National Park Service 2024 National Transportation Strategy

National Park Service
National Transportation Strategy

2024

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Yosemite National Park

NPS Mission: The National Park Service preserves unimpaired the natural and cultural resources and values of the National Park System for the enjoyment, education, and inspiration of this and future generations. The National Park Service cooperates with partners to extend the benefits of natural and cultural resource conservation and outdoor recreation throughout this country and the world.

Introduction

The National Transportation Strategy is organized by three goals, represented by these icons.

Protect the Climate and Advance Resource Protection

Enhance Visitor Experience and Connect Diverse Communities

Reinvest in the System and Make Legacy Investments

The Organic Act of 1916 established the National Park Service (NPS) and a National Park System with the goal of "conserving the scenery and the natural and historic objects and the wildlife therein" for generations of Americans to appreciate and enjoy. The mission of the National Park Service is to conserve and provide access to natural and cultural resources and values. Perhaps in no other area is this dual mission more evident than in transportation. For more than 100 years, the National Park Service has provided the people of the United States, and the world, with opportunities to visit and experience some of the most unique and special places the country has to offer. First with railroads and stagecoaches, then with personal automobiles, and now with highways, buses, ferries, and emerging mobility technologies, the National Park Service has built and maintained the infrastructure and services needed to provide millions of annual visitors with these opportunities.

Providing transportation services to access 425+ park units in all 50 states, the District of Columbia, and in U.S. territories requires careful planning and a context-sensitive approach. With aging bridges and roads; the effects of climate change on park resources and infrastructure; and an urgency to reduce emissions, and with changing technologies and visitor expectations, the National Park Service has much to prepare for to achieve its transportation vision:

To provide safe and equitable access to the United States' most unique and special places.

The National Transportation Strategy

The NTS is an update to the National Park Service's 2017 National Long Range Transportation Plan (NLRTP). It provides information about transportation challenges and opportunities that the National Park Service is facing and communicates agency priorities and strategies to address them.

The NTS is consistent with and builds upon related NPS policies and strategic plans, including NPS Management Policies and Director's Orders, the NPS Facility Investment Strategy, the Green Parks Plan, the Climate Change Response Plan, and the Department of the Interior's Equity Action Plan (Figure 1).

Ambitious Long-Term Goals

Many of the details within the NTS focus on actionable steps that the National Park Service can take within the next five years. However, the NTS is informed by long-term goals and objectives, and sets an agenda for achieving ambitious changes in transportation infrastructure and operations. Core themes include: reducing the NPS transportation system's contributions to climate change, increasing resiliency, and providing more equitable, safe, and sustainable access opportunities for visitors. Working closely with state, Federal, Tribal, and local partners to improve connections, secure funding, and enhance the traveling experience are also key priorities.

Informed by Stakeholders and Subject-Matter Experts

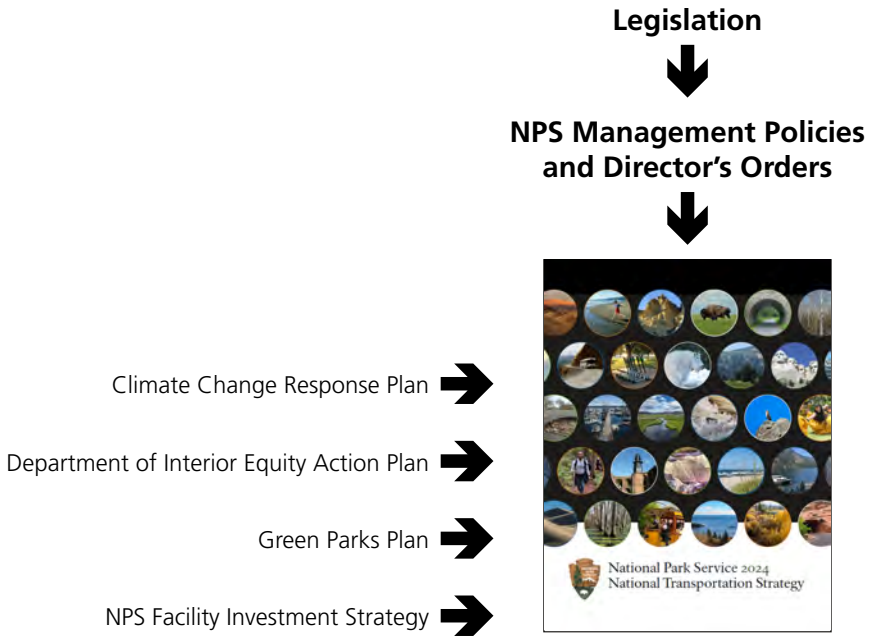
Transportation planning is inherently interdisciplinary and the NTS includes contributions from subject matter experts from across the National Park Service. Input from the public, key stakeholders, and NPS partners was used to inform the NTS, including a public comment period on the framework for the NTS.

The National Transportation Strategy (NTS) aligns with the four core pillars of the NPS Facility Investment Strategy:

- **Invest in Our Future:** Through sustainable opportunities, improve facilities or operations while prioritizing conservation and protecting natural and cultural resources.
- **Invest in Our Visitors:** Continue to meet the needs and expectations of visitors by modernizing our critical backbone infrastructure to eliminate health and safety liability risks, leading to safe, accessible, and reliable service for visitors. Enable every visitor to have a great national park experience by improving access and enhancing recreational opportunities.
- **Invest in Our Workplace:** Invest in assets that support employee accessibility, experience, and well-being to improve effectiveness and retention.
- **Invest in Our Heritage:** Preserve and protect important natural and cultural heritage assets for future generations by properly managing and maintaining natural and cultural heritage assets that are critical to understanding our country's story.

The Washington Monument and U.S. Capitol Building as seen from the Lincoln Memorial. *Credit: Kevin McCoy*

Figure 1: Alignment of NTS with Other Plans



A Performance-Based Plan

The NTS provides information about how the National Park Service tracks and monitors success in a variety of areas. Performance measures and targets are based on transportation management systems the National Park Service uses to track and model specific outcomes. Performance indicators are also included, which the National Park Service uses to monitor progress in harder to measure areas.

Part of a "3C" Planning Process

The NTS guides transportation investments at a high level and is part of the National Park Service's continuing, comprehensive, and cooperative (3C) approach to transportation planning.[1] Long range planning is the first step of the transportation program life cycle (Figure 2) informing multiyear investment programs, project development, as well as construction, operations, and performance monitoring. The NTS covers all modes of transportation and addresses all transportation planning factors from asset management to environmental impact, safety, and more.

As part of the National Park Service's decades-long partnership with the U.S. Department of Transportation (DOT), the NTS fulfills transportation planning requirements under the Federal Lands Transportation Program (FLTP), the primary funding source for NPS transportation infrastructure. Table 1 demonstrates how the NTS addresses the ten transportation planning factors identified under 23 U.S.C sec. 134/135.

1 The 3C process is a guiding principle for transportation planning dating back to the Federal-Aid Highway Act of 1962. Long range transportation plans, like this one, are part of the 3C planning process, and are typically updated every five years (continuing). They cover all transportation modes and funding sources (comprehensive) and are informed by public and stakeholder input (cooperative).

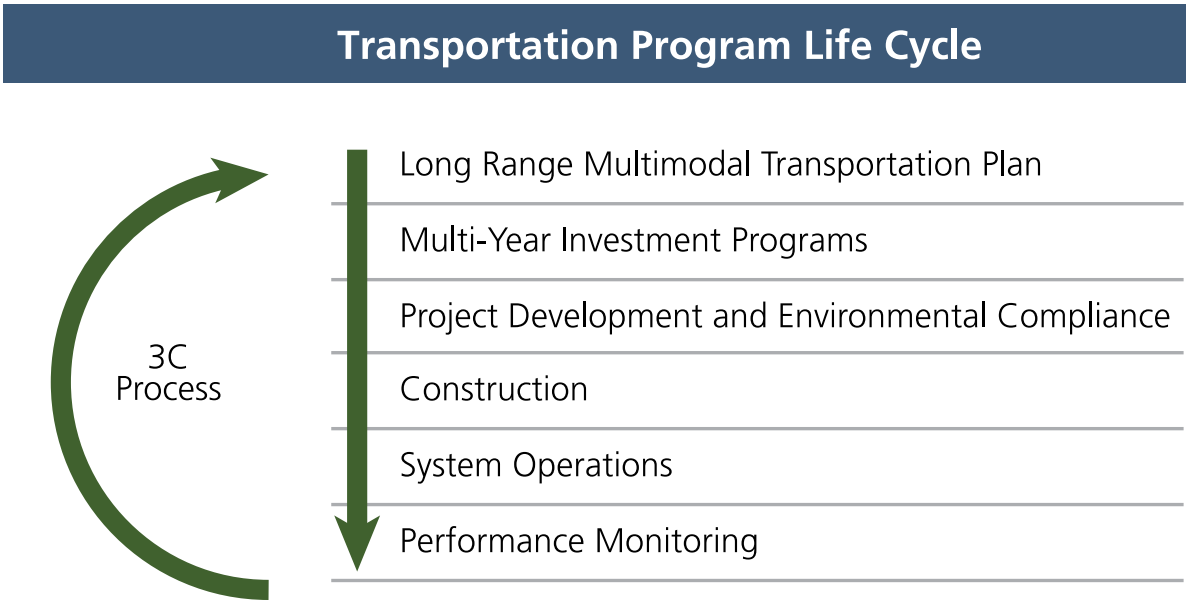
Table 1: U.S. DOT Planning Factors

Source: U.S. DOT Planning Factors. 23 CFR § 450.306 - Scope of the metropolitan transportation planning process. | Electronic Code of Federal Regulations (e-CFR). Accessed on September 26, 2023.

U.S. DOT Planning Factors	**NPS Goal 1** Protect the Climate & Advance Resource Protection	**NPS Goal 2** Enhance Visitor Experience & Connect Diverse Communities	**NPS Goal 3** Reinvest in the System & Make Legacy Investments
Economic Vitality	X	X	X
Safety		X	X
Security		X	
Accessibility & Mobility	X	X	X
Environment	X		X
Connectivity	X	X	X
Efficiency		X	X
System Preservation	X		X
Resiliency & Reliability	X		X
Travel & Tourism		X	

Figure 2: Transportation Program Life Cycle

The NTS follows a typical 3C process for transportation planning: continuing, comprehensive, and cooperative.



The NPS Transportation System

The NPS transportation system is an extensive network of roads, bridges, tunnels, transportation trails, and transit systems. These assets represent a combined $60+ billion transportation portfolio that support a core mission of the National Park Service by providing visitor access to America's greatest natural and cultural treasures. The NPS transportation system is the backbone on which all visitor experiences rely, connecting national parks with nearby communities and contributing to economic benefits.

The NPS transportation system is similar in scope and scale to a small state DOT and includes a diverse inventory of transportation assets:

- Roadway systems, including approximately 6,600 miles of paved roads, 7,300 miles of unpaved roads, 1,800 road bridges and tunnels, 6,300 paved parking areas, and 1,800 unpaved parking areas.
- Nonmotorized systems, including approximately 1,000 miles of transportation trails and 200 transportation trail bridges and tunnels.
- Approximately 100 transit systems, including buses, trolleys, trains, ferries, and snow coaches, as well as the maintenance facilities, buildings, docks, and other assets that support their operation.

The types of NPS transportation assets vary significantly across park units and by region, accounting for different visitation patterns and geographical, historical, and cultural characteristics. As shown in Figure 3, roadways and parking are by far the most common means of providing access to NPS park units. The Alaska Region is one notable exception, where many park units are not accessible by road and visitors must instead rely on boats, airplanes, over-the-snow transportation, and other modes of transportation.

Roads and parkways of the NPS transportation system often connect with bus services, ferries, trains, and transportation trails, allowing for multimodal trips, especially in major western parks and those in urban areas. Many NPS multimodal transportation networks are integrated with local and regional transportation networks to provide visitors with more seamless access, and frequently improve the mobility and quality of life of local residents.

Figure 4 illustrates 2022 NPS transit systems passenger boardings by park. It is important to note that in 2022, not all NPS transit systems operated and many experienced historically lower ridership due to changing transportation challenges presented by the COVID-19 pandemic.

Shuttle buses at Zion National Park.
Credit: Jim - stock.adobe.com

Figure 3: Approximate Scale of NPS Transportation System

The NPS transportation system is similar in scope and scale to a small State Department of Transportation and includes a diverse inventory of transportation assets.

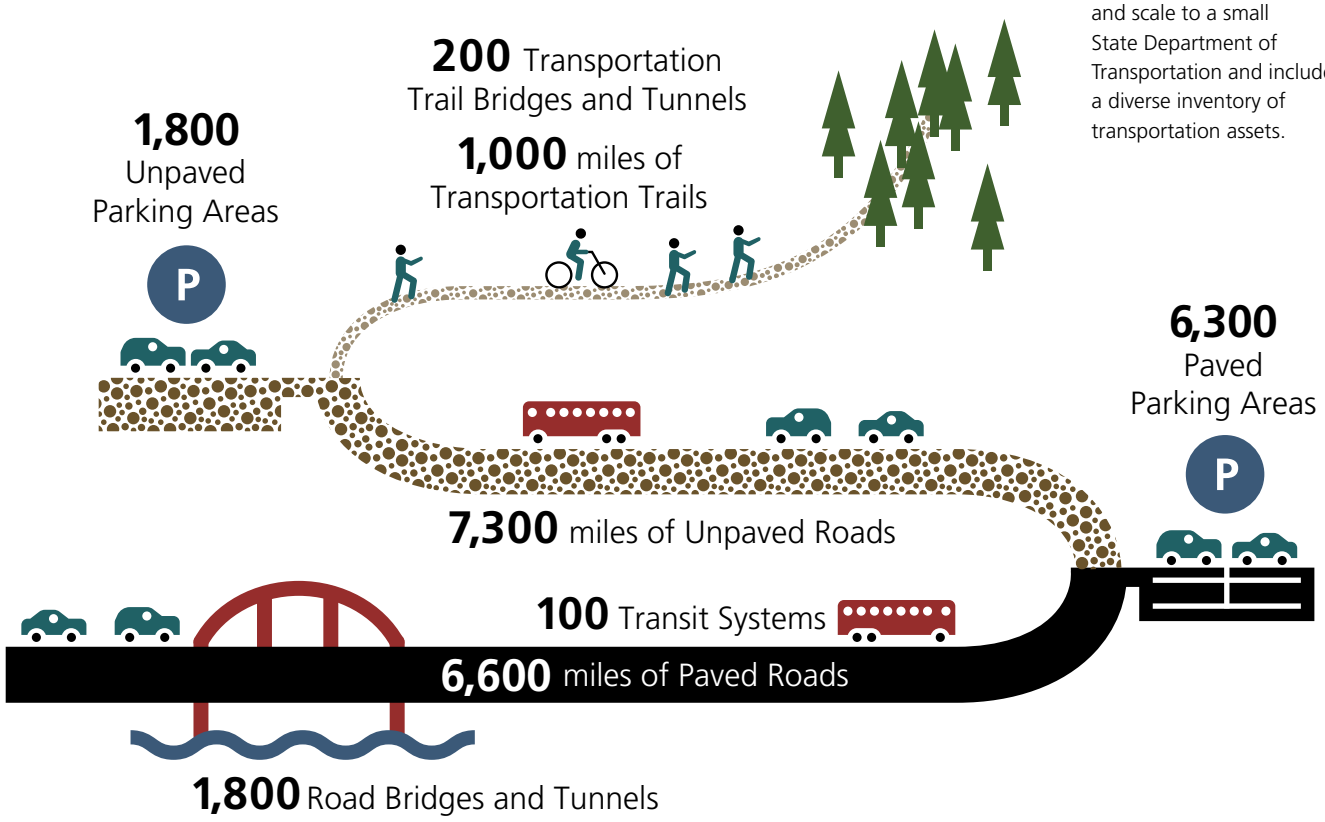
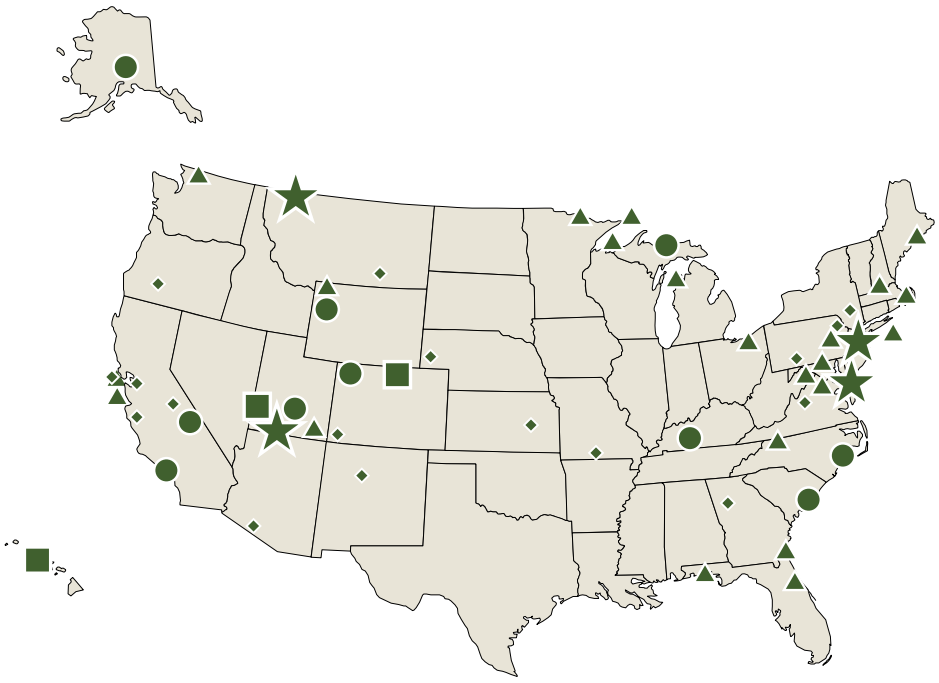


Figure 4: Transit System Passenger Boardings



2022 NPS transit systems passenger boardings by park. Source: National Transit Inventory 2022 (NPS)

- 1 – 1,000
- 1,001 – 350,000
- 350,001 – 750,000
- 750,001 – 1,500,000
- 1,500,001 – 5,000,000

Challenges and Opportunities

Maintaining and Modernizing NPS Transportation Systems

The NPS transportation asset portfolio is extensive, diverse, and aging. A significant proportion of the NPS transportation system is more than 60 years old; many assets are approaching the need for major reinvestment and modernization to continue their useful life or to improve safety and performance in-line with today's standards. Expanding systems where necessary to meet visitor access needs, and incorporating new NPS units, poses an additional challenge, but it also presents a unique planning opportunity.

Changing Visitation Patterns

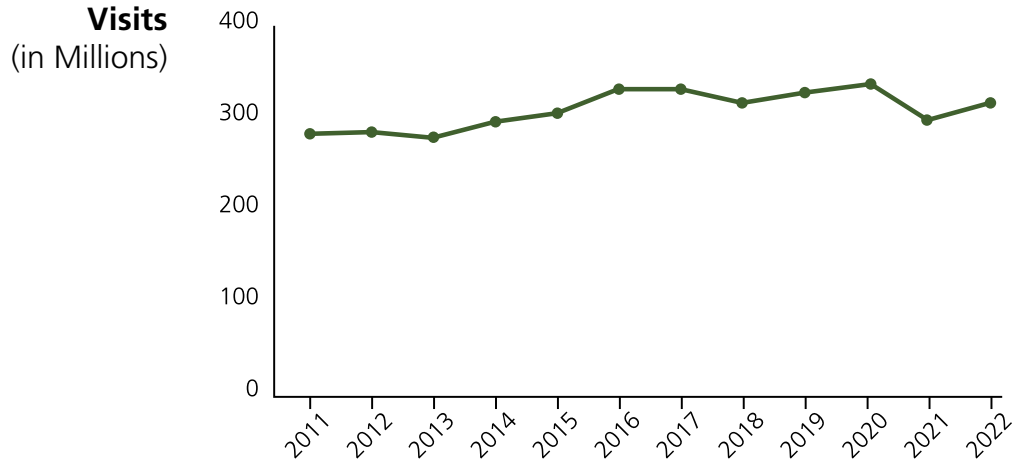
Trends in how and when people visit are changing in many parks, creating a need for the National Park Service to monitor trends and provide efficient transportation services that maintain both positive experiences for visitors and benefits to neighboring communities. Visitation is trending toward front country areas and "iconic" parks such as Arches National Park or Great Smoky Mountains National Park. The average duration of visits has decreased. Seasonal trends in some parks have been upended, with "shoulder seasons" — the months just before and after the highest visitation times — sometimes recording as many visitors as peak visitation times. External factors like the COVID-19 pandemic, fuel prices, and social media are all influencing which parks and which areas in parks are most visited (Figure 5).

