ORAL ARGUMENT NOT YET SCHEDULED
Case No. 20-71196

IN THE UNITED STATES COURT OF APPEALS
FOR THE NINTH CIRCUIT

CENTER FOR BIOLOGICAL DIVERSITY;
CENTER FOR ENVIRONMENTAL HEALTH,
Petitioners,

v.

U.S. ENVIRONMENTAL PROTECTION AGENCY;
ANDREW WHEELER, ADMINISTRATOR OF THE U.S. ENVIRONMENTAL PROTECTION AGENCY,
Respondents.

On Petition for Review of Final Action by the
United States Environmental Protection Agency

BRIEF OF *AMICUS CURIAE* COMITÉ CIVICO DEL VALLE, INC. IN SUPPORT OF PETITIONERS, SUPPORTING VACATUR AND REMAND OF THE AGENCY DECISION BELOW

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RULE 29 STATEMENTS

Pursuant to Fed. R. App. P. 29(a)(2), *Amicus* certifies that all parties in this proceeding have consented to the filing of this amicus brief.

Pursuant to Fed. R. App. P. 29(a)(4)(E), *Amicus* states that no party or party's counsel authored this brief in whole or in part, and that no other person besides *Amicus* or its counsel contributed money that was intended to fund preparing or submitting the brief.

/s/ Charles R. Corbett
CHARLES R. CORBETT

Aug. 24, 2020

CORPORATE DISCLOSURE STATEMENT

Pursuant to Fed. R. App. P. 26.1, nonprofit corporation Comité Civico del Valle, Inc. states it has no parent corporation and that no publicly held corporation owns 10% or more of its stock.

/s/ Charles R. Corbett
CHARLES R. CORBETT

Aug. 24, 2020

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IDENTITY AND INTEREST OF AMICUS

Comité Civico del Valle, Inc. ("CCV") is a California non-profit organization based in Brawley, California with the mission to improve access to healthcare, information, and prevention programs for low-income, underrepresented, and underserved community members in Imperial County via education, capacity building, and civic participation.[1] CCV actively works for its members and the community-at-large on public health and environmental justice issues in Imperial and Riverside Counties, and it hosts the annual Imperial Valley Environmental Health Leadership Summit. Many of CCV's members live, work, and recreate in the Imperial County ozone nonattainment area.

CCV has a long history of working on air pollution issues in Imperial County, including ozone pollution and asthma prevention and treatment. It manages IVAN Imperial (Identifying Violations Affecting Neighborhoods), a community-based air monitoring system that tracks and reports air pollution levels at over 40 stations in Imperial Valley.[2] It has also participated in numerous state and federal level proceedings on air pollution in Imperial County, including the EPA rulemaking at issue in this case.

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[1] https://www.ccvhealth.org/about.php.
[2] https://www.ivan-imperial.org/.

SUMMARY OF ARGUMENT

The communities of Imperial County are extremely vulnerable and highly exposed to the harms of ozone pollution. Public health in Imperial County—as is true elsewhere in the United States—is strongly influenced by poverty rates, race, and other indicia of socioeconomic status. Imperial County exhibits many of the markers of economic precarity and social marginalization, and as a result suffers from poor public health and increased vulnerability to air pollution. At the same time, Imperial County is exposed to hazardous levels of ozone pollution and other air pollutants, like particulate matter. The county's large agricultural sector is a substantial contributor to its ozone levels, but even more so are the industrial city of Mexicali, just south of the U.S.-Mexico border, and the associated high levels of heavy-duty truck and light-duty vehicle traffic.

The environmental and social conditions in Imperial County have culminated in a public health crisis. The region experiences some of the worst air pollution–related health impacts in California, and it is currently suffering one of the state's most severe COVID-19 outbreaks. High rates of respiratory and cardiovascular disease make Imperial County's populations even more vulnerable to ozone pollution, threatening a vicious cycle undermining public health.

Federal and state air regulators have long underserved the communities of Imperial County, despite having the power and obligation to act. Stricter controls

for U.S. emission sources would reduce ozone levels in Imperial County and substantially improve public health. Specifically, clarifying maintenance requirements for international border areas under section 179B(a) of the Clean Air Act, 42 U.S.C. § 7509a(a), would ensure that EPA and the California Air Resources Board ("CARB") develop stronger ozone control measures for Imperial County's emission sources. Doing so would also spur EPA, CARB, and the Imperial County Air Pollution Control District ("ICAPCD") to implement a robust strategy to control cross-border emissions in coordination with Mexican stakeholders. Imperial County and Mexicali share an airshed. A strategy that targets only the U.S. side of the region is fundamentally inadequate, as is one that would weaken California's air quality obligations because of Mexico's emissions.

ARGUMENT

I. The People of Imperial County Are Extremely Vulnerable and Highly Exposed to the Harms of Ozone Pollution.

Public health in Imperial County is inextricably linked to the social and economic vulnerability of the people who live there. High rates of poverty, unemployment, and socioeconomic marginalization have made Imperial County's residents more sensitive to environmental pollution's health impacts. Further, the region's geography, agricultural economy, and proximity to the industrial city of Mexicali have exposed its residents to high levels of ozone pollution. Imperial County's health vulnerability and exposure to other air pollutants worsen the health hazards of that ozone.

