



Electric School Buses for New Mexico

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Healthy Climate New Mexico

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Healthy Climate New Mexico

Our mission: To mobilize New Mexico healthcare and public health professionals to advocate for climate solutions that protect health and promote equity

- HCNM has 220 healthcare and public health members committed to advocating for climate solutions like the transition to electric school buses
- **Areas of focus:**
 - Education
 - Advocacy
 - Health organization sustainability
- **Working together:**
 - Health organizations, workers and students
 - Academic and clinical training programs
 - State, local and tribal agencies and governments
 - Elected officials



Presentation Goals

- **Highlight why New Mexico health professionals support expediting the move to electric school buses**
- **Explain the proposed legislative changes**
- **Outline the economic impacts of electric school buses compared with diesel powered buses on school districts**

Air Pollution is Hurting our Communities



County	Grade	Wgt. Avg.
Bernalillo	F	11.8
Doña Ana	F	17.3
Eddy	F	21.7
Lea	D	2.5
Rio Arriba	B	0.7
San Juan	F	5.0
Sandoval	D	3.0
Santa Fe	C	1.0
Valencia	C	1.3

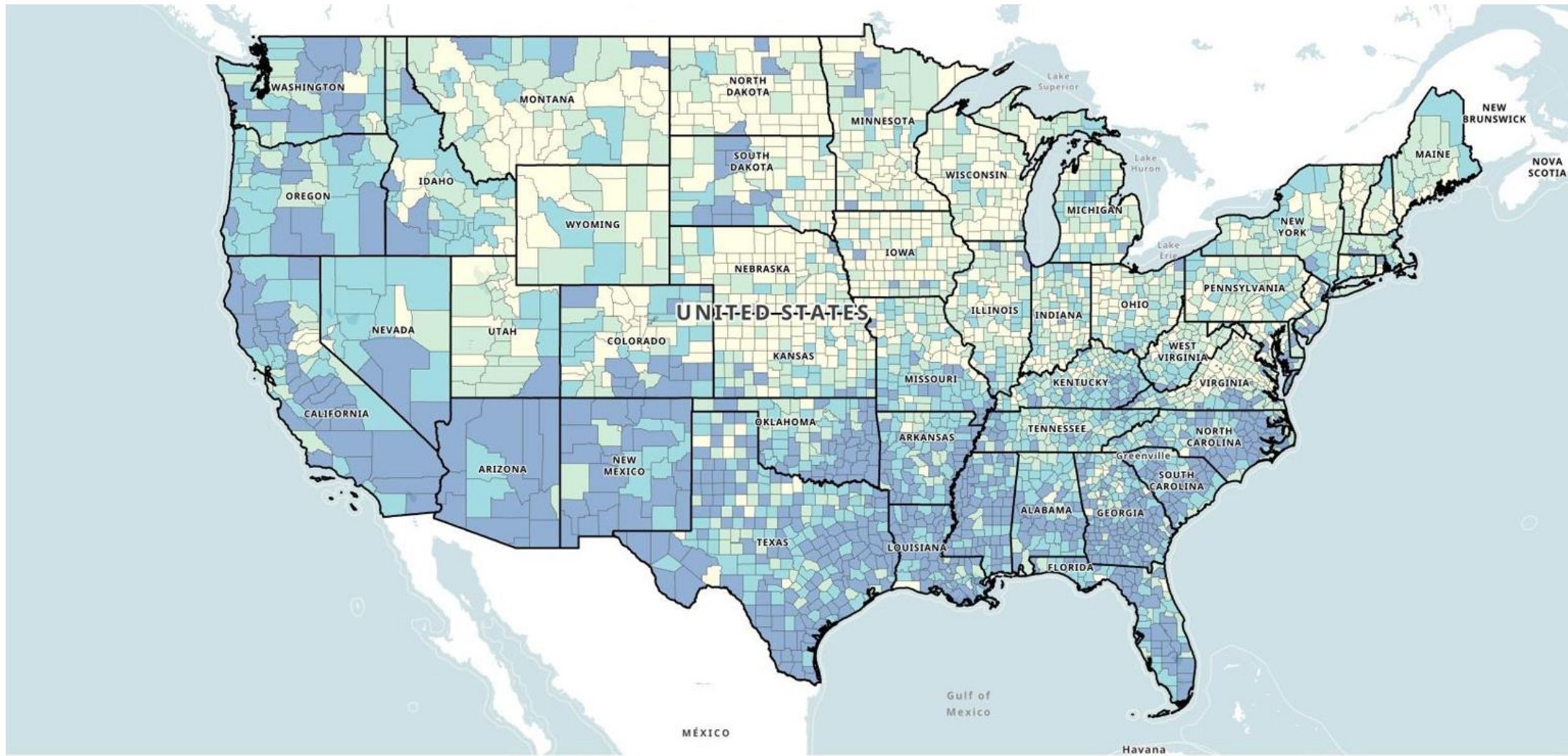
Ozone
Data for 9 of
33 counties

Insert picture of
Kids waiting for buses



Particle
Pollution
Data for 5 of
33 counties

County	Grade	Wgt. Avg.
Bernalillo	F	6.0
Doña Ana	F	4.2
Lea	B	0.3
Santa Fe	B	0.3
Taos	B	0.3



