

# Texas

## El Paso-Las Cruces TX-NM

### Intended Area Designations for the 2015 Ozone National Ambient Air Quality Standards Technical Support Document (TSD) for Counties Remanded to EPA

#### 1.0 Summary

This TSD describes the EPA's intended action to designate El Paso County, Texas as part of the El Paso-Las Cruces nonattainment area<sup>1</sup> for the 2015 Ozone National Ambient Air Quality Standard (NAAQS).

On October 1, 2015, the EPA promulgated revised primary and secondary ozone national ambient air quality standards (NAAQS (80 FR 6592, October 26, 2015)). In that action, the EPA strengthened both standards to a level of 0.070 parts per million (ppm), while retaining their indicators, averaging times, and forms. The EPA revised the ozone standards based on an integrated assessment of an extensive body of new scientific evidence, which substantially strengthens our knowledge regarding ozone-related health and welfare effects, the results of exposure and risk analyses, the advice of the Clean Air Scientific Advisory Committee and consideration of public comments.

Following promulgation of a new or revised NAAQS, the Clean Air Act (CAA) requires EPA to determine if areas in the country meet the new standards. Accordingly, EPA designated all areas of the country as to whether they met, or did not meet, the NAAQS. EPA designated areas for the 2015 Ozone NAAQS in 3 rounds, resulting in 52 nonattainment areas. These are described below:

- Round 1- November 6, 2017: EPA designated 2,646 counties, 2 separate tribal areas and 5 territories as Attainment/Unclassifiable. We also designated 1 Unclassifiable area.
- Round 2- April 30, 2018: EPA designated 51 Nonattainment areas, 1 Unclassifiable area, and all remaining areas as Attainment/Unclassifiable, except for the 8 counties in the San Antonio, TX area.
- Round 3- July 17, 2018: EPA designated 1 county in the San Antonio area as Nonattainment and the other 7 counties as Attainment/Unclassifiable.

#### Challenges to EPA's Designations

Multiple petitioners (several environmental and public health advocacy groups, 3 local government agencies, and the State of Illinois) filed six petitions for review challenging the EPA's 2015 ozone NAAQS designations promulgated on April 30, 2018. The District of Columbia Circuit Court consolidated the petitions into a single case, *Clean Wisconsin v. EPA*, 964 F.3d 1145 (D.C. Cir. 2020).

- Collectively, the petitioners challenged EPA's final designations of 9 attainment areas covering 17 counties.
- Petitioners primarily argued that EPA improperly designated counties (in whole or part) as attainment that should have been designated as nonattainment based on contributions to nearby counties with violating monitors.

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<sup>1</sup> This multi-county nonattainment area is named for its Combined Statistical Area (CSA).

- In its brief, EPA requested voluntary remand of the final designation decisions for 10 counties associated with 4 nonattainment areas to further review those designations.

### Court Decision

On July 10, 2020, the District of Columbia Circuit Court granted EPA's request for a voluntary remand for certain designated areas and remanded a number of other areas to the Agency. In total, the Court remanded 16 counties in 9 nonattainment areas back to EPA. The Court did not vacate the existing designations but required EPA to "issue revised designations as expeditiously as practicable."

The Court granted EPA's motion to remand EPA's designation of attainment/unclassifiable for El Paso County for further explanation. For El Paso County, the Court cited EPA's failure to give any reason for the remand and cited EPA's motion as a concession that its explanations fall short of the Clean Air Act's requirement of reasoned decisionmaking. In light of the Court decision, EPA has re-evaluated the existing technical record for El Paso County, including data and information that was used for the April 2018 designations. El Paso was part of the area of analysis corresponding to the El Paso-Las Cruces Combined Statistical Area (CSA) comprised of Doña Ana County, New Mexico, and El Paso and Hudspeth counties, Texas. Based on EPA's updated technical analysis of the existing record as described in this TSD, the EPA intends to modify the 2018 air quality designation for El Paso County. Table 1 shows EPA's 2018 designation and the intended designation for El Paso County in response to the remand.

Under CAA section 107(d), states were required to submit area designation recommendations to the EPA for the 2015 ozone NAAQS no later than 1 year following promulgation of the standards, i.e., by October 1, 2016. Tribes were also invited to submit area designation recommendations. On September 30, 2016, Texas submitted its designation recommendations for all areas within Texas and recommended that El Paso County be designated as nonattainment for the 2015 ozone NAAQS based on certified air quality data from 2013-2015. On September 27, 2016, however, Texas submitted an Exceptional Event demonstration for air quality data in El Paso and on December 15, 2017, the EPA concurred on the Exceptional Event demonstration submitted by Texas for the ozone monitor known as the "UTEP" monitor in El Paso.<sup>2</sup> In an updated designation recommendation submitted on August 23, 2017, Texas recommended that El Paso County be designated as attainment, pursuant to the Exceptional Event demonstration submitted in 2016.

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<sup>2</sup> The documents associated with the Exceptional Event demonstration, including the EPA's concurrence letter to Texas, are provided in the docket for this action.

**Table 1. The El Paso-Las Cruces TX-NM CSA: The States’ Recommended Designations, the EPA’s Designations in 2017 and 2018, and the EPA’s Intended Designation for the 2015 Ozone NAAQS Remand Response**

<b>County</b>	<b>States’ Recommended Designations September 2016</b>	<b>EPA’s Intended Designations December 22, 2017</b>	<b>EPA’s Final Designations April 30, 2018</b>	<b>EPA’s Intended Designations - Remand Response May 25, 2021</b>
Doña Ana County, NM	Nonattainment (partial county) (September 22, 2016)	Non-attainment (partial county)	Non-attainment (partial county)	No change. Doña Ana County not addressed in this remand action
El Paso County, TX	Attainment	Attainment	Attainment	Nonattainment

On April 30, 2018 (83 FR 25776, June 4, 2018), the EPA signed a final rule designating El Paso County (and many other areas) in accordance with the States’ recommendations as Attainment/Unclassifiable.<sup>3</sup> EPA explains in section 2.0 the approach it is now taking to designate the remanded area – El Paso County - in the State.

The EPA is designating areas subject to tribal jurisdiction in accordance with two guidance documents issued in December 2011 by the EPA Office of Air Quality Planning and Standards titled, “Guidance to Regions for Working with Tribes during the National Ambient Air Quality Standards (NAAQS) Designations Process,”<sup>4</sup> and “Policy for Establishing Separate Air Quality Designations for Areas of Indian Country.”<sup>5</sup>

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<sup>3</sup> In previous ozone designations and in the designation guidance for the 2015 ozone NAAQS, the EPA used the designation category label Unclassifiable/Attainment to identify both areas that were monitoring attainment and areas that did not have monitors but for which the EPA had reason to believe were likely attainment and were not contributing to a violation in a nearby area. The EPA is now reversing the order of the label to be Attainment/Unclassifiable so that the category is more clearly distinguished from the separate Unclassifiable category.

<sup>4</sup> <https://www.epa.gov/sites/production/files/2016-02/documents/ozone-designation-tribes.pdf>

<sup>5</sup> <https://www.epa.gov/sites/production/files/2016-02/documents/indian-country-separate-area.pdf>

## 2.0 Nonattainment Area Analyses and Intended Boundary Determination

The EPA evaluated and determined the boundaries for each nonattainment area on a case-by-case basis, considering the specific facts and circumstances of the area. In accordance with the CAA section 107(d), the EPA is designating as nonattainment the areas with the monitors that are violating the 2015 ozone NAAQS and nearby areas with emissions sources (i.e., stationary, mobile, and/or area sources) that contribute to the violations. Following the EPA's designations guidance for the 2015 Ozone NAAQS (hereafter referred to as the "ozone designations guidance")<sup>6</sup>, after identifying each monitor indicating a violation of the ozone NAAQS in an area, the EPA analyzed those nearby areas with emissions potentially contributing to the violating monitor(s). The EPA believes that using the Core Based Statistical Area (CBSA) or (CSA)<sup>7</sup> as a starting point for the contribution analysis is a reasonable approach to ensure that the nearby areas most likely to contribute to a violating monitor are evaluated. The area-specific analyses may support nonattainment boundaries that are smaller or larger than the CBSA or CSA.