Aging Population

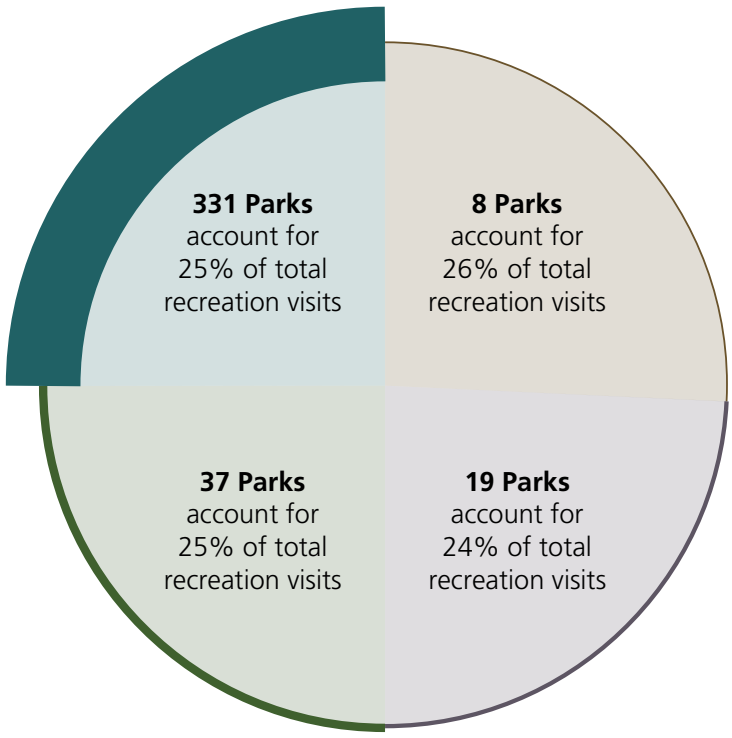
The nation's mobility and transportation needs evolve as the country grows older. The proportion of America's population aged 65 and over has been growing as a share of the overall population for at least the last three decades, and the trend is accelerating with time. According to the U.S. Census Bureau, more than 50 million people in the U.S.—about 1 in 6 adults—belonged to this age bracket in 2020. Accommodating more older adults and people with mobility challenges will be a key challenge for the National Park Service.

Figure 5: Recent Recreation Visitation Trends (395 reporting park units)

Total recreation visits, for 395 reporting park units, have increased modestly over the last decade and fluctuate annually.
Source: NPS Visitor Use Statistics Program – Annual Visitation by Park



The number of visits in the top 8 most visited parks is approximately equal to the number of visits in 331 parks combined.
Source: NPS Visitor Use Statistics Program – Annual Visitation by Park



312 Million Total Recreation Visits (2022)

At Gateway National Recreation Area, soil erosion occurred as a result of Hurricane Sandy.

A sign at Panoramic Point Trail in Kings Canyon National Park provides accessibility information about the trail for visitors.

Shared micromobility, like this bikeshare system that operates at the National Mall under a special use permit, is a type of emerging mobility technology that is changing how visitors access some park units. *Credit: ep_jhu - flickr.com*

Climate Change

Climate change will continue to impact NPS cultural and natural resources and stress the NPS transportation system. The National Park Service must reduce the contributions of park transportation to climate change, while also preparing for and responding to climate change impacts, such as increases in extreme weather and wildfire events. Planning for resilience and adaptation across a diverse landscape is both a monumental challenge and an opportunity to better integrate resource protection into NPS transportation systems.

Deepen Connections with and Remove Barriers for Underserved Communities

National parks belong to everyone. The National Park Service has a valuable opportunity to ensure equitable access to a park's facilities, programs, services, and experiences, particularly for underserved communities. Multiple transportation modes are needed to ensure equitable access, particularly those transit and trail opportunities considered safe, reliable, pleasant, easily accessible, and affordable for members of historically underserved or disadvantaged communities. The National Park Service must work to overcome access barriers so that all who want to visit the national parks can feel welcome and comfortable while doing so.

Transportation Technology Innovation and Changing Visitor Expectations

The National Park Service has an opportunity to identify and implement new technologies that improve visitor access and protect cultural and natural resources. Emerging mobility initiatives, electric vehicles, and other cutting edge transportation technologies can create new transportation options that enhance visitor experience. However, staying up to date with ever-evolving technological advances often poses a challenge for the NPS transportation system. Meanwhile, visitor's expectations have evolved as transportation innovations like electric vehicle charging equipment, cellphone service, widespread smartphone adoption, and nearly ubiquitous Wi-Fi access have become the norm in public spaces across the United States. The National Park Service must integrate transportation technologies in a context-sensitive manner, keeping in mind the financial and human resources required for their implementation, and consider the anticipated longevity of any new technologies while balancing visitor expectations for modern amenities.

By the Numbers: New and Expanded Potential Fund Sources for NPS Transportation

$2.3 Billion available to transportation projects under the Great American Outdoors Act's Legacy Restoration Fund (LRF) between FY2022-26.[2]

$175 Million available to Federal Lands Management Agencies under the Nationally Significant Federal Lands and Tribal Projects (NSFLTP) Grant program between FY2022-26.[3]

$58 Billion total BIL discretionary grant funding available from FY2022-26 for which the National Park Service is an eligible entity (either directly or through partnerships).[4]

2 The National Park Service is authorized to use up to 35% of the $6.5 Billion share of LRF funds on transportation.
3 Congress may appropriate additional funds to the program on an annual basis throughout the lifecycle of BIL.
4 Figure assumes full appropriations of all programs throughout the lifespan of BIL. See NPS BIL Grants Strategic Plan for details.

Transportation Partnerships and Stakeholder Engagement

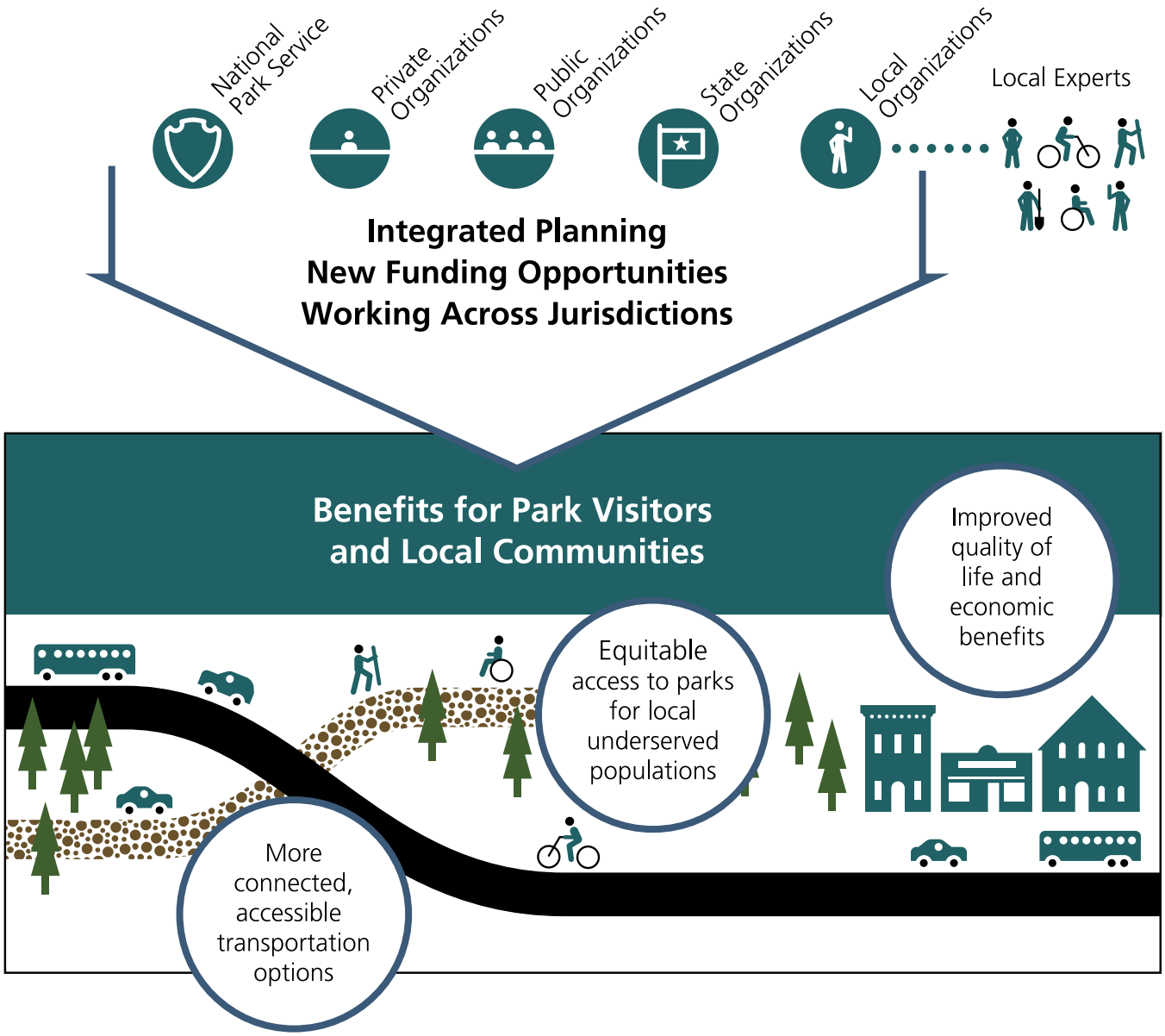
There is perhaps more public interest and excitement today about improving visitor access to national parks than ever before, and there are myriad opportunities for the National Park Service to collaborate with stakeholders across jurisdictions to do so. State DOTs are required to consult the National Park Service when developing their transportation plans, but establishing a more integrated transportation planning approach with active cooperation between the National Park Service, state and local governments can yield benefits for everyone. Integrated planning approaches have the potential to improve connectivity and accessibility of local transportation systems in and outside of parks, the benefits of which can be shared by community members and park visitors. Economic benefits and improved quality of life for local communities are possible as a result. Integrated planning approaches allow for local expertise of partners to help solve and mitigate negative impacts of visitation in local communities, and they can address barriers to access for underserved populations (Figure 6).

New Programs and Funding Sources

The National Park Service will benefit from the historic investments created by the Infrastructure Investment and Jobs Act (IIJA; also known as the Bipartisan Infrastructure Law or BIL), the Great American Outdoors Act (GAOA), and Inflation Reduction Act (IRA). These laws provide the National Park Service with opportunities to make once-in-a-generation investments in maintaining, modernizing, and when necessary, expanding its transportation system. Realizing these opportunities, however, requires a greater emphasis on building partnerships and competing for discretionary grants. It will also require the National Park Service to do more advanced planning and environmental compliance work to demonstrate the transformational potential of proposed investments and increase the number of "shovel ready" projects. Additionally, operating in an environment where a larger share of transportation funding comes through grants and partnerships may require a change in thinking about how projects are developed, scoped, and prioritized.

Figure 6: Transportation Partnership and Stakeholder Engagement

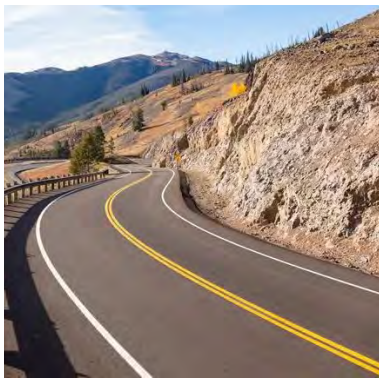
The NPS can seek partnership and stakeholder engagement opportunities to yield benefits for all partners and stakeholders involved and impacted by park transportation planning decisions.



Glacier National Park

Transportation Investment Strategy

The National Park Service relies on a variety of funding sources to maintain its transportation system. NPS staff work with strategic partners to analyze, plan for, and make routine and legacy investments that support access for more than 300 million annual visits. This chapter describes how NPS transportation investments have historically been funded, forecasted future resources, overall transportation needs, and the investment strategy the National Park Service will pursue to best meet those needs.[1]



Yellowstone Grand Loop Road Reconstruction made possible with NSFLTP program grant.

Transportation Funding Trends

Major Funding Sources

There are two major types of funding for NPS transportation assets: **Annual** funding programs and individual **One-Time** funding allocations. Annual programs provide reliable, consistent resources that can be planned on a multi-year basis (such as FLTP, the only Annual funding program solely dedicated to transportation). One-Time funding, however, is awarded or programmed on a project-by-project basis and originates from grants, donations, and special programs. One-Time funding, from the Great American Outdoors Act (GAOA) National Parks and Public Lands Legacy Restoration Fund (LRF), the Nationally Significant Federal Lands and Tribal Projects (NSFLTP) program, and other programs, has become increasingly important and now makes up approximately one-third of all NPS transportation funding (Figure 7).

Continued access to both types of funding is critical to maintaining the NPS transportation system and making progress on strategic priorities such as

improving safety, transitioning to electric vehicles, adapting to climate change impacts, and expanding access for underserved communities. Table 2 lists the largest funding sources for NPS transportation by type (Annual or One-Time) and by source.

Transportation Investments FY2016 – 2021

Between fiscal years (FYs) 2016 to 2021, the National Park Service allocated or was awarded a total of $3.5 billion for transportation projects (Figure 8). Approximately two-thirds ($2.36 billion) came from Annual funding sources and one-third from One-Time funding ($1.4 billion), with the majority of One-Time funding ($727.4 million) coming in 2021 from LRF.[2]

Transportation funding was allocated across the NPS transportation asset portfolio. The largest share of funding supported the Paved Road and Bridge Network (86 percent), with a smaller portion supporting unpaved roads and parking, transit, and transportation trails (14 percent). Program administration, management systems, data collection, transportation planning and other non-project costs are included in these figures and comprise less than 3 percent of the total expenditures.

Annual Funding Sources

Transportation funding from Annual sources is the foundation of the NPS transportation investment strategy. Annual funds provide predictable resources which can be planned and programmed over multiple years. The largest of these, and the only funding source dedicated to transportation, is the FLTP. This continues to be the single largest source of funding for NPS transportation (66 percent of Annual funding from FYs 16-21 and 45 percent of all funding, including One-Time funding).

NPS Programs and Fee Programs comprise the majority of the remaining Annual funding sources. These sources fund both transportation and non-transportation projects. Although funding from these programs is not required to go to transportation projects, they have historically been an important transportation funding source.

In nominal terms, the National Park Service forecasts that Annual transportation funding will increase by approximately 12 percent overall in FY23-27 as compared with FY16-21 (Table 3). FLTP funding will increase in line with program authorizations in the BIL.

- FLTP funding will increase in line with program authorizations in the BIL, rising 21 percent (after reductions).
- Transportation funding from Fee Programs is forecasted to rise 10 percent.
- Transportation funding from other NPS Programs is forecasted to decline by 20 percent overall, led by declines in Line Item Construction and Repair/ Rehab funding.

This reflects current programming priorities for these programs as documented in the 2024 NPS Budget Justifications.

1 The chapter includes a summary of financial investments from FY16-FY21 and forecasted resources for FY23-FY27. Data for FY22 was not finalized at the time the analysis was conducted and is represented as a gap year. This chapter does not include information about park-level operations and maintenance activities, which are largely accomplished using park base budgets, for which detailed cost data are not available.

2 All Annual values are presented in year-of-expenditures dollars (not adjusted for inflation). Throughout the NTS, Annual funds figures are based on expenditures and One-Time funds figures are based on funding announcements or awards for individual projects. The two largest sources of One-Time funding (LRF and NSFLTP) were only available for part of the past period reported (FY16- FY 21). NSFLTP was first funded in FY19 and LRF was first funded in FY21. If these programs had been available for the full six-year period, the relative contribution of One-Time funding would likely have been greater.

Figure 7: Cumulative NPS Transportation Funding, FY16-FY21 (millions $)

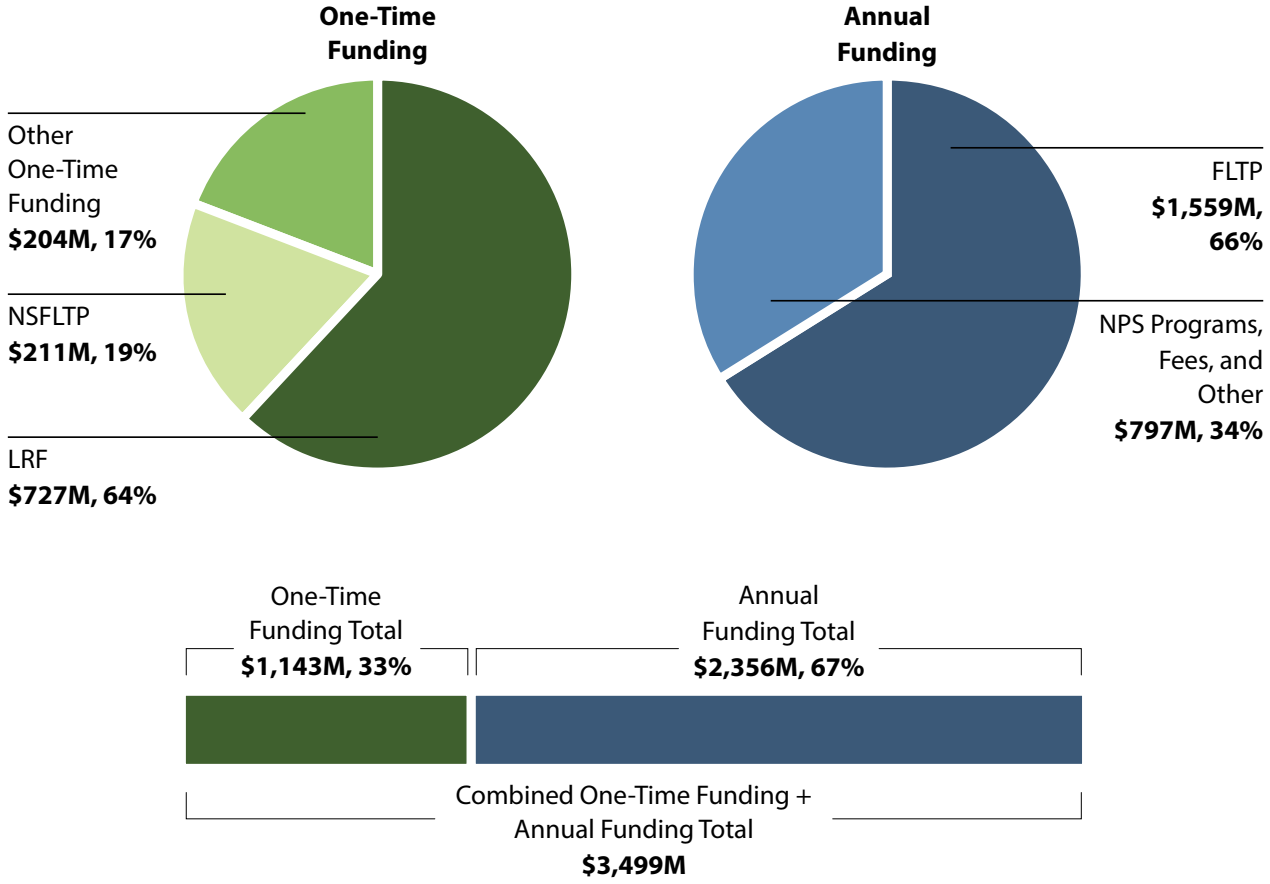
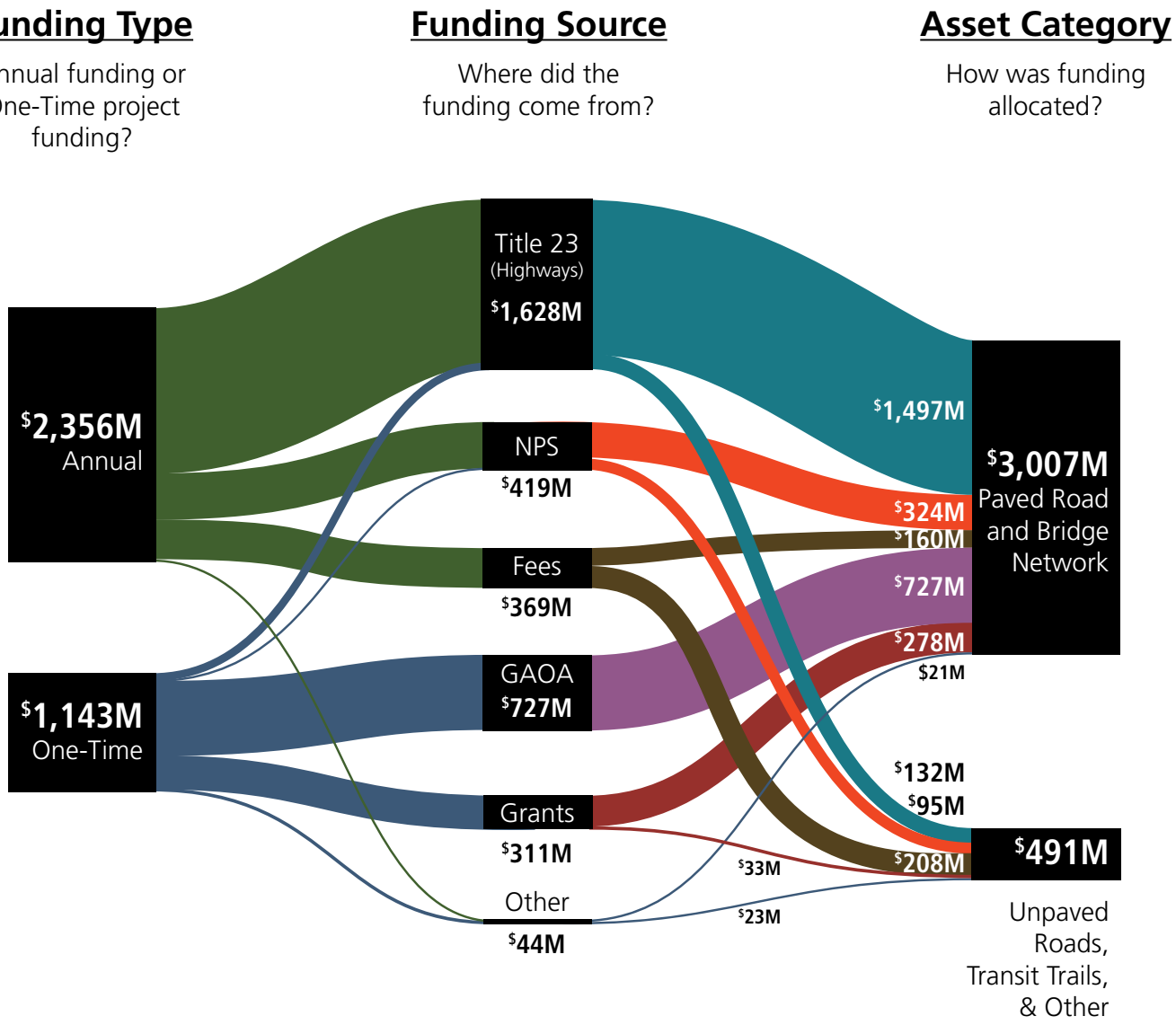


Table 2: Major Funding Sources for NPS Transportation

Source	Type	Program
Highways Programs (USC Title 23)	Annual	Federal Lands Transportation Program (FLTP)
	One-Time	Emergency Relief for Federally Owned Roads (ERFO)
NPS Programs (USC Title 54)	Annual	Cyclic Maintenance
	Annual	Line-Item Construction
	Annual	Repair/Rehabilitation
	One-Time	Emergency Storm & Flood Damage
Fee Programs	Annual	Recreation Fee Program
	Annual	Concessions Franchise Fee Program
Great American Outdoors Act (GAOA)	One-Time	Legacy Restoration Fund
Grants and Other	Annual	Reimbursable Agreements
	One-Time	Discretionary Grants (all sources)
	One-Time	Donations

Figure 8: FY16-21 Sum of NPS Transportation Investments and One-Time Funding Announcements by Type and Fund Source (millions $)



Impacts of Inflation

Inflation will reduce the National Park Service's buying power and introduce significant financial uncertainty for its transportation system.

