Doña Ana County, New Mexico

Area Designations for the 2015 Ozone National Ambient Air Quality Standards Technical Support Document (TSD)

1.0 Summary

This technical support document (TSD) describes the EPA's final action to designate a portion of Doña Ana County, New Mexico, which is located in the El Paso-Las Cruces, TX-NM combined statistical area, as nonattainment for the 2015 ozone National Ambient Air Quality Standards (NAAQS).

On October 1, 2015, the EPA promulgated revised primary and secondary ozone NAAQS (80 FR 65292; October 26, 2015). The EPA strengthened both standards to a level of 0.070 parts per million (ppm). In accordance with Section 107(d) of the Clean Air Act (CAA), whenever the EPA establishes a new or revised NAAQS, the EPA must promulgate designations for all areas of the country for that NAAQS.

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 22, 2016, New Mexico recommended that the counties identified in Table 1 below be designated as nonattainment for the 2015 ozone NAAQS based on air quality data from 2013-2015.

After considering these recommendations and based on EPA's technical analysis as described in this TSD, the EPA is not modifying the State's recommendation to designate the areas listed in Table 1 as nonattainment for the 2015 ozone NAAQS. The EPA must designate an area nonattainment if it has an air quality monitor that is violating the standard or if it has sources of emissions that are contributing to a violation of the NAAQS in a nearby area. Detailed descriptions of the nonattainment boundary for this area is found in the supporting technical analysis in Section 3.

Table 1. New Mexico's Recommended Nonattainment Areas and the EPA's Final Nonattainment Areas for the 2015 Ozone NAAQS

Area	States' Recommended Nonattainment Counties	EPA's Final Nonattainment Counties
Doña Ana County, NM	Doña Ana County (partial)	Doña Ana County(partial)

On November 6, 2017 (82 FR 54232; November 16, 2017), the EPA signed a final rule designating most of the areas the State did not recommend for designation as nonattainment as Attainment/Unclassifiable.[1] EPA explains in section 2.0 the approach it is now taking to designate the remaining areas in the State.

[1] 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

The EPA is designating all tribes 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,"[2] and "Policy for Establishing Separate Air Quality Designations for Areas of Indian Country."[3]

2.0 Nonattainment Area Analyses and 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. As described in the EPA's designations guidance for the 2015 NAAQS (hereafter referred to as the "ozone designations guidance"),[4] 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 area. The EPA believes that using the Core Based Statistical Area (CBSA) or Combined Statistical Area (CSA)[5] 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 area are evaluated. The area-specific analyses may support nonattainment boundaries that are smaller or larger than the CBSA or CSA.

On November 6, 2017, the EPA issued Attainment/Unclassifiable designations for approximately 85% of the United States and one unclassifiable area designation.[6] At that time, consistent with statements in the designations guidance regarding the scope of the area the EPA would analyze in determining nonattainment boundaries, EPA deferred designation for any counties in the larger of a CSA or CBSA where one or more counties in the CSA or CBSA was violating the standard and any counties with a violating monitor not located in a CSA or CBSA. In addition, the EPA deferred designation for any other counties adjacent to a county with a violating monitor. The EPA also deferred designation for any county that had incomplete monitoring data, any county in the larger of the CSA or CBSA where such a county was located, and any county located adjacent to a county with incomplete monitoring data.

The EPA is proceeding to complete the remaining designations consistent with the designations guidance (and EPA's past practice) regarding the scope of the area EPA would analyze in determining nonattainment boundaries for the ozone NAAQS as outlined above. For the deferred New Mexico counties, the technical analysis for the nonattainment area includes any counties in the larger of the relevant CSA or CBSA. For

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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.

[2] https://www.epa.gov/sites/production/files/2016-02/documents/ozone-designation-tribes.pdf

