Visitor and Traveler Information Technology

FEDERAL LANDS TRANSPORTATION PROGRAM FACT SHEET

The National Park Service (NPS) uses dynamic technology to help manage the transportation systems, communicate with visitors, and advance the NPS mission.

Rocky Mountain National Park and partners use variable message signs (VMS) to encourage visitors to use shuttle buses to reduce congestion. (Photo credit: FHWA)

Technological and demographic trends are altering the way that visitors experience and travel to national parks. To address challenges such as congestion and safety and to improve the visitor experience, the NPS uses Intelligent Transportation Systems or ITS. ITS technologies provide visitors with information to make more informed travel decisions and include equipment like vehicle and parking lot counters, automated entrance gates, transit vehicle locator systems, and variable message signs. The widespread adoption of smartphones and mobile technology provides new opportunities to share up-to-date information (from parking space availability to bus locations or road closures) with the traveling public.

ITS helps visitors make informed travel decisions in a variety of ways, including:

» Rerouting traffic to available parking areas and to transit options during times of congestion;

» Directing visitors to less crowded entrances, attractions, and parking areas;

» Monitoring and reporting emergency incidents in order to clear them quickly and reroute traffic; and

» Determining shuttle bus schedules, route maps, and locations.

Information on road closures, parking lot availability, and congestion can be shared with visitors through automatically generated data (i.e., from Internet-enabled traffic counters), staff-maintained data, or a combination of both. This approach allows the NPS to display parking and road availability on official locations like the nps.gov website or a park social media page. Information of this type can also be open data. Open data allows third party apps to share it with app users. The NPS or its partners could add the information to visitor center displays, social media, or VMS along roadways.

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.

Acadia National Park's shuttle system shares real-time bus arrival information with visitors through signs at each shuttle stop and open data shared with third-party-apps.

Cape Cod National Seashore uses camera-based, internet-enabled parking lot traffic counters (Photo credit: NPS).

Zion National Park uses Facebook to share information with park visitors.

On transit systems and ferries, the NPS and its partners are adopting some of the traveler information technologies that have radically improved the rider experience on transit outside parks. For example, Automatic Vehicle Locator (AVL) technology can share live bus arrival information with visitors. Full-fledged AVL systems may be costly because they require continuously operating equipment on transit vehicles to track real-time location. Where AVL is not cost effective, the NPS may share digital transit schedules in the industry-standard General Transit Feed Specification (GTFS) format. This lets official and third-party apps show transit arrivals and departures based on the transit schedule.

Acadia National Park

Acadia National Park's Island Explorer shuttle system uses AVL technology to share real-time bus arrival information with visitors. When this system launched more than a decade ago, the information was only available on signs at shuttle stops. Acadia's transit partners are now making this information available as open data. This means that visitors can use common web applications like Google Maps to track shuttle departures at different destinations throughout the park and its gateway communities.

Acadia also provides information about parking availability for visitors. Fee booth or other park staff track the status of parking lots and input this data into a managed system. The park makes the data available for visitors on nps.gov and the park's social media site.

Cape Cod National Seashore

In summer 2018, Cape Cod National Seashore in Massachusetts piloted a parking management system. The pilot uses smart web-enabled cameras to share real-time parking availability for NPS-managed beach parking lots. The park shares data from the traffic counter on nps.gov and elsewhere as a part of its parking management system.

Zion National Park

Zion National Park uses social media to provide visitors and residents with a variety of useful travel information (including shuttle service details). The park's staff keeps their Facebook page updated on a daily basis with new images, weather forecasts, news of upcoming events, current travel restrictions, and more. In 2019, the Zion page had more than 400,000 "likes," so each posting has the potential to reach a wide audience quickly and effectively.

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.