The EPA is proceeding to complete the remanded designation for El Paso County for the ozone NAAQS as outlined above as part of the El Paso-Las Cruces nonattainment area.

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<sup>6</sup> The EPA issued guidance on February 25, 2016 that identified important factors that the EPA evaluated in determining appropriate area designations and nonattainment boundaries for the 2015 ozone NAAQS. Available at <https://www.epa.gov/ozone-designations/epa-guidance-area-designations-2015-ozone-naaqs>

<sup>7</sup> Lists of CBSAs and CSAs and their geographic components are provided at <https://www.census.gov/geographies/reference-files/time-series/demo/metro-micro/delineation-files.html>. The Office of Management and Budget (OMB) adopts standards for defining statistical areas. The statistical areas are delineated based on U.S. Census Bureau data. The lists are periodically updated by the OMB. The EPA used the most recent July 2015 update (OMB Bulletin No. 15-01), which is based on application of the 2010 OMB standards to the 2010 Census, 2006-2010 American Community Survey, as well as 2013 Population Estimates Program data.

## Master Legend

Ozone monitoring site with 2014-2016 design value

- No valid value
- 0 - 0.070 parts per million (ppm)
- 0.071 and above

National Emissions Inventory (NEI) 2014 v1

- Large Point Sources (VOC or NO<sub>x</sub> >= 100 gross tons)
- Small Point Sources

Hysplit

Elevation (Meters)

- ~ 100
- ~ 500
- ~ 1,000



EPA's Intended Nonattainment Area Boundary



Federal American Indian Reservations and Off Reservation Lands



State Boundaries



County Boundaries



CSAs - Combined Statistical Areas



CBSAs - Metropolitan Statistical Areas



CBSAs - Micropolitan Statistical Areas



Sunland Park 2015 Nonattainment Area

NAAAs-8 Hour Ozone (1997 NAAQS)

- Maintenance (NAAQS revoked)
- Nonattainment (NAAQS revoked)

NAAAs-8 Hour Ozone (2008 NAAQS)

- Nonattainment
- Maintenance

County Population (2010)

- > 5,194,675 to 9,818,605
- > 2,035,210 to 5,194,675
- > 744,344 to 2,035,210
- > 220,000 to 744,344
- 0 to 220,000

Census Tracts Population (2012)

- 0 to 2,825
- > 2,825 to 4,481
- > 4,481 to 6,373
- > 6,373 to 10,145
- > 10,145 to 39,143

Vehicle Miles Traveled - 2014

- 0 - 36,071,088
- 36,071,088.01 - 52,484,020
- 52,484,020.01 - 88,659,368
- 88,659,368.01 - 204,018,496
- 204,018,496.01 - 5,247,588,352

Figures in the remainder of this document refer to the master legend above.

### 3.0 Technical Analysis

This technical analysis identifies the areas with monitors that violate the 2015 ozone NAAQS. It also provides EPA's evaluation of nearby areas to determine whether those nearby areas have emissions sources that potentially contribute to ambient ozone concentrations at the violating monitors in the area, based on a weight-of-evidence approach considering the five factors recommended in the EPA's ozone designations guidance and any other relevant information. In developing this technical analysis, the EPA used only the existing data from the record for which our prior designation for El Paso was based.<sup>8</sup> The existing record does not include and the EPA did not consider the additional data or information the State of Texas provided in December 2020.<sup>9</sup>

The five factors recommended in the EPA's ozone designations guidance are:

1. Air Quality Data (including the design value calculated for each Federal Reference Method (FRM) or Federal Equivalent Method (FEM) monitor);
2. Emissions and Emissions-Related Data (including locations of sources, population, amount of emissions, and urban growth patterns);
3. Meteorology (weather/transport patterns);
4. Geography/Topography (including mountain ranges or other physical features that may influence the fate and transport of emissions and ozone concentrations); and
5. Jurisdictional Boundaries (e.g., counties, air districts, existing nonattainment areas, areas of Indian country, Metropolitan Planning Organizations (MPOs)).

Below, EPA re-analyzes the five factors for the remanded El Paso area in Texas. As illustrated in Figure 1 below and explained in the Final EPA TSD for New Mexico, Doña Ana County shares a border with Mexico and EPA acknowledges that the southeastern portion of the county is heavily impacted by transport of ozone precursors from Mexico.<sup>10</sup>

Figure 1 below is a map of the EPA's area of analysis: Doña Ana County, New Mexico, and El Paso and Hudspeth counties, Texas. Figure 1 includes the previously designated nonattainment area in the southeastern corner of Doña Ana County, New Mexico, and the intended nonattainment boundary to include El Paso County, Texas in the nonattainment area. Figure 1 also shows the location of ambient air quality monitors, Counties, and other jurisdictional boundaries.

For purposes of the 1997 and 2008 8-hour ozone NAAQS, EPA designated the entirety of Doña Ana and El Paso counties visible in Figure 1 below as Unclassifiable/Attainment.

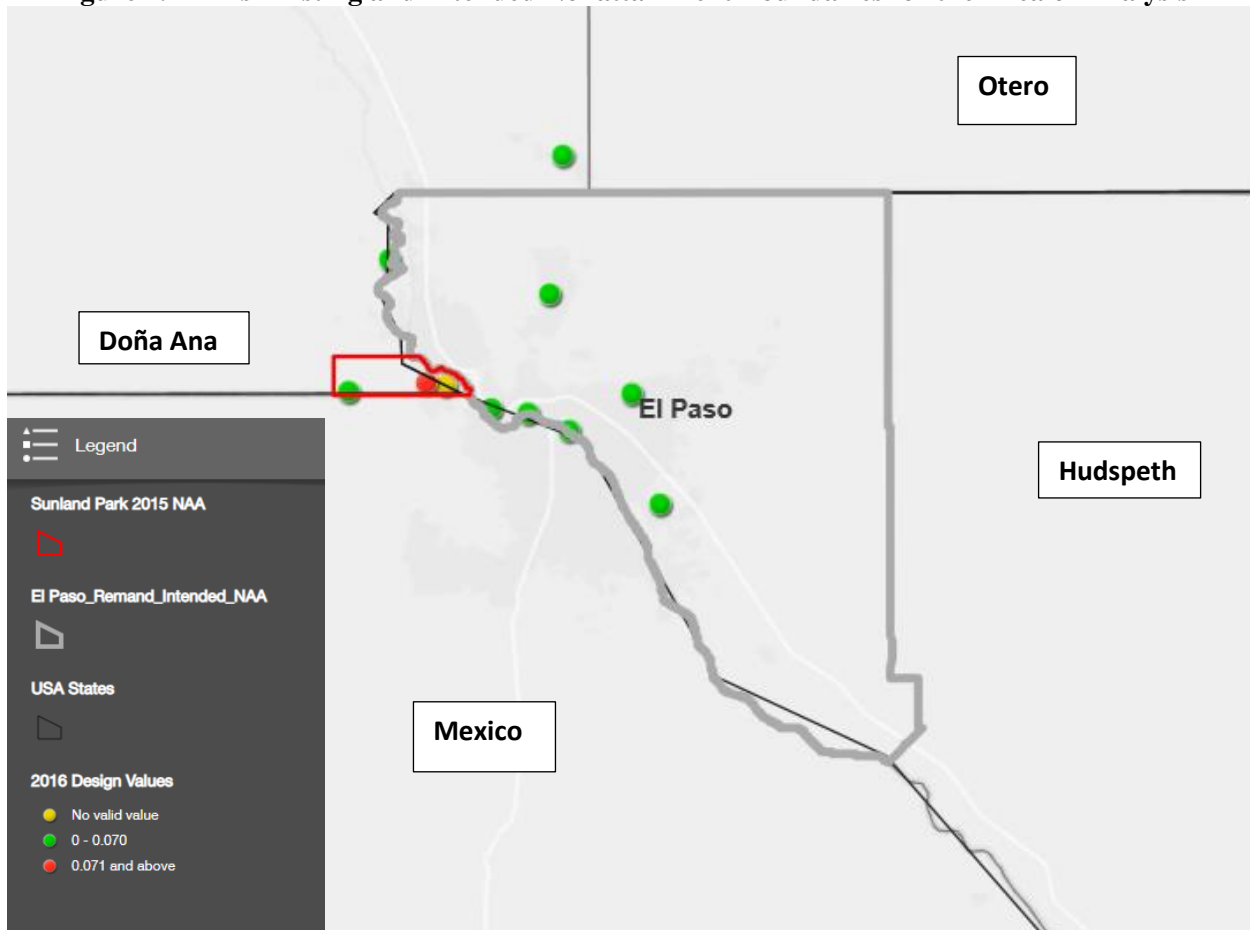
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<sup>8</sup> The EPA's Ozone Designations Guidance and Data web page can be found at <https://www.epa.gov/ozone-designations/ozone-designations-guidance-and-data>.

