

# Green Our Rides

National Park Service  
U.S. Department of the Interior



The National Park Service is working to address climate change through a number of strategies, including sustainable transportation efforts. The NPS is collaborating broadly on these efforts with partners, concessioners, visitors, and surrounding communities. Through this work, the NPS will cut emissions, conserve fuel, better protect the resources under our stewardship, and demonstrate green transportation strategies to NPS visitors.

## Climate Change and Transportation

The transportation sector is responsible for a significant portion of U.S. greenhouse gas (GHG) emissions. Highway vehicles release about 1.6 billion metric tons of GHGs into the atmosphere each year, mostly in the form of CO<sub>2</sub>. Each gallon of gasoline burned creates 20 pounds of CO<sub>2</sub>, and a typical vehicle produces about five to nine tons per year.<sup>1</sup> Gasoline and diesel fuel consumption for transportation contributed about 29 percent of the total energy-related CO<sub>2</sub> emissions in the United States in 2012.<sup>2</sup>

Within the NPS, about 50 percent of GHG emissions (approximately 162,000 tons in

2012) are attributable to transportation, including from vehicle fleet and equipment operations, staff commuting, and business travel. When visitors, concessioners, partners, and neighboring communities are taken into account, our GHG footprint multiplies many times over. So any progress we make in cutting our transportation-related emissions will significantly improve our overall GHG footprint.

## The National Park Service is Taking Action

Servicewide, thousands of NPS employees are working to shrink the GHG footprint of our transportation-related activities every day, and we are inviting partners and visitors to join in our efforts. Many parks have adopted idle-reduction policies; a vast majority of parks have significantly

NPS 2012 GHG emissions  
(341,796 MTCO<sub>2</sub>e)

GHG emissions from  
in-park visitor travel  
(1,200,000 MTCO<sub>2</sub>e)

GHG reduction  
potential if NPS visitors  
reduced their personal  
GHGs by 5 percent  
(200,000,000 MTCO<sub>2</sub>e)

<sup>1</sup> DOE, EPA: [fuelconomy.gov/feg/climate.shtml](http://fuelconomy.gov/feg/climate.shtml)  
<sup>2</sup> EIA: [eia.gov/tools/faqs/faq.cfm?id=307&t=11](http://eia.gov/tools/faqs/faq.cfm?id=307&t=11)

NPS staff at Carlsbad Caverns National Park are using hybrid electric and all-electric vehicles to cut emissions and save fuel. Photo courtesy of NPS



increased communication on climate change and green transportation strategies, encouraging biking, walking, and use of shuttles and mass transit; dozens of parks are incorporating alternative fuels and advanced vehicles into their fleet operations, and a few are even providing electric vehicle charging stations for visitor use. Through a partnership with the U.S. Department of Energy's Clean Cities program, parks now have access to a Green Rides Toolkit ([greenparksplaninside.nps.gov/toolkit/green\\_rides.html](http://greenparksplaninside.nps.gov/toolkit/green_rides.html)), a suite of educational materials, templates, and resources that will help parks more easily spread the word to employees, partners, and visitors.

## Be Part of the Progress

All NPS employees can join the effort to Green Our Rides, whether through

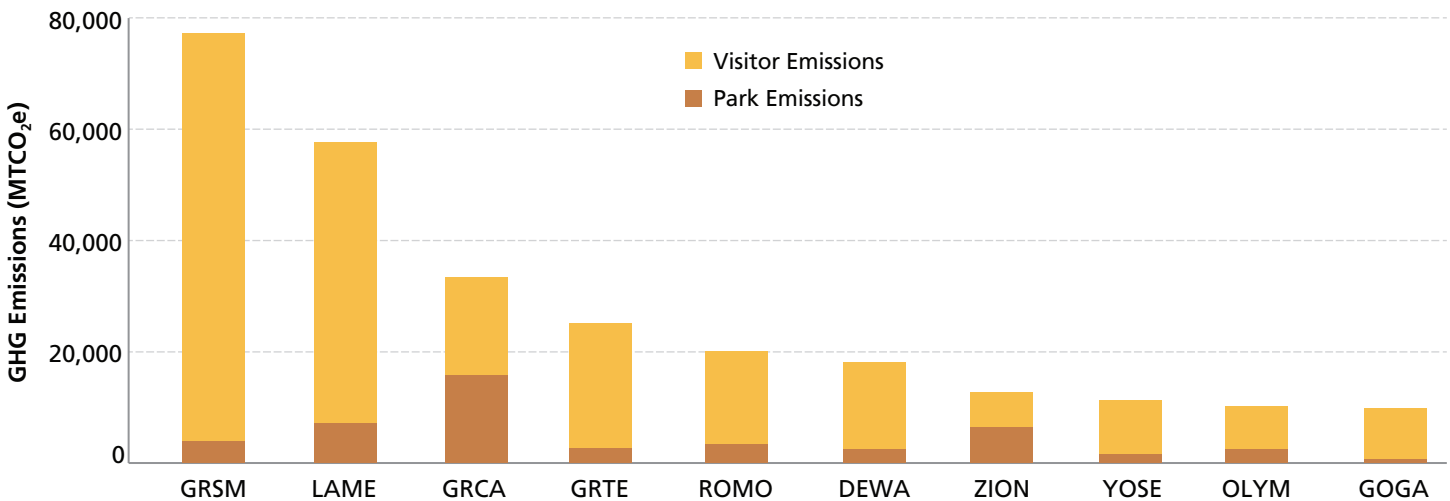
interactions with visitors, fuel-efficient operation of fleet vehicles, climate-friendly commuting, or the many other opportunities for action. The approaches listed below are some of our primary strategies, and many can be implemented immediately.

