CLEAN CITIES GENERAL MEMBERSHIP MEETING

DECEMBER 15, 2025

OVERVIEW

- Introduction & Agenda
- Tax Credit Updates
- Incentives
- 2025 in Review

INTRODUCTION

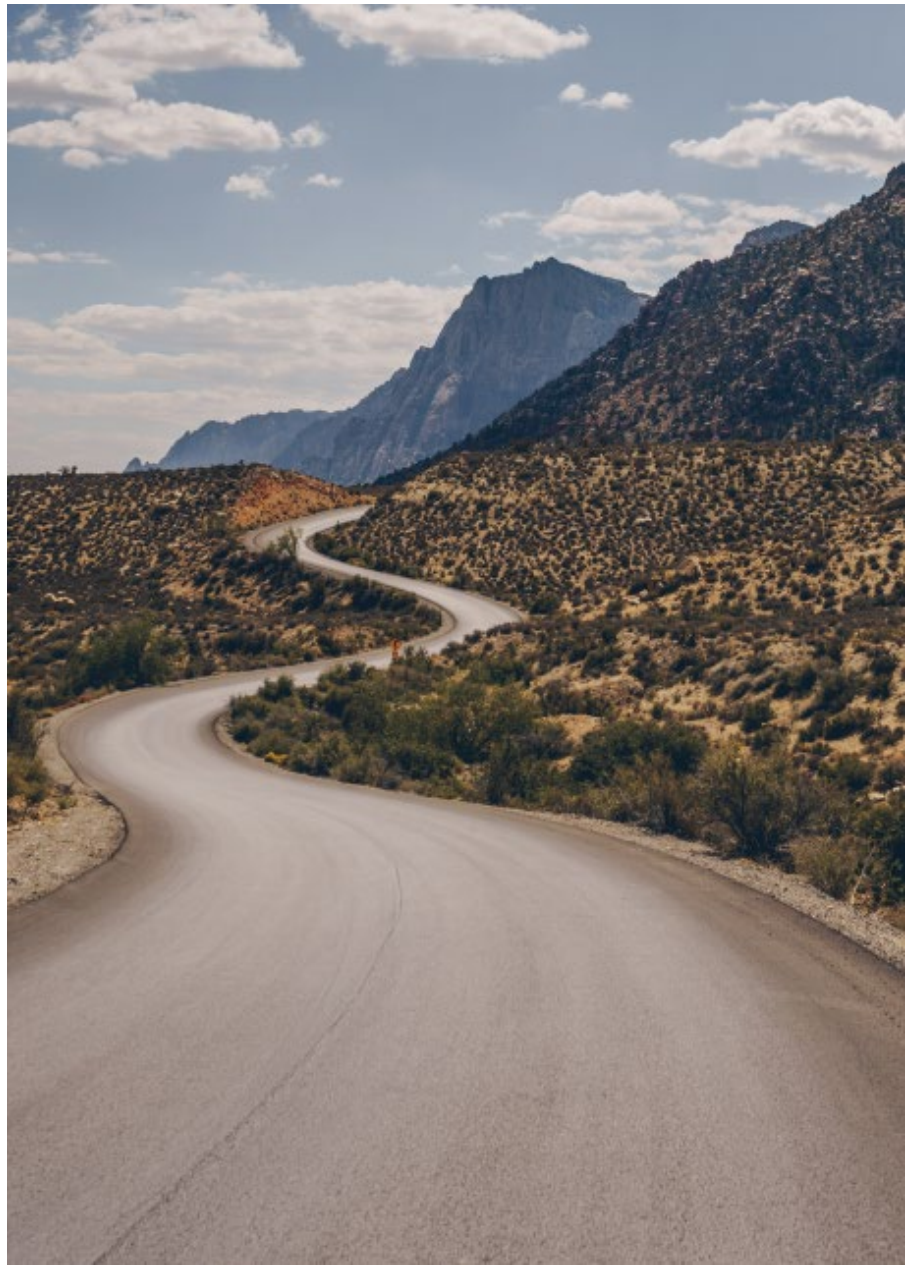
SOUTHERN NEVADA CLEAN CITIES COALITION (SNCCC)

Who We Are

- The Southern Nevada Clean Cities Coalition promotes and educates Clark County on sustainable transportation.
- Since 2024, we are a member of the U.S. Department of Energy's Clean Cities and Communities Network.

What We Do

- Our goal is to **reduce the use of petroleum fuels** through alternative fuels and idling reduction, improving air quality and energy security in our region.