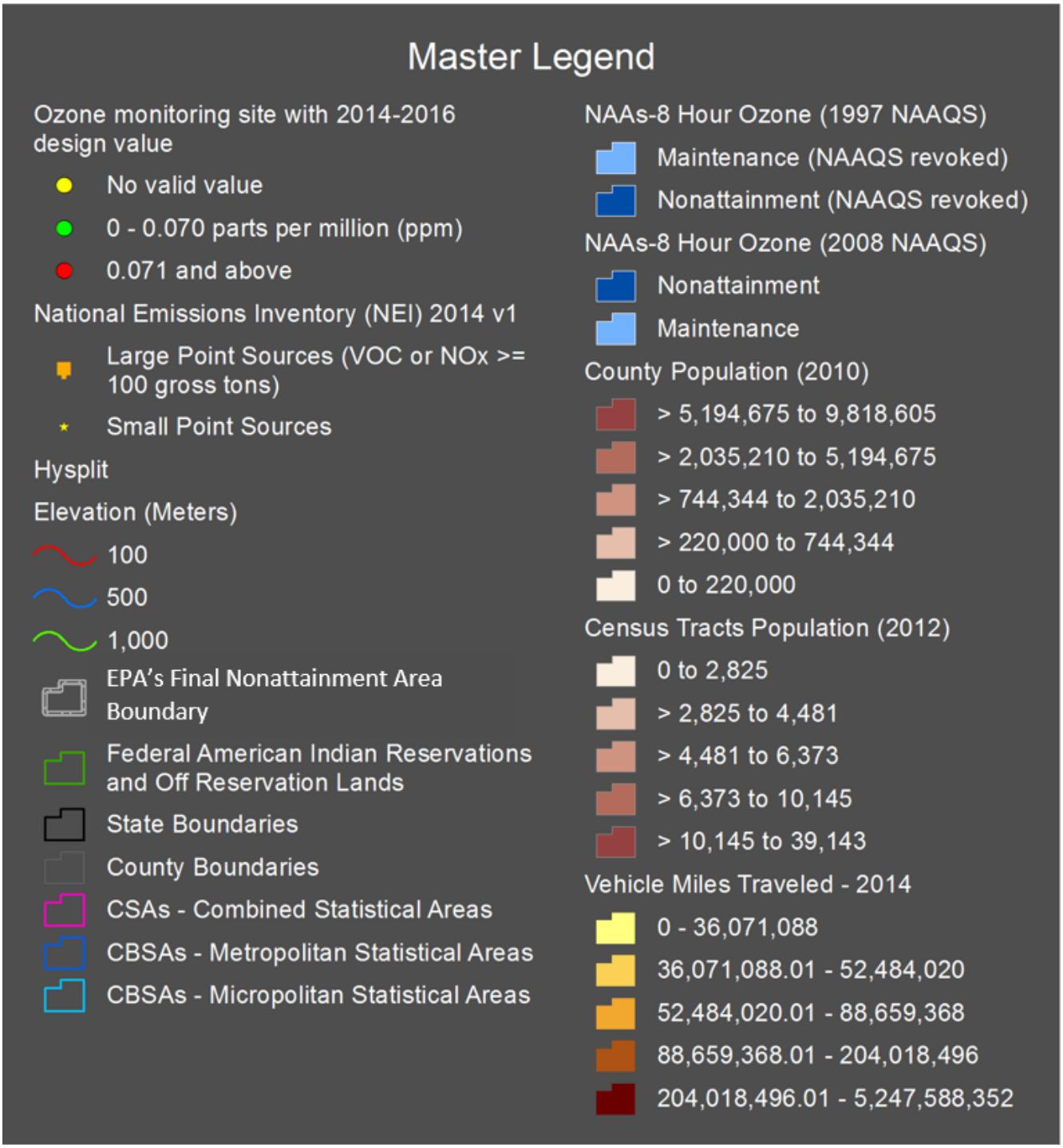
[3] https://www.epa.gov/sites/production/files/2016-02/documents/indian-country-separate-area.pdf

[4] 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*

[5] Lists of CBSAs and CSAs and their geographic components are provided at www.census.gov/population/www/metroareas/metrodef.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.

[6] Air Quality Designations for the 2015 Ozone National Ambient Air Quality Standards published on November 16, 2017(82 FR 54232).

counties with a violating monitor not located in a CSA or CBSA, EPA explains in the 3.0 Technical Analysis section, its decision whether to consider in the five-factor analysis for each area any other adjacent counties for which EPA previously deferred action. We are designating all counties not included in five-factor analyses for a specific nonattainment or unclassifiable area analyses, as Attainment/Unclassifiable. These deferred areas are identified in a separate document entitled "Designations for Deferred Counties and County Equivalents Not Addressed in the Technical Analyses." which is available in the docket.



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 these areas and 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 the weight-of-evidence of the five factors recommended in the EPA's ozone designations guidance and any other relevant information. In developing this technical analysis, the EPA used the latest data and information available to the EPA (and to the states and tribes through the Ozone Designations Mapping Tool and the EPA Ozone Designations Guidance and Data web page).[7] In addition, the EPA considered any additional data or information provided to the EPA by states or tribes.

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)).