A. Public Health Is Strongly Influenced by Poverty, Race, and Other Markers of Socioeconomic Status.

Public health is socially determined: a community's overall health and resilience are strongly influenced by poverty rates and other markers of socioeconomic status. *See* Gopal K. Singh et al., *Social Determinants of Health in the United States: Addressing Major Health Inequality Trends for the Nation, 1935–2016,* 6 Int'l J. Maternal and Child Health & AIDS 139, 140 (2017) ("Decades of studies have found marked socioeconomic, racial/ethnic, and occupational disparities in mortality and life expectancy among Americans."). This phenomenon helps explain why the United States, which "spends more than any

other country on medical care" per capita, sees vast differences in life expectancies between population groups. *See* Michael G. Marmot & Ruth Bell, *Action on Health Disparities in the United States: Commission on Social Determinants of Public Health*, 301 J. Am. Med. Assoc. 1169, 1169 (2009) (For example, "[t]he gap in life expectancy between men in Washington, D.C., and in suburban Maryland is 17 years."). Social marginalization and poverty inflict severe trauma and stress on children, creating poor health outcomes throughout their adult lives. *See* David R. Williams et al., *Understanding Associations Among Race, Socioeconomic Status, and Health: Patterns and Prospects*, 35 Health Psychology 407, 409 (2016). These conditions are also associated with higher exposure to environmental pollution and less access to medical care and healthy food. *See* Cal. Office of Envtl. Health Hazard Assessment ("OEHHA"), *CalEnviroScreen 3.0: Update to the California Communities in Environmental Health Screening Tool* 123, 128 (2017). Suffering racial discrimination, furthermore, is stressful and physically harmful in itself. *See* Williams et al. at 409.

Communities of color and low-income communities therefore "experience higher rates of illness, impairment[,] and death than the average . . . in the [United States]." *See id.* at 407, 409. People in these communities tend to fall ill earlier and more often, experience more severe disease when they do, and receive worse healthcare than whiter and wealthier communities. *See id.* at 407, 409. They are

also more vulnerable to ozone and other air pollution. *See* Michelle L. Bell et al., *Who Is More Affected by Ozone Pollution? A Systematic Review and Meta-Analysis*, 180 Am. J. Epidemiology 15, 23–24 (2014) (finding "strong evidence of higher ozone-mortality risk with lower employment status"); *see also* discussion *infra* Section I.C.

B. Imperial County Has Many of the Socioeconomic Markers of Health Vulnerability.

Imperial County is an agricultural region with deep cultural and economic ties to Mexico, just across the border. For all its cultural richness, the region has many of the socioeconomic markers of health vulnerability. Imperial County has lower rates of educational attainment than most of the rest of California; higher rates of poverty and unemployment; and a high number of households lacking strong competency in the English language. These markers indicate reduced access to medical care and material security and greater exposure and sensitivity to environmental pollution. *See* OEHHA, *CalEnviroScreen* at 121–47 (explaining these socioeconomic factors and their relationship to public health).[3]

Imperial County is in inland California, with Arizona bordering to the east and Mexico to the south. *See* ICAPCD, *Imperial County 2017 State Implementation Plan for the 2008 8-Hour Ozone Standard* 2-1 (2017), EPA-R09-

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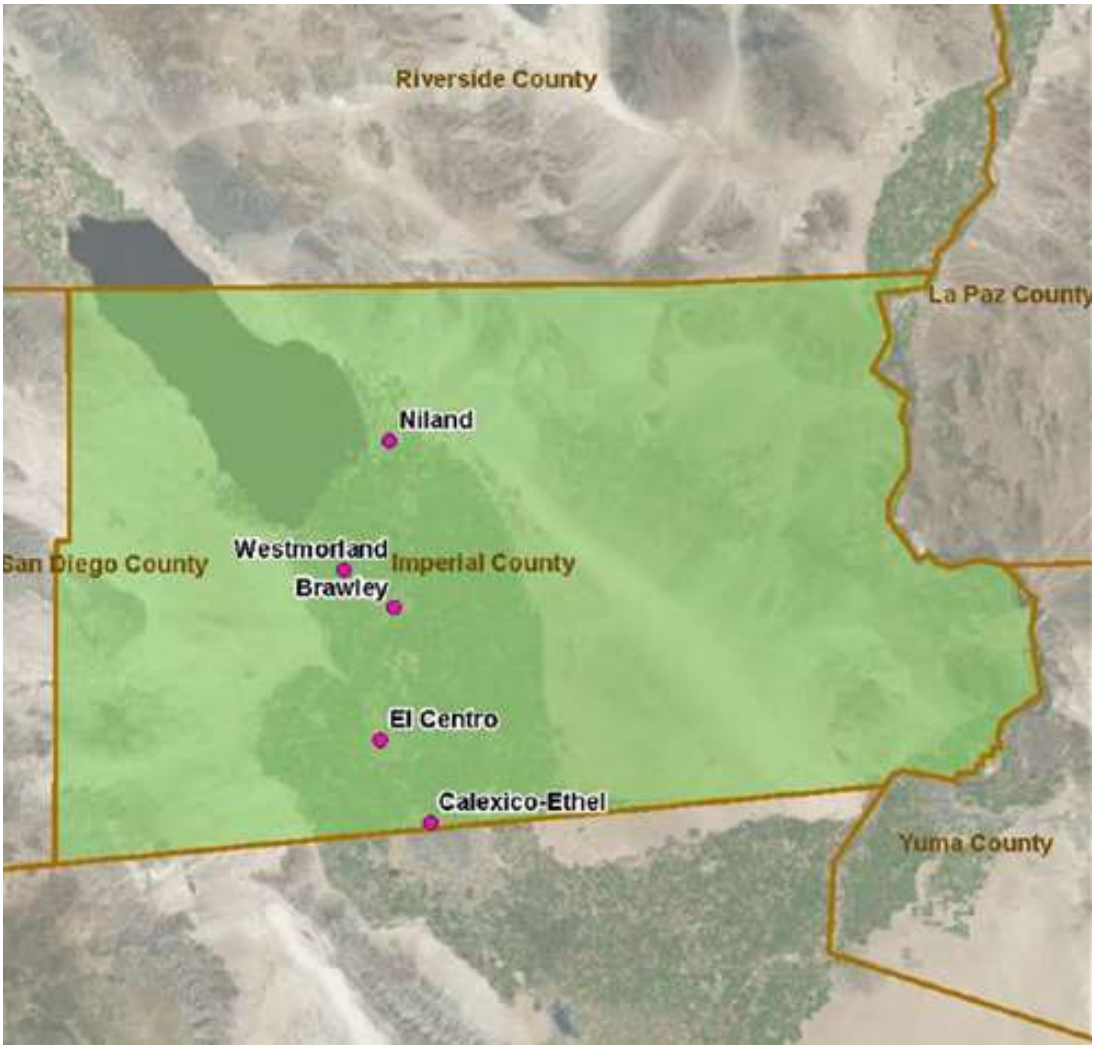
[3] https://perma.cc/DA3J-ETEV.