AGENDA

Speakers:

- Dr. Joanne Leovy
  - NV Clinicians for Climate Action
- Roger Johnson
  - NV Regional Transportation Commission
- Yousaf Hameed
  - Clark County Dept. of Environment and Sustainability
- Alee Middleton
  - Clark County Dept. of Environment and Sustainability

Idle Free for Kids Project

Joanne Leovy, MD

For Southern Nevada Clean Cities Coalition

December 15, 2025

NEVADA CLINICIANS FOR CLIMATE ACTION

Fun Facts:

- Idling for more than 10 seconds uses more fuel than stopping and restarting the engine.
- Vehicle idling wastes 6 billion gallons of fuel per year. Idling reduction saves money.
- Modern cars warm up more quickly when driving than when idling. Modern starters and engines are not harmed by turning the vehicle on and off.
- Idling from cars produces 30 million tons of CO2 per year. Eliminating unnecessary idling would reduce emissions equal to taking 5 million cars off the road.

Idling reduction is good for Nevada

- Transportation is the biggest source of air pollution in Nevada.
- Vehicle exhaust emissions contain fine and ultrafine particulate pollution, carbon monoxide, nitrogen oxides and volatile organic compounds.
- These pollutants circulate throughout the body and enter the brain, causing numerous health consequences.
- Car, school bus or government vehicle idling restrictions by law or ordinance exist in AL, CA, CO, HI, IL, IN, MD, MA, MN, MS, MO, NJ, NY, NC, OH, PA, UT, VT, WA, ***but not in Nevada***.

Children and air pollution

- Children breathe faster, have faster heart rates and often spend more time in outdoor active play.
- Young children are mouth-breathers and their noses don’t filter air as well as adults.
- Rapid lung and brain development makes them more susceptible to toxins that harm those organs.
- Immature immune systems increase risks of infections and immunologic problems.

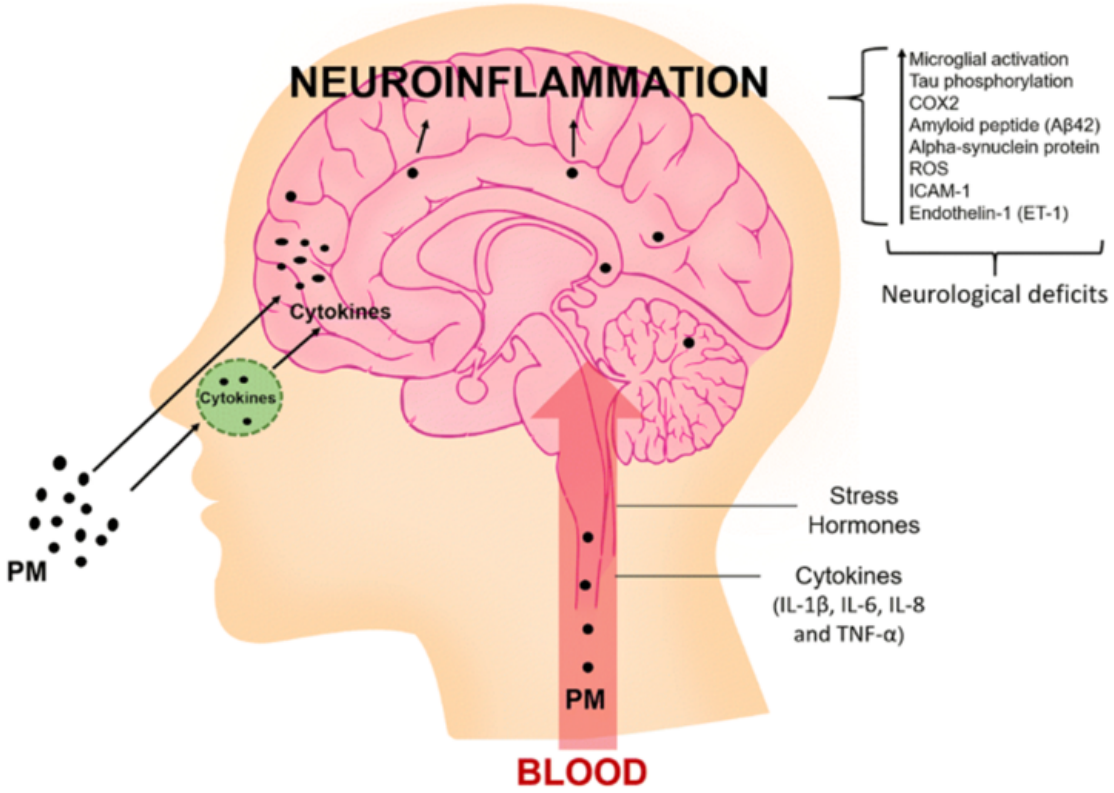
Particles linked to many health problems in children