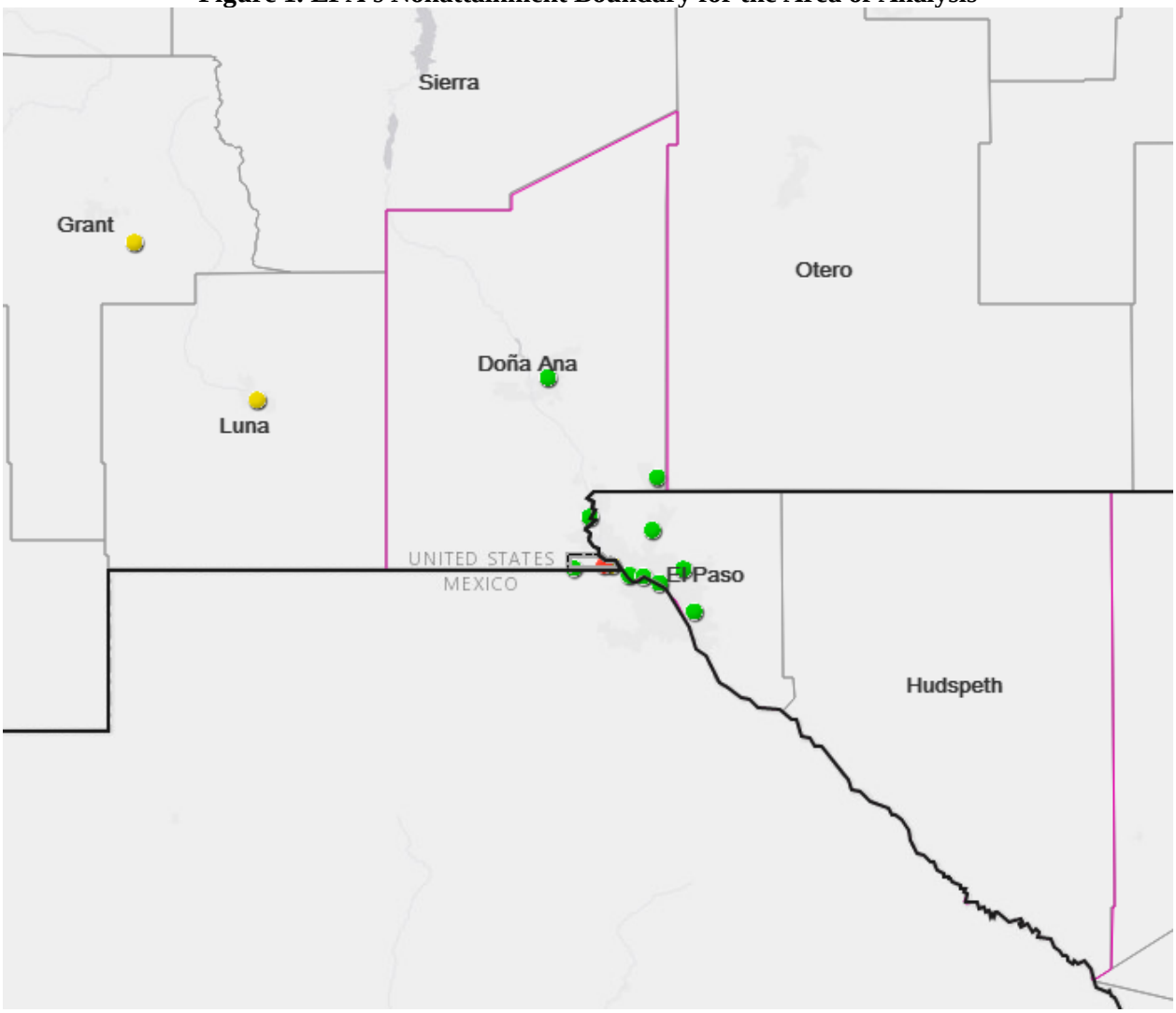
Below, EPA applies the five factors separately for the area in New Mexico that EPA is designating as nonattainment. For Doña Ana County, EPA acknowledges that the southeastern portion of the county is impacted by transport of ozone precursors from Mexico.

Figure 1 below is a map of the EPA's nonattainment boundary for the southeastern portion of Doña Ana County. Figure 1 also shows the ambient air quality monitors, the CBSA, CSA, county and other jurisdictional boundaries.

For purposes of the 1997 and 2008 8-hour ozone NAAQS, this area was designated as Unclassifiable/Attainment.

[7] 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.*

Figure 1. EPA's Nonattainment Boundary for the Area of Analysis



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 has a monitor in violation of the 2015 ozone NAAQS and therefore is included in the final nonattainment area. The following sections describe our five-factor weight of evidence analysis. 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.

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 is the most recent three-year period with fully-certified air quality data. The design value (DV) is the 3-year average of the annual 4th highest

daily maximum 8-hour average ozone concentration.[8] 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.[9] 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[10] 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.

[8] 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.
[9] 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.
[10] 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 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 4th highest daily max value	2015 4th highest daily max value	2016 4th 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"	**0.072**	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"	**0.070**	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.

Doña Ana County shows a violation of the 2015 ozone NAAQS and therefore, is included in part 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 has been 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 nonattainment area, the CBSA and CSA boundaries and the violating monitor. Table 2 above identifies the DVs for all monitors in the area of analysis and Figure 2 below shows the historical trend of DVs for the violating monitor. 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 are not violating based on air quality data from 2014-2016. There are six monitors in nearby El Paso County that are not violating based on air quality data from 2014-2016.

As shown in Figure 2, with the exception of an increase for the 2005-2007 DV, an uptick for the 2010-2012 DV, and a recent leveling of DVs, the overall trend shows a gradual decrease in three-year design values.

Figure 2. Three-Year Design Values for the Violating Monitor (2006-2016)

Doña Ana County has a violating monitor with a design value of 0.072 ppm. All other monitors in the CSA are between 0.062 ppm and 0.068 ppm. Therefore, any nearby area determined to be contributing to the violating monitor also needs to be designated as nonattainment.

Factor 2: Emissions and Emissions-Related Data

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

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 the area of analysis considered for inclusion in the nonattainment area.