<sup>9</sup> In furtherance of transparency, the additional information submitted by the State in December 2020 is provided in the docket for this action.

<sup>10</sup> The Final EPA TSD for New Mexico is posted in the docket for this action and at <https://www.epa.gov/ozone-designations/ozone-designations-2015-standards-new-mexico-state-recommendations-and-epa>.

**Figure 1. EPA's Existing and Intended Nonattainment Boundaries for the Area of Analysis<sup>11</sup>**



The EPA must designate as nonattainment any area that violates the NAAQS and any nearby areas that contribute to such violation. Doña Ana County, NM had a monitor in violation of the 2015 ozone NAAQS and therefore was previously designated as nonattainment (83 FR 25776).

In response to the remand, the following sections describe our five-factor weight of evidence analysis for El Paso County, to determine whether El Paso County contributes to the violating monitor in Doña Ana County. While the factors are presented individually, they are not independent. The five-factor analysis process carefully considers the interconnections among the different factors and the dependence of each factor on one or more of the others, such as the interaction between emissions and meteorology for the area being evaluated.

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<sup>11</sup> Figure 1 in the Final EPA TSD for New Mexico (April 2018), shows the CSA in its entirety, which is comprised of Doña Ana County and El Paso and Hudspeth Counties, Texas. Figure 1 above is enlarged to show the violating monitor (indicated by the red dot) in Doña Ana County.

## **Factor Assessment**

### **Factor 1: Air Quality Data**

The EPA considered 8-hour ozone design values in parts per million (ppm) for air quality monitors in the area of analysis based on data for the 2014-2016 period (i.e., the 2016 design value). This was the most recent three-year period with certified air quality data at the time of designation. The design value (DV) is the 3-year average of the annual 4<sup>th</sup> highest daily maximum 8-hour average ozone concentration.<sup>12</sup> The 2015 NAAQS are met when the DV is 0.070 ppm or less. Only ozone measurement data collected in accordance with the quality assurance (QA) requirements using approved (FRM/FEM) monitors are used for NAAQS compliance determinations.<sup>13</sup> The EPA uses FRM/FEM measurement data residing in the EPA's Air Quality System (AQS) database to calculate the ozone DVs. Individual violations of the 2015 ozone NAAQS that the EPA determines have been caused by an exceptional event that meets the administrative and technical criteria in the Exceptional Events Rule<sup>14</sup> are not included in these calculations. When several monitors are located in a county (or designated nonattainment area), the DV for the county or area is determined by the monitor with the highest valid DV. The presence of one or more violating monitors (i.e. monitors with DVs greater than 0.070 ppm) in a county or other geographic area forms the basis for designating that county or area as nonattainment. The remaining four factors are then used as the technical basis for determining the spatial extent of the designated nonattainment area surrounding the violating monitor(s) based on a consideration of what nearby areas are contributing to a violation of the NAAQS.

The EPA identified one monitor where the most recent DV violates the NAAQS and examined historical ozone air quality measurement data (including previous DVs) to understand the nature of the ozone ambient air quality problem in the area. Eligible monitors for providing DV data generally include State and Local Air Monitoring Stations (SLAMS) that are operated in accordance with 40 CFR part 58, appendix A, C, D and E and operating with an FRM or FEM monitor. These requirements must be met in order to be acceptable for comparison to the 2015 ozone NAAQS for designation purposes. All data from Special Purpose Monitors (SPMs) using an FRM or FEM are eligible for comparison to the NAAQS, subject to the requirements given in the March 28, 2016 Revision to Ambient Monitoring Quality Assurance and Other Requirements Rule (81 FR 17248).

The 2014-2016 DVs for counties in the area of analysis are shown in Table 2 below.

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<sup>12</sup> The specific methodology for calculating the ozone design values, including computational formulas and data completeness requirements, is described in 40 CFR part 50, appendix U.

<sup>13</sup> The QA requirements for ozone monitoring data are specified in 40 CFR part 58, appendix A. The performance test requirements for candidate FEMs are provided in 40 CFR part 53, subpart B.

<sup>14</sup> The EPA finalized the rule on the Treatment of Data Influenced by Exceptional Events (81 FR 68216, October 3, 2016) and the guidance on the Preparation of Exceptional Events Demonstrations for Wildfire Events in September of 2016. For more information, see <https://www.epa.gov/air-quality-analysis/exceptional-events-rule-and-guidance>. The Texas submittal was prepared and submitted under the 2007 Exceptional Events Rule (72 FR 13560, March 22, 2007) and reviewed under both rules.



**Table 2. Air Quality Data (all values in ppm)**

County, State	State Recommended Nonattainment?	AQS Site ID	2014-2016 DV	2014 4 <sup>th</sup> highest daily max value	2015 4 <sup>th</sup> highest daily max value	2016 4 <sup>th</sup> highest daily max value
Doña Ana, NM	Yes (partial)	350130008 “La Union”	0.066	0.065	0.070	0.063
		350130017	N/A	0.067	0.057	N/A
		350130020 “Chaparral”	0.066	0.067	0.065	0.068
		350130021 “Desert View”	<b>0.072</b>	0.072	0.074	0.070
		350130022 “Santa Teresa”	0.068	0.066	0.070	0.069
		350130023 “Las Cruces”	0.065	0.066	0.066	0.064
El Paso, TX	No	481410029 “Ivanhoe”	0.062	0.062	0.065	0.061
		481410037 “UTEP”	<b>0.070</b>	0.070	0.070	0.071
		481410044 “Chamizal”	0.067	0.066	0.070	0.065
		481410055 “Ascarate Park”	0.064	0.062	0.064	0.066
		481410057 “Socorro”	0.066	0.066	0.069	0.064
		481410058 “Skyline”	0.068	0.070	0.069	0.066
Hudspeth, TX	No	No monitor	N/A			

The highest design value in each county is indicated in bold type.

N/A means that the monitor did not meet the completeness criteria described in 40 CFR, part 50, Appendix U, or no data exists for the county.

The Desert View Monitor in Doña Ana County had a violation of the 2015 ozone NAAQS and therefore, a portion of Doña Ana County was included in the final nonattainment area. A county (or partial county) must also be designated nonattainment if it contributes to a violation in a nearby area. Each county without a violating monitor that is located near a county with a violating monitor must be evaluated based on the weight-of-evidence of the five factors and other relevant information to determine whether it contributes to the nearby violation.

