



# CHAPTER 14

## AIR QUALITY ANALYSIS

The Clean Air Act Amendments of 1990 require all conformity determinations to be “based on the most recent estimates of emissions, and such estimates shall be based on the most recent population, employment, travel and congestion estimates as determined by the Metropolitan Planning Organization...”

# CHAPTER 14

## air quality analysis

One of the responsibilities of an MPO is performing air-quality analysis for regional long-range transportation plans and transportation improvement programs. The Corpus Christi MPO has never been a non-attainment area, therefore we have never been a maintenance area. To ensure we are cognizant of the air quality conditions, the Corpus Christi MPO has had an air quality analysis conducted by the Air Quality Group.

The U.S. Environmental Protection Agency (EPA) and the U.S. Department of Transportation (DOT) have jointly developed “Criteria and Procedures for Determining Conformity to State or Federal Implementation Plans of Transportation Plans, Programs, and Projects Funded or Approved Under Title 23 U.S.C. of the Federal Transit Act,” commonly called the transportation conformity rule.

Air-quality conformity ensures that transportation plans, programs, and projects will not:

- Produce new violations of air-quality standards
- Worsen existing violations
- Delay timely attainment or maintenance of national ambient air-quality standards

The air quality analysis of the 2020-2045 MTP was completed with these criteria in mind.

### CONFORMITY CRITERIA

The Clean Air Act Amendments of 1990 require all conformity determinations to be “based on the most recent estimates of emissions, and such estimates shall be based on the most recent population, employment, travel and congestion estimates as determined by the Metropolitan Planning Organization.”

The Corpus Christi MPO's travel-demand modeling is developed using a standard three-step model calibrated using 2010 US Census data and a 2010 household survey. Area travel-demand forecasts and air-quality analyses are based on the population and employment forecasts in the 2020-2045 MTP demographic data and forecasts.

Although the Corpus Christi MPO has never been a non-attainment nor maintenance area, the technical analysis for air quality considered the requirements of a non-attainment or maintenance areas.

Transportation conformity is a requirement of the federal Clean Air Act (CAA) to ensure that air quality in nonattainment and maintenance areas for transportation-related National Ambient Air Quality Standards (ozone, particulate matter (PM), carbon monoxide (CO), and nitrogen dioxide (NO2)) is not negatively impacted by federal

funding and approval of transportation activities. Nonattainment areas are those that do not currently meet an air quality standard, and maintenance areas are those that were previously nonattainment for an air quality standard. Transportation conformity applies to transportation plans, transportation improvement programs, and projects funded or approved by the Federal Highway Administration (FHWA) or the Federal Transit Administration (FTA).

Of these listed pollutants, ozone is the only pollutant that the region is at risk of violating.

Transportation conformity requires an affected area to conduct an analysis to estimate emissions for the pollutant(s) under which the area is nonattainment or maintenance that are expected to result from the area's transportation system. The analysis must demonstrate that those estimated emissions do not exceed the emissions limit established in the state's air quality State Implementation Plan (SIP). The emissions limit is referred to as the motor vehicle emissions budget (MVEB).

Conformity determinations also ensure that transportation and air quality agencies are in consultation with one another, and that transportation control measures in an approved state air quality SIP are being timely implemented. Consultation partners include the affected metropolitan planning organization (MPO) and local transit and air quality offices, the Texas Department of Transportation (TxDOT), the Texas Commission on Environmental Quality (TCEQ), EPA, FTA, and FHWA.

All requirements of both the federal conformity regulation and Texas Commission on Environmental Quality (TCEQ) conformity regulation, including fiscal constraint and latest planning assumptions, have been met. The 2020-2045 MTP conforms to the Clean Air Act (CAA) Amendments of 1990.

### CORPUS CHRISTI AIR QUALITY GROUP

The Group was established in 1995 to address National Ambient Air Quality Standards (NAAQS) ozone attainment issues for the Corpus Christi airshed. Participants in the Group include individuals from area municipal and county government, business and industry, local universities, public agencies, a regional planning organization, regional development corporations, the military and the news media. The broad stakeholder representation within the Group works collaboratively to design and deliver effective strategies to maintain NAAQS for ozone that are suitable for the Corpus Christi area.