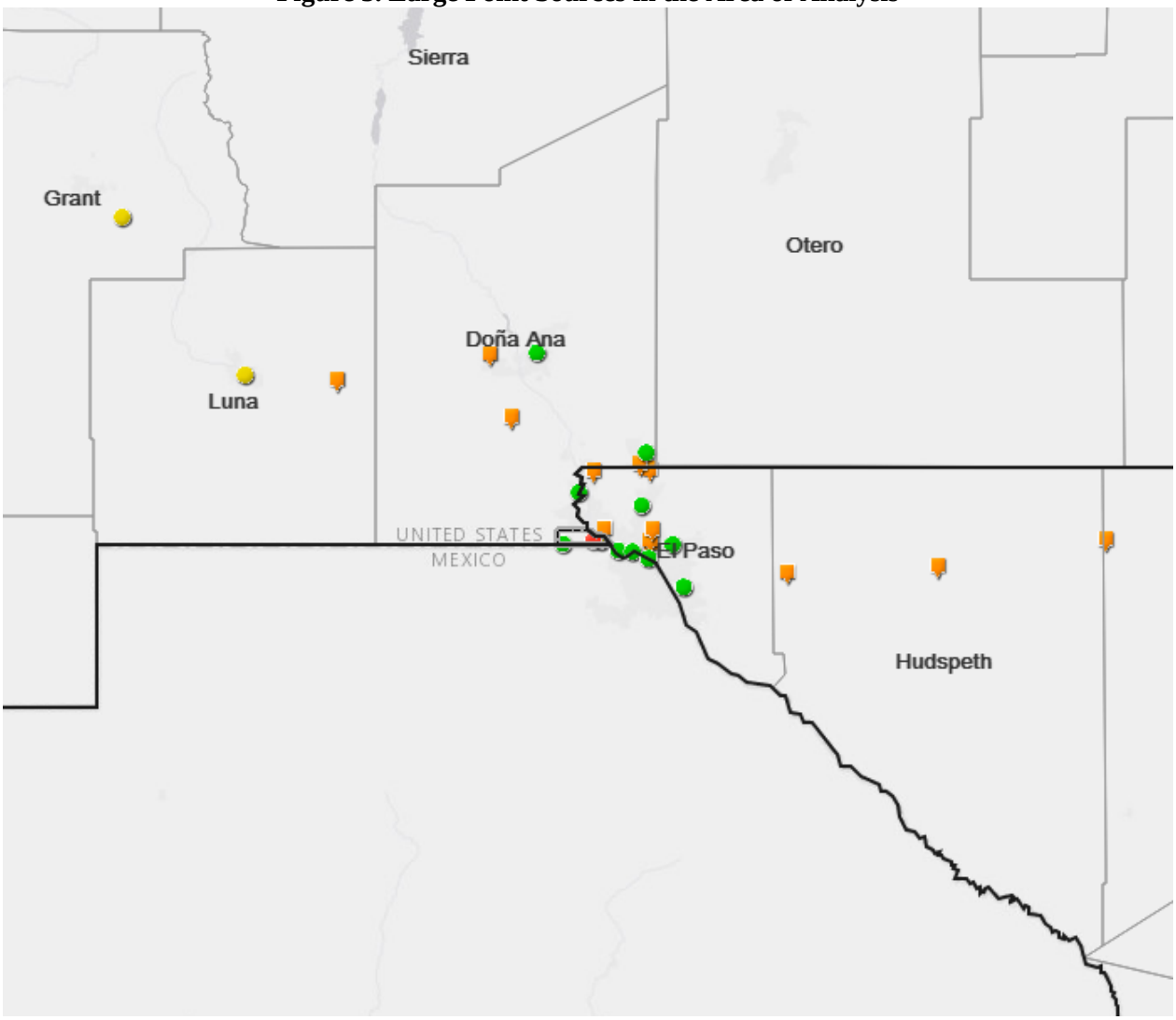
Table 3. Total County-Level NOx and VOC Emissions

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 state recommended partial counties, the emissions shown are for the entire county.

In addition to reviewing county-wide emissions of NOx 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 are shown in Figure 3 below. The nonattainment boundary is also shown.

Figure 3. Large Point Sources in the Area of Analysis



In summary, the EPA's analysis of relevant county-level emissions and the geographic locations of the relevant emissions show that El Paso County has higher NOx and VOC emissions than the other counties. The county with the next highest level of emissions is Doña Ana County, which has approximately 34% of the NOx emissions and 30% of the VOC emissions in the CSA.

With regard to total emissions, the EPA's pollution transport modeling indicates that man-made sources in New Mexico contribute approximately 4% to the projected 2017 design value for Doña Ana County.[11] Emissions sources in Mexico also likely contribute to violations of the ozone NAAQS in Doña Ana County.

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 4 below contains a county-level density map of the area of analysis.