**Idle Reduction:** Idling a vehicle truly gets you nowhere: It reduces fuel economy, produces air pollutants, and wastes resources. Idling a car uses a quarter to a half gallon of fuel per hour, and idling a heavy-duty vehicle uses about one gallon per hour. Researchers estimate that vehicle idling in the United States wastes about six billion gallons of fuel annually. That translates to 60 million tons of CO<sub>2</sub> and \$22 billion per year.<sup>3</sup>

Modern vehicles do not need to idle. Computerized controls in today's vehicles bring the engine up to operating

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Park and Visitor GHG Emissions from Most-Visited Climate Friendly Parks



Through the Climate Friendly Parks program, we have found that GHG emissions from visitor travel often far exceed park emissions. While visitor activities contribute to our environmental footprint, they also provide us with an unprecedented opportunity to demonstrate sustainability and to encourage participation during their visit and in their own communities.

<sup>3</sup> DOE's Clean Cities. Idling is Not the Way to Go: [afdc.energy.gov/uploads/publication/light\\_duty\\_fs\\_6-2013\\_.pdf](http://afdc.energy.gov/uploads/publication/light_duty_fs_6-2013_.pdf)



Signage at Zion National Park discourages buses from idling. Photo courtesy of NREL



Visitors at Grand Canyon National Park leave their vehicles behind and travel on the park's natural gas buses. Photo courtesy of NREL

temperature faster when the vehicle is moving than when it is idling. Even on the coldest day, a typical car engine takes less than five minutes to warm up if the car is moving. It takes almost twice as long if the car is just idling. Contrary to some myths out there, turning your car off and back on again does not use more fuel than idling. Idling can actually increase engine wear and shorten vehicle life.<sup>4</sup>

**Fuel-Efficient Driving:** Efficient driving practices can improve your fuel economy by more than 30 percent.<sup>5</sup> There are a number of tactics you can implement to cut your fuel use and emissions.

- Drive sensibly: Aggressive driving, including jackrabbit starts, swift acceleration, and hard braking, wastes fuel unnecessarily.
- Observe the speed limit: Each vehicle reaches its optimal fuel economy at a different speed, but fuel economy usually begins to decrease rapidly at speeds higher than 50 mph.

- Remove excess weight: Don't keep unnecessary items in your vehicle.
- Keep your engine properly tuned: Delaying maintenance can impact fuel efficiency.
- Keep tires properly inflated: Check the sticker inside your glove box or door jamb to find the proper pressure (do not use the maximum pressure printed on the tire sidewall).
- Remove rooftop boxes and racks when not in use: Increased drag reduces fuel economy.
- Combine and coordinate trips: Several short trips use more fuel than one multipurpose trip.

**Reducing Vehicle Miles Traveled:** You can cut emissions and fuel use by reducing the number of miles of vehicle travel. Try carpooling or using alternative modes of transportation, such as walking, bicycling, and public transit. Many of these options are healthier for you, save money, and make for a more enjoyable trip.

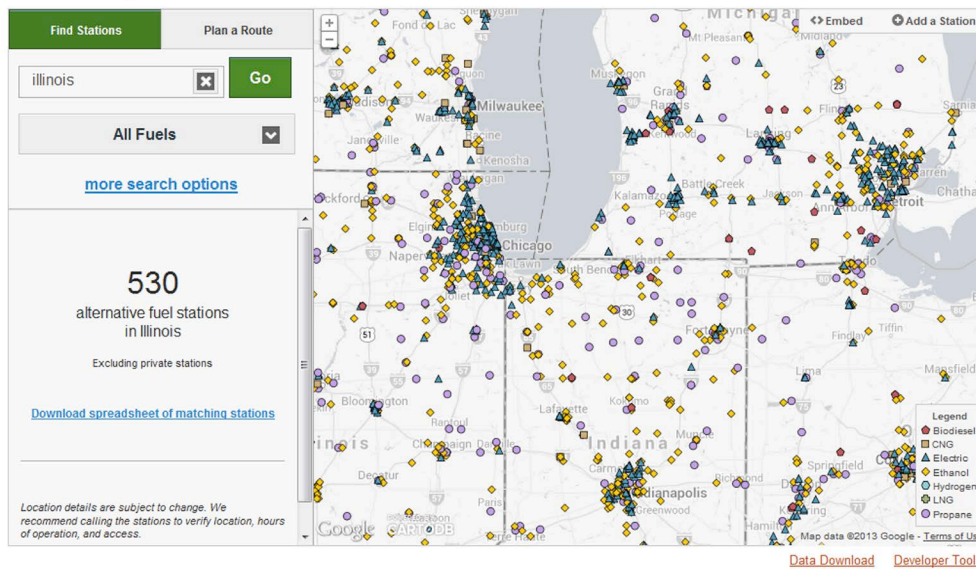
**Efficient driving practices can improve your fuel economy by more than 30 percent.**