City of Corpus Christi, Nueces County, Corpus Christi Regional Transportation Authority, Corpus Christi Metropolitan Planning Organization and the Port of

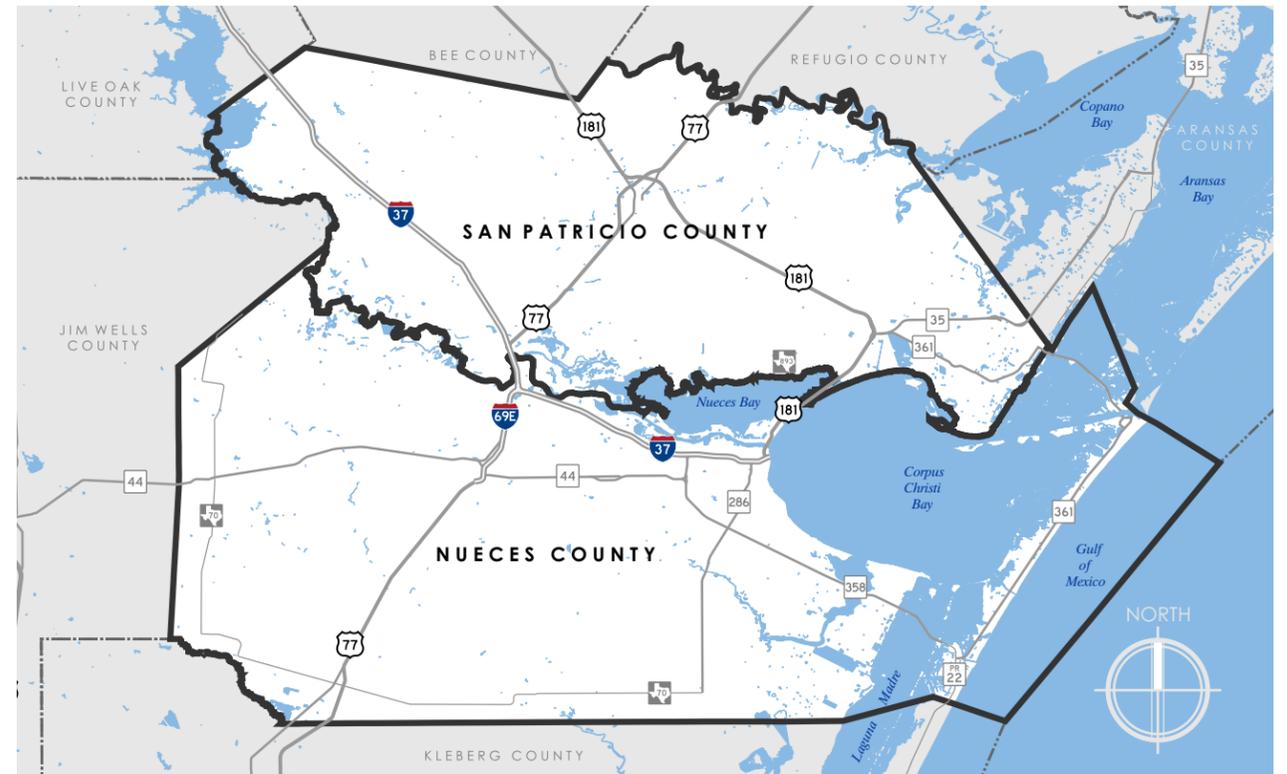


Exhibit 14-1. Map of the Corpus Christi Urban Airshed

Corpus Christi Authority provide funding annually to sponsor functions of the Group. The group meets quarterly and all meetings are open to the public.

Each participant of the Group receives a meeting invitation and agenda, meeting notes that include meeting discussions, presentations, and group recommendations. During the period of May 2018 – April 2019, the Group met on June 21st, November 13th, 2018, February 22nd of 2019.

### CORPUS CHRISTI AIR QUALITY GROUP GOAL

The goal of the Corpus Christi Air Quality Group is to continue the area's successful history of maintaining healthy air quality and to encourage voluntary air emission reductions that keep Nueces County and San Patricio County in attainment with the NAAQS for ozone.