Table 4. Population and Growth

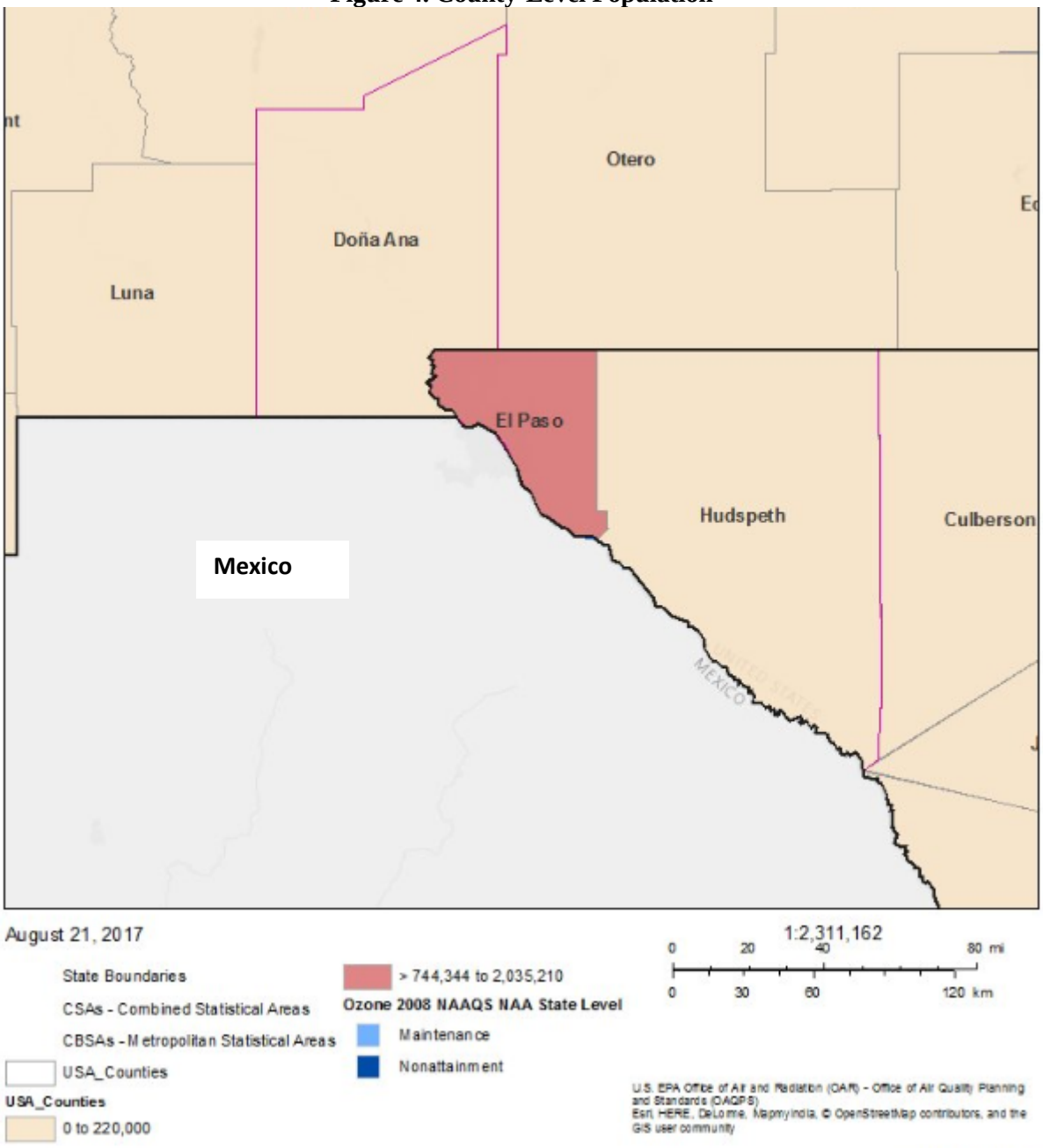
County, State	State Recommended Nonattainment?	2010 Population	2015 Population	2015 Population Density (per sq. mi.)	Absolute change in population (2010-2015)	Population % change (2010-2015)
Doña Ana, NM	Yes (partial)*	209,233	214,295	56	5,062	2
El Paso, TX	No	800,647	835,593	825	34,946	4
Hudspeth, TX	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

Within the area of analysis, El Paso County has the highest population with 835,593 and a population density of 825 people per square mile. Compared to El Paso, Doña Ana County has almost 74 percent lower population and lower population density. The population in Hudspeth County is also comparatively lower and rural. Within the area of analysis, approximately 79 percent of the 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. The highest growth was El Paso County at 4 percent followed by Doña Ana County at 2 percent.

[11] 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 the following website: http://www.epa.gov/airtransport/ozonetransportNAAQS.html.

Figure 4. 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. [12] 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

[12] 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.

