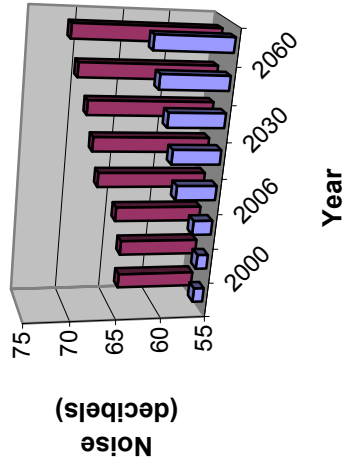


## REDUCED NOISE

Shuttle buses reduced noise near park roadways by 9.6 decibels in Zion and 6.3 decibels in Acadia – the same reduction that would result from building a 12- to 15-foot-tall noise barrier along the road. Thanks to the shuttle buses, it will take approximately 80 years in Zion and 120 years in Acadia for vehicle noise levels to approach pre-shuttle bus levels.

**Forecast of Vehicle Noise Levels at Zion National Park**



■ With Shuttle Bus ■ Without Shuttle Bus

Sources: FHWA traffic noise model runs; Voipe Center analysis

## THE FUTURE OF OUR PARKS

Visitors like you come to our national parks to enjoy pristine air quality, scenic vistas, and the calming quiet of nature. The National Park Service is working to protect your visitor experience by exploring transportation alternatives that can help ease traffic congestion, improve air quality, and protect park resources, including the natural soundscape and wildlife.

The data and methods underlying the summary findings in this pamphlet are contained in a report prepared by the John A. Volpe National Transportation Systems Center of the U.S. DOT Research and Special Programs Administration.

For copies of the report "Noise and Air Quality Implications of Alternative Transportation Systems: Acadia and Zion National Park Case Studies," contact:

Jim Evans  
Alternative Transportation Program  
Manager/Transportation Planner  
National Park Service  
Department of the Interior  
1849 C Street, NW (2420)  
Washington, D.C. 20240-0001  
Phone: (202) 513-7021  
Fax: (202) 565-1266  
E-mail: [Jim\\_Evans@NPS.GOV](mailto:Jim_Evans@NPS.GOV)

Visit the NPS web site below for more information about national park transportation programs.



<http://www.nps.gov/transportation>

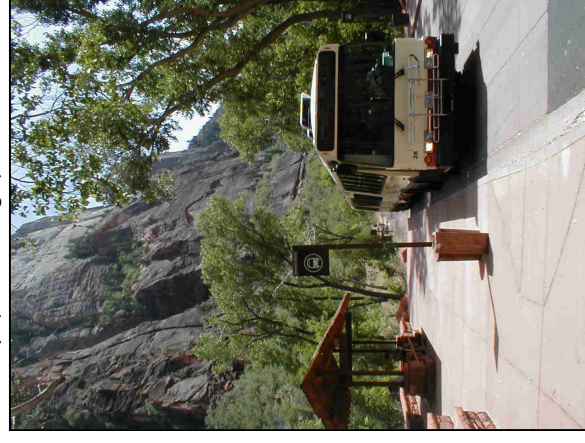
# ALTERNATIVE TRANSPORTATION SYSTEMS

*Making Our National Parks Cleaner  
and Quieter*



Above: Acadia National Park Island Explorer Bus (NPS image)

Below: Zion National Park Weeping Rock Shuttle Stop (NPS image)



## ALTERNATIVE TRANSPORTATION HELPS KEEP OUR PARKS CLEANER AND QUIETER

Each year our national parks host nearly 300 million visitors from across the U.S. and around the world. Most come to escape the hustle and bustle of daily life and to experience natural wonders. But park visitors are increasingly finding the congestion, noise, and hazy air they had hoped to leave behind.

### ENVIRONMENTAL THREATS

As visitation increases, more motor vehicles clog park roads. On a typical summer day at Grand Canyon National Park, nearly 6,000 vehicles compete for 2,400 parking spaces. Growing traffic congestion impairs the natural quiet and pristine air quality visitors come to enjoy.

- **Air Quality**

Our parks are threatened by air pollution from a variety of sources. Pollutants from motor vehicles 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.



Above: Traffic at Arches National Park in Utah

In addition, haze due to air pollution may impair natural and historic vistas. On a clear day in Acadia National Park in Maine, visitors can see for about 200 miles. But summer haze can reduce that view to 30 miles or less.



Left: Acadia National Park on a clear day

Right: Acadia National Park on a hazy day

- **Noise Pollution**

The increased number of vehicles inside our national parks means more noise, drowning out the natural quiet many park visitors seek. Park wildlife may also be negatively affected by noise.

### A SOLUTION: TRANSPORTATION ALTERNATIVES

The National Park Service (NPS) is exploring the use of buses and other transportation alternatives to reduce the impacts of growing park visitation. Transit services, pedestrian walkways, and bike paths can help limit the number of motor vehicles operating in our parks.

Acadia began using propane-powered buses in 1999 to shuttle visitors to campgrounds, beaches, mountains, and other park attractions. Personal

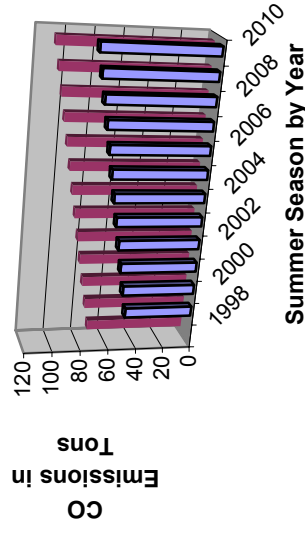
vehicles are still allowed in the park, but the bus is an attractive alternative. In 2001, more than 200,000 visitors rode the buses, keeping 88,000 vehicles off the roads.

Zion National Park in Utah began using propane-powered buses in 2000. Vehicle use is restricted in the most visited area of the park, Zion Canyon, from April through October. Buses shuttle visitors between the nearby town of Springdale and Zion Canyon attractions.

### IMPROVED AIR QUALITY

In both parks, introducing shuttle buses eased congestion, reducing CO emissions by 33 percent in Acadia and 46 percent in Zion, and reducing VOC emissions by 25 percent in Acadia and 44 percent in Zion. Thanks to the shuttle buses, visitation can continue to grow for 7 years in Acadia and for 15 years in Zion without raising CO emissions above their previous levels.

### Forecast of Mobile Source Emissions at Acadia National Park



■ With Shuttle Bus Program ■ Without Shuttle Bus Program

Sources: EPA MOBILE Model; NPS traffic data. Note: Emissions projections based on 2000 VMT data using conservative park visitation estimates