OAR-2018-0562-0076 ("2017 Ozone SIP"). Irrigation has made this hot, dry region productive for agriculture, and about one quarter of Imperial County's labor force works in that sector. *See* ICAPCD, *Imperial County 2018 Redesignation Request and Maintenance Plan for Particulate Matter Less Than 10 Microns in Diameter* 1-5–1-7, 5-1 (2018), EPA-R09-OAR-2018-0562-0098 ("2018 PM_{10} Redesignation Request"). Just across the U.S.–Mexico border is Mexicali, an industrial city of about 1 million people—five times Imperial County's population. *See* ICAPCD, 2017 Ozone SIP app. G at *299. Mexicali's industry and freight transportation networks accordingly greatly impact the region's economy and environment. *See* ICAPCD, 2017 Ozone SIP at 8-3 tbl. 8-1, E.R. 0061.

Fig. 1. Map of Imperial County, California[4]



The region's diversified economy has failed to create prosperity for most of the people who live there. More than one in five residents in Imperial County lives in poverty. *See* U.S. Census Bureau, *QuickFacts: Imperial County, California* (estimates as of July 1, 2019).[5] The poverty rate for children is even higher, nearing one in three. *See* U.S. Census Bureau, *American Community Survey 1-year*

[4] ICAPCD, 2017 Ozone SIP at 3-5 fig. 3-1 (ozone nonattainment area in green).
[5] https://perma.cc/9E25-AWKD.

Estimates (2018), *retrieved from* Census Reporter, *Profile Page for Imperial County, CA* (2020).[6] These rates are substantially higher than the rest of California and the United States. *Compare id. with* U.S. Census Bureau, *QuickFacts: California* (estimates as of July 1, 2019).[7] As a result, Imperial County's communities are more sensitive to environmental pollution and have less access to "health care and other health-promoting resources." *See* OEHHA, *CalEnviroScreen* at 139.

More than 85% of Imperial County's residents are Latino, and more than three-quarters of households speak a language other than English at home. *See* U.S. Census Bureau, *Imperial County*. The cities of Brawley, Calexico, and El Centro report high rates of households with limited English language skills. *See* OEHHA, SB 535 CalEnviroScreen Data, 2018 Update;[8] *see also* OEHHA, *CalEnviroScreen* at 133 (measuring households where "all members 14 years of age or above have at least some difficulty speaking English"). Households with limited English skills can face barriers to medical care and discrimination in employment. *See* OEHHA, *CalEnviroScreen* at 134.

Imperial County's communities suffer persistently high unemployment rates. Even during California's pre-pandemic economic boom, the county had an

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[6] http://censusreporter.org/profiles/05000US06025-imperial-county-ca/.
[7] www.census.gov/quickfacts/fact/table/CA,US/PST045219.
[8] Spreadsheet available at https://perma.cc/M8BM-E7MC.

unemployment rate of 16%—quadruple the rest of the state's. *See* Sarah Parvini, *This Corner of California Is Suffering Economic Misery Despite Boom All Around It*, L.A. Times (Feb. 5, 2019). The poorly controlled outbreak of COVID-19 has severely worsened matters, with the unemployment rate at 27% as of June 2020. *See* Cal. Employment Development Dep't, *Unemployment Rate in El Centro Metropolitan Statistical Area* (Jul. 17, 2020). These rates are related to the county's low levels of educational attainment: Brawley, Calexico, and El Centro report high rates of adult residents without a high school diploma. *See* OEHHA, SB 535 CalEnviroScreen Data (25%–55% of adults have not completed high school); *see also* OEHHA, *CalEnviroScreen* at 122–23.