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. [13] 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

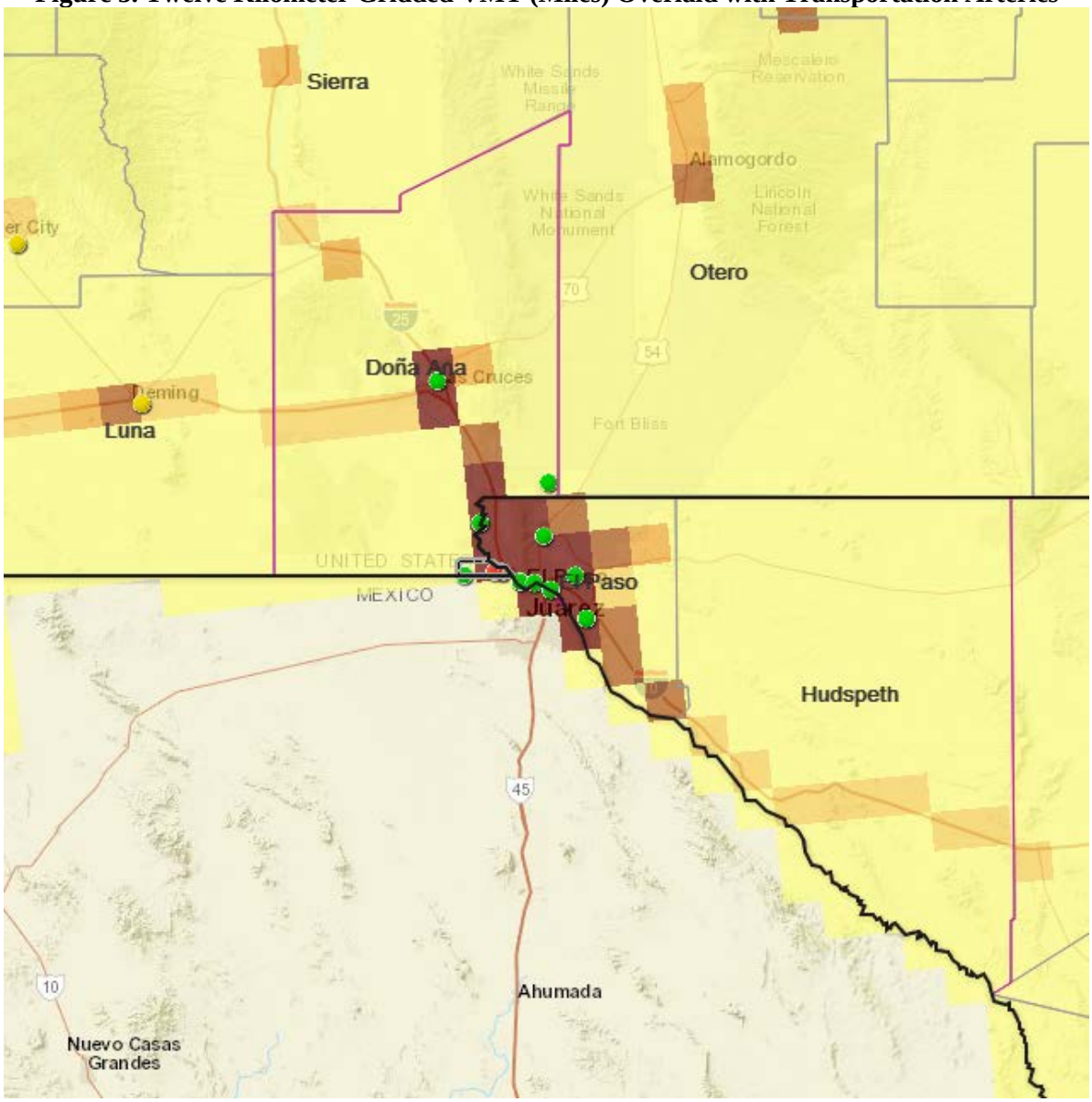
County, State	State Recommended Nonattainment?	2008 Total VMT (Million Miles)	2014 Total VMT (Million Miles)	VMT Growth 2008 to 2014 (percent)	Number of County Residents Who Work	Number (Percent) Commuting to or Within El Paso County	Number (Percent) Commuting to or Within Doña Ana County
El Paso, TX	No	5,599	5,956	6	308,236	274,910 (89%)	5,692 (2%)
Doña Ana, NM	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 5 below overlays 12-kilometer gridded VMT from the 2014 NEI with a map of the transportation arteries.

[13] The worker data can be accessed at: http://onthemap.ces.census.gov/.

Figure 5. Twelve Kilometer Gridded VMT (Miles) Overlaid with Transportation Arteries