Historically, inflation in the general U.S. economy has been low, averaging between 0.1 and 3.2 percent between 2010 and 2020,[3] resulting in consumer products costing approximately 19 percent more in 2020 than in 2010. However, increased construction costs for transportation projects grew faster during the same period, experiencing an estimated 29 percent increase.[4]

Beginning in 2021, the U.S. economy experienced higher than average inflation in the general economy and in construction, particularly due to supply chain disruptions, international events, and other factors. From the last quarter of 2021 through the third quarter of 2022, average highway construction costs increased by more than 69 percent. Inflation has declined significantly from these peaks and increases in construction costs have moderated. However it is unclear if future construction costs will be in line with historical averages.

Figure 9 shows a possible inflation scenario for NPS FLTP funding from FY23-27, demonstrating how inflation may affect NPS buying power over time. The Consumer Price Index (CPI) inflation assumptions in the White House FY25 Budget show that although Annual FLTP funding will nominally increase, the buying power of these funds will likely decrease. If highway construction costs increase faster than the CPI, the impact on NPS FLTP buying power would be greater.

Reductions in NPS FLTP Allocations:

NPS FLTP allocations are specified by FY in the statute. However, legislated "off-the-top" takedowns for specific programs and the obligation limitation imposed through the annual appropriations process reduce the amount of funding that is available to the National Park Service. Although the specific amounts vary, the NPS FLTP allocations specified in legislation for FY16-21 were reduced by more than 12 percent on average each year.

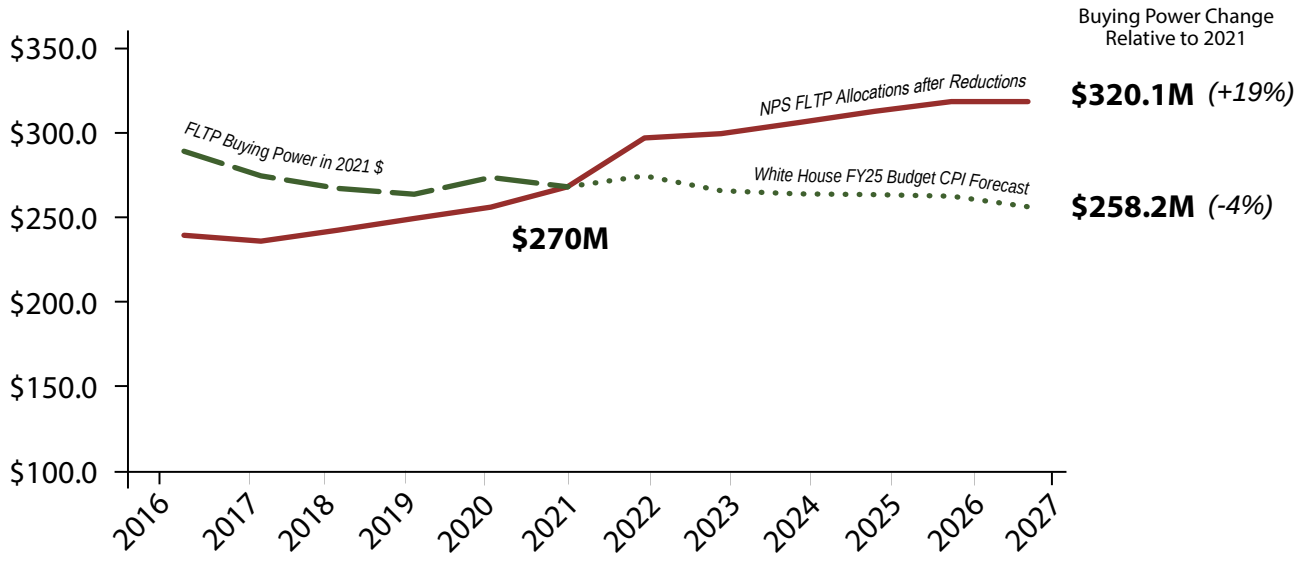
3 Consumer Price Index, Bureau of Labor Statistics. 2023.

4 National Highway Construction Cost Index, Federal Highway Administration, 2023.

Table 3: Annual NPS Transportation Funding (millions $) FY16-21 and Forecasted FY23-27

Source	Funding Program	Annual Average FY16 – 21	Forecasted Annual Average FY23 – 27	Forecasted Annual Average Change	Forecasted Annual Average % Change
Highways Programs (USC Title 23)	Federal Lands Transportation Program (FLTP)	$259.85	$315.09	$55.24	21%
NPS Programs (USC Title 54)	Cyclic Maintenance	$35.94	$35.94	$0	0%
	Line-Item Construction	$17.47	$8.61	-$8.86	-51%
	Repair/Rehabilitation	$13.08	$7.70	-$5.38	-41%
	Other NPS Programs	$3.14	$3.14	$0	0%
Fee Programs	Recreation Fee Program	$54.61	$60.64	$6.03	11%
	Concessions Franchise Fee Program	$6.93	$6.92	-$0.01	0%
Other	Reimbursable Agreements	$1.71	$1.71	$0	0%
Total		**$392.72**	**$439.76**	**$47.04**	**12%**

Figure 9: Historical and Forecasted Buying Power of NPS FLTP Funds (millions $)



Five Largest NPS Transportation One-Time Funding Awards, FY16-21

George Washington Memorial Parkway North Section Rehabilitation: This project rehabilitated and repaired a 7.6-mile section of the George Washington Memorial Parkway, addressed serious deterioration of the roadway and drainage system, completed structural bridge repairs, implemented safety countermeasures, and improved travel time reliability. Approximately 26 million vehicles use the parkway annually. *$208 million of LRF funding announced for this project in FY21.*

George Washington Memorial Parkway. *Credit: JudithAnne - stock.adobe.com*

Blue Ridge Parkway Reconstruction: This project reconstructed and rehabilitated a portion of the Blue Ridge Parkway within North Carolina and the associated overlooks and parking areas. Road safety audits in 2012, 2017, and 2018 indicated that roadway edge rutting presented safety challenges along many sections of the Blue Ridge Parkway—one of the busiest units in the National Park Service. The road is critical to maintaining the park's purpose, significance, and resources. *$124 million of LRF funding announced for this project in FY21.*

Blue Ridge Parkway. *Credit: Dave Allen - stock.adobe.com*

Arlington Memorial Bridge Rehabilitation: Serving as the "ceremonial entrance to the capitol," the Arlington Memorial Bridge rehabilitation was one of the largest projects in NPS history. Workers repaired or replaced the bridge's foundations, concrete supports, deck, and sidewalks and installed 450 pre-cast concrete panels. FHWA engineers worked with the project contractor to use innovative methods that sped up construction and lowered costs. *$90 million of FASTLANE and INFRA grant funding awarded for this project in FY16.*

Tamiami Trail Project: The project repaired, elevated, and constructed several bridges across a 6.5-mile section of US-41/Tamiami Trail adjacent to Everglades National Park to help restore the natural flow of surface waters and helping ward off saltwater intrusion into groundwater resources, mitigating the negative impacts the road creates to the natural environment in South Florida. *$60 million of NSFLTP grant funding awarded for this project in FY18 and FY19.*

Natchez Trace Parkway Project: This project rehabilitated a section of the Natchez Trace Parkway in Mississippi and Alabama, with heavy resurfacing, restoration, and rehabilitation to improve several miles of paved parkway. Raised pavement markers were installed to improve safety throughout the project area. *$54 million of NSFLTP grant funding awarded for this project in FY21.*

Tamiami Trail. *Credit: Francisco - stock.adobe.com*

One-Time Funding Sources

One-Time funding sources play a major role in NPS transportation. These sources allow the National Park Service to, among other things, accomplish legacy projects such as large-scale road and bridge rehabilitations or transit system recapitalizations that the agency's Annual programs would not otherwise allow for. Table 4 provides a summary of NPS One-Time transportation funding awarded or announced from FYs 16-21. These funds include major grants, donations, special programs, and emergency relief funding for natural disaster recovery. During this time period, One-Time funding comprised approximately one-third of all NPS transportation funding.

The Impact of LRF and NSFLTP

LRF was the largest source of One-Time funding for transportation between FY16-FY21. Discretionary grants such as the NSFLTP and partnership donations have also been important sources of One-Time funding for NPS transportation priorities. The five largest projects that received One-Time funding between FY16 and FY21 received more than $535 million. Over the six-year period, this represents an average of $89 million per year. One-Time funding for these projects represents an addition of more than 20 percent per year above the average of Annual funding sources (for all projects).

Legacy Restoration Fund

LRF has been particularly transformative for the NPS in recent years, with more than $1.3 billion in transportation investments announced between FY21 and FY24 (Figure 10).[5] Congress authorized this five-year program in 2020 (set to expire at the end of FY25), providing the National Park Service with a funding mechanism to accomplish large-scale infrastructure projects that address legacy deferred maintenance needs. The LRF program is limited to 35 percent investment in transportation projects.

Nationally Significant Federal Lands and Tribal Projects Program

Discretionary grant programs have also been a major source of funding in recent years for NPS transportation projects, providing more than $339 million from FY16 through FY22. Approximately 70 percent ($238M) of these grant funds have come from NSFLTP, which has contributed funds to major roadway, bridge, and transit projects.

By law, NSFLTP funding is split between Tribal governments and Federal Land Management Agencies (FLMAs) like the National Park Service. Each year (beginning in FY22), at least one award is required to be for an NPS unit with more than 3 million annual visitors. The program has a minimum project size of $12.5 million. The National Park Service has received an average of 42 percent of NSFLTP funding available to FLMAs — a total of $238 million. However, NPS needs exceed one project per year, and without additional appropriations,[6] NSFLTP's annual funding will be reduced dramatically, and the amount NPS could potentially receive would similarly decline.

Future Outlook

Together, LRF and NSFLTP made up more than 80 percent of all One-Time transportation funding and more than 25 percent of total NPS transportation funding between FY16 and FY21. With the expected expiration of LRF, and less NSFLTP funding available, future One-Time funding awards for NPS transportation are likely to decline. The National Park Service will continue to leverage these programs for large and complex projects, and will explore other external grant and partnership opportunities as well.

5 In this chapter, FY21 LRF project funding announcements are included in historical One-Time funding. Funding announcements for FY22+ are included in forecasted future One-Time funding. Figures are as of March 19, 2024.

6 Under BIL, Congress may appropriate up to an additional $300M each year to NSLFTP through the annual appropriations process.

Table 4: NPS One-Time Transportation Funding, FY16-21 (millions of $)

Source	Program	Funds Awarded or Announced
Highways Programs (USC Title 23)	Emergency Relief for Federally Owned Roads (ERFO)	$68.9 M
Highways Programs (USC Title 23)	Nationally Significant Federal Lands and Tribal Projects Program (NSFLTP)	$211.3 M
NPS Programs (USC Title 54)	Emergency Storm & Flood Damage	$1.5 M
Great American Outdoors Act	National Parks and Public Lands Legacy Restoration Fund (LRF)	$727.4 M
Various	External Discretionary Grants	$100 M
Various	Donations	$33.5 M
Total		**$1,142.6 M**

Figure 10: LRF Transportation Project Funding Announcements, FY21-24 (millions $) as of March 19, 2024

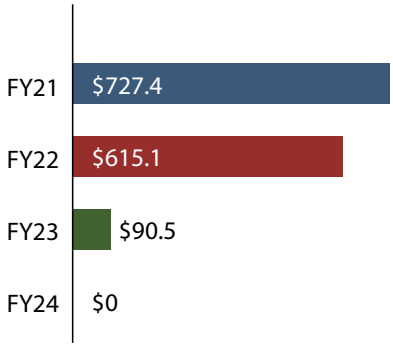
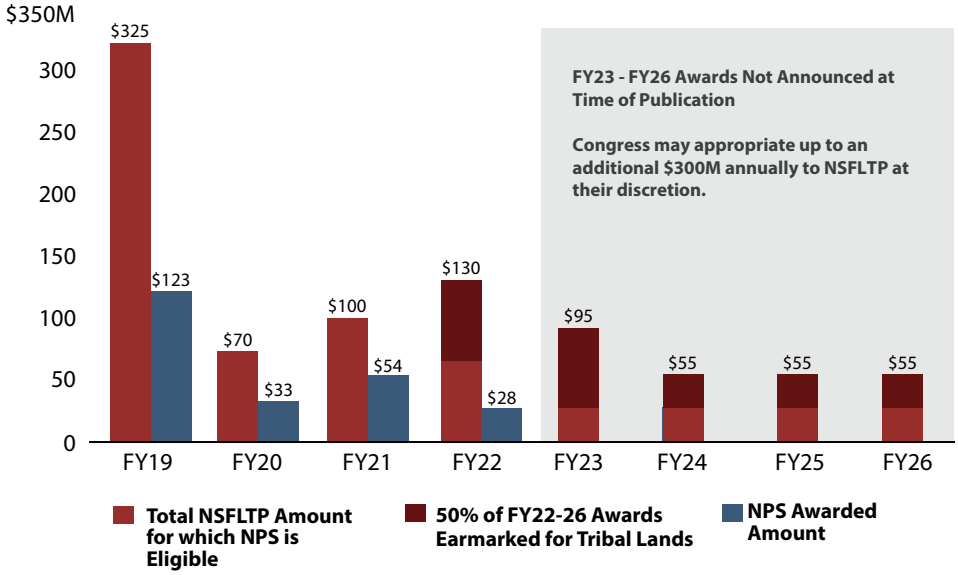


Figure 11: NSFLTP Funding and NPS Awards FY19-26 (millions of $)



Investment Needs

With a large, multimodal transportation system serving visitors in every state and territory and in many challenging and unique environments, the National Park Service faces substantial costs to maintain its transportation network and address strategic priorities.

Transportation investment needs can be described in five categories: Maintenance; Modernization and Renewal; System Expansion or Rightsizing; Advancing Strategic Priorities; and Administration, System Management, and Planning. NPS transportation management systems track the conditions and performance of the system and identify asset management needs. Transportation planning and partnerships help to identify needs for other types of investments to advance strategic priorities, and when warranted, system expansion or rightsizing.

Maintenance

Transportation infrastructure requires ongoing investment to remain in good condition and perform well for its intended useful life. This includes preventative, recurring, and cyclical maintenance activities that fall short of a full replacement or recapitalization. This category comprises a large proportion of NPS transportation needs and has historically been the primary emphasis of transportation investments.

Recapitalization, Alteration, and Replacement

Even when best management practices are followed, transportation assets eventually require replacement. Recapitalizing the aging NPS transportation system will be a major category of need in the coming decades. Assets also sometimes require changes to improve safety, reduce environmental impact, or updates to meet today's standards. These alterations are often made in tandem with recapitalization or replacement projects to minimize costs.

New Construction and Divestiture

Changes to the NPS transportation network are sometimes required when new park units are added or when operational needs of existing units change. This may include the expansion of roadways or parking, development of transportation trails, establishment of new transit services, or the divestiture of assets no longer needed. This category is relatively small compared to maintaining, and modernizing, and renewing the existing system. Because of financial constraints, the National Park Service carefully examines the fiscal and operational sustainability of any potential system expansion before making these investments.

Advancing Strategic Priorities

This National Transportation Strategy identifies several strategic priorities including reducing transportation fatalities, improving collaboration and connections with neighboring communities, transitioning to a zero-emissions transit fleet, improving access for underserved communities, and making transportation infrastructure resilient to the impacts of climate change and extreme weather. These needs are often addressed through maintenance of the existing transportation system, but will also require additional investments, the scale and scope of which have not been fully studied or quantified. Transportation planning investments are needed to better understand the scope of these needs and to develop projects that will address them.

Administration, System Management, and Planning

Making wise investments requires advance planning and data-driven decision making. The National Park Service must devote a small percentage of transportation resources to collecting and analyzing information on the condition and performance of the transportation system, the ways visitors use the system, and developing plans for future improvements. This is the smallest category of NPS transportation needs, and historically has comprised less than three percent of total transportation investments.

Maintaining the NPS Transportation System

The National Park Service and its FHWA partners continuously monitor and assess the condition of NPS transportation infrastructure. Using industry standard modeling and asset management platforms, NPS facility managers and transportation program managers develop cost estimates of future investment needs to maintain the transportation system. These estimates do not include potential alteration, expansion or rightsizing costs, program administration and planning costs, or potential investments needed to advance strategic transportation priorities that cannot be addressed through the course of regular maintenance.

The annual cost of maintaining the current NPS transportation system in its current condition is estimated to be $458 million per year on average. An additional $272 million per year is needed to reach target condition levels (average "good" condition). Figure 13 shows how these costs break down between the Paved Road and Bridge Network and other transportation asset types such as unpaved roads and parking, transit systems, and transportation trails. In percentage terms, this breakdown is consistent with past NPS transportation expenditure patterns.[7]

Park Operations and Maintenance

In addition to the costs shown in Figure 13, park units invest staff time and park base funding in the operations and maintenance of transportation assets. This includes major activities such as clearing snow and ice from roadways and parking areas, as well as less frequent preventive maintenance such as clearing debris from culverts or regrading gravel surfaces. This is a critical aspect of transportation asset management which is not easy to quantify because investments are often made in terms of staff hours or multiuse equipment at the park level. Because park operations budgets have been relatively flat over many years, these needs often compete with other basic park operations needs.