Imperial County hence has some of California's most socially disadvantaged and environmentally vulnerable populations. *See id.* at 122–43; OEHHA, SB 535 CalEnviroScreen Data; *see also* Robert Wood Johnson Foundation Program, *County Health Rankings & Roadmaps: California: Imperial County* (2020) (ranking it as the most socioeconomically vulnerable county in California).[9] Its residents face higher exposures to environmental pollution, are more likely to suffer illness and chronic conditions as a result, and have less access to adequate care when they fall ill.

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[9] https://www.countyhealthrankings.org/app/california/2020/rankings/imperial/county/outcomes/overall/snapshot.

C. Ozone's Harms Are Magnified Within Vulnerable Communities, Especially When Other Air Pollutants Are Present.

Ozone is a harmful air pollutant that causes smog, lung disease, and premature death. Ozone pollution is especially dangerous for vulnerable populations and socially marginalized communities. When present with high levels of other air pollutants, ozone can inflict severe cumulative harm on public health.

Ozone forms when nitrogen oxides and volatile organic compounds are exposed to sunlight. *See* ICPACD, 2017 Ozone SIP at 1-4, E.R. 0055. These chemical precursors are released during the combustion of fossil fuels—in cars, trucks, and industrial sources—and during the use of certain solvents, including pesticides and fertilizers. *See id.* at 1-4, E.R. 0055, 4-6 tbl. 4-2. Ozone in turn can form smog, irritate the lungs, and impair breathing when inhaled. *See id.* at 1-4–1-5, E.R. 0055. But the impacts of chronic ozone exposure are far more serious than that. Long-term exposure to even low levels of ozone can "cause permanent damage to the lungs . . . worsen bronchitis [and] heart disease . . . [and] aggravate asthma, causing more asthma attacks, increased use of medication, more need for medical treatment, and more frequent visits to hospital emergency clinics." *Id.* at 1-5, E.R. 0055. Moreover, ozone exposure likely plays a role in causing chronic respiratory disease, rather than merely worsening preexisting conditions, especially among younger people. *See* Michelle C. Turner et al., *Long-Term Ozone Exposure and Mortality in a Large Prospective Study*, 193 Am. J. Respiratory & Critical

Care Med. 1134, 1140 (2016) (assessment of more than 650,000 Americans over several decades).

The health impacts of ozone pollution include premature death as well as chronic illness. Ozone pollution kills tens of thousands of people in the United States each year. *See* Testimony of Drew Shindell, Professor of Earth Sciences, Duke University, to the U.S. House Committee on Oversight and Reform Hearing on "The Devastating Impacts of Climate Change on Health" *11 (Aug. 5, 2020) (modeling showing that ozone pollution caused 51,000 premature deaths in the United States in one year).[10] Elevated mortality is associated even with lower-concentration long-term exposures, with the risk of respiratory mortality increasing by 12% for every 10 parts per billion ("ppb") of additional ozone exposure. *See* Turner et al. at 1139.

Certain populations and communities are more vulnerable to ozone's health impacts. These include children, the elderly, and people with heart and respiratory conditions like asthma and cardiovascular disease. *See* ICPACD, 2017 Ozone SIP at 1-5–1-6, tbl. 1-1, E.R. 0055–56. "[O]utdoor workers[] and people exercising outside" are also at heightened risk to ozone's health impacts, *see id.* at 1-5, E.R. 0055. which is concerning given Imperial County's agricultural economy, *see*

[10] https://perma.cc/C3UG-5LDS.

ICPACD, 2018 PM_{10} Redesignation Request at 1-5 (reporting up to 25% of Imperial County's labor force works in the agricultural sector).

People living in socially marginalized areas, like Imperial County, are especially vulnerable to ozone's health impacts. *See, e.g.*, Cassandra R. O'Lenick et al., *Ozone and Childhood Respiratory Disease in Three U.S. Cities: Evaluation of Effect Measure Modification by Neighborhood Socioeconomic Status Using a Bayesian Hierarchical Approach*, 16 Envtl. Health no. 36 2, 13 (2017) (finding higher rates of ozone-related respiratory illness among children exposed to poverty and housing insecurity). The people living in these communities are more likely to develop respiratory diseases, like asthma and chronic obstructive pulmonary disease, when exposed to ozone and other air pollutants. *See* Jonathan I. Levy et al*., Established and Emerging Environmental Contributors to Disparities in Asthma and Chronic Obstructive Pulmonary Disease,* 5 Current Epidemiology Rep. 114, 114–115, 119 (2018); *see also* Bell et al. at 23.

Ozone's health impacts can worsen when present with other air pollutants, such as particulate matter. *See* Deborah N. Behles, *Examining the Air We Breathe: EPA Should Evaluate Cumulative Impacts When It Promulgates National Ambient Air Quality Standards*, 29 Pace Envtl. L. Rev. 200, 215–217 (2010) (citing EPA regulatory findings); *see also* Turner et al. at 1140 (citing literature); Diane R. Gold et al., *Particulate and Ozone Pollutant Effects on the Respiratory Function of*

Children in Southwest Mexico City, 10 Epidemiology 8, 12–13, 15 (1999) (observing cumulative effects). Exposure to ozone and other air pollutants can therefore lead to severe cumulative impacts on public health. *Cf., e.g.,* Eric Coker, *Multi-Pollutant Exposure Profiles Associated with Low Term Birth Weight in Los Angeles County*, 91 Env't Int'l 1, 1–2, 6–7, 11 (2016) (examining particulate matter and ozone precursors).