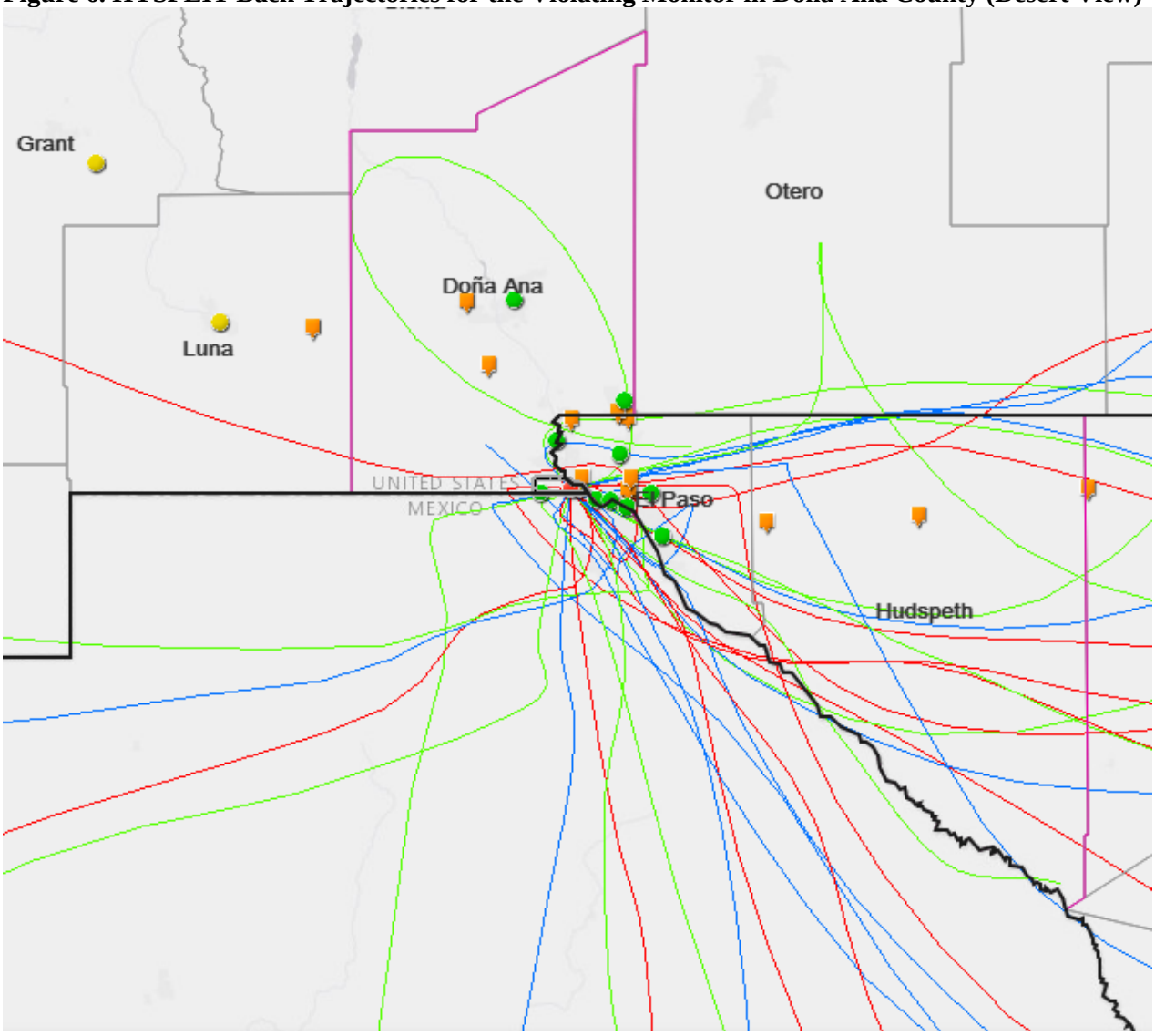
Counties are listed in Table 5 in order of VMT from largest to smallest. While Doña Ana County has the second largest VMT behind El Paso County, 66% of workers living in Doña Ana County commute within Doña Ana County. Very few workers living in El Paso and Hudspeth counties commute to Doña Ana County - most of the employed population in each county do not travel outside of their respective counties for work.

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 6 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 6. HYSPLIT Back Trajectories for the Violating Monitor in Doña Ana County (Desert View)



The HYSPLIT results show that the back trajectories for each exceedance day are predominantly from the south and east. Many of the back trajectories from the east flow across monitors in El Paso, all of which are meeting the 2015 ozone standard. Thus, the violating monitor is primarily impacted by transport from Mexico. All but two of these trajectories originate outside the area of analysis and many of the trajectories change direction as indicated by the circular, arching and looping lines in nearly all directions around the violating monitor.