Figure 1, shown previously, identifies the area of analysis, the nonattainment area, and the violating monitor. Table 2 above identifies the DVs for all monitors in the area of analysis. As indicated on the map, there is one violating monitor located in Sunland Park in southeastern Doña Ana County. There are four other monitors in southern and central Doña Ana County that were not violating based on air quality

data from 2014-2016. There were six monitors in nearby El Paso County that were not violating based on air quality data from 2014-2016.<sup>15</sup>

Doña Ana County had a violating monitor with a design value of 0.072 ppm. The design values for all other monitors in the area of analysis were between 0.062 ppm and 0.070 ppm.

**Factor 2: Emissions and Emissions-Related Data**

The EPA re-evaluated ozone precursor emissions of nitrogen oxides (NOx) and volatile organic compounds (VOC) and other emissions-related data in the record that provide information on areas contributing to the violating monitor.

**Emissions Data**

The EPA reviewed data from the 2014 National Emissions Inventory (NEI). For each county in the area of analysis, the EPA examined the magnitude of large sources (NOx or VOC emissions greater than 100 tons per year) and small point sources and the magnitude of county-level emissions reported in the NEI. These county-level emissions represent the sum of emissions from the following general source categories: point sources, non-point (i.e., area) sources, non-road mobile, on-road mobile, and fires. Emissions levels from sources in a nearby area indicate the potential for the area to contribute to monitored violations.

Table 3 provides a county-level emissions summary of NOx and VOC (given in tons per year (tpy)) for El Paso County, as considered for inclusion in the nonattainment area.

**Table 3. Total County-Level NOx and VOC Emissions**

County, State	State Recommended Nonattainment?	Total NOx (tpy)	Total VOC (tpy)
El Paso, TX	No	18,391	13,912
Doña Ana, NM	Yes (partial)*	10,729	6,096
Hudspeth, TX	No	2,776	446
Area wide:		31,896	20,454

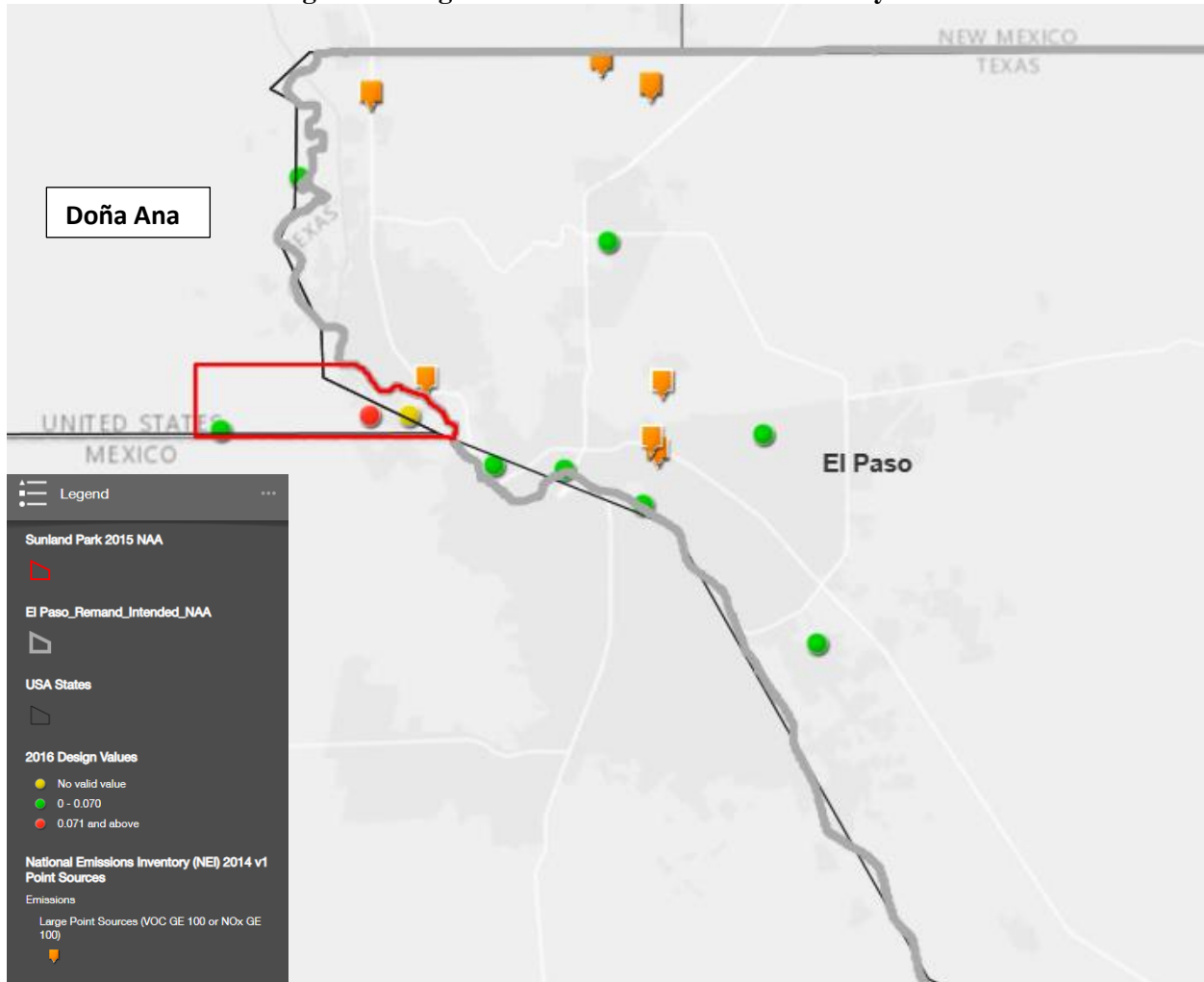
\* For partial counties, the emissions shown are for the entire county.

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<sup>15</sup> On September 27, 2016, Texas submitted an Exceptional Event demonstration for the June 21, 2015 exceedance of the 2015 ozone standard at the UTEP monitor. On December 15, 2017, the EPA concurred on the Exceptional Event demonstration submitted by Texas for the ozone monitor known as the “UTEP” monitor in El Paso. The EPA agreed that an Exceptional Event occurred at the UTEP monitor on June 21, 2015. Individual violations of the 2015 ozone NAAQS that the EPA determines have been caused by an exceptional event that meet the administrative and technical criteria in the Exceptional Events Rule are not included in the air quality data calculations. Thus, the monitoring data for June 21, 2015 are not included in the calculation of the 2014-2016 DV at the UTEP monitor. EPA did not receive adverse comments relevant to the Exceptional Event. Documentation regarding the Exceptional Event is provided in the docket for this action.

In addition to reviewing county-wide emissions of NO<sub>x</sub> and VOC in the area of analysis, the EPA also reviewed emissions from large point sources. The location of these sources, together with the other factors, can help inform nonattainment boundaries. The locations of the large point sources in the area of analysis are shown in Figure 2 below. The existing and intended nonattainment boundaries are also shown.

**Figure 2. Large Point Sources in the Area of Analysis<sup>16</sup>**



<sup>16</sup> Figure 3 in the Final EPA TSD for New Mexico (April 2018), shows the area of analysis in its entirety, including two more large point sources northwest of the existing nonattainment area in Doña Ana County. Figure 2 above is enlarged to show the number of large point sources in El Paso County. Note the large point source on the edge of the existing nonattainment area is actually in Doña Ana County. There is a total of three large point sources in Doña Ana County and six large point sources in El Paso County.

