



## Defining and Monitoring the Transportation Trail System *Northeast Region, National Park Service*



Valley Forge National Historical Park Sign for Transportation Trail

Source: Volpe Center

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## **Report notes**

The U.S. Department of Transportation John A. Volpe National Transportation Systems Center in Cambridge, Massachusetts prepared this report for the Northeast Region of the National Park Service. Andrew Breck led the project team, which included Angela Berthaume and Ian Kolesinskas.

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## Definitions

The following terms are used in this report:

ACAD	Acadia National Park
ADA/504	Americans with Disabilities Act / Section 504 of the Rehabilitation Act
ADACOMPT	Accessibility Compliant
ALPO	Allegheny Portage Railroad National Historic Site
API	Asset Priority Index
ASIS	Assateague Island National Seashore
ATI	Associated Transit Improvement
BLAC	Blackstone River Valley National Heritage Corridor
BLRV	Blackstone River Valley National Historical Park
BOHA	Boston Harbor Islands National Recreation Area
BUILD	Better Utilizing Investment to Leverage Development
CACO	Cape Cod National Seashore
CEBE	Cedar Creek & Belle Grove National Historical Park
CMAQ	Congestion Mitigation and Air Quality Program
DEMO	Deshler-Morris House National Historic Site
DEWA	Delaware Water Gap National Recreation Area
DOT	Department of Transportation
ELRO	Eleanor Roosevelt National Historic Site
FAST	Fixing America's Surface Transportation Act
FCI	Facility Condition Index
FHWA	Federal Highway Administration
FIIS	Fire Island National Seashore
FLAP	Federal Lands Access Program
FLATF	Federal Lands Access Transportation Facilities
FLTTP	Federal Lands and Tribal Transportation Programs
FMSS	Facility Management Software System
FOMR	Fort Monroe
FOST	Fort Stanwix National Monument
FRSP	Fredericksburg & Spotsylvania National Military Park
FRST	First State National Monument
FTA	Federal Transit Administration Capital Funds
FTDS	Federal Trail Data Standards
GARI	Gauley River National Recreation Area
GATE	Gateway National Recreation Area
GETT	Gettysburg National Military Park
GEWA	George Washington Birthplace National Monument
GIS	Geographic Information System
GLDE	Gloria Dei Church National Historic Site
GPS	Global Positioning System
HATU	Harriet Tubman Underground Railroad National Monument
HOFR	Home Of Franklin D. Roosevelt National Historic Site
HOFU	Hopewell Furnace National Historic Site
HSIP	Highway Safety Improvement Program
JOFL	Johnstown Flood National Memorial
KAWW	Katahdin Woods and Waters
LODE	Lower Delaware National Wild and Scenic River
LOWE	Lowell National Historical Park
LRTP	Long Range Transportation Plan
LWCF	Land and Water Conservation Fund

MIMA	Minute Man National Historical Park
MPO	Metropolitan Planning Organization
NER	Northeast Region
NERI	New River Gorge National River
NHPP	National Highway Performance Program
NLRTP	National Long Range Transportation Plan
NPS	National Park Service
NRT	National Recreational Trails
OB	Optimizer Band
PETE	Petersburg National Battlefield
PDC	Programming Decision Committee
PMIS	Project Management Information System
POHE	Potomac Heritage National Scenic Trail
RTCA	Rivers, Trails, and Conservation Assistance Program
RTP	Recreational Trails Program
SAGA	Saint-Gaudens National Historic Site
SAHI	Sagamore Hill National Historic Site
SARA	Saratoga National Historical Park
SHEN	Shenandoah National Park
SHSP	Strategic Highway Safety Plan
SPR	Statewide Planning and Research
SRTS	Safe Routes to School Program
STBG	Surface Transportation Block Grant Program
STIP	State Transportation Improvement Program
STSP	Star-Spangled Banner National Historic Trail
TA	Transportation Alternatives Set-Aside
TAP	Transportation Alternatives Program
TIFIA	Transportation Infrastructure Finance and Innovation Act
TIGER	Transportation Investment Generating Economic Recovery Program
TIP	Transportation Improvement Program
THST	Thomas Stone National Historic Site
UPDE	Upper Delaware National Wild and Scenic Rivers
VAFO	Valley Forge National Historical Park
VAMA	Vanderbilt Mansion National Historic Site
Volpe	Volpe National Transportation Systems Center



## Summary

This memo summarizes work that the Volpe Center (Volpe) completed on behalf of the Northeast Region (NER) of the National Park Service (NPS) related to transportation trails. Many of the NER trails are recreational in nature; only a portion are transportation trails. The distinction between a transportation versus a non-transportation trail is important. Transportation trails provide transportation functions and are therefore eligible for alternative transportation programs and funding, and subject to transportation goals and performance measures. The working definition of a transportation trail is below in italicized font.<sup>1</sup> Based on discussions with parks in the course of this project, there are two proposed changes to the working definition of transportation trails. These changes appear in bold, blue font below, with explanation in the footnotes. The first change was to add the word “AND” in between the two bullets, to clarify that both bullets must be true. The second change was to add the last sentence, clarifying that some assets in the 1100 series may qualify, such as the carriage roads in Acadia National Park.

## Definition

*A transportation trail:*

- *Provides functional access to a destination via non-motorized modes (pedestrian/bicycle) **AND**<sup>2</sup>*
- *Enables people to switch from motorized to non-motorized modes.*

*Transportation trails have strong public access and connectivity characteristics, as opposed to trails that are solely for recreation or backcountry use. They are often paved, but not always. **Although most transportation trail assets are in the 2100 series within Facility Management Software System (FMSS), assets in the 1100 series may also be considered transportation trails, provided that they meet the above requirements and do not permit motorized vehicles.***<sup>3</sup>

This project was preceded by a prior project in 2014 funded by the same task budget. The prior effort identified a transportation trails working definition and compiled and analyzed geospatial data on external trails near park units in order to assess opportunities for NPS to connect with broader trail networks.

## Purpose

The purpose of this project was to define the transportation trails network that provides direct access to or within park units of the Northeast Region (NER) of the National Park Service (NPS) and identify the current condition and needs of this system. Building on previous NER trails work by Volpe, this project scope was to:

- Identify which of the NER trails fit the current working definition of a transportation trail.
- Document whether these trail assets are accurately referenced in FMSS.

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<sup>1</sup> The working definitions of *transportation trails* was developed based on prior analysis during the previous effort of the project and ongoing discussions in the region, but this is not an official definition. One of the goals of this current project was to determine if the developed definition of *transportation trails* worked in operation.

<sup>2</sup> This change clarifies that both of the bullets must be true in order for a trail to qualify as a transportation trail.

<sup>3</sup> The carriage roads in Acadia National Park are an example of this.

- Determine what data are currently available on this trail system and compile data on trails not already captured by the previous Volpe project and long range transportation planning efforts.
- Identify additional data and performance measures that would be useful for understanding and monitoring transportation trails.
- Recommend a data collection program for desired data that are not readily available, including methodologies, needed equipment, and costs.
- Develop an initial prioritized list of future trail projects based on currently available data.

## Methodology

Volpe compiled existing information on NPS NER transportation trails. The project team worked with NER to obtain a list of all trail assets from the NPS FMSS database (asset code 2100). The team also reviewed both the 2013 NER Long Range Transportation Plan (LRTP) and the 2017 NPS National LRTP (NLRTP)<sup>4</sup> transportation trail inventories to compile a preliminary list of transportation trails with key attributes.

Volpe cross-referenced the 2013 NER LRTP and the Category III Program (FY 2019) guidance to identify goals, objectives, performance metrics, and corresponding data gaps related to transportation trails. Table 7-1 on page 85 of the 2013 NER LRTP<sup>5</sup> notes transportation trail data gaps pertinent to its key performance measures:

- Inventory/condition of trail assets,
- Regional trail connections,
- Trail utilization, and
- Transit/trail safety incident information.