<https://www.atsdr.cdc.gov/placeandhealth/svi/index.html>

Level of Vulnerability

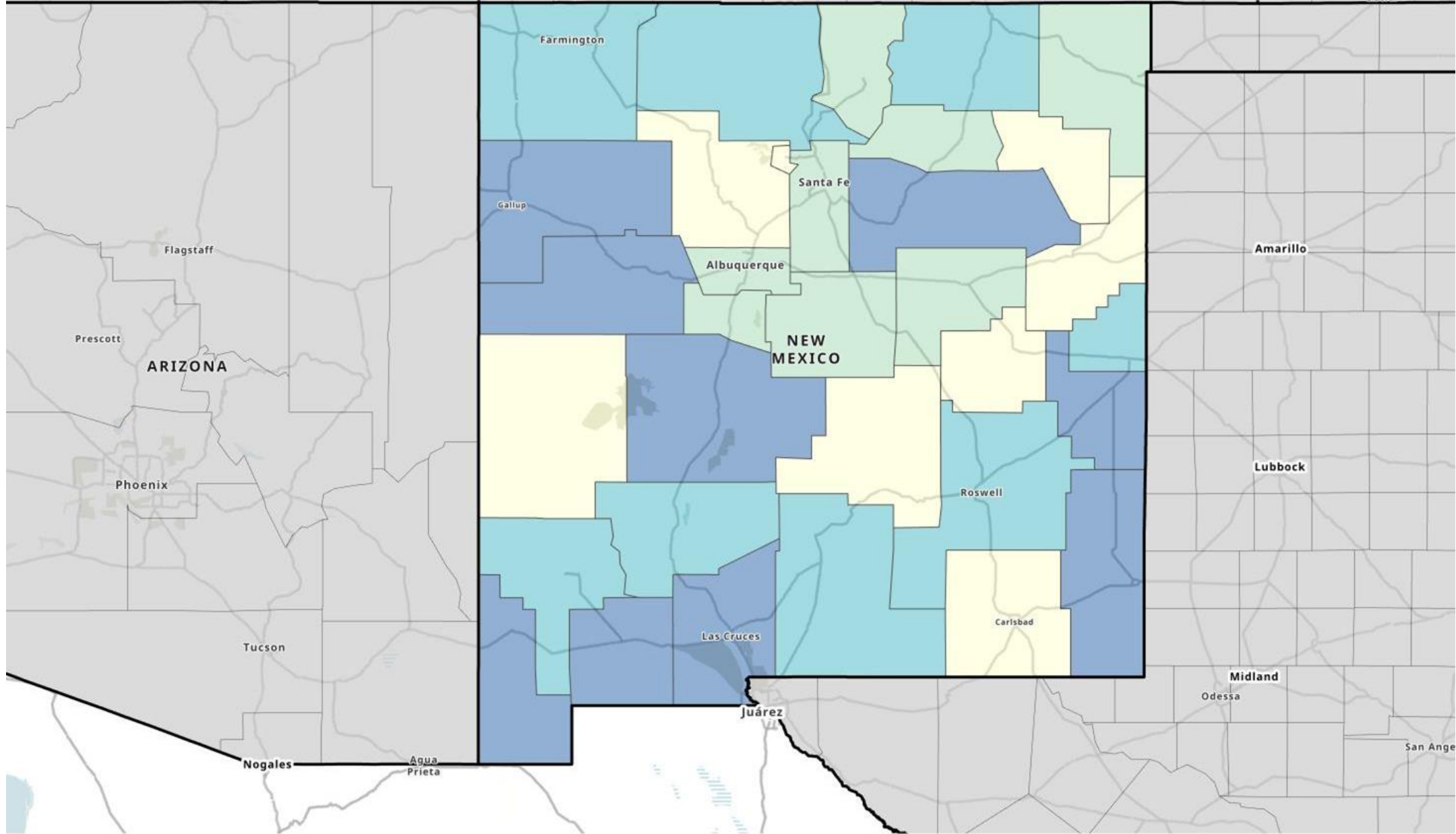
Low

Low-Medium

Medium-High

High

No Data



Level of Vulnerability