### APPLICABLE STANDARDS

The current NAAQS for ozone: the fourth highest daily maximum 8-hour average, averaged over the past three calendar years, may not exceed 70 ppb in the Corpus Christi Airshed. The Corpus Christi Urban airshed is made up of two adjoining counties in South Texas: Nueces County and San Patricio County. Nueces County and San Patricio County, Exhibit 14-1 are defined by the EPA and the TCEQ as an urban airshed in which air emissions from sources in both counties interact to influence the level of ambient air pollution in the Corpus Christi community. Control of ambient air quality requires a strategy that considers sources of air emissions in both counties.

The region is a large urbanized area with a number of industrial point sources of air emissions and a concentration of mobile sources. The two counties are home to the nation's fourth busiest deep-water port with access to the Gulf of Mexico and the Gulf Intracoastal Waterway, and is home to a large and growing industrial, manufacturing, and petrochemical complex, a major military base, oil and gas exploration activity, and a network of highways including an interstate highway system, railroads, and an airport that facilitate commerce and a thriving tourism industry.

### AIRSHED OZONE NAAQS STATUS AND TRENDING

The TCEQ operates two Continuous Air Monitoring Stations (CAMS) in Corpus Christi: TCEQ CAMS 4, located at 902 Airport Road; and TCEQ CAMS 21, located at 9866 La Branch Street, see Exhibit 14-2. TCEQ CAMS 4 and 21 are the regulatory monitors that determine Corpus Christi airshed's compliance with ozone NAAQS.

### STATUS OF AIR QUALITY

*The fourth highest daily maximum 8-hour average, averaged over the past three calendar years, may not exceed 70 parts per billion (ppb)*

Ozone levels recorded at these two monitors are used to determine the attainment status of the area. Currently, the airshed is in attainment of NAAQS for ozone at a 3-year average value using data from years 2016, 2017, and 2018 of 61 ppb at both CAMS 4 and CAMS 21 as of year-end 2018. The airshed has experienced an overall decreasing trend in ozone, see Exhibit 14-3.

Appendix A – Air Quality contains the most current full report from the Corpus Christi Air Quality Group regarding the status of Air Quality monitoring in the MPO region and beyond. On December 2019, the Corpus Christi Air Quality Group officially changed its name to the **Coastal Bend Air Quality Partnership**.

