



# The National Park Service Fact Sheet

Alternative Transportation Program  
Washington, DC 20240  
(202) 513-7021

## Air and Noise Benefits of Alternative Transportation Systems

2003

### Clean air and natural quiet

are resources that need to be protected in our national park units, just as plant and animal species, historic buildings, and national monuments are protected. The Clean Air Act is meant to ensure that national parks and wildlands (called Class I Areas) have some of the cleanest air in the country. However, about 60 parks today are within regional air quality non-attainment zones, which are areas that do not meet Clean Air Act standards.

NPS monitors current air quality conditions and trends through its network of park monitoring stations across the country. The stations monitor ground-level ozone, acidic particles and rain deposited on land and in lakes and streams, and other pollutants. Most stations are run in partnership with the U.S. Environmental Protection Agency. For more information, visit [www2.nature.nps.gov/ard/gas/](http://www2.nature.nps.gov/ard/gas/).

### FOR MORE INFORMATION...

NPS Alternative Transportation Program:  
<http://www.nps.gov/transportation/alt/index.htm>

### GETTING AWAY FROM IT ALL

Nearly 300 million visitors from across the country and around the world visit our national park units each year. While people visit parks for many reasons, the National Park Service (NPS) has found that the primary activity of most visitors is viewing natural scenery, vistas, and wildlife. Visitors also come to hike, photograph, breathe in fresh air, and surround themselves with natural peace and quiet.

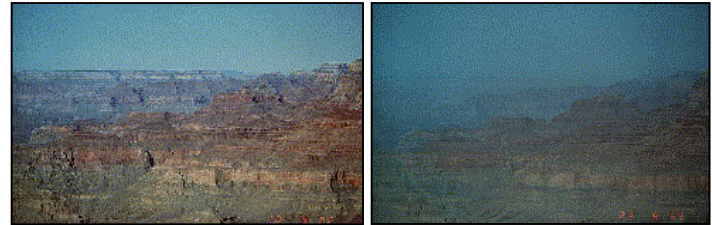
### WHY ARE THE CLEAN AIR AND NATURAL QUIET IN OUR PARKS UNDER THREAT?

As visitation to our national park units increases, visitors are finding the traffic congestion, haze, and noise they had hoped to leave behind. Air pollution comes from a variety of sources located both inside and outside of parks. Many park roads and parking areas are routinely overrun by motor vehicles during peak visiting seasons, contributing to air and noise pollution and impacting visitor enjoyment. Air pollutants from nearby power plants, industries, and other sources may also adversely impact parks.

### AIR POLLUTION – BLOCKING THE VIEW AND HARMING RESOURCES

Pollutants such as carbon monoxide (CO), volatile organic carbons (VOC), nitrogen oxides, and sulfur dioxide are dangerous to the health of park visitors, wildlife, plants, lakes, streams, and soils. These pollutants can also cause ground-level ozone and acid rain. In 1999, Sequoia-Kings Canyon National Park in California exceeded the national 8-hour limit for ground-level ozone on 64 days. Acid rain, formed by sulfur dioxide and nitrogen oxides interacting with water in the upper atmosphere, can adversely impact soils and can poison plants.

Haze due to air pollution can impair the scenic vistas at many parks. Pollutants like particulate matter reduce visibility. As a result, while a visitor may be able to see for hundreds of miles on a clear day, the view may be dramatically reduced on a hazy day during the peak summer visitation season.



Left: View of the Grand Canyon on a clear day.  
Right: View of the Grand Canyon on a hazy day.

### NOISE POLLUTION – DROWNING OUT THE SOUNDS OF NATURE



The increased number of motor vehicles inside our national park units can drown out natural quiet and the sounds of waterfalls, native birds, and other park wildlife. As most species use their sense of hearing to avoid predators, find food, and communicate with each other, noise may also result in injury, habitat abandonment, decreased food consumption, and reproductive losses.



Before implementing its shuttle bus system in 2000, Zion National Park in Utah experienced traffic congestion and noise pollution, possible reasons why its native cougars were rarely seen. (Image from Paul Torcellini for the USDOE, 2000)

## AIR AND NOISE BENEFITS OF ALTERNATIVE TRANSPORTATION

### ALTERNATIVE TRANSPORTATION HELPS PROTECT AIR QUALITY AND THE NATURAL SOUNDSCAPE

NPS is working to protect the visitor experience by exploring transportation alternatives that help ease traffic congestion, improve air quality, decrease noise pollution, and protect park wildlife. Alternative transportation systems (ATS) provide transportation options in parks. Shuttle buses, water taxis, canal boats, trams, railways, and trolleys are all forms of alternative transportation that allow parks to accommodate more visitors while alleviating congestion. Many of these transportation modes can be run on alternative fuels, such as propane, electricity, or natural gas. Alternative fuels are cleaner burning and quieter than gasoline and diesel. In addition, many are renewable, non-toxic, and biodegradable.



In 2001, more than 200,000 visitors rode the Island Explorer buses, keeping 88,000 vehicles off the roads.

### ACADIA NATIONAL PARK IN MAINE

Acadia National Park implemented a free propane-powered bus system in 1999 to shuttle visitors to campgrounds, beaches, and other park attractions. In its first year of operation, the shuttle buses reduced CO emissions by 33 percent and VOC emissions by 25 percent. In addition, the shuttle buses reduced noise near park roadways by 6.3 decibels, the same reduction that would result from building a 12- to 15-foot-tall noise barrier along the road. With the shuttle buses in place, visitation can continue to grow for over seven years before CO emissions reach their pre-shuttle bus levels.

### DENALI NATIONAL PARK AND PRESERVE IN ALASKA

When a new highway between Anchorage and Fairbanks opened in 1972, **Denali National Park and Preserve** realized that more personal vehicles would be entering the park. To help prevent congestion, air quality problems, and impacts to its sensitive wildlife, Denali developed a shuttle bus system that allows visitors to explore the interior of the park. The shuttle buses have helped to protect the park's air quality, natural soundscape, and unique plants and wildlife.



Shuttle buses at Denali National Park and Preserve allow visitors to enjoy the park's natural beauty and view wildlife in an undisturbed setting.



### ZION NATIONAL PARK IN UTAH

Since 2000, Zion National Park has used a shuttle bus system to take visitors to park attractions and stops in the nearby community of Springdale. In its first year of operation, the shuttle buses reduced CO emissions by 46 percent and VOC emissions by 44 percent. The shuttle buses also reduced noise near park roadways by 9.6 decibels, a difference noticeable by visitors and staff. Zion park staff report that visitors are now able to hear rushing streams and can even spot cougars. Thanks to the shuttle buses, visitation can continue to grow for approximately 80 years before vehicle noise levels reach their pre-shuttle bus levels.

In 2001, Zion National Park shuttle buses had over 1 million boardings. The buses take visitors to nine stops within the park and six stops within the nearby community of Springdale.