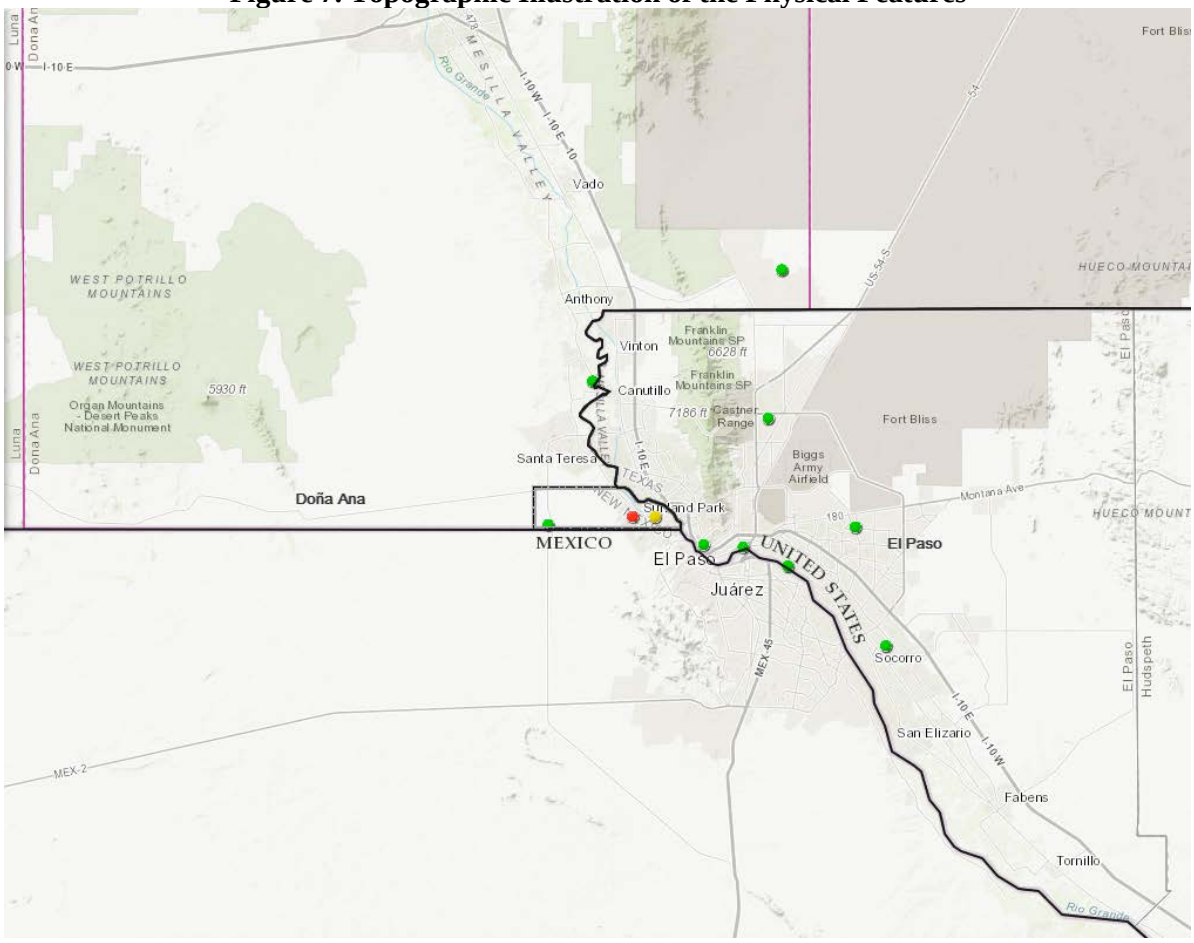
Factor 4: Geography/topography

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 used geography/topography analysis to evaluate the physical features of the land that might affect the airshed and, therefore, the distribution of ozone over the area. Figure 7 below illustrates the physical features in the area of analysis.

Figure 7. Topographic Illustration of the Physical Features



By comparing the HYSPLIT maps to the topographic map, the Franklin Mountains, which run north/south near the western edge of El Paso County appear to influence the flow of air by limiting air pollution transport.

Factor 5: Jurisdictional boundaries

Once the geographic extent of the violating area is determined, 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 considered

other clearly defined and permanent landmarks or geographic coordinates for purposes of identifying the boundaries of the designated areas.

The nonattainment area has a previously established nonattainment boundary associated with the 1-hour ozone NAAQS.

Conclusion for the Area of Analysis

Based on the assessment of factors described above, the EPA is not modifying the State's recommendation. We are designating a portion of the following New Mexico county as part of the nonattainment area because the air quality monitor in this section of the county indicates a violation of the 2015 ozone NAAQS: the southeastern portion of Doña Ana County known as Sunland Park - bounded on the north by latitude N31°49'30" and on the south by the border between New Mexico and Mexico, on the east by the border between New Mexico and Texas, and on the west by longitude W106°36'36".

The air quality monitor in southeastern Doña Ana County is violating the 2015 ozone NAAQS based on the 2014-2016 DV and thus, this portion of the County, as specifically identified above, is included in the nonattainment area.

The EPA is not designating El Paso and Hudspeth Counties as part of the nonattainment area. El Paso County has six regulatory ozone monitors, all of which are meeting the 2015 ozone NAAQS. Although El Paso County ranks higher than Dona Ana County for both NOx and VOC emissions, the majority of emissions impacting the violating monitor at Desert View can be attributed to nearby areas in Mexico. Examination of HYSPLIT data shows that 26 of the 39 back trajectories – about 67% - originate or flow through nearby areas in Juarez or further south before reaching the violating monitor. We also note that in considering overall emissions in the area, Juarez emits 52% of the total NOx (compared to 28% from El Paso), 67% of the total VOC emissions (compared to 22% from El Paso), has 61% of the population (compared to 38% in El Paso), and is more densely populated area with approximately 18,380 people per square mile, compared to 813 people per square mile in El Paso County. Hudspeth County ranks the lowest in all emissions data; is the only county in the area of analysis to experience negative population growth from 2010 to 2015 and its population is less than one percent of the total population in the area of analysis; its VMT is about 5% of the total VMT in the area of analysis and less than 1% of workers living in Hudspeth County commute to the county with the violating monitor. Examination of the HYSPLIT data show back trajectories pass through Hudspeth County but do not pass near either of the two large point sources in Hudspeth County prior to passing through El Paso County, where all six air quality monitors are meeting the 2015 ozone standard.