In summary, the EPA’s analysis of relevant, domestic county-level emissions and the geographic locations of the relevant emissions show that emissions of NOx in El Paso County are approximately 71 percent greater than emissions of NOx in Doña Ana County, and emissions of VOC in El Paso County are approximately 128 percent greater than emissions of VOC in Doña Ana County.<sup>17</sup> The CSA includes both Counties and our analysis indicates that Doña Ana County’s emissions account for only approximately 34% of the NOx and approximately 30% of the VOC total emissions while El Paso County’s emissions account for approximately 58% of the NOx and approximately 68% of the VOC total emissions. Finally, EPA’s pollution transport modeling indicates that anthropogenic, or human-made emissions in New Mexico contribute approximately 4% to the projected 2017 design value for Doña Ana County.<sup>18</sup>

**Population density and degree of urbanization**

In this part of the factor analysis, the EPA evaluated the population and vehicle use characteristics and trends of the area as indicators of the probable location and magnitude of non-point source emissions. These include emissions of NOx and VOC from on-road and non-road vehicles and engines, consumer products, residential fuel combustion, and consumer services. Areas of dense population or commercial development are an indicator of area source and mobile source NOx and VOC emissions that may contribute to violations of the NAAQS. Table 4 shows the population, population density, and population growth information for each county in the area of analysis. Figure 3 below contains a county-level density map of the area of analysis.

**Table 4. Population and Growth**

County, State	State Recommended Nonattainment?	2010 Population	2015 Population	2015 Population Density (per sq. mi.)	Absolute change in population (2010-2015)	Population % change (2010-2015)
Doña Ana, NM	Yes (partial)*	209,233	214,295	56	5,062	2
El Paso, TX	No	800,647	835,593	825	34,946	4
Hudspeth, TX	No	3,476	3,379	1	-97	-3
TX Area total:		1,013,356	1,053,267		39,911	4

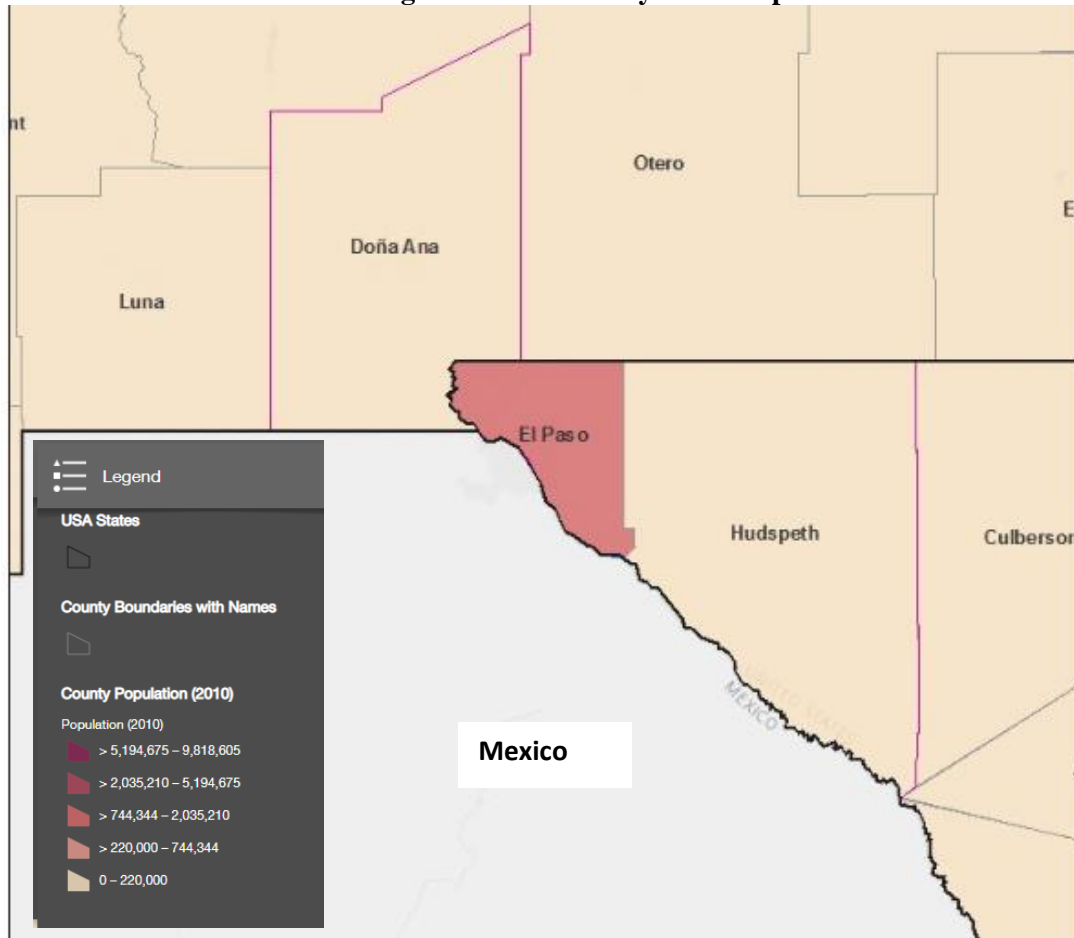
\* For state recommended partial counties, the emissions shown are for the entire county.  
 Source: U.S. Census Bureau population estimates for 2010 and 2015. [www.census.gov/data.html](http://www.census.gov/data.html)

<sup>17</sup> As noted in EPA’s Final TSD for New Mexico (April 2018), emissions sources in Mexico also likely contribute to violations of the ozone NAAQS in Doña Ana County. However, foreign contributions do not impact EPA’s analysis of domestic contributions in making designations decisions.

<sup>18</sup> See Table 2c, Implementation of the 2015 Primary Ozone NAAQS: Issues Associated with Background Ozone White Paper for Discussion, December 30, 2015. A copy of the White Paper is available at <https://www.epa.gov/sites/production/files/2016-03/documents/whitepaper-bgo3-final.pdf>. The results are based on 2017 CAMx source apportionment modeling that was released publicly on January 22, 2015 as part of the memo: Information on the Interstate Transport “Good Neighbor” Provisions for the 2008 O3 National Ambient Air Quality Standards under Clean Air Act Section 110(a)(2)(D)(i)(I). A copy of that memo and related documents can be found at <http://www.epa.gov/airtransport/ozonetransportNAAQS.html>.

Within the area of analysis, El Paso County has the highest 2015 population with 835,593 and a population density of 825 people per square mile. In comparison, the population of El Paso County is approximately 74 percent greater than the population of Doña Ana County and the population density of El Paso is approximately 93 percent greater than the population density of Doña Ana County. Within the area of analysis, approximately 79 percent of the total population live in El Paso County, 20 percent reside in Doña Ana County, and one percent live in Hudspeth County. There has been limited population growth in the area of analysis. The highest growth occurred in El Paso County at 4 percent followed by Doña Ana County at 2 percent.

**Figure 3. 2010 County-Level Population**



## Traffic and Vehicle Miles Travelled (VMT)

The EPA evaluated the commuting patterns of residents, as well as the total vehicle miles traveled (VMT) for each county in the area of analysis.<sup>19</sup> In combination with the population/population density data and the location of main transportation arteries, this information helps identify the probable location of non-point source emissions. A county with high VMT and/or a high number of commuters is generally an integral part of an urban area and high VMT and/or high number of commuters indicates the presence of motor vehicle emissions that may contribute to violations of the NAAQS. Rapid population or VMT growth in a county on the urban perimeter may signify increasing integration with the core urban area, and thus could indicate that the associated area source and mobile source emissions may be appropriate to include in the nonattainment area. In addition to VMT, the EPA evaluated worker data collected by the U.S. Census Bureau for the area of analysis.<sup>20</sup> Table 5 shows the traffic and commuting pattern data, including total VMT for each county, number of residents who work in each county, number of residents that commute to or within counties with violating monitor(s), and the percent of residents commuting to or within counties with violating monitor(s). Unless otherwise noted, the data in Table 5 are 2014 data.