This is of utmost importance for Imperial County, which is also in nonattainment for fine particulate matter ("$PM_{2.5}$") and coarse particulate matter ("PM_{10}"). *See* ICAPCD, 2018 PM_{10} Redesignation Request at 1-6 fig. 1-3; ICAPCD, *Imperial County 2018 Annual Particulate Matter Less Than 2.5 Microns in Diameter State Implementation Plan* 1-1 (2018), EPA-R09-OAR-2018-0562-0079 ("2018 $PM_{2.5}$ SIP"). Particulate matter pollution is hazardous to human health in itself and is a major cause of death, respiratory disease, and heart disease in the United States. *See* ICAPCD, 2018 $PM_{2.5}$ SIP at 1-8; ICAPCD, 2018 PM_{10} Redesignation Request at 1-4–1-5; *see also* Shindell at 11 (modeling 213,000 premature deaths in the United States in 2015 from $PM_{2.5}$ pollution).

D. Imperial County Suffers from Dangerous Levels of Ozone and Other Air Pollution from U.S. and Mexican Sources.

Imperial County's residents are burdened by severe air pollution left in the wake of the region's agricultural, industrial, and transportation sectors. Inadequate emission controls on both sides of the border have caused Imperial County to

suffer some of the worst air pollution in California. *See* CARB, *Working Group Draft: Imperial County–Mexicali Air Quality Work Plan to Improve Air Quality in the Border Region* 6 (2018) ("Border Air Quality Work Plan"). The area as a result has failed to attain federal air quality standards for ozone. *See id.* The health impacts of ozone pollution are made worse by Imperial County's pollution-trapping landscape and excessively high levels of particulate matter air pollution.

Imperial County suffers from high levels of ozone pollution, experiencing about 20 "high ozone days" per year. *See* American Lung Assoc., *State of the Air: California: Imperial* (current through 2018) (giving the county a "Failing" grade on air quality).[11] Weather in Imperial County can give rise to stable, long-lived air formations that "act as a nearly impenetrable lid to the vertical mixing of [air] pollutants." See ICAPCD, 2017 Ozone SIP at 2-2, E.R. 0057. Such formations "can persist for one or more days, causing air stagnation and the build-up of pollutants. Highest and worse-case ozone levels are often associated with [this phenomenon]." *Id*.

Agricultural and transportation activities are the largest U.S. sources of ozone in Imperial County. The region raises over $500 million worth of livestock a year, releasing substantial amounts of ammonia and other ozone precursors into the airshed. *See* ICAPCD, 2017 Ozone SIP app. A at *89 tbl. A-4 ("farming

[11] http://www.stateoftheair.org/city-rankings/states/california/imperial.html.

operations"); *see also id.* at 4-7 (explaining value). Meanwhile, pesticides and fertilizers sprayed on cultivated lands release several tons per day of ozone chemical precursors. *See* ICAPCD, 2017 Ozone SIP app. A at *89 tbl. A-4 ("pesticides/fertilizers"); *see also id.* at 4-6–4-7 (explaining value). Fossil fuel emissions from farm machinery and other off-road vehicles also substantially contribute to the area's ozone levels. *See* ICAPCD, 2017 Ozone SIP app. A. at *89 tbl. A-4 ("off-road vehicles"); *see also id.* at 4-12–13 (explaining this value). On-road vehicle traffic is yet another significant U.S. source. *See* ICAPCD, 2017 Ozone SIP app. A at *89 tbl. A-4.

The city of Mexicali and its surroundings are also major contributors to ozone pollution in Imperial County. *See* CARB, Border Air Quality Plan at 5. Air flows freely across the U.S.-Mexico border, meaning Imperial County shares its airshed with Mexicali. *See id*. at 6. Unfortunately, Mexicali has "some of the worst air quality in Mexico." *Id*. at 5. Its industry largely consists of *maquiladoras*—assembly plants owned by U.S. and other transnational corporations that use imported parts and export finished products, tax-free, to U.S. markets. *See id.*; *see also* Ian James, *This Mexican City Was Transformed by Factories. Its People Pay a Deadly Price*, Desert Sun (Dec. 10, 2018). Shipping those products into the United States creates a large amount of heavy-duty truck traffic at the U.S.-Mexico border. *See* CARB, Border Air Quality Plan at 5, 22. One port of entry in Imperial

County "process[es] nearly a thousand heavy-duty trucks each day" from Mexico, while another processes about 20,000 northbound cars per day. *See id.* at 5. Emissions from this cross-border commerce contributes to Imperial County's nonattainment of federal ozone standards. *See* ICAPCD, 2017 Ozone SIP at 1-2, 8-3 tbl. 8-1, E.R. 0061.

Multipollutant impacts within Imperial County make its high ozone levels even more hazardous. In addition to ozone, Imperial County is in nonattainment of federal standards for $PM_{2.5}$ and PM_{10}. The three nonattainment areas for ozone, $PM_{2.5}$, and PM_{10} overlap and fall on the relatively densely populated corridor running between the Salton Sea and Mexicali. *See* ICAPCD, 2017 SIP at 3-5 fig. 3-1; ICAPCD, 2018 $PM_{2.5}$ SIP at 1-3 fig. 1-1; ICAPCD, 2018 PM_{10} Redesignation Request at 1-6 fig. 1-3. As a result, most Imperial County residents are exposed to harmful levels of ozone, $PM_{2.5}$, and PM_{10} throughout the year.