- **Respiratory**
  - Asthma, bronchiolitis, COVID-19, influenza, pneumonia, bronchitis, sinusitis, allergies
  - Stunted lung development/function/immunity
- **Perinatal**
  - Premature birth, IUGR, LBW
  - Congenital malformations
  - Infant mortality
- **Neurodevelopmental**
  - Autism, ADHD, cognitive delays, increased risk of Alzheimer's and Parkinson's, mental health
- **Multiple other impacts**
  - Kidney disease, diabetes, hypertension, obesity, cancers (leukemias, lymphomas, CNS tumors), gastrointestinal disorders (IBD, diarrhea), atopic dermatitis

Courtesy of Debra Hendrickson, MD

Particles injure children's brains

- Most brain growth happens before age 3.
- PM2.5 alters brain development through direct invasion of brain tissue (via nose or blood) or systemic inflammation.
- Cognitive, behavioral consequences; contributing to autism, ADHD, dementia.
- Some impacts attributed to co-occurring toxins like PAHs.



Courtesy of Debra Hendrickson, MD

Sources: Calderon-Garciduenas et al. (2016); Calderon-Garciduenas et al. (2018); Perrera et al. (2005); Shang et al. (2023); Rahman et al. (2022); Kiu et al. (2023); Holme et al. (2024).

Informational Campaigns Work

- **Salt Lake City**—2 elementary schools documented decreased idling times and reduced numbers of idling vehicles, along with possible reduction in overall air pollution in the area.
- **Cincinnati**--educational program for school bus drivers, along with a school assembly and parental pledges resulted in 80% less bus idling and a 68% reduction in car driving during pickup.
- Boise, Denver and many other cities have run informational programs
- Clean Cities Idle Box Toolkit and other resources make it easy

NEVADA CLINICIANS FOR CLIMATE ACTION

NVCCA No Idling Program

- 2025-28 Project under NDPBH Silver State Health Improvement Plan
- Partnering with Clean Cities, CCSD, health and community organizations
- Public and school-based education to encourage reduced idling
- Education and advocacy for healthcare professionals
- Fits with other safety and clean transportation priorities

Contact Joanne Leovy at joanne@nvcliniciansforclimate.org

RTC of Southern Nevada

Roger Johnson
Director of Fleet Maintenance and Technical Equipment
Johnsonr@rtcsnv.com

