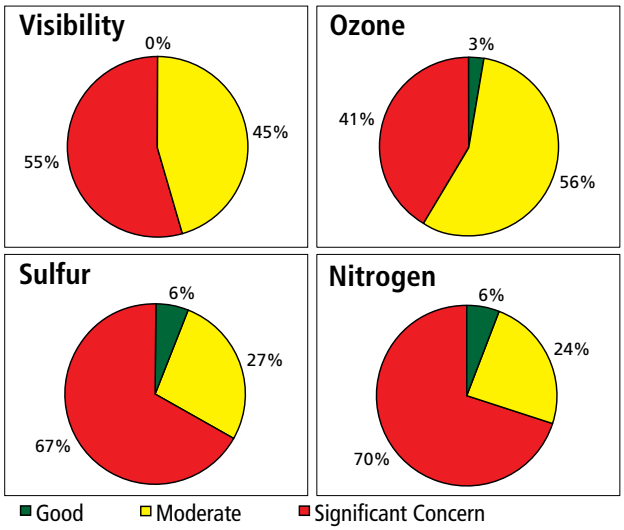
Environmental Benefits of Transit Systems

FEDERAL LANDS TRANSPORTATION PROGRAM FACT SHEET

Many visitors to national parks seek clear skies, clean water, fresh air, and quiet landscapes



Graphic to right: Percentage of National Parks with air quality concerns. (Source: NPS)

Personal vehicles bring visitors to national parks, and those vehicles bring air and noise pollution. Pollutants can have serious effects on air quality, wildlife, vegetation, lakes, streams, soils, and visibility.

Managing air and noise impacts is a major challenge to the National Park Service (NPS) mission to manage and protect resources unimpaired for the enjoyment of future generations. To reduce air and noise pollution, the NPS has implemented transit systems. As of 2018, there are 95 transit systems in 600 parks that improve visitor mobility and resource conditions by reducing the number of personal vehicles on park roads.

Transit and Air Quality Improvement

Haze from air pollution can block views of mountains during the day and stars at night.

Transit reduces the number of personal vehicle trips in parks and has a net positive effect on air quality. Transit vehicles carry more people per square foot of road space than personal vehicles, and they reduce fuel-inefficient driving behaviors like idling (which cause higher emissions).

NPS transit services eliminated an estimated 16.7 million passenger vehicle trips in 2018. These eliminated passenger vehicle trips would have covered 223 million miles, resulting in more than 123 million metric tons of CO_2.[1]

Vehicle fuel type also influences air emissions. As of 2018, 29 percent of transit vehicles operating in the national parks use alternative fuels instead of diesel or gasoline; for the NPS-owned transit fleet, the proportion grows to 58 percent.

When comparing alternative fuels vehicles to gasoline- or diesel-powered vehicles, they burn cleaner, are more environmentally friendly, and tend to be more efficient. Alternative fuels emit nearly 90 percent fewer toxins and ozone-forming hydrocarbons and come in many forms. The NPS-owned transit fleet is comprised of 62 percent alternative fuel vehicles, and 20 percent of non-NPS-owned transit vehicles are classified as using alternative fuels.

[1]2018 NPS Transit Inventory and Performance Report

Access to and within the National Park System has been a defining experience for generations of visitors. The National Park Service coordinates the planning and implementation of transportation systems that improve the visitor experience and care for national parks by: **1)** Preserving natural and cultural resources **2)** Enhancing visitor safety and security **3)** Protecting plant and animal species **4)** Reducing congestion **5)** Decreasing pollution.

New Zion electric-powered shuttle.
(Photo credit: NPS)

Hikers loading at Estes Park Visitor Center bound for Rocky Mountain National Park.
(Photo credit: NPS)

Visitors board a shuttle at Yosemite National Park.
(Photo credit: Volpe)

Transit and Noise Reduction

With rising traffic congestion, the explosion of digital gadgets and our increasing capacity to reach once-remote areas, solitude and quiet is harder to find. Many visitors come to national parks to seek silence and tranquility. In fact, 72 percent of Americans say one of the most important reasons for preserving national parks is to preserve the natural peace and the sounds of nature (Haas & Wakefield, 1998).

The sounds of cars, motorcycles, and other motorized vehicles can often be heard over a mile from park roads. Impacts of loud noise on wildlife include changes to migration patterns and loss of habitat. Noise can also scare wildlife away from roads and reduce opportunities for wildlife viewing. Visitors who use transit when it is available reduce noise and disturbance by taking multiple personal cars off the road, resulting in quieter conditions on and near roadways.

Below are examples of three NPS transit systems. Each has been in operation for 20 or more years. Zion, Rocky Mountain, and Yosemite National Parks all welcome more than 4 million visitors annually.

Zion National Park

Prior to 2000, as many as 5,000 cars a day would line up during the high season to enter the canyon at Zion National Park in Utah. Park managers established a mandatory shuttle system through the most popular portions of the park to mitigate congestion during peak visitation times, with a connecting service to the gateway community. The system reduces smog that obscures views and damages fragile park resources. Today, high-frequency service allows visitors to access the park at their convenience, while preserving the serenity and quiet visitors seek.

Rocky Mountain National Park

Air pollution originating in Colorado's Front Range communities has had a serious impact on Rocky Mountain National Park: nitrogen oxide (NOx) and particulate pollution pose health risks to visitors, excess nitrogen deposition harms the landscape, and visibility is frequently poor.

As Colorado works to reduce air pollution in the Front Range, the park has also taken action. Rocky Mountain National Park first established a shuttle system in the mid-1970s. The most recent service contract called for a "greening" of the shuttle fleet. The transit service provider installed particulate filters on the existing diesel buses and added two hybrid electric buses. These upgrades reduce vehicle emissions, increase fleet fuel efficiency, and reduce noise pollution.

Yosemite National Park

Yosemite National Park in California is one of the nation's busiest national parks. In 1970, the park implemented a free shuttle system to mitigate growing visitation. Annual visitation is now more than 4 million visitors per year on average. The park's transit service has grown too, with nearly thirty 40-foot transit buses now operating on seven routes, some year-round. Yosemite has also partnered with the local transit authority so visitors can explore the park without a private vehicle.

The NPS is committed to being a leader in pursuing strategies that can help make park units more enjoyable, cleaner, quieter, and more sustainable for present and future generations.