**Table 5. Traffic and Commuting Patterns**

County, State	State Recommended Nonattainment?	2008 Total VMT (Million Miles)	2014 Total VMT (Million Miles)	VMT Growth 2008 to 2014 (percent)	Number of County Residents Who Work	Number (Percent) Commuting to or Within El Paso County	Number (Percent) Commuting to or Within Doña Ana County
El Paso, TX	No	5,599	5,956	6	308,236	274,910 (89%)	5,692 (2%)
<b>Doña Ana, NM</b>	Yes (partial)*	2,568	2,024	-21	72,179	12,827 (18%)	47,369 (66%)
Hudspeth, TX	No	461	441	-4	1,208	466 (39%)	4 (less than 1%)
Total:		8,628	8,421	-2	381,623	288,203	53,065

\* For state recommended partial counties, the data provided are for the entire county. Counties with a monitor violating the NAAQS are indicated in bold.

To show traffic and commuting patterns, Figure 4 below overlays 12-kilometer gridded VMT from the 2014 NEI with a map of the transportation arteries and the monitor locations.

<sup>19</sup> The VMT data are available from the NEI (see <https://www.epa.gov/air-emissions-inventories/national-emissions-inventory-nei>). See also <https://www.epa.gov/ozone-designations/ozone-designations-guidance-and-data>.

<sup>20</sup> The worker data can be accessed at: <http://onthemap.ces.census.gov/>.

**Figure 4. Twelve Kilometer Gridded VMT (Miles) Overlaid with Transportation Arteries**



Counties are listed in Table 5 in order of VMT from largest to smallest. The VMT in El Paso County is 66 percent higher than the VMT in Doña Ana County. Most of the employed population in each of El Paso and Doña Ana counties do not travel outside of their respective counties for work. However, as evident in Figure 4 above, the southeastern portion of Doña Ana County is likely impacted by VMT emissions from El Paso County. The EPA notes that even though there is limited commuting traffic between the two areas, the close proximity of the areas to each other makes the VMT and population an important aspect of the contribution analysis.

### Factor 3: Meteorology

Evaluation of meteorological data helps to assess the fate and transport of emissions contributing to ozone concentrations and to identify areas potentially contributing to the monitored violations. Results of meteorological data analysis may inform the determination of nonattainment area boundaries. In order to determine how meteorological conditions, including, but not limited to, weather, transport patterns, and stagnation conditions, could affect the fate and transport of ozone and precursor emissions from sources in the area, EPA evaluated 2014-2016 Hybrid Single-Particle Lagrangian Integrated Trajectory (HYSPLIT) at 100, 500, and 1000 meters above ground level (AGL) that illustrate the three-dimensional paths traveled by air parcels to a violating monitor. Figure 5a shows the 24-hour HYSPLITs for each exceedance day (i.e., daily maximum 8-hour values that exceed the 2015 ozone NAAQS) for the violating monitor.

**Figure 5a. HYSPLIT Back Trajectories for the Violating Monitor in Doña Ana County**

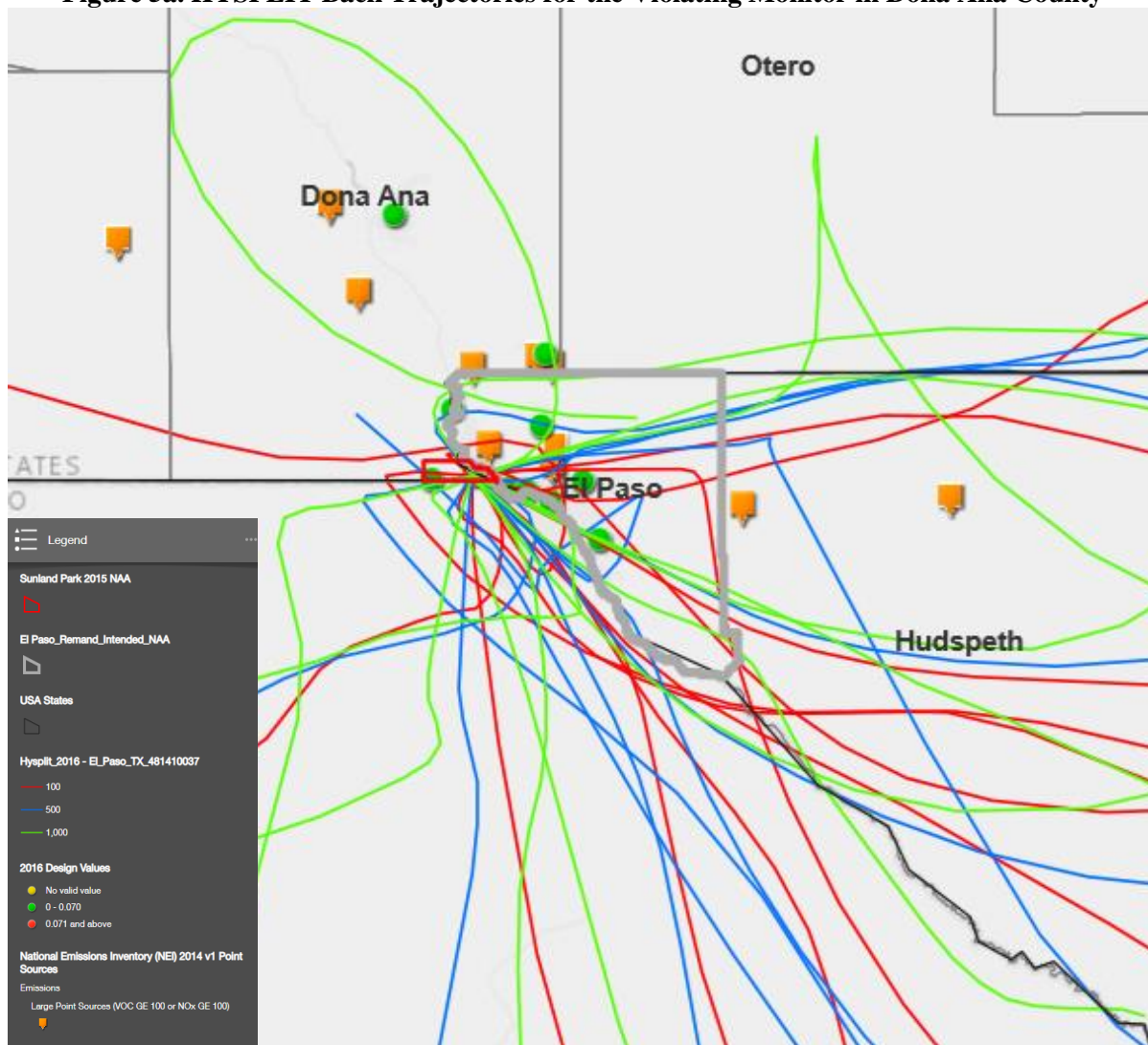
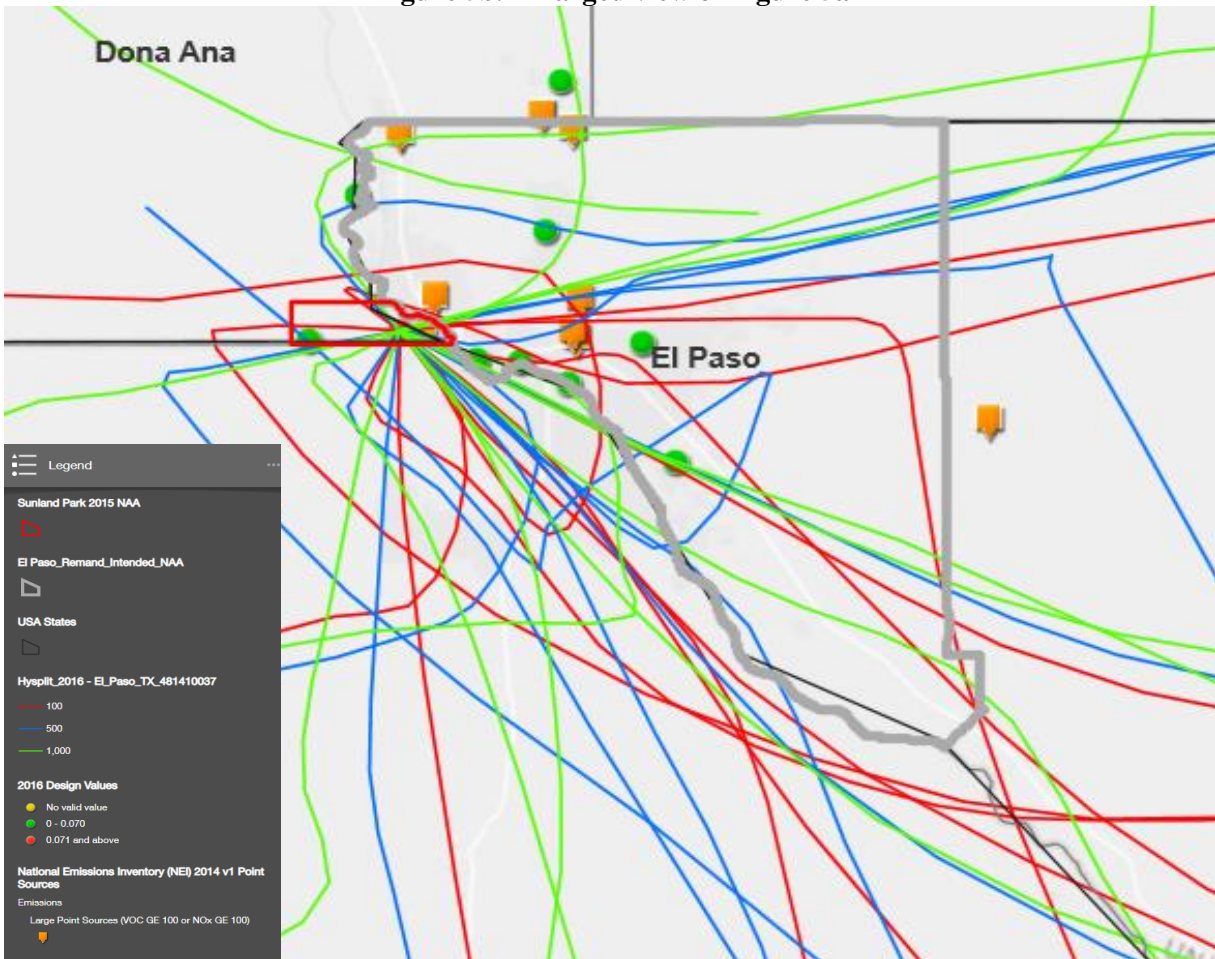