A variety of U.S. sources contribute to Imperial County's nonattainment of $PM_{2.5}$ and PM_{10} standards. Many of the agricultural and transportation activities within Imperial County that produce ozone also produce $PM_{2.5}$. *Compare* ICAPCD, 2017 Ozone SIP app. A at *89 tbl. A-4 *with* ICAPCD, 2018 $PM_{2.5}$ SIP at 3-26 tbl. 3–9a; *see also* ICPACD, 2018 $PM_{2.5}$ SIP at 3-6–3-20 (explaining values). PM levels are exacerbated by the poorly regulated burning of agricultural waste, tires, and trash in Mexico. *See* CARB, Border Air Quality Plan at 5. Meanwhile,

Imperial County's PM_{10} burden largely comes from windblown dust kicked up from the desert landscape. *See* ICAPCD, 2018 PM_{10} Redesignation Request at 1-3; *see also id.* at 2-6 (reporting 58 days exceeding federal PM_{10} standards over a three-year period).

The Salton Sea has emerged as an especially worrisome U.S. source of particulate matter pollution. The Salton Sea's inflows have sharply fallen due to a change in California's water allotments, causing the lake to shrink. *See id.* at 5-1. As the waters recede, the newly exposed lakebed releases substantial amounts of $PM_{2.5}$ and PM_{10} into Imperial County's airshed. *See* Janet Wilson, *Imperial County Declares Salton Sea Emergency, Demands California Take Action*, Desert Sun (Oct. 22, 2019); *see also* Ryan E. Kelley, Chairman of the Board of Supervisors, County of Imperial Proclamation of Local Emergency for Air Pollution at the Salton Sea 1 (Oct. 18, 2019).[12] Moreover, some of this lakebed dust contains toxic pollutants from over a century of agricultural runoff. *See* Alexander L. Frie et al., *The Effect of a Receding Saline Lake (The Salton Sea) on Airborne Particulate Matter Composition*, 51 Envtl. Sci. Tech. 8283, 8283 (2017) (reporting abnormally high levels of selenium in exposed lakebed soils). With the Salton Sea, California risks repeating its experience at Owens Lake, the desiccation of which led to "the

[12] https://perma.cc/S4W7-QCDJ.

highest PM_{10} concentrations recorded in the United States from windblown dust." *See* ICAPCD, 2018 PM_{10} Redesignation Request at 5-1–5-2.

II. Air Pollution, Poverty, and Environmental Inequality Are Causing a Public Health Crisis in Imperial County.

Imperial County's longstanding problems with public health and air pollution have culminated in high rates of chronic disease, especially among children. Recent COVID-19 outbreaks in the county, among the worst in California, have made its health outlook much worse. Imperial County's high respiratory illness rates, caused in part by ozone and other air pollutants, make its communities even more vulnerable to future air pollution.

A. Imperial County Experiences Some of the Worst Air Pollution–Related Health Impacts in California.

High levels of air pollution and socioeconomic vulnerability have led to high rates of heart and respiratory disease among the people of Imperial County. The active asthma rate for children is nearly 20%, double California's rate. *See* Cal. Dep't of Pub. Health, Envtl. Health Investigations Branch, *California Breathing: County Asthma Data Tool* (2015–2016).[13] The rate of cardiovascular disease also outpaces the rest of the state. *See* Imperial County Pub. Health Dep't ("ICPHD"), *Imperial County Health Status Report* 3 (2016); *see also* ICAPCD, 2017 Ozone

[13] https://www.cdph.ca.gov/Programs/CCDPHP/DEODC/EHIB/CPE/Pages/CaliforniaBreathingCountyAsthmaProfiles.aspx.

SIP at 1-5, E.R. 0055 (linking ozone pollution to heart disease). The county further has relatively high rates of diabetes and child obesity, aggravating ozone's health impacts. *See* ICPHD, *Imperial County Health Status Report* at 3, 63–64; *see also* ICAPCD, 2017 Ozone SIP 2017 at 1-6 tbl. 1-1, E.R. 0056 (listing people with diabetes as at higher ozone risk); *see also* Patricia D. Koman & Peter Mancuso, *Ozone Exposure, Cardiopulmonary Health, and Obesity: A Substantive Review*, 30 Chem. Res. Toxicology 1384, 1384, 1393 (2017) (literature review finding obese people are at greater risk of respiratory health impacts from ozone).

Imperial County has "the highest rates of pediatric asthma hospitalization and emergency room visits in the state," indicating asthma is poorly controlled in the region. CARB, Border Air Quality Work Plan at 13. Asthma rates, further, are likely under-diagnosed among children living near the Salton Sea—relatively far from the U.S.–Mexico border. *See* Shohreh F. Farzan et al., *Assessment of Respiratory Health Symptoms and Asthma near a Drying Saline Lake*, 16 Int'l J. Envtl. Res. Pub. Health no. 3828 1 (2019) (survey of 357 schoolchildren reporting 22% had asthma but reporting higher rates of asthma-related symptoms among the student population: wheezing (35%), allergies (36%), bronchitic symptoms (29%), and dry cough (33%)). These conditions threaten long-term consequences: children with asthma suffer from higher rates of attention disorders, learning disabilities, and other developmental problems. *See* Ahmed A. Arif & Purva Korgaonkar, *The*

Association of Childhood Asthma with Mental Health and Developmental Comorbidities in Low-Income Families, 53 J. Asthma 277, 277 (2016) (reviewing literature).