Who We Are

Transit

Bicycling

Planning

Roadway Funding

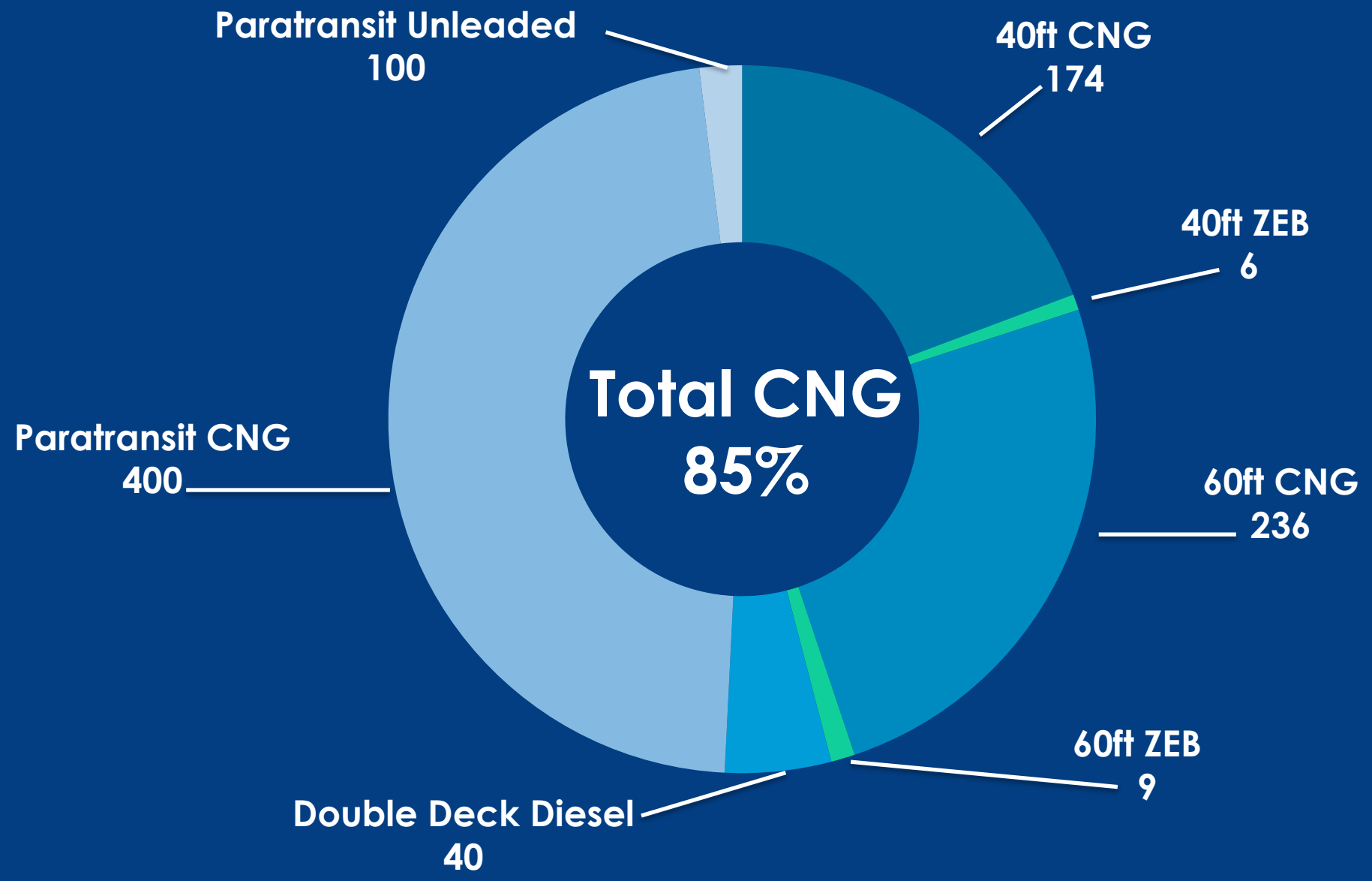
Traffic Management

RTC Fleet

465
Fixed Route Vehicles

500
Paratransit Vehicles

Current Fleet Composition



Zero Emission Implementation

2020 development of Zero Emission Bus Rollout Plan

Path to zero emissions by 2050 as funding allows

2
40ft hydrogen fuel cell electric buses

4
40ft battery electric buses

First Hydrogen Acquisition

- **FY20 Low-No Emission Grant**
  - Partners with New Flyer, Ballard Power Systems
  - Two 40ft hydrogen buses
  - Development of liquid hydrogen station
- **Infrastructure completion vs bus arrival challenge**
- **Temporary support with hydrogen gas supply and dispensing**
- **Buses in service since June 2023**
  - Economy of 7-8 m/Kg
  - Average range of 225-250 miles

Temporary Hydrogen Gas Fueling

- ✓ Gaseous Hydrogen Supply
- ✓ No compression equipment
- ✓ Self contained
- ✓ Simple permitting
- ✓ Fuel time up to 40 minutes
- ✓ Gaseous hydrogen requires more storage than liquid

Liquid Hydrogen Fueling

- ✓ Liquid Hydrogen Supply
- ✓ 1,000 Kg of storage
- ✓ Stored at -423 degrees F.
- ✓ 5,500 psi operating
- ✓ 15-minute fill times
- ✓ Fuel monitoring
- ✓ Boil off challenges

Liquid Hydrogen Fueling

Battery Electric Bus

- ✓ 4 Battery Electric Buses
- ✓ November 2023 in service
- ✓ 525kWh of on-board capacity
- ✓ 2.0 kWh per mile
- ✓ Average range of 150 miles