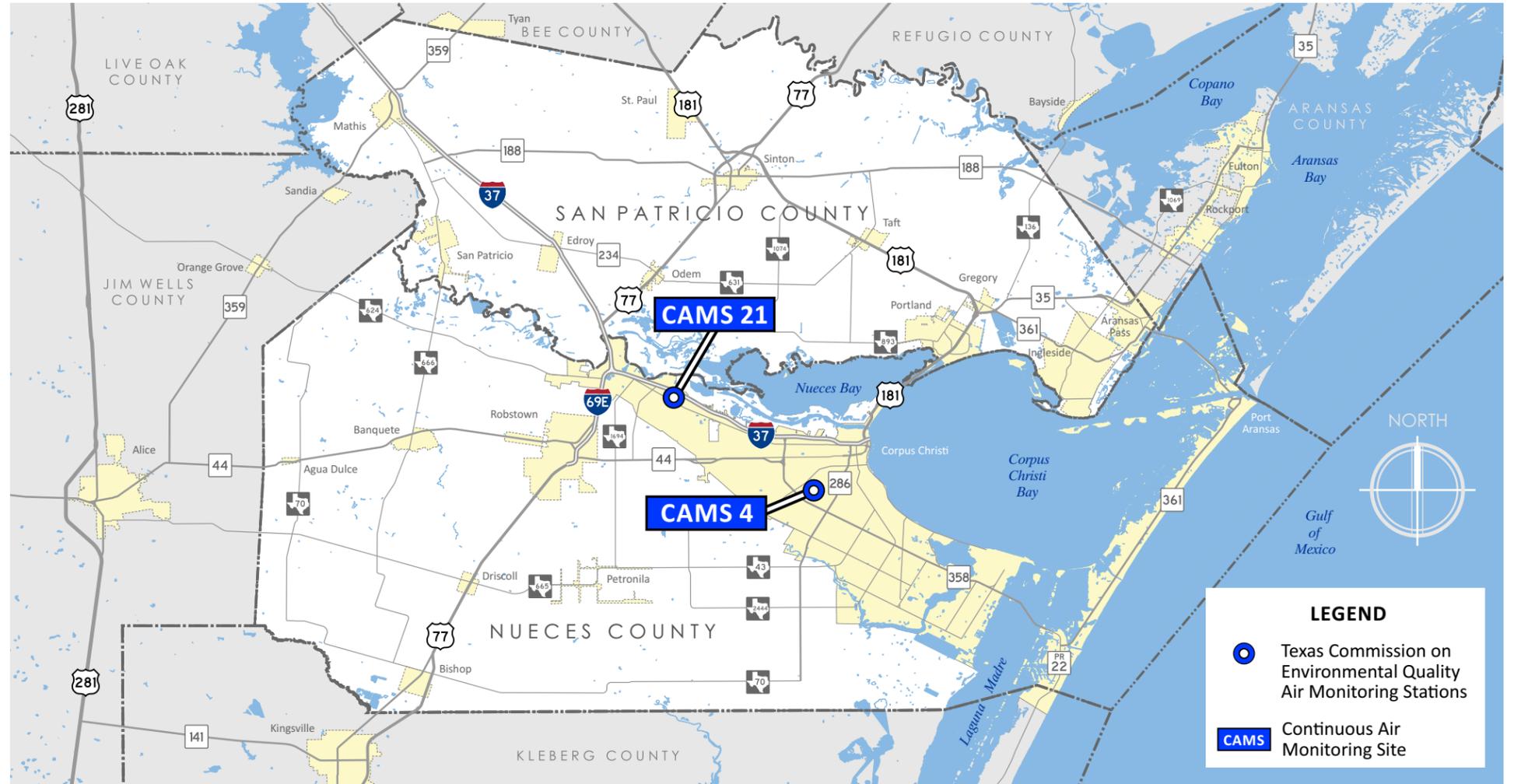


Exhibit 14-2. Map of TCEQ Regulatory Air Quality Monitoring Sites

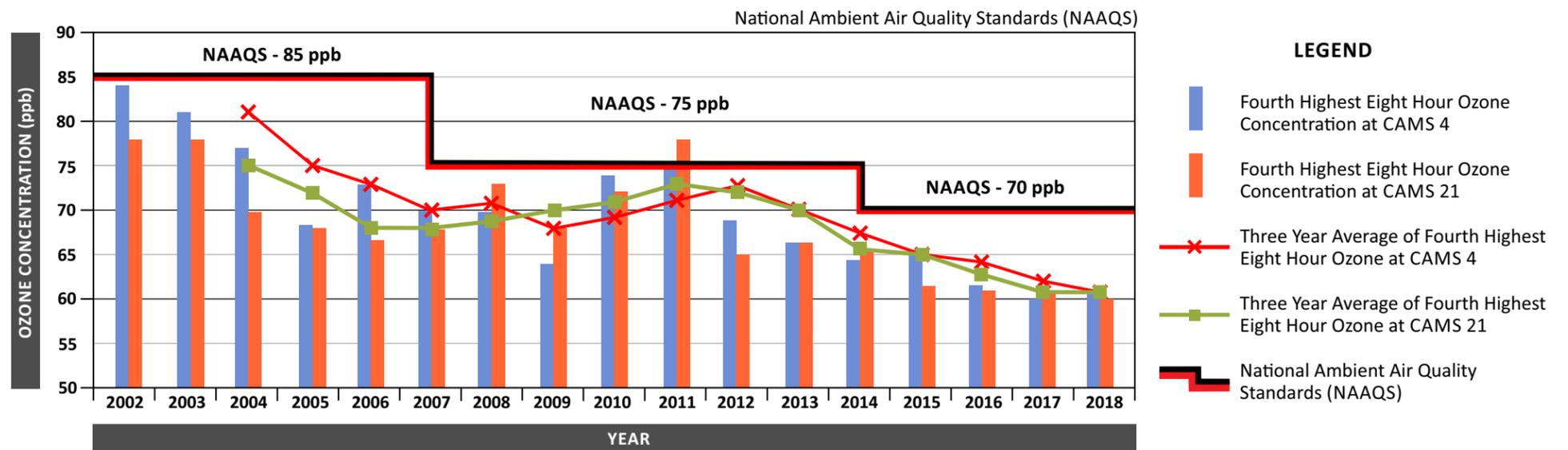


Exhibit 14-3. Chart of Corpus Christi Ozone Design Trends at TCEQ Regulatory Monitors, CAMS 4 and CAMS 21