Volpe researched methods for filling these data gaps. For example, the project team investigated alternative sources for estimating trail usage, such as commuting and exercise mobile applications that track user activity. Volpe also determined remaining gaps that could potentially be filled by a data request to NER park units. Within the data request, Volpe generated the following questions to address these gaps:

- Transportation Trail (*Yes/No*)<sup>6</sup>
- For ***transportation trails only***, please confirm the information from FMSS is correct and highlight any inaccuracies in the pre-filled values (optimizer band (OB), asset priority index (API), facility condition index (FCI), and Accessibility Compliant (ADACOMPT))<sup>7</sup>

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<sup>4</sup> <https://parkplanning.nps.gov/document.cfm?parkID=551&projectID=53106&documentID=82749>

<sup>5</sup> The 2018 NER LRTP update is still in its early stages.

<sup>6</sup> Volpe pre-populated these values for the convenience of park unit staff. The assumptions for pre-populating were as follows: (1) Assume “yes” if the 2013 NER LRTP inventory identified it as a transportation trail, (2) Assume “no” if the 2013 NER LRTP did not identify it as a transportation trail but the 2017 NLRTP did, and (3) Exclude all trails not included in either inventory. Parks then had the opportunity to review and change the entries, or add additional trails that were initially excluded.

<sup>7</sup> Based on background research, including review of the Architectural Barriers Act, “Federal Trail Data Standards (FTDS) Version 1 National Trail Management Classes” and other sources, Volpe pre-populated this field by assuming that all trails of class 4 and 5 would be accessible, and those of classes 1, 2, and 3 would not be. Parks then had the opportunity to review and change the entries.

- Does the trail enable a traveler to visit without a private automobile (*Yes, connects to external destination or non-motorized transportation network/Yes, connects to public transit that provides external access/No*)
- Does this trail have any safety issues? (*Yes/No*)
- Do you anticipate a high-priority project associated with this trail in the next five years? (*Yes/No*)
- Are usage estimates available via traffic counters? (*Yes/No*)
- Annual usage (only if traffic counter present)
- Does signage indicate the destinations to which the trail provides access (optional)?

In coordination with NER, Volpe asked 41 NER parks<sup>8</sup> to confirm or update transportation trails information. Of these, 39 responded (see Appendix A).<sup>9</sup> The data request also asked park units to add any additional assets that met the working definition of transportation trails but did not appear in the preliminary list. The data request finally asked park units to provide information on any high-priority future transportation trails initiatives anticipated within the next five years.

Based on the information received from the NER parks, Volpe compiled an updated spreadsheet with all NPS transportation trails and summarized findings in this memo. Wherever park units identified inaccuracies in FMSS data, Volpe shared this information with NER FMSS staff. Volpe also added all of the data to a geodatabase of transportation assets, which Volpe helped to create as part of a separate task for NER. This ensured that all of the information would be easy for NER staff to access and analyze in the future; this is an important data repository given that not all of the data were part of FMSS fields. Additionally, Volpe investigated funding opportunities for NER transportation trails and brainstormed and proposed use-cases for the data, as shown in Table 1.

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<sup>8</sup> Volpe completed additional efforts to determine which parks should be contacted for the data request. Volpe investigated parks with unknown trails that were not identified as transportation trails or not listed in either the 2013 NER LRTP or the 2017 NLRTP to determine if the trail could be confirmed as a transportation trail or not via the information available online and based on Volpe staff experience and knowledge of NER parks to alleviate the burden on NER staff.

<sup>9</sup> While the request had a response rate of 95 percent, all parks (100 percent) with transportation trails identified in LRTPs responded to the data request.

**Table 1**  
**Possible Uses for Trails Data**

Use	Recommended Update Frequency	Description
Performance monitoring	Every five years	Table 2 through Table 6 show how the trails data request results map onto 2013 NER LRTP goals and performance measures, as well as the goals of the Category III program and 2017 NLRTP.
Planning for alternative transportation funding (Category III)	Every five years	Units decide which projects to submit for Category III funding. However, if the region had more information about the status and performance of the system and individual assets, the region could play a more active role in encouraging specific units to submit projects. Table 2 through Table 6 show the Category III program goals. The region could determine “thresholds for action,” i.e., performance levels for this metric that would prompt the region to consider encouraging specific units to submit a project for funding. For longer term planning, a prioritization matrix could be developed, combining performance in different categories to determine various “thresholds for action.” In summer 2018, the Washington Support Office (WASO) WASO started development of a Category III “unconstrained” program of projects, which includes trail projects, to help inform needs for reauthorization of the national transportation bill. The region can follow up on the trail projects within the unconstrained list to encourage units to pursue improvements.
Identifying other funding opportunities	Ad-hoc	The data could help the region to identify high-priority trails where needs are not being met (or are not likely to be met) by the Category III funding. This could prompt the region to help the park units identify other funding opportunities. Another portion of this project is to review and summarize funding sources and their eligibilities, which could aid such efforts.

## Results

Based on park unit input, the data request changed the base inventory in the following ways:

- **Added 79 transportation trails** - The 2017 NLRTP had identified 9 of these as possible transportation trails, while 70 of them had not been identified by either LRTP as a possible transportation trail.
- **Removed 46 transportation trails** - The 2013 NER LRTP had previously identified these as possible transportation trails.
- **Confirmed 140 transportation trails.**

The resulting inventory contains 219 transportation trails across 30 NER park units.

Some parks provided information on non-transportation trails, although that was not part of the request; and some, but not all, park units answered the optional question on signage.

Table 2 through Table 6 show results of the data request pertinent to the goals and performance metrics of the 2013 NER LRTP, the Category III funding program, and 2017 NLRTP.

### *Goal: Manage Assets Wisely*

Table 2 highlights results from the current study relevant to the 2013 NER LRTP goal: “manage assets wisely.” The Category III funding program and 2017 NLRTP have related goals on asset management.<sup>10</sup> The 2017 NLRTP states that: “when a park unit assigns assets to OB 1 or 2, it is a commitment by the park unit to fund a minimum amount of preventative maintenance needed for those assets to be sustained in ‘good’<sup>11</sup> condition.” This study found that of the transportation trails with OB of 1 or 2 (i.e. highest priority assets) that are not in “good” condition, only 38% (15 of 39 trails) have an anticipated high-priority project within the next five years; counterintuitively, the majority of the high-priority projects (66%) would address lower priority assets, rather than the higher-priority assets with unmet need based on FCI.<sup>12</sup> See Figure 1 for a tally of high-priority projects by park, and Appendix B for more information on park-identified high-priority projects.

This project did not address the metric related to O&M costs. This project attempted to address the metrics pertaining to trail usage, but was not able to do so comprehensively due to a lack of usage data for most trails. Five trails in four parks reported estimates of annual usage from traffic counters (representing only two percent of all transportation trails). An estimated 596,167 people used these trails in one year. Assuming that each visitor traveled the full length of the trail once, this equates to over 1.3 million person-miles. Assuming that these trips could have displaced motor vehicle trips of equal length and assuming a person-per-vehicle ratio of 2.4, this trail infrastructure could have eliminated over 560,000 vehicle miles and associated emissions. The NER could explore traditional or emerging sources of usage data to address these performance measures more comprehensively in the future (see Appendix D).

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<sup>10</sup> 2013 NER LRTP Goal: Manage Assets Wisely; CAT III Goal: Manage the transportation program based on meaningful, reliable data; 2017 NLRTP Goal: Sustainably manage NPS transportation assets and services

<sup>11</sup> According to the 2017 NLRTP assets are in “good” condition if they have an FCI between 0.000 – 0.109.

<sup>12</sup> Three NER park-identified high-priority projects in two NER Parks are proposed new initiatives and so do not have associated OB or FCI data. See Appendix B for more information.