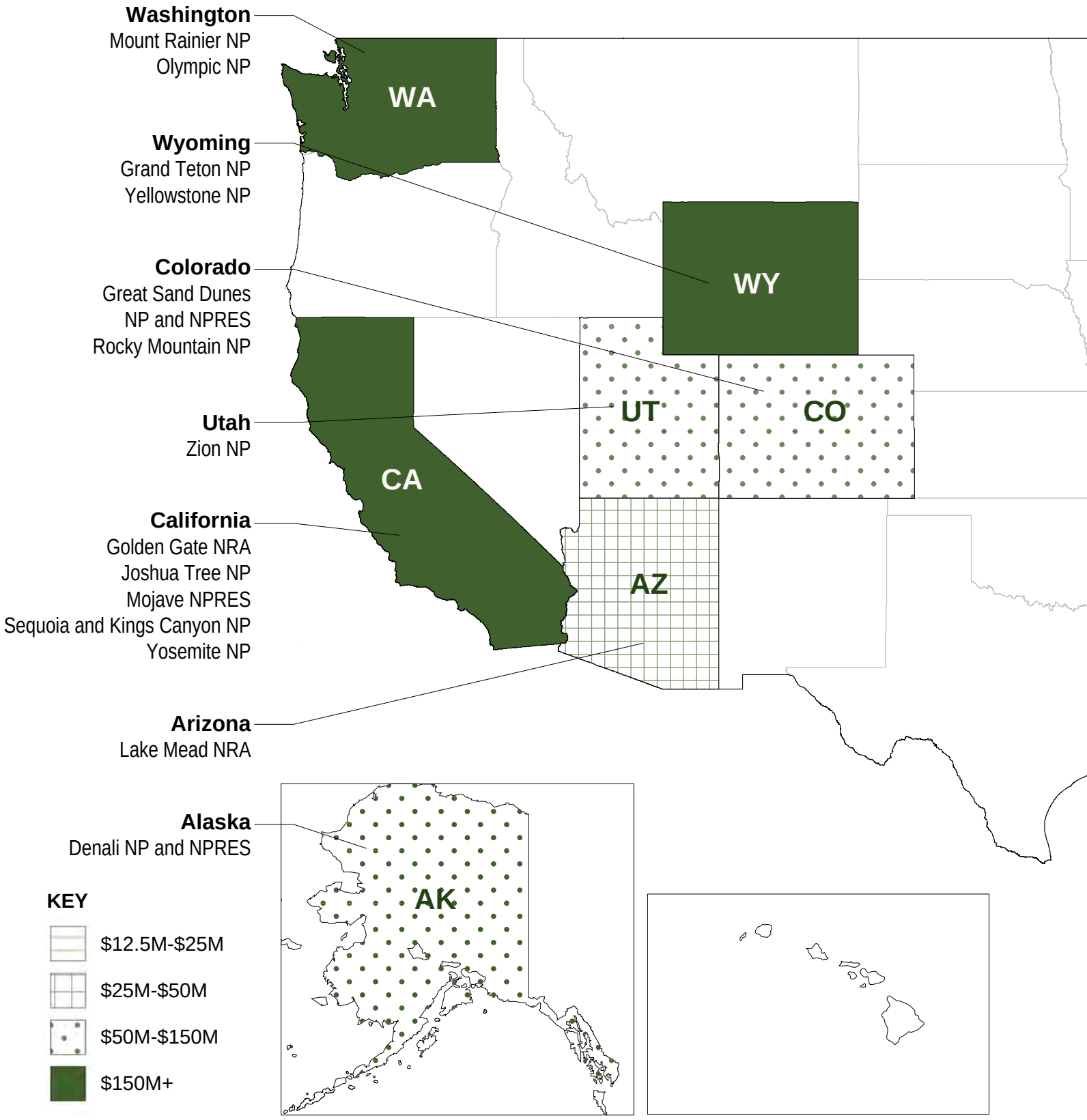
Major Projects

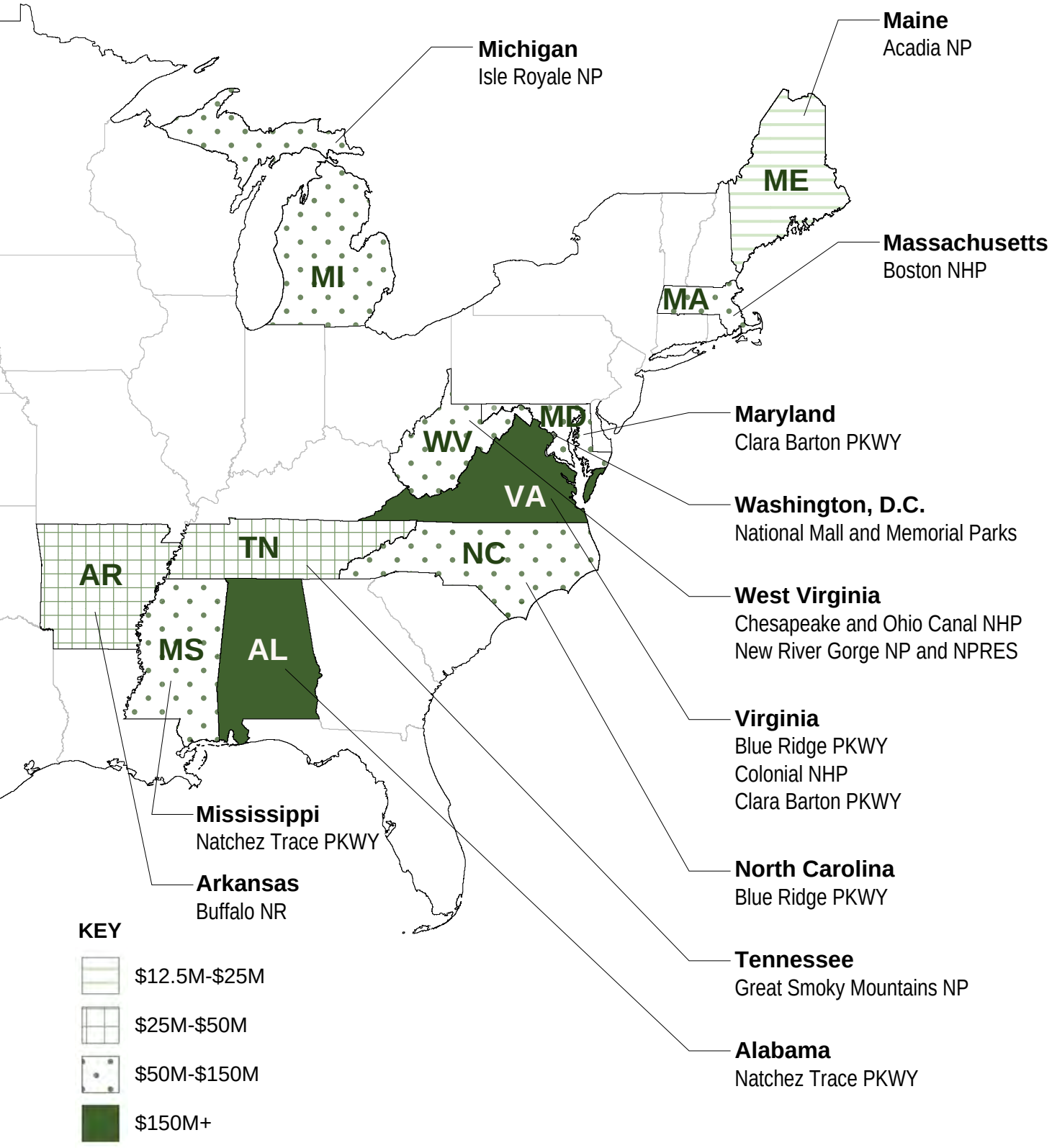
When transportation assets reach the end of their useful life, they may require a major project to recapitalize or replace the asset, or to alter it to meet modern standards. Examples of this project type include bridge replacements, full-depth roadway reconstruction projects, vessel replacements, and occasionally the construction of a new transportation asset. These kinds of projects are rare in the National Park Service, but with an aging transportation asset portfolio, they are anticipated to come up more frequently as time goes on.

Major projects are challenging to fund, and beyond the capacity of Annual funding programs, requiring One-Time funding from grants, partnerships, or special appropriations to accomplish. These project needs are also difficult to forecast because the unique details of these projects have a large impact on eventual project costs. Figure 12 shows a map of major project needs that the National Park Service has identified, and Appendix A provides additional information about these needs. The National Park Service will require One-Time funding to accomplish these projects as their anticipated costs far outpace NPS Annual funding forecasts. The National Pak Service is working to better understand these and other major project needs, and will continue to update information in this area as needs estimates are improved.

7 Annual costs estimates for maintaining and improving the condition of the NPS transportation system are based on modeling using NPS pavement, bridge, and facility management systems, using the National Transportation Strategy asset inventory.

Figure 12: Map of NPS Transportation Legacy Investment Projects




Michigan
Isle Royale NP
Maine
Acadia NP
ME
MI
Massachusetts
Boston NHP
MA
MD
Maryland
Clara Barton PKWY
WV
VA
Washington, D.C.
National Mall and Memorial Parks
TN
NC
AR
West Virginia
Chesapeake and Ohio Canal NHP
New River Gorge NP and NPRES
MS
AL
Virginia
Blue Ridge PKWY
Colonial NHP
Clara Barton PKWY
Mississippi
Natchez Trace PKWY
North Carolina
Blue Ridge PKWY
Arkansas
Buffalo NR
KEY
$12.5M-$25M
$25M-$50M
$50M-$150M
$150M+
Tennessee
Great Smoky Mountains NP
Alabama
Natchez Trace PKWY

Understanding Other Types of Transportation Investment Needs

Unlike with transportation asset management and transit fleet vehicles, the National Park Service does not have mature systems for estimating the potential costs of other types of investment needs. This does not mean these needs are less important.

The National Park Service is committed to addressing the goals and objectives in this National Transportation Strategy, including those which may require additional investments. For example, improving the resiliency of transportation infrastructure may require relocating infrastructure or retrofitting it with new materials. Providing better access for underserved communities may require providing more transportation options, such as trail connections, increasing shuttle services, and partnering with transportation providers in the community. Ensuring that NPS transportation systems provide the safest traveling experience possible will require engineering improved designs.

To better understand the scope and scale of these and other needs, the National Park Service will continue to invest in park level transportation planning, scientific analysis, management systems, and engagement with state and local partners. Over time, these needs will be better reflected in the estimated costs to maintain and modernize the existing system or in system expansion needs.

Annual Funding Gap

Forecasted Annual funding sources fall short of anticipated annual investment needs to achieve target condition levels for NPS transportation assets by more than $290 million per year. Forecasted annual funding ($440 million per year) is insufficient to maintain even current condition levels for all asset categories. Additionally, the buying power of NPS transportation funding is likely to continue to decline as a result of construction cost inflation. As a result, this funding gap will widen over the life of the BIL, absent any change in appropriations (Figure 14).

As described above, additional funding will be needed to address major projects and other strategic priorities that cannot be addressed through the routine maintenance and recapitalization of existing transportation infrastructure. As these costs become better understood, the funding gap will widen further.

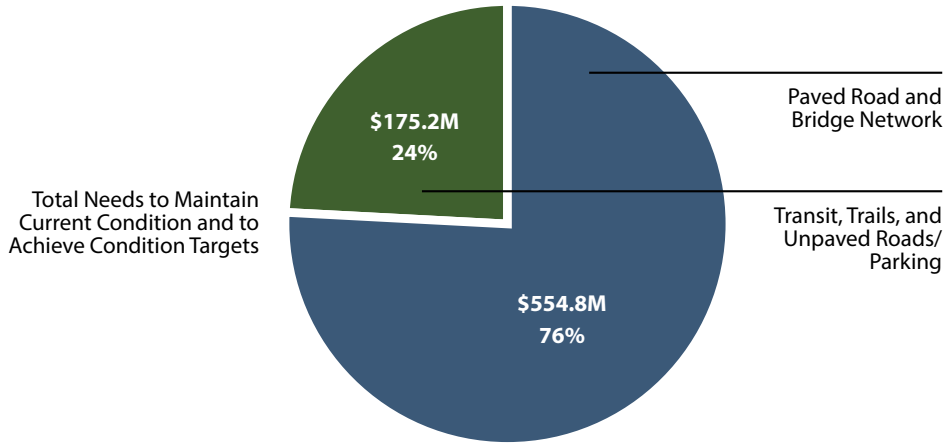
The funding gap shows how critical it is that the National Park Service continue to have access to One-Time funding from LRF, NSFLTP, partnerships, and other One-Time funding sources.

Converting the NPS Transit Fleet to Zero Emission Vehicles

The National Park Service is committed to transitioning its current transit vehicle fleet to zero emission vehicles, over time. This is consistent with Executive Order 14057, which directs all federal agencies to transition to 100 percent zero-emission vehicle acquisitions by 2035 (target for light duty vehicles is 2027). Converting the NPS transit fleet of 241 vehicles is estimated to cost in excess of $182 million. Ninety-four vehicles are expected to exceed their service life within the next 10 years, with an estimated replacement cost of $100 million. There will be additional costs to upgrade and retrofit vehicle maintenance facilities and install charging or alternative fueling infrastructure where needed. These substantial costs will be addressed over time, as vehicle fleets reach the ends of their useful lifespan and require replacement, or strategically when partnership opportunities are identified.

Figure 13: Estimated Annual Funding Needs for NPS Transportation Assets (millions $)

Needs Summary



Needs by Category

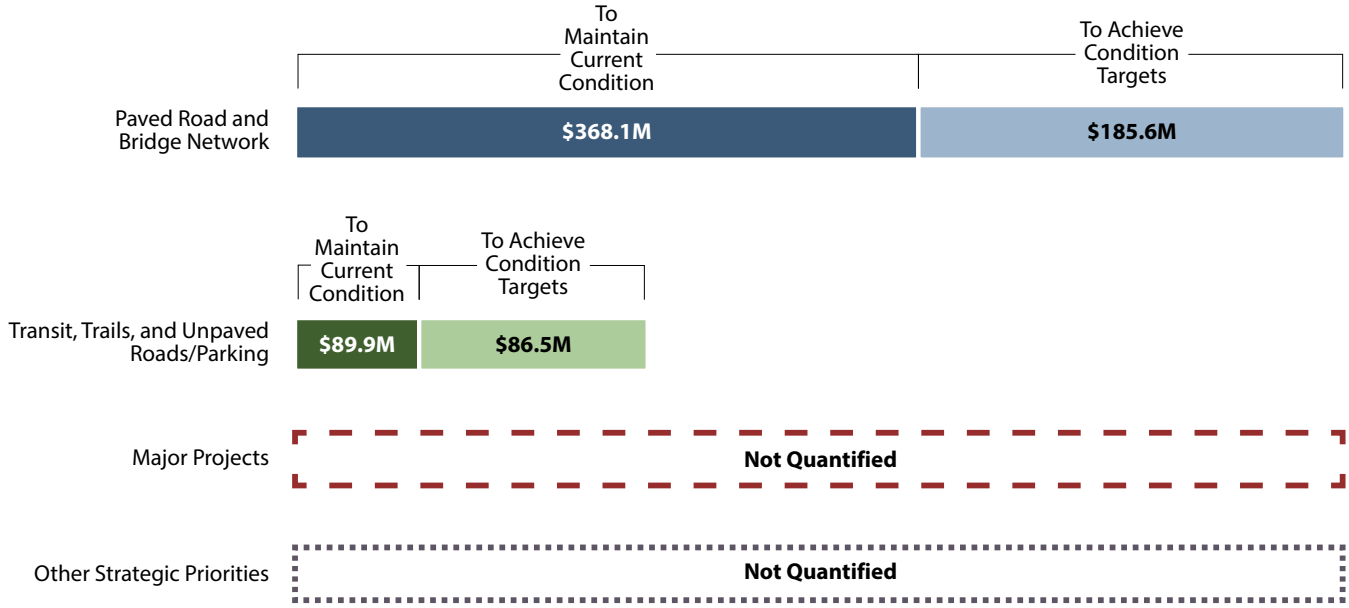
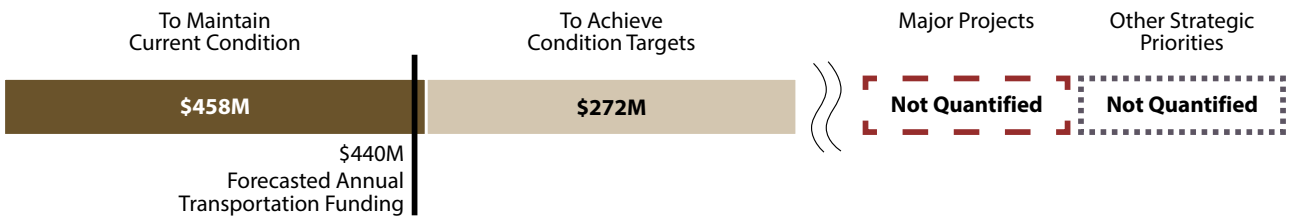


Figure 14: Annual Funding Gap



NPS Transportation Investment Strategy

This section describes the overall investment strategy that the National Park Service will pursue to ensure the transportation system is maintained in a state of good repair and to address other strategic priorities. The investment strategy balances investments in different transportation modes with a focus on maintaining current condition levels and replacing transit vehicles which are beyond their service life.

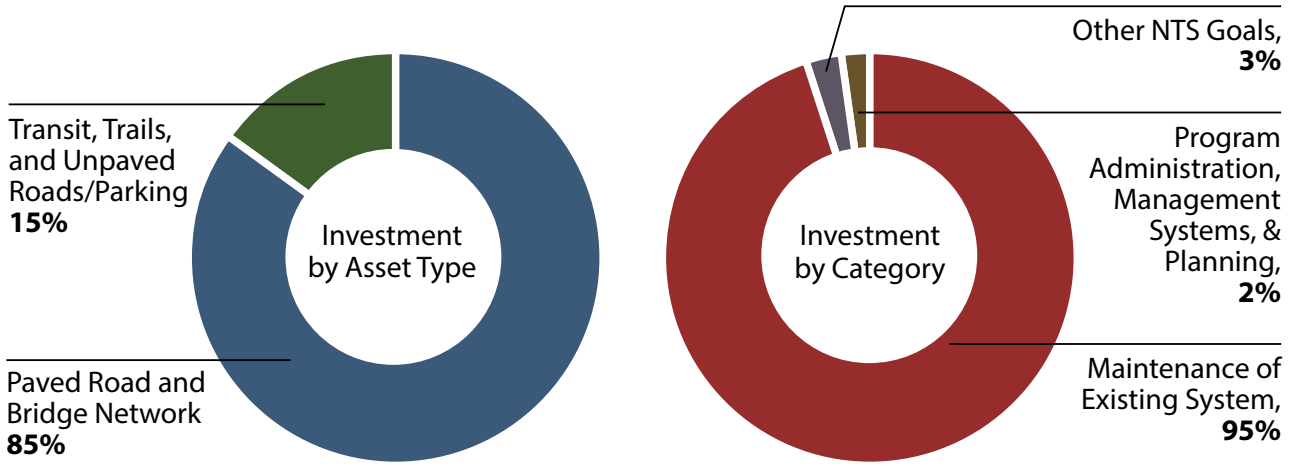
To address the gap between forecasted transportation resources and investment needs, and to fund strategic priorities which are beyond the capacity of the Annual programs, the National Park Service will continue to pursue One-Time funding sources such as external grants and partnerships. Successful grant applications and partnerships will be critical to the long-term success of the NPS transportation program, particularly with the planned sunset of the LRF program in 2025.

Baseline Investment Strategy

The NTS investment strategy builds on the investment approach from FY16-21, which successfully maintained the average condition of the NPS transportation network. Due to the forecasted funding gap, the vast majority of Annual funding must be dedicated to life-cycle asset management. Limited progress on NTS goals outside of sustaining the existing transportation system is anticipated if the National Park Service is limited to Annual funding sources.

Because the paved road and bridge network comprises the majority of NPS transportation assets, approximately 85 percent of Annual transportation funding will continue to be needed to maintain these assets. Fifteen percent of Annual funding will be needed to maintain unpaved roads and parking areas, transit, trails, and other transportation asset categories (Figure 15).

Figure 15: Baseline Investment Strategy by Asset Type and Category



Expected Outcomes

Based on forecasted funding, the baseline investment strategy is modeled to meet approximately 95 percent of the funding needs to maintain the existing transportation system in its current condition. This percentage will likely decline in future years as inflation saps the buying power of Annual funding, falling below 85 percent and possibly lower in later years. The means that overall asset condition is projected to decline if limited to Annual funding sources.

As in recent years, the National Park Service will continue to prioritize transportation assets with the biggest impact on visitor access and park operations for funding. Bridges will continue to be the highest priority along with main park roads and transit systems. Parking areas and less-used transportation assets will receive lower priority, but with an overall intent of protecting the public investment in these facilities through a sound asset management approach.

Expanded Investment Strategy

If the National Park Service is successful in continuing to receive One-Time funding, or if additional appropriations are made available, this will open opportunities for the National Park Service to better meet the goals of the National Transportation Strategy. Under this scenario, a more proactive and coordinated approach will be possible. When transportation needs are funded with One-Time grants or allocations, through partnerships, or special appropriations, the National Park Service will work strategically across programs to update project plans and fill gaps in funding to advance NTS goals.

Based on recent performance, the National Park Service is optimistic that One-Time funding for transportation projects will continue to be available. This will allow both the preservation of the existing multimodal transportation system, but also provide significant progress on addressing the overarching goals outlined in the NTS in other areas.

Sequoia & Kings Canyon National Parks

Credit: Sean Xu - stock.adobe.com

Protect the Climate and Advance Resource Protection

The National Park Service has been a national and global leader in natural and cultural resource protection for more than a century and has a strong record of contributing to climate research and adaptation. Through this work, the National Park Service is committed to innovating and strengthening its transportation systems by better utilizing renewable energy sources, green infrastructure, and other means to protect resources and adapt to environmental changes.

Resource protection will always be a primary goal of the National Park Service, and transportation plays a significant role in those efforts. The National Park Service will work to manage transportation impacts on natural and cultural resources, reduce transportation emissions, and develop more resilient transportation systems that anticipate and adapt to the changing climate.

Objectives:

1. Manage Transportation Impacts on Natural Resources
2. Protect and Preserve Cultural Resources in Harmony with Transportation Assets
3. Decrease Transportation Emissions Related to Visitation and Operations
4. Adapt Transportation Systems to be Resilient to the Impacts of Climate Change

Objective:
Manage Transportation Impacts on Natural Resources

The National Park Service works to avoid and minimize transportation-related resource impacts whenever possible, prioritizing sustainability in infrastructure investments while also honoring the core mission of protecting and preserving natural resources in harmony with nature.

A substantial portion of the National Park Service's transportation infrastructure was constructed prior to the modern environmental conservation and historic preservation movements, and resource impacts may have been managed differently at that time than they are today. Understanding how transportation infrastructure impacts natural resources is essential, and the National Park Service will continue to work to reduce impacts from both new and legacy infrastructure.

Natural Resource Stewardship

With more than 84 million acres of land and water in its stewardship, National Park Service lands encompass a diverse range of ecosystems and habitats. From air pollutants emitted by tailpipes to stormwater runoff and channelization caused by impervious surfaces, transportation systems directly and indirectly impact ecosystems and other natural resources in a variety of ways. The National Park Service actively considers these and other transportation impacts and strives to balance resource protection and visitor access goals.