Figure 5b. Enlarged view of Figure 5a



The HYSPLIT results show back trajectories for each exceedance day at three AGLs. There were 13 exceedance days and thus, the HYSPLIT map shows 39 back trajectories, 13 at each AGL. The HYSPLIT results show that the back trajectories for each exceedance day are predominantly from the south (through Juarez), the southeast, and the east (through El Paso). On 8 of the 13 exceedance days (62%), trajectories passed through El Paso County before reaching the violating monitor.

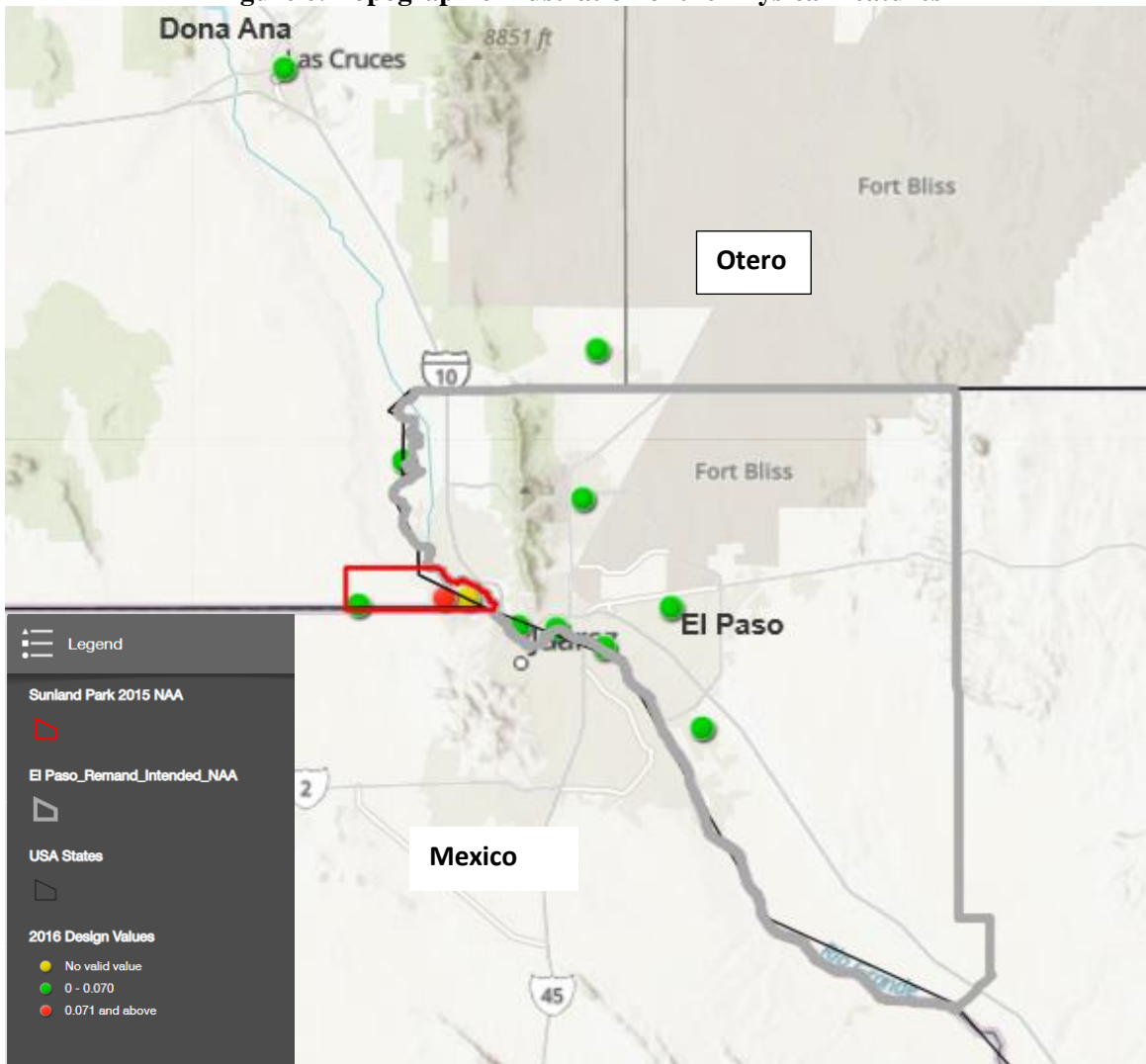
In summary, the EPA's analysis of the HYSPLIT data show that the violating monitor is impacted by transport from El Paso County for more than half of the exceedance days at the violating monitor.

#### **Factor 4: Geography/topography**

Consideration of geography or topography can provide additional information relevant to defining nonattainment area boundaries. Analyses should examine the physical features of the land that might define the airshed. Mountains or other physical features may influence the fate and transport of emissions as well as the formation and distribution of ozone concentrations. The absence of any such geographic or topographic features may also be a relevant consideration in selecting boundaries for a given area.