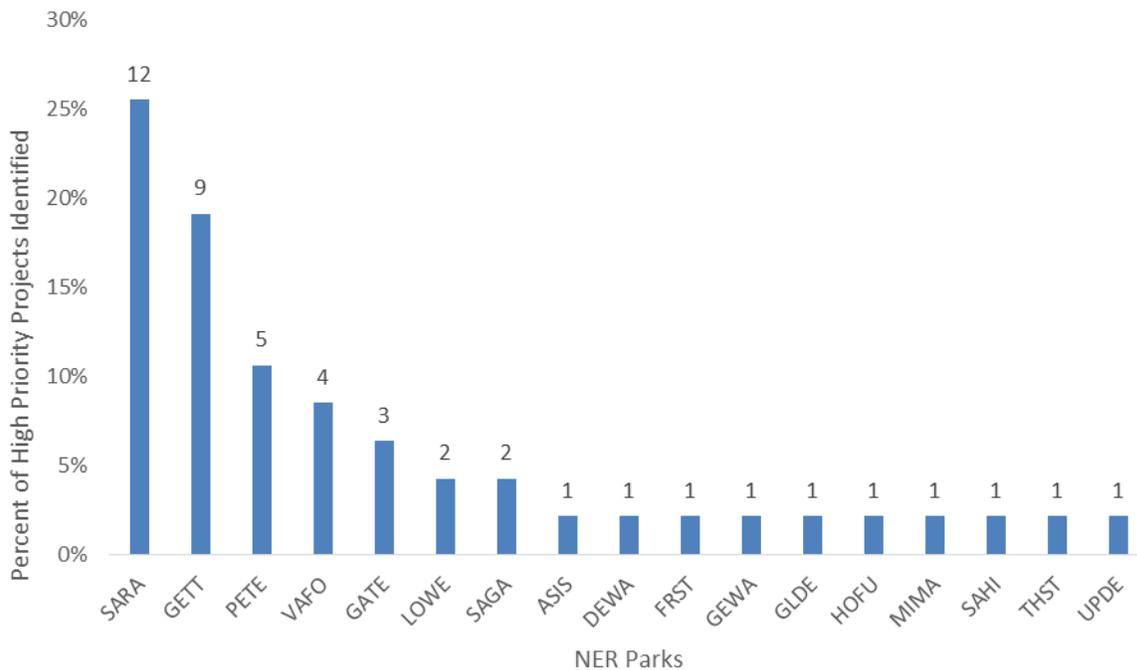
**Table 2**  
**Results for Goal: “Manage Assets Wisely”<sup>13</sup>**

2013 NER LRTP Objective	2013 NER LRTP Performance Metrics	Results from This Study
Maintain all high priority transportation assets in good condition	Percentage of assets in good condition	<ul style="list-style-type: none"> <li>70% of all transportation trail assets are in “good” condition based on FCI (153 of 219 trails)</li> <li>54% of transportation trail assets with OB of 1 or 2 are in “good” condition based on FCI (45 of 84 trails)</li> </ul>
	Facility Condition Index (FCI) <sup>14</sup>	For transportation trail assets: <ul style="list-style-type: none"> <li>Mean FCI = 0.183</li> <li>Median FCI = 0.006</li> </ul>
Decommission or dispose of low priority assets	Reduction of O&M costs	No data gathered through this effort; future update could address this.
Collect data and use performance goals and management systems to improve the overall condition, utilization, and effectiveness of asset portfolio over time	Higher ATS transit ridership and trail utilization	Data are incomplete. The two percent of trails that had usage data recorded 596,167 users, which could have eliminated over 560,000 vehicle miles.
	Vehicle miles eliminated	

<sup>13</sup> 2013 NER LRTP Goal: Manage Assets Wisely; CAT III Goal: Manage the transportation program based on meaningful, reliable data; 2017 NLRTP Goal: Sustainably manage NPS transportation assets and services

<sup>14</sup> Also cross-listed as a performance measure in the “Enhance Visitor Experiences” goal area.

**Figure 1**  
**NER Park-Identified High-Priority Transportation Trail Projects in the Next Five Years**



*Goal: Ensure Access, Safety, and Mobility*

Table 3 highlights results from this project relevant to the 2013 NER LRTP goal: “ensure access, safety, and mobility.” The Category III funding program and 2017 NLRTP also have related goals on accessibility and safety.<sup>15</sup> This project provided relevant statistics for multiple performance measures in this goal area, but was not able to address any fully. Key findings include:

- 57% of responding NER parks with transportation trails (17 of 30) have transportation trails that enable a traveler to access the park unit without a private automobile (see Figure 2 for details).
- 53% of NER transportation trails (117 of 219) are accessible for persons with disabilities.
- 11% of NER transportation trails (23 of 219) have park-identified safety issues.

Some NER park-identified high-priority projects are improving transportation trail accessibility and safety concerns. While the 23 transportation trails with identified safety concerns were spread across 8 NER parks, Gateway National Recreation Area alone accounts for almost half of them (11). 10 of the trails

<sup>15</sup> 2013 NER LRTP Goal: Ensure Access, Safety, & Mobility; CAT III Goal: Improvements in transportation connectivity, convenience, and safety for visitors and the NPS workforce; 2017 NLRTP Goal: Provide a safe transportation system for all users

with safety issues also had an anticipated high-priority project within the next 5 years, some of which are addressing safety.

This project identified a possible new future metric to track, possibly as a replacement for the below metrics (from the 2013 LRTP):

- # of parks with car-free access and mobility
- # of parks with new/improved access via regional trails
- % of visitors arriving via non-automobile modes
- Reduction in % of visitors using automobiles to explore within park

This new metric could be:

- % of total annual NER visitation for which there is a theoretical option for car-free access and mobility

This metric is as easy to measure as the first one from the above list, but it is more directly related to outcomes. The latter two bullets from the above list are even more directly related to outcomes, but they are more difficult to measure and track.

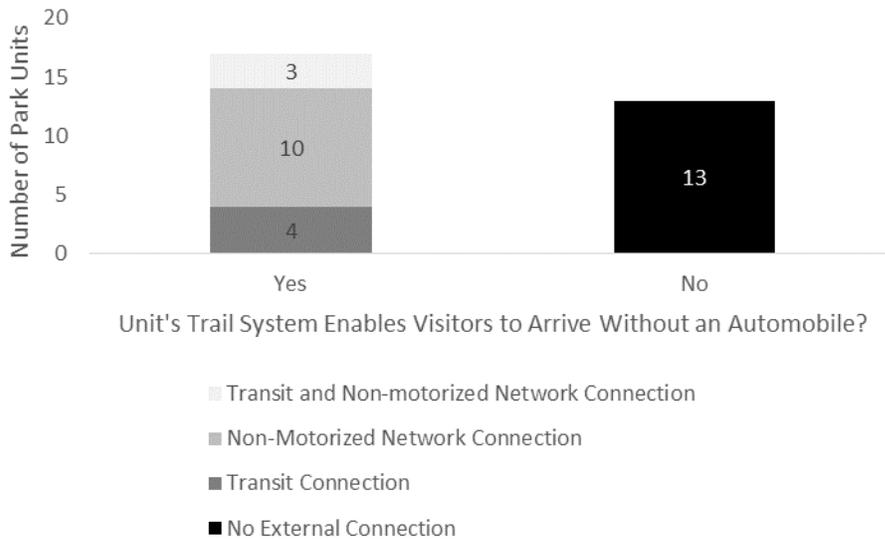
**Table 3**  
**Results for Goal: “Ensure Access, Safety, and Mobility”<sup>16</sup>**

2013 NER L RTP Objective	2013 NER L RTP Performance Metrics	Results from This Study
Improve intermodal connectivity (address gaps in access between modes)	<ul style="list-style-type: none"> <li>• # of projects addressing gaps between parks and regional trails</li> <li>• # of projects addressing gaps between parks and public/regional transportation</li> <li>• Increase in visitor use of non-automobile modes due to connectivity projects</li> </ul>	The NER could track the first two performance measures in the context of annual Category III reviews moving forward. The NER could explore traditional or emerging sources of usage data to address the third performance measure (see Appendix D).
Provide multimodal options to ensure access, relieve congestion, reduce resource impacts, and reinforce sustainable practices	<ul style="list-style-type: none"> <li>• # of parks with car-free access and mobility</li> <li>• # of parks with new/improved access via regional trails</li> <li>• % of visitors arriving via non-automobile modes</li> <li>• Reduction in % of visitors using automobiles to explore within park</li> </ul>	<p>57% of responding NER parks with transportation trails (17 of 30) have transportation trails that enable a traveler to access the park unit without a private automobile (see Figure 2 for detail).</p> <p>The NER could:</p> <ul style="list-style-type: none"> <li>• Calculate the first metric by combining the above data with transit data.</li> <li>• Track the second metric in the annual Category III reviews.</li> <li>• Explore traditional and emerging sources of usage data to address the third and fourth metrics (see Appendix D).</li> </ul>
Enhance accessibility to the broadest diversity of visitors	<p># of accessibility barriers removed<sup>17</sup></p> <p># of projects in targeted urban areas</p>	<p>Other related metric: 53% of NER transportation trails (117 of 219) are accessible for persons with disabilities.</p> <p>The NER could track these L RTP metrics moving forward in the context of the annual Category III review.</p>
Protect the health and safety of visitors and employees	# of high crash/incident locations mitigated	<p>Other related metric: 11% of NER transportation trails (23 of 219) have park-identified safety issues.</p> <p>The NER could track this L RTP metric in the context of the annual Category III review.</p>