The NPS Natural Resource Stewardship and Science Directorate (NRSS), provides scientific, technical, and administrative support to NPS units systemwide. Natural resources are not always visible to the human eye, and transportation assets could potentially harm those resources if not maintained properly. When the National Park Service engages in transportation projects, it uses management policies to protect existing resources. These policies are derived from the National Environmental Policy Act and other planning activities involving park construction and transportation projects. An example is how the Paleontological Resources Preservation Act (PRPA), which mandates the management of non-renewable fossils on NPS and other federal lands, is implemented. Since the passing of PRPA, the National Park Service has established an increasingly formal process for assessing paleontological resources in planning for park transportation projects by elevating them to the same level as archaeological resources in the Planning, Environment, and Public Comment (PEPC) process, therefore providing an essential safeguard.

To help transportation project managers design and implement projects with improved environmental impacts, the National Park Service uses scoring tools and detailed resource inventories to assess landscape- and project-level natural resource impacts. The Innovative and Sustainable Transportation Evaluation Process (INSTEP) rating system is used to develop transportation projects to assess potential impacts across a wide variety of factors. The INSTEP checklist measures sustainable transportation practices and increases transparency across the National Park Service, thereby incentivizing the use of context-sensitive, sustainable ideas and techniques.

Strategies

Manage Impacts on Terrestrial and Aquatic Species: The National Park Service will improve its understanding and prioritize reduction of transportation impacts on terrestrial and aquatic species in NPS units by using habitat maps, species movement patterns, established wildlife corridors, threatened and endangered species "take" information, carcass data, and crash report data.

Prioritize Context-Sensitive Design: The National Park Service will prioritize context-sensitive design to incorporate technologies such as quieter pavement, permeable paving, and bioswales.

Design Roads for Lower Operating Speeds: The National Park Service will design roads for relatively lower operating speeds. A design speed of 25 mph should be the goal, which will likely lessen transportation impacts on cultural and natural resources.

Protect Natural Night Lighting Environment: The National Park Service will consider the need for lighting on new transportation projects more critically and when possible, use streetlights that have controls such as timers, dimmers, and are lower in intensity, and warmer in color (less than 3,000 Kelvin). Remove or retrofit existing lighting that deteriorates the natural night environment in order to reduce impacts on wildlife and improve visitor experience.

Emphasize Broader Planning Tools: The National Park Service will emphasize comprehensive planning processes that help park managers better understand the potential impacts of an entire suite of transportation related actions on park resources, rather than case-by-case decisions for portions of the transportation system.

Examples

Death Valley Quieter Pavement

A study in Death Valley National Park in southeastern California examined alternative surface pavement treatment types with the goal of mitigating roadway noise. For roads with speed limits over 45 mph, use of alternative pavement surfaces could result in significantly less human and wildlife perception of traffic noise.

Credit: blewulis - stock.adobe.com

Big Cypress National Preserve Culvert Design

Through stakeholder engagement, Big Cypress National Preserve, located adjacent to the Everglades National Park in southern Florida, has developed a hydrologic restoration management plan, enabling the natural topography to dictate water flow in the swamp landscape. This includes installing plugs and flow management through culverts to improve hydrology, as demonstrated on Turner River Road.

Objective:

Protect and Preserve Cultural Resources in Harmony with Transportation Assets

Cultural Resource Stewardship

The National Park Service works to protect significant cultural resources by preserving the history of this land, the content within, and all associated people. Under the Cultural Resource Management Guideline, also known as Director's Order 28, the National Park Service defines cultural resources as archaeological resources, cultural landscapes, culturally significant structures, museum objects, and ethnographic resources.

Cultural resources can be affected by transportation projects when they interfere with historic viewsheds or cultural landscapes, or when construction activities have the potential to cause adverse effects to cultural resources. However, many NPS transportation assets are themselves cultural resources for park visitors to enjoy since they are nationally significant and retain integrity, meaning their value is accurately reflected through their material attributes. Examples include the Blue Ridge Parkway, the longest road planned as a single unit in the United States; the Edmund Pettus Bridge, part of the Selma to Montgomery National Historic Trail and the site of a turning point in the American Civil Rights Movement; and the Chesapeake & Ohio Canal, a preservation of the nation's early transportation history.

Transportation systems in park units both provide access to cultural landscapes and can be contributing features of the cultural landscapes themselves. Most park units contain cultural landscapes, so it is essential that the National Park Service continues to provide an appropriate level of public accessibility to those historically significant spaces. When transportation assets are, of themselves, listed or eligible for listing in the National Register, or contributing features within a landscape or a district, any maintenance or design plans shall be informed by the Secretary of the Interior Standards for the Treatment of Historic Properties. These standards will help ensure the preservation of the integrity of the resources while meeting modern expectations for safety and overall achievement of the NPS transportation goals.

Cultural resources often show up in the forms of historical assets, as displayed in **Table 5.** Many cultural resources are also listed in or eligible for listing in the National Register of Historic Places and are therefore considered "historic," which indicates the National Park Service's compliance with the National Historic Preservation Act and related regulations and policies into agency planning. The National Park Service also works with stakeholders to avoid, minimize, and mitigate effects to those resources, which comprise approximately 20 percent of the NPS transportation asset portfolio.

Several cultural resource types both affect, and are affected by, the NPS transportation system. These cultural resource types include ethnographic resources, archeological resources, historic and prehistoric structures, cultural landscapes, and United Nations Educational, Scientific and Cultural Organization World Heritage Sites, some of which are also listed in or eligible for listing in the National Register of Historic Places.

Strategies

Conduct Cultural Resource Assessments: The National Park Service will conduct cultural resource assessments prior to transportation construction projects in sensitive areas.

Recognize Historical Significance of Underserved Communities: The National Park Service will continue to locate and identify cultural resources within the park system, with consideration for communities who have been underserved and their histories.

Preserve Transportation Assets that are Cultural Resources: The National Park Service will balance preservation of transportation assets that are cultural resources with other needs such as safety issues.

Continue to Work with Tribal Governments: The National Park Service will continue to engage and consult with Tribal governments to preserve prehistoric and historic resources that help tell the story of indigenous communities.

Table 5: 2022 NPS Historic Transportation Asset Summary Table

Annually, Facility Management Software System (FMSS) data is reported through the U.S. Department of the Interior to the government-wide Federal Real Property Profile Management System (FRPP MS), which includes these categories: (1) National Historic Landmarks (NHL), (2) National Register (NR) Listed, (3) National Register Eligible, (4) Non-Contributing Element of a NHL/NR Listed Historic District, (5) Not Evaluated, (6) Not Historic Note that the majority of these resources have not yet been evaluated for eligibility for listing in the National Register of Historic Places, which is accomplished via this process.

FMSS Data is reported by federal real property historic status, which includes four resource tiers: (1) National Historic Landmarks (NHL), (2) National Register Listed (NRL), (3) National Register Eligible, and (4) contributing to NHL or NRL asset.

Category	FRP Historic Status
Road	1,488
Parking Area	967
Road Bridges and Tunnels	966
Trail	976
Trail Bridges and Tunnels	298
Transit System Assets	676
Total	**5,371**

Rehabilitation of Carriage Roads at Acadia National Park

Over several years, the National Park Service rehabilitated the 45-mile network of historic carriage roads at Acadia National Park on the coast of Maine, dating back to the early 20th Century. Improvements to the carriage road network that successfully preserved their culturally significant features ensure cultural and transportation value to visitors, who use the paths to access the interior of Mount Desert Island on foot, bicycle, horse carriage, or on horseback.

Rehabilitation of the Going-to-the-Sun Road in Glacier National Park

In 2020, the National Park Service completed a more than $160 million rehabilitation of Glacier National Park's Going-to-the-Sun Road, which provides spectacular views of the continental divide. Designed in 1918, it is among the earliest examples of context-sensitive roadway design. Rehab work began in 2007 and included retaining walls, arches, bridges, tunnels, guard walls, and removable guardrails, among other improvements. Aside from adding new transit stops, project engineers prioritized preservation of the road's historical character, including matching original materials.

Credit: vermontalm - stock.adobe.com

Objective:
Decrease Transportation Emissions Related to Visitation and Operations

The transportation sector is the largest source of greenhouse gas emissions and non-point source pollutants in the United States. Emissions generated by visitor travel and park operations contribute to climate change and other negative impacts that affect natural and cultural resources. Responding to the generational challenge of climate change and protecting the resources the National Park Service was created to preserve is of the utmost importance.

In January 2023, the National Park Service released an update of the Green Parks Plan which outlines the necessary steps it will take to achieve net-zero greenhouse gas emissions. To combat the climate crisis, the Green Parks Plan focuses on both utilizing existing natural resources as carbon sequestration sinks and reducing fossil fuels by investing in a net-zero building portfolio and a zero-emission vehicle facility inventory. New accessible and right-sized infrastructure will be built that supports both electric and alternative fuel types, which will produce maximum performance at the lowest possible cost (Figure 16).

Green Parks Plan Goals:

1. Reduce Scope 1 and 2 GHG emissions from NPS operations by 65 percent by 2030 from a FY 2008 baseline.
2. Reduce emissions across the NPS portfolio of buildings, campuses, and installations by 50 percent by 2032 from a FY 2008 baseline and achieve net-zero emissions by 2045.
3. Maintain or increase net carbon storage through constructed or maintained asset rehabilitation and natural restoration projects.
4. Increase resiliency of NPS operations and constructed or maintained assets.

By the Numbers: Environmental Impact[1]

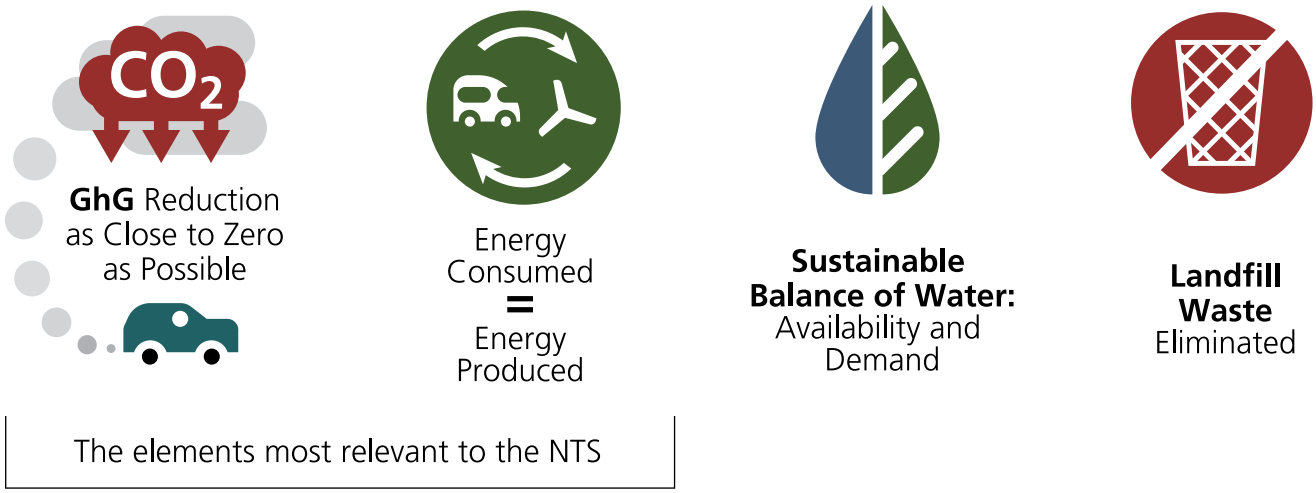
179,000 Metric tons of carbon dioxide equivalent (CO_2e) generated from direct NPS emissions (Scope 1) and purchased electricity (Scope 2). The CO_2e equates to nearly 40 thousand gasoline-powered passenger vehicles driven for one year.

3,900,000 Gallons of fuel consumed in NPS fleet vehicles, equivalent to filling 141 fuel tanker rail cars

1 Environmental Impact Data from FY 21. Source: NPS Green Parks Plan.

Figure 16: What Will a Net-Zero Park Look Like?

Of the four elements that make up a net-zero park, Greenhouse Gas reduction as close to zero as possible, and energy consumed not exceeding energy produced are most relevant to strategies in the NTS. Source: NPS Green Parks Plan: Third Edition



NPS Transit Systems

The National Park Service will continue to invest in transit fleet electrification to both alleviate overcrowding at parks and lower emissions occurring onsite. A net-zero carbon future depends on this work, and these investments continue to strengthen NPS's connections to gateway communities by providing visitor access. Partnerships with gateway communities are essential, especially given that most transit systems that serve park units are operated by non-NPS entities or are under an agreement or contract. To identify transit systems, and to track operational performance and its inventory fleet, the National Park Service produces annual reports on National Transit Inventory and Performance Report, which includes data on annual carbon dioxide emissions.

Micromobility

In addition to expanding and electrifying transit systems, to achieve the goals of the Green Parks Plan, the National Park Service will continue to support micromobility options. This includes small-scale electric and human-powered transportation that can substitute vehicle trips, ultimately producing zero emissions. Micromobility options are also an opportunity to provide first- and last-mile access to transit systems, and closing this gap expands network connectivity to traditionally underserved communities.

A bike on the side of a trail in Yosemite National Park. *Credit: JACOBO LOSASA - stock.adobe.com*

Strategies

Transition to Zero-Emission Vehicles: The National Park Service will electrify transit fleets with zero-emission vehicles and build sustainability into contracts as they are renewed.

Invest in Transit and Micromobility: The National Park Service will support car-free trips to and within parks by investing in alternative transportation options such as micromobility programs and expanding transit connections.

Expand Electric Vehicle Charging Infrastructure: The National Park Service will continue to increase access to electric vehicle charging infrastructure and implement the National Park Service EV Plan. The National Park Service will also explore alternative options for parks with utility capacities too small to support sufficient EV charging infrastructure.

Restore Transportation-Impacted Ecosystems: The National Park Service will restore transportation-impacted ecosystems that store carbon, such as roadside vegetation and wetlands, as well as utilize the Land Use and Carbon Scenario Simulator (LUCAS) Model from the USGS to model wetland carbon sequestration in park units.

Examples

Grand Canyon National Park Shuttle Bus Fleet Replacement

In 2023, the National Park Service was awarded a $27.5 million federal grant to replace 30 buses. The replaced fleet will include ten new battery electric vehicles and 20 new compressed natural gas buses. The funds will also support installation of charging infrastructure in the park for the electric buses. The new greener, quieter transit buses will replace an aging fleet that carries an estimated 6 million people annually, providing access throughout the Park.

Bike Share Partnership in the Mississippi National River and Recreation Area

At the Mississippi National River and Recreation Area (MNRRA) in the Minneapolis/St. Paul (Twin Cities) Metropolitan Area, a National Park Service partnership with a local nonprofit titled 'Nice Ride Minnesota' created a bike share system that is interconnected with the region's transit network, providing opportunities for car-free trips in and around the MNRRA.

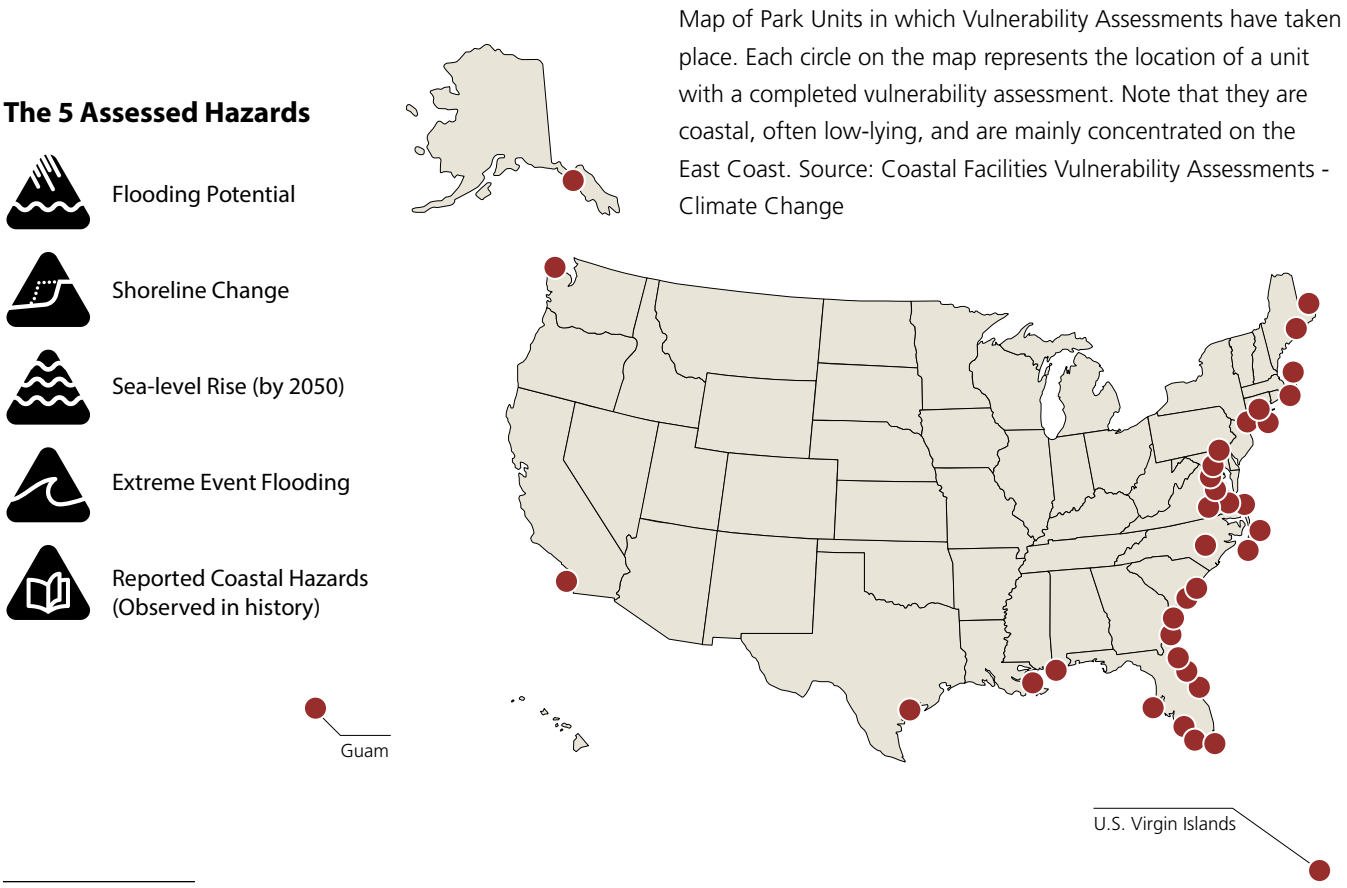
Objective:

Adapt Transportation Systems to Become Resilient to the Impacts of Climate Change

Even as the National Park Service works to mitigate the intensification of climate change in the future, transportation systems are experiencing climate impacts today. Many NPS units are located in vulnerable locations such as coastal areas, river valleys, islands, deserts, and mountains. Climate change creates increased risks of heavy precipitation, coastal flooding, heat, wildfires, and changes in average temperature which will drive more frequent disruption and damage to transportation systems.[2]

The National Park Service incorporates climate adaptation strategies into transportation projects throughout the development process including routine maintenance, recapitalization, and when new facilities are designed.

Figure 17: Vulnerability Assessments



Map of Park Units in which Vulnerability Assessments have taken place. Each circle on the map represents the location of a unit with a completed vulnerability assessment. Note that they are coastal, often low-lying, and are mainly concentrated on the East Coast. Source: Coastal Facilities Vulnerability Assessments - Climate Change

2 2018 National Climate Assessment, Chapter 14: Transportation, Key Message 1

Beach Erosion at Cape Cod National Seashore. *Credit: AlienCat - stock.adobe.com*

The agency's Climate Change Response Program (CCRP), established in 2010, provides expertise and project funding to support climate projections and adaptation strategies to parks. The program works with other agencies, organizations, and stakeholder groups, nationally and internationally, to maximize information sharing, support, learning, and project effectiveness.

Climate change presents a wide array of consequences that affect National Park Service units differently. For example, rising global temperatures drive sea level rise, a significant issue at coastal park units. In response, the National Park Service has conducted vulnerability assessments at several of these units (Figure 17). These assessments consider factors related to sea level rise such as storm surge and shoreline erosion, each presenting its own unique hazards. Roads, visitor centers, historic structures, and other park facilities are of particular concern, as they are often fixed in place, provide important services, and represent significant investments. Additional vulnerability assessment studies are underway, but there is much work to be done to fully understand the scope and scale of potential climate risks to NPS transportation infrastructure, and to identify adaptation options.

Strategies

Create Long-Term Strategies for at-Risk Infrastructure: The National Park Service will identify at-risk transportation infrastructure and create long-term strategies to address climate vulnerabilities. The National Park Service will also update access plans to include resiliency strategies for park units with identified transportation infrastructure vulnerabilities.

Incorporate Climate Adaptation into Transportation Projects: The National Park Service will incorporate climate adaptation into transportation projects at all levels, including routine maintenance, recapitalization, and when new facilities are designed.

Collect and Share Knowledge: The National Park Service will collect and share knowledge of adaptation and resilience strategies used in transportation projects and their outcomes.

Protect Infrastructure from Flooding: The National Park Service will identify and pursue opportunities to reduce infrastructure risk from flooding while also restoring or improving hydrologic conditions.

Manage Unstable Slopes: The National Park Service will identify transportation corridors that are at-risk of damage from unstable slopes and study how climate change will affect these risks.

Examples

Flood Recovery at Yellowstone National Park

In June 2022, Yellowstone National Park experienced the worst flood in the history of the park. Extraordinarily heavy precipitation combined with rapid snowmelt resulted in riverine flooding that damaged several roads, bridges, and trails, in addition to other critical infrastructure. In partnership with FHWA, the National Park Service responded with emergency repairs that restored access to the park within four months, but long-term recovery will take years.