The EPA analyzed geography/topography to evaluate the physical features of the land that might affect the airshed and, therefore, the distribution of ozone over the area. Figure 6 below illustrates the physical features in the area of analysis. The EPA has found the Franklin Mountains do not have as much of a limiting effect on transport of emissions as stated in our prior TSD. As shown above, on 8 of 13 exceedance days, HYSPLIT trajectories show winds passing through areas of El Paso County with emissions before reaching the Desert View Monitor in Doña Ana County. The EPA believes that HYSPLIT trajectories are able to pass through El Paso due to the location of the Franklin Mountains in relation to the City of El Paso where the majority of the population, sources of emissions, and emissions are found in El Paso County. The Franklin Mountains run north-south in El Paso County and likely have the greatest limiting effect on transport of ozone and ozone precursors in an east-west direction. However, the majority of the City of El Paso is located to the south of the Franklin Mountains leaving open a corridor for transport of ozone and ozone precursors to the Desert View Monitor. The City of Juarez, Mexico which EPA also found had a significant impact on the violating monitor in Doña Ana County is also located to the south of the City of El Paso and the Franklin Mountains. Therefore, the Franklin mountains provide geographical/topographical barriers but do not limit air pollution transport from El Paso County to the violating monitor, as shown by the HYSPLIT model that uses meteorological data in Figures 5a and 5b above. Therefore, this factor did not play a significant role in this evaluation. As shown in Figures 5a and 5b above, there is evidence of air flow around the Franklin Mountains but the Mountains seem to mostly channel the air flow and do not block air flow.

**Figure 6. Topographic Illustration of the Physical Features**



### **Factor 5: Jurisdictional boundaries**

In addition to analyzing the geographic extent of the violating area, the EPA considered existing jurisdictional boundaries for the purposes of providing a clearly defined legal boundary to carry out the air quality planning and enforcement functions for nonattainment areas. In defining the boundaries of the nonattainment area, the EPA considered existing jurisdictional boundaries, which can provide easily identifiable and recognized boundaries for purposes of implementing the NAAQS. Examples of jurisdictional boundaries include, but are not limited to counties, air districts, areas of Indian country, metropolitan planning organizations, and existing nonattainment areas. If an existing jurisdictional boundary is used to help define the nonattainment area, it must encompass all the area that has been identified as meeting the nonattainment definition. Where existing jurisdictional boundaries are not adequate or appropriate to describe the nonattainment area, EPA considers other clearly defined and permanent landmarks or geographic coordinates for purposes of identifying the boundaries of the designated areas.

El Paso County was designated as nonattainment under the 1-hour ozone NAAQS. El Paso County includes the Ysleta del Sur Pueblo lands and EPA is including such lands in the intended nonattainment area. The El Paso Metropolitan Planning Organization includes, but is not limited to El Paso County and the southeast portion of Doña Ana County.

### **Conclusion for El Paso County**

EPA has reassessed the factors described above for El Paso County and intends to modify the State's recommendation.

The EPA designated El Paso County attainment in its April 2018 final designations action because El Paso County had no violating monitors and the majority of emissions impacting the violating monitor could be attributed to nearby areas in Mexico. In the April 2018 Final EPA TSD for New Mexico, the Agency stated that in considering overall emissions in the area, Juarez emits 52% of the total NO<sub>x</sub> (compared to 28% from El Paso), 67% of the total VOC emissions (compared to 22% from El Paso), and has 61% of the population (compared to 38% in El Paso). EPA also stated that the HYSPLIT data show approximately 67% of back trajectories flow through nearby areas in Juarez before reaching the violating monitor. The agency concluded that international emissions were the primary contributor to the violating monitor. However, in light of the Court's decision to remand our original decision for further evaluation and explanation, and giving further consideration to the statutory requirements of CAA 107(d) and consistency with other areas around the country, the EPA now corrects our prior decision.

Based on a 5-factor analysis, we now find that El Paso County contributes to the violation in Doña Ana County. Emissions of NO<sub>x</sub> in El Paso County are approximately 71 percent greater than emissions of NO<sub>x</sub> in Doña Ana County, and emissions of VOC in El Paso County are approximately 128 percent greater than emissions of VOC in Doña Ana County. In the area of analysis, approximately 79 percent of the population live in El Paso County and the VMT in El Paso County is 66 percent higher than the VMT in Doña Ana County. EPA believes it likely that VMT emissions in El Paso County also contribute to the violating monitor. Furthermore, the HYSPLIT analysis shows that on 8 of the 13 exceedance days at the violating monitor back trajectories flowed through El Paso County.

We find that El Paso contributes to the nearby violating monitor and that our previous attainment designation did not sufficiently weigh the 5 factors for El Paso County for contribution and inappropriately relied on contributions from international emissions. First, for contribution, we did not properly weigh the impact of emissions (NO<sub>x</sub>, VOC, population size and density, and VMT) from El Paso County on the violating monitor. Second, while EPA does believe that those international emissions significantly influence air quality in Doña Ana and El Paso counties, that influence is properly addressed through the appropriate CAA 179B demonstration process, not the NAAQS designation process. As the Court noted in its opinion remanding the El Paso designation, the EPA must designate as nonattainment any area that contributes to a nearby violation.<sup>21</sup> The EPA has determined that El Paso contributes to a violating monitor.<sup>22</sup> Consistent with EPA's prior designations and guidance, when an area contains a violating monitor, that area will be designated nonattainment and EPA will evaluate all nearby areas for contribution. Nearby areas include areas without violating monitors and the absence of a violating

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<sup>21</sup> *Clean Wisconsin v. EPA*, 964 F.3d 1145, 1164 (D.C. Cir. 2020)

<sup>22</sup> *Clean Wisconsin v. EPA*, 964 F.3d 1145 at 1164 (D.C. Cir. 2020)

monitor is only one of five factors the EPA evaluates in its contribution analysis. As stated above, the EPA's contribution analysis and initial designations process does not consider foreign anthropogenic emissions.

The EPA's five factor analysis discussed above shows that despite the lack of violating monitors, El Paso County contributes to the violation in Doña Ana County and, therefore, the EPA intends to expand the existing nonattainment area include El Paso County. The EPA's five-factor analysis from our previous designation and this designation both demonstrate that despite a lack of violations at all monitors in El Paso County, that El Paso has greater emissions of NO<sub>x</sub>, greater emission of VOCs, greater total population, denser population, higher VMT, and more point sources than Doña Ana County. Furthermore, the HYSPLIT analysis shows that on 8 of the 13 exceedance days at the violating monitor back trajectories flowed through El Paso county. Collectively, this provides demonstrable evidence that El Paso County sufficiently contributes to the violating monitor and the existence of international emissions, though relevant and greater, cannot discount that contribution. Therefore, the EPA has determined that El Paso contributes to the violation in Doña Ana County and intends to expand the existing nonattainment area include El Paso County.

Even if we were to include Juarez in the area of analysis, our intended designation of nonattainment for El Paso County is consistent with the designation decisions we made in April 2018 across the rest of the country. For example, inclusion of El Paso County is consistent with EPA's inclusion of Ellis, Kaufman, and Wise counties in the Dallas-Fort Worth (DFW) nonattainment area and Chambers and Fort Bend counties in the Houston-Galveston-Brazoria (HGB) nonattainment area.<sup>23</sup> Wise, Chambers and Fort Bend counties have no ozone monitors and the ozone monitors in Ellis and Kaufman counties were meeting the 2015 ozone NAAQS at the time of designation. Also, Ellis, Kaufman, Wise, Chambers, and Fort Bend counties actually have fewer emissions of NO<sub>x</sub> and VOC than El Paso County, and the HYSPLIT maps for the DFW and HGB areas showed back trajectories passed through these counties before reaching nearby violating monitors. All five counties were designated nonattainment even though they had significantly fewer emissions than other counties in the DFW and HGB areas of analysis. The Court's remand of our decision and our re-evaluation here correct our prior decision.

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<sup>23</sup> See EPA's Dallas-Fort Worth and Houston-Galveston-Brazoria Nonattainment Areas Final Area Designations for the 2015 Ozone National Ambient Air Quality Standards TSD (April 2018) in the docket for this action and posted at <https://www.epa.gov/ozone-designations/ozone-designations-2015-standards-texas-state-recommendations-and-epa-response>.