<sup>16</sup> 2013 NER L RTP Goal: Ensure Access, Safety, & Mobility; CAT III Goal: Improvements in transportation connectivity, convenience, and safety for visitors and the NPS workforce; 2017 NL RTP Goal: Provide a safe transportation system for all users

<sup>17</sup> This performance measure is also cross-listed in the “enhance visitor experiences” goal area.

**Figure 2**  
**Non-Auto Access via Transportation Trails in NER**



*Goal: Enhance Visitor Experiences*

Table 4 highlights results from this project relevant to the 2013 NER LRTP goal: “enhance visitor experiences.” The Category III funding program and 2017 NL RTP have related goals for visitor experience.<sup>18</sup> While the current project did not address the visitor satisfaction performance metric identified in the 2013 NER LRTP, this project did determine that at least 43% of NER transportation trails (95 of 219) have signage indicating the destinations to which the trail provides access; this question was optional so the actual figure may be higher. Another possible metric to track in the future might be: “percentage of transportation trails with wayfinding information on the park unit website.

<sup>18</sup> 2013 NER LRTP Goal: Enhance Visitor Experiences; CAT III Goal: Quality transportation experiences that enhance park visits; 2017 NL RTP Goal: Maintain and enhance the quality of visitor experiences

**Table 4**  
**Results for Goal: “Enhance Visitor Experiences”<sup>19</sup>**

2013 NER LRTP Objective	2013 NER LRTP Performance Metrics	Results from This Study
Maintain high priority transportation system assets in good condition	High visitor satisfaction with transportation asset conditions	This project did not address visitor satisfaction. Future visitor surveys could help to address this.
Address transportation congestion and the impacts of non-park traffic that impede park access and/or the enjoyment of parks	# of accessibility barriers removed <sup>20</sup>	Other related metric: 53% of NER transportation trails (117 of 219) are accessible for persons with disabilities.

*Goal: Protect Resources*

Table 5 highlights results from this project relevant to the 2013 NER LRTP goal: “protect resources.” The Category III funding program and 2017 NLRTP have related goals for resource protection.<sup>21</sup> The asset management discussion beginning on page 5 already described how usage data are still lacking for most of the NER transportation trail system; this also impacts the performance measure for this goal area on “reductions in greenhouse gas emissions.” See Appendix D for a discussion of usage data sources for future exploration.

<sup>19</sup> 2013 NER LRTP Goal: Enhance Visitor Experiences; CAT III Goal: Quality transportation experiences that enhance park visits; 2017 NLRTP Goal: Maintain and enhance the quality of visitor experiences

<sup>20</sup> This performance measure is also cross-listed in the “ensure access, mobility, and safety” goal area.

<sup>21</sup> 2013 NER LRTP Goal: Protect Resources; CAT III Goal: Leadership in environmentally-responsible transportation; 2017 LRTP Goal: Protect and preserve natural and cultural resources

**Table 5**  
**Results for Goal: “Protect Resources”<sup>22</sup>**

2013 NER LRTP Objective	2013 NER LRTP Performance Metrics	Results from This Study
Incorporate green principles into the planning, design, construction, and operation of park transportation systems	Reductions in greenhouse gas emissions	Usage data are still lacking for most of the NER transportation trail system, preventing holistic evaluation of this metric. The five trails that did have usage data could potentially have saved over 560,000 vehicle miles and associated emissions. See Appendix D for a discussion of usage data sources for future exploration.

*Goal: Ensure Sustainable Operations*

Table 6 highlights results from the current study relevant to the 2013 NER LRTP goal: “ensure sustainable operations.” The Category III funding program and 2017 NLRTP have related goals for financial sustainability. This project directly addressed the first performance measure listed in Table 6: “improved categorization of transportation assets in management systems.” The project identified which NER trails are “transportation” trails and recorded this in FMSS and in the NER geodatabase of transportation assets. The project also flagged any inaccuracies or omissions in asset management data for further review by the FMSS team. This project did not address the remaining metrics on partnership and O&M costs. Future updates could attempt to address these metrics.

<sup>22</sup> 2013 NER LRTP Goals: Protect Resources; CAT III Goals: Leadership in environmentally-responsible transportation; 2017 LRTP Goals: Protect and preserve natural and cultural resources

**Table 6**  
**Results for Goal: Ensure Sustainable Operations<sup>23</sup>**

2013 NER LRTP Objective	2013 NER LRTP Performance Metrics	Results from This Study
Improve the identification and programming of operations and maintenance needs	<ul style="list-style-type: none"> <li>• Improved categorization of transportation assets in management systems</li> <li>• Quantification of operations and maintenance (O&amp;M) costs for trails</li> </ul>	<ul style="list-style-type: none"> <li>• 100% of transportation trails are now identified as such in FMSS, and possible inaccuracies in asset management data were flagged for review.</li> <li>• A future update could quantify O&amp;M costs.</li> </ul>
Strengthen regional, community, and private partnerships	<ul style="list-style-type: none"> <li>• Number of partnership projects initiated</li> <li>• Increased involvement with metropolitan planning organizations (MPOs), the Federal Highway Administration (FHWA), and State agencies</li> </ul>	

## Funding Opportunities

Volpe began gathering information on external funding opportunities for NER transportation trails and related connections. Preliminary information is below. Also, a related report will soon be available titled: *NPS Active Transportation Guidebook: A Resource on Supporting Walking and Bicycling for National Parks and their Partners*. That report may have more information on funding opportunities. Volpe also found the table “[Pedestrian and Bicycle Funding Opportunities: U.S. Department of Transportation Transit, Highway, and Safety Funds](#),” revised on May 24, 2018. An amended version (see Appendix C of this report) focuses on transportation trails and related infrastructure.

The [Federal Lands Access Program \(FLAP\)](#), established in 23 U.S.C. 204, aims to improve transportation facilities that either provide access to, are adjacent to, or are located within Federal lands. The funds can be used on Federal Lands Access Transportation Facilities (FLATFs), which are defined as "a public highway, road, bridge, trail, or transit system . . . for which title or maintenance responsibility is vested in a State, county, town, township, tribal, municipal, or local government."<sup>24</sup> With an emphasis on high-use recreation sites and economic generators, FLAP supplements State and local resources for projects related to public roads, transit systems, and other transportation facilities. A statutory formula based on visitation, land area, road mileage, and number of bridges is used to allocate funding, provided through contract authority from the Highway Trust Fund. A Programming Decision Committee (PDC) established in each State requests project applications and then selects projects.

<sup>23</sup> 2013 NER LRTP Goals: Ensure Sustainable Operations; CAT III Goals: Long-term financial viability; 2017 NL RTP Goals: Allocate available transportation funding wisely

<sup>24</sup> FLAP funds can be used on facilities within an FLMA unit so long as the maintenance and operations are the responsibility of the partner. <https://flh.fhwa.dot.gov/programs/flap/documents/FLAP%20Implem%20Guidance.pdf>

Trail assets in and around two parks, Lower Delaware National Wild and Scenic River (LODE) and Potomac Heritage National Scenic Trail (POHE), may possibly be eligible for FLAP funding opportunities as some trail assets are not NPS owned and not on NPS owned land but either connect and provide access to or are adjacent to surrounding parks.

