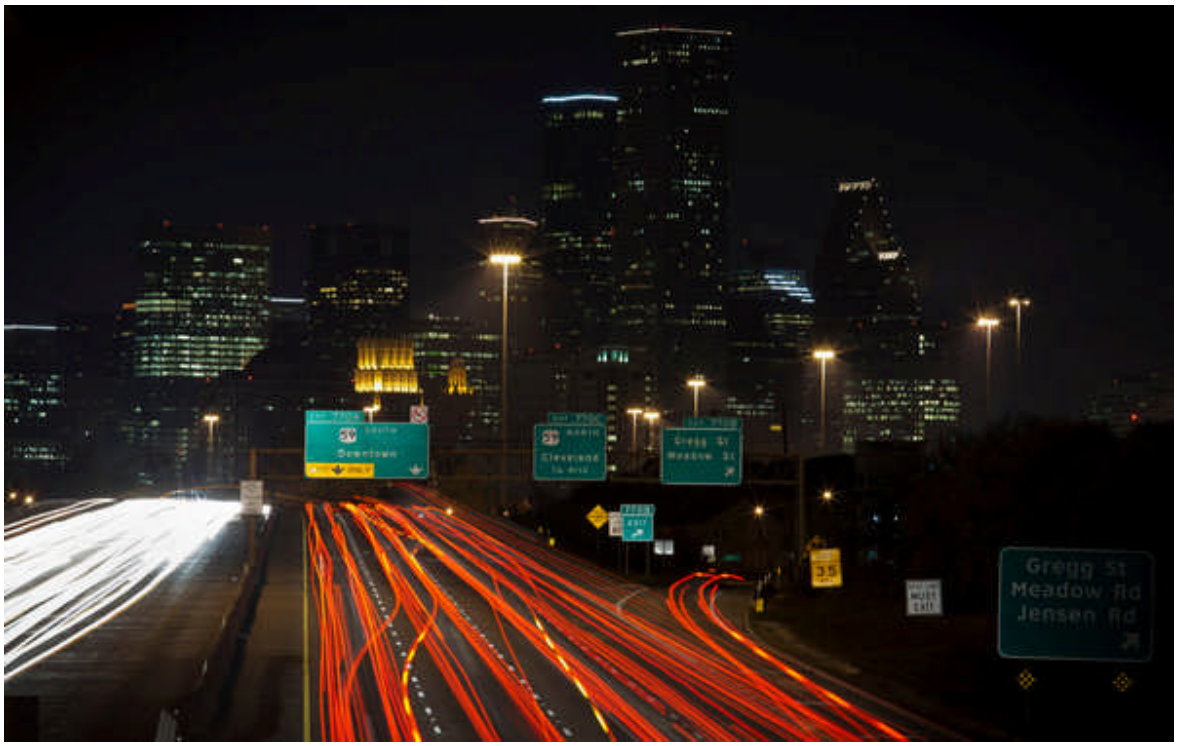
THE TEXAS TRIBUNE

2011 Proving to Be a Bad Year for Air Quality in Texas

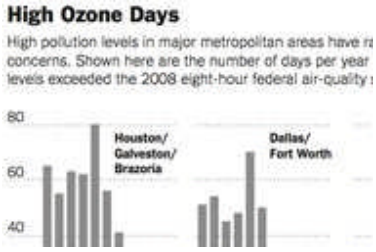


Michael Stravato for The Texas Tribune

Cleaner cars have helped reduce ozone levels in Houston over the past decade, but the area still does not meet federal standards.

By KATE GALBRAITH Published: December 10, 2011

Nestled near subdivisions north of Fort Worth stands equipment that measures air pollutants. On 26 days this year, readings at the site showed higher concentrations of lung-damaging ozone than allowed by federal air-quality standards.



All told, Dallas-Fort Worth violated ozone standards on more days this year — 32 so far — than anywhere else in Texas, including the greater Houston area.

"Every place in Texas suffered worse air quality this year, but Dallas was a particularly extreme case," said David Allen, a chemical engineering professor at the University of Texas who also directs a state air-quality program.

A number of major metropolitan areas, including Dallas-Fort Worth, San Antonio, Austin and even Waco, exceeded federal limits on ozone on more days this year than last. In the greater Houston area, which includes Galveston and Brazoria County, the number of bad-ozone days dropped slightly, to 29, but the pollution was especially severe on certain summer days. On June 6, an air-quality monitor in Galveston measured 112 parts per billion of ozone — the highest reading in Texas since 2008.