Another long-term consequence of the county's poor health is increased vulnerability to ozone pollution. Ozone exposure is more harmful to people suffering chronic heart and respiratory conditions. ICPACD, 2017 Ozone SIP at 1-5–1-6 tbl. 1-1, E.R. 0055–56. Ozone pollution also likely causes chronic respiratory ailments and tens of thousands of premature deaths per year in the United States. *See* Turner et al. at 1140; *see also* Shindell at 11. Today's ozone pollution therefore likely worsens the health impacts of future ozone pollution in Imperial County by making its communities more vulnerable to it.

B. COVID-19 Has Gravely Worsened Imperial County's Public Health Crisis.

Imperial County is suffering one of the worst COVID-19 outbreaks in California. The area's history of air pollution and poverty has made its COVID-19 cases more severe. COVID-19 in turn will leave many Imperial County residents more vulnerable to the health impacts of ozone and other air pollutants.

COVID-19 primarily attacks the respiratory system, but it can also severely damage the kidneys, heart, and brain. *See* Ariana Eunjung Cha, *Coronavirus Autopsies: A Story of 38 Brains, 87 Lungs and 42 Hearts*, Wash. Post (Jul. 1, 2020). Cases are deadlier among people exposed to high levels of air pollution,

particularly from the combustion of diesel fuel. *See* Michael Hendryx & Juhua Luo, *COVID-19 Prevalence and Fatality Rates in Association with Air Pollution Emission Concentrations and Emission Sources*, 265 Envtl. Pollution no. 115126 1, 3–5 (2020) (examining U.S. data). Racial and ethnic minorities and low-income households are also disproportionately burdened by the disease, *see* Matthew A. Raifman & Julia R. Raifman, *Disparities in the Population at Risk of Severe Illness from COVID-19 by Race/Ethnicity and Income*, 59 Am. J. Preventative Med. 137, 138 (2020), as are the elderly and people with chronic health conditions like asthma and diabetes, *see* Lisa Maragakis, *Coronavirus and COVID-19: Who Is at Higher Risk?*, Johns Hopkins Med. Health (last updated Jun. 25, 2020).[14]

The people of Imperial County are among the sickest, most marginalized, and most burdened by environmental pollution in the state. These factors have enabled the pandemic to inflict devastating harm on the region. The county has reported over 10,000 cases of COVID-19, by far the highest total case rate by population in California. *See* N.Y. Times, *California Coronavirus Map and Case Count: Reported Cases and Deaths by County* (last updated Aug. 20, 2020).[15] Imperial County's case rate is about three-and-a-half times the rate of California as

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[14] https://www.hopkinsmedicine.org/health/conditions-anddiseases/coronavirus/coronavirus-and-covid19-who-is-at-higher-risk.
[15] https://www.nytimes.com/interactive/2020/us/california-coronavirus-cases.html#county.

a whole, *see id.*, and about three-and-a-half times that of the United States. *See id. and* N.Y. Times, *Coronavirus Map: Tracking the Global Outbreak* (last updated Aug. 20, 2020).[16] Over 260 residents of Imperial County have died of the disease. *See* ICPHD, *COVID-19: Imperial County* (last updated Aug. 20, 2020).[17] Meanwhile, the accompanying economic shutdown has caused the unemployment rate to reach 27%. *See* Cal. Employment Development Dep't.

Imperial County lacks adequate medical resources to fight the pandemic. There is one primary care physician for about every 4,250 residents, far below the recommended rate. *See* Dustin Gardiner, *Imperial County Was a Warning for California. Will Its Shutdown Be a Model?* San. Fran. Chron. (Jul. 31, 2020); *see also* Cal. Future Health Workforce Comm'n, *Final Report: Meeting the Demand for Health* 13 (2019). The county has only two hospitals, forcing healthcare professionals to airlift the sickest COVID-19 patients to better-equipped cities—"15 to 17 [patients] a day, on average" at the virus's peak. *See* Mario Koran, *"This Is a War": The Coronavirus Disaster in California's Hardest Hit—and Poorest—County*, The Guardian (Jul. 13, 2020). Many of these patients have had to be flown "as far as San Francisco, 600 miles north." *Id.* Says the director of the Imperial County Public Health Department, "Imperial County is a chronically

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[16] https://www.nytimes.com/interactive/2020/world/coronavirus-maps.html.
[17] http://www.icphd.org/health-information-and-resources/healthy-facts/covid-19/.

disadvantaged, underserved and underfunded community . . . COVID-19 just came along to aggravate its situation." Ruben Vives, *'Underserved and Underfunded': Inside California's County Hit Hardest by COVID-19*, L.A. Times (Jul. 28, 2020) (quoting Janette Angulo).

COVID-19 may also make Imperial County more vulnerable to ozone pollution in the long run. The long-term consequences of COVID-19 are unknown, but researchers are discovering lasting respiratory, cardiovascular, and neurological symptoms in recovering patients. *See, e.g.*, Angelo Carfi et al., *Persistent Symptoms in Patients After Acute COVID-19*, 324 J. Am. Med. Assoc. 603, 605 fig. COVID-19–Related Symptoms (2020); *see also* Jennifer Couzin-Frankel, *From 'Brain Fog' to Heart Damage, COVID-19's Lingering Problems Alarm Scientists*, Sci. Mag. (Jul. 31, 2020). COVID-19 could therefore worsen Imperial County's air pollution risk to the extent that it inflicts lasting harm on survivors' cardiovascular and respiratory systems.