[Transportation Alternatives \(TA\) Set-Aside funds](#) under the Surface Transportation Block Grant Program (STBG), formerly known as the Transportation Alternatives Program (TAP), provide funding for projects and programs defined as transportation alternatives including but not limited to: on- and off-road pedestrian and bicycle facilities, recreational trail projects, and infrastructure projects for improving non-driver access to public transportation and enhanced mobility.

The Federal Highway Administration (FHWA) provides [guidance](#) on eligibility requirements for TA set-aside funds. Eligible entities are listed in 23 U.S.C. 133(h)(4)(B), including natural resource or public land agencies. Eligible projects are listed in 23 U.S.C. 133(h)(3), including projects or activities described in 23 U.S.C. 101(a)(29) or 213, such as Transportation Alternatives and the Recreational Trails Program. See Appendix C for an abridged list of all eligible projects. Activities eligible under the TA Set-Aside also are eligible for STBG funds (23 U.S.C. 133(b)(15)). All TA Set-Aside projects must benefit the general public (23 CFR 1.23 and 23 CFR 460.2).

The [Highway Safety Improvement Program \(HSIP\)](#), a core Federal-aid program, aims to significantly reduce traffic fatalities and serious injuries on all public roads, including both non-State-owned and tribal land roads. This program requires a data-driven, strategic approach and focuses on performance. Eligibility for HSIP funds requires all highway safety improvement projects: (1) address a Strategic Highway Safety Plan (SHSP) priority, (2) be identified through a data-driven process, and (3) contribute to a reduction in fatalities and serious injuries.<sup>25</sup> See Appendix C for an abridged list of all eligible projects.

The [Congestion Mitigation and Air Quality Program \(CMAQ\)](#) provides funding opportunities for transportation projects and programs to assist States and local governments meet Clean Air Act requirements through reducing congestion and improving air quality for areas that do not meet current National Ambient Air Quality Standards for carbon dioxide, ozone, and/or particulate matter. Transportation projects or programs are eligible for funding if they will likely contribute the maintenance or attainment of National Ambient Air Quality Standards, be highly effective at reducing air pollution, and are included in the current state transportation improvement program (STIP) or metropolitan planning organization's (MPO's) transportation plan and transportation improvement program (TIP).

The [Recreational Trails Program \(RTP\)](#) is an assistance program of the Department of Transportation's (DOT) FHWA that provides funding to States to assist in developing and maintaining recreational trails and trail-related facilities for motorized and nonmotorized recreational trails.

Additional partners and other resources were identified through these research efforts. The [NPS Rivers, Trails, and Conservation Assistance Program \(RTCA\)](#) provides funding assistance for community-led natural resource conservation and outdoor recreation projects. Funding is available to state and local agencies, nonprofit organizations, tribes, citizen groups, or National Parks and other Federal agencies applying in partnership with local organizations.

The [NPS Land and Water Conservation Fund \(LWCF\)](#) was established in 1964 by Congress to both provide recreational opportunities and safeguard natural and cultural resources. The LWCF program has two sides: the "[Federal side](#)" focuses on land and water acquisitions to achieve natural, wildlife, recreations, and cultural management objectives of federal land management agencies; and the "[State](#)

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<sup>25</sup> [https://safety.fhwa.dot.gov/hsip/rulemaking/docs/hsip\\_ig42216\\_final.pdf](https://safety.fhwa.dot.gov/hsip/rulemaking/docs/hsip_ig42216_final.pdf)

side” provides grant assistance to States and local governments. Instead of using taxpayer funds, this program relies on fund invests earnings from offshore oil and gas leasing.

The [National Park Foundation](#), the official charitable partner of the NPS, was chartered by Congress in 1967. This Foundation works with National Parks to assist and support in three major program areas: connecting visitors to national parks; protecting NPS resources; holding outreach opportunities with schools. Through their connection efforts, the National Park Foundation is involved in restoring 250 miles of waterways and trails to connect national parks to communities.

The [National Recreational Trails \(NRT\) Program](#), supported by the nongovernmental organization American Trails, is associated with the NPS and recognizes existing trail assets that connect users to local resources. Trails designated as NRTs are included on an online database and granted access to both funding opportunities and technical assistance. Through diverse partnerships, over 1200 trails nationally have been designated through the NRT on federal, state, local, and privately owned lands.

## Overview Conclusions and Next Steps

This project closed most of the remaining data gaps on transportation trails identified in the 2013 NER LRTP. At a fundamental level, NER now has a full list of transportation trails, vetted by the park units. Beyond that, the data request provided insight into current trail conditions and needs related to key performance metrics and goals from the 2013 NER LRTP, Category III program, and 2017 NLRTP. This data will be useful for the NER LRTP update that was in its preliminary stages during the course of this project.

Some gaps remain; most notably, usage data are still lacking. It is still possible that usage data could be obtained at a reasonable cost from Strava<sup>26</sup> or a similar application developer, pending additional investigation and discussion in the future. Appendix D provides a list of potential usage data sources. Other remaining gaps include information on projects in targeted urban areas, operation and maintenance costs, and partnerships. Finally, there are some performance measures where this project provided relevant but not exactly matching data; many of these metrics pertain to new projects, and the NER could potentially track these in the context of future Category III reviews.

The draft working definition of a transportation trail withstood the data request. For the most part, the parks contacted for the project were in agreement with the working definition but proposed the changes in bold red font in the Summary Section on page 1. NER staff may want to propose broader use of the definition through discussions with Alternative Transportation Program staff in WASO and regional coordinators.

There are several use cases for the data moving forward. For performance monitoring, NER may wish to update the data every five years to coincide with LRTP updates and assess how well the region is meeting its established goals and objectives related to transportation trails. For the next update in five years, the NER may wish to add elements to the data request, such as O&M costs and other items identified in Table 2 through Table 6. The NER may also wish to use the data to inform planning for future transportation trail investments using standard, as well as alternative, funding categories. Park units with transportation trails can use the data to assist in developing projects for consideration in regional calls for funding projects.

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<sup>26</sup> Strava is a phone application that uses GPS to track users’ activities and translate the information to geographic information system (GIS) software to provide use data down to the minute. One feature of Strava that could be useful to the NPS is the Heatmap feature which shows the popularity or use of specific routes based on users’ activities, and can provide Park units with geospatial line data for its trails as opposed to the point data the Region currently has for its individual trail assets. See Appendix D for more information.



## Appendix A: List of Parks Contacted

Park Code	Unit Name	Verified Information
ACAD	Acadia National Park	yes
ALPO	Allegheny Portage Railroad National Historic Site	yes
ASIS	Assateague Island National Seashore	yes
BLAC	Blackstone River Valley National Heritage Corridor	yes
BLRV	Blackstone River Valley National Historical Park	yes
BOHA	Boston Harbor Islands National Recreation Area	yes
CACO	Cape Cod National Seashore	yes
CEBE	Cedar Creek & Belle Grove National Historical Park	yes
DEMO	Deshler-Morris House National Historic Site	yes
DEWA	Delaware Water Gap National Recreation Area	yes
ELRO	Eleanor Roosevelt National Historic Site	yes
FIIS	Fire Island National Seashore	yes
FOMR	Fort Monroe	no
FOST	Fort Stanwix National Monument	yes
FRSP	Fredericksburg & Spotsylvania National Military Park	yes
FRST	First State National Monument	yes
GARI	Gauley River National Recreation Area	yes
GATE	Gateway National Recreation Area	yes
GETT	Gettysburg National Military Park	yes
GEWA	George Washington Birthplace National Monument	yes
GLDE	Gloria Dei Church National Historic Site	yes
HATU	Harriet Tubman Underground Railroad National Monument	yes
HOFR	Home Of Franklin D. Roosevelt National Historic Site	yes
HOFU	Hopewell Furnace National Historic Site	yes
JOFL	Johnstown Flood National Memorial	yes
KAWW	Katahdin Woods and Waters	yes
LODE	Lower Delaware National Wild and Scenic River	yes
LOWE	Lowell National Historical Park	yes
MIMA	Minute Man National Historical Park	yes
NERI	New River Gorge National River	yes
PETE	Petersburg National Battlefield	yes
POHE	Potomac Heritage National Scenic Trail	no
SAGA	Saint-Gaudens National Historic Site	yes
SAHI	Sagamore Hill National Historic Site	yes
SARA	Saratoga National Historical Park	yes
SHEN	Shenandoah National Park	yes
STSP	Star-Spangled Banner National Historic Trail	yes
THST	Thomas Stone National Historic Site	yes
UPDE	Upper Delaware National Wild and Scenic Rivers	yes
VAFO	Valley Forge National Historical Park	yes
VAMA	Vanderbilt Mansion National Historic Site	yes