Battery Electric Charging

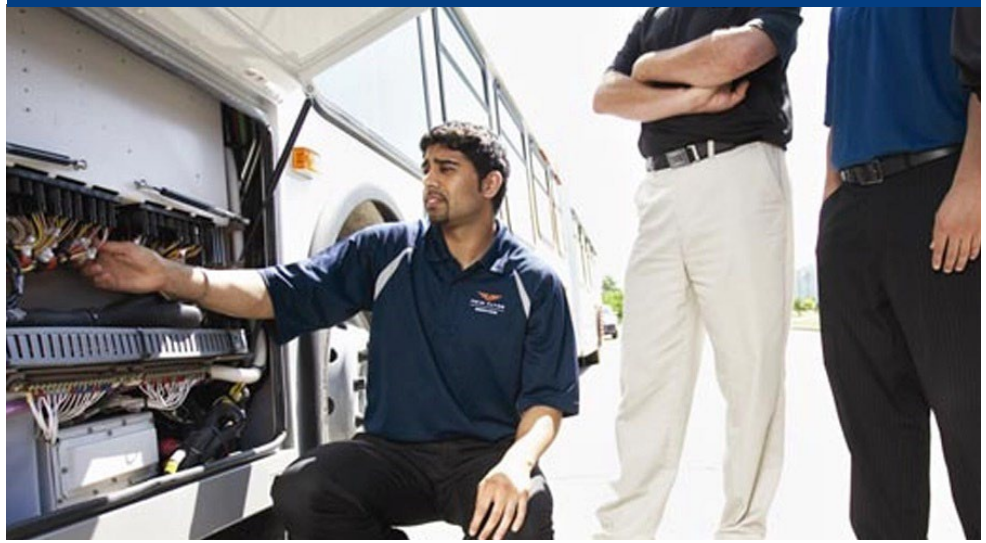
- ✓ ABB Level 3 DC Fast chargers
- ✓ 2- 150kW cabinets
- ✓ 4- charge cables
- ✓ 3 to 6-hour charge time

Looking Forward

Bus Builds

- 15 – 60ft Hydrogen arriving now
- 96 – CNG fixed route buses on order
- 10 – Double Decks on order
- 140 – CNG Paratransit buses on order

Education



- Research and analyze efficiencies
- Continue OEM Technician training
- Operator training
- First responder training

Thank You

Roger Johnson
Director of Fleet
Maintenance and
Technical Equipment

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Yousaf Hameed
DES, Division of Air Quality
Principal, Air Quality Planning

togetherforbetter

DES, Division of Air Quality

Clean Cities Membership Meeting

Why Electric Vehicles?

Green House Gas (GHG): Climate Impacts

Traditional (old school) Air Pollutants

- Criteria Pollutants and Hazardous Air Pollutants (HAPs)

Tailpipe Emissions

- GHG and Criteria Pollutants are Often Regulated Co-Pollutants

Other Pollution:

- Non-Tailpipe
- Manufacturing and Recycling

Total Pollution: EVs are Net Positive

Research and Policy

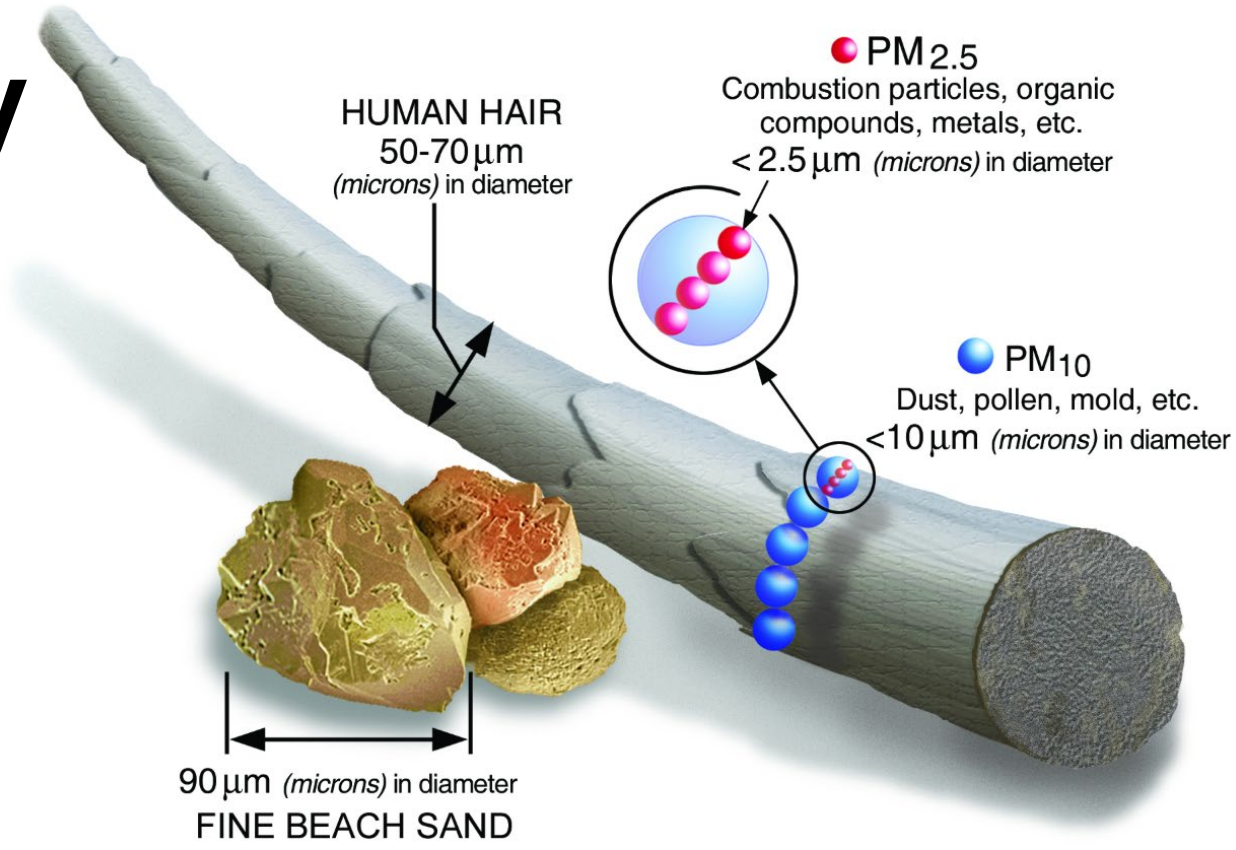
When Comparing Internal Combustion Vehicles to EVs, Studies Show that:

EVs Have Less Total GHG Emissions

EVs Have Less Total Fine Particulate Matter ($PM_{2.5}$) Emissions

- A Key Contributor to Mortality

EVs Have **Far Less** Total NOx Emissions



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Medium and Heavy-Duty Vehicles

School Buses (CCSD)

- Three Battery-Electric (Aug. 2024)
- Up to 25 More Possible
- Current Fleet is Largely Biodiesel

Transit Authorities (RTC)

- 95% Natural Gas
- Two Hydrogen Fuel-Cell (2023)
- Four Battery-Electric (2023)

What Can We Do?

Engagement

Environmental/Community Health Benefits

Informed Decisions

Each of You Makes a Difference
Thank You!

Any Questions?

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TAX CREDIT UPDATES

CHANGES TO TAX CREDITS

Technology	IRS Tax Code	Timeline	Credit*
Residential Clean Energy Credit *Solar panels, wind turbines, geothermal heat pumps, fuel cells, energy storage*	25D	Complete installation by 12/31/25	Up to 30% off the cost of equipment or installation
Energy Efficient Home Improvement Credit *Heat pumps, water heaters, biomass stoves, biomass boilers*	25C	Complete installation by 12/31/25	Up to $2000 off high energy efficiency-rated equipment
Energy Efficient Home Improvement Credit *New insulation, electrical panel, doors, and windows*	25C	Complete installation by 12/31/25	Up to $1200 off new insulation, doors, and windows
EV Charger Installation *Qualified charging equipment in an eligible census tract installed at a primary residence*	30C	Operational by 6/30/26	Up to $1000

**This information is not tax advice. Information is for educational purposes only. Please consult a qualified tax professional for tax advice.*

INCENTIVES

RESIDENTIAL INCENTIVES

NCEF	Save Energy NV	NV Energy
Residential Energy Upgrade Program (RE-UP)	Incentive Finder Tool	Free Home Energy Assessments
Rebuilding Together Southern Nevada	Explore Savings by project	Home Energy Saver
Weatherization Assistance	Find a Licensed Contractor	Free Qualified Appliance Replacement
Support from USDA - Home Repairs	Tax Credits Expiring	Save with PowerShift
Tips and Guides	Tips and Guides	Tips to Save Energy

2025 IN REVIEW

2025 COMMUNITY EVENTS

Community Events

- **Clean Cities Celebration/**
- **Movie Night at the Drive-In**
  - 78 guests attended!
  - 10 EVs on display

- **Glow Bike Ride**
  - 43 bike riders, 60 total guests
  - Bike riding safety education, EV information

Webinars

  - Southern Nevada Clean Cities Coalition

SEPTEMBER EV RIDE & DRIVE

- <u>September 27, 2025</u>
  - 130+ folks in attendance
  - 50+ test drives
  - 35+ EVs available for test drives

<u>Next Ride & Drive Event – April 2026</u>

- Location and date TBD
- Subscribe to DES updates here: AllIn.clarkcountynv.gov/Events

THANK YOU!

Alee Middleton, SNCCC Co-Director

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