Gulf Islands National Seashore Ferry System

The Gulf Islands National Seashore in Florida utilizes a ferry system to transport visitors from the city of Pensacola to Fort Pickens as a transportation alternative. The ferry system was put in place as a result of sea level rise and weather-related erosion along the roadway that connects the automobile bridge to the fort.

Acadia National Park

Enhance Visitor Experience and Connect Diverse Communities

The National Park Service provides access for hundreds of millions of visits every year and is committed to ensuring future visitors experience an equitable, safe, and innovative transportation system when visiting one of the nation's many national parks. The National Park Service is also committed to being a good neighbor to surrounding communities.

This chapter outlines objectives for supporting a diverse range of visitors and ensuring visitors' needs and barriers are understood and addressed. Barriers to visitation, especially for low-income, minority, Tribal, and other communities historically underrepresented in visitor demographics are of particular concern. Gaining a better understanding of visitation barriers will lead to appropriate actions to address them. Understanding needs and barriers and addressing those issues will enable the National Park Service to strategically enhance safety, expand access, and strengthen community connections for current visitors and non-visitors alike.

Objectives:

1. Improve Connections to Neighboring Communities
2. Eliminate Fatalities and Minimize Serious Injuries on the NPS Transportation System
3. Create a Secure, Accessible, and Welcoming Transportation System
4. Strategically Enhance Transportation Systems to Address Visitor Needs
5. Prepare for the Future of Transportation

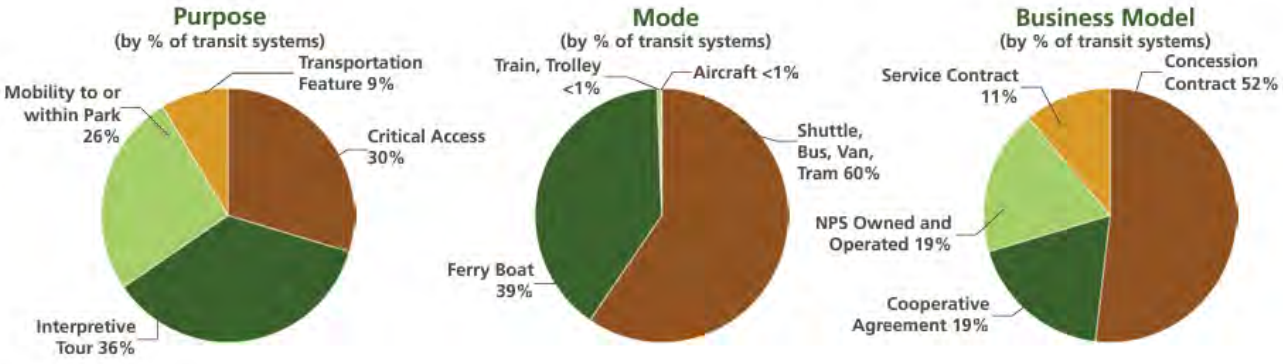
Objective:
Improve Connections to Neighboring Communities

NPS transportation systems do not begin and end at park boundaries; they connect to, rely on, and integrate with state and local transportation systems to provide visitor access. Similarly, a visitor's transportation experience often begins at home with trip planning. The National Park Service is working to better understand the ways that an integrated, regional transportation network that connects across park boundaries benefits visitors and local stakeholders alike. Improving equitable and accessible connections to neighboring communities involves working cooperatively with gateway community stakeholders, state DOTs, transit authorities, non-profit organizations, and Tribal Nations. Creating equitable and accessible transportation systems requires recognizing these systems' physical and non-physical connections which create important links to natural, cultural, and historic resources.

A shuttle bus at Zion National Park.

NPS transportation systems transcend unit boundaries and make vital connections in and outside of parks. Transit is an especially prominent example of such a network. There are nearly 100 transit systems serving 60 parks, with as many as 45.9 million annual passenger boardings. Many of these systems are not operated by the National Park Service but by service providers, local transit agencies, or concessioners through cooperative agreements or contracts. In urban and suburban settings, bicycle and pedestrian trails serve as another means to connect NPS units with local communities. The rich variety of types

Figure 18: NPS Transit Systems by Purpose, Mode, and Business Model (NTI, 2)



and contexts of transportation systems illustrates the necessity for the National Park Service to work alongside a range of stakeholders to support these systems and enhance visitor and community access (Figure 18).

When integrated with local and regional transportation networks, NPS transportation systems enhance quality of life and provide economic benefits to neighboring communities. However, visitation demands can also impose negative impacts on local communities. NPS units engage with partners to understand these impacts and find solutions through integrated planning, including actively engaging with communities to address negative impacts. Engaging with neighboring communities provides opportunities for the National Park Service to learn from experts on innovative approaches and solve problems together. In the best cases, these conversations lead to ongoing relationships where park staff strategically work with community partners to minimize negative impacts and provide the best traveling experience, inside, and outside of the park.

NPS visitation has increased in recent years, but underserved communities such as low-income individuals, racial minorities, Tribal members, and persons with disabilities remain underrepresented. The Department of the Interior's Equity Action Plan identifies barriers to park access, diversity, and equity for such underrepresented visitor groups. Particularly, Action 4 of the plan, "Increase Opportunities to Access Public Lands, Prioritizing Access to Recreation Areas and Services in Urban Communities," offers strategies that are aligned with this objective, highlighting actions that will reduce transportation related barriers, like increasing bus routes, expanding shuttle fleets, strengthening partnerships, and supporting close-to-home recreation opportunities. The National Park Service is committed to working with local and state partners to address these barriers so that everyone has an opportunity to experience the parks in their own backyard and around the country.

In addition, DOI and DOT entered a Memorandum of Understanding in November 2021 to improve transportation to and within NPS units and public lands through innovation efforts and related issues of mutual interest. This exemplifies the opportunities created by national partnerships to build integrated transportation networks that increase access.

Strategies

Provide and Promote Transportation Options: The National Park Service will continue to emphasize transit and trail connections to neighboring communities to provide alternatives to private vehicle travel, reduce congestion and environmental impact, and give visitors greater choice in how they access and experience parks.

Work with Partners on Funding Opportunities: The National Park Service will work with state and local partners to pursue grants, donations, and other available funding opportunities that improve connections to neighboring communities and reduce negative impacts of visitation.

Partner with FHWA to Develop an Integrated Transportation Planning Approach: FHWA and the National Park Service will continue to improve the integration of NPS transportation planning with state and local transportation planning in a way that considers the situation of park units within larger community contexts, recognizes the unique needs and behaviors of different traveler segments, and creates opportunities for all parties to better understand transportation challenges that park units and neighboring communities face, and work together to address them.

Collaborate with Local Partners to Pilot Information on Transportation Options: The National Park Service will collaborate with state and local governments

to pilot approaches that will provide visitors with important transportation information, such as parking lot status, bus arrival estimates, and road closures, including potential pilots related to improving the NPS app and providing data services that common trip planning applications can incorporate.

Improve Guidance for Partnering with Local and State Transportation Planning Entities: The National Park Service will continue to improve and develop clear guidance, tools, resources, and education for NPS units on engaging with community stakeholders on transportation planning efforts.

Examples

Pullman National Historical Park Transportation and Access Plan

The Pullman National Historical Park Transportation and Access Plan emphasizes access to transit, walking, and bicycling to the park from surrounding neighborhoods. The plan was made possible by partnering with the Chicago Metropolitan Agency for Planning, the National Parks Conservation Association, the City of Chicago, and many others. Local residents and stakeholder groups were engaged throughout the planning process to ensure their perspectives on appropriate access for this new NPS unit were incorporated.

Credit: Positioning Pullman

Acadia Island Explorer Shuttle Bus

The Island Explorer Shuttle Bus at Acadia National Park was implemented in response to increasing congestion at the park and in nearby towns. The Island Explorer is operated by local transportation service Downeast Transportation and made possible by a partnership between the park, seven local communities, the state of Maine, philanthropic partners, commercial sponsors, and visitor fees and donations. Since starting operations in 1999, the system has expanded multiple times, congestion and pollution in and around Acadia and its neighboring communities have declined, and the Island Explorer has provided more than 7.7 million trips to visitors and local residents alike.

Objective:

Eliminate Fatalities and Minimize Serious Injuries on the NPS Transportation System

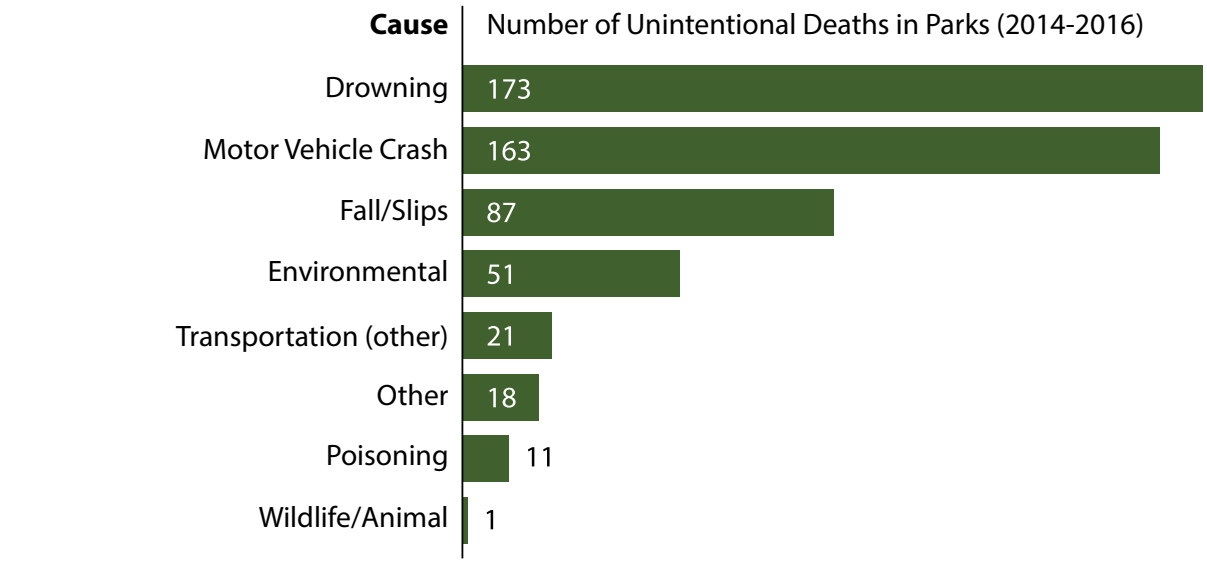
Motor vehicle crashes are the second leading cause of unintentional deaths in NPS units. The NPS Servicewide Mortality Dashboard identified 163 deaths in motor vehicle crashes on roads within NPS units from 2014 – 2016 (Figure 19).[1] On average, one person dies in a motor vehicle crash every week on NPS roadways.[2] In line with sentiments in U.S. DOT's National Roadway Safety Strategy that "zero is the only acceptable number of deaths and serious injuries on our roadways," NPS Management Policies 2006 and NPS Director's Order 50C address visitor safety in stating that the NPS "strives to protect human life and provide for injury-free visits" and "It is the intent of the National Park Service that all visitors have an injury-free park experience" respectively.

Opportunities exist to improve roadway safety using the 4 Es: Engineering, Enforcement, Education, and Emergency Response strategies, which should be defined during the roadway planning, design construction, operation, and maintenance phases of a transportation project. 4E strategies should be developed by multidisciplinary teams, be data driven to target high priority causal factors and crash locations, and integrate context sensitive solutions to align with natural and cultural resource values. Strategies from all 4-E's should be implemented to reduce crashes at high priority locations across parks.

A road winds through Yosemite National Park. *Credit: Tom Nevesely - stock.adobe.com*

Figure 19: Causes of Unintentional Deaths in National Parks (2014-2016)

Source: NPS Servicewide Mortality Dashboard



1 This number excludes on-duty NPS staff, volunteers, contractors, and concessioners.

2 NPS Mortality Dashboard Key Statistics CY2014 - CY2016: https://www.nps.gov/orgs/1336/upload/CY14-CY16-Mortality-Dashboard-Key-Statistics.pdf

An enjoyable visitor experience that is free from transportation-related fatalities and serious injuries and protects NPS natural and cultural resources requires collaboration between stakeholders, internal and external to the National Park Service, with expertise in natural resources, cultural resources, and the 4Es.

The NPS Transportation Safety Team ensures continued involvement and collaboration within the National Park Service and with U.S. DOT. Annual regional transportation safety briefings highlight recent analyses, completed projects, emerging technologies, and low-cost safety improvements, among other information. NPS regions reference these resources when making programming and project development decisions.

The 4-E's of roadway safety include considerations for engineering, enforcement, education, and emergency response strategies. Source: NPS Transportation Safety Factsheet

Strategies

Proactively Identify Opportunities to Incorporate Safety: Planning tools and strategies, which incorporate risk management approaches such as Road Safety Audits, Park Road Safety Plans, and Safety Assessments, are proactive and multidisciplinary data driven safety decision-making tools to identify opportunities to reduce fatalities and serious injuries.

Implement a Context Sensitive Approach to Safety: A context sensitive approach to safety incorporates natural and cultural resources needs (night skies, terrestrial and aquatic organisms, native plants, natural soundscapes, archaeological resources, historic and prehistoric structures, cultural landscapes, etc.), into the safety decision making process to minimize impacts. Where substantial engineering strategies may impact natural and cultural resources, combinations of behavioral safety strategies alongside less impactful engineering strategies can together contribute to reducing risk of severe crashes.

Pursue Multidisciplinary Safety Partnerships and Strategies: Partnerships focused on planning and operations, education, enforcement, and emergency services will create collaborative opportunities and further NPS interests with external partners and help parks, and local, regional, and Tribal partners identify and implement effective safety strategies.

Develop a Transportation Safety Management Toolkit for NPS Parks and Regions: The National Park Service is developing a Transportation Safety Management Toolkit, comparable to the NPS Congestion Management Toolkit, as a multidisciplinary resource to include guidance, examples, and templates of the technical assistance available to NPS units and regions. Some additional tools to be developed include Park Road Safety Action Plans and Safety Implementation Plans.

Develop and Implement Complete Streets Policies and Programs: The National Park Service will develop and implement policies, programs, and projects that improve safety for all road users. These complete streets approaches will seek to create safe, connected, integrated, and equitable park and community transportation systems such as those described in the NPS Active Transportation Guidebook.

Examples

Coordinated Education and Enforcement at Mojave National Preserve

Carrying out recommendations from a multidisciplinary transportation safety implementation plan, Mojave National Preserve coordinated short-term education and enforcement strategies, in an attention-grabbing "Drive Like A Tortoise" campaign. The campaign sought to reduce fatalities and serious injuries associated with excessive speed and roadway departure while educating the public about the associated risks for the iconic, charismatic, and federally protected desert tortoise.

Context Sensitive Safety Design at George Washington Memorial Parkway

The George Washington memorial Parkway implemented a context sensitive, multidisciplinary approach to address roadway departure crashes in the plan for the rehabilitation of the north section of the parkway. Objectively based on a Wall Safety Risk Assessment, a Visual Resource Inventory and Assessment, and a Cultural Landscape Inventory report, the plan reduces the likelihood and severity of crashes when a vehicle leaves the roadway, while preserving the historical stone walls and other natural and cultural resources along the parkway.

Objective:
Create a Secure, Accessible, and Welcoming Transportation System

Recognizing the diverse needs of visitors is key to creating a welcoming and secure environment. For example, not all visitors drive or own a personal vehicle, and many have disabilities that limit the places they can safely access. Perceptions of being unwelcome can hinder transportation access and create a feeling of insecurity for some visitor groups. Improving feelings of belonging and security when accessing parks is essential for enhancing the connections to parks for diverse communities and visitor groups.

According to data from the 2018 NPS Comprehensive Survey of the American Public two of the greatest barriers to park visitation are concerns about crime and vandalism in parks as well as accessibility. The survey documents racial and ethnic composition and the relative attitudes of both visitors and non-visitors of national parks (Table 6). The differences in perspectives among social groups studied in this survey highlights the need for transportation planners to consider various perspectives while planning and designing transportation infrastructure and facilities to ensure all feel welcomed, safe, and secure in all national parks.

Table 6: Transportation and Access-Related Barriers to Accessing NPS Units - Non-Visitors

Source: NPS Comprehensive Survey of the American Public, 2018

Transportation Equity Barriers to Accessing Parks	All Non-Visitor Responses	Hisp.	White	Afr. Am.	Asian	Am. Ind.	Other
Travel distance is too far	68%	70%	71%	56%	25%	87%	46%
It costs too much money to travel to a national park	46%	62%	39%	53%	21%	54%	29%
There aren't good transportation options for me to get to a park	37%	65%	24%	62%	69%	72%	69%
National parks aren't accessible to people with disabilities	23%	38%	17%	31%	0%	12%	18%
The risk of crime or vandalism makes me feel unsafe	14%	25%	12%	12%	22%	1%	51%
National parks are unpleasant places for me to be	10%	21%	4%	15%	0%	23%	19%
I don't like being out of touch with family and friends due to a lack of connectivity in parks	10%	13%	8%	11%	0%	1%	26%
People who work in parks are of a very different racial/ ethnic background than mine	5%	14%	5%	0%	0%	0%	12%

Strategies

Improve Visitor Information on Transportation System Accessibility: The National Park Service will improve the information available to persons with disabilities on the accessibility of transportation systems, especially for trails.

Ensure Transit and Trail Systems are Accessible and Connect to Accessible Destinations: The National Park Service will create transit and trail systems that are linked and designed to provide multimodal, accessible visits.

Include Multiple Languages and Diverse Imagery in Transportation Materials: NPS units will incorporate park context- and community context-specific transportation materials with multiple languages and diverse imagery where appropriate to increase opportunities of inclusion. To create a sense of welcome and inclusion, NPS units will also encourage a diverse range of applicants to staff transportation systems within units.

Improve Understanding of Security, Accessibility, and Welcoming Needs of Visitors: The National Park Service will continue to conduct research and outreach to diverse and underrepresented communities and visitor groups to better understand barriers to accessing units of the national park system. Transit and trail systems will implement context-sensitive environmental design elements to address accessibility, safety, and security concerns.

Examples

Accessible Track Chairs at Sleeping Bear Dunes National Lakeshore

The Sleeping Bear Dunes National Lakeshore track chair is a first-of-its-kind accessibility program for the National Park Service. Track chairs can be reserved for track chair hikes for persons with disabilities to visit park areas that are inaccessible by regular wheelchairs. The program is made possible by a partnership between the park unit and the Friends of Sleeping Bear group.

Credit: Friends of Sleeping Bear Dunes

Accessible Link to Transit at Muir Beach

Located at Golden Gate National Recreation Area, an accessible multiuse path links a new Muir Woods Shuttle stop to Muir Beach. The shuttle system and path are both accessible. The multiuse path serves bicyclists and pedestrians and is designed with universal access standards to provide equitable use by persons with disabilities.

Credit: Go Muir Woods

Objective:
Strategically Enhance Transportation Systems to Address Visitor Needs

Over the last several years, NPS visitation has reached new heights. The National Park System has also grown, with the designation of several new units since 2017. Despite this growth, many barriers to visitation remain, for underserved communities. Funding for NPS transportation is limited, but with collaborative partnerships and an emphasis on understanding diverse visitor safety and accessibility needs, the NPS transportation system can be strategically expanded to address gaps and provide a range of affordable, accessible, and multi-modal transportation options.

Hundreds of millions of people visit NPS units each year. Even with declines due to the COVID-19 pandemic, the National Park Service has averaged over 300 million visits per year over the past several years (2017-2022). Preliminary 2023 statistics suggest visitation continues to increase. As visitation numbers rise, existing park infrastructure can be overwhelmed.

Unfortunately, many NPS visitors experience congestion or crowding in some of the most popular areas. Some visitors engage in unsafe or damaging behaviors when they find areas at capacity or access is restricted, such as unintentional trail widening or parking on road shoulders that are not wide enough, harming threatened and endangered species. Balancing transportation systems with visitation demand is not always straightforward; expanding roads and parking lots is not always financially and operationally feasible, or aligned with the NPS's mission to protect and preserve natural and cultural resources. In some cases, expanding the of NPS transportation system may be needed to enhance visitor experience, improve safety, protect resources, and improve equity.

Lack of transportation options is a barrier to equitable park access. Visitors access the majority of NPS units via a personal motor vehicle.[3] In addition to vehicle expense, visitors may not be able to drive due to age, disability, or lack of a valid license. In the 2018 NPS Comprehensive Survey of the American Public, more than one-third of non-visitor respondents cited lack of alternatives to driving as a barrier to accessing NPS units, with higher percentages among racial and ethnic minority groups (Figure 20).