## Appendix B: NER Identified High-Priority Projects for Existing and Planned Transportation Trails within Five Years

Park Unit	#	Location	Trail Name
ASIS	1	TBD/planned	TBD – add a paved bicycle trail connecting the Bayside Campground and Day Use Picnic area to the main bicycle route in the Park <sup>A</sup>
DEWA	1	32473	McDade Recreational Trail
FRST	1	244494	Brandywine Creek Multi Use Trail <sup>B</sup>
GATE	3	21617	SAHO TR-NDHL Officer Row Historic Walkways
		91850	STIS Hudson Road Sidewalks
		91852	STIS Mont Sec Ave Sidewalks
GETT	9	69293	Big Round Top Tower Trail
		245554	G-16 Power's Hill (via proposed multimodal path and Granite Schoolhouse LN)
		TBD/planned	G-4 Seminary Ridge Interpretive Trail to Reynolds Avenue and Harmon Farm (via Meredith Ave) <sup>B</sup>
		TBD/planned	G-5 Gettysburg Recreation Park to West Confederate Avenue <sup>C</sup>
		TBD/planned	G-7 East Confederate Avenue to Culp's Hill <sup>C</sup>
		TBD/planned	G-9 H Gettysburg National Cemetery parking area to Stienwher Ave <sup>C</sup>
		TBD/planned	G-10B Museum & Visitor Center Parking Lot #2 across Baltimore Pike to Spangler Spring Option B <sup>C</sup>
		TBD/planned	G-15 Museum & Visitor Center to G. Spangler Farm <sup>C</sup> <small>Error! Bookmark not defined.</small>
TBD/planned	G-21 Slyder Farm Lane to Devil's Den <sup>C</sup> <small>Error! Bookmark not defined.</small>		
GEWA	1	59378	Nature Trails
GLDE	1	26227	Paved Trails - Gloria Dei Church National Historic Site <sup>D</sup>
HOFU	1	30471	Horseshoe Trail
LOWE	2	116773	Eastern Canal Walkway (French St. to Lower Locks)
		12574	Pawtucket Canal Walkway (Market St. to Central St.)
MIMA	1	65167	Battle Road Trail
PETE	5	45633	EF: Mine Tunnel Loop Trail
		45637	EF: First Maine Heavy Artillery Loop Trail
		45639	EF: Battery 5 Access Trail
		83046	EF: Visitor Center Grounds Paved Walks
		83048	EF: Visitor Center Parking Area Paved Walks
SAGA	2	TBD/planned	TBD – route between the Visitor Center and the New Gallery complex <sup>E</sup>
		TBD/planned	TBD – route between the Visitor Center and all of the park's major program areas on the west side of the grounds <sup>E</sup>
SAHI	1	47499	TR- Main Garden Path
SARA	12	105802	Multi Use Path on Tour Road
		57914	Frasier Burial Trail (Paved / Unpaved) <sup>F</sup>
		80503	Paved Walkways, Stop 1 <sup>F</sup>
		80508	Paved Walkways, Stop 2 <sup>F</sup>
		80511	Paved Walkways, Stop 3 <sup>F</sup>
		80512	Paved Walkways, Stop 4 <sup>F</sup>
		80514	Paved Walkways, Stop 5 <sup>F</sup>
		80518	Paved Walkways, Stop 6 <sup>F</sup>
		80527	Paved Walkways, Stop 7 <sup>F</sup>
		80532	Paved Walkways, Stop 8 <sup>F</sup> <small>Error! Bookmark not defined.</small>
		80535	Paved Walkways, Stop 9 <sup>F</sup>
80538	Paved Walkways, Stop 10 <sup>F</sup>		
THST	1	59424	Historic Trail
UPDE	1	68009	ZG- Zane Grey Walkways <sup>G</sup>
VAFO	4	39520	River Trail (National Recreation Trail)
		39521	Valley Creek Trail
		82630	Baptist Trace Road Trail
		251079	Knox Trail

<sup>A</sup> Planned location in ASIS – As part of the campground re-location planning process, ASIS is planning to add a paved bicycle trail connecting the Bayside Campground and Day Use Picnic area to the main bicycle route already in place in the Park. It will be approximately 4,500-5,000 linear feet, and be of similar design as the existing trails on the island. The intention is to encourage campers to use a bicycle or walk to the Day Use area at North Beach instead of driving private vehicles. Campers on Bayside and bicycle concession customers currently have to share the road with vehicles, which discourages visitors from using bicycles in this area of the Park. This planned location is a proposed new initiative and does not include asset information such as OB or FCI.

<sup>B</sup> Brandywine Creek Multi Use Trail at FRST – The purpose of this project would be to rehabilitate and improve bike and walking trails at a brand new national park site – the first in the state of Delaware. This proposed project would upgrade the visitor experience between the First State National Park and adjacent Brandywine Creek State Park. The project would: upgrade entire trail segments to consistent levels of quality and safety performance, addressing width, drainage and multi-use surfacing; create interpretive signage; make necessary improvements to the Thompson Bridge and Peters Rock Trailheads; and develop a Ramsey Road trailhead with parking for 15 cars. The 1.4 mile trail segment runs north-south on the eastern side of Brandywine Creek and provides a critical linkage between high use areas at the Brandywine Creek State Park and the First State National Monument – Woodlawn Tract in Delaware. Trail users can catch glimpses of the Brandywine River, view unique geologic features, experience Piedmont wooded and historic agricultural landscapes, spring wildflowers, and wildlife. The trail segment within Brandywine Creek State Park was recognized as a National Recreation Trail in June 2013. Annual visitation to Brandywine Creek State Park is approximately 80,000, and the site’s Thompson Bridge Parking Area is one of three primary entrances and is one of the trailheads most easily accessed by park visitors.

<sup>C</sup> Planned locations in GETT. Although these are planned locations without FMSS location numbers, the park reported asset information such as OB and FCI.

<sup>D</sup> Paved Trails - Gloria Dei Church National Historic Site at GLDE – PMIS project 238353 - Repair/Replace Damaged Driveways and Walkways at Gloria Dei. FHWA surveyed and rated the GLDE asphalt driveway and cobblestone Swanson Street in 2013 as “poor” and “fair,” respectively. This project will improve deteriorated walkways: the current asphalt driveway entrance to the property will be removed and replaced in kind (the project will repair 1,670 square feet (SF) of asphalt driveway); heaved brick, cobblestone, and concrete walkways will be leveled, and missing pavers replaced (the project will repair 26,047 SF of brick and cobblestone and 7,039 SF of concrete walkways); overgrown street trees that are heaving the brick sidewalk will be removed and replaced (the project will remove and replace 24 trees and plant 2 shrubs). Walkway work will eliminate tripping hazards and accessibility problems. Visitor experience will improve, and maintenance will be simpler and more cost effective. This NPS property protects and provides the setting for Gloria Dei Church, which is the oldest Church in Pennsylvania and the second oldest Swedish Church in the United States. The Gloria Dei Cemetery holds the remains of a signer of the Declaration of Independence, several Revolutionary War Officers, and a monument to John Hanson, President of the Continental Congress (Under the Articles of Confederation).

<sup>E</sup> Planned locations in SAGA – Two additional transportation trails anticipated within the next five years: an accessible pedestrian route between the Visitor Center and the New Gallery complex; and an accessible pedestrian route between the Visitor Center and all of the park’s major program areas on the west side of the grounds (i.e. Little Studio, Stables, and Shaw and Adams Memorials). Design of these pedestrian routes has not yet been completed, so no additional documentation can be provided at this time. These two planned locations are proposed new initiatives and do not include asset information such as OB or FCI data.