<sup>4</sup> DOE's Clean Cities. Idling is Not the Way to Go: [afdc.energy.gov/uploads/publication/light\\_duty\\_fs\\_6-2013\\_.pdf](https://afdc.energy.gov/uploads/publication/light_duty_fs_6-2013_.pdf)

<sup>5</sup> EPA, DOE. FuelEconomy.gov: [fuelconomy.gov/feg/driveHabits.shtml](https://fuelconomy.gov/feg/driveHabits.shtml)

## Alternative Fueling Station Locator

Find alternative fueling stations near an address or ZIP code or along a route in the United States. Enter a state to see a station count.



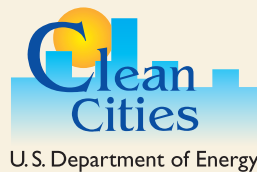
Park staff and visitors can use the U.S. Department of Energy's online Alternative Fueling Station Locator to find stations that offer biodiesel, natural gas, electricity, ethanol, hydrogen, and propane. Users can sort by fuel, find all stations near a given location, and map out driving routes with stations identified along the way. All the data is downloadable, and the tool can be easily embedded on other websites.

### Alternative Fuels and Advanced Vehicles:

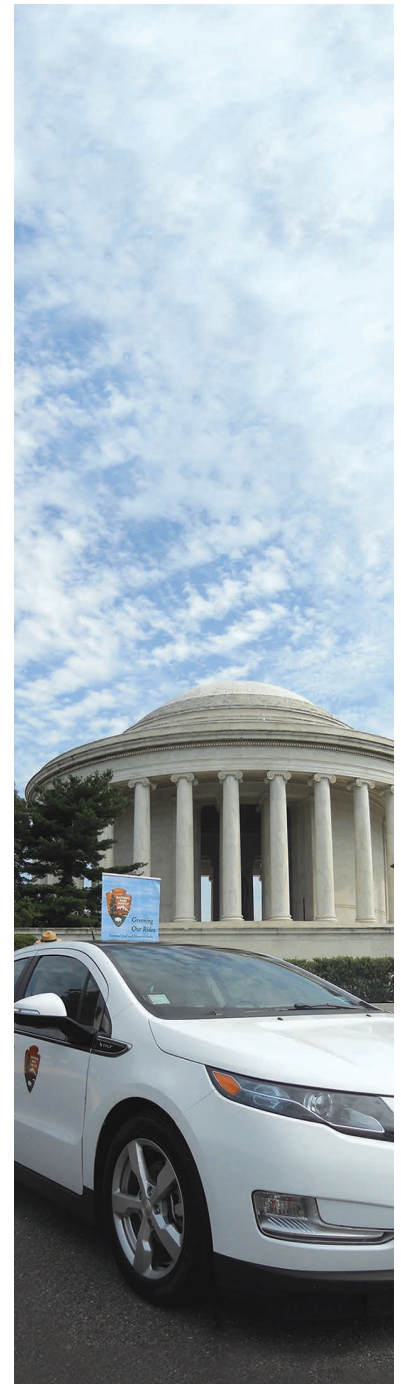
Many alternative fuels and advanced vehicles can significantly reduce emissions, fuel costs, and reliance on petroleum.<sup>6</sup> The NPS has teamed up with Clean Cities to support projects that increase the use of these fuels and technologies in parks. Across the country, parks are operating buses that run on compressed natural gas, biodiesel, or propane; conventional ranger vehicles are being replaced with fuel-efficient hybrid electric vehicles; and plug-in electric vehicles are being deployed in parks in Alaska, Tennessee, California, and other locations.<sup>7</sup>

Take advantage of the benefits of these fuels and technologies the next time you

rent or purchase a vehicle—or maybe even in your existing vehicle. There are now more than 11,000 publicly accessible alternative fueling stations and electric charging stations in the U.S.<sup>8</sup>



**An alternative fuel partnership between the U.S. Department of Energy's Clean Cities program and the National Park Service.**



The National Mall has partnered with Clean Cities to deploy plug-in vehicles and propane-powered mowers in the park's fleet. Photo courtesy of NREL

<sup>6</sup> DOE, Alternative Fuels Data Center: [afdc.energy.gov](http://afdc.energy.gov)

<sup>7</sup> DOE Clean Cities: [eere.energy.gov/cleancities/national\\_parks.html](http://eere.energy.gov/cleancities/national_parks.html)

<sup>8</sup> DOE, Alternative Fuels Data Center: [afdc.energy.gov/stations](http://afdc.energy.gov/stations)

## Take the Green Rides Pledge

Join your fellow NPS employees in a commitment to take simple, meaningful steps to cut emissions, reduce petroleum use, and improve fuel economy. Take the Green Rides Pledge at [mygreenparks.nps.gov](http://mygreenparks.nps.gov).