III. Imperial County's Environmental and Public Health Crises Demand Stronger Air Pollution Controls for Ozone.

Clarifying the Clean Air Act's maintenance requirements in light of EPA's but-for determination will help drive creative, lasting solutions for Imperial County's ozone problem. *See* 42 U.S.C. § 7509a(a). Reducing ozone throughout the entire airshed, and on both sides of the U.S.-Mexico border, is essential to

addressing cumulative pollution impacts in Imperial County's vulnerable communities.

CARB and EPA can achieve substantial health benefits in Imperial County by further reducing its ozone pollution, even if the cumulative effect of U.S. and Mexicali emissions prevents attainment or maintenance of federal air quality standards. *See* ICAPCD, 2017 Ozone SIP at 1-2. Ozone pollution kills more than 50,000 Americans per year. *See* Shindell at 11. But incremental reductions in ambient ozone exposures can reduce its health impacts and lower rates of severe illness. *Cf.* Turner et al. at 1139 (finding substantial jumps in U.S. mortality rates with every 10 ppb increase in ozone exposure); *cf., e.g.*, Ramboll Environ U.S. Corp., *How Ozone Pollution Affects Public Health in San Antonio: An Analysis Commissioned by the City of San Antonio* 2–4 (2017) (modeling health impacts associated with a 2 ppb deterioration in ambient ozone levels). Further, abating ozone via reductions in nitrogen oxides emissions would realize substantial co-benefits by simultaneously lowering $PM_{2.5}$ pollution. *Cf.* U.S. EPA, *Regulatory Impact Analysis of the Final Revisions to the National Ambient Air Quality Standards for Ground-Level Ozone* 6-1 tbl. 6-1 (2015) (quantifying $PM_{2.5}$ co-benefits).

Elaborating on the air district's maintenance requirements under Section 179B(a) of the Clean Air Act would allow EPA and CARB to incorporate a robust

set of ozone-control measures into Imperial County's SIP. Many emissions sources on the U.S. side of the border contribute to Imperial County's harmful ozone levels. *See* ICAPCD, 2017 Ozone SIP app. A at *89 tbl. A-4. Farm equipment and other off-road vehicles, highway automobile traffic, livestock raising, and pesticide and fertilizer spraying release large amounts of ozone precursors into Imperial County's airshed. *See id.* CARB has identified several additional air quality policies that could be implemented in Imperial County to reduce its ozone levels. For example, the county could implement a smog check program to regularly check automobile emissions for vehicles registered in Imperial County; it has none in place yet. *See* CARB, Border Air Quality Plan at 21. Further, CARB and ICAPCD could better enforce rules regulating off-road vehicle use and emissions. *See id.* at 24. ICAPCD itself acknowledged in its SIP that regulatory deadlines prevented state agencies from promulgating new rules to limit ozone-precursor emissions associated with agricultural pesticide use. *See* ICAPCD, 2017 Ozone SIP at 6-10–6-11. Establishing robust maintenance requirements for Imperial County would allow California to reconsider pesticide emissions and numerous other sources for additional regulation and incorporation into the SIP.

Remanding the proceeding would also allow EPA, CARB, and ICAPCD to develop their strategy on cross-border emissions. The current SIP is light on detail on how U.S. federal and California agencies will work with Mexican stakeholders

to reduce ozone emissions from Mexicali. *See id.* at 9-1–9-4, E.R. 0070–73. At minimum, the SIP's cross-border strategy could be updated to incorporate the since-completed cross-border air quality plan drafted by CARB, EPA, and more than a dozen other stakeholders from California and Mexico. *See* CARB, Border Air Quality Plan at 25–26. EPA and CARB could also explain how they plan to act on studies showing that delays at Imperial County's U.S. ports of entry substantially increase ozone precursor emissions from northbound cross-border traffic. *See* ICAPCD, 2017 Ozone SIP at 9-3–9-4 (finding border delays increased volatile organic gas emissions by 63% and nitrogen oxides emissions by 46%). There is a wealth of opportunity to build on the measures announced in the SIP.

CONCLUSION

For these reasons, EPA's approval of the ozone plan with respect to the maintenance requirements under section 179B(a) of the Clean Air Act should be vacated and remanded.

Respectfully submitted,

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August 24, 2020

CERTIFICATE OF COMPLIANCE

Pursuant to Fed. R. App. P. 32(a)(7)(C), I certify that this brief complies with the type-volume limitations set forth in Fed. R. App. P. 29(a)(5) and Fed. R. App. P. 32(a)(7)(B)(i) because this brief contains 5,499 words, excluding the parts of the brief exempted by Fed. R. App. P. 32(f). The foregoing brief complies with the typeface requirements of Fed. R. App. P. 32(a)(5) and the type style requirements of Fed. R. App. P. 32(a)(6) because this brief has been prepared in a proportionally spaced typeface using Microsoft Office Word 2016 in 14-point Times New Roman font.

/s/ Charles R. Corbett
CHARLES R. CORBETT

August 24, 2020

CERTIFICATE OF SERVICE

I hereby certify that on August 24, 2020, I electronically filed the foregoing with the Clerk of the Court for the United States Court of Appeals for the Ninth Circuit by using the Court's CM/ECF system, which will send notice of such filing to all counsel who are CM/ECF registered users.

/s/ Charles R. Corbett
CHARLES R. CORBETT

August 24, 2020