<sup>F</sup> Paved Walkways at SARA – This project is a complete rehab of the wayside and trails at the tour stops (1 - 10) and the Frasier Burial Trail. The two main goals are: to address the serious deferred maintenance (DM) on both sets of assets; and to make all assets ADA compliant. These assets are currently listed as not

compliant in the database, but will be by the end of this project. SARA is interested in pursuing transportation funding opportunities for the trail rehab and other funding opportunities for the waysides.

<sup>G</sup> Zane Grey Walkways at UPDE – This project will add accessible walkways to Zane Grey Walkways, and anticipates construction in 2021.

## Appendix C: Additional Information on Funding Opportunities

Eligible projects under the [Transportation Alternatives \(TA\) Set-Aside funds](#) include the following listed below from an abridged quote:

1. “Transportation Alternatives as defined in section 101 [former 23 U.S.C. 101(a)(29)]: The term “transportation alternatives” means any of the following activities when carried out as part of any program or project authorized or funded under this title, or as an independent program or project related to surface transportation:
  - A. Construction, planning, and design of on-road and off-road trail facilities for pedestrians, bicyclists, and other nonmotorized forms of transportation, including sidewalks, bicycle infrastructure, pedestrian and bicycle signals, traffic calming techniques, lighting and other safety-related infrastructure, and transportation projects to achieve compliance with the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.).
  - B. Construction, planning, and design of infrastructure-related projects and systems that will provide safe routes for non-drivers, including children, older adults, and individuals with disabilities to access daily needs.
  - C. Conversion and use of abandoned railroad corridors for trails for pedestrians, bicyclists, or other nonmotorized transportation users.
  - D. Construction of turnouts, overlooks, and viewing areas.
  - E. Community improvement activities
  - F. Any environmental mitigation activity”<sup>27</sup>

Eligible activities under the [Highway Safety Improvement Program \(HSIP\)](#) include the following:

“The Fixing America’s Surface Transportation (FAST) Act continues the overarching requirement that HSIP funds be used for safety projects that are consistent with the State’s strategic highway safety plan (SHSP) and that correct or improve a hazardous road location or feature or address a highway safety problem. . . the FAST Act limits HSIP eligibility to only those listed in statute—most of which are infrastructure-safety related. In addition to this change, the FAST Act specifically identifies the following activities on the inclusions list:

- Installation of vehicle-to-infrastructure communication equipment.
- Pedestrian hybrid beacons.
- Roadway improvements that provide separation between pedestrians and motor vehicles, including medians and pedestrian crossing islands.
- Other physical infrastructure projects not specifically enumerated in the list of eligible projects.”<sup>28</sup>

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<sup>27</sup> [https://www.fhwa.dot.gov/environment/transportation\\_alternatives/guidance/guidance\\_2016.cfm](https://www.fhwa.dot.gov/environment/transportation_alternatives/guidance/guidance_2016.cfm)

<sup>28</sup> <https://www.fhwa.dot.gov/fastact/factsheets/hsipfs.cfm>

Funding Opportunity Summary: U.S. Department of Transportation Transit, Highway, and Safety Funds<sup>29</sup>

Activity or Project Type	FLTP	TA	STBG	HSIP	CMAQ	RTP	TIFIA	FTA	ATI	NHPP	PLAN	BUILD	SRTS
Access enhancements to public transportation (includes benches, bus pads)	\$	\$	\$		\$		\$	\$	\$	\$		\$	
Curb cuts & ramps	\$	\$	\$	\$	\$*	\$	\$	\$	\$	\$		\$	\$
Crosswalks (new or retrofit)	\$	\$	\$	\$	\$*	\$	\$	\$	\$	\$		\$	\$
Maps (for pedestrians (ped.) &/or bicyclists)		\$	\$		\$			\$	\$		\$*		\$
Signs / signals / signal improvements	\$	\$	\$	\$	\$		\$	\$	\$	\$		\$	\$
Signed ped. or bicycle routes	\$	\$	\$		\$		\$	\$	\$	\$		\$	\$
Trailside & trailhead facilities (includes restrooms & water, but not general park amenities; see guidance)	\$	\$*	\$*			\$*	~\$*					~\$*	
Bridges / overcrossings for ped. &/or bicyclists	\$	\$	\$	\$	\$*	\$	\$	\$	\$	\$		\$	\$
Trail bridges	\$	\$	\$	\$	\$*	\$	\$			\$		\$	\$
Trail/highway intersections	\$	\$	\$	\$	\$*	\$	\$			\$		\$	\$
Tunnels / undercrossings for ped. &/or bicyclists	\$	\$	\$	\$	\$*	\$	\$	\$	\$	\$		\$	\$
Paved shoulders for ped. &/or bicyclist use	\$	\$	\$	\$	\$*		\$			\$		\$	\$
Separated bicycle lanes	\$	\$	\$	\$	\$		\$	\$	\$	\$		\$	\$
Shared use paths / transportation trails	\$	\$	\$	\$	\$*	\$	\$	\$	\$	\$		\$	\$
Recreational trails	\$	\$	\$			\$	~\$					~\$	
Trail construction & maintenance equipment		\$RTP	\$RTP			\$							
Historic preservation (ped. & bicycle & transit facilities)	\$	\$	\$				\$	\$	\$			\$	
Bicycle parking	\$	\$	\$		\$	\$	~\$	\$	\$	\$		~\$	\$
Bicycle share (capital & equipment; not operations)	\$	\$	\$		\$		\$	\$	\$	\$		\$	
Landscaping, streetscaping (ped. &/or bicycle route; transit access); related amenities (benches, water fountains); generally as part of a larger project	\$	\$	\$				~\$	\$	\$	\$		~\$	
Lighting (ped. & bicyclist scale associated with ped. /bicyclist project)	\$	\$	\$	\$		\$	\$	\$	\$	\$		\$	\$
Ped. plans	\$	\$	\$					\$			\$		\$
Bicycle plans	\$	\$	\$					\$			\$		\$
Spot improvement programs	\$	\$	\$	\$		\$	\$	\$		\$		\$	\$
ADA/504 Self Evaluation / Transition Plan	\$	\$	\$			\$					\$		

Key: \$ = Funds may be used for this activity (restrictions may apply). \$\* = See program-specific notes for restrictions. ~\$ = Eligible, but not competitive unless part of a larger project.

<sup>29</sup> Amended from [https://www.fhwa.dot.gov/environment/bicycle\\_pedestrian/funding/funding\\_opportunities.cfm](https://www.fhwa.dot.gov/environment/bicycle_pedestrian/funding/funding_opportunities.cfm)

### Abbreviations for Funding Opportunity Summary:

- **ADA/504:** Americans with Disabilities Act of 1990 / Section 504 of the Rehabilitation Act of 1973
- **FLTTP:** Federal Lands and Tribal Transportation Programs (Federal Lands Access Program (FLAP), Federal Lands Transportation Program, Tribal Transportation Program, Nationally Significant Federal Lands and Tribal Projects)
- **TA:** Transportation Alternatives Set-Aside (formerly Transportation Alternatives Program)
- **STBG:** Surface Transportation Block Grant Program
- **HSIP:** Highway Safety Improvement Program
- **CMAQ:** Congestion Mitigation and Air Quality Improvement Program
- **RTP:** Recreational Trails Program
- **TIFIA:** Transportation Infrastructure Finance and Innovation Act (loans)
- **FTA:** Federal Transit Administration Capital Funds
- **ATI:** Associated Transit Improvement (1% set-aside of FTA)
- **NHPP:** National Highway Performance Program
- **PLAN:** Statewide Planning and Research (SPR) or Metropolitan Planning funds
- **BUILD:** Better Utilizing Investments to Leverage Development (previously TIGER, Transportation Investment Generating Economic Recovery Discretionary Grant program)
- **SRTS:** Safe Routes to School Program / Activities

### Program Specific Notes:

Federal-aid funding programs have specific requirements projects must meet, and eligibility is determined on a case-by-case basis. For example:

- **FLTTP** projects must provide access to or within Federal or tribal lands:
  - **FLAP:** Open to State and local entities for projects that provide access to or within Federal or tribal lands.
  - **Federal Lands Transportation Program:** For Federal agencies for projects that provide access within Federal lands.
  - **Tribal Transportation Program:** available for federally-recognized tribal governments for projects within tribal boundaries and public roads that access tribal lands.
- **STBG** and **TA Set-Aside:** Activities marked “\$SRTS” means eligible only as an SRTS project benefiting schools for kindergarten to 8th grade. Bicycle transportation nonconstruction projects related to safe bicycle use are eligible under STBG, but not TA (23 U.S.C. 217(a)).
- **HSIP** projects must be consistent with a State’s Strategic Highway Safety Plan and either (1) correct or improve a hazardous road location or feature, or (2) address a highway safety problem.
- **CMAQ** projects must demonstrate emissions reduction and benefit air quality. See the CMAQ guidance at [https://www.fhwa.dot.gov/environment/air\\_quality/cmaq/](https://www.fhwa.dot.gov/environment/air_quality/cmaq/) for a list of projects that may be eligible for CMAQ funds. Several activities may

be eligible for CMAQ funds as part of a bicycle and pedestrian-related project, but not as a highway project. CMAQ funds may be used for shared use paths, but may not be used for trails that are primarily for recreational use.

- **RTP** must benefit recreational trails, but for any recreational trail use. RTP projects are eligible under TA and STBG, but States may require a transportation purpose.
- **TIFIA**: Program offers assistance only in the form of secured loans, loan guarantees, or standby lines of credit, but can be combined with other grant sources, subject to total Federal assistance limitations.
- **FTA/ATI**: Project funded with FTA transit funds must provide access to transit. See Bikes and Transit and the FTA Final Policy Statement on the Eligibility of Pedestrian and Bicycle Improvements under Federal Transit Law.
  - Bicycle infrastructure plans and projects funded with FTA funds must be within a 3 mile radius of a transit stop or station, or if further than 3 miles, must be within the distance that people could be expected to safely and conveniently bike to use the particular stop or station.
  - Pedestrian infrastructure plans and projects funded with FTA funds must be within a ½ mile radius of a transit stop or station, or if further than ½ mile, must be within the distance that people could be expected to safely and conveniently walk to use the particular stop or station.
  - FTA funds cannot be used to purchase bicycles for bike share systems.
  - FTA encourages grantees to use FHWA funds as a primary source for public right-of-way projects.
- **NHPP** projects must benefit National Highway System (NHS) corridors.
- **PLAN** Planning funds must be used for planning purposes, for example:
  - Maps: System maps and GIS;
  - Safety program technical assessment: for transportation safety planning;
  - Training: bicycle and pedestrian system planning training.
- **BUILD**: Subject to annual appropriations. BUILD grants have minimum and maximum awards: the minimum award is \$5 million for urban area projects, with a minimum total project cost of \$6.25 million for match requirements; the minimum award is \$1 million for rural areas projects; the maximum award is \$25 million with no more than \$150 million awarded to a single state. See the FAQ section at <https://www.transportation.gov/BUILDgrants/2018-build-application-faqs>
- **SRTS**: FY 2012 was the last year for SRTS funds, but SRTS funds are available until expended.

#### Cross-cutting notes

- FHWA Bicycle and Pedestrian Guidance: [http://www.fhwa.dot.gov/environment/bicycle\\_pedestrian/](http://www.fhwa.dot.gov/environment/bicycle_pedestrian/)
- **Applicability of 23 U.S.C. 217(i) for Bicycle Projects**: 23 U.S.C. 217(i) requires that bicycle facilities “be principally for transportation, rather than recreation, purposes”. However, sections 133(b)(6) and 133(h) list “recreational trails projects” as eligible activities under STBG. Therefore, the requirement in 23 U.S.C. 217(i) does not apply to recreational trails projects (including for bicycle use) using STBG funds. Section 217(i) continues to apply to bicycle facilities other than trail-related projects, and section 217(i) continues to apply to

bicycle facilities using other Federal-aid Highway Program funds (NHPP, HSIP, CMAQ). The transportation requirement under section 217(i) is applicable only to bicycle projects; it does not apply to any other trail use or transportation mode.

- There may be occasional DOT or agency incentive grants for specific research or technical assistance purposes.
- Aspects of many DOT initiatives may be eligible as individual projects. For example, activities above may benefit Ladders of Opportunity; safe, comfortable, interconnected networks; environmental justice; equity; etc.

## Appendix D: Alternate Sources of Usage Data

Traditional sources of non-motorized traffic data include manual and automated counts at specific locations. Only five NER transportation trails have counts through such means. Since usage was a major data gap impacting many performance measures across multiple goal areas, Volpe researched alternative sources for NER trails usage information, including commuting and exercise mobile applications that track user data and route selection and other potentially relevant sources that could provide usage information. Sources investigated include the below bulleted list. Of these sources, only Strava had an appropriate dataset that could be useful for NER.

- FitBit
- Garmin
- Mio Vision
- Nike+ Running Club
- Ride Report
- Runtastic
- Strava

[FitBit](#) tracks aggregate user data on data, such as steps and heartrate, but only includes limited Global Positioning System (GPS) location data for user activities when available based on location and tracker model, so it was not investigated further.

[Garmin](#) is primarily focused on wayfinding and provides options for phone application users to track trips using GPS location; however, Volpe was unable to locate a database with usage data or any aggregate user data.

[Mio Vision](#) was determined to be primarily for smart cities, focused on traffic operations and data in cities and urban areas, so it was not investigated further.

[Nike+ Running Club](#) is a phone application that tracks user location through GPS during use; however, Volpe was unable to locate a database with usage data or any aggregate user data.

[Ride Report](#) is a phone application that continually runs in the background collecting data on rides without the user initiating tracking the activity, and prompts users to indicate the stress level of the ride. They are pursuing integrating directions for bike users into the app. This information is available for review and is advertised as a useful tool for city planners as it can be utilized to improve the bike-friendliness of a city. Ride Report also includes an encouragement feature to engage users. This app was launched in 2016 and there is limited historical data.

Volpe spoke with a representative from Ride Report who stressed their user base is primarily urban bicycle commuters who take trips for a utilitarian purpose as opposed to recreational or fitness users. While informing Volpe that Ride Report would not have the type of information of interest for the NER trails project, they indicated an interest in collaborating with Volpe and NPS for future projects. The representative discussed potential opportunities to have Ride Report be both a data collection tool and NPS resource for users by providing information and directions for various trails/parks utilizing the wayfinding feature, and/or enabling users to provide feedback to NPS on their experience through the encouragement feature or stress level prompt concluding a ride.

[Runtastic](#) is a phone application that tracks users' routes and provides a compilation of local routes that have been rated by other users; however, Volpe was unable to locate a database with usage data or any aggregate user data.

[Strava](#) is a phone application that tracks users' activities through GPS when utilized. This GPS dataset can then be translated to geographic information system (GIS) software to provide use data down to the minute. Strava can provide user reports for certain areas, such as a park unit, to track activity type (cycling versus pedestrian either running, walking, or hiking), total trips taken, and unique users for locations. One useful aspect of Strava's data is their [Heatmap](#) feature, which shows the popularity or use of specific routes based on users' activities. Users' routes are highlighted, with popular or more heavily used routes visibly brighter on the map. This information could theoretically be used to track absolute and/or relative usage of trails, and could provide line data for trails to improve upon the point data the NER currently has for trail assets.

## Appendix E: Traffic Counter Estimates

Park Unit	# Transportation Trails with Traffic Counters	Estimate of Visitors	Location	Trail Name
ALPO	1	49,197	16277	VC to Lemon House Trail/Interpretive Boardwalk
JOFL	1	96,970	87526	South Abutment Overlook
SARA	2	80,000	105802	Multi Use Path on Tour Road
		5,000	58069	Horse Trail Unpaved
VAFO	1	365,000	110893	Schuylkill River Trail

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