Scientists are still trying to understand the reasons for this year's statewide spike in ozone, which is largely a summer phenomenon. Possibilities include wildfires, drought and the summer's extreme heat, all of which can contribute to ozone formation.

Meanwhile, amid shale booms across the state, questions are increasing about the effects of oil and gas drilling on air pollution. Trucks carrying drilling materials emit nitrogen oxides, as does equipment like compressors. Natural gas escaping from pipelines or storage tanks emits volatile organic compounds, or VOCs. Nitrogen oxides and VOCs are known as ozone "precursors" because, aided by sunlight, they can react with each other to form ozone.

Over the past decade, Texas has made considerable progress in lowering ozone levels — especially in Houston, which once rivaled Los Angeles as the nation's smog capital. This year Houston tallied fewer than half the bad-ozone days of a decade ago. (Measurements are averaged over eight-hour periods, at ground level; the federal standard, set in 2008, is 75 parts per billion.)

"Without argument, our ozone is much better than it was 5 to 10 years ago," said Matthew Tejada, executive director of the environmental group Air Alliance Houston, who credits tighter federal emissions requirements for cars, plus some cleanup of industry in the Houston area.

This year, Mr. Tejada said, part of the problem in Houston may have stemmed from the heat and large accidental emission plumes from industries.

Dallas-Fort Worth and Houston are the only Texas cities currently considered in "nonattainment" for ozone, meaning they do not meet Environmental Protection Agency standards. Nonattainment can cause a loss of federal highway money, though this has never happened in Texas.

San Antonio is "teetering on the edge" of nonattainment, according to Peter Bella, the natural resources director for the Alamo Area Council of Governments, which includes San Antonio.

This year San Antonio had eight bad-ozone days, double its 2010 total. The city would be pushed into nonattainment if the Obama administration tightened ozone standards, Mr. Bella said.

So could some other Texas metropolitan areas, environmentalists say, though President Obama recently delayed a decision on a new standard until 2013. (A different, controversial federal rule that takes effect in January will require Texas power plants to reduce their nitrogen oxide emissions.)

San Antonio is closely watching activities in the Eagle Ford Shale, a huge and fast-developing oil and gas field nearby. Should the city experience significant effects from a new source like the Eagle Ford, "it may be very difficult for us to maintain our full attainment status," Mr. Bella said.

The Haynesville Shale, a gas field along the Texas-Louisiana border, may also increase ozone in northeast Texas and beyond, to places as far away as Travis County, according to a study published last year by Environ, an environmental consulting group, and the Austin law firm Mathews & Freeland. The

study projected that VOC emissions from the Haynesville field could rise by 271 percent from 2009 to 2020.

Dan Whitten, a spokesman for America's Natural Gas Alliance, said in an e-mail that while gas production resulted in a "small quantity of emissions," these are carefully monitored, and the natural gas industry is working to lower emissions by using cleaner ways to power equipment and by reducing truck traffic.

David Brymer, director of the air-quality program at the Texas Commission on Environmental Quality, said that in Dallas, the air masses that sent some monitors' readings sky-high this year in some cases never went over oil and gas production fields. A Texas program that gives companies incentives to switch to cleaner diesel fuel trucks has helped reduce nitrogen oxide emissions in the Dallas area, Mr. Brymer said.

The commission recently approved a new plan to reduce ozone levels in the Dallas area and bring them toward compliance with federal rules. But environmentalists say it is inadequate, and Ed Ireland, executive director of the Barnett Shale Energy Education Council, an industry group, says it overestimates VOC emissions from gas. The plan now goes to the E.P.A. for approval.

On Friday the E.P.A., citing emissions from drilling activities among other factors, wrote to Gov. Rick Perry to propose including Hood and Wise Counties in the Dallas-Fort Worth non-attainment area.

The effect of oil and gas on ozone is difficult to quantify, experts say, but studies are under way to figure it out. Researchers with the Texas Center for Applied Technology, a group within the Texas A&M University System, spent last summer inventorying the trucks and other equipment involved in hydraulic fracturing at an Eagle Ford drilling site near Laredo. Rather than measuring air pollutants, the objective is to extrapolate an emissions profile by noting details like what type of fuel is used in the equipment, said Susan Stuver, the center's assistant director.

The first report is ready to be released, though not to the public, Dr. Stuver said. The summer research, financed by the Department of Energy and members of the industry, represents only part of the emissions profile of drilling activities, and she expects industry financing for further studies.

Dr. Allen, of the University of Texas, is also working on a study that intensively measured emissions of nitrogen oxides and VOCs near Eagle Mountain Lake, in the heart of the Barnett Shale, this summer. The results are still being analyzed.

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