Census Tract 35031945300,
Mckinley County, New Mexico

2020 Statewide Overall SVI Score:

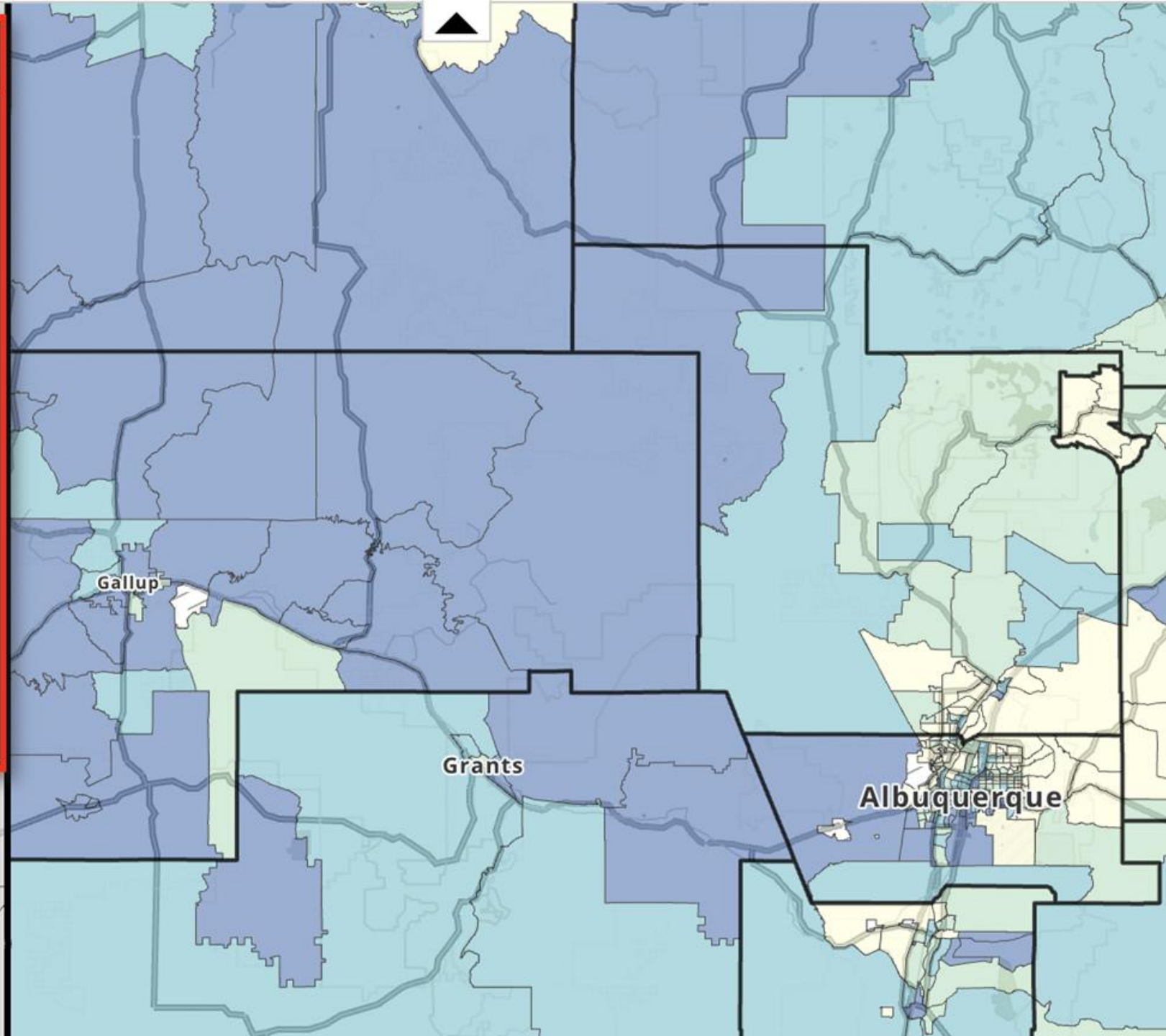
0.9883

Possible scores range from 0 (lowest vulnerability) to 1 (highest vulnerability).