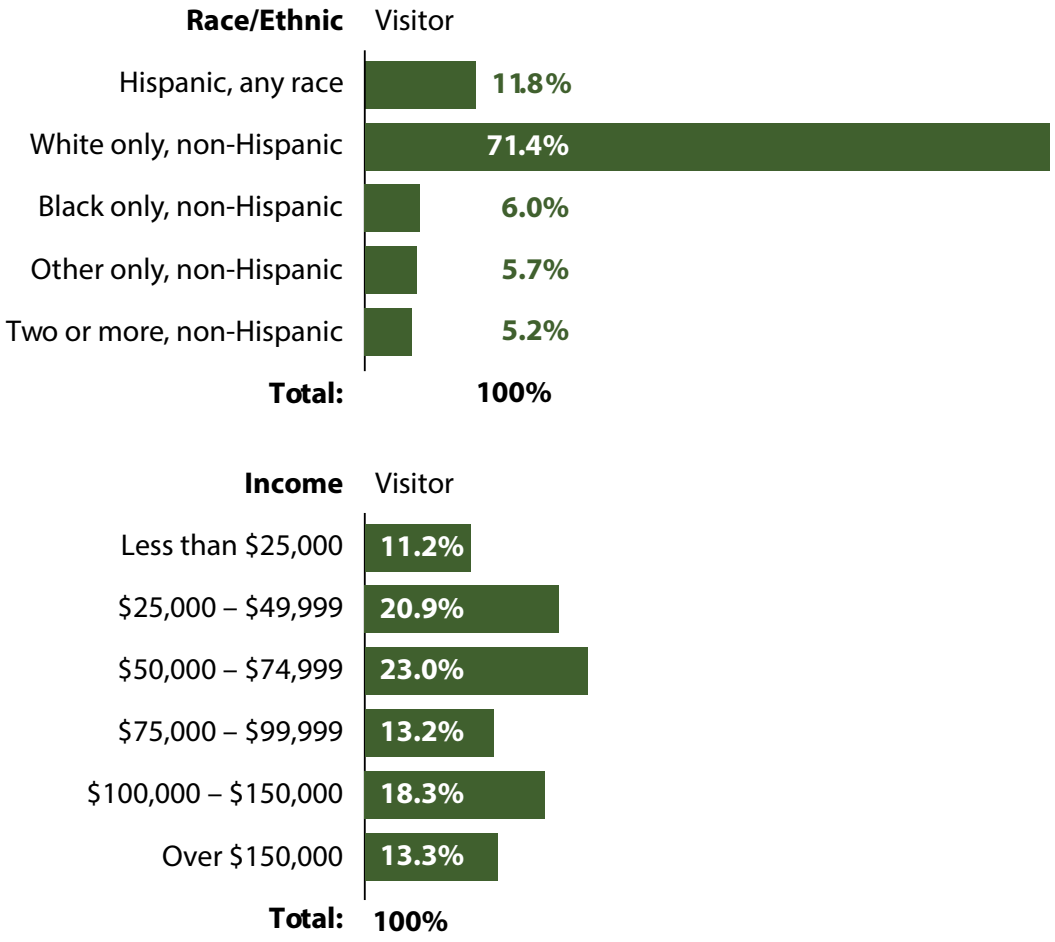
The National Park Service is seeking to better understand where existing transportation options are lacking for visitors and providing alternative transportation options when possible. For example, developing front country trails may be effective in some locations to create new ways to access NPS units while reducing automobile travel, promoting resource protection, and supporting economic development. Partnering with local public transportation systems has also proven to be successful in others. Coordinating integrated transportation systems with neighboring communities so that visitors have options for car-free visits both to and within park boundaries is a challenge, but one that may enhance transportation options for all modes and users.

Finally, the National Park Service seeks to be a good neighbor and work effectively alongside other partners in a community. Integrated planning and implementation activities between the National Park Service, local, and state partners requires being sensitive to the concerns and transportation needs and trends of local, underserved communities, and understanding the impacts that transportation improvement projects could have on these communities.

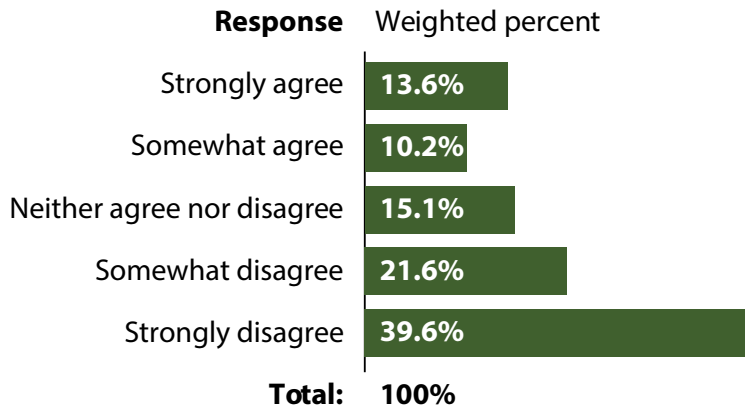
3 Approximately 8.5% of U.S. households do not own a vehicle. The average U.S. household spends nearly $10,000 per year on transportation, with personal vehicles accounting for almost 90% of these costs.

Figure 20: Visitation Rates by Race/Ethnicity and Income, and Summary of Visitor Perception of Park Accessibility

Source: NPS Comprehensive Survey of the American Public National Technical Report, 2018



"National parks are not accessible to people with disabilities."



Strategies

Identify Opportunities to Expand Public Transit and Trails Connections to NPS Units: The NPS Alternative Transportation Program will evaluate potential new or expanded transit services and trails connecting NPS units to historically underserved communities, helping urban and rural parks better understand and address transportation gaps.

Expand Affordable Transportation Options: The National Park Service will expand affordable access to parks, focusing on units in or near traditionally underserved communities. This may include agreements or partnerships with transportation providers to charge reduced rates for low-income individuals and local residents.

Assist Local Communities in Planning Connections to Parks: NPS park units will assist local communities in planning for and connecting communities to parks.

Collaborate with Recreational, Tourism, and Community Partners to Address Demographic Disparities in Visitation: The National Park Service will collaborate with recreational, tourism, and community partners to use community analytics to inform and address demographic disparities in visitation and identify transportation-related barriers that make travel to parks unaffordable or inaccessible for certain groups.

Examples

Kennesaw Mountain National Battlefield Park Multiuse Trail

A 1.69-mile-long multiuse trail at Kennesaw Mountain National Battlefield Park creates alternative transportation access to, from, and within the park to enhance visitor experience and improve commuting options in the region, as it links to the larger regional trail network. A park road restriped to accommodate pedestrians and bus service offers additional transportation options.

The National Mall and Memorial Parks Multimodal Improvements Plan

The National Mall and Memorial Parks Multimodal Strategic Plan proposes design recommendations for selected NPS and District of Columbia roadways to improve safety. Hains Point is one location that has been improved to create safer access to the park for visitors and local residents, with several others proposed. Additional affordable transportation options include bikeshare and the D.C. Circulator bus.

Objective:
Prepare for the Future of Transportation

The transportation industry is evolving rapidly, aided by advancements in mobile communications and battery technology, new shared mobility business models, and vehicle electrification and automation. These emerging mobility trends present opportunities and challenges for the National Park Service and its resources. Keeping pace with the changing transportation landscape will be necessary to ensure the future of transportation in parks remains safe, accessible, and equitable. As an active participant in developing and testing new mobility technologies and services through pilot projects, partnerships, and information sharing, the National Park Service can help parks enhance visitor experience and connect diverse communities by encouraging car-free trips, protecting natural and cultural resources, and developing a more efficient and nimble transportation system.

DOI and DOT signed a Memorandum of Understanding (MOU) in 2021 to continue working together to proactively address emerging transportation trends and innovations. Through this partnership, the National Park Service showcases new transportation innovations to the public with the potential to enhance equitable access, support car-free trips, and improve the visitor experience. Emerging technologies and innovations may be key to finding solutions to these areas of emphasis.

A park ranger plugs an electric vehicle into a charging station.

Transit and emerging mobility technologies are changing the transportation expectations of visitors. The National Park Service has an opportunity to pilot, regulate, and promote appropriate new technologies to meet the needs and expectations of visitors for available mobility services, such as bikeshare or electric vehicle (EV) charging equipment. Through planning for potential emerging mobility initiatives, the National Park Service can further the DOT-DOI MOU's emphasis to provide affordable alternatives to personal vehicles.

While new technologies may expand affordable and accessible transportation options, there are several challenges. First, many emerging mobility services are provided by private-sector companies. Partnering with these companies is necessary to find appropriate park solutions but could result in the National Park Service reevaluating existing protocols, like Commercial Use Authorizations. Second, many services rely on the Internet and GPS, which is not available in all NPS park units. Third, adding new technologies and services competes with other park priorities for funding and staff support. Finally, the future of park transportation should continue to be accessible to underrepresented visitor groups. As emerging mobility technologies and service impacts are further understood in parks, accessibility needs should continue to be at the forefront of planning and implementing new transportation services.

A parking lot at Yosemite National Park begins to fill up.

Strategies

Continue Emerging Mobility Initiative: The National Park Service will continue to pilot new transportation technologies that include, but are not limited to, automated shuttle demonstrations, micromobility and ridehailing partnerships, and technologies that provide real-time and predictive transportation information to visitors.

Understand Visitor Travel Patterns and Demographics to Inform Transportation Planning and Management: The National Park Service will pursue partnerships to better understand visitor travel patterns and demographics to inform park planning and operations.

Expand Electric Vehicle Charging Options Within and Near NPS Units: The National Park Service will work with federal, state, and local partners to strategically expand visitor access to electric vehicle charging where capacity is needed most.

Improve and Expand Trip Planning Tools: The National Park Service will explore integrating traveler information into NPS digital products and coordinate with third-party apps and services commonly used by the public, to display accurate information and empower visitors to make more informed travel choices.

Evaluate Next Generation Automated Transit Systems: The National Park Service will continue to monitor and explore next generation automated driving technologies which may enhance the visitor experience, lower long-term operating costs, improve accessibility, or improve car-free access, where appropriate.

Examples

Parking Space Availability Tracking at Indiana Dunes National Park

Parks often have more visitation demand than available parking spaces during peak seasons. To help the public understand parking availability prior to arriving and make informed transportation decisions, Indiana Dunes National Park installed sensors that monitor parking lot usage.

Automated Shuttle Pilots at Yellowstone National Park and Wright Brothers National Memorial

The National Park Service conducted automated shuttle pilots in 2021 at two units: Yellowstone National Park and Wright Brothers National Memorial. These pilots provided the National Park Service and industry with information about how automated shuttles perform in park settings and helped evaluate the infrastructure requirements, costs, and benefits of integrating automated shuttles into parks.

Credit: MelissaMN - stock.adobe.com

New River Gorge National Park & Preserve

Credit: steheap - stock.adobe.com

Reinvest in the System and Make Legacy Investments

To provide visitors with access to enjoy all the parks have to offer, the National Park Service maintains an extensive transportation system. With 6,600 miles of paved roads, 7,300 miles of unpaved roads, 1,800 road bridges and tunnels, 6,300 paved parking areas, 1,000 miles of transportation trails, 200 transportation trail bridges and tunnels, and 100 transit systems, the NPS transportation system is similar in scope and scale to a small state DOT. With limited maintenance staff and a constrained budget, the National Park Service must strategically approach transportation investments and asset management. The National Park Service utilizes industry-standard processes for asset management, with a focus on preserving assets, realizing their full useful lifespan, and allocates funds to the most mission-critical assets. To make major investments, rehabilitation, or replacements that require large funding amounts, the National Park Service increasingly seeks grants and partnerships for projects that outpace annual funding it typically receives.

Objectives:

1. Leverage Grants and Donations for Major Projects
2. Maintain Condition of Existing Assets
3. Prioritize Preventive Maintenance and Preservation to Maximize Value

Objective:
Leverage Grants and Donations for Major Projects

Over the past decade, changes in federal surface transportation legislation have increasingly emphasized the role of competitive, discretionary grants in funding transportation capital investments for local, regional, and state governments, as well as FLMAs. NPS annual transportation funding is needed to maintain the existing transportation system and is insufficient to finance system expansion or other major projects, such as large bridge replacements or transit fleet modernization and electrification. Therefore, discretionary grants, partnerships, and donations are increasingly necessary to fund major NPS transportation projects.

By increasing the available funding for many discretionary and formula grant programs, and expanding NPS eligibility for some programs, the Infrastructure Investment and Jobs Act (IIJA) of 2021, also known as the Bipartisan Infrastructure Law (BIL), created unprecedented funding opportunities for the National Park Service to make legacy investments in its transportation system. The National Park Service will continue to apply for grant funding for large and complex projects and will invest in integrated transportation planning with local and state partners to build support for competitive applications.

Given the high level of engagement needed to develop the grant application packages, the National Park Service developed the BIL Transportation (BIL-T) Grants Strategic Plan to prioritize the highest-value programs and projects, to work with partners to leverage funding opportunities for transportation priorities, and to build internal and external capacity to advance NPS's transportation goals. The National Park Service focused mainly on the opportunities in the U.S. DOT's portion of BIL Transportation Grants.

When developing the BIL-T Grants Strategic Plan, NPS Parks and Regions submitted over 350 candidate projects for the Washington Support Office to review. These candidate projects align with NTS goal areas and are beyond the capacity of annual transportation programs to address. The most common project types included road, bridge, electrification, and resiliency. From those submissions, the National Park Service identified priority projects across regions and goal areas for which to pursue BIL applications.

Strategies

Pursue Grant and Partnership Opportunities in the Bipartisan Infrastructure Law: The National Park Service will continue to use its BIL-T Grants Strategic Plan to guide its approach to grant funding opportunities.

Prioritize Planning and Compliance to Position Projects to Compete for Grants: The National Park Service will conduct integrated transportation planning activities at the park unit scale, to identify and scope projects, develop cost estimates, conduct feasibility studies, and complete compliance and engagement activities.

Work with Partners to Develop Grant Applications That Address Shared Needs and Goals: The National Park Service will continue to collaborate with state, local, and philanthropic partners to develop grant applications that address shared transportation priorities, expand the number of grants they are eligible for, and increase the competitiveness of those applications.

Examples

Foothills Parkway Completion in Great Smoky Mountains National Park

In 2018, the National Park Service, in collaboration with the Tennessee Department of Transportation and FHWA completed a "missing link" in the western section of the Foothills Parkway. This project opened 16 miles of parkway and provided a 33-mile continuous visitor experience through the foothills of the Great Smoky Mountains, offering scenic views and expanding travel access. The capstone project cost $32 million, including a $10 million Federal grant and $15 million from the State of Tennessee.

Credit: Lane Construction

Anacostia Riverwalk Trail

The National Park Service partnered with the D.C. Department of Transportation (DDOT) to create the Anacostia River Trail. By creating and maintaining the Anacostia Riverwalk Trail, the National Park Service has improved multimodal access to Anacostia Park and areas in our nation's capital. The trail reduces traffic congestion around the site and provides active transportation options for local visitors and residents, thereby improving equity for underserved communities. Funding sources have included a $10 million TIGER grant (2012), a $6.5 million RAISE Grant (2023) and $7.7 million in FLAP grants (2013 and 2022), in addition to a $50 million investment by DDOT.

Credit: Christian Hinkle - stock.adobe.com

Objective:
Maintain Condition of Existing Assets

Maintaining the condition of existing transportation assets is central to supporting a financially sustainable transportation system and ensuring a safe and quality visitor experience. The National Park Service will strategically prioritize assets for investments to reduce long-term maintenance costs and maximize asset lifespans (Figure 21). When possible, it is also important to decommission lower priority assets to remove maintenance liabilities when transportation assets no longer serve an important function, are unsustainable due to climate change and other hazards, and to return lands and critical habitat to a more natural state.

The National Park Service uses a performance-based approach to asset management. Ongoing condition inspections and industry-standard modeling software are used to identify maintenance treatments and to prioritize projects which maximize asset lifespan and provide the best value for money. The Federal Highway Administration's Office of Federal Lands Highways is a key partner in the NPS transportation asset management process.

Asset Conditions

Maintaining a large and diverse transportation system requires a data driven approach. The National Park Service works with FHWA and other partners to continuously monitor pavement and bridge conditions, model future conditions, and develop maintenance and rehabilitation work schedules that optimize system conditions over the long term. The condition of other transportation assets is monitored by park maintenance staff and similarly managed using NPS facility management software and models. The goal of these systems is to maximize long-term system health at the lowest cost to the government (Figure 22).

Large Fleet Replacement Needs Over the Next 10 Years

NPS-owned transit vehicles have an estimated $202 million in recapitalization needs between 2023 and 2032. Parks with estimated transit vehicle replacement costs over $5 million during the next 10 years include Acadia, Glacier, Grand Canyon, Harpers Ferry, Isle Royale, Yosemite, and Zion. As the fleet vehicles continue to be replaced, the National Park Service will evaluate and pursue electrification of the transit fleet whenever feasible in line with Executive Order 14057 (Figure 23).

Figure 21: Optimally Managed Asset Life Cycle

Timely maintenance keeps an asset in good condition longer.

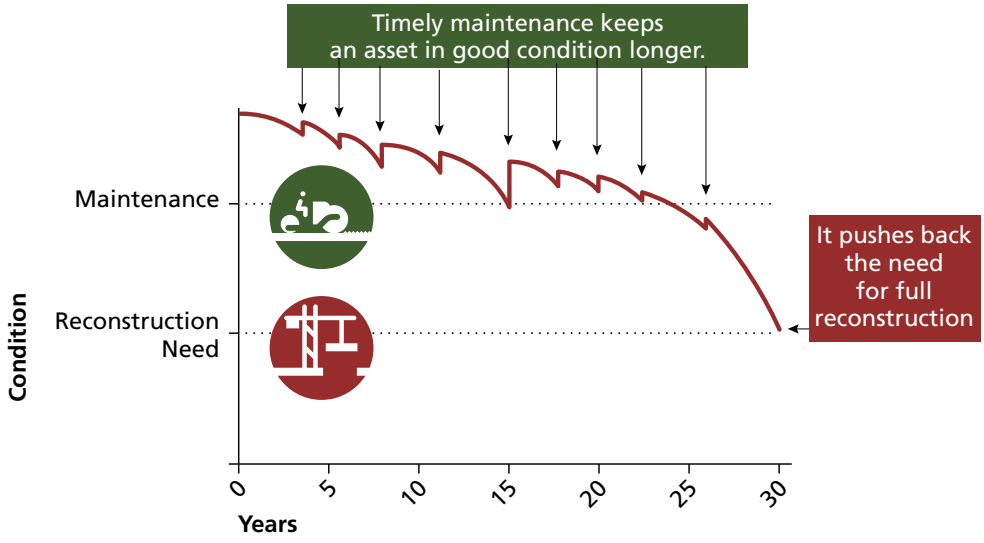


Figure 22: Transportation Assets Condition by Type

The National Park Service's transportation asset conditions vary based on asset type. Condition Year for Paved Roads, Paved Parking, Bridges, and Tunnels, and Transit Fleet is FY22; Condition Year for Unpaved Roads and Parking and Transportation Trails is FY20. Source: NPS, FHWA

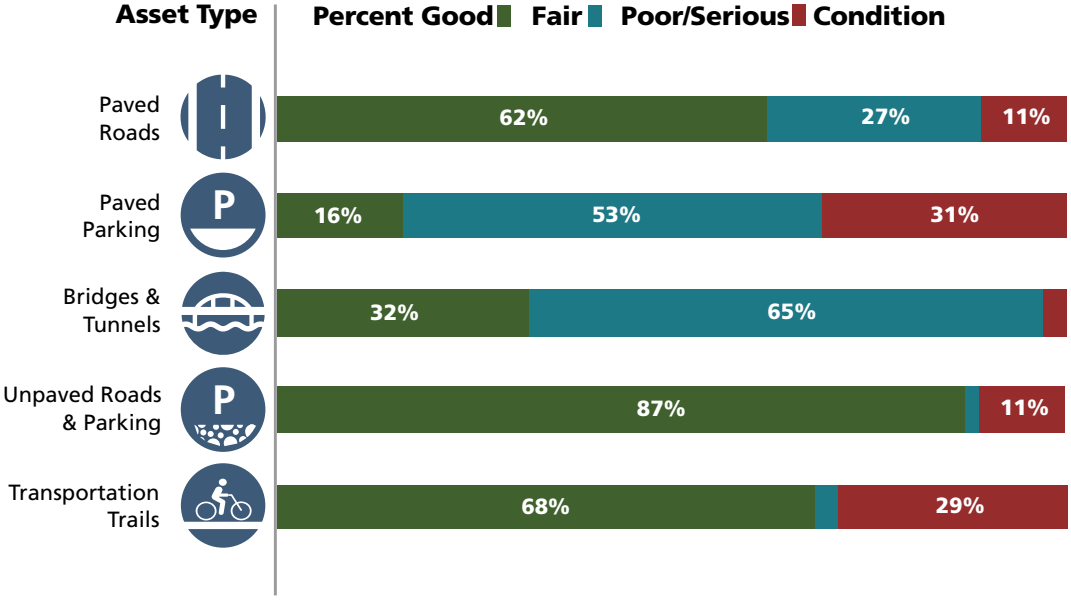
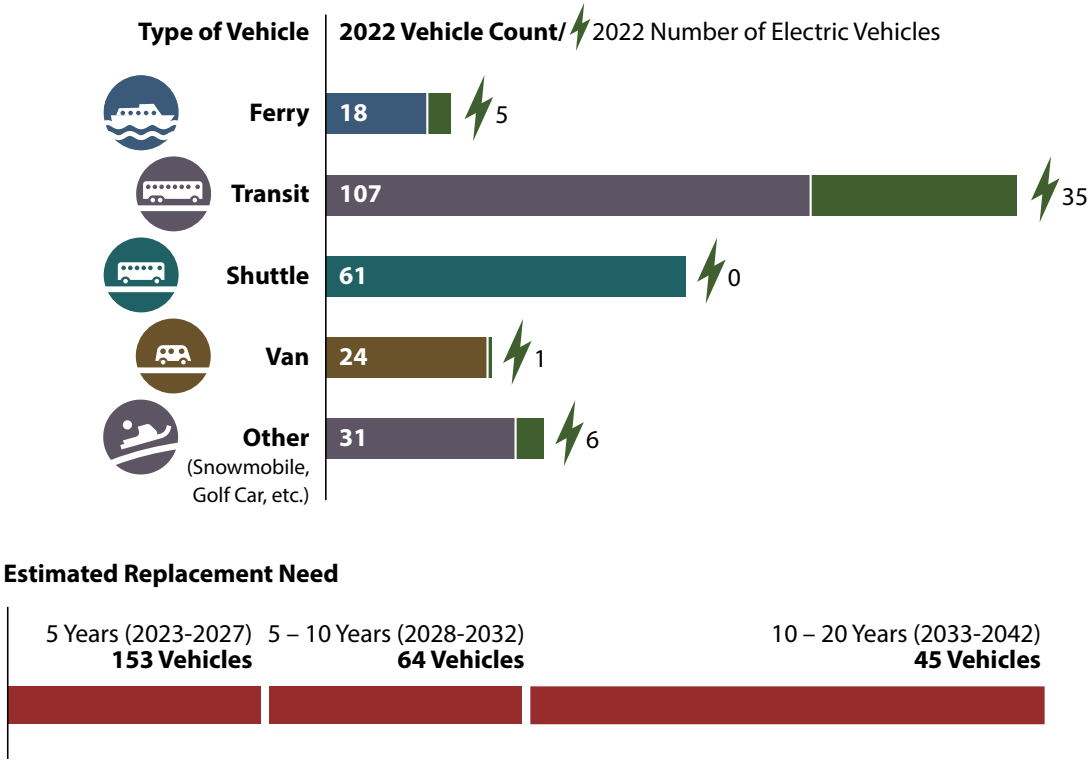


Figure 23: Transit Fleet Age, Type, and Expected Vehicle Replacement Need

Source: NPS Transit Inventory and Performance Report, 2022



Strategies

Maintain Road and Trail Bridges in Good or Fair Condition: To ensure a safe visitor experience and to maximize the useful life of transportation assets, the National Park Service will prioritize maintenance expenditures to maintain roadway and trail bridges in good or fair condition.