A score of **0.9883** indicates a **high** level of vulnerability.

[View Prepared County Map](#)

[View in Table](#)



Health Equity is on the line with Climate Change

- Infants and children
- Elderly
- People who are low income
- Outdoor workers and Indoor workers in uncooled spaces: service, schools, etc.
- People with disabilities
- People who are pregnant
- People who use substances
- Chronic disease: diabetes, heart disease, asthma, etc.
- People with mental illness
- People who are unhoused or live in mobile homes
- People who are isolated

School Buses in New Mexico

- **Over 160,000 children ride school buses in New Mexico**
- **Over half are Latino, Black or Indigenous**
- **Over half are low-income and often live farther away from their public school which means longer rides**
- **Diesel buses impact:**
 - **Physical and mental health**
 - **Educational attainment**
 - **Income and job security**

CVNM Education Fund HIA (Jan 2020)

“ My son is 7 years old and when he comes home, he is struggling to breathe...They call me all the time and he is missing a lot of school due to his asthma.”

From one of our pediatricians:

"Children are more sensitive to the exhaust fumes. Not only is there a greater degree of respiratory disease such as asthma, these exhaust fumes can impair their cognitive abilities."

Laurence Shandler MD FAAP

A way to clear the air, reduce carbon pollution and protect the health of our communities

How did we reduce smog?

- EPA Clean Air Act
- Banned lead in gasoline

How can we clean up our transportation sector? Switch to zero emission vehicles

- No carbon emissions
- No other polluting emissions



<https://www.airnow.gov>



Provide school districts with the option to replace school buses with electric or zero emission alternative fuel buses

Now

- **PED provides for the replacement of school buses on a twelve-year cycle**
- **School districts can petition for additional buses for growth or for special needs**

Recommended change:

School districts shall have the option to replace a school bus with an electric or ZE alternative fuel bus or add a new one

Provide school districts with funding for electric or zero emission buses up to the cost of a diesel bus replacement

Now

- **PED pays for a diesel bus replacement (about \$140,000)**

Recommended changes:

PED shall provide funds for the ESB or ZEB and related charging infrastructure up to the cost of a diesel replacement

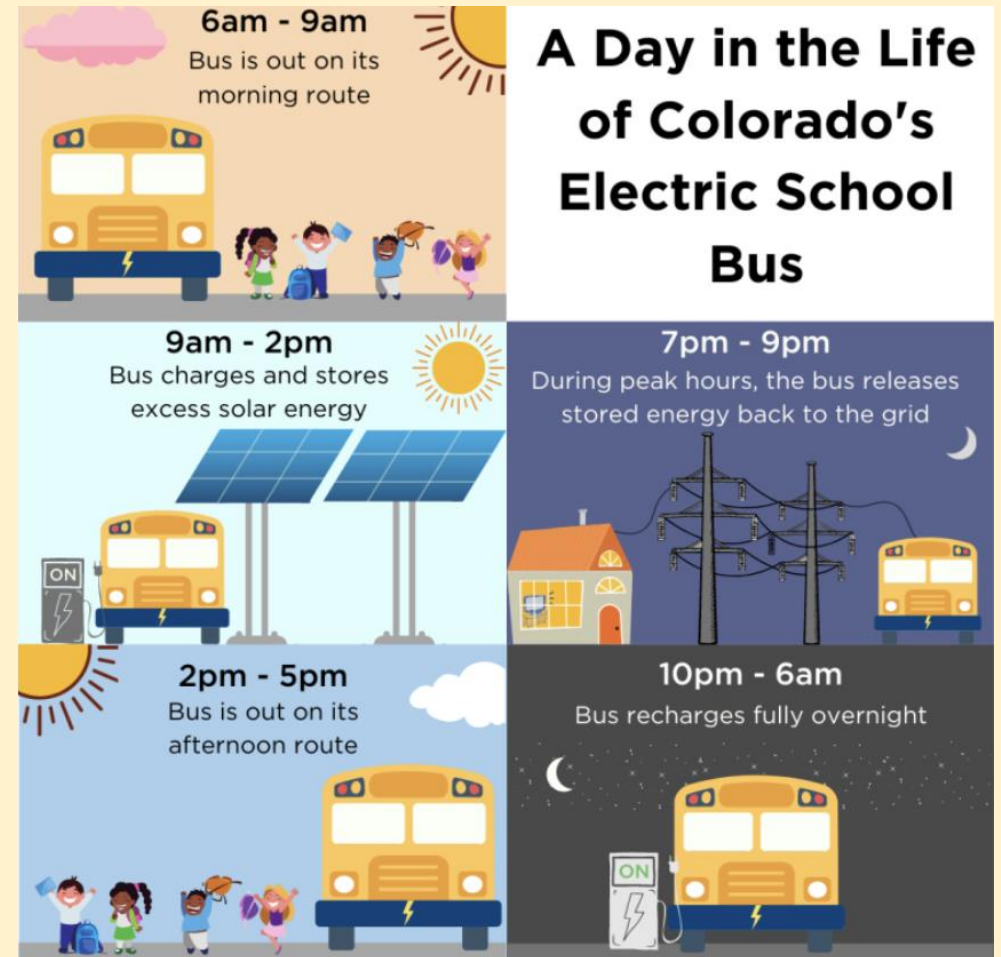
- **School districts who don't obtain funding for at least half of the cost of an ESB shall receive funding equal to the cost of a diesel replacement**
- **Districts who obtain funding for at least half of the cost of an ESB or ZEB shall receive funding for the bus and related charging infrastructure as needed to fill the gap, up to the cost of a diesel replacement**

Allow school districts to enter into agreements for the use of their electric school buses as energy storage

- Electric school buses, when not in use for transportation of students, may be used as electrical energy storage for:
 - 1) providing grid services. or
 - 2) use by schools to reduce daily electrical demand and for emergency electric supply

VEHICLE-TO-GRID (V2G)

"We help with storing energy and stabilizing our local grid using the energy stored in the bus batteries," said an official of the Cajon Valley Union School District near San Diego (transports 1,000 students; 7 ESBs in its fleet)



Electric or Diesel School Buses: Here's the Math

	Electric	Diesel
Purchase Price	<ul style="list-style-type: none"> • More costly, \$400,000 	<ul style="list-style-type: none"> • Cheaper, about \$140,00
Fuel Cost	<ul style="list-style-type: none"> • Cheaper than diesel 	<ul style="list-style-type: none"> • More costly than electricity
Maintenance Cost	<ul style="list-style-type: none"> • Much lower: fewer moving parts, no oil changes, less wear on brakes (regenerative braking) 	<ul style="list-style-type: none"> • More costly: oil changes, fuel filters, exhaust system maintenance, etc.
Incentives and Grants	<ul style="list-style-type: none"> • EPA funds nearly full cost + \$40,000 tax credit/direct pay 	<ul style="list-style-type: none"> • None
Lifespan and Resale Value	<ul style="list-style-type: none"> • May have longer lifespan; could last more than 12 years 	<ul style="list-style-type: none"> • Declining demand will negatively affect future value
Environmental and Health Costs	<ul style="list-style-type: none"> • Health benefits in large cities associated with reduced mortality and childhood asthma: \$200,000+ per bus 	<ul style="list-style-type: none"> • Harmful emissions lead to higher healthcare costs + losses in productivity, attendance and income

Transitioning to Electric School Buses

Healthy Climate New Mexico supports the transition to electric school buses and all vehicles including cars and trucks

- **The shift to electric school buses protects the health of children and communities, especially lower income and communities of color**
- **Electric school buses also reduce greenhouse gas emissions and air pollutants, leading to long-term healthcare cost savings and progress towards New Mexico's GHG goals.**
- **Electric school buses help grid resilience and increase access to charging infrastructure, especially in rural areas**
- **Electric school buses are an equitable, sustainable climate solution that will help us move towards a positive future**

Let's reduce our own carbon pollution...

And build a positive, equitable future *together*

- **Electric School Buses**
- **State Public Health and Climate Program**
- **Community Resilience Fund**
- **Health buffer zones and clean-up of oil and gas sites**
- **Greenhouse gas reduction targets**
- **Occupational heat standard for indoor and outdoor workers**



HEALTHY CLIMATE NEW MEXICO

Health Professionals for Climate Action

THANK YOU!

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[Healthy Climate NM](http://www.healthyclimatenm.org) is a state affiliate of the Medical Society Consortium on Climate and Health ([MSCCH](http://www.mscch.org)). The Consortium is hosted by George Mason University Center for Climate Change Communication in collaboration with Stanford School of Medicine.