Maintain Pavement Conditions of High-Priority Assets at the Current Level: The National Park Service will prioritize maintaining high-priority assets at their current condition level to optimize their lifespan and increase the financial sustainability of the transportation asset portfolio.

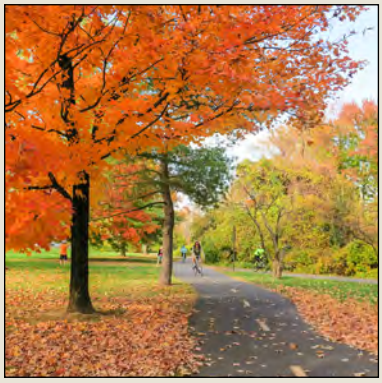
Develop Management Systems for Transit System: The National Park Service will establish consistent condition assessment tools and inventories of NPS-owned transit fleet vehicles, real property assets that support transit system operations, and transportation trails. Per Executive Order 14057, the National Park Service will explore how to integrate telematics into condition assessments to collect objective, consistent data.

Right-Size the Transportation Asset Portfolio:
The National Park Service will decommission lower-priority assets to remove maintenance liabilities when transportation assets no longer serve an important function.

Examples

Denali Park Road Repaving

The paved portion of the Denali Park Road was last re-surfaced in 1989, and many sections were failing due to year-round use and Alaska's extreme freeze-thaw activity. The resulting rutting and heaving caused vehicles to avoid these rough conditions by moving into the opposite lane, creating unsafe driving conditions. To maintain this critical asset, the National Park Service replaced all failing asphalt pavement on the Denali Park Road from 2017-2020. Resurfacing the Denali Park Road improved safety for all park road users, reduced the backlog of deferred maintenance projects, and enhanced visitor experiences.



Mount Vernon Trail Rehabilitation

The Mount Vernon Trail is an 18-mile paved multiuse trail that winds along the Potomac River and the George Washington Memorial Parkway. In recent years, the National Park Service has strategically replaced and widened major trail bridges including Bridge 12 and 23 and 24 while planning for the rehabilitation and widening of the rest of the trail and other deteriorated bridges. These projects are improving trail condition and correcting safety deficiencies, while addressing significant deferred maintenance.

Credit: Joe - stock.adobe.com

Objective:
Prioritize Preventive Maintenance and Preservation to Maximize Value

Preventive maintenance—maintenance tasks performed on an annual or more frequent basis such as cleaning culverts, inspections, and vegetation control—are key to ensuring transportation assets last as long as they should. Preventive maintenance can keep assets in better condition longer and at lower cost than repairing damage after it has occurred. Similarly, preservation activities (e.g., lighter pavement and bridge construction work) are important to long-term asset management for the same reasons. The National Park Service should prioritize preventive maintenance and preservation work to keep transportation systems in good condition for visitors and to be responsible stewards of public funding.

Park unit staff are often in the best position to perform preventive maintenance work. The National Park Service uses park asset management plans and facility management software to help park staff know when and which activities are needed. Through a partnership with FHWA, maintenance and preservation activities are also identified using pavement and bridge management systems.

However, park staff are often challenged by the routine and preventative maintenance needs of their whole asset inventory, including transportation and other asset types. Tracking when preventative maintenance activities are or are not completed is also a challenge, because these tasks tend to be completed during a busy day of work that spans dozens of activities in a variety of locations. Flat or declining park base operations budgets further complicates this situation, as staff positions funded by base operations funding have declined by 20 percent since 2008.

Strategies

Communicate the Importance of Preventative Maintenance: Provide better information about the importance and benefits of preventive maintenance tasks, effectively communicating the most important activities and when they are due.

Bundle Preventative Maintenance Projects at a Regional Level: Continue and expand the practice of regional offices bundling and contracting preventive maintenance and preservation work for multiple park units.

Evaluate the Maintenance Needs of New Transportation Technologies: Better understand long-term costs associated with new technologies and their deployment throughout the NPS transportation network.

Examples

Great Smoky Mountains National Park Pavement Preservation

The Cades Cove Loop Road is a 10-mile, paved, one-way scenic drive that was last rehabilitated in 2010. To extend the useful life of the roadway, the park applied a preventive maintenance action to the roadway surface, pullouts, and parking areas that included minor spot repairs (patching), crack sealing, and the application of an ultrathin bonded wearing course overlay.

Credit: Katie Lamoureux

Preventive Maintenance and Preservation Bundling by Regional Offices

Project efficiencies can often be realized by bundling and contracting preventive maintenance and preservation work for two or more park units in the same state or general area. Some NPS regional offices have used this strategy to reduce overall costs and to help take the burden of contracting off individual park units, whose maintenance staff may be stretched thin and have many competing demands for their time. Bundling preventive maintenance and preservation work can also help ensure these annual maintenance activities happen at the right time to provide the greatest benefit to asset condition and lifespan.

Credit: Luis - stock.adobe.com

Arches National Park

Credit: S Quintans - stock.adobe.com

Summary of Goals, Objectives and Performance Measures

This section summarizes the goals and objectives of the NTS, including performance measures and indicators that the National Park Service will use to monitor progress towards the goals.

For this document, performance measures are data-based metrics of intended outcomes with an established baseline and target. Performance indicators are additional ways that the National Park Service is monitoring progress, but for which an outcome-based performance measure is not yet available.

GOAL: Protect the Climate and Advance Resource Protection

Performance Measures

Transit Fleet Transition to Zero-emission Vehicles

- Baseline: 3% (2022)
- Target: 100% of New Purchases

Performance Indicators

- Flat or increasing trend in number of transportation projects that involve restoration of wildlife corridors and habitats in NPS units.
- Increase in the proportion of visitors using transit, trails, micromobility, or other transportation modes to visit parks.
- Decrease in access restrictions due to extreme weather and climate impacts to transportation infrastructure.

Objectives:

1. Manage Transportation Impacts on Natural Resources
2. Protect and Preserve Cultural Resources in Harmony with Transportation Assets
3. Decrease Transportation Emissions Related to Visitation and Operations
4. Adapt Transportation Systems to be Resilient to the Impacts of Climate Change

GOAL: Enhance Visitor Experience and Connect Diverse Communities

Performance Measures

Number of Motor Vehicle Fatalities (5 year rolling average)

- Baseline: 60.8 (2015-2019)
- Target: Declining Annual Trend

Performance Indicators

- Increase in number of park units with active partnerships to reduce access barriers for underserved communities.
- Future CSAP responses indicate fewer barriers and higher rates of visitation from traditionally underrepresented groups.
- Increase in the number of emerging mobility strategies being implemented in and around NPS units.

Objectives:

1. Improve Connections to Neighboring Communities
2. Eliminate Fatalities and Minimize Serious Injuries on the NPS Transportation System
3. Create a Secure, Accessible, and Welcoming Transportation System
4. Strategically Enhance Transportation Systems to Address Visitor Needs
5. Prepare for the Future of Transportation

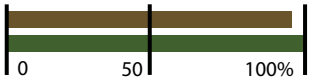
Bus shuttles at Zion National Park. *Credit: Norman Q/Wirestock Creators - stock.adobe.com*

GOAL: Reinvest in the System and Make Legacy Investments

Performance Measures

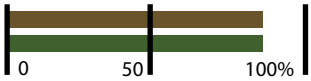
Bridge Condition

- Baseline: 97% Good or Fair (2022)
- Target: 100% Good or Fair while maintaining current network conditions



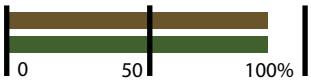
Paved Roads and Parking Condition

- Baseline: 85% Good or Fair (2022)
- Target: Maintain Current Condition



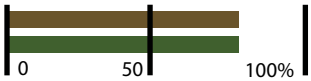
Unpaved Roads and Parking Condition

- Baseline: 89% Good or Fair (2022)
- Target: Maintain Current Condition



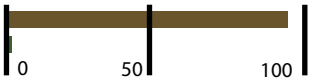
Transportation Trails Condition

- Baseline: 71% Good or Fair (2020)
- Target: Maintain Current Condition



Transit Vehicles Beyond Planned Replacement Year

- Baseline: 92 (2022)
- Target: 0 (2028)



Competitive Discretionary Grant Applications

- Baseline: 7 (2023)
- Target: 30 (2028)

Performance Indicators

- Increase in the use of project bundling approaches to pavement and bridge project management.
- Amount of funding leveraged from external grants and partnerships.

Objectives:

1. Leverage Grants and Donations for Major Projects
2. Maintain Condition of Existing Assets
3. Prioritize Preventive Maintenance and Preservation to Maximize Value

A bison in a parking lot at Yellowstone National Park. *Credit: Cavan - stock.adobe.com*

Conclusion

As the National Park Service moves forward, the NTS will guide NPS transportation decision making in support of its vision to provide safe and equitable access to the nation's most special places. The NTS provides updated goals, objectives and strategies that are key to advancing this vision, which will be implemented through our transportation programs, affecting every NPS park unit.

As all agencies must, the National Park Service will operate within the fiscal constraints of its transportation funding to deliver a transportation system that addresses the substantial maintenance needs of the system while also making progress on new challenges and opportunities. The NTS defines a path for the National Park Service to have a stronger focus on safety, climate resiliency, reducing transportation emissions, and access for underserved communities.

This NTS demonstrates the National Park Service's efforts to lead by example in promoting environmental sustainability, accessibility, and equity in its transportation system assets, services, and investments.

While many of the details in the NTS focus on the next five years, the goals and objectives look out over a longer time-horizon, setting an agenda for achieving ambitious changes in NPS transportation over the long term.

The National Park Service is committed to making an ongoing effort related to transportation planning to ensure safe, equitable, and sustainable access to our nation's greatest treasures for future generations to enjoy. The future of NPS transportation depends on everyone's commitment, creativity, and enthusiasm for realizing the vision of a sustainable transportation system that is safe, accessible, and effectively managed to accommodate changing environmental, social, and financial conditions. As such, we will take decisive action to achieve the plan's goals and performance targets through continuous work across the agency and with our partners to put NTS strategies into practice.

Sleeping Bear Dunes National Lakeshore

Credit: Kevin McCoy

Appendix A: Transportation Legacy Investment Project Needs

NPS Transportation Legacy Investment Projects				NPS Transportation Priorities		
State	Park	Project	Estimated Cost			
Alabama	Natchez Trace PKWY	TN River Bridge Reconstruction	$$$$	✔		✔
Alaska	Denali NP and NPRES	Replace Ghiglione Bridge	$		✔	
Alaska	Denali NP and NPRES	Restore Denali Park Road Deferred Maintenance - Mile 43 to 92	$		✔	
Alaska	Denali NP and NPRES	Reconstruct Toklat Bridges & Causeway	$$$	✔	✔	✔
Arizona	Lake Mead NRA	Rehabilitate and Realign Willow Beach Road*	$$	✔		✔
Arkansas	Buffalo NR	Improve Resiliency of Gravel Roads through Paving	$$	✔	✔	✔
California	Golden Gate NRA	Improve Multimodal Connectivity Across Golden Gate	$$		✔	
California	Joshua Tree NP	Enhance Non-Motorized Connectivity Between Primary Park Destinations	$$		✔	✔
California	Mojave NPRES	Convert Morningstar Mine Road to Native Surface to Protect Desert Tortoise	$	✔		
California	Mojave NPRES	Rehabilitate South Kelbaker and Kelso-Cima Road*	$$$			✔
California	Sequoia and Kings Canyon NP	Rehabilitate Mineral King Road to Improve Resiliency and Protect Sequoias*	$$			✔
California	Yosemite NP	Electrify Valley Shuttles through Fleet Replacement and Construction of Charging Infrastructure	$$	✔		✔
California	Yosemite NP	Rehabilitate Big Oak Flat Road*	$$			✔
Colorado	Great Sand Dunes NP and NPRES	Improve Multimodal Transportation Infrastructure to Enhance Visitor Access*	$$		✔	✔
Colorado	Rocky Mountain NP	Repair Trail Ridge Road Scenic Byway	$$	✔		✔
Maine	Acadia NP	Improve Hulls Cove Transportation Center & Electrify Fleet	$		✔	
Maryland	Clara Barton PKWY	Reconstruct Cantilever Bridge*	$$$		✔	✔
Massachusetts	Boston NHP	Boston Harbor Blue Infrastructure - Island/Boston Gateway Dock and Pier Improvements	$$$	✔	✔	✔
Michigan	Isle Royale NP	Replace Ranger IV Ferry Vessel	$$$	✔	✔	✔
Mississippi	Natchez Trace PKWY	Reconstruct Ridgeland Parkway Motorroad from Milepost 86 to 114.6	$$$			✔
North Carolina	Blue Ridge PKWY	Rehabilitate Sections 2U, 2V, 2X, 2Y & 2Z	$$$			✔
North Carolina, Virginia	Blue Ridge PKWY	Rehabilitate Deficiencies on 33 Bridges	$$	✔		✔

* Project is partially funded through existing appropriations.

NPS Transportation Legacy Investment Projects				NPS Transportation Priorities		
State	Park	Project	Estimated Cost			
Tennessee	Great Smoky Mountains NP	Improve Safety on Gatlinburg Spur Road	$$			✔
Utah	Zion NP	Repair SR9 from Canyon Junction to East Entrance	$$$			✔
Virginia	Colonial NHP	Rehabilitate Colonial National Historical Parkway	$$$			✔
Virginia	George Washington Memorial PKWY	GWMP South Section (Mount Vernon Parkway) Rehabilitation and Bridges and Mount Vernon Trail South Rehabilitation	$$$$	✔	✔	
Virginia	George Washington Memorial PKWY	Improve South GWMP (Old Town Alexandria to Mount Vernon Estate) and Mount Vernon Trail South	$$	✔	✔	
Virginia	George Washington Memorial PKWY	Rehabilitate Mid-GWMP and Reconstruct Boundary Channel Bridge	$$$		✔	✔
Washington	Mount Rainier NP	Replace Fryingpan Creek Bridge*	$	✔		✔
Washington	Mount Rainier NP	Maintain Visitor Access and Increase Resiliency on SR410	$$	✔		✔
Washington	Mount Rainier NP	Replace and Repair Four Bridges to Maintain Access and Increase Resiliency	$$	✔		✔
Washington	Olympic NP	Restore Visitor Access and Increase Resiliency of Elwha/Olympic Hot Springs Road	$$	✔		✔
Washington	Olympic NP	Rehabilitate Route Sol Duc Road	$$			✔
Washington, D.C.	National Mall and Memorial Parks	Rehabilitate Lincoln Circle, Jefferson and Madison Dr., Maine Ave. and 12th Street	$		✔	✔
West Virginia	Chesapeake and Ohio Canal NHP	Improve Paw Paw Bends Trail	$$		✔	✔
West Virginia	New River Gorge NP and NPRES	Conduct Critical Repairs and Improvements to Rend Trail and Bridges	$	✔	✔	✔
Wyoming	Grand Teton NP	Replace Buffalo Fork Bridge to Improve Wildlife Crossings and Resiliency	$$	✔		✔
Wyoming	Grand Teton NP	Repair and Widen Gros Ventre Road for Resiliency	$		✔	✔
Wyoming	Yellowstone NP	Reconstruct Norris to Golden Gate Road Phase 3*	$$$			✔
Wyoming	Yellowstone NP	Reconstruct the Old Faithful Roads to Protect Thermal Features	$$$			✔
Wyoming	Yellowstone NP	Rehabilitate Gardner River High Bridge	$$			✔

Estimated Costs Key

$ $12.5M - $25M **$$** $25M - $50M **$$$** $50M - $150M **$$$$** $150M+

Five Future Near-Term NPS Transportation Projects

Tennessee River Bridge Replacement: Natchez Trace Parkway, Very Large (> $150M)

The bridge is beyond its designed 50 years lifespan and will need to be replaced by 2031. Funding is needed within the next five years to allow construction of a replacement bridge crossing while the current bridge is still functional. Without the existing crossing, road users would be subjected to a 40-mile, 50-minute detour to reach the next nearest bridge. If not on track to be replaced by 2031, intermediate, high-cost maintenance measures will need to begin by 2025 to temporarily extend the bridge's functional service life.

Tennessee River Bridge. *Credit: korkeakoski - stock.adobe.com*

Colonial National Historical Parkway: Colonial National Historical Park, Large ($50-150M)

The 23-mile Parkway offers access and views of shorelines and forests for over 3 million park visitors annually. It has far exceeded its 50-year design life and 87 percent of the road mileage is in poor or fair condition. The Parkway's advanced age poses numerous safety concerns including broken slabs, failing joints, and concrete spalling. Many bridges along the Parkway suffer from structural loss and are high priorities for replacement. Additionally, its old drainage systems are increasingly overloaded by runoff from surrounding development and intensifying storm events and must be replaced.

Colonial National Parkway. *Credit: Sean Xu - stock.adobe.com*

Ranger III Ferry Boat Replacement: Isle Royale National Park, Large ($50-150M)

The Ranger III ferry is the largest piece of moving equipment owned by the National Park Service and has been in continuous service for over 65 years. It serves as a lifeline of the park's operations by transporting park and concessions staff, passengers, and cargo like food, fuel, luggage, materials, equipment, small boats, and backhaul of trash from the park's mainland headquarters. The vessel had electronic upgrades and was repowered in 1999, however much of the remaining original equipment cannot be easily repaired. Failure of any given component or system would negatively affect vital park operations.

Ranger III Ferry at Isle Royale National Park. *Credit: Bonniemarie - stock.adobe.com*

Willow Beach Road Realignment and Reconstruction: Lake Mead National Recreation Area, Medium ($25-50M)

This 4.6 mile road in the Lake Mead National Recreation Area provides access from US-93 to the Willow Beach Marina on the Colorado River in Mohave County, Arizona. The road is located in a narrow canyon that is prone to flash flooding and had badly deteriorated. The project will rehabilitate, reconstruct, and resurface the roadway along a new alignment to reduce hazards associated with flash flooding and frequent flood damage.

Lake Mead National Recreation Area. *Credit: Laurens - stock.adobe.com*

Multimodal Improvements at Great Sand Dunes: Great Sand Dunes National Park and Preserve, Medium ($25-50M)

This project will expand and improve transportation infrastructure to meet visitor demand. Parking capacity will nearly double as a new entrance station and rest stop with overlook and trails will be constructed. A multi-use trail will connect the park's campground to all creek access points and parking areas, which will provide a new, more accessible recreational opportunity not currently available in the park. The new entrance station will be developed with additional booths and lanes to increase capacity and reduce wait times. A new rest area and overlook with restrooms, information kiosk, and interpretive trail will be constructed near the park entrance.

Great Sand Dunes National Park and Preserve. *Credit: Jens Bernard - stock.adobe.com*

National Park Service
Washington Support Office
Park Planning, Facilities and Lands Directorate
For more information, please visit the NPS Transportation website
All photos NPS property, unless otherwise noted.

NPSG 192730
April 2024

As the nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering sound use of our land and water resources; protecting our fish, wildlife, and biological diversity; preserving the environmental and cultural values of our national parks and historic places; and providing for the enjoyment of life through outdoor recreation. The department assesses our energy and mineral resources and works to ensure that their development is in the best interests of all our people by encouraging stewardship and citizen participation in their care. The department also has a major responsibility for American Indian reservation communities and